

ESTRO 2020

ESTRO
CONFERENCE

Translating research and partnership into optimal health

3-7 April 2020
Vienna, Austria

Scientific
Programme

**Saturday
4 April
2020**



Interdisciplinary track

Teaching Lecture: The ultimate truth on how to get your paper published in an ESTRO journal

08:00 - 08:40

Strauss 1

Chair: D. Zips (Germany)

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|-------|---|---------|
| 08:00 | The world needs new knowledge
<u>M. Baumann</u> (Germany) | SP-0001 |
| 08:10 | The ultimate truth on how to get your paper published in an ESTRO journal-ethical considerations.
<u>M. Leech</u> (Ireland) | SP-0002 |
| 08:20 | How to crunch the numbers
<u>P. Blanchard</u> (France) | SP-0003 |
| 08:30 | How to present your results nicely
<u>L.P. Muren</u> (Denmark) | SP-0004 |

Radiobiology track

Teaching Lecture: Differential biological effects of photon and particle irradiation: experimental highlights and clinical impact

08:00 - 08:40

Stolz 1-2

Chair: P. Van Luijk (The Netherlands)

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|-------|---|---------|
| 08:00 | Differential biological effects of photon and particle irradiation: experimental highlights and clinical impact
<u>M. Durante</u> (Germany) | SP-0005 |
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Clinical track

Teaching Lecture: Fractionation in prostate cancer radiotherapy

08:00 - 08:40

Plenary

Chair: G. De Meerleer (Belgium)

08:00 **Fractionation in prostate cancer radiotherapy**
N. Van As (United Kingdom)

SP-0006

Clinical track

Teaching Lecture: Which organs should be spared to achieve optimal dose distribution in thoracic tumours?

08:00 - 08:40

Lehar 1-2-3

Chair: S. Adebahr (Germany)

08:00 **Which organs should be spared to achieve optimal dose distribution in thoracic tumours?**
C. Muijs (The Netherlands)

SP-0007

Physics track

Teaching Lecture: Do's and don'ts in automated treatment planning - optimising conditions and expectations

08:00 - 08:40

Schubert 4-5-6

Chair: M.d.C. Lopes (Portugal)

08:00 **Do's and don'ts in automated treatment planning - optimising conditions and expectations**
B. Heijmen, A. Sharfo, L. Rossi, J. Penninkhof, M. Dirkx, S. Breedveld (The Netherlands)

SP-0008

Physics track

**Teaching Lecture: IAEA guide on Radiation Protection and Safety
in Medical Uses of Ionising Radiation**

08:00 - 08:40

Strauss 3

Chair: E. Gershkevitsh (Estonia)

08:00 **IAEA Safety Guide on Radiation Protection and Safety
in Medical Uses of Ionizing Radiation** SP-0009
P. Johnston (Austria)

RTT track

**Teaching Lecture: The evolution of RTT leadership in radiation
oncology**

08:00 - 08:40

Strauss 2

Chair: I. Lobato (Portugal)

08:00 **The evolution of RTT leadership in radiation oncology** SP-0010
M. Coffey (Ireland)

Interdisciplinary track

**Symposium: Management of complex skin targets-what is the
optimal radiation technique?**

08:45 - 10:00

Strauss 1

Chair: J. Kaanders (The Netherlands)

Co-chair: A. Borkowska (Poland)

08:45 **Simulation, applicator selection, planning and
verification of complex skin targets** SP-0011
D. O'Farrell (USA)

09:03	Which external beam modality is optimal?	SP-0012
	<u>T. Barnes</u> (Canada)	
09:21	Which brachytherapy technique is optimal to manage complex skin targets?	SP-0013
	<u>J. Guinot, V. Gonzalez-Perez</u> (Spain)	
09:39	How do different radiotherapy techniques affect the patient?	SP-0014
	<u>L. Mills</u> (United Kingdom)	

Radiobiology track

Symposium: Cutting-edge genomics in radiation oncology

08:45 - 10:00

Stolz 1-2

Recent years have seen an increasing use of high-throughput technologies in radiation oncology, including germline genome-wide association (GWA) studies combined with somatic transcriptomic, genomic and epigenomic data.

This symposium offers an overview of:

- A selection of current radiogenomic GWAS studies and meta-analyses focusing on genetic variations of both normal tissue and cancer as well as the identification of hypoxic signatures.
- The most cutting-edge ‘omics’ technologies that are complemented by the development of high content platforms for profiling radiation responses in cells and patient-derived xenografts using CRISPR-cas9 gene editing.

Chair: L. Barazzuol (The Netherlands)

Co-chair: C. Hiley (United Kingdom)

08:45	Genome wide association studies in radiation oncology	SP-0015
	<i>TBC</i>	
09:03	The use of genomics in radiation oncology	SP-0016
	<u>C. Hiley</u> (United Kingdom)	
09:21	Development and validation of genetic signatures in radiation oncology	SP-0017
	<u>C. West</u> (United Kingdom)	

- 09:39 **Genome-scale and systematic variant profiling delineates the radiogenomic landscape of cancer** SP-0018
B. Yard, A. Petty, J. Castrillon, P. Gopal, M. Abazeed (USA)

Clinical track

Debate: This house believes that Elective nodal radiotherapy should be performed for high risk prostate cancer

08:45 - 10:00 Plenary

In patients with high-risk prostate cancer, radical radiotherapy combined with long-term androgen deprivation has been demonstrated to offer excellent long-term outcomes. Due to the risk of occult microscopic nodal metastases, elective whole pelvis nodal radiotherapy (WPRT) is often proposed for these patients for improving long-term disease control. Although modern radiotherapy techniques allow more conformal and less toxic pelvic treatments, concerns about the potential benefits of WPRT still exist. Available retrospective and prospective literature data on the role of WPRT for high-risk prostate cancer patients will be discussed and commented, focusing on the impact of modern imaging modalities, advanced radiotherapy techniques, and genomic.

Chair: P. Hoskin (United Kingdom)

Co-chair: T. Zilli (Switzerland)

- 08:45 **For the motion (for ENI) Elective Nodal for High Risk Prostate Cancer** SP-0019
M. Roach (USA)
- 09:00 **Against the motion (against ENI)** SP-0020
A. Bossi (France)
- 09:15 **For the motion (for ENI)** SP-0021
D. Böhmer (Germany)
- 09:30 **Against the motion (against ENI)** SP-0022
G. De Meerleer (Belgium)
- 09:45 **Discussion**

Clinical track

Debate: This house believes that upfront radiotherapy is mandatory in patients with brain mets even in the era of immunotherapy

08:45 - 10:00

Lehar 1-2-3

Chair: U. Nestle (Germany)

Co-chair: J.L. Lopez Guerra (Spain)

08:45	For the motion	SP-0023
	<u>S. Combs</u> (Germany)	
09:00	Upfront radiotherapy is not mandatory in patients with brain metastases treatable with immunotherapy or targeted therapies	SP-0024
	<u>R. Soffeti</u> (Italy)	
09:15	Upfront radiotherapy is mandatory in patients with brain mets even in the era of immunotherapy	SP-0025
	<u>N. Andratschke</u> (Switzerland)	
09:30	Against the motion: Upfront radiotherapy is not mandatory in patients with brain metastases treatable with immunotherapy or targeted therapies?	SP-0026
	<u>A. Grosu</u> (Germany)	
09:45	Discussion	

Physics track

Symposium: Where automation can or cannot help the medical physicist

08:45 - 10:00

Schubert 4-5-6

Chair: A. Dekker (The Netherlands)

Co-chair: A. Zawadzka (Poland)

08:45	Automation in software and hardware commissioning	SP-0027
	<u>S. Mutic</u> (USA)	
09:10	Automation of treatment planning process	SP-0028
	<u>L. Rossi</u> (The Netherlands)	

09:35 Automation of QC/QA process	SP-0029
<u>N. Jornet</u> (Spain)	

Physics track

Joint Symposium: ESTRO-AAPM: The future of Medical Physics in Radiation Oncology

08:45 - 10:00	Strauss 3
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Chair: R. Jeraj (Slovenia)

Chair: P. Lambin (The Netherlands)

08:45 The ESTRO Future Think-Tank Budapest meeting: aims, format, vision	SP-0030
<u>N. Jornet</u> (Spain)	

08:55 Medical physicists will be leaders in the changing world of Radiation Oncology	SP-0031
<u>C. Clark</u> , L. Muren, N. Jornet (United Kingdom)	

09:10 Transforming CTV definition from an art to science	SP-0032
<u>T. Bortfeld</u> , C. Garibaldi (Usa)	

09:25 Medical physicists will drive the development and implementation of artificial intelligence in Radiation Oncology	SP-0033
<u>W. Van Elmpt</u> , N. Jornet (The Netherlands)	

09:40 Medical physicists will substantially contribute to modeling biological effects in the era of personalized Radiation Oncology	SP-0034
<u>C. Fiorino</u> , R. Jeraj (Italy)	

RTT track

Symposium: RTT leadership in radiation oncology

08:45 - 10:00	Strauss 2
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Focusing on leadership the speakers in this session will elaborate the role of RTTs in research, teaching and management moving their own profession into the future. Moving on from discussing the various challenges in teaching and

management, and showcasing RTT led research, the necessary skill-sets for these three areas will be explained. Furthermore, the speakers will highlight how to motivate and manage colleagues, staff or students and other key accountabilities and responsibilities required to successfully take a leading role in teaching or research as well as to effectively lead the operation of a large radiation therapy center.

Chair: P. Scherer (Austria)

Co-chair: C. Eccles (United Kingdom)

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| 08:45 | Leading a clinical programme as an RTT
<u>C. Dickie</u> (Canada) | SP-0035 |
| 09:10 | Leading RTT teaching, research and advocacy programmes in the academic setting
<u>M. Leech</u> (Ireland) | SP-0036 |
| 09:35 | RTT leadership in research - how to break through the glass ceiling
<u>Y.M. Tsang</u> (United Kingdom) | SP-0037 |

Clinical track

Poster Highlights: Poster highlights 1 CL: Head & Neck

08:45 - 09:45

Poster Area 1

Chair: P. Lassen (Canada)

Chair: J. Daisne (Belgium)

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|---|---------|
| RT and concomitant CDDP vs cetuximab for head and neck cancer: long term outcomes of a randomized PH. II trial | PH-0038 |
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D. Tomasinì, M. Maddalo, P. Borghetti, R. Corvò, P. Bonomo, A. Petrucci, F. Paiar, L. Lastrucci, M.L. Bonù, D. Greco, L. Costa, L. Pegurri, L. Triggiani, L. Belgioia, I. Desideri, S. Grisanti, M. Buglione, S.M. Magrini (Italy)

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|-------|--|---------|
| 08:45 | Impact of sarcopenia on survival and recurrence after radiotherapy for head and neck cancer
<u>S. Thureau</u> , L. Lebret, S. Dandoy, M. Ebran, C. Gouley Toutain, F. Guerault, L. Lefebvre, R. Mallet, C. Moldovan, O. Veresezan, J. Lequesne, R. Modzelewski, F. Clatot (France) | PH-0039 |
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- 08:53 **A 6-point scale approach to 18F-FDG PET-CT for response assessment in HNSCC: a multicenter study** PH-0040
P. Bonomo, A. Merlotti, S. Morbelli, V. Berti, C. Saieva, F. Bergesio, A. Bacigalupo, L. Belgioia, C. Franzese, E. Lopci, A. Casolo, E. D'Angelo, D. Alterio, L. Travaini, L. Berretta, V. Pirro, S. Ursino, D. Volterrani, M. Roncali, F. Vigo, I. Desideri, E. Russi, L. Livi, A. Bianchi (Italy)
- 09:01 **Substantial long-term morbidity after radiotherapy for sinonasal cancer. A cross sectional study** PH-0041
M.B. Sharma, K. Jensen, J. Johansen, A. Amidi, M. Funding, S.F. Urbak, D. Bechtold, C. Grau (Denmark)
- 09:09 **Aspiration related OARs are relevant predictors of silent aspiration after (chemo)radiation.** PH-0042
A. Gawryszuk, H.P. Van der Laan, R.J.M. Steenbakkers, J.G.M. Van den Hoek, M. Holwerda, I.M. Verdonck-de Leeuw, R.N. Rinkel, H.P. Bijl, J.A. Langendijk (The Netherlands)
- 09:17 **Age related toxicity and outcome in oropharyngeal and nasoparyngeal cancer patients** PH-0043
E. Ivaldi, G. Infante, N. Facchinetto, P. Bossi, N.A. Iacovelli, A. Cavallo, R. Ingargiola, L.D. Locati, C. Bergamini, C. Resteghini, L. Licita, F. Platini, G. Calareso, C. Fallai, E. Orlandi (Italy)
- 09:25 **Anaplastic thyroid carcinoma in the Netherlands, very bad but not for all!** PH-0044
M. De Ridder, E. Nieveen van Dijkum, A. Engelsman, K. Ellen, H. Klumpen, C. Rasch (The Netherlands)

Physics track

Poster Highlights: Poster highlights 2 PH: Dosimetry and detectors

08:45 - 09:45 Poster Area 2

- Chair: H. Palmans (Austria)
Chair: T. Krylova (Russian Federation)
- 08:45 **Characterization of proton, carbon and silicon ion beams using sCCVD diamond-based microdosimeters** PH-0045

I.A. Zahradnik, M. Pomorski, L. Tran, W. Kada, L. De Marzi,
D. Tromson, P. Barberet, Z. Pastuovic, J. Vohradsky, S.
Salvador, L. Leterrier, Y. Prezado, T. Pourcher, J. Herault, A.
Rosenfeld (France)

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| 08:53 | Characterization of ionization chambers in magnetic fields for MR guided proton beam therapy
<u>H. Fuchs</u> , F. Padilla Cabal, L. Fetty, D. Georg, H. Palmans
(Austria) | PH-0046 |
| 09:01 | Small-cavity chamber dose response to megavoltage photon beams in the presence of magnetic fields
<u>Y. Cervantes</u> , I. Billas, D. Shipley, S. Duane, H. Bouchard
(Canada) | PH-0047 |
| 09:09 | Recombination effects on the liquid-filled ionization chamber array used in VMAT quality control
<u>N. Solís Preciado</u> , B.C. Portas Ferradás, A. Niebla Piñero, J.Á. Merino Gestoso, D. Jiménez Vegas, G.F. Alberto (Spain) | PH-0048 |
| 09:17 | Organic semiconductors photodiodes for ionising radiation dosimetry
J. Posar, J. Davis, P. Sellin, M. Griffith, O. Dhez, M.L.F. Lerch, A.B. Rosenfeld, <u>M. Petasecca</u> (Australia) | PH-0049 |
| 09:25 | Results of 2 years of automated pre-treatment and absolute transit <i>in vivo</i> dosimetry.
<u>E. Bossuyt</u> , R. Weytjens, D. Nevens, S. De Vos, D. Verellen (Belgium) | PH-0050 |

Clinical track

Poster discussion: CL: Head and neck 1

10:00 - 10:30 The Village: Poster Discussion Station 1

Chair: O. Riesterer (Switzerland)

Chair: S. Van Dijk (The Netherlands)

- 10:00 **The impact of neuroradiology collaboration in head and neck cancer radiotherapy peer review** PD-0051
R. Jadon, R. Benson, T. Das, G. Barnett (United Kingdom)

10:05 **Interobserver variability in organ at risk delineation in head and neck cancer** PD-0052

J. Van der Veen, A. Gulyban, S. Willems, F. Maes, S. Nuyts
(Belgium)

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| 10:10 | Swallowing Outcomes In Re Radiation For Second Primary And Recurrent Head Neck Cancers | PD-0053 |
| | <u>C. Johnny</u> , S. Ghosh Laskar, A. Budrukkar, N. Mummudi, M. Swain (India) | |
| 10:15 | Baseline symptom burden predicts patient reported well-being following curative (chemo)radiotherapy | PD-0054 |
| | <u>C. Barker</u> , G. Price, K. Garcez, L. Lee, A. Sykes, D. Thomson, A. McPartlin (United Kingdom) | |
| 10:20 | Outcome in patients with isolated regional recurrence after radiotherapy for head and neck cancer | PD-0055 |
| | <u>A.M. Lindegaard</u> , C. Von Buchwald, J.H. Rasmussen, L. Specht, R.V. Ivan, M. Zamani, F. Jeppe (Denmark) | |

Clinical track

Poster discussion: CL: Prostate 1

10:00 - 10:30 The Village: Poster Discussion Station 2

Chair: F. Guedea Edo (Spain)

Chair: I. Zumbadze (Georgia)

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| 10:00 | Factors predicting acute and late gastrointestinal and genitourinary toxicity in prostate cancer
<u>A. Arcelli</u> , F. Deodato, M. Buwenge, M. Ntreta, G. Siepe, E. Ndoci, A. Zamagni, S. Bisello, E. Alexopoulou, G. Macchia, S. Cilla, A.G. Morganti, G.P. Frezza, S. Cammelli (Italy) | PD-0056 |
| 10:05 | Patient-reported outcomes after prostate only vs prostate and pelvic lymph node radiation therapy.
<u>M. Parry</u> , J. Nossiter, T. Cowling, A. Sujenthaler, B. Berry, P. Cathcart, N. Clarke, H. Payne, J. Van der Meulen, A. Aggarwal (United Kingdom) | PD-0057 |
| 10:10 | Duration of Androgen Deprivation Therapy based on Nadir PSA in High Risk Localized Prostate Cancer
<u>Z. Ayoub</u> , J. Khader, M. Bulbul, R. Khauli, T. Andraos, A. Shamseddine, D. Mukherji, F. Geara (Lebanon) | PD-0058 |
| 10:15 | Patient-reported baseline incontinence at post-prostatectomy RT: its dependence on time from | PD-0059 |

surgery

F. Munoz, G. Sanguineti, P. Gabriele, A. Bresolin, D. Cante,
V. Vavassori, J.M. Waskiewicz, G. Girelli, B. Avuzzi, A. Faiella,
E. Garibaldi, E. Villa, A. Magli, B.N. Chiorda, M. Gatti, T.
Rancati, R. Valdagni, N. Di Muzio, C. Fiorino, C. Cozzarini
(Italy)

- 10:20 **Treatment-related toxicity of hypofractionated radiation therapy for prostate cancer** PD-0060
M. Parry, A. Sujenthiran, J. Nossiter, P. Cathcart, N. Clarke, H. Payne, A. Aggarwal (United Kingdom)

10:25 **Does the dose to penile bulb/internal pudendal arteries matter for erectile dysfunction post-SBRT?** PD-0061
G. Lamanna, S. Jorcano, S. Bral, C. Rubio, A. Oliveira, M. Bottero, U. Abacioglu, V. Achard, H. Minn, Z. Symon, T. Zilli, R. Miralbell (Switzerland)

Radiobiology track

Poster discussion: Radiobiology

10:00 - 10:30 The Village: Poster Discussion Station 3

Chair: F. Paris (France)

Chair: R. De Haan (The Netherlands)

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| 10:00 | Clinical modulation of tumour immune infiltrates and plasma cytokines by ATR inhibition ± radiation | PD-0062 |
| | M. Dillon, M. McLaughlin, E. Patin, P. Malin, C. Ragulan, F. Elisa, A. Wilkins, A. Melcher, K. Harrington (United Kingdom) | |
| 10:05 | SIRT2 prevents cisplatin-induced peripheral neuron injury by enhancing nucleotide excision repair | PD-0063 |
| | S. Acklin, M. Zhang, W. Du, S. Jin, F. Xia (USA) | |
| 10:10 | Radiosensitive possibility of adipose-derived mesenchymal stem cells on hepatocellular carcinoma | PD-0064 |
| | L. Wu, Z. Sun, Q. Tang, X. Yin, J. Xin, Q. Pan, S. Yan (China) | |
| 10:15 | Utilizing a high-throughput approach to identify effective agents for aggressive thyroid cancer | PD-0065 |
| | A.S.R. Mohamed, Y. Henderson, Y. Chen, C. Stephan, G. Cote, M. Cabanillas, M. Zafereo, V. Sandulache, S. Lai (USA) | |

- 10:20 **A 24-miRNA signature predicting HPV status in head and neck cancer** PD-0066
J. Heß, K. Unger, C. Maihoefer, L. Schüttrumpf, T. Heider, P. Weber, S. Marschner, P. Baumeister, A. Walch, C. Woischke, M. Werner, B. Michael, I. Tinhofer, S.E. Combs, J. Debus, H. Schäfer, M. Krause, A. Linge, C. Rödel, M. Stuschke, D. Zips, U. Ganswindt, M. Henke, H. Zitzelsberger, C. Belka (Germany)

10:25 **An ex vivo assay to detect radiosensitization by PARP-inhibitors in soft tissue sarcomas** PD-0067
M. Mangoni, G. Salvatore, D. Greto, M. Sottilli, C. Talamonti, V. Lorenzetti, M. Aquilano, A. Peruzzi, V. Salvestrini, L. Visani, P. Bonomo, M. Scorianz, F. Muratori, G. Scoccianti, D.A. Campanacci, L. Livi (Italy)

RTT track

Poster discussion: RTT 1

10:00 - 10:30

The Village: Poster Discussion Station 4

Chair: E. Miles (United Kingdom)

Chair: W. Tran (Canada)

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| 10:00 | Streamlining the image-guided radiotherapy process for proton beam therapy: a service evaluation
<u>L. Davies</u> , L. McHugh, M.C. Aznar, J. Lindsay, C.L. Eccles
(United Kingdom) | PD-0068 |
| 10:05 | Use of prescription isodose boundary to optimise treatment delivery during MR-guided Radiotherapy
<u>C. Votta</u> , D. Cusumano, L. Boldrini, V. Pollutri, L. Placidi, G. Chiloiro, A. Romano, M.V. Antonelli, V. Valentini (Italy) | PD-0069 |
| 10:10 | Contour propagation for online treatment of rectal cancer using MR guidance
<u>A. Adams</u> , A. Betgen, T. Vijlbrief, B. Van Triest, P. Remeijer, T. Jansen, J. Sonke (The Netherlands) | PD-0070 |
| 10:15 | The MOMENTUM study, an international registry of patients treated on an MR-linac: 9-month experience
S. De Mol Van Otterloo, E.L.A. Blezer, C.D. Fuller, C. Faivre-Finn, A. Sahgal, U.A. Van der Heide, J.P. Christodouleas, H. | PD-0071 |

	Akhiat, S. Mook, M.P.W. Intven, B. Van Triest, A.C. Tree, A.M. Kirby, S. Lalondrelle, C. Schultz, B. Erickson, H. Emma, M.E. Nowee, S. Hafeez, U. Oelfke, R.H.A. Tersteeg, D. Eggert, W.A. Hall, H.M. Verkooijen (The Netherlands)	
10:20	Evaluation of intra thoracic anatomical changes based on the lung traffic light protocol	PD-0072
	F. Rodrigues Sousa, Y. Jourani, S. Poeta, L. Moretti, M. Roelandts, P. Van Houtte, M. Somoano, D. Van Gestel (Belgium)	

10:25	Outcomes in patients aged 70 and above treated with radical radiotherapy for head and neck cancer	PD-0073
	L. Hay, S. Borgaonkar, P. McLoone, A. James, D. Grose, C. Wilson, C. Lamb, S. Schipani, M. Thomson, C. Paterson (United Kingdom)	

Interdisciplinary track

Proffered Papers: Proffered papers 1: HSR HERO

10:30 - 11:30	Strauss 1
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	Chair: Y. Lievens (Belgium)	
	Chair: C. Oliveira (Canada)	
10:30	Impact of early diagnosis and improved access to treatment on lung cancer survival	OC-0074
	T. Mee, S. Brown, N.F. Kirkby, N.G. Burnet, C. Faivre-Finn, K.J. Kirkby (United Kingdom)	
10:40	The Canadian Association of Radiation Oncology 2019 workforce and technology utilization study	OC-0075
	S. Loewen, C. Doll, R. Halperin, J. Archambault, T. Stuckless, M. Brundage (Canada)	
10:50	Insights into the evidence-based practice of hypofractionated radiotherapy in Europe	OC-0076
	B. Tawk, D. Rodin, G. Axelsson, Y. Lievens (Germany)	
11:00	Factors Associated with the Global Availability of Radiotherapy Services: an IAEA analysis	OC-0077
	J.A. Polo Rubio, E. Zubizarreta, Y. Lievens, M. Barton, D. Rodin, V.D. Jake, S. Grover, M. Abdel-Wahab (Austria)	

- 11:10 **A Cost-effectiveness of Different Approaches to the Treatment of Localized Prostate Cancer** OC-0078
A. Harat, M. Harat, M. Martinson (Poland)
- 11:20 **Can SABR for painful bone metastases ever be cost-effective in the NHS?** OC-0079
K. Spencer, C. Bojke, A. Henry, G. Velikova, E. Morris, Y. Van der Linden, W. Van den Hout, P. Hall (United Kingdom)

Radiobiology track

Proffered Papers: Proffered papers 2: Interactions between radiation and the immune response

10:30 - 11:30 Stolz 1-2

- Chair: E. Deutsch (France)
Chair: R. Lieverse (The Netherlands)
- 10:30 **Radiation therapy increases tumor vulnerability to natural killer cell-mediated control** OC-0080
J.I. Sia, I. Chindris, J. Hagekyriakou, R. Johnstone, N. Haynes (Australia)
- 10:40 **Immuno-regulatory properties of irradiated tumor fibroblasts** OC-0081
T. Hellevik, R. Berzaghi, A. Islam, L. Gorchs, I. Pettersen, T. Stuge, M.A. Akhtar, I. Martinez-Zubiaurre (Norway)
- 10:50 **TNF α -mediated crosstalk between regulatory T cells and monocytes limits radiotherapy efficacy** OC-0082
M. Mondini, P. Hamon, P. Loyher, M. Gerbé de Thoré, C. Clemenson, M. Laviron, K. Berthelot, B.L. Salomon, C. Combadière, A. Boissonnas, E. Deutsch (France)
- 11:00 **Abolition of metastases of mouse triple negative breast cancer by alpha-radiation and immunotherapy** OC-0083
V. Domankevich-Bachar, M. Efrati, F. Mansur, M. Schmidt, A. Cohen, E. Glikson, T. Cooks, I. Kelson, Y. Keisari, R. Galalae (Israel)
- 11:10 **Combining RT with L19-IL2 and aPDL1: from preclinical results towards a phase II trial (ImmunoSABR).** OC-0084
R. Lieverse, E. Van Limbergen, V. Olivo Pimentol, C.

Oberije, D. Neri, A. Yaromina, L.J. Dubois, P. Lambin (The Netherlands)

- 11:20 **Fractionated Radiosurgery plus Check Point Blockade is a Novel Paradigm for Treating Glioblastoma** OC-0085
S. Ryu, A. Stessin, M. Clausi, T. Duong, S. Thirks (USA)

Clinical track

Proffered Papers: Proffered papers 3: Sarcoma

10:30 - 11:30

Plenary

Chair: *TBC*

Chair: S. Zarraa (Tunisia)

- 10:30 **A sarcoma hypoxia signature (nanoString® assay) validates in the phase III VorteX radiotherapy trial** OC-0086
L. Forker, B. Bibby, L. Yang, J. Irlam, H. Valentine, P. Shenjere, J. Wylie, M. Leahy, P. Gaunt, L. Billingham, M. Robinson, A. Choudhury, C. West (United Kingdom)
- 10:40 **Preoperative Hypofractionated Radiation Therapy For Soft Tissue Sarcomas Of Extremity And Trunk** OC-0087
F. Navarria, A. Lauretta, E. Palazzari, R. Innocente, M. Gigante, A. Caroli, V. Canzonieri, A. Buonadonna, F. Gherlinzoni, J. Polesel, G. Bertola, A. De Paoli (Italy)
- 10:50 **Neoadjuvant Radiotherapy vs Chemoradiotherapy for High-Risk Extremity and Trunk Soft Tissue Sarcoma** OC-0088
M. Chowdhary, A. Chowdhary, N. Sen, N. Zaorsky, K. Patel, D. Wang (USA)
- 11:00 **Oncological & Functional outcomes of Extracorporeal Radiation and Reimplantation for Bone Sarcomas** OC-0089
K. Jani, M. Shah, S. Batham, M. Jain, M. Gandhi, P. Hirpara (India)
- 11:10 **Methodological challenges of clinical research in soft tissue sarcomas** SP-0090
P. Casali (awardee) (Italy)

Clinical track

Proffered Papers: Proffered papers 4: CNS

10:30 - 11:30

Lehar 1-2-3

Chair: J. Jaal (Estonia)

Chair: G. Borst (The Netherlands)

- 10:30 **SIB accelerated RT and concomitant TMZ in GBM patients: results of a phase I study (ISIDE BT-2)** OC-0091
M. Ferro, A. Ianiro, A. Re, G. Macchia, S. Cilla, V. Picardi, M. Boccardi, M. Ferro, S. Cammelli, C. Romano, S. Bisello, M. Buwenge, S. Mignogna, G. Giglio, E. Cucci, V. Valentini, A.G. Morganti, F. Deodato (Italy)
- 10:40 **Neurocognitive function related to radiation dose after treatment for brain tumours in adults** OC-0092
L. Haldbo-Classen, A. Amidi, L. Wu, S. Lukacova, G.V. Oettingen, Y. Lassen, R. Zachariae, J.F. Kallehauge, M. Høyer (Denmark)
- 10:50 **Hippocampus-avoidance whole-brain irradiation with dose escalation on multiple brain metastases** OC-0093
I. Popp, S. Rau, M. Hintz, J. Schneider, A. Bilger, J.T. Fennell, D.H. Heiland, T. Rothe, K. Egger, C. Nieder, H. Urbach, A.L. Grosu (Germany)
- 11:00 **Patterns of Failure in Pediatric Medulloblastoma and Implications for Hippocampal Sparing** OC-0094
S. Baliga, B. Bajaj, L. Vanbenthuysen, J. Adams, S. Gallotto, E.A. Weyman, M.P. Lawell, N.J. Tarbell, S.M. MacDonald, T.I. Yock (USA)
- 11:10 **Timing of immunotherapy and SRS – Does it affects the outcome of patients with brain metastases?** OC-0095
E. Grøvik, L. Nilsen, I. Digernes, C. Saxhaug, Å. Helland, K.D. Jacobsen, O. Geier, B. Breivik, D.O. Sætre, K. Emblem (Norway)

Physics track

Proffered Papers: Proffered papers 5: Analysis for toxicity and outcome

10:30 - 11:30

Schubert 4-5-6

Chair: L. Cella (Italy)

Chair: S. Löck (Germany)

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|-------|--|---------|
| 10:30 | Peritumoural density as a biomarker of distant failure in NSCLC patients treated with SABR
<u>A. Davey</u> , M. Van Herk, C. Faivre-Finn, S. Brown, A. McWilliam (United Kingdom) | OC-0096 |
| 10:40 | Dose patterns associated to pericardial effusion in NSCLC patients treated with radiation therapy
S. Monti, <u>G. Palma</u> , T. Xu, S. Hahn, M. Durante, R. Mohan, Z. Liao, L. Cella (Italy) | OC-0097 |
| 10:50 | Voxelwise analysis of rectal toxicity associations using accumulated delivered dose
<u>L. Shelley</u> , D. Noble, M. Romanchikova, K. Harrison, A. Bates, M. Sutcliffe, S. Thomas, N. Burnet, R. Jena (United Kingdom) | OC-0098 |
| 11:00 | A multivariate NTCP model for GI and GU morbidity in 1151 patients treated with proton therapy
<u>J. Pedersen</u> , X. Liang, C. Bryant, N. Mendenhall, Z. Li, L.P. Muren (Denmark) | OC-0099 |
| 11:10 | A Bayesian network structure for predicting local recurrence in rectal cancer patients
<u>A. Biche</u> , C. Masciocchi, A. Damiani, I. Bermejo, E. Meldolesi, G. Chiloiro, V. Valentini, A. Dekker, J. Van Soest (The Netherlands) | OC-0100 |
| 11:20 | Second primary cancer risks among prostate cancer radiotherapy survivors: effect of smoking and IMRT
<u>M. Jahreiß</u> , K.K. Aben, M.S. Hoogeman, M.L. Dirkx, H. Reuvekamp, M. Ahmadi, K.C. De Vries, L. Incrocci, W.D. Heemsbergen (The Netherlands) | OC-0101 |

Physics track

Proffered Papers: Proffered papers 6: Novel treatment planning strategies

10:30 - 11:30

Strauss 3

Chair: C.R. Hansen (Denmark)

Chair: L. Cozzi (Italy)

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|-------|---|---------|
| 10:30 | Reducing secondary lung cancer risk by optimized planning of accelerated partial breast irradiation
<u>N. Hoekstra</u> , S. Habraken, A. Swaak - Kragten, S. Breedveld, J. Pignol, M. Hoogeman (The Netherlands) | OC-0102 |
| 10:40 | Clinical implementation of Knowledge-based (KB) planning optimization for Helical-Tomotherapy
<u>R. Castriconi</u> , C. Fiorino, C. Cozzarini, S. Broggi, N. Di Muzio, G.M. Cattaneo, R. Calandrino (Italy) | OC-0103 |
| 10:50 | Optimising re-irradiation using anatomically appropriate, fraction size corrected background dose
<u>L. Murray</u> , M. Aldred, S. Gregory, M. Nix, L. Aspin, J. Lilley, S. Svensson, J. Uzan, B. Al-Qaisieh, A. Appelt (United Kingdom) | OC-0104 |
| 11:00 | Inter-observer variability in quality scores of Pareto optimal plans
<u>E. Cagni</u> , L. Rossi, A. Botti, M. Iori, R. Sghedoni, C. Iotti, A. Rosca, G. Timon, S. Cozzi, M. Galaverni, M. Orlandi, E. Spezi, B.J.M. Heijmen (Italy) | OC-0105 |
| 11:10 | Stepwise model-based treatment plan optimization to prevent dysphagia in head and neck cancer.
<u>H. Langendijk</u> , L. Van den Bosch, A. Van den Hoek, E. Oldehinkel, T. Meijer, R. Kierkels, D. Scandurra, A. Wolter, D. Mulder, H. Van der Laan, S. Both, A. Van der Schaaf, R. Steenbakkers (The Netherlands) | OC-0106 |
| 11:20 | Quantitative metrics to analyze variations and support best practices in head and neck dose plans
<u>L.P. Kaplan</u> , C.R. Hansen, K. Jensen, J. Friberg, E. Samsøe, J. Johansen, M. Andersen, B. Smulders, E. Andersen, M.S. Nielsen, J.G. Eriksen, J.B.B. Petersen, U.V. Elstrøm, A.I.S. Holm, P.S. Skyt, A. Vestergaard, E.L. Lorenzen, M. Nielsen, | OC-0107 |

R.C. Marseguerra, M.H. Morthorst, C. Grau, S.S. Korreman
(Denmark)

RTT track

Proffered Papers: Proffered papers 7: Evaluating and predicting toxicity in RT

10:30 - 11:30

Strauss 2

Chair:	<i>TBC</i>	
Chair:	D. Bodusz (Poland)	
10:30	DW MRI analysis of salivary glands during head and neck radiotherapy to predict late xerostomia.	OC-0108
	A. Duffton, O. Kemp, P. McLoone, L. Devlin, C. Paterson (United Kingdom)	
10:40	Cardiovascular risk assessment based on cardiac calcifications on breast RT planning CT scans	OC-0109
	R. GAL, I. Isgum, S.G.M. Van Velzen, M.J. Emaus, D.H.J.G. Van den Bongaard, M.L. Gregorowitsch, E.L.A. Blezer, S.A.M. Gernaat, N. Lessmann, M.G.A. Sattler, A.J. Teske, J. Penninkhof, H. Meijer, J.J. Van Tol-Geerdink, J. Pignol, J. Verloop, H.M. Verkooijen (The Netherlands)	
10:50	Normal tissue complication probability during proton therapy for head & neck cancer patients	OC-0110
	E. Van Weerd, J. Jacobs, S. Hutschemaekers, M. Kroesen, Y. Klaver, M. Rodrigues, H. Werz, F. Keskin-Cambay, M. De Jong, R. Wiggenraad, M. Hoogeman, S. Habraken, M. Van Vulpen, J. Zindler (The Netherlands)	
11:00	Patient-reported acute diarrhea in a cervical cancer patient cohort correlates with dose to rectum	OC-0111
	D. Reijtenbagh, J. Godart, J. Mens, S. Heijkoop, W. Heemsbergen, M. Hoogeman (The Netherlands)	
11:10	Patient-Specific Heart Constraint lowers mean heart dose for patients receiving breast RT	OC-0112
	K. West, R. Ward, D. Latty, T. Wang, S. Cross, V. Gebski, K. Stuart (Australia)	

- 11:20 **Dosimetric and NTCP comparison of photon treatment techniques in lung cancer** OC-0113
D. Hattu, J. Van Loon, S. Peeters, D. Emans, S. Nijsten, W. Van Elmpt, D. De Ruysscher (The Netherlands)

Clinical track

Poster Highlights: Poster highlights 3 CL : Prostate

10:30 - 11:30

Poster Area 1

- Chair: A. Zapatero (Spain)
Chair: A. Lancia (Italy)
- 10:30 **Dose-volume effects for GI toxicity following EBRT for prostate cancer in the FLAME trial** PH-0114
V. Groen, P. Zuithoff, M. Van Schie, E. Monninkhof, M. Kunze-Busch, H. De Boer, J. Van der Voort van Zijp, F. Pos, R.J. Smeenk, K. Haustermans, S. Isebaert, T. Depuydt, H.M. Verkooijen, U.A. Van der Heide, L. Kerkmeijer (The Netherlands)
- 10:38 **Five-year outcomes of 51.6 Gy (RBE) in 12-fractionated carbon-ion RT for localized prostate cancer** PH-0115
H. Sato, G. Kasuya, T. Chang, H. Makishima, K. Nemoto, H. Tsuji (Japan)
- 10:46 **Stereotactic radiotherapy for prostate cancer: preliminary results of a phase II prospective trial** PH-0116
V.P. Nguyen, H. Alzin, L. Celine, L. Harzée, S. Joseph, M. Untereiner, B. Frédéric, S. Biver, Z. Bodgal, S. Philippi, P. Nickers (Luxembourg)
- 10:54 **Radiotherapy of T4M0 prostate cancer : A multicentric retrospective analysis** PH-0117
F. Goupy, E. Meyer, P. Pommier, N. Magné, P. Sargos, D. Pasquier, G. Noël, U. Schick, A. Hasbini, S. Supiot, A. Bossi, I. Latorzeff, J. Riverain, L. Duvergé, M. Benna, N. Benziane, T. Le Roy, C. Bigot, M. Rehn, L. Vaugier, B. Le Proust, A. Barateau, B. Campillo-Gimenez, J. Castelli, R. De Crevoisier (France)

- 11:02 **Stereotactic or conventional RT for macroscopic prostate bed recurrence: a propensity score analysis** PH-0118
G. Francolini, B.A. Jereczek-Fossa, V. Di Cataldo, G. Simontacchi, G. Marvaso, M.A. Zerella, P. Gentile, F. Bianciardi, S. Allegretta, B. Detti, L. Masi, L.P. Ciccone, A. Bruni, G. Ingrosso, E. Mazzeo, F. Trippa, F. Lohr, L. Livi (Italy)
- 11:10 **Modulations of gut microbiota following radiotherapy for prostate cancer** PH-0119
E. Gioscio, T. Rancati, B. Avuzzi, L. De Cecco, S. Morlino, B. Noris Chiorda, S. Villa, T. Di Florio, F. Badenchini, T. Giandini, A. Cicchetti, E. Mancinelli, M.S. Serafini, A. Devecchi, E. Orlandi, R. Valdagni (Italy)
- 11:18 **The influence of telomere length on mortality in prostate cancer patients treated with radiotherapy.** PH-0120
T. Langsenlehner, K. Lukasiak, E. Thurner, U. Langsenlehner, H. Stranzl-Lawatsch, W. Renner (Austria)

Physics track

Poster Highlights: Poster highlights 4 PH: Intrafractional motion

10:30 - 11:30 Poster Area 2

- Chair: P.R. Poulsen (Denmark)
Chair: J. Dhont (Belgium)
- 10:30 **Selecting the optimal fiducial marker to reduce the PTV margins for partial breast irradiation** PH-0121
N. Hoekstra, S. Habraken, A. Swaak - Kragten, M. Hoogeman, J. Pignol (The Netherlands)
- 10:38 **Clinical implementation of model-based CT** PH-0122
D. Low, M. Lauria, B. Stiehl, A. Santhanam, P. Lee, A. Raldow, D. O'Connell (USA)
- 10:46 **DIR based dose accumulation to validate reduced PTV and PRV margins in head-and-neck radiotherapy** PH-0123
N. Lowther, S. Marsh, R. Louwe (New Zealand)
- 10:54 **Dosimetric effect of intrafraction motion for different correction strategies in prostate SBRT** PH-0124
A. Vanhanen, P. Poulsen, M. Kapanen (Finland)

11:02	Intra-fractional stability of MR-guided online adaptive SBRT for prostate cancer	PH-0125
	J. Heitmann, M. Chamberlain, L. Wilke, M. Baumgartl, J. Krayenbühl, M. Zamburlini, M. Mayinger, N. Andratschke, S. Tanadini-Lang, M. Guckenberger (Switzerland)	
11:10	Online 3D prostate cine-MRI on the MR-linac: dosimetric impact of intrafraction motion	PH-0126
	C. Kontaxis, D. De Muinck Keizer, T. Willigenburg, M. Den Hartogh, L. Kerkmeijer, J. Van der Voort van Zyp, B. Raaymakers, J. Lagendijk, H. De Boer (The Netherlands)	
11:18	Quantifying intra-fractional gastric wall motion for MR-guided radiotherapy	PH-0127
	T. Driever, A. Van der Horst, J. Teuwen, M. Fast, J. Sonke (The Netherlands)	

Interdisciplinary track

Presidential Symposium: Presidential symposium: Translating research and partnership into optimal health

11:40 - 12:40	Plenary
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11:40	Translating research and partnership into optimal health	SP-0128
	U. Ricardi (Italy)	
11:50	Translating research into optimal health: State of the art of CAR-T cell therapy in hematological malignancies	SP-0129
	S. Schuster (USA)	
12:05	Translating partnership into optimal health: the case of ILROG	SP-0130
	J. Yahalom (USA)	
12:20	ICRU award presentation: Global Cancer Control – Challenges and Opportunities	SP-0131
	M. Gospodarowicz (Canada)	

Interdisciplinary track

Symposium: MR-guided Radiotherapy: state of the art and future perspectives

14:15 - 15:30

Strauss 1

With MR-guided radiotherapy being clinically available for over 5 years, it is time to check what has been accomplished and where we are heading. In this interdisciplinary symposium three experts, a clinician, a physicist and an RTT, will bring you up to date with the current state-of-the-art MR-guided radiotherapy practice and discuss its future. From practical patient setup to the latest MR-images and from the necessary quality assurance to the first clinical outcomes of MRgRT patients: you will hear it all.

Chair: B. Slotman (The Netherlands)

Co-chair: O. Gurney-Champion (United Kingdom)

14:15	Physics aspects of MRI guided radiotherapy	SP-0132
	<u>S. Nill</u> (United Kingdom)	
14:40	MRI guided radiotherapy: a clinical reality	SP-0133
	<u>A. Bruynzeel</u> , F. Lagerwaard (The Netherlands)	
15:05	The role of the RTT's in MRI-guided radiotherapy	SP-0134
	<u>M. Büttner Roed Andersen</u> (Denmark)	

Radiobiology track

Symposium: Hypoxia-activated prodrugs: is there a future?

14:15 - 15:30

Stolz 1-2

Hypoxia-activated prodrugs (HAPs) are antineoplastic agents selectively targeting hypoxic tumor regions associated with malignancy and treatment resistance. Ahmed Salem will give an overview of the HAP clinical trials with the likely reasons for their disappointing results and explain how to design a successful hypoxia biomarker-guided trial. Alexandra Mowday will discuss how possible HAP off-target activity can be exploited, removed or re-purposed and what the implications are on HAP activity at intermediate oxygen concentrations. Brad Wouters will elaborate on novel hypoxia-activated small molecules targeting unexpected biological pathways, while Martin Prusky will discuss the do's and don'ts of HAP combination therapies.

Chair: L. Dubois (The Netherlands)	
Co-chair: G. Powathil (United Kingdom)	
14:15 Hypoxia-activated prodrugs: why haven't promising preclinical results translated to the clinic?	SP-0135
<u>A. Salem</u> (United Kingdom)	
14:33 Off target effects with hypoxia activated prodrugs: lessons learned from PR-104A	SP-0136
<u>A. Mowday</u> , L. Dubois, J. Smaill, A. Patterson, P. Lambin, J. Theys (The Netherlands)	
14:51 Personalized medicine in the context of hypoxia-directed therapy	SP-0137
<u>B. Wouters</u> (Canada)	
15:09 Hypoxia-activated prodrug combination therapies	SP-0138
<u>M. Prusky</u> (Switzerland)	

Clinical track

Symposium: Multimodal approaches in oligometastatic prostate disease: state-of-the-art

14:15 - 15:30 Plenary

Local ablative treatment of oligometastatic prostate cancer has the potential to delay disease progression and subsequent systemic treatments and potentially prolong survival. However, there is a lot of debate on diagnostic assessment, treatment approaches and related predictors of response together with prognostic criteria, for this relatively new disease entity. In this session, the spectrum of oligometastatic prostate cancer, diagnostics, patients selection and prognostic aspects will be discussed, followed by treatment related characteristics of different oligometastatic and oligorecurrent/oligoprogressive states. Current literature and studies involving various oligometastatic facets as well as future directions in trials will be reviewed.

Chair: P. Franco (Italy)

Co-chair: M. Intven (The Netherlands)

14:15 Oligometastatic state: definition, diagnosis and prognosis	SP-0139
<u>B.A. Jereczek-Fossa</u> (Italy)	

14:33	Standard of care for systemic treatment - hormone sensitive and CRPC	SP-0140
	<u>N. James</u> (United Kingdom)	
14:51	Radiation therapy in hormone sensitive oligometastatic patients: a step towards cure?	SP-0141
	<u>P. Blanchard</u> (France)	
15:09	Radiation therapy for castrate resistant oligometastatic patients	SP-0142
	<u>T. Hölscher</u> (Germany)	

Clinical track

Debate: This house believes that hippocampus avoiding whole brain irradiation is the current standard of care

14:15 - 15:30	Lehar 1-2-3
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Chair:	J. Belderbos (The Netherlands)	
Co-chair:	J. Jaspers (The Netherlands)	
14:15	For the motion: Hippocampal Avoidance: Proving Causation from Bench to Bedside to Beam	SP-0143
	<u>G. Vinai</u> (USA)	
14:30	Against the motion: Hippocampus avoidance in PCI: Blinded by the light	SP-0144
	<u>D. De Ruysscher</u> (The Netherlands)	
14:45	For the motion -consider brain metastases management as a whole	SP-0145
	<u>A. Tallet, V. FAVREL, L. VARELA-CAGETTI</u> (France)	
15:00	Against the motion: This house believes that hippocampus avoiding WBI is the current standard of care	SP-0146
	<u>C. Le Pechoux, A. Levy, A. Botticella, O. Henry, G. Auzac, S. Bolle, F. Dhermain</u> (France)	
15:15	Discussion	

Physics track

Symposium: Surface guided radiation therapy

14:15 - 15:30

Schubert 4-5-6

Surface guided monitoring systems are increasingly finding their way into treatment bunkers. These systems promise additional patient safety, improved geometric accuracy, and possibilities to reduce a department's reliance on CBCT imaging. In this session, you will hear about surface guided radiotherapy applications including deep inspiration breath-hold, frameless SRS, and total marrow irradiation. The session speakers will highlight developments into field of surface guided radiation therapy including extensions into proton therapy. You will also hear about the requirements for proper internal tumor tracking based upon internal-external correlation models, as well as the need for appropriate guidelines on ROI selections.

Chair: M. Schwarz (Italy)

Co-chair: P. Granton (The Netherlands)

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|-------|---|---------|
| 14:15 | Surface imaging for patient positioning: current status and scope for improvements | SP-0147 |
| | <u>P. Freislederer</u> (Germany) | |
| 14:40 | Estimating the dosimetric effects of intrafraction motion: the role of surface imaging | SP-0148 |
| | <u>M. Kügele</u> (Sweden) | |
| 15:05 | Optical imaging for gating and tracking | SP-0149 |
| | <u>G. Fattori</u> (Switzerland) | |

Physics track

Symposium: "Big data" approaches to quality improvement

14:15 - 15:30

Strauss 3

Chair: M. Aznar (United Kingdom)

Co-chair: A. Traverso (The Netherlands)

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|-------|--|---------|
| 14:15 | Integration of AI and Machine Learning in Radiotherapy QA | SP-0150 |
| | <u>M. Chan</u> (USA) | |

14:40	Statistical Process Control for the analysis of IGRT data	SP-0151
	<u>R. Louwe</u> (New Zealand)	
15:05	“Rapid learning”: Using real world data to improve clinical practice	SP-0152
	<u>G. Price</u> (United Kingdom)	

RTT track

Symposium: Radiotherapy: it´s all about the heart

14:15 - 15:30

Strauss 2

The increase in the incidence of malignant tumors makes it necessary to increase the use of radiotherapy, also in patients with cardiovascular problems who require implantation of the heart stimulating system. Currently, the survival time of cancer patients is increasing, so the population of patients with CIED (cardiac implantable electronic device) is more and more often observed in oncological treatment. Modern radiotherapy needs to be a focus on how to decrease heart and LAD dose using modalities like DIBH but also how to evaluate and develop procedures during radiotherapy of patients with CIED.

Chair: B. Bak (Poland)

Co-chair: J. Van Loon (The Netherlands)

14:15	Challenges in treating IMC: An RTT perspective	SP-0153
	<u>N. Roberts</u> , S. Wickers, D. Ledsom (United Kingdom)	
14:40	Effect of breath-hold in left-sided whole breast irradiation	SP-0154
	<u>M. Mast</u> , J. Pekelharing, M. Heijenbrok, D. Klaveren Van, L. Kempen Van - Harteveld, A. Petoukhova, A. Verbeek - De Kanter, J. Schreur, H. Struikmans (The Netherlands)	
15:05	Is heart dose matter more important in SBRT than 3DCRT?	SP-0155
	<u>Y. Kirova</u> (France)	

Clinical track

Poster Highlights: Poster highlights 5 CL : GI

14:15 - 15:15

Poster Area 1

Chair: E. Fokas (Germany)	
Chair: F. Kraja (Albania)	
14:15 Pattern of care and outcomes in stage III esophageal cancer receiving definitive chemoradiation	PH-0156
<u>Y. Chou</u> , Y. Lee, J. Chiou, H. Chen, H. Tseng, C. Huang, J. Huang (Taiwan)	
14:23 Proton therapy achieves favorable dosimetric sparing and acute toxicity for esophageal cancer	PH-0157
<u>M. Chuong</u> , J. Chang, A. Kaiser, J. Zeng, W. Hartsell, H. Tsai, C. Stevens, C. Vargas (USA)	
14:31 The role of adjuvant radiation therapy in non-hilar extrahepatic bile duct cancer	PH-0158
W.I. Chang, B.H. Kim, K. Hyun-Cheol, K. Kyubo, O. Do-Youn, J. Jin-Young, <u>C. Eui Kyu</u> (Korea Republic of)	
14:39 NANORAY-103: Phase I/II trial of NBTXR3 activated by SBRT in patients with HCC and liver metastases	PH-0159
<u>T. De Baère</u> , M. Pracht, Y. Rolland, J. Durand-Labrunie, F. Nguyen, J. Bronowicki, V. Vendrely, A. Sa Cunha, V. Croisé-Laurent, E. Rio, S. Le Sourd, P. Said, P. Gustin, C. Perret, D. Peiffert, E. Deutsch, E. Chajon (France)	
14:47 Update of mono-institutional retrospective cohort of 200 patients affected by HCC treated with SBRT	PH-0160
<u>J. Di Muzio</u> , R. Carlevato, A.S. Guarneri, P. Franco, R. Ragona, R. Umberto (Italy)	
14:55 Elective clinical target volumes for rectal IMRT delivery - moving towards a UK wide consensus	PH-0161
<u>S. O'Cathail</u> , R. Muirhead, D. Sebag-Montefiore, M. Hawkins (United Kingdom)	
15:03 Is there a radiation dose-response relationship for non-operative management of rectal cancer?	PH-0162
<u>A. Appelt</u> , A. Jakobsen, J. Gerard, D. Sebag-Montefiore (United Kingdom)	

RTT track**Poster Highlights: Poster highlights 6 RTT: Optimising techniques for breast and H&N RT**

14:15 - 15:15

Poster Area 2

Chair: E. Forde (Ireland)

Chair: *TBC*

- 14:15 **Harmonization of breast cancer radiotherapy treatment planning in the Netherlands** PH-0163
M. Verhoeven, M. Sangen van der, C. Hurkmans, L. Boersma, K. Verhoeven, N. Bijker, K. Crama, T. Nuver (The Netherlands)
- 14:23 **A randomised clinical feasibility trial of a breast immobilisation device: The SuPPORT 4 All Project.** PH-0164
H. Probst, H. Reed, A. Stanton, C. Robertson, R. Simpson, S. Walters, H. Simpson, G. Brown, K. Bryan-Jones, S. Hielscher, O. Din (United Kingdom)
- 14:31 **Integration of radiation doses and myocardial function in radiotherapy plans for breast cancer** PH-0165
S. Yang, K. Lin, C. Yu, C. Hsu, S. Wang, P. Shueng, T. Wu (Taiwan)
- 14:39 **Bilateral breast treatment comparative: mono and bi-isocentric VMAT treatment plan.** PH-0166
A. Coral, N. Espinosa López, S. Bermejo Martinez, G. Gomez De Segura Melcon, X. Nolla Nieto, M. Mancera Soto, M. Lizondo Gisbert (Spain)
- 14:47 **Dosimetric stability of left breast cancer irradiation in DIBH triggered with RPM** PH-0167
S. Bermejo, G. Gómez de Segura Melcón, X. Nolla Nieto, N. Ventosa Lli, P. Carrasco de Fez (Spain)
- 14:55 **Can the use of PET/MR improve target delineation accuracy in RT planning for H&N cancer patients?** PH-0168
Y.S. Wong, M. Collins, G. Chiu (Hong Kong (SAR) China)
- 15:03 **Dosimetric comparison of IMRT and IMPT in the treatment of recurrent nasopharyngeal carcinoma** PH-0169
H.M. Hung, O.C.M. Chan, C.H. Mak, W.T. Ng, M.C.H. Lee, W.M. Hung (Hong Kong (SAR) China)

Clinical track

Poster discussion: CL: CNS

15:30 - 16:00

The Village: Poster Discussion Station 1

Chair: A. Grosu (Germany)	
Chair: E. Vu (Switzerland)	
15:30 Volumetric regression in brain metastases after stereotactic RT: Time course and significance	PD-0170
<u>F. Putz</u> , D. Oft, R. Perrin, V. Mengling, T. Weissmann, J. Roesch, S. Mansoorian, L. Distel, C. Bert, R. Fietkau (Germany)	
15:35 Reduced-Dose Whole Brain Radiotherapy for the Primary Central Nervous System Lymphoma	PD-0171
<u>T.H. Lee</u> , J.H. Chang, B.H. Kim, C.W. Wee, J.H. Lee, T.M. Kim, C. Park, S. Ye, I.H. Kim (Korea Republic of)	
15:40 Radio/immuno-therapies of brain metastasis disease: A meta-analysis of efficacy and safety outcomes	PD-0172
<u>V. Voronova</u> , S. Lebedeva, M. Sekacheva, G. Helmlinger, K. Peskov (Russian Federation)	
15:45 Ventricular – Subventricular zone involvement – A Predictive factor for survival in Glioblastoma	PD-0173
<u>V. Pareek</u> , R. Bhalavat, M. Chandra, N. Reddy, Z. Moosa, A. Rungta, D. Kawale, S. Patel, L. Nellore, K. George, D. Borade, K. Kalariya, P. Bauskar, N. Kumar (India)	
15:50 Predictive factors for local and distant brain control and survival after SRT of brain metastases	PD-0174
<u>K. Holub</u> , G. Louvel (Spain)	
15:55 TTIRS trial:a retrospective analysis of the association between TT or IT and RS for BM from NSCLC	PD-0175
<u>E. Olmetto</u> , S. Scoccianti, R. Di Franco, P. Anselmo, G. Beltramo, C. Mantovani, M.F. Osti, V. Pinzi, N. Giaj-Levra, A. Bruni, P. Matteucci, S. Pedretti, E. Giudice, P. Tini, M. Krengli, P. Ciampella, F. Pasqualetti, M. Trignani, A. Merlotti, V. Borzillo, D. Franceschini, E. Maranzano, R. Umberto, N. Pierina, V. Scotti (Italy)	

Clinical track

Poster discussion: CL: Breast 1

15:30 - 16:00

The Village: Poster Discussion Station 2

Chair: <i>TBC</i>	
Chair: M. Pavic (Switzerland)	
15:30 Survival After Breast-Conserving Therapy Compared With Mastectomy in Stage I-IIA Breast Cancer	PD-0176
<u>I. Ratoska</u> , G. Plavc, T. Zagar (Slovenia)	
15:35 Interfraction heart motion during Deep Inspiration Breath Hold (DIBH) radiotherapy measured by CBCT.	PD-0177
<u>S. Benkhaled</u> , D. Van Gestel, A. Desmet, D. Rodriguez, Y. Jourani, A. De Caluwé (Belgium)	
15:40 NTCP model development and comparison for brain image changes after IMPT for head and neck cancer.	PD-0178
<u>G.M. Engeseth</u> , R. He, D. Mirkovic, P. Yepes, C.H. Stokkevag, H.E. Pettersen, K.A. Wahid, A. Adair, R. Wu, X. Zhang, A.A. Mohamed, C.D. Fuller, S. Frank, R. Mohan, G.B. Gunn (USA)	
15:45 Clinical results of partial- and whole breast irradiation in early stage breast cancer	PD-0179
<u>J. Haussmann</u> , B. Wilfried, S. Corradini, B. Tamaskovics, <u>E. Boelke</u> , F. Djiepmo-Njanang, K. Kammers, C. Matuschek (Germany)	
15:50 Interim Report from the SAVE HEART Study: deep inspiration breath-hold in left-sided breast cancer	PD-0180
S. Schönecker, A. Gaasch, M. Pazos, D. Reitz, M. Braun, N. Harbeck, P. Freislederer, M. Niyazi, C. Belka, <u>S. Corradini</u> (Germany)	
15:55 Relationship between low dose to heart substructures and heart damage within SAFE trial (NCT2236806)	PD-0181
<u>I. Desideri</u> , G. Francolini, I. Meattini, L. Dominici, S. Lucidi, V. Maragna, V. Salvestrini, E. Scoccimarro, G. Stocchi, M.A. Teriaca, G.A. Barletta, L. Livi (Italy)	

Physics track

Poster discussion: PH: Dose measurement and dose calculation

15:30 - 16:00

The Village: Poster Discussion Station 3

Chair: T. Knöös (Sweden)

Chair: E. Goodwin (United Kingdom)

- 15:30 **Elastically deformed planning CT improves in vivo dosimetry results for Head and Neck treatments** PD-0182
M. Esposito, A. Ghirelli, S. Pini, S. Russo, P. Alpi, R. Barca, S. Fondelli, B. Grilli Leonulli, L. Paoletti, F. Rossi, P. Bastiani (Italy)
- 15:35 **Does the detector resolution influence correlations between complexity metrics and VMAT QA results?** PD-0183
S. Russo, G. Della Gala, V. Hernandez, M. Esposito, S. Pini, A. Ghirelli, J. Saez, H.O. Ghafour, G. Zatelli (Italy)
- 15:40 **Proton dosimetric comparison of CT metal artifact reduction techniques for head and neck patients** PD-0184
D. Branco, P. Taylor, S. Kry, X. Zhang, J. Rong, S. Frank, D. Followill (USA)
- 15:45 **Development of a Monte-Carlo head model for a fast online validation of 1.5 T MR-linac plans** PD-0185
M. Nachbar, O. Dohm, M. Friedlein, J. Winter, D. Mönnich, D. Zips, D. Thorwarth (Germany)
- 15:50 **Impact of effective spot size parameter on MU calculation of Acuros algorithm in small MLC fields** PD-0186
A. Fogliata, A. Girardi, L. Cozzi, A. Stravato, G. Reggiori, M. Scorsetti (Italy)
- 15:55 **Converting absorbed dose-to-medium to dose-to-water in heterogeneous media** PD-0187
A. Delbaere, T. Younes, M. Chauvin, L. Simon, C. Khamphan, L. Vieillevigne (France)

Physics track

Poster discussion: PH: Treatment planning: applications 1

15:30 - 16:00

The Village: Poster Discussion Station 4

Chair: G. Meijer (The Netherlands)

Chair: TBC

Artificial intelligence-assisted full-process solution for rectal cancer radiotherapy PD-0188

Abstract withdrawn

15:30 **Individualized Beam Angle Selection for MR-Linac Treatment of Rectal Cancer Patients** PD-0189

R. Bijman, L. Rossi, T. Janssen, P. De Ruiter, B. Van Triest, S. Breedveld, J. Sonke, B. Heijmen (The Netherlands)

15:35 **Update on yesterday's dose – Use of delivery log files to refine the daily proton delivery** PD-0190

M. Matter, L. Nenoff, L. Marc, A.J. Lomax, D.C. Weber, F. Albertitni (Switzerland)

15:40 **Knowledge-based planning improves plan quality for high-risk prostate cancer with four dose levels** PD-0191

K. Fjellanger, H.E.S. Pettersen, J.A. Hundvin, B. Nygaard, K. Revheim, T.H. Sulen, L.B. Hysing (Norway)

15:45 **One-year experience with total body irradiation (TBI) using forward IMRT and on-line image guidance** PD-0192

R. Van Leeuwen, D. Verwegen, P.G. Kollenburg, M. Swinkels, R.W. Van der Maazen (The Netherlands)

15:50 **Validation of a multi-centre knowledge-based planning model for radiotherapy of cervical cancer** PD-0193

E. Adams, S. Currie, C. Thomas, A. Pediaditaki, S. Temple, C. South, G. Currie, A. Nisbet (United Kingdom)

Interdisciplinary track

Award Lecture: E. van der Schueren Award Lecture

16:00 - 16:20

Plenary

16:00 Chair: Y. Lievens (Belgium)

16:05 **What's in a name?**

SP-0194

M. Leech (Ireland)

Interdisciplinary track

Award Lecture: Jens Overgaard Legacy Award

16:20 - 16:40

Plenary

16:20 Chair: TBC

16:25 **TBC**

SP-0195

R. Pötter (Austria)

Interdisciplinary track

Proffered Papers: Proffered papers 8: Cardiac toxicity

16:45 - 17:45

Strauss 1

Chair: C. Coles (United Kingdom)

Chair: M. Levis (Italy)

16:45 **Cardiac sub-volume targeting demonstrates regional radiosensitivity in the mouse heart**

OC-0196

K. Butterworth, K. Williams, M. Van Herk, A. McWilliam, M. Aznar, S. McMahon, E. Vasques Osorio, K. Edgar, G. Walls, E. Gill, M. Ghita (United Kingdom)

16:55 **Dose surface maps of the heart identify dose sensitive regions**

OC-0197

A. McWilliam, L. Graham, C. Dootson, A. Abravan, M. Van Herk (United Kingdom)

17:05	Heart sparing radiotherapy in breast cancer: the importance of baseline cardiac risks	OC-0198
	S. Schönecker, A. Gaasch, C. Simonetto, M. Eidemüller, D. Reitz, M. Pazos, M. Rottler, P. Freislederer, M. Braun, N. Harbeck, M. Niyazi, C. Belka, <u>S. Corradini</u> (Germany)	
17:15	Cardiac sparing in advanced stage NSCLC patients: at what cost?	OC-0199
	R. Van Der Bel, B. Stam, D. Eekhout, A. Tijhuis, K. Kiers, G. Wortel, J. Belderbos, S. Jan-Jakob, T. Janssen, E. Damen (The Netherlands)	
17:25	Heart dose constraints do not predict for cardiac death in radiotherapy for lung cancer	OC-0200
	K. Banfill, A. McWilliam, A. Abravan, F. Sun, K. Franks, M. Van Herk, C. Faivre-Finn (United Kingdom)	
17:35	Hodgkin Lymphoma patients treated with IMRT: from dosimetric analysis to cardiovascular disease risk	OC-0201
	E. Orlandi, V. De Luca, E. Gallio, S. Bartoncini, G.C. Iorio, R. Parise, C. Cavallin, C. Palladino, C. Fiandra, M. Levis, U. Ricardi (Italy)	

Radiobiology track

Proffered Papers: Proffered papers 9: Radiation effects on stem cells and the microenvironment

16:45 - 17:45 Stolz 1-2

	Chair: J. Bussink (The Netherlands)	
	Chair: B. Tomaszik (Poland)	
16:45	Combining hyperthermia or a VDA with checkpoint inhibitors to increase tumour immunogenicity	OC-0202
	P.B. Elming, T.R. Wittenborn, M.R. Horsman (Denmark)	
16:55	Eliminating tumour hypoxia to improve the impact of immunotherapy	OC-0203
	D. Marcus, A. Van der Wiel, R. Biemans, N. Lieuwes, A. Heyerick, J. Smaill, A. Patterson, J. Theys, A. Yaromina, P. Lambin, L. Dubois (The Netherlands)	
17:05	Molecular imaging of the endogenous hypoxia related marker CA IX with 111In-labeled VHH B9	OC-0204

- S. Van Lith, F. Huizing, B. Hoeben, S. Doulkeridou, M. Gotthardt, P. Van Bergen en Henegouwen, S. Heskamp, J. Bussink (The Netherlands)
- 17:15 **NOTCH inhibition promotes stem cell renewal and epithelial integrity in irradiated bronchial cells** OC-0205
L. Giuranno, E. Moreno Roig, C. Wansleeben, M. Vooijs (The Netherlands)
- 17:25 **Epigenetic silencing of miR-146a drives tumor progression and therapeutic resistance in glioblastoma** OC-0206
T. Cui, E.H. Bell, J. McElroy, B. Johnson, E. Sebastian, K. Liu, P.M. Gulati, A.P. Becker, M. Geurts, A. Gray, J. Fleming, S. Beyer, M. Venere, J. Haque, Q. Wang, P. Robe, A. Chakravarti (USA)
- 17:35 **Avoidance of DNA replication stress leads to radioresistance in stem cell-like TNBC** OC-0207
F. Meyer, A. Engel, B. Riepen, U. Schumacher, A. Dubrovska, C. Petersen, C. Peitzsch, L. Hein, S. Werner, H. Wikmann, K. Rothkamm, K. Borgmann (Germany)

Clinical track

Proffered Papers: Proffered papers 10: Prostate

16:45 - 17:45 Plenary

- Chair: *TBC*
- Chair: M. Orazem (Slovenia)
- 16:45 **Comparison between 68Ga-PSMA-PET/CT and mpMRI for radiotherapy planning in primary prostate cancer** OC-0208
S. Spohn, C. Jaegle, A.S. Bettermann, S. Kiefer, C.A. Jilg, J. Kranz-Rudolph, T.F. Fassbender, P. Bronsert, N.H. Nicolay, M. Bock, J. Ruf, M. Benndorf, A.L. Grosu, C. Zamboglou (Germany)
- 16:55 **'SBRT and the Boost', a love story: primary endpoint analysis of the phase II hypo-FLAME trial** OC-0209
C. Draulans, U.A. Van der Heide, K. Haustermans, F.J. Pos, J. Van der Voort van Zyp, H. De Boer, V. Groen, E.M.

Monninkhof, R.J. Smeenk, M. Kunze-Busch, T. Depuydt, R.
De Roover, S. Isebaert, L.G.W. Kerkmeijer (Belgium)

- 17:05 **Salvage radiotherapy in oligorecurrent pelvic node relapses of prostate cancer : a phase 2 trial** OC-0210
S. Supiot, D. Pasquier, X. Butaud, N. Magne, V.
Beccendorf, G. Crehange, P. Pommier, G. Loos, A.
Hasbini, I. Latorzeff, M. Silva, F. Denis, L. Campion, L.
Vaugier, A. Blanc-Lapierre (France)
- 17:15 **Bladder and Urethra Subregions for Prediction of Urinary Toxicity: Insights from External Validation** OC-0211
E. Mylona, M. Ebert, A. Kennedy, J.W. Denham, D.J. Joseph,
A. Steigler, O. Acosta, R. De Crevoisier (France)
- 17:25 **Patient-reported functional outcomes after hypofractionated radiation for prostate cancer** OC-0212
J. Nossiter, A. Sujenthiran, T. Cowling, M. Parry, S.
Charman, P. Cathcart, N. Clarke, H. Payne, J. Van der
Meulen, A. Aggarwal (United Kingdom)
- 17:35 **External beam radiotherapy alone or with high-dose-rate brachytherapy boost for prostate cancer** OC-0213
P. Hoskin, A. Rojas, G. Lowe, L. Bryant, G. Pandey, P. Ostler
(United Kingdom)

Clinical track

Multidisciplinary Tumour Board: Brain

16:45 - 17:45

Lehar 1-2-3

Chair: N. Burnet (United Kingdom)
Panelist: G. Borst (The Netherlands)
Panelist: T. Czech (Austria)
Panelist: A. Bergmeister-Berghoff (Austria)

Physics track

Proffered Papers: Proffered papers 11: Dose calculation for advanced techniques

16:45 - 17:45

Schubert 4-5-6

Chair: M.M. Aspradakis (Switzerland)

Chair: E. Sterpin (Belgium)

- | | | |
|-------|--|---------|
| 16:45 | Comparison of deep convolutional neural networks to denoise Monte Carlo proton dose distributions
<u>U.</u> Javaid, K. Souris, S. Huang, J.A. Lee (Belgium) | OC-0214 |
| 16:55 | LSTM networks for proton dose calculation in highly heterogeneous tissues
<u>A.</u> Neishabouri, N. Wahl, L. Norberto Burigo, U. Köthe, B. Mark (Germany) | OC-0215 |
| 17:05 | Efficient optimization of Monte Carlo based proton therapy plans using a beamlet-free algorithm
<u>K.</u> Souris, A. Barragan, G. Buti, M. Cohilis, G. Janssens, E. Sterpin, J.A. Lee (Belgium) | OC-0216 |
| 17:15 | Commissioning of IDEAL/GATE-RTion for Proton and Carbon ion Independent Dose Calculation (IDC)
<u>L.</u> Grevillot, D. Boersma, R. Gonzalo Gleyzes, L. Scheuchenpflug, A. Carlino, A. Elia, H. Fuchs, M. Stock (Austria) | OC-0217 |
| 17:25 | Approximate modeling for dose calculations in Diffusing Alpha-emitters Radiation Therapy
L. Arazi, <u>M.</u> Dumančić, Y. Keisari, I. Kelson (Israel) | OC-0218 |
| 17:35 | Development and validation of an EGSnrc accelerator head model for a 1.5 T MR-Linac
M. Friedel, M. Nachbar, D. Mönnich, O. Dohm, D. Zips, <u>D.</u> Thorwarth (Germany) | OC-0219 |

Physics track

Proffered Papers: Proffered papers 12: Artificial Intelligence and automation

16:45 - 17:45

Strauss 3

Chair: A. Dinkla (The Netherlands)

Chair: M. Hussein (United Kingdom)

16:45	Treatment planning without user interaction: Automatic plan approval of prostate Auto-Plans <u>K. Kiers</u> , E. Van der Bijl, J. Trinks, A. Hogaarts, R. Van der Bel, G. Wortel, E. Damen, J. Tomas (The Netherlands)	OC-0220
16:55	Clinical experience of automated SBRT planning with Constrained Hierarchical Optimization <u>L. Hong</u> , Y. Zhou, J. Yang, J. Mechalakos, M. Hunt, J. Yang, J. Yamada, J. Deasy, M. Zarepisheh (USA)	OC-0221
17:05	Deep Neural Network and Transfer Learning for DVH prediction in VMAT prostate treatments <u>E.M. Ambroa Rey</u> , J. Pérez-Alija, P. Gallego (Spain)	OC-0222
17:15	Prediction of proton dose distributions with deep learning for automatic treatment planning <u>A.M. Barragán Montero</u> , M. Huet, S. Teruel Rivas, K. Souris, D. Nguyen, S. Jiang, J. Lee, E. Sterpin (Belgium)	OC-0223
17:25	Fully automated heart dose calculation from cine MV images recorded during breast cancer treatments <u>S.S. Andreasen</u> , C. Muurholm, S. Skouboe, H. Spejlborg, B. Offersen, P.R. Poulsen (Denmark)	OC-0224
17:35	Highly-individualized dose reconstruction for pediatric abdominal radiotherapy with machine learning <u>M. Virgolin</u> , Z. Wang, B.V. Balgobind, I.W.E.M. Van Dijk, J. Wiersma, D.C. Hodgson, A. Bryce-Atkinson, M. Van Herk, C.R.N. Rasch, L. Zadravec Zaletel, P.S. Kroon, G.O. Janssens, A. Bel, P.A.N. Bosman, T. Alderliesten (The Netherlands)	OC-0225

Clinical track

Proffered Papers: Proffered papers 13: Lung

16:45 - 17:45

Strauss 2

Chair: S. Ramella (Italy)

Chair: N. Giaj Levra (Italy)

- 16:45 **Pre-existing cardiac disease and cardiopulmonary RT dose associate with cardiac death in lung cancer** OC-0226
A. Abravan, C. Faivre-Finn, K. Banfill, A. McWilliam, M. Van Herk (United Kingdom)
- 16:55 **Impact of FDG-PET/CT and EBUS TBNA: Possibilities and adaptations for precise radiotherapy in NSCLC** OC-0227
M. Guberina, C. Pöttgen, N. Guberina, H. Hautzel, K. Herrmann, D. Theegarten, C. Aigner, T. Plönes, W. Eberhardt, M. Schuler, R. Karpf-Wissel, K. Darwiche, M. Stuschke (Germany)
- 17:05 **Curative-intent radiotherapy outcomes in NSCLC patients with severe/very severe COPD & lung fibrosis** OC-0228
C. Tang, G. Price, H. Mistry, J. Kennedy, L. Pemberton, D. Woolf, N. Bayman, D. Cobben, C. Chan, C. Faivre-Finn, M. Harris, H. Sheikh, J. Coote, A. Salem (United Kingdom)
- 17:15 **TROG11.03 Phase III Trial Palliative RT versus CTRT in NSCLC patients not suitable for radical CTRT** OC-0229
M. Lehman (Australia)
- 17:25 **Soft tissue match and adaptive radiotherapy reduce incidence of radiation pneumonitis** OC-0230
C.M. Lutz, D.S. Moeller, L. Hoffmann, A. Appelt, A. Khalil, M. Kandi, M.I. Holt, H.H. Schmidt, M. Alber, M.M. Knap (Denmark)
- 17:35 **Outcome impact of radiotherapy protocol compliance: RTQA results from the PET-Plan trial** OC-0231
T. Schimek-Jasch, S. Kremp, M. Stockinger, A. Küsters, T. Hehr, Y. Bultel, P. Hass, J. Fleckenstein, A.H. Thieme, S. Adebahr, E. Gkika, V. Duncker-Rohr, M. Tosch, S.M. Eschmann, M. Miederer, G. Holl, H.C. Rischke, A. Schaefer-Schuler, J. König, C. Broichhagen, S. Lenz, H. Binder, A. Grosu, U. Nestle (Germany)

Radiobiology track

Poster Highlights: Poster highlights 7 RB: Novel radiobiological targets

16:45 - 17:45

Poster Area 1

Chair: <i>TBC</i>	
Chair: A. Mowday (The Netherlands)	
16:45 Metabolic profiles do not recover to normal after pelvic IMRT for high-risk prostate cancer.	PH-0232
<u>M. Reis Ferreira</u> , C.J. Sands, J.V. Li, H.J.N. Andreyev, J. Marchesi, M.R. Lewis, D. Dearnaley (United Kingdom)	
16:53 Microbiome Structures and Function Changes in RE of Cervical Cancer Based on 16S-rDNA Sequencing	PH-0233
<u>C. Ma</u> , X. Xiaoting, Q. Songbing, H. Xiaolan, Z. Juying (China)	
17:01 The Adaptive Resistome in TNBC: Functional Targeting in Patient-derived Organoids and Cell Lines	PH-0234
<u>S. Classen</u> , E. Rahlf, J. Görte, A.C. Parplys, U. Schumacher, C. Petersen, K. Rothkamm, M. Toulany, N. Cordes, K. Borgmann (Germany)	
17:09 Downregulation of BCL10 attenuates tumor growth and enhances radiosensitivity in pancreatic cancer	PH-0235
M. Wei, S. Yang, K. Yeh, H. Lee, Y. Tien, A. Cheng, <u>S. Kuo</u> (Taiwan)	
17:17 CD44v3-10 affects G2-arrest and radiosensitivity of S-phase cells via homologous recombination	PH-0236
M. Al Bazaz, S. Lerch, R. Hannen, K. Lauber, E. Dikomey, R. Engenhart-Cabillic, <u>U. Schötz</u> (Germany)	
17:25 Radiotherapy-induced mesenchymal gene signatures attenuated by VEGF-A blockade in mouse glioblastoma	PH-0237
<u>A.E. Nieto</u> , K. Unger, D. Fleischmann, D. Piehlmaier, V. Albrecht, J. Maas, M. Proescholdt, H. Zitzelsberger, C. Belka, K. Lauber (Germany)	

Physics track

Poster Highlights: Poster highlights 8 PH: Planning and validation of ion beams

16:45 - 17:45

Poster Area 2

Chair: M. Stock (Austria)

Chair: F. Fracchiolla (Italy)

- 16:45 **Optimisation of a Prompt-Gamma Slit Imaging System for Particle Beam Range Verification** PH-0238
A. Vella, F. Van den Heuvel (United Kingdom)
- 16:53 **Time-resolved dosimetry for validation of 4D dose calculation in PBS proton beam radiotherapy** PH-0239
N. Kostiukhina, H. Palmans, M. Stock, D. Georg, B. Knäusl (Austria)
- 17:01 **An independent platform for dose calculation and log file evaluation in proton therapy** PH-0240
G. Fonseca, I. Almeida, T. Wagenberg, C. Wolfs, G. Vilches Freixas, I. Rinaldi, J. Martens, G. Bosmans, F. Verhaegen (The Netherlands)
- 17:09 **A simulator of proton pencil beam scanning delivery** PH-0241
P.R. Poulsen, H. Nyström, P.S. Skyt, M.F. Jensen (Denmark)
- 17:17 **Maximizing the benefit of limited proton therapy resources through combined proton-photon treatments** PH-0242
N. Loizeau, S. Fabiano, D. Papp, A. Jakobi, K. Stützer, C. Richter, J. Unkelbach (Switzerland)
- 17:25 **Joint optimization of combined photon-carbon ion treatments for infiltrative tumors** PH-0243
A.B.A. Bennan, M. Bangert, J. Unkelbach (Germany)
- 17:33 **Treatment planning for MRI guided proton therapy: dose calculations in transverse magnetic fields.** PH-0244
F. Padilla Cabal, A.F. Resch, D. Georg, H. Fuchs (Austria)

Sunday
5 April
2020



Interdisciplinary track

Teaching Lecture: How can Artificial Intelligence improve contouring?

08:00 - 08:40

Strauss 1

Chair: S. Petit (The Netherlands)

08:00 **How can Artificial Intelligence improve contouring** SP-0245
W. Van Elmpt (The Netherlands)

Radiobiology track

Teaching Lecture: How does radiotherapy change the tumour ecosystem

08:00 - 08:40

Stolz 1-2

Chair: I. Martinez-Zubiaurre (Norway)

08:00 **How does radiotherapy change the tumor ecosystem?** SP-0246
F. Paris (France)

Clinical track

Teaching Lecture: Oligometastatic cancer scenarios: from biology to treatments

08:00 - 08:40

Plenary

Chair: C. Gani (Germany)

08:00 **Oligometastatic cancer scenarios: from biology to treatments** SP-0247
M. Nowee (The Netherlands)

Clinical track

Teaching Lecture: Bladder conservation strategies

08:00 - 08:40

Lehar 1-2-3

Chair: T. Hölscher (Germany)

08:00 **Bladder preservation strategies**

SP-0248

A. Choudhury (United Kingdom)

Physics track

Teaching Lecture: Radiosurgery: potential and pitfalls

08:00 - 08:40

Schubert 4-5-6

Chair: N. Antipina (Russian Federation)

08:00 **Radiosurgery: potentials and pitfalls**

SP-0249

D. Eaton (United Kingdom)

Physics track

Teaching Lecture: Dose calculation in external beam radiotherapy: The radiation transport equation and dose-to-water vs. dose-to-medium issues

08:00 - 08:40

Strauss 3

Chair: N. Reynaert (Belgium)

08:00 **Dose calculation in external beam radiotherapy: The radiation transport equation and dose-to-water vs. dose-to-medium issues**

SP-0250

C. Ceberg (Sweden)

RTT track

Teaching Lecture: Patient empowerment in radiotherapy

08:00 - 08:40

Strauss 2

Chair: L. Van den Berghe (Belgium)

- 08:00 **Patient empowerment in radiotherapy**
H. Bulbeck (United Kingdom)

SP-0251

Interdisciplinary track

Joint Symposium: ESTRO-ASTRO: Patient reported outcomes in radiation oncology - time to make them mandatory in clinical practice?

08:45 - 10:00

Strauss 1

In this session, various aspects of patient reported outcomes (PROs) in radiation oncology will be discussed. After an introduction to the subject, the benefits and limitation of longitudinal PRO collection, selection of the most appropriate PROs and patient groups, integration in the departments workflow and possible barriers for implementation will be addressed. Finally, the possibilities to use PROs for the generation of NTCP models will be discussed.

Chair: B. Slotman (The Netherlands)

Chair: P. Harari (USA)

- 08:45 **PROMs versus clinician scored toxicity. Do we need both?** SP-0252
A. Gilbert (United Kingdom)
- 09:03 **When to measure PROMs, which tools to use, and how to use them** SP-0253
M. Halyard (USA)
- 09:21 **Implementation of ePROMs in a clinical workflow** SP-0254
D. Vordermark (Germany)
- 09:39 **Time to generate new NTCP Models based on PROMs?** SP-0255
A. Chen (USA)

Radiobiology track

Symposium: Emerging links between radiation-induced anti-tumor immune effects and DNA damage repair signaling

08:45 - 10:00

Stolz 1-2

Chair: R. Syljuasen (Norway)

Co-chair: M. De Jong (The Netherlands)

- | | | |
|-------|--|---------|
| 08:45 | Pathways linking DNA damage repair to adaptive anti-tumor immunity
<u>C. Vanpouille</u> (USA) | SP-0256 |
| 09:03 | Innate immune responses caused by radiation-induced micronuclei
<u>S. Harding</u> (Canada) | SP-0257 |
| 09:21 | Potentiation of anti-tumor immune effects by PARP Inhibitors
R. Chabanon, G. Muirhead, D. Krastev, J. Adam, M. Garrido, D. Morel, N. Dorvault, S. Pettitt, A.N.J. Tutt, A. Marabelle, J.C. Soria, C.J. Lord, <u>S. Postel-Vinay</u> (France) | SP-0258 |
| 09:39 | ATR inhibitors can modulate the immune tumour microenvironment after radiation
<u>M. Dillon</u> (United Kingdom) | SP-0259 |

Clinical track

Symposium: Multimodal approach to oligometastatic breast disease: current state-of-the-art

08:45 - 10:00

Plenary

This is a Symposium focused on the multimodal approach to oligometastatic breast disease aiming to explore the state-of-the-art of treatments mainly based on the biology of breast disease and site(s) of metastases (cranial and extracranial). Locoregional treatment of the primary tumour and all metastatic sites usually does not take into account the various biological profiles, while systemic anticancer therapies, immunotherapy and drug-radiation

combinations do. The incidence of brain metastases in breast cancer patients is increasing. However, breast cancer patients with brain metastases represent a heterogeneous population, and the prognosis is highly dependent on the systemic disease. A review of the rationale for stereotactic body radiation in low burden metastatic disease and the potential clinical settings in which it can be applied will be made. Discussion of data relating to oncological and toxicity endpoints is crucial. We aim to give a practical summary of the current clinical and trial landscape in oligometastatic breast cancer, highlighting discussion of future perspectives.

Chair: I. Meattini (Italy)

Co-chair: M. Chirila (Romania)

- | | | |
|-------|--|---------|
| 08:45 | Treatment of oligometastatic breast cancer based on biology
<u>S. Rivera</u> (France) | SP-0260 |
| 09:10 | Unknown to the unknown: breast cancer brain metastases
<u>O. Kaidar-Person</u> (Israel) | SP-0261 |
| 09:35 | Management of extracranial disease with stereotactic radiotherapy
<u>A. Kirby</u> (United Kingdom) | SP-0262 |

Clinical track

Symposium: The role of radiotherapy in locally advanced pancreatic cancer

08:45 - 10:00

Lehar 1-2-3

The role of radiation therapy in the treatment of pancreatic cancer has been a matter of debate for decades. In this session, Florence Huguet will discuss the optimal target volume based on adequate imaging and pattern of failure analyses. Maria Hawkins will summarize current fractionation regimes including (extreme) hypofractionation. Piero Fossati will give an overview on the specific properties of particle beams and review the currently available evidence in locally-advanced pancreatic cancer. Finally, Thomas Brunner will discuss the optimal integration of radiation therapy into systemic approaches focusing on efficacy and toxicity of sequential and concurrent chemoradiation regimes in different settings.

Chair: F. Roeder (Germany)	
Co-chair: A. Arcelli (Italy)	
08:45 What is the optimal dose and fractionation?	SP-0263
<u>M. Hawkins</u> (United Kingdom)	
09:03 What is the target volume?	SP-0264
<u>E. Huguet</u> (France)	
09:21 Is there a role for particle therapy in the treatment of locally advanced pancreas cancer ?"	SP-0265
<u>P. Fossati, P. Georg, E. Hug</u> (Austria)	
09:39 Scheduling radiotherapy and drug treatments for pancreatic cancer	SP-0266
<u>T. Brunner</u> (Germany)	

Physics track

Symposium: How to enhance the quality of treatment planning studies

08:45 - 10:00

Schubert 4-5-6

With advance developments in radiotherapy, the need of high quality treatment planning studies has increased dramatically. In this symposium, first, the RATING (RAdiotherapy Treatment plannINg Guidelines) project, from the first ESTRO physics workshop, will be presented, addressing the potential of treatment planning studies and possible solutions to improve their quality. Then, protons and photons comparison studies will be discussed, highlighting potential comparison power and pitfalls, and differences between trials and comparison studies. To conclude, limitations in study designs will be presented as well as the impact of different treatment planning systems and the considerations that have to be drawn from the study conclusions.

Chair: L. Rossi (The Netherlands)

Co-chair: M. Zeverino (Switzerland)

08:45 Guideline proposal from the first ESTRO Physics workshop: RAdiotherapy Treatment plannINg study Guidelines (RATING)	SP-0267
<u>C.R. Hansen</u> (Denmark)	
09:15 Pitfalls in comparisons of protons with photons	SP-0268
<u>T. Lomax</u> (Switzerland)	

09:35 Impact of the applied treatment planning system	SP-0269
<u>A. Bäck</u> (Sweden)	

Physics track

Symposium: Application of machine learning to CTV definition

08:45 - 10:00

Strauss 3

CTV definition is particularly complex as it accounts for microscopic tumor extensions beyond the GTV that are not visible with current imaging techniques. Machine learning is useful to automate current guidelines, increase consistency in delineation and ultimately improve the definition of CTV. This symposium will present three complementary views of data driven CTV definition.

In a first part, Prof. Friedl will focus on the biological aspect of tumor progression based on the analysis of pathological tissue and outcome after intervention. A second part presented by Prof. Aristophanous will review CTV segmentation and auto-delineation techniques based radiological images with applications in head and neck cancer. In the third part, Prof. Unkelbach will discuss phenomenological models of tumor progression to support CTV definition for glioblastoma and head and neck cancer.

Chair: W. Van Elmpt (The Netherlands)

Co-chair: B. Poumayou (Switzerland)

08:45 Lessons learned about tumor invasion from microscopic imaging	SP-0270
<u>P. Friedl</u> (The Netherlands)	

09:10 Deep learning for target volume segmentation in the head and neck region	SP-0271
<u>M. Aristophanous</u> (USA)	

09:35 The role of tumor growth models for CTV definition	SP-0272
<u>J. Unkelbach</u> , B. Poumayou, R. Ludwig, M. Guckenberger, P. Balermpas (Switzerland)	

RTT track

Symposium: Patient involvement in radiation oncology

08:45 - 10:00

Strauss 2

It is increasingly recognised that patient involvement in radiation therapy education and research is of the utmost importance. This session will explore the benefits of such involvement. To begin, ways to involve patients in education will be explored, by looking at patient engagement in education and initiatives regarding course design, student recruitment, teaching, learning and assessment. The next session will look at involvement of patients in their own care, by examining shared-decision making. To conclude, a patient advocate will provide her experience of a diagnosis of head and neck cancer, and subsequently becoming involved in education and outreach work.

Chair: A. O'Donovan (Ireland)

Co-chair: S. Goldsworthy (United Kingdom)

08:45 **How to get patients involved in RTT education** SP-0273
A. Stewart-Lord (United Kingdom)

09:10 **Patient involvement in radiation oncology** SP-0274
K. Olling (Denmark)

09:35 **The power of patient involvement in radiotherapy research** SP-0275
J. McCrossin (Australia)

Clinical track

Poster Highlights: Poster highlights 9 CL: Lung

08:45 - 09:45

Poster Area 1

Chair: M. Dahele (The Netherlands)

Chair: M. Konkol (Poland)

08:45 **Shared Decision-Making and Decision Support for Prophylactic Cranial Irradiation in SCLC Patients** PH-0276
A. Ankolekar, A. Dekker, C. Roumen, D. De Ruysscher, B. Reymen, R. Houben, P. Fick, S. Puts, J. Veugen, A. Berlanga, C. Oberije, R. Fijten (The Netherlands)

- 08:53 **Danish national guidelines for radiotherapy contouring of the heart and cardiac substructures** PH-0277
M.L.H. Milo, B.V. Offersen, T. Bechmann, A.C.P.
Diederichsen, C.R. Hansen, E. Holtved, M. Josipovic, S.
Kunwald, T. Lorincz, M.J.A.V Maraldo, M.T.E.H. Nielsen, M.
Nordsmark, P.M.W. Nyström, M. Pøhl, H.K. Rose, T.
Schytte, E.S. Yates, E.L. Lorenzen (Denmark)
- 09:01 **Schedule of irradiation impacts the overall survival in case of SBRT for stage I NSCLC** PH-0278
L. Duvergé, P. Bondiau, L. Claude, F. Thillays, S. Supiot, I.
Sidibe, L. Vaugier, J. Bellec, C. Ricordel, J. Doyen, E. Chajon,
R. De Crevoisier, J. Castelli (France)
- 09:09 **Accelerated hypofractionated radiotherapy with concurrent chemotherapy for NSCLC: a phase I/II study** PH-0279
K. Glinski, J. Socha, E. Wasilewska-Tesluk, K. Komosinska, L. Kepka (Poland)
- 09:17 **Quality of surgery and RT in stage IIIN2 NSCLC: Insights from the Lung Adjuvant Radiotherapy trial** PH-0280
Y. Moukasse, N. Pourel, D. Lerouge, C. Faivre-Finn, S.
Ramella, J. Edwards, P. Van Schil, R. Rami-Porta, P. Thomas,
A. Bardet, C. Le Pechoux (France)
- 09:25 **Outcomes of re-irradiation & repeat radiotherapy in NSCLC: A propensity matched analysis** PH-0281
L. Sandhu, A. McWilliam, H. Mistry, D. Woolf, C. Faivre-Finn,
C. Golby, A. Abravan, M. Van Herk, G. Price, A. Salem
(United Kingdom)
- 09:33 **Phase 2 Study of Novel Partial Tumor Irradiation for Sparing Peri-Tumoral Immune Microenvironment.** PH-0282
S. Tubin, M.K. Khan, G. Salerno, W.F. Mourad, W. Yan, B.
Jeremic (Austria)

Physics track

Poster Highlights: Poster highlights 10 PH: Toxicity modelling

08:45 - 09:45

Poster Area 2

Chair: C. Fiorino (Italy)

Chair: L. Shelley (United Kingdom)

- 08:45 **Machine learning methods to predict rectal bleeding after prostate cancer radiotherapy** PH-0283
M. Ibrahim, E. Mylona, N. Boussion, O. Acosta, R. De Crevoisier, M. Hatt (France)
- 08:53 **Dose-effect relation for rib fractures after lung SBRT: Planned vs. delivered dose** PH-0284
C. Juan-Cruz, B. Stam, J. Belderbos, J. Sonke (The Netherlands)
- 09:01 **NTCP models for severe radiation induced dermatitis after thoracic radiation therapy** PH-0285
G. Palma, S. Monti, M. Conson, T. Xu, S. Hahn, M. Durante, R. Mohan, Z. Liao, L. Celli (Italy)
- 09:09 **Development of CT-based cardiac model with substructure for dosimetry in late effects studies** PH-0286
S. Shrestha, A.C. Gupta, J. Bates, C. Lee, C.A. Owens, B. Hoppe, L.S. Constine, S.A. Smith, Y. Qiao, R.E. Weathers, R.M. Howell (USA)
- 09:17 **Transfer learning and Deep Neural Network for lung and heart dose prediction in breast treatments** PH-0287
J. Perez-Alija, P. Gallego, M. Lizondo, J. Nuria, A. Latorre-Musoll, I. Valverde-Pascual, M. Barceló-Pagès, N. Garcia-Apellaniz, P. Carrasco de Fez, P. Delgado-Tapia, P. Simon Garcia, M. Adria Mora, A. Ruiz Martinez, M. Ribas, E. Ambroa (Spain)
- 09:25 **Independent external validation of a logistic regression NTCP model for grade 3 oral mucositis** PH-0288
M. Sharabiani, E. Clementel, N. Andratschke, C. Fortpied, V. Grégoire, J. Overgaard, J. Willmann, C. Hurkmans (Belgium)

- 09:33 **Temporary alopecia in photon cranial irradiation: Establishing the dose-response relation using MRI** PH-0289
A. Van Lier, C.G.M. Gadella-van Hooijdonk, T. Coolen, T. Nguyen, E. Brand, J.J.C. Verhoeff, E. Seravalli (The Netherlands)

Clinical track

Poster discussion: CL: Breast 2

10:00 - 10:30 The Village: Poster Discussion Station 1

- Chair: M. Arenas Prat (Spain)
Chair: A. Roguljic (Croatia)
- 10:00 **Efficacy of internal mammary nodal irradiation in T1-2N1 breast cancer in the modern era** PD-0290
C. Jen, J. Yen (Taiwan)
- 10:05 **Comparison of different autosegmentation software for left-sided breast cancer patients** PD-0291
J. Heikkilä, T. Viren, H. Virsunen, K. Vuolukka, L. Voutilainen, R. Sawabi, H. Abouelazm, M. Kauppila, J. Baeza, W. Van Elmpt, S.U. Akram, J. Korhonen, J. Seppälä (Finland)
- Breast cancer patients with brain metastases: A multicenter retrospective study (KROG 16-12)** PD-0292
Abstract withdrawn
- 10:10 **The benefit of high hyperthermia dose in re-irradiation of loco-regional recurrent breast cancer.** PD-0293
A. Bakker, J. Van der Zee, G. Van Tienhoven, H.P. Kok, C.R.N. Rasch, H. Crezee (Netherlands Antilles)
- 10:15 **Hypothyroidism in IMRT-VMAT breast cancer supraclavicular radiotherapy : a retrospective study** PD-0294
G. Lazzari, A. Terlizzi, M.G. Leo, G. Silvano (Italy)

- 10:20 **FAST approach in early breast cancer irradiation: toxicity and outcome in a 3DCRT vs IMRT comparison** PD-0295
M.A. Zerella, S. Arculeo, S. Dicuonzo, V. Dell'Acqua, M.A. Gerardi, A. Morra, L. Bergamaschi, S. Frassoni, V. Bagnardi, C. Fodor, F. Cattani, V. Galimberti, P. Veronesi, R. Orecchia, M.C. Leonardi, B.A. Jereczek-Fossa (Italy)

Physics track

Poster discussion: PH: Quantitative functional and biological imaging

10:00 - 10:30 The Village: Poster Discussion Station

2

- Chair: T. Nyholm (Sweden)
Chair: P. Andrzejewski (Austria)
- 10:00 **FAPI-PET/CT as a novel diagnostic imaging probe – first clinical experience in radiation oncology** PD-0296
S. Koerber, J. Ristau, F. Staudinger, C. Kratochwil, S. Adeberg, M.F. Haefner, M. Syed, H. Rathke, E. Winter, T. Lindner, K. Herfarth, U. Haberkorn, J. Debus, F.L. Giesel (Germany)
- 10:05 **Estimating the probability of active tumor in cervical cancer derived from PET/MR-imaging** PD-0297
L. Kravic, H.E.S. Pettersen, L.B. Hysing, M. Daniel, D. Georg, E.M. Høye, C. Ekanger, D. Thorwarth, S.M.C. Pilskog (Norway)
- 10:10 **Long-term characterization of MRI-morphologic alterations after active motion-compensated liver SBRT** PD-0298
G. Miebach, C. Dreher, P. Wojtal, H. Oppitz, A. Jahnke, G. Sarria, F.A. Giordano, O. Blanck, J. Boda-Heggemann (Germany)
- 10:15 **Changes in PET/CT uptake between pre/ and post-treatment might predict response in esophageal cancer** PD-0299
E. Jimenez-Jimenez, I. Ortiz, N. Aymar, R. Roncero, M.

Perez, E. Arregui, M. Gomez, S. Rodriguez, E. Lozano
(Spain)

- 10:20 **Assessment of global lung glycolysis using FDG PET/CT in radiotherapy for esophageal cancer** PD-0300
C. Hsu, K. Lin, S. Wang, C. Yu, S. Yang, H. Lin, W. Tsai, T. Wu,
P. Shueng (Taiwan)

Physics track

Poster discussion: PH: Treatment planning: applications 2

10:00 - 10:30 The Village: Poster Discussion Station 3

Chair: *TBC*

Chair: M. Chamberlain (Switzerland)

- 10:00 **Virtual Tangential Arc Therapy (ViTAT): toward large scale auto-planning for breast cancer treatment** PD-0301
P.G. Esposito, R. Castriconi, P. Mangili, A. Fodor, M. Paselli, N.G. Di Muzio, C. Fiorino, R. Calandrino (Italy)
- 10:05 **Biological uncertainties in proton therapy for paediatric mediastinal Hodgkin Lymphoma** PD-0302
M. Aznar, L.A. Rechner, M.V. Maraldo, E. Smith, A. Lundgaard, L.L. Hjalgrim, A. Safwat, R. MacKay, A.H. Aitkenhead (United Kingdom)
- 10:10 **Plan quality assessment for rectal cancer patients using prediction of organ-at-risk dose metrics** PD-0303
A. Vaniqui, R. Canters, F. Vaassen, C. Hazelaar, I. Lubken, K. Kremer, C. Wolfs, W. Van Elmpt (The Netherlands)
- 10:15 **Treatment plan comparisons between dynamic trajectory radiotherapy and HyperArc** PD-0304
M. Fix, S. Mueller, D. Frei, W. Volken, D. Terribilini, D. Frauchiger, A. Joosten, A. Henzen, E. Herrmann, D.M. Aebersold, P. Manser (Switzerland)
- 10:20 **SABR re-irradiation of pelvic cancer recurrences: photon vs proton beam therapy** PD-0305
E. Glassborow, J. Richardson, M. Clarke, L. Murray, R. Speight, L. Aspin, S. Gregory, J. Handley, R. Chuter (United Kingdom)

- 10:25 **Breathing motion robustness of 4D-CT and ITV based treatment plans in lung cancer IMPT** PD-0306
O. Pastor-Serrano, D. Lathouwers, S. Habraken, M. Hoogeman, Z. Perko (The Netherlands)

Physics track

Poster discussion: PH: Adaptive radiotherapy and inter-fraction motion management 1

10:00 - 10:30

The Village: Poster Discussion Station

4

Chair: J. Sonke (The Netherlands)

Chair: J. Mohajer (UK)

- 10:00 **Tumor motion at planning 4D-CT and treatment 4D-CBCT for a large cohort of lung SBRT targets** PD-0307
T.B. Nielsen, C. Brink, S.S. Jeppesen, T. Schytte, O. Hansen, M. Nielsen (Denmark)
- 10:05 **First clinical experience of online adaptive radiotherapy driven by CBCT and artificial intelligence** PD-0308
P. Sibolt, L. Andersson, L. Calmels, C.F. Behrens, E. Serup-Hansen, H. Lindberg, L. Sonne Mouritsen, D. Sjöström, P. Geertsen (Denmark)
- 10:10 **Comparison of CBCT based synthetic CT methods for adaptive proton therapy** PD-0309
A. Thummerer, P. Zaffino, A. Meijers, G. Guterres Marmitt, J. Seco, R.J.H.M. Steenbakkers, J.A. Langendijk, S. Both, M.F. Spadea, A.C. Knopf (The Netherlands)
- 10:15 **CBCT-to-CT synthesis with a single neural network for head-and-neck, lung and breast radiotherapy** PD-0310
M. Maspero, A.C. Houweling, M.H.F. Savenije, T.C.F. Van Heijst, J.J.C. Verhoeff, A.N.T. Kotte, C.A.T. Van den Berg (The Netherlands)
- 10:20 **Patterns of practice for adaptive and real-time radiation therapy part II: interfractional changes** PD-0311
J. Bertholet, G. Distefano, D. Noble, A. Bel, R. VanLeeuwen, T. Roggen, M. Duchateau, S. Thørnqvist, C. Garibaldi, N.

Tilly, R. Garica Mollá, J. Bonaque, U. Oelfke, M. Aznar, B. Heijmen (United Kingdom)

- 10:25 **Online-adaptive versus robust IMPT planning for prostate: how much do we gain?** PD-0312
T. Jagt, S. Breedveld, R. Van Haveren, B. Heijmen, M. Hoogeman (The Netherlands)

Interdisciplinary track

Proffered Papers: Proffered papers 14: QoL and PROMs

10:30 - 11:30

Strauss 1

Chair: D. Vordermark (Germany)

Chair: TBC

- 10:30 **Patient reported outcome and toxicity one-year after IMRT based chemoradiotherapy for anal cancer.** OC-0313
C. Kronborg, E. Serup-Hansen, K. Wind, A.C. Lefevre, K. Spindler (Denmark)
- 10:40 **Pilot randomised trial of online self-monitoring of symptoms during pelvic radiotherapy** OC-0314
A. Henry, P. Holch, J. Routledge, K. Absolom, K. Walker, A. Gibson, R. Carter, J. Brown, G. Velikova (United Kingdom)
- 10:50 **Quality of life after EBRT with or without focal boost for prostate cancer in the FLAME trial** OC-0315
V. Groen, E. Monninkhof, H.M. Verkooijen, M. Kunze-Busch, H. De Boer, J. Van der Voort van Zijp, F. Pos, R.J. Smeenk, K. Haustermans, S. Isebaert, T. Depuydt, U.A. Van der Heide, L. Kerkmeijer (The Netherlands)
- 11:00 **Effect of exercise during ADT and radiation on patient-reported toxicity in men with prostate cancer** OC-0316
O. Schumacher, D.A. Galvão, D.R. Taaffe, N. Spry, D.J. Joseph, R.U. Newton (Australia)
- 11:10 **Risk factors for persistent late fatigue after radiochemotherapy in cervical cancer (EMBRACE study)** OC-0317
S. Smet, K. Tanderup, R. Nout, I. Jürgenliemk-Schulz, S. Spampinato, C. Chargari, J. Lindegaard, U. Mahantshetty, A. Strudza, M. Schmid, P. Hoskin, B. Segedin, K. Bruheim,

B. Rai, F. Huang, E. Van Der Steen-Basanik, R. Cooper, E. Van Limbergen, M. Sundset, R. Pötter, K. Kirchheiner (Austria)

- 11:20 **Neurotoxicity of early prophylactic cranial radiation and hippocampal avoidance in SCLC (SAKK 15/12)** OC-0318
H. Vees, F. Caparrotti, E.I. Eboulet, A. Xyrafas, A. Fuhrer, U. Meier, M. Mark, O. Elicin, D.M. Aebersold, D.R. Zwahlen, T. Finazzi, A. Said Allal, P.M. Putora, F. Martucci, C. Biaggi Rudolf, K. Ribi (Switzerland)

Radiobiology track

Proffered Papers: Proffered papers 15: Radiation response biomarkers

10:30 - 11:30

Stolz 1-2

Chair: N. Somaiah (United Kingdom)

Chair: *TBC*

- 10:30 **Validation of a companion diagnostic biomarker for prospective use in prostate radiotherapy trials** OC-0319
N. Thiruthaneeswaran, B.A.S. Bibby, R. Pereira, E. More, R.G. Bristow, A. Choudhury, C. West (United Kingdom)
- 10:40 **Correlations of tissue and imaging hypoxia biomarkers during chemoradiation of HNSCC patients** OC-0320
N.H. Nicolay, G. Kayser, N. Wiedenmann, M. Mix, M. Werner, A. Grosu (Germany)
- 10:50 **Transcriptional subtypes in primary and recurrent head and neck squamous cell carcinomas** OC-0321
H. Zitzelsberger, P. Weber, A. Kuenstner, J. Hess, S. Marschner, C. Idel, J. Ribbat-Idel, C. Walz, A.K. Walch, S. Perner, K. Unger, H. Busch, B. Wollenberg, C. Belka (Germany)
- 11:00 **4-miRNA signature and MGMT promoter methylation improve risk stratification in glioblastoma.** OC-0322
K. Unger, D.F. Fleischmann, V. Ruf, J. Felsberg, D. Piehlmaier, D. Samaga, J. Heß, M. Mittelbronn, K. Lauber, W. Budach, M. Sabel, C. Rödel, G. Reifenberger, J. Herms, J. Tonn, H. Zitzelsberger, C. Belka, M. Niyazi (Germany)

- 11:10 **Serum microRNAs as xerostomia biomarkers in oropharyngeal cancer patients undergoing radiotherapy** OC-0323
B. Tomasiak, A. Papis-Ubych, J. Fijuth, P. Kędzierski, J. Sadowski, R. Stando, R. Bibik, Ł. Graczyk, T. Latusek, T. Rutkowski, P. Widłak, W. Fendler (Poland)
- 11:20 **Prefoldin overexpression associates with the risk of mortality and metastasis in lung cancer** OC-0324
P. Romero Pareja, S. Chávez de Diego, X. Peñate, J. Reyes, B. Vieites, M. Borrego, S. Perez, J. Jaen Olasolo, B.D. Delgado, J.M. Praena Fernández, J.L. Lopez Guerra (Spain)

Clinical track

Proffered Papers: Proffered papers 16: Breast

10:30 - 11:30 Plenary

- Chair: A. Kirby (United Kingdom)
Chair: H. Oueslati Mahjoubi (France)
- 10:30 **Postmastectomy RT in high-risk breast cancer. A 30-year update of the DBCG 82bc randomized trial.** OC-0325
M. Overgaard, H. Melgaard Nielsen, T. Tramm, I. Højris, T. Grantzau, J. Alsner, B.V. Offersen, I. Overgaard (Denmark)
- 10:40 **DBCG-IMN: Long-term survival gain with internal mammary node irradiation to breast cancer patients** OC-0326
L.B.J. Thorsen, J. Overgaard, S.V. Holm-Hansen, M. Berg, I. Jensen, C. Kamby, M.H. Nielsen, M. Overgaard, B.V. Offersen (Denmark)
- 10:50 **Radiotherapy associated coronary artery stenosis in 87,550 patients with early stage breast cancer** OC-0327
M.L.H. Milo, L.B.J. Thorsen, J. Alsner, K.M. Nielsen, S.P. Johnsen, B.V. Offersen (Denmark)
- 11:00 **APBI can improve survival by reducing the secondary lung cancer risk - How important is the issue?** OC-0328
J. Pignol, N. Hoekstra, H. Dahn, D. Wilke (Canada)
- 11:10 **Patterns of nodal metastases and locoregional recurrences in locally advanced breast cancer** OC-0329
C. Hvid, B. Offersen, H.M. Nielsen (Denmark)

- 11:20 **Neoadjuvant breast radiotherapy for one stage mastectomy and autologous breast reconstruction** OC-0330
M.W.T. Chao, S. Jassal, C. Baker, M. Tacey, M. Law, S.W. Loh, M. Cheng, C. Yong, N. Zantuck, E. Bevington, A. Hyett, M. Guerrieri, M. Cokelek, B. Brown, M. Chipman, G. Chew, B. Yeo, J. Lippey, D. Neoh, G. Lamoury, A. Spillane, C. Foley, P. Kechagioglou, M. Rolfo, F. Foroudi (Australia)

Clinical track

Proffered Papers: Proffered papers 17: GI

10:30 - 11:30 Lehar 1-2-3

- Chair: T. Popescu (Romania)
Chair: M. Nordsmark (Denmark)
- 10:30 **Excellent antitumor activity of SBRT and FOLFIRINOX in patients with pancreatic cancer** OC-0331
J. Nuyttens, M. Suker, F. Eskens, C. Van Eijck (The Netherlands)
- 10:40 **Recurrence patterns and outcomes of dose escalation SBRT for pancreatic cancer: A multicenter study** OC-0332
X. Zhu, C. Yangsen, S. Tingshi, Y. Yusheng, Z. Xixu, J. Xiaoping, Z. Xianzhi, J. Lingong, C. Fei, S. Yuxin, Q. Shuiwang, G. Lei, Z. Huojun (China)
- 10:50 **Long-term outcomes of radical radiotherapy with a simultaneous integrated boost in esophageal cancer** OC-0333
T. Luo, J. Chen, H. Guo, T. Zhai, R. Huang, Z. Chen, K. Lin, C. Zeng, W. Liu, M. Zhou, D. Li, D. Li, C. Chen (China)
- 11:00 **pCR versus 2 years DFS:an update analysis of a pooled dataset of 5492 locally advanced rectal cancer** OC-0334
G. Chiloiro, C. Masciocchi, J. Van Soest, K. Bujko, L. Collette, M.A. Gambacorta, J. Gerard, R. Glynne-Jones, S.Y. Ngan, C. Rödel, A. Sainato, A. Damiani, A. Dekker, V. Valentini (Italy)
- 11:10 **Circulating free DNA in squamous cell carcinoma of the anus: Relation to risk factors and recurrence** OC-0335
A.C. Lefèvre, C. Kronborg, B.S. Sørensen, E. Serup-Hansen, K.G. Spindler (Denmark)

11:20	Evaluation of bowel for online adaptive stereotactic radiotherapy of abdominal oligometastases <u>J. Nuyttens</u> , L. Visani, P. Granton, M. Milder (The Netherlands)	OC-0336
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Physics track

Proffered Papers: Proffered papers 18: Intra-fractional motion management

10:30 - 11:30	Schubert 4-5-6
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Chair: M. Hoogeman (The Netherlands)	
Chair: J. Bertholet (United Kingdom)	
10:30 First in Human: Patient Adaptive 4D Cone Beam CT (4DCBCT)	OC-0337
<u>R. Obrien</u> , O. Dillon, A. George, S. Smith, A. Wallis, S. Alnaghy, J. Sonke, P. Keall, S. Vinod (Australia)	
10:40 High-resolution image reconstruction and motion modelling for a lung cancer patient on an MR-Linac	OC-0338
<u>B. Eiben</u> , E.H. Tran, A. Wetscherek, A. Shiarli, J. Bertholet, U. Oelfke, J.R. McClelland (United Kingdom)	
10:50 First MRI based quantification of diaphragm motion during prolonged breath-holds up to 8 minutes	OC-0339
<u>I. Van Dijk</u> , M.J. Parkes, M.F. Stevens, P. Balasupramaniam, J.G. Van den Aardweg, G. Van Tienhoven, Z. Van Kesteren, A. Bel (The Netherlands)	
11:00 Intrafraction motion during SBRT in deep inspiration breath-hold for liver metastases	OC-0340
<u>L.B. Stick</u> , I.R. Vogelius, S.N. Risum, M. Josipovic (Denmark)	
11:10 Seminal vesicle motion tracking in 3D cine-MR during MR-Linac prostate treatments	OC-0341
<u>D. De Muinck Keizer</u> , T. Willigenburg, M.D. Den Hartogh, J.R.N. Van der Voort van Zyp, B.W. Raaymakers, J.J.W. Lagendijk, H.C.J. De Boer (The Netherlands)	
11:20 Experimental validation of real-time rotation-including dose reconstruction during tumor tracking	OC-0342
<u>C.G. Muurholm</u> , T. Ravkilde, R. De Roover, S. Skouboe, R.	

Hansen, W. Crijns, P.J. Keall, T. Depuydt, P.R. Poulsen
(Denmark)

Physics track

Proffered Papers: Proffered papers 19: Auto-contouring using deep learning

10:30 - 11:30

Strauss 3

Chair: J. Unkelbach (Switzerland)

Chair: *TBC*

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|-------|--|---------|
| 10:30 | Artificial Intelligence Based Auto-Contouring of CTV for Cervical Cancer
<u>C. Ma</u> , J. Zhou, X. Xu, J. Guo, M. Han, Y. Gao, Z. Wang, J. Zhou (China) | OC-0343 |
| 10:40 | Automatic contouring of diffusion-weighted MRI from an MR-Linac using a convolutional neural network
<u>O. Gurney-Champion</u> , J. Kieselmann, W. Kee, B. Ng-Cheng-Hin, K. Newbold, K. Harrington, U. Oelfke (United Kingdom) | OC-0344 |
| 10:50 | Fully automated AI-based Non-Small Cell Lung Cancer detection and segmentation pipeline
<u>S. Primakov</u> , A. Ibrahim, G. Wu, S. Sanduleanu, H. Gietema, L. Hendriks, O. Morin, H. Woodruff, P. Lambin (The Netherlands) | OC-0345 |
| 11:00 | Strategies to improve deep learning-based salivary gland segmentation.
<u>W. Van Rooij</u> , M. Dahele, H. Nijhuis, B. Slotman, W. Verbakel (The Netherlands) | OC-0346 |
| 11:10 | An anomaly detection system for parotid gland delineations
<u>P. Papaconstadopoulos</u> , P. Gonzalez, C. Carbaat, R. Simoes, H. Beemster, F. Koetsveld, T. Janssen (The Netherlands) | OC-0347 |
| 11:20 | Automatic Evaluation of Contours Utilising Conformity Indices and Machine Learning
<u>S. Terparia</u> , R. Mir, Y.M. Tsang, R. Patel, C. Clark (United Kingdom) | OC-0348 |

RTT track

Proffered Papers: Proffered papers 20: Ensuring precision and accuracy in RT

10:30 - 11:30

Strauss 2

Chair: M. Kamphuis (The Netherlands)

Chair: TBC

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|-------|---|---------|
| 10:30 | Inter-observer variation of image registration in an MR-only versus CT/MRI-based workflow
<u>M.A. Boon</u> , J. Visser, F. Beeksma, A.A. Goedhart, M.M.C. Bijveld, K.A. Hinnen, K.N. Goudschaal, Z. Van Kesteren (The Netherlands) | OC-0349 |
| 10:40 | Registration accuracy of pseudoCT with burned-in markers with CBCT for MR-only prostate radiotherapy
<u>K.N. Goudschaal</u> , J. Visser, F. Beeksma, M. Boon, M. Bijveld, K. Hinnen, Z. Van Kesteren (The Netherlands) | OC-0350 |
| 10:50 | Deep learning for rectal spacer stratification in prostate boost radiotherapy
<u>C. Thomas</u> , I. Dregely, I. Oksuz, T. Guerrero-Urbano, A. Greener, A. King, S. Barrington (United Kingdom) | OC-0351 |
| 11:00 | Increased accuracy in reduced time - surface guided RT for hypofractionated prostate cancer patients
<u>A. Mannerberg</u> , M. Kügele, S. Hamid, K. Petersson, A. Gunnlaugsson, S.Å. Bäck, S. Engelholm, S. Ceberg (Sweden) | OC-0352 |
| 11:10 | Finding the contouring tool (manual vs automated segmentation) for prostate patients in RayStation
<u>F. Vallejo Castañeda</u> , M. Hinse (Canada) | OC-0353 |
| 11:20 | Cautiously optimistic: A survey of radiation oncology professionals' perceptions of automation
<u>V. Batumalai</u> , M.G. Jameson, O. King, R. Walker, C. Slater, K. Dundas, G. Dinsdale, A. Wallis, C. Ochoa, R. Gray, P. Vial, S.K. Vinod (Australia) | OC-0354 |

Clinical track

Poster Highlights: Poster highlights 11 CL : CNS

10:30 - 11:30

Poster Area 1

Chair: F. Ynoe de Moraes (Canada)

Chair: F. Lagerwaard (The Netherlands)

- 10:30 **Impact of fractionation on brain metastases and neurocognitive toxicity of PCI in stage III NSCLC** PH-0355
W. Witlox, B. Ramaekers, B. Lacas, C. Le Pechoux, J. Pignon, A. Sun, S. Wang, C. Hu, M. Redman, V. Van der Noort, N. Li, M. Guckenberger, H. Van Tinteren, H. Groen, M. Joore, D. De Ruysscher (The Netherlands)
- 10:38 **Long-term results after radiosurgery (SRS) of vestibular schwannomas (VS). A retrospective analysis.** PH-0356
P. Anselmo, V. Pinzi, S. Terenzi, E. De Martin, F. Trippa, P. Gaviani, M. Casale, L. Fariselli, E. Maranzano (Italy)
- 10:46 **Proton therapy re-irradiation of intracranial meningiomas failing after previous radiation therapy.** PH-0357
D. Amelio, D. Scartoni, S. Vennarini, A. Turkaj, I. Giacomelli, M. Amichetti (Italy)
- 10:54 **A score to predict survival of elderly patients newly diagnosed for Glioblastoma** PH-0358
C. Straube, K.A. Kessel, S. Antoni, J. Gempt, B. Meyer, J. Schlegel, F. Schmidt-Graf, S.E. Combs (Germany)
- 11:02 **Blood plasma based risk stratification of glioblastoma patients** PH-0359
D. Fleischmann, K. Unger, V. Ruf, T. Heider, J. Hess, G. Drexler, J. Herms, N. Thon, F. Kreth, J. Tonn, H. Zitzelsberger, K. Lauber, C. Belka, M. Niyazi (Germany)
- 11:10 **Neutrophils and lymphocytes ratio as a prognostic marker in glioblastoma** PH-0360
O. Kaidar-Person, E. Ben-Zvi, T. Tzuk-Shina (Israel)
- 11:18 **Reactivation of HCMV during RT of the brain results in critical illness and early mortality** PH-0361
B. Frey, N. Goerig, B. Ina, D. Anna-Jasmina, K. Klaus, Ü.

Klaus, S. Manuel, D. Arnd, E. Tobias, E. Ilker, P. Florian, S. Sabine, G. Udo S., F. Rainer (Germany)

Physics track

Poster Highlights: Poster highlights 12: PH Daily challenges in routine RT

10:30 - 11:30

Poster Area 2

- Chair: G. Gagliardi (Sweden)
Chair: M. Ayadi-Zahra (France)
- 10:30 **Beam modeling variations and potential contributions to treatment delivery errors** PH-0362
M. Glenn, D. Followill, R. Howell, J. Pollard-Larkin, C. Peterson, S. Kry (USA)
- 10:38 **Barium-contrasted bone-cements: impact on dosimetry** PH-0363
S. Crowe, M. Lathouras, C. Lancaster, T. Kairn (Australia)
- 10:46 **CIED malfunctions during radiotherapy course: a prospective, multi-centre, in-vitro evaluation** PH-0364
M.D. Falco, S. Andreoli, A. Delana, E. Bliakharskaia, A. Barbareschi, P. De Filippo, C. Leidi, M. Marini, D. Genovesi, E. Di Girolamo (Italy)
- 10:54 **Can a dual isocentre technique enable cervix treatments on the MR-Linac?** PH-0365
R. Chuter, A. Cree, P. Whitehurst, R. Hales, A. McWilliam (United Kingdom)
- 11:02 **Predictors of incontinence 2yr after post-prostatectomy RT: evidence of dose & fractionation effects** PH-0366
A. Bresolin, E. Garibaldi, A. Faiella, D. Cante, V. Vavassori, J.M. Waskiewicz, G. Girelli, B. Avuzzi, E. Villa, A. Magli, B.N. Chiorda, F. Munoz, G. Sanguineti, P. Gabriele, M. Gatti, T. Rancati, R. Valdagni, N. Di Muzio, C. Fiorino, C. Cozzarini (Italy)
- 11:10 **Evolution of the tumour extent during long course radiotherapy for glioblastoma patients** PH-0367
R. Dahlrot, B. Axelsen, M. Klüver-Kristensen, F. Mahmood,

J.T. Asmussen, O. Hansen, A. Bertelsen, S. Hansen, C. Brink, U. Bernchou (Denmark)

- 11:18 **Alexithymia, empathy and burn-out amongst medical physicists: the PRO BONO survey** PH-0368
P. Franco, V. Tesio, J. Bertholet, A. Gasnier, E. Gonzalez del Portillo, M. Spalek, J. Bibault, G. Borst, W. Van Elmpt, D. Thorwarth, L. Mullaney, K. Roe Redalen, L. Dubois, M. Bittner, C. Chargary, S. Perryck, J. Heukelom, S. Petit, M. Lybeer, L. Castelli (Italy)

Interdisciplinary track

Plenary Session: Clinical trials

11:40 - 12:40 Plenary

Chair: E. Troost (Germany)

Chair: Y. Lievens (Belgium)

- 11:40 **Long-Term Quality of Life after (chemo)radiotherapy for high-risk Endometrial Cancer in PORTEC-3** OC-0369
C. Post, S.M. De Boer, M.E. Powell, L. Mileshkin, D. Katsaros, P. Bessette, C. Haie-Meder, P.B. Ottevanger, J.A. Ledermann, P. Khaw, R. D'Amico, A. Fyles, M. Baron, H.C. Kitchener, H.W. Nijman, L.C. Lutgens, S. Brooks, I.M. Jürgenliemk-Schulz, A. Feeney, R.A. Nout, K.W. Verhoeven-Adema, V.T. Smit, H. Putter, C.L. Creutzberg (The Netherlands)

- 11:50 **Surveillance or metastasis-directed Therapy for OligoMetastatic Prostate cancer (STOMP)** OC-0370
P. Ost, D. Reynders, K. Decaestecker, V. Fonteyne, N. Lumen, A. De Bruycker, B. Lambert, L. Delrue, R. Bultijnck, E. Goetghebeur, G. Villeirs, K. De Man, F. Ameye, I. Billiet, S. Joniau, F. Vanhaverbeke (Belgium)

- 12:00 **Hypo- vs normofractionated radiation of early breast cancer in the randomized DBCG HYPO trial** OC-0371
B. Vrou Offerse, H.M. Nielsen, E.H. Jacobsen, M.H. Nielsen, M. Krause, L. Stenbygaard, I. Mjaaland, A. Schreiber, U. Kasti, M. Jensen, J. Alsner, J. Overgaard (Denmark)

12:10	Phase 2 RCT comparing conventional radiotherapy with SBRT in patients with bone metastases	OC-0372
	<u>B. Pielkenrood</u> , J. Van der Velden, Y. Van der Linden, M. Bartels, N. Kasperts, J. Verhoeff, W. Eppinga, R. Gal, J. Verlaan, H. Verkooijen (The Netherlands)	
12:20	SBRT versus TAE/TACE in Hepatocellular Carcinoma: results from a Phase III trial (NCT02323360)	OC-0373
	<u>T. Comito</u> , M. Loi, C. Franzese, E. Clerici, V. Pedicini, D. Poretti, L. Solbiati, L. Rimassa, M. Scorsetti (Italy)	
12:30	Does low-dose TBI improve outcome in patients with early stage low grade NHL? (EORTC 20971-22997)	OC-0374
	<u>M. Beijert</u> , P. Soubeyran, S. El Badawy, L. Specht, K. Verschueren, C. Ong, R. Maazen, I. Aurer, B. Ta, A. Neven, B. Meulemans, C. Fortpied, B.M.P. Aleman (The Netherlands)	

Clinical track

Multidisciplinary Tumour Board: Oesophageal cancer

11:40 - 12:40

Lehar 1-2-3

Chair: M. Nordsmark (Denmark)
 Panelist: P. Franco (Italy)
 Panelist: A. Ilhan-Mutlu (Austria)
 Panelist: S. Schoppmann (Austria)
 Panelist: S. Poetter-Lang (Austria)

Interdisciplinary track

Joint Symposium: ESTRO-EORTC: Redefining oligometastatic disease: incorporating advanced imaging into clinical trials

14:15 - 15:30

Strauss 1

This joint ESTRO-EORTC symposium will focus on new approaches to characterize and treat oligometastatic disease (OMD) with radiotherapy (RT).

First, the heterogeneity within the metastatic state will be described, followed by an illustration of the value of local consolidative therapies (LCT) and metastasis-directed therapies (MDT). Furthermore, benefits and limitations of RT as LCT / MDT will be described. In addition, OligoCare as a new model will be introduced and a report of the first six months of OligoCare will be given. Challenges of RT planning for OMD will be discussed in addition to image guidance strategies. Finally, the importance of modern imaging techniques for lesion detection, treatment planning and response assessment as well as the key role of imaging to design future trials will be discussed.

Chair: D. Thorwarth (Germany)

Chair: B. Tombal (Belgium)

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|-------|---|---------|
| 14:15 | The role of radiotherapy in current management of oligometastatic patients
<u>M. Guckenberger</u> (Switzerland) | SP-0375 |
| 14:33 | OligoCare: a pragmatic Observational basket study
<u>P. Ost</u> (Belgium) | SP-0376 |
| 14:51 | Challenges in radiotherapy planning and treatment guidance
<u>T. Janssen</u> (The Netherlands) | SP-0377 |
| 15:09 | Incorporating advanced imaging into clinical trials for patients with oligometastatic disease.
<u>F. Lecouvet</u> (Belgium) | SP-0378 |

Radiobiology track

Symposium: Use of 3-dimensional organoid models in radiation research

14:15 - 15:30

Stolz 1-2

Chair: R. Coppes (The Netherlands)

Co-chair: A. Dubrovska (Germany)

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|-------|--|---------|
| 14:15 | Radiation responses of normal tissue organoids
<u>R. Coppes</u> (The Netherlands) | SP-0379 |
| 14:40 | Investigating interactions between tumors and normal tissue using normal and cancer organoids
<u>M. Vooijs</u> (The Netherlands) | SP-0380 |

- 15:05 **Using tumor organoids to predict responses to therapy**
F. Pajonk (USA)

SP-0381

Clinical track

Symposium: Controversies in locally advanced breast cancer

14:15 - 15:30

Plenary

The symposium will cover four highly debated topics in the management of locally advanced breast cancer. First presentation will define the concept of locally advanced disease and address the strategies of the management of axilla and deintesification of locoregional treatment in selected cases.

Afterwards standard therapy with photons as well as selection criteria for protontherapy and MRI-linac usage will be addressed. The third presentation will cover the therapeutic options in case of a local recurrence, stressing the importance of multidisciplinary meetings and patients' need. Lastly, the role of radiotherapy after primary systemic therapy will be illustrated, focusing on the optimal sequencing and what to do in case of inoperable disease.

Chair: M. Krause (Germany)

Co-chair: I. Desideri (Italy)

- 14:15 **Regional nodal irradiation without chestwall radiotherapy for breast cancer** SP-0382
L. Boersma (The Netherlands)
- 14:33 **Protons, photons or MR linacs for breast cancer?** SP-0383
B. Vrou Offersen (Denmark)
- 14:51 **Re-irradiation versus mastectomy for recurrent breast cancer** SP-0384
D. Gabrys (Poland)
- 15:09 **Do we really know what is the best radiotherapy schedule for locally advanced breast cancer?** SP-0385
I. Meattini (Italy)

Clinical track

Symposium: Second malignancy after modern radiotherapy: more or less than historical precedents

14:15 - 15:30

Lehar 1-2-3

Chair: C. Rödel (Germany)

Co-chair: R. Baumann (Germany)

14:15	The biology of radiation induced secondary malignancy	SP-0386
	<u>C. Von Neubeck</u> (Germany)	
14:33	Radiotherapy and second malignancy: the facts	SP-0387
	<u>F. De Vathaire</u> (France)	
14:51	Will SBRT, IMRT and protons alter the risks of second malignancy?	SP-0388
	<u>A. Dasu</u> (Sweden)	
15:09	The role of screening and prevention after radiotherapy	SP-0389
	<u>J. Chang-Claude</u> (Germany)	

Physics track

Symposium: Radiobiological guidance for treatment planning

14:15 - 15:30

Schubert 4-5-6

State-of-the-art radiotherapy optimization and plan evaluation is based on dose-volume indices rather than radiobiological metrics. Radiotherapy planning may potentially be improved by including tumor control probability (TCP) and normal tissue tolerance probability (NTCP) modelling, also by incorporating recent advances in functional imaging. In this symposium, a brief review of TCP and NTCP models will be given alongside optimization based on such models. Clinical experience with NTCP-guided treatment planning is discussed. For TCP modelling, how to account for spatial tumor heterogeneity and temporal dynamics will be presented together with employing patient-specific model parameters. Moreover, functional imaging for boost volume definition and dose painting will be highlighted. Here, the robustness of the image metrics and the use of functional imaging to monitor

treatment response will be reported. Lastly, adaptation to functional changes will be elucidated. Examples from head and neck and lung cancer will be provided throughout the symposium.

Chair: E. Malinen (Norway)

Co-chair: R. Winter (Norway)

14:15	Normal tissue complication modelling for improved radiotherapy planning <u>R. Kierkels</u> (The Netherlands)	SP-0390
14:40	TCP modelling for better radiotherapy plans <u>I. Toma-Dasu</u> (Sweden)	SP-0391
15:05	The role of functional imaging in radiotherapy planning <u>D. Sloth Møller</u> (Denmark)	SP-0392

Physics track

Symposium: Audits for advanced radiotherapy techniques

14:15 - 15:30

Strauss 3

Dosimetry audit is a key component for safety in radiotherapy and plays an important role in the implementation of new treatment modalities and techniques. National and large-scale audits provide data which can help to create, sustain and increase standards, as well as having the potential to identify issues which may cause harm to patients. This session will review the latest advances in how dosimetry audit has been developed for intensity modulated, stereotactic and ion beam therapy, as well as looking at what novel approaches can take us forward to ensure efficient and effective dosimetry audit in the future.

Chair: C. Clark (United Kingdom)

Co-chair: P. Mancosu (Italy)

14:15	Audits for IMRT/VMAT: present and future <u>P. Kazantsev</u> (Austria)	SP-0393
14:33	Audits for SBRT <u>B. Reniers, B. Yalvac, N. Reulens</u> (Belgium)	SP-0394
14:51	Audits in Light-Ion Beam Therapy <u>A. Carlini, H. Palmans, S. Vatnitsky, M. Stock</u> (Austria)	SP-0395

15:09 **Novel approaches to auditing**
J. Lehmann (Australia)

SP-0396

RTT track

Debate: This house believes that RTTs will be leading ALL decision making in real-time adaptive radiation therapy in the future

14:15 - 15:30

Strauss 2

Co-chair: Y.M. Tsang (United Kingdom)

Chair: A. Duffton (United Kingdom)

14:15 **For the motion** SP-0397
L. Wiersema (The Netherlands)

14:35 **Against the motion** SP-0398
C. Eccles (United Kingdom)

14:55 **For the motion rebuttal**
L. Wiersema (The Netherlands)

15:05 **Against the motion (rebuttal)**
C. Eccles (United Kingdom)

Clinical track

Poster Highlights: Poster highlights 13 CL : Gynaecology

14:15 - 15:15

Poster Area 1

Chair: E. Van der Steen-Banasik (The Netherlands)

Chair: R. Nout (The Netherlands)

14:15 **Validation and Applicability of Para-aortic Lymph Nodal Contouring Atlas in Cervical Cancer** PH-0399
S. Srinivasan, L. Gurram, S. Chopra, A. Baheti, P. Popat, N. Sable, U. Mahantshetty (India)

14:23	Number of involved nodes and overall survival in node-positive endometrial cancer	PH-0400
	<u>R. Li</u> , A. Shinde, A. Amini, A. Liu, S. Glaser (USA)	
14:31	What are the main causes of interfraction motion of the uterine fundus and cervix?	PH-0401
	A. Cree, E. Vasquez Osorio, G. Price, M. Van Herk, P. Hoskin, A. Choudhury, <u>A. McWilliam</u> (United Kingdom)	
14:39	Cervical cancer prognostic factors following complete metabolic response after chemoradiation	PH-0402
	<u>A. Lin</u> , F. Dehdashti, L.S. Massad, P.H. Thaker, M.A. Powell, D.G. Mutch, J.K. Schwarz, S. Markovina, B.A. Siegel, P.W. Grigsby (USA)	
14:47	Correlation early morbidity with external beam dose volume parameters in loc. advanced cervix cancer	PH-0403
	<u>Y. Seppenwoolde</u> , K. Majercakova, E. Dörr, M. Buschmann, A. Sturdza, R. Pötter, D. Georg (The Netherlands)	
14:55	Risk factors for late diarrhoea after radio(chemo)therapy in cervical cancer: EMBRACE I results	PH-0404
	<u>N.B.K. Jensen</u> , R. Pötter, L.U. Fokdal, C. Chargari, J.C. Lindegaard, M. Schmid, A. Sturdza, U. Mahantshetty, I.M. Jürgenliemk-Schulz, P. Hoskin, B. Segedin, B. Rai, K. Bruheim, E. Wiebe, E. Van der Steen-Banasik, R. Cooper, E. Van Limbergen, M. Sundset, B.R. Pieters, R. Nout, C. Kirisits, K. Kirchheimer, K. Tanderup (Denmark)	
15:03	Updated mono-institutional analysis of 179 vaginal and pelvic recurrences of endometrial cancer	PH-0405
	<u>V. Chiofalo</u> , J. Di Muzio, V. Richetto, E. Madon, D. Katsaros, S. Gribaudo (Italy)	

Physics track

Poster Highlights: Poster highlights 14 PH: MRI only planning

14:15 - 15:15

Poster Area 2

Chair: L. Järvinen (Finland)

Chair: G. Landry (Germany)

14:15	An IPEM international survey of MRI use for external beam RT treatment planning	PH-0406
	<u>R. Speight</u> , M. Tygger, M.A. Schmidt, G.P. Liney, R.I. Johnstone, C.L. Eccles, M. Dubec, B. George, A. Henry, T. Nyholm, F. Mahmood, J. Korhonen, R. Sims, R.H.N. Tijssen, F. Vanhoutte, S. Busoni, T. Lacornerie, H. McCallum (United Kingdom)	
14:23	Tumour-site specific geometric distortions in high field MR-Linac treatments	PH-0407
	<u>S.W. Hasler</u> , E. Van Veldhuizen, A. Bertelsen, U. Bernchou, T. Schytte, V.N. Hansen, C. Brink, F. Mahmood (Denmark)	
14:31	Assessment of the generalizability to pediatric protontherapy of a 3D network generating pseudo-CT	PH-0408
	<u>E. Alvarez Andres</u> , M. Caussé, L. Fidon, L. Ermeneux, S. Bolle, V. Martin, N. Paragios, E. Deutsch, L. De Marzi, C. Robert (France)	
14:39	Development of materials with independently adjustable MR- and CT-contrast to validate pseudo CTs	PH-0409
	<u>A. Elter</u> , P. Mann, S. Dorsch, A. Runz, S. Martin, C.P. Karger (Germany)	
14:47	Multi-centre, deep learning, sCT generation for anorectal cancers with AI robustness assessment	PH-0410
	<u>D. Bird</u> , M. Teo, N. Casanova, R. Cooper, A. Gilbert, H. Mccallum, D. Sebag-Montefiore, A. Henry, R. Speight, B. Al-Qaisieh, M. Nix (United Kingdom)	
14:55	Neural network based MR-only treatment planning for cervix cancer using low field MR images	PH-0411
	<u>M. Buschmann</u> , L. Fetty, G. Heilemann, M. Heilmann, P. Kuess, D. Georg, N. Nesvacil (Austria)	
15:03	MRI-only in prostate radiotherapy planning using multiple individual atlases: a preliminary study	PH-0412
	<u>S. Nici</u> , A.F. Monti, D. Lizio, R. Pellegrini, M.G. Brambilla, C. Carbonini, M.J. Arias Garces, M.M.J. Felisi, B. Bortolato, C. Frassica, C. Coletti, A. Vanzulli, A. Torresin (Italy)	

Clinical track

Poster discussion: CL: Lung

15:30 - 16:00

The Village: Poster Discussion Station

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Chair: D. Zips (Germany)

Chair: D. Portik (Romania)

- 15:30 **The role of different chemotherapy protocols for concurrent CRT in locally advanced NSCLC** PD-0413
E. Gkika, S. Tanja, K. Stephanie, A. Schaefer-Schuler, M. Mix, A. Küsters, M. Tosch, S.M. Eschmann, Y. Bultel, P. Hass, J. Fleckenstein, A. Thieme, M. Stockinger, K. Dieckmann, M. Miederer, G. Holl, C. Rischke, S. Adebahr, S. Lenz, C. Broichhagen, H. Binder, J. König, A. Grosu, U. Nestle (Germany)
- 15:35 **Correlating dosimetry with the outcomes - A analysis of UK's largest cohort of lung SABR patients.** PD-0414
A. Saha, M. Beasley, N. Hatton, K. Franks, P. Jain, M. Teo, K. Clarke, P. Dickinson, P. Murray, J. Lilley (United Kingdom)
- 15:40 **Toxicity and bronchial stenosis in central lung tumors treated with SBRT** PD-0415
B.L.T. Rijken, M.M.G. Rossi, B. Stam, J.N.A. Van Diessen, J.L. Knegjens, J.S.A. Belderbos (The Netherlands)
- 15:45 **Daily Adaptive Strategy Simulation In Lung Cancer Pts Treated With Rtcht With Reduced CTV-PTV margin** PD-0416
M.L. Bonu, P. Borgetti, L. Spiazzi, A. Taddeo, G. Volpi, A. Guaineri, G. Costantino, A. Donofrio, A. Guerini, D. Tomasini, C. Toraci, J. Imbrescia, S.M. Magrini (Italy)
- 15:50 **The evolution of radiation-induced lung damage following dose-escalated chemo-radiotherapy** PD-0417
E. Chandy, J. Jacob, N. Yip, A. Szmul, D. Landau, J.R. McClelland, C. Veiga (United Kingdom)
- 15:55 **Dose on cardiac (sub)structures as predictor for OS in early stage NSCLC patients treated with SBRT** PD-0418
M. Duijm, D. Pezzulla, W. Schillemans, J. Nuyttens (The Netherlands)

Clinical track

Poster discussion: CL: Upper and Lower GI 1

15:30 - 16:00

The Village: Poster Discussion Station

2

Chair: F. Cellini (Italy)

Chair: *TBC*

- 15:30 **Thoracic radiotherapy decreases right ventricle function: first results of the CLARIFY study** PD-0419
E. Slager, R. Wijsman, J.P. Van Melle, Y.M. Hummel, J. Bussink, N. Mohammed, T.P. Willems, E.S. Hoendermis, J.A. Langendijk, C.T. Muijs, P. Van Luijk (The Netherlands)
- 15:35 **Induction by mFOLFIRINOX followed by SIB-SBRT for the neoadjuvant treatment of pancreatic cancer.** PD-0420
C. Bouchart, J. Engelholm, M.A. Bali, J. Closset, J. Navez, P. Loi, Y. Gökburun, T. De Grez, A. Hendlizz, L. Mans, P. Eisendrath, D. Van Gestel, L. Moretti, J. Van Laethem (Belgium)
- 15:40 **Association of molecular profiles of pancreatic cancer with post-operative recurrence patterns** PD-0421
X. Zhu, C. Yangsen, Y. Yusheng, J. Xiaoping, Z. Xianzhi, J. Lingong, G. Lei, S. Yuxin, Q. Shuiwang, C. Fei, J. Zhen, F. Fang, Z. Houjun (China)
- 15:45 **Evaluating inter-observer variation in oesophageal target volume delineation** PD-0422
O. Nicholas, G. Lewis, B. Thomas, M. Smyth, E. Spezi, S.H. Gwynne (United Kingdom)
- 15:50 **Risk group classification for locoregional failure following upfront surgery for pancreatic cancer** PD-0423
A. Elamir, S. Gallinger, C. Moulton, I. McGilvary, L. Lu, W. Xu, J. Knox, R.M. Prince, G. O'Kane, J. Kim, J. Ringash, L.A. Dawson, R. Wong, A. Barry, J. Brierley, A. Hosni (Canada)
- 15:55 **Prognostic performance of inflammatory markers in patients with HCC treated with SBRT** PD-0424
C. Lo, C. Hsiang, P. Shen, C. Lin, W. Chang, J. Yang, Y. Dai, W. Huang (Taiwan)

Physics track

Poster discussion: PH: Radiobiological and predictive modelling, and radiomics 1

15:30 - 16:00

The Village: Poster Discussion Station

3

Chair: A. Appelt (United Kingdom)

Chair: L. Toussaint (Denmark)

- 15:30 **Radiomics for selection of patients treated with immuno-radiotherapy: pooled analysis from 6 studies** PD-0425
R. Sun, N. Sundahl, M. Hecht, F. Putz, A. Lancia, M. Milic, A. Carré, M. Lerousseau, E. Theo, E. Battistella, E. Alvarez Andres, G. Louvel, J. Durand-Labrunie, S. Bockel, R. Bahleda, C. Robert, C. Boutros, M. Vakalopoulou, N. Paragios, B. Frey, C. Massard, R. Fietkau, P. Ost, U. Gaipl, E. Deutsch (France)
- 15:35 **NTCP model for radiation-induced liver disease: Integration of clinical and dosimetric factors** PD-0426
A. Songthong, Y.M. Ito, N. Katoh, M. Tamura, Y. Dekura, C. Toramatsu, N. Srimaneekarn, A. Haytor, C. Khorprasert, N. Amornwichet, P. Alisanant, Y. Hirata, H. Shirato, S. Shimizu, K. Kobashi (Thailand)
- 15:40 **Optimization of preselection process in model-based selection for proton in head and neck cancer** PD-0427
M. Tambas, J.G.M. Van den Hoek, R.G.J. Kierkels, D. Scandurra, A. Wolters, D. Mulder, E. Oldehinkel, T.W.H. Meijer, S. Both, R.J.H.M. Steenbakkers, J.A. Langendijk (The Netherlands)
- 15:45 **Large scale evaluation of sarcopenia as prognostic factor in lung cancer radiotherapy patients** PD-0428
A. Green, M. Van Herk, E. Vasquez Osorio, J. Weaver, A. McWilliam (United Kingdom)
- 15:50 **CT radiomics differentiates levels of radiocurability in tumor subvolumes in head and neck cancer** PD-0429
M. Bogowicz, M. Pavic, O. Riesterer, T. Finazzi, H. Garcia Schüler, E. Holz-Sapra, L. Rudofsky, S. Glatz, L. Basler, M. Spaniol, M. Hüllner, M. Guckenberger, S. Tanadini-Lang (Switzerland)

- 15:55 **Radiation induced dyspnea in lung cancer patients treated with stereotactic body radiation therapy** PD-0430
G. Palma, S. Monti, M. Thor, A. Rimner, J. Deasy, L. Cella
(Italy)

Physics track

Poster discussion: PH: Implementation of new techniques 1

15:30 - 16:00 The Village: Poster Discussion Station
4

- Chair: *TBC*
Chair: *TBC*
- 15:30 **Multicentre clinical radiotherapy audit in rectal cancer: results of the IROCA project** PD-0431
M. Fundowicz, A. Aguiar, C. Lopes de Castro, M.G. Torras, L. Deantonio, E. Konstanty, M. Kruszyna Mochalska, M. Macia, E. Canals, M. Caro, C. Pisani, D. Zwierzchowska, J. Molero, A. Eraso, J. Lencart, C. Muñoz-Montplet, L. Carvalho, M. Krengli, J. Malicki, F. Guedea (Poland)
- 15:35 **Implantable Sensors for Quantifying Tumor Oxygenation** PD-0432
G. Ekchian, J. Tokuda, J. Freedman, H. Harens, R. Cormack, L. Lee, M. Cima (USA)
- 15:40 **Clinical workflow for treating patients with a metallic hip prosthesis on the MR-linac** PD-0433
R. Keesman, E. Van der Bijl, T. Janssen, T. Vijlbrief, F. Pos, U. Van der Heide (The Netherlands)
- 15:45 **A Prospective Clinical Evaluation of Mirada DLCExpert Auto-Contouring for Head and Neck OARs.** PD-0434
C. South, C. Navarro, D.J. Rickard, J. Lynch, K. Wood, A. Nisbet, E.J. Adams (United Kingdom)
- 15:50 **Brainlab ExacTrac Dynamic – First pre-clinical validation of surface- and X-Ray positioning accuracy** PD-0435
V. Da Silva Mendes, K. Straub, C. Belka, M. Reiner, G. Landry, P. Freislederer (Germany)
- 15:55 **Dose simulations of a novel aluminium-alloy 3D range-modulator for proton therapy** PD-0436

Y. Simeonov, U. Weber, C. Schuy, P. Penchev, R. Engenhart-Cabillic, H. Krause, J. Weißen, K. Zink (Germany)

Interdisciplinary track

Plenary Session: Highlights of Proffered papers

16:00 - 16:45

Plenary

Chair: E. Troost (Germany)

Chair: H. Lyng (Norway)

Chair: A. Duffton (United Kingdom)

- | | | |
|-------|--|---------|
| 16:00 | MRI guided adaptive brachytherapy in locally advanced cervical cancer: overall results of EMBRACE I | OC-0437 |
| | <u>R. Pötter</u> , K. Tanderup, M. Schmid, C. Haie-Meder, L.U. Fokdal, A. Sturdza, P. Hoskin, U. Mahantshetty, B. Segedin, K. Bruheim, F. Huang, B. Rai, R. Cooper, E. Van der Steen-Banasik, E. Van Limbergen, B. Pieters, L.T. Tan, R. Nout, A.C. De Leeuw, N. Nesvacil, K. Kirchheimer, I. Jürgenliemk-Schulz, C. Kirisits, J.C. Lindegaard, C.G. Embrace (Austria) | |
| 16:15 | Clinical pharmacodynamics support biological effectivity of low dose olaparib as radiosensitizer | OC-0438 |
| | <u>R. De Haan</u> , D. Pluim, M. Verwijs, G. Sonke, M. Van den Heuvel, B. Van Triest, C. Vens, M. Verheij (The Netherlands) | |
| 16:30 | Quantifying the benefit of online adaptive radiotherapy for rectal cancer compared to plan selection | OC-0439 |
| | <u>R. De Jong</u> , J. Visser, K. Crama, N. Van Wieringen, J. Wiersma, D. Geijsen, A. Bel (The Netherlands) | |

Interdisciplinary track

Proffered Papers: Proffered papers 21: Protons

16:45 - 17:45

Strauss 1

Chair: *TBC*

Chair: S. Yahyaoui (TN)

- 16:45 **Proton Therapy Reduces Patient-Reported Adverse Events: A Neural Network for Large-Volume Practice** OC-0440
T. DeWees, M. Golafshar, M. Petersen, T.J. Whitaker, A. Amundson, K. Klein, T. Pisansky, B. Davis, K. Corbin, B. Stish, C.R. Choo, C. Hallemeier, R. Mutter, W. Wong, I. Petersen, S. Park, T. Daniels, L. McGee, N. Laack, A. Dueck, C. Vargas (USA)
- 16:55 **An interim analysis of outcome data from the UK Proton Overseas Programme** OC-0441
S. Gaito, N. Burnet, M. Aznar, P. Foden, C. Howell, S. Pan, D. Saunders, G. Whitfield, A. Crellin, E. Smith (United Kingdom)
- 17:05 **Modelling and external validation of late side effects of brain tumours following proton therapy** OC-0442
A. Dutz, L. Agolli, R. Bütof, A. Lühr, B. Michael, X. Vermeren, D. Geismar, N. Lamba, E.F. Schapira, M. Bussière, J.E. Daly, M.R. Bussière, M. Krause, B. Timmermann, H.A. Shih, S. Löck (Germany)
- 17:15 **First systematic clinical study on detection of anatomical changes in PT using prompt-gamma imaging** OC-0443
J. Berthold, A. Jost, C. Khamfongkhruea, J. Petzoldt, J. Thiele, T. Hölscher, P. Wohlfahrt, G. Pausch, G. Janssens, J. Smeets, C. Richter (Germany)
- 17:25 **Impact of deformable image registration on inter-fractional variations in lung cancer proton therapy** OC-0444
L. Nenoff, C.O. Ribeiro, M. Matter, L. Hafner, A.C. Knopf, J.A. Langendijk, M. Walser, M. Josipovic, G.F. Persson, D.C. Weber, A.J. Lomax, F. Albertini, Y. Zhang (Switzerland)
- 17:35 **Increased immunogenic calreticulin signaling at the distal end of the proton Bragg peak** OC-0445

A.M. Rykkeliid, E.K. Thingstad, A.E. Mariampillai, R. Syljuåsen, E. Malinen, N.F.J. Edin (Norway)

Radiobiology track

Proffered Papers: Proffered papers 22: Radiobiological resistance mechanisms

16:45 - 17:45

Stolz 1-2

- Chair: *TBC*
- Chair: A. Van der Wiel (The Netherlands)
- 16:45 **Senescence and associated cytokines are critical drivers of inherent radioresistance in HNSCC** OC-0446
U. Schötz, S. Shnayien, S. Spörl, L. Kinzel, C. Maihöfer, U. Ganswindt, J. Hess, K. Unger, H. Zitzelsberger, D. Klein, V. Jendrossek, B. Klinger, A. Sieber, N. Blüthgen, C. Belka, S. Unkel, K. Lauber (Germany)
- 16:55 **ATP Citrate Lyase is associated with radiosensitivity in head and neck squamous cell carcinoma** OC-0447
E. Göttgens, C. Van den Heuvel, M. De Jong, J. Kaanders, W. Leenders, M. Ansems, J. Bussink, P. Span (The Netherlands)
- 17:05 **Epigenetic regulation and cellular plasticity in response to irradiation in head and neck cancer** OC-0448
C. Peitzsch, S.I. Schniewind, F. Schwarz, S. Richter, A. Linge, S. Löck, W.W. Hadiwikarta, A. Nowrouzi, M. Baumann, M. Krause, A. Dubrovska, I. Kurth (Germany)
- 17:15 **Pre-clinical evaluation of combining radiation with Notch signalling inhibition in melanoma** OC-0449
K. Thippu Jayaprakash, M. Hussein, A. Nisbet, R. Shaffer, A. Michael, M. Ajaz (United Kingdom)
- 17:25 **TRIBBLES1 (TRIB1) pseudokinase: a potential therapeutic target in GBM** OC-0450
K. Singh, J. Fleming, C. Han, T. Cui, B. Johnson, J. Haque, E.H. Bell, P. Robe, A. Chakravarti (USA)
- 17:35 **Radiation response of breast carcinoma cells with enhanced metastatic capacities** OC-0451
B. Aschenbrenner, G. Negro, D. Savic, S.K.B. Kranjc Brezar,

M. Cemazar, A.C. Coer, G.G. Gašljević, M.S. Sorokin, A. Buzdin, M.C. Callari, U. .G. Ganswindt, S. Skvortsov, I. Skvortsova (Austria)

Clinical track

Proffered Papers: Proffered papers 23 : Palliation

16:45 - 17:45

Plenary

Chair: J. Kazmierska (Poland)

Chair: TBC

- 16:45 **Mature results of a phase I dose-escalation trial of SBRT for bone and lymph node oligometastases** OC-0452
C. Mercier, M. Claessens, G. De Kerf, S. Gryshkevych, C. Billiet, I. Joye, A. Buys, S. Van Laere, P. Vermeulen, P. Meijnders, F. Löfman, L. Dirix, D. Verellen, P. Dirix (Belgium)
- 16:55 **Efficacy and safety of stereotactic radiotherapy combined with TKIs for metastatic lesions.** OC-0453
S. Kroeze, C. Fritz, O. Blanck, K.H. Kahl, D. Kaul, S. Siva, S. Gerum, A. Claes, N. Sundahl, S. Adebahr, A. Nateghian, M.M. Schymalla, A. Wittig, D. Buergy, M. Geier, M. Szuecs, F. Lohaus, G. Henke, S.E. Combs, M. Guckenberger (Switzerland)
- 17:05 **Current radiotherapy practice for children with metastases from solid tumors: SIOP-E survey analysis** OC-0454
S. Huijskens, P. Kroon, C. Demiroz Abakay, B. Timmermann, J. Giralt, M. Gaze, S. Harrabi, G. Scarzello, A. Alexopoulou, L. Padovani, A. Escande, L. Gandola, S. Supiot, M. Chojnacka, J. Bokun, A. Napieralska, B. Rombi, J.H. Maduro, S. Bolle, A. Mussano, H. Mandeville, L. Claude, E. Seravalli, G.O. Janssens (The Netherlands)
- 17:15 **Palliative head and neck radiotherapy with the 'Hypo Trial' regimen for incurable cancers.** OC-0455
M.J. Garcia Anaya, R. Ordoñez Marmolejo, M.D. Toledo Serrano, J.A. Medina Carmona, J. Gómez-Millán Barrachina (Spain)

- 17:25 **Short course EBRT versus brachytherapy in the palliation of dysphagia in esophageal cancer.** OC-0456
P. Jeene, B. Vermeulen, T. Rozema, P. Braam, I. Lips, K. Muller, D. Van Kampen, M. Homs, V. Oppedijk, M. Berbée, P. Van Rossum, S. El Sharouni, P. Siersema, M. Hulshof (The Netherlands)
- 17:35 **Stereotactic body radiation therapy (SBRT) for oligometastatic soft tissue sarcoma (STS)** OC-0457
A. Botticella, D. Jornet, E. Tang, O. Henry, G. Auzac, I. Chabert, S. Dumond, O. Mir, L. Haddag-Miliani, F. Mihoubi, A. Le Cesne, M. Faron, A. Cavalcanti, P. Terrier, J. Adam, C. Honoré, A. Levy, C. Le Pechoux (France)

Clinical track

Proffered Papers: Proffered papers 24 : Lymphoma

16:45 - 17:45 Lehar 1-2-3

- Chair: L. Specht (Denmark)
Chair: S. Vagge (Italy)
- 16:45 **Local tumour control after mediastinal radiotherapy with DIBH and small CTV-PTV margin** OC-0458
O. Hafez, J. Brady, H. Attallah, N.G. Mikhaeel (United Kingdom)
- 16:55 **Clinical outcomes in Hodgkin Lymphoma patients treated with IMRT-VMAT according to ISRT principles.** OC-0459
M. Levis, V. De Luca, S. Bartoncini, E. Orlandi, G.C. Iorio, R. Parise, C. Palladino, C. Cavallin, B. Botto, F.R. Giglioli, C. Fiandra, U. Ricardi (Italy)
- 17:05 **Relapse-localization in pediatric patients with Hodgkin lymphoma** OC-0460
A.Y. Lundgaard, L.L. Hjalgrim, A.K. Berthelsen, L. Specht, L. Borgwardt, M.V. Maraldo (Denmark)
- 17:15 **Acute toxicity and recovery following total marrow irradiation compared to total body irradiation** OC-0461
J. Engellau, A. Haraldsson, P.E. Engström, S. Warsi, C. Sofie, C. Crister, S. Bäck, S. Engelholm, S. Wichert (Sweden)

- 17:25 **Solitary plasmacytoma treated by Lenalidomide-Dexamethasone in combination with radiation therapy** OC-0462
M. Fabien, A. Schernberg, A. Arsene Henry, M. Vignon, D. Bouscary, Y. Kirova (France)
- 17:35 **Higher baseline SUVmax of 18F-FDG PET-CT indicated worse prognosis in nasal type ENKTL patients** OC-0463
X. Xia, Y. Wang, J. Yuan, W. Sun, Y. Lin, F. Ye, X. Ma (China)

Physics track

Proffered Papers: Proffered papers 25 - Clinical implementation of online MRgRT

16:45 - 17:45 Schubert 4-5-6

- Chair: S. Nill (United Kingdom)
Chair: S. Tanadini-Lang (Switzerland)
- 16:45 **Quantification and reduction of susceptibility artefacts for a quality assurance phantom in MRgRT** OC-0464
E. Hellwich, A. Elter, S. Dorsch, P. Mann, J. Emmerich, M. Schäfer, A. Runz, S. Klüter, C.K. Spindeldreier, C.P. Karger, J. Debus, J. Geist (Germany)
- 16:55 **Evaluation of the use of electron density overrides in MR-Linac breast treatment planning** OC-0465
J. Mohajer, A. Mitchell, A. Dunlop, S. Nill, U. Oelfke (United Kingdom)
- 17:05 **Hypofractionated radiotherapy of the prostate using a MRgRT system - are there any disadvantages?** OC-0466
A. Mannerberg, E. Persson, J. Jonsson, C. Jamtheim Gustafsson, A. Gunnlaugsson, L.E. Olsson, S. Ceberg (Sweden)
- 17:15 **Focal salvage SBRT treatment for radiorecurrent prostate cancer on the MR-Linac: a planning study** OC-0467
T. Willigenburg, E. Beld, J. Hes, J.A.N.J.W. Lagendijk, H.C.J. De Boer, M.A. Moerland, J.R.N. Van der Voort van Zyp (The Netherlands)
- 17:25 **Delivery of single-fraction lung SABR using MR-guidance** OC-0468

T. Finazzi, J. Van Sörnsen de Koste, M. Palacios, F. Spoelstra, B. Slotman, C. Haasbeek, S. Senan (The Netherlands)

- 17:35 **MR-guided online adaptive radiotherapy for muscle invasive bladder cancer: First UK experience** OC-0469
A. Hunt, I. Hanson, A. Dunlop, L. Bower, H. Barnes, J. Chick, T. Herbert, R. Lawes, H. McNair, A. Mitchell, J. Mohajer, T. Morgan, G. Smith, S. Nill, U. Oelfke, R. Huddart, S. Hafeez (United Kingdom)

Physics track

Proffered Papers: Proffered papers 26: New technology

16:45 - 17:45

Strauss 3

Chair: P. Keall (Australia)

Chair: D. Grishchuk (United Kingdom)

- 16:45 **Investigation of a low-Z sintered diamond target for 2.5 MV imaging** OC-0470
J. Borsavage, D.A. Cherpak MCCPM, D.T. Monajemi MCCPM, D.J. Robar FCCPM (Canada)
- 16:55 **Optimization of a compact x-ray source for clinical microbeam radiation therapy** OC-0471
J. Winter, J.J. Wilkens, S.E. Combs, S. Bartzsch (Germany)
- 17:05 **A potential multi-model AI framework for MRI motion correction and fast image acquisition in RT** OC-0472
M. Lempart, C. Jamtheim Gustafsson, P. Brynolfsson, M. Nilsson, A. Gunnlaugsson, L. E. Olsson (Sweden)
- 17:15 **Evaluation of first 20 patients treated with MR-Only prostate radiotherapy with MR-CBCT matching** OC-0473
J. Wyatt, R.A. Pearson, J. Frew, C. Walker, N. Richmond, M. Wilkinson, K. Wilkes, S. Driver, S. West, K. Pilling, R.L. Brooks, D. Ainslie, E. Wilkins, H.M. McCallum (United Kingdom)
- 17:25 **Feasibility of prostate SBRT with DIL boost in various platforms: A Crowd Knowledge based study** OC-0474
A. Savini, E. Villaggi, O. Blanck, C. Moustakis, V. Hernandez, S. Russo, M. Esposito, R. De Blas Piñol, N. Hardcastle, J.

Saez, R. Doro, M.D. Falco, V. Silvestri, B. Nardiello, S. Broggi, L. Strigari, S. Cilla, S. Strolin, M. Stasi, P. Mancosu (Italy)

- 17:35 **Cranial SRS dosimetry audits of complex treatments of multiple brain metastases** OC-0475
M. Shaw, J. Kenny, A. Alves, C. Davey, S. Keehan, J. Supple, R. Brown, A. Cole, F. Kadeer, J. Lye (Australia)

Radiobiology track

Poster Highlights: Poster highlights 15: Particles and microbeams

16:45 - 17:45

Poster Area 1

- Chair: T. Hellevik (Norway)
Chair: D. Marcus (The Netherlands)
- 16:45 **Impact of single dose photon or 12C-ion irradiation on rat prostate tumors assessed by DCE-MRI** PH-0476
A. Bendinger, L. Seyler, M. Saager, C. Debus, P. Peschke, D. Komljenovic, J. Debus, J. Peter, R. Floca, C. Karger, C. Glowa (Germany)
- 16:53 **Effectiveness of fractionated carbon ion treatments in three rat prostate tumors** PH-0477
C. Glowa, P. Peschke, S. Brons, J. Debus, C.P. Karger (Germany)
- 17:01 **HPV pos HNSCC cells show strong radiosensitivity after photon but not after carbon ion irradiation** PH-0478
S. Lerch, S. Berthold, F. Ziemann, K. Dreffeke, F. Subtil, A. Jensen, R. Engenhart-Cabillic, E. Dikomey, A. Wittig, F. Eberle, U. Schötz (Germany)
- 17:09 **The influence of the tissue specific parameter α/β on the RBE of protons** PH-0479
E. Mara, S. Khachonkham, M. Clausen, P. Kuess, C. Pessy, W. Dörr, D. Georg, S. Gruber (Austria)
- 17:17 **Early repair mechanisms after Synchrotron Microbeam Radiation Therapy in normal lung tissue** PH-0480
V. Trappetti, C. Fernandez-Palomo, P. Pellicioli, V. Djonov (Switzerland)

- 17:25 **Synchrotron Microbeam Radiation Therapy increases the therapeutic index for brain tumor treatment.** PH-0481
L. Eling, A. Bouchet, A. Ocadiz, J. Adam, H. Elleaume, M. Krisch, J.A. Laissue, J. Balosso, R. Serduc (France)

RTT track

Poster Highlights: Poster highlights 16 RTT: Novel strategies for treatment planning and delivery

16:45 - 17:45 Poster Area 2

- Chair: *TBC*
- Chair: A.R. Lopes Simões (United Kingdom)
- 16:45 **Inter-observer variation of burned-in fiducial marker positions for MR-only prostate radiotherapy** PH-0482
F. Beeksma, J. Visser, M. Boon, K. Goudschaal, M. Bijveld, K. Hinnen, Z. Van Kesteren (The Netherlands)
- 16:53 **Auros XB Dose Calculation algorithm: Dosimetric evaluation for computed tomography metal artifacts** PH-0483
C.H. Lee, M. Yeom, C. Kim, I. Yun, H. Song, G. Back (Korea Republic of)
- 17:01 **Evaluation of AI based contouring tools in prostate cancer RT** PH-0484
A. Borkvel, E. Gershkevitsh, M. Adamson, K. Kolk, D. Zolotuhhin (Estonia)
- 17:09 **Clinical evaluation of a deep network organ segmentation algorithm for radiation treatment planning** PH-0485
S. Marschner, M. Datar, A. Gaasch, Z. Xu, S. Grbic, G. Chabin, B. Geiger, J. Rosenman, S. Corradini, T. Heimann, C. Moehler, F. Vega, C. Belka, C. Thieke (Germany)
- 17:17 **Dosimetric Comparison Of Bone Marrow Sparing VMAT VS 3DCRT In Locally Advanced Rectal Cancer** PH-0486
S.M. LAM, W.Y.V. Lee (Hong Kong (SAR) China)

- 17:25 **Analysis of treatment times and workflow at a 1.5 T MR Linac** PH-0487
A. Stolte, J. Boldt, C. Marks, C. Gani, M. Nachbar, C. De-Colle, N. Weidner, A. Mueller, D. Thorwarth, D. Zips, S. Boeke (Germany)
- 17:33 **Online correction for geometric fidelity in MR-Linac treatments** PH-0488
L. Meijers, M.L.E.E.P. Philippens, A. Lier van, B. Stemkens, R.H.N. Tijssen (The Netherlands)

Monday
6 April
2020



Interdisciplinary track

Teaching Lecture: Cancer metabolism: a radio-oncology perspective

08:00 - 08:40

Strauss 1

Chair: A. Laprie (France)

08:00 Cancer metabolism: a radio-oncology perspective SP-0489

Clinical track

Teaching Lecture: The treatment of anal cancer

08:00 - 08:40

Plenary

Chair: S. Combs (Germany)

08:00 **The treatment of anal cancer** SP-0490
D. Sebag-Montefiore (United Kingdom)

Clinical track

Teaching Lecture: Latest updates on non-metastatic nasopharyngeal carcinoma in 2020: screening, workup, and treatment paradigms

08:00 - 08:40

Lehar 1-2-3

Chair: C. Grau (Denmark)

08:00 **Latest updates on non-metastatic nasopharyngeal carcinoma in 2020: screening, workup, and treatment paradigms** SP-0491
M.L.K. Chua (Singapore)

Physics track

Teaching Lecture: Validation and commissioning of AI contouring tools

08:00 - 08:40

Schubert 4-5-6

Chair: J. Bertholet (United Kingdom)

08:00 Validation and commissioning of AI contouring tools SP-0492
A. Green (United Kingdom)

Physics track

Teaching Lecture: 4D imaging for radiation therapy using MRI and PET

08:00 - 08:40

Strauss 3

Chair: M. Tenhunen (Finland)

08:00 **4D imaging for radiation therapy using MRI and PET** SP-0493
D. Thorwarth (Germany)

RTT track

Teaching Lecture: Quantitative Digital Pathology Biomarkers of Neoadjuvant Therapy Response in Breast Cancer

08:00 - 08:40

Strauss 2

Chair: L. Mullaney (Ireland)

08:00 **Quantitative Digital Pathology Biomarkers of Neoadjuvant Therapy Response in Breast Cancer** SP-0494
W. Tran, F. Lu, S. Tabbarah, A. Lagree, D. Dodington, K. Jerzak, S. Gandhi, E. Rakovitch, A. Shenfield (Canada)

Young track

**Teaching Lecture: Novel Radiotherapy techniques/treatments
(e.g. micro beam, FLASH, etc, possibly immunotherapy)**

08:00 - 08:40

Stolz 1-2

Chair: J. Heukelom (The Netherlands)

Chair: S. Petit (The Netherlands)

- 08:00 **Novel Radiotherapy techniques/treatments (e.g. micro beam, FLASH, etc, possibly immunotherapy)** SP-0495
 D. Jaffray (Canada)

Interdisciplinary track

Joint Symposium: ESTRO-EANM: Targeting the microenvironment in radiotherapy: where are we now?

08:45 - 10:00

Strauss 1

Chair: E. Troost (Germany)

Chair: W. Oyen (United Kingdom)

- 08:45 **Novel approaches to characterise the tumour microenvironment** SP-0496
 U. Haberkorn (Germany)
- 09:03 **The BTV turns 21: Current status of clinical trials and future directions** SP-0497
 J. Fenwick (United Kingdom)
- 09:21 **Theragnostic approaches for hypoxic tumours** SP-0498
 J. Adam (The Netherlands)
- 09:39 **Biological approaches to hypoxia modification** SP-0499
 L. Dubois, A. Yaromina, J. Theys, P. Lambin (The Netherlands)

Clinical track

Symposium: How to combine different treatment modalities in rectal cancer

08:45 - 10:00

Plenary

Large clinical trials have demonstrated improved outcome for patients with rectal cancer when treated with a multimodal approach. Intensification strategies in the neoadjuvant setting are debated, as well as the possibility of omitting surgery in certain patients. Here we will discuss current and new oncological criteria for the multimodal treatment, as well as current and new standards for surgery in rectal cancer. New options in the rectal cancer treatment pipeline will be presented, such as organ preservation and total neoadjuvant treatment, and the impact of the different treatment options on the patient's quality of life.

Chair: M.A. Gambacorta (Italy)

Co-chair: S. Meltzer (Norway)

08:45	How to select patients for a multimodal approach <u>G. Beets</u> (The Netherlands)	SP-0500
09:03	When to omit radiotherapy in rectal cancer? <u>E. Rullier</u> (France)	SP-0501
09:21	Organ preservation: where are we and where do we go? <u>K. Haustermans</u> (Belgium)	SP-0502
09:39	The total neoadjuvant approach: when and where to add chemotherapy in rectal cancer <u>E. Fokas</u> (Germany)	SP-0503

Clinical track

Symposium: Multidisciplinary treatment of salivary gland tumors

08:45 - 10:00

Lehar 1-2-3

Chair: H. Langendijk (The Netherlands)

Co-chair: P. Bonomo (Italy)

08:45	Surgical approaches for salivary gland tumors <u>C.R. Leemans</u> (awardee) (The Netherlands)	SP-0504
09:10	Particle therapy for salivary gland tumors <u>A. Jensen</u> (Germany)	SP-0505
09:35	The role of systemic therapy in salivary gland cancer <u>C. Van Herpen</u> (The Netherlands)	SP-0506

Physics track

Symposium: Target definition and dose prescription in the era of dose painting and probabilistic planning

08:45 - 10:00

Schubert 4-5-6

The concepts of GTV, CTV and PTV form the backbone of describing a treatment in present-day radiation oncology. While powerful, these concepts are not quite suitable to describe probabilistic nature of our knowledge of tumor location and dose requirements. In probabilistic planning, the PTV concept is circumvented by including uncertainties upfront. Currently however, a standardized method is lacking for describing the uncertainties that need to be considered. In this symposium the speakers will discuss these uncertainties and a possible generalization of the current GTV, CTV and PTV concepts to accommodate a probabilistic approach to delineation and dose prescription.

Chair: U. Van der Heide (The Netherlands)

Co-chair: E.M. Vasquez Osorio (United Kingdom)

08:45	Integrating contouring uncertainties in target definition <u>V. Grégoire</u> (France)	SP-0507
09:10	Integrating target delineation decisions in interactive treatment planning <u>T. Bortfeld, N. Shusharina</u> (USA)	SP-0508
09:35	Integrating uncertainties in target definitions and dose prescription <u>R. Jeraj, P. Ferjancic</u> (Slovenia)	SP-0509

Physics track

Joint Symposium: ESTRO-EFOMP: Artificial intelligence and image quality (with focus on benefits for RT)

08:45 - 10:00

Strauss 3

Chair: M. Van Herk (United Kingdom)

Co-chair: I. Buvat (France)

08:45	Accelerating MRI reconstruction with deep learning <u>K. Lønning</u> , M.W.A. Caan, J. Sonke (The Netherlands)	SP-0510
09:10	Improving image quality of CBCT using AI <u>G. Landry</u> , C. Kurz (Germany)	SP-0511
09:35	On the crucial importance of image preprocessing and harmonization for robust AI-based models <u>I. Buvat</u> (France)	SP-0512

RTT track

Symposium: Individualised radiotherapy

08:45 - 10:00

Strauss 2

Dose painting for head and neck cancer, person-centred care (PCC) and percussion assisted radiation therapy (PART) are forms of individualized radiotherapy. The first results from the dose painting studies RADPAINT and RIDPAINT are presented. What is meant by person-centred care, the role RTTs play in PCC and why it is important are the second topic in this session. Finally, Percussion Assisted Radiation Therapy (PART) allows a prolonged apnoea-like suppression of respiratory motion will be discussed, which may facilitate a more personalised treatment plan.

Chair: S. Perryck (Switzerland)

Co-chair: S. Barrett (Ireland)

08:45	PET-based dose painting in head and neck cancer <u>M.E. Evensen</u> , E. DALE (Norway)	SP-0513
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09:10	The role of the RTT in individualised patient centric care <u>H. Nisbet</u> (United Kingdom)	SP-0514
09:35	Individualised treatment with Percussion Assisted RadioTherapy , a tool to stop respiratory motion. <u>F. Duclos</u> (Switzerland)	SP-0515

Young track

Symposium: Mobility grants report back

08:45 - 10:00 Stolz 1-2

	Chair: M. Zerbea (Romania) Co-chair: M. Eguiguren (Spain)	
08:45	Describing and characterizing the effect of brachytherapy in cervical cancer patients from radiomic feature dynamics <u>C. Tenconi, P. Fontaine</u> (Italy)	SP-0516
09:00	Increasing the therapeutic index of radiation by combination with rucaparib in cervical cancer <u>S. Saha, R. Howarth, A. Dubrovska, K. Marchbank, N. Curtin</u> (United Kingdom)	SP-0517
09:15	Development and validation of a delta-radiomics response model for neoadjuvant radiotherapy of soft tissue sarcomas <u>J. Peeken, E. Chen, D.S. Hippe, K. Specht, E. Kim, N.A. Mayr, M.J. Nyflot, S.E. Combs</u> (Germany)	SP-0518
09:30	Evaluation of Motion Mitigation for Abdominal Radiotherapy <u>M. Daly</u> (United Kingdom)	SP-0519
09:45	Prevention of the radio-induced pulmonary fibrosis by Muse cells <u>H. Dushime, B. Petit, J. Ollivier, N. Gault, M. Vozenin, P. Romeo</u> (France)	SP-0520

Clinical track

Poster Highlights: Poster highlights 17 CL : Palliation

08:45 - 09:45

Poster Area 1

	Chair: <i>TBC</i>	
	Chair: J. Cacicedo (Spain)	
08:45	Paravertebral Muscle Training in Patients with Unstable Spinal Metastases <u>T. Sprave</u> (Germany)	PH-0521
08:53	Fractionation and early mortality in palliative radiotherapy across the English NHS <u>K. Spencer</u> , P. Hall, A. Henry, G. Velikova, S. Whalley, R. Birch, K. Le Calvez, M. Williams, E. Morris (United Kingdom)	PH-0522
09:01	Palliative radiotherapy for bone metastases at the end of life: an Australian population-based study <u>W.L. Ong</u> , F. Foroudi, R. Milne, J. Millar (Australia)	PH-0523
09:09	"TEACHH" model. Our experience in handling. <u>C. Escuin Troncho</u> , A. Miranda Burgos, C. García Aguilera, M. Cerrolaza Pascual, V. Navarro Aznar, A. Campos Bonel, J. Lao, R. Ibañez Carreras (Spain)	PH-0524
09:17	Radio-immunotherapy versus immunotherapy alone – tolerance and adverse events <u>M. Trommer</u> , S. Marnitz, J. Kinsky, A. Adams, M. Hellmich, E. Celik, J.M. Herter, J. Morgenthaler, M. Von Bergwelt-Baildon, M. Schlaak, S. Theurich, C. Baues (Germany)	PH-0525
09:25	Socioeconomic status does not affect survival in patients with brain metastases <u>S. Nagtegaal</u> , A. Claes, S.G. Elias, T.J. Snijders, H.M. Verkooijen, J.J.C. Verhoeff (The Netherlands)	PH-0526

Physics track

Poster Highlights: Poster highlights 18 PH: MRI guidance

08:45 - 09:45

Poster Area 2

	Chair: <i>TBC</i>	
	Chair: <i>TBC</i>	
08:45	The design of an MR-PET for radiotherapy treatment simulation. The search for small tumour volumes <i>J. Lagendijk, C. Beijst, B. Woutjan, H. Erik, S. Bart, A. Cezar, W. Bjoern, S. David, G. Pierre, G. Nicolas, D. Thomas, B. Martino, M. Jurgen, S. Volkmar, S. Andre, L. Oliver, V.D.M. Peter, V. Marc, D.J. Hugo, K. Dennis (The Netherlands)</i>	PH-0527
08:53	Feasibility of MR-guided stereotactic body radiotherapy in 5, 2 or 1 fractions for prostate cancer <i>J. Mohajer, A. Dunlop, A. Mitchell, S. Nill, U. Oelfke, A. Tree (United Kingdom)</i>	PH-0528
09:01	Prostate intrafraction motion during the full course of MR-guided radiotherapy sessions <i>D. De Muinck Keizer, L.G.W. Kerkmeijer, T. Willigenburg, M.D. Den Hartogh, J.R.N. Van der Voort van Zyp, E.N. De Groot-van Breugel, B.W. Raaymakers, J.J.W. Lagendijk, H.C.J. De Boer (The Netherlands)</i>	PH-0529
09:09	End-to-end measured geometric dose delivery accuracy and precision in MR linac adapted radiotherapy <i>U. Bernchou, R.L. Christiansen, D. Tilly, A. Bertelsen, H.L. Riis, H.R. Jensen, F. Mahmood, C. Brink (Denmark)</i>	PH-0530
09:17	Assessment of geometric distortion of eleven clinical MRI scanners across the UK <i>M. Alzahrani, D. Broadbent, R. Chuter, B. Al-Qaisieh, S. Jackson, M. Hutton, R. Johnstone, S. Shah, A. Wetscherek, J. Chick, J. Wyatt, H. McCallum, R. Speight (United Kingdom)</i>	PH-0531

09:25	Standardization of brain MRI across machines and protocols: bridging the gap for MRI-based radiomics	PH-0532
	<u>A. Carré</u> , G. Klausner, M. Edjlali, M. Lerousseau, J. Briand-Diop, R. Sun, S. Ammari, S. Reuzé, E. Alvarez-Andres, T. Estienne, S. Niyoteka, E. Battistella, M. Vakalopoulou, F. Dhermain, N. Paragios, E. Deutsch, C. Oppenheim, J. Pallud, C. Robert (France)	
09:33	MEGRE-NET-deep learning based automatic identification of fiducial markers in prostate RT MRI images	PH-0533
	<u>C. Jamtheim Gustafsson</u> , J. Swärd, S. Ingi Adalbjörnsson, A. Jacobsson, O. Lars E (Sweden)	

Clinical track

Poster discussion: CL: Upper and Lower GI 2

10:00 - 10:30	The Village: Poster Discussion Station 1
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10:00	Chair: B. De Bari (France) Chair: N. Bouzid (Tunisia)	
	Dose-escalation phase III trial of preoperative chemoradiotherapy in rectal cancer. First results	PD-0534
	<u>F. Lopez Campos</u> , M. Martín Martín, R. Isabel, B. Belinchon, V. Morillo, E. Jordá, P. Peleteiro, F.J. Fuertes, R. Matute, M.D. De las Peñas Cabrera, A. Hervás, V. Duque, A. Caminoa-Lizarralbe, J. Die, J.C. García Pérez, V. Pachón, R. Ferreiro, R. García Latorre, E. Canales, I. Moreno, E. Torabuela, J.D. Pina, P. Abadia, R. Morera, S. Sancho (Spain)	
10:05	The Effects of Neoadjuvant Treatment on the Tumor Microenvironment in Rectal Cancer	PD-0535
	<u>J. Yen</u> , Y. Chung, C. Jen (Taiwan)	
10:10	Bone-marrow sparing IMRT for anal cancer patients: a prospective phase II trial	PD-0536
	<u>F. Arcadipane</u> , P. Silvetti, C. Fiandra, E. Gallio, S. Martini, F. Giglioli, A. Sardo, G.C. Iorio, F. Olivero, A. Gastino, V. De Luca, U. Ricardi, P. Franco (Italy)	

10:15	Factors Affecting Overall Survival in Non-Metastatic Rectal Cancer: An NCDB analysis <u>P. Shaikh</u> , B. Altoos, P. Renz, M. Wu, G. Jacobson, S. Lu (USA)	PD-0537
10:20	Rectal cancer: world-wide use of radiotherapy and the importance of more strict lymph node staging <u>K. Hammarström</u> , B. Glimelius, T. Sjöblom, A. Mezheyevski, N. Korsavidou Hult, I. Imam, J. Ekström (Sweden)	PD-0538
10:25	Chemo-Modulation Of Rectal Cancer Pathological Response: Prediction Of An Early Regression Index <u>S. Broggi</u> , C. Gumina, M. Mori, G.M. Cattaneo, A. Palmisano, A. Di Chiara, M. Ronzoni, N. Slim, F. De Cobelli, R. Calandrino, R. Rosati, N.G. Di Muzio, C. Fiorino, P. Passoni (Italy)	PD-0539

Physics track

Poster discussion: PH: Radiobiological and predictive modelling, and radiomics 2

10:00 - 10:30	The Village: Poster Discussion Station 2
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	Chair: T. Rancati (Italy) Chair: M. Bogowicz (Switzerland)	
10:00	A pooling method for feature selection of quantitative imaging analysis: survival analysis in glioma <u>Z. Shi</u> , C. Zhang, I. Compter, M. Verduin, A. Hoeben, D. Eekers, A. Dekker, L. Wee (The Netherlands)	PD-0540
10:05	Transfer learning for automatic sarcopenia evaluation at T12 vertebral level <u>D. McSweeney</u> , A. Green, P.A. Bromiley, M. Van Herk, W. Mansoor, J. Weaver, A. McWilliam (United Kingdom)	PD-0541
10:10	External validation of individual nodal failure prediction models including radiomics in HNC <u>T. Zhai</u> , F. Wesseling, J. Langendijk, Z. Shi, P. Kalendralis, L. Van Dijk, F. Hoebers, R. Steenbakkers, A. Dekker, L. Wee, N. Sijtsema (China)	PD-0542

10:15	An externally validated prognostic CT radiomics model for head & neck cancer patients <u>S. Keek</u> , S. Sanduleanu, H.C. Woodruff, F. Wesseling, D. Mattavelli, M. Ravanelli, T.K. Hoffman, K. Scheckenbach, C.R. Leemans, P. De Graaf, C. Terhaard, J. Van de Kamer, M. Van der Heijden, G. Calareso, E.S. Gazzani, L. Licitra, F. Hoebers, T. Poli, P. Lambin (The Netherlands)	PD-0543
10:20	Validation of a multi-endpoint risk model for clinical outcome in head-and-neck cancer <u>K. Håkansson</u> , J. Kjems, J.H. Rasmussen, L. Specht, J. Friberg, I.R. Vogelius (Denmark)	PD-0544
10:25	Validation of a predictive model for salivary dysfunction during chemo-IMRT for head-neck cancer <u>A. Cavallo</u> , T. Rancati, N.A. Iacovelli, N. Facchinetti, S. Alfieri, S. Cavalieri, T. Giandini, A. Cicchetti, R. Ingargiola, D.A. Romanello, S. Di Biaso, M. Sabetti, C. Fallai, L. Licitra, L. Locati, E. Pignoli, R. Valdagni, E. Orlandi (Italy)	PD-0545

Physics track

Poster discussion: PH: Implementation of new techniques 2

10:00 - 10:30

The Village: Poster Discussion Station 3

Chair: B. McClean (Ireland)

Chair: A. Kuchcinska (Poland)

10:00	Ten years critical re-evaluation of a Failure mode effect analysis in a radiotherapy department <u>P. Mancosu</u> , C. Signori, E. Clerici, T. Comito, F. De Rose, S. Ferrante, M. Ferrara, C. Galdieri, C. Iftode, P. Navarria, A. Stravato, M. Scorsetti (Italy)	PD-0546
	National EndtoEnd (E2E) dosimetry intercomparison for lung stereotactic radiosurgery in Switzerland <i>Abstract withdrawn</i>	PD-0547

10:05	Quantitative Analysis of SCOPE 2 Trial 4DCT pre-accrual benchmark cases <u>J. Kahan</u> , R. Carrington, S. Cox, G.J. Lewis, S. Gwynne (United Kingdom)	PD-0548
10:10	Improving radiotherapy accuracy with EPID in-vivo dosimetry: results from a multicentric study. <u>M. Esposito</u> , A. Piermattei, S. Bresciani, L.C. Orlandini, M.D. Falco, S. Giancaterino, C. Savino, A. Ianiro, R. Nigro, L. Botez, S. Riccardi, A. Fidanzio, F. Greco, E. Villaggi, S. Russo, M. Stasi (Italy)	PD-0549
	Esophageal tumor identification by deep learning on treatment planning CT images <i>Abstract withdrawn</i>	PD-0550
10:15	Experimental investigation of magnetically focused proton minibeam A. Teran, G. McAuley, J. Slater, <u>A. Wroe</u> (USA)	PD-0551

Physics track

Poster discussion: PH: Adaptive radiotherapy and inter-fraction motion management 2

10:00 - 10:30 The Village: Poster Discussion Station 4

	Chair: S. Klüter (Germany)	
	Chair: M. Fast (The Netherlands)	
10:00	Validation of an average anatomy model based on deformable image registration for lung cancer <u>G. Lim</u> , S. Van Kranen, J. Sonke, P. Remeijer (The Netherlands)	PD-0552
10:05	Efficient adaptive RT using CBCT-based dose recalculation for head and neck cancer patients <u>G. Wortel</u> , S. Van Beek, C. Carbaat, S. Van Kranen, R. Van der Bel, K. Kiers, O. Hamming-Vrieze, E. Damen, P. Remeijer, T. Janssen (The Netherlands)	PD-0553

10:10	CTV-to-PTV margin assessment for esophageal cancer radiotherapy based on accumulated dose analysis <u>M. Boekhoff</u> , I. Defize, A. Kotte, N. Takahashi, J. Lagendijk, S. Mook, G. Meijer (The Netherlands)	PD-0554
10:15	Dose-Dependent Splenic Volume Changes during Adrenal Adaptive Stereotactic Ablative Radiotherapy H. Chen, O. Bohoudi, J. Van Sornsen de Koste, F. Spoelstra, B. Slotman, <u>M. Palacios</u> , S. Senan (The Netherlands)	PD-0555
10:20	Using multiple planning scans to predict organ shape variability during RT for prostate cancer <u>K. Furmanová</u> , R.G. Raidou, N. Grossmann, O. Casares-Magaz, V. Moiseenko, J.P. Einck, L.P. Muren (Denmark)	PD-0556
10:25	Biomechanical quality assurance criteria for deformable registration in image guided radiotherapy <u>C. Zachiu</u> , B. Denis de Senneville, M. Ries, B.W. Raaymakers (The Netherlands)	PD-0557

Interdisciplinary track

Proffered Papers: Proffered papers 27: Novel technologies

10:30 - 11:30	Strauss 1
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	Chair: A. Chalmers (United Kingdom) Chair: N. Fourati (Tunisia)	
10:30	The brain penetrant ATM inhibitor, AZD1390, protects neural stem cells from radiation. <u>D. Walker</u> , R. Gutierrez-Quintana, N. Gomez-Roman, K. Williams, S.T. Durant, A.J. Chalmers (United Kingdom)	OC-0558
10:40	Predictors of Failures following Chimeric Antigen Receptor T-cell (CAR T) Therapy <u>N. Figura</u> , M. Jain, A. Sim, E. Dean, Y. Balagurunathan, J. Chavez, B. Shah, F. Khimani, A. Lazaryan, M. Davila, H. Liu, S. Kim, F. Locke, T. Robinson (USA)	OC-0559

10:50	RT-activated hafnium oxide nanoparticles in cisplatin-ineligible locally advanced HNSCC patients <u>C. Le Tourneau</u> , V. Calugaru, E. Borcoman, V. Moreno, E. Calvo, X. Liem, S. Salas, B. Doger, T. Jouffroy, X. Mirabel, J. Rodriguez, A. Chilles, K. Bernois, M. De Rink, N. Fafhry, S. Wong Hee Kam, C. Hoffmann (France)	OC-0560
11:00	Nano-Rad first in man study: AGuIX nanoparticles as radiosensitizing agent for radiotherapy <u>C. Verry</u> , S. Dufort, G. Le Duc, C. Mendoza, F. Lux, J. Arnaud, L. Sancey, A. Adolle, M. Gavard, F. Jover, S. Grand, C. Iriart, J. Villa, J. Balosso, O. Tillement (France)	OC-0561
11:10	Exploiting tumor DNA repair status and hypoxia with CP-506, a novel hypoxia-activated prodrug <u>A. Van der Wiel</u> , D. Marcus, R. Niemans, A. Yaromina, J. Theys, A. Mowday, A. Ashoorzadeh, R. Anderson, M. Bull, M. Abbattista, A. Heyerick, C. Guise, J. Smaill, A. Patterson, L. Dubois, P. Lambin (The Netherlands)	OC-0562
11:20	Hypoxia suppresses radiation-induced tumor immunogenicity in 3D breast cancer models <u>S. Gruber</u> , M. Charpentier, E. Wennerberg, S. Van Nest, S. Demaria (Austria)	OC-0563

Clinical track

Proffered Papers: Proffered papers 28 : Gynaecology

10:30 - 11:30	Plenary
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	Chair: G. Macchia (Italy) Chair: L. Deantonio (Switzerland)	
10:30	Randomized trial: Surgical versus clinical staging in cervical cancer patients: Uterus-11-Trial <u>S. Marnitz</u> , A. Tsunoda, P. Martus, R. Affonso, V. Budach, J. Sehouli, H. Hertel, A. Schneider, A. Mustea, C. Köhler (Germany)	OC-0564

10:40	Modulated electro-hyperthermia improves two year survival in HIV+/- cervical cancer patients <u>C. Minnaar</u> , J.A. Kotzen, M. Vangu, A. Baeyens (South Africa)	OC-0565
10:50	Risk factors for nodal failure in the EMBRACE study cohort <u>M. Peters</u> , A.A.C. De Leeuw, R. Pötter, C.N. Nomden, K. Tanderup, K. Kirchheiner, M.P. Schmid, I. Fortin, C. Haie-Meder, J.C. Lindegaard, A. Sturdza, U. Mahantshetty, P. Hoskin, B. Segedin, K. Bruheim, B. Rai, F. Huang, R. Cooper, E. Van der Steen-Banasik, E. Van Limbergen, R. Nout, I. Jürgenliemk-Schulz (The Netherlands)	OC-0566
11:00	T2 and Apparent Diffusion Coefficient MRI for Cervical cancer delineation: agreement between volumes <u>C. Rosa</u> , L. Gasparini, F.C. Di Guglielmo, A. Delli Pizzi, B. Seccia, R. Cianci, R. Basilico, A. Augurio, L.A. Ursini, A. Porreca, M. Di Nicola, L. Caravatta, D. Genovesi (Italy)	OC-0567
11:10	The effect of external beam radiotherapy on bowel motility in gynaecological cancer patients <u>J. Laan</u> , D. Barten, Z. Van Kesteren, B. Pieters, A. Bel, H. Westerveld (The Netherlands)	OC-0568
11:20	Incidence of severe gastrointestinal and urinary fistulas, bleeding and strictures: EMBRACE results <u>A.S. Vittrup</u> , K. Kirchheiner, K. Tanderup, N.B.K. Jensen, S. Spampinato, L.U. Fokdal, C. Kirisits, C. Haie-Meder, J.C. Lindegaard, M. Schmid, A. Sturdza, U. Mahantshetty, I.M. Jürgenliemk-Schulz, P. Hoskin, B. Segedin, K. Bruheim, B. Rai, E. Wiebe, E. Van der Steen-Banasik, R. Cooper, E. Van Limbergen, M. Sundset, B.R. Pieters, R. Nout, R. Pötter (Denmark)	OC-0569

Clinical track

Proffered Papers: Proffered papers 29: Head and neck

10:30 - 11:30

Lehar 1-2-3

	Chair: J.G. Eriksen (Denmark) Chair: K. Tsamasioti (Greece)	
10:30	Validating gene signatures in locally advanced HNSCC patients treated by PORT-C and in xenografts <u>S. Patil</u> , A. Linge, B. Tawk, K. Gurtner, M. Großer, F. Lohaus, V. Gudziol, A. Nowak, I. Tinhofer, V. Budach, M. Stuschke, P. Balermpas, C. Rödel, H. Schäfer, A. Grosu, A. Abdollahi, J. Debus, C. Belka, S.E. Combs, D. Mönnich, D. Zips, G.B. Baretton, M. Krause, M. Baumann, S. Löck (Germany)	OC-0570
10:40	Clinical Impact of Adaptive Radiotherapy in Head and neck Cancer – A Randomized controlled trial <u>D. Patel</u> , H. Vyas, S. Vangipuram, R. Purohit, K. Chigurupalli, S. Peter, A. Vashistha (India)	OC-0571
10:50	Treatment outcome of 207 patients with adenoid cystic carcinoma of the major salivary glands. <u>S. Akbaba</u> , T. Bostel, J. Hoerner-Rieber, N. Nicolay, T. Forster, T. Held, K. Lang, S. Adeberg, J. Debus (Germany)	OC-0572
11:00	Improvement in late dysphagia following clinical target volume reduction in the De-ESCALaTE study <u>C.T.K. Fong</u> , P. Mistry, T. Roques, M. Evans, H.Q. Yang, L. O'Toole, P. Sanghera, C. Nutting, B. Foran, M. Sen, H. Al Booz, T. Fulton-Lieuw, M. Dalby, J. Dunn, A. Hartley, H. Mehanna (United Kingdom)	OC-0573
11:10	Experience with Dutch National Indication Protocol_v1 model-based selection of proton therapy in HNC <u>M. Tambas</u> , J.G.M. Van den Hoek, R.G.J. Kierkels, D. Scandurra, A. Wolters, D. Mulder, E. Oldehinkel, T.W.H. Meijer, S. Both, R.J.H.M. Steenbakkers, J.A. Langendijk (The Netherlands)	OC-0574

11:20	Type 4 validation of dysphagia NTCP model for selection of HNC patients to the RCT, DAHANCA35	OC-0575
	<u>C.R. Hansen</u> , L. Van den Bosch, H.P. Van der Laan, J. Friborg, K. Jensen, E. Samsøe, L. Johnsen, R. Zukauskaite, C. Grau, C. Maare, J. Johansen, H. Primdahl, Å. Bratland, C.A. Kristensen, M. Andersen, J.G. Eriksen, J.A. Langendijk, J. Overgaard, A. Van der Schaaf (Denmark)	

Physics track

Proffered Papers: Proffered papers 30 - Protons and ions

10:30 - 11:30	Schubert 4-5-6
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10:30	Chair: H. Nyström (Sweden) Chair: C. Gomà (Belgium)	
10:30	Timepix for characterization of mixed radiation field produced in proton radiotherapy	OC-0576
	<u>P. Stasica</u> , J. Baran, J. Gajewski, C. Granja, C. Oancea, M. Pawlik-Niedźwiecka, M. Rydygier, A. Schavi, A. Ruciński (Poland)	
10:40	Impact of beamline-specific particle energy spectra on clinical plans in carbon ion beam therapy	OC-0577
	<u>A. Resch</u> , N. Lackner, T. Niessen, S. Engdahl, A. Elia, D. Boersma, L. Grevillot, H. Fuchs, G. Kragl, L. Glimelius, D. Georg, M. Stock, A. Carlino (Austria)	
10:50	Ultrasound-guided PBS proton beam tracking in lung using a statistical motion model	OC-0578
	<u>M. Krieger</u> , A. Giger, A. Duetschler, C. Jud, P.C. Cattin, R.V. Salomir, O. Bieri, D.C. Weber, A.J. Lomax, Y. Zhang (Switzerland)	
11:00	First clinical experience with proton therapy for HN cancer according to model-based selections	OC-0579
	F. Hoebers, M. Unipan, <u>R. Emmah</u> , F. Wesseling, I. Compter, P. Van den Ende, J. Schiffelers, C. Stultiens, J. Mannens, J. Van der Stoep, K. Van der Klugt, F. Visser, R. Wanders, K. Limpens, M. Pijls, M. Velders, E. Backx,	

	G. Vilches-Freixas, I. Rinaldi, G. Bosmans, L. Boersma (The Netherlands)	
11:10	Bringing FLASH to the clinic: treatment planning considerations for ultrahigh dose-rate proton beams <u>P. Van Marlen</u> , M. Dahele, M. Folkerts, E. Abel, B. Slotman, W. Verbakel (The Netherlands)	OC-0580
11:20	FLEPAC: A FLASH therapy treatment planning system for electrons, protons, Helium and Carbon ions. <u>F. Van den Heuvel</u> , J. Ruan, F. Fiorini, A. Vella, M. Brooke, A. Kiltie, A. Ryan, B. Vojnovic, M. Hill (United Kingdom)	OC-0581

Physics track

Proffered Papers: Proffered papers 31: Quantitative imaging and radiomics

10:30 - 11:30 Strauss 3

	Chair: K. Røe Redalen (Norway) Chair: D. Cusumano (Italy)	
10:30	Dosimetric stability of high FDG-uptake volumes during dose escalated RT of NSCLC <u>D. Sloth Møller</u> , C.M. Lutz, A. Haraldsen, A.A. Khalil, M.M. Knap, L. Hoffmann (Denmark)	OC-0582
10:40	Time evolution of the hypoxic compartment on sequential FMISO PET images <u>M. Lazzeroni</u> , A. Ureba, F. Schiavo, N. Wiedenmann, N.H. Nicolay, M. Mix, B. Thomann, D. Baltas, I. Toma-Dasu, A.L. Grosu (Sweden)	OC-0583
10:50	Intratumoral prediction of dynamic FMISO-PET information by machine learning of multi-parametric MRI <u>R. Winter</u> (awardee), S. Leibfarth, S. Boeke, M. Krueger, P. Mena-Romano, E. Cumhur Sezgin, G. Bowden, J. Cotton, B. Pichler, D. Zips, D. Thorwarth (Norway)	OC-0584

11:00	Quantitative imaging performance of MARS spectral photon-counting CT for radiotherapy <u>M. Simard</u> , R. Kumar Panta, H. Prebble, A.P.H. Butler, P.H. Butler, H. Bouchard (Canada)	OC-0585
11:10	Can MRI predict pathologic response after single dose neoadjuvant partial breast irradiation? J. Vasmel, <u>M. Groot Koerkamp</u> , R. Charaghvandi, C. Vreuls, P. Van Diest, A. Witkamp, R. Koelemij, A. Doeksen, T. Van Dalen, E. Van der Wall, J. Wijnen, B. Van der Velden, M. Moman, W. Veldhuis, M. Philippens, S. Mandija, J. Lagendijk, H. Verkooijen, A. Houweling, D. Van den Bongard (The Netherlands)	OC-0586
11:20	Prospective Validation of a Radiomics Signature for Chemoradiotherapy Lung Cancer Patients <u>S. Walsh</u> , R. Leijenaar, B. Miraglio, S. Barakat, F. Zerka, A. Vaidyanathan, P. Lambin (Belgium)	OC-0587

RTT track

Proffered Papers: Proffered papers 32: Innovations in RTT practice and complex decision making

10:30 - 11:30		Strauss 2
	Chair: L. Devlin (United Kingdom) Chair: L. Capone (Italy)	
10:30	The role of the Consultant Neuro-Oncology Radiographer in the peer review session for brain tumours <u>A. Williamson</u> , S. Nowicki, A. James, A. Chalmers, R. Carruthers, A. Duffton (United Kingdom)	OC-0588
10:40	Concordance of Advanced Practitioner RT and Radiation Oncologists in reviewing NPC patients <u>Y. Sin Sze</u> , X. Lin, K. Sommat, M.L.K. Chua, Y.L. Soong (Singapore)	OC-0589

10:50	Multicentre dual-trial implementation of plan of the day (PoD) adaptive radiotherapy: lessons learnt <u>A. Webster</u> , H. McNair, V.N. Hansen, S. Hafeez, R. Lewis, C. Griffin, E. Hall, R. Huddart (United Kingdom)	OC-0590
11:00	Achieving expert consensus for IGRT training and assessment for radiation therapists: A Delphi <u>T. Barnes</u> , S. Palmer (United Kingdom)	OC-0591
11:10	Implementation of MR-only one-day radiosurgery workflow for non-spinal bone metastases on MR-Linac <u>M. Chamberlain</u> , S. Tanadini-Lang, L. Wilke, A. Moreira, N. Weitkamp, S. Ehrbar, N. Andratschke, M. Guckenberger, H. Garcia Schüler (Switzerland)	OC-0592
11:20	Alexithymia, empathy and burn-out amongst RTTs: results from the PRO BONO survey <u>P. Franco</u> , V. Tesio, J. Bertholet, A. Gasnier, E. Gonzalez del Portillo, M. Spalek, J. Bibault, G. Borst, W. Van Elmpt, D. Thorwarth, L. Mullaney, K. Roe Redalen, L. Dubois, M. Bittner, C. Chargari, S. Perryck, J. Heukelom, S. Petit, M. Lybeer, L. Castelli (Italy)	OC-0593

Young track

Symposium: Communication in professional life / how to communicate within the team

10:30 - 11:30 Stolz 1-2

	Chair: I. Ratosa (Slovenia) Co-chair: M. Hiul Suppli (Denmark)	
10:30	Survival in a competitive learning environment: how to communicate better <u>P. Gulbrandsen</u> (Norway)	SP-0594
11:20	Discussion	

Clinical track

Poster Highlights: Poster highlights 19 CL : Breast

10:30 - 11:30

Poster Area 1

	Chair: Y. Belkacemi (France) Chair: E. Bonzano (Italy)	
10:30	Cardiovascular sequelae after adjuvant therapy in a 10-year cohort of breast cancer patients. <u>Z. Li</u> , A. Satchithanandha, A. Hopkins, J. Otton, J. Descallar, D. Adams, S. Tang, M. Field, V. Batumalai, L. Holloway, G. Delaney, E. Koh (Australia)	PH-0595
10:38	Whole breast irradiation in comparison to endocrine therapy in early stage breast cancer J. Haussmann, W. Budach, S. Corradini, B. Tamaskovics, <u>E. Boelke</u> , F. Djiepmo-Njanang, K. Kammers, C. Matuschek (Germany)	PH-0596
10:46	Radiation and/or endocrine therapy? Recurrence outcomes in low-risk breast cancer patients over 70 <u>H. Dahn</u> , D. Wilke, G. Walsh, J. Pignol (Canada)	PH-0597
10:54	Normo versus hypofractionated whole breast irradiation: Are real life data what we expect? S. Guihard, C. Petit, J.B. Clavier, L. Jung, S. Servagi Vernat, S. Bellefquih, A. Ruffier, G. Brusadin, E. Remi, <u>S. Rivera</u> (France)	PH-0598
11:02	Body image after breast cancer treatment and determinants associated with impaired body image <u>M. Batenburg</u> , L.E. Van Stam, R. Gal, I. Van Dam, A. Doeksen, T. Van Dalen, E.J.P. Schoenmaeckers, R.M. Bijlsma, A. Witkamp, M. Sier, D.H.J.G. Van den Bongard, H.M. Verkooijen (The Netherlands)	PH-0599
11:10	Distribution patterns of lymphatic metastases: influence of axillary lymph node dissection <u>C.A.M. Schleibinger</u> , K.J. Borm, J. Voppichler, M. Düsberg, M. Oechsner, S.E. Combs, M. Duma (Germany)	PH-0600

10:18	Dosimetric Parameters Associated with Esophagitis in Regional Nodal Irradiation for Breast Cancer <u>J. Bazan</u> , K. Kuhn, E. Healy, S. Jhawar, S. Beyer, D. DiCostanzo, J. White (USA)	PH-0601
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Physics track

Poster Highlights: Poster highlights 20 PH: Auto-contouring using deep learning

10:30 - 11:30	Poster Area 2
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	Chair: C. Robert (France) Chair: C. Brouwer (The Netherlands)	
10:30	Dosimetric impact of central OAR review on rectal and bladder constraint attainment in PACE-B trial <u>D. Brand</u> , A. Tree, K. Fernandez, O. Naismith, S. Brueningk, E. Hall, S. Gulliford, N. Van As, X. On behalf of the PACE Trial Management Group (United Kingdom)	PH-0602
10:38	Deep learning delineation of GTV for head and neck cancer with multi-modality imaging <u>J. Ren</u> , J. Nijkamp, J.G. Eriksen, S.S. Korreman (Denmark)	PH-0603
	The impact of training sample size on deep learning based organ auto segmentation for head neck <i>Abstract withdrawn</i>	PH-0604
10:46	External validation of deep learning-based contouring of head and neck organs at risk <u>E. Brunnenberg</u> , I. Steinseifer, S. Van den Bosch, H. Kaanders, C. Brouwer, R. Monshouwer (The Netherlands)	PH-0605
10:54	AutoConfidence: Per-patient validation for clinical confidence in deep learning for radiotherapy <u>M. Nix</u> , D. Bird, M. Tyryger, A. Appelt, L. Murray, H. McCallum, B. Al-Qaisieh, A. Gooya (United Kingdom)	PH-0606

11:02	Investigating the potential of deep learning for quality assurance of organ-at-risk contours <u>H. Nijhuis</u> , W. Van Rooij, V. Gregoire, J. Overgaard, B. Slotman, W. Verbakel, M. Dahele (The Netherlands)	PH-0607
11:10	Identifying systematic edits in the clinical use of Deep Learning Contours <u>J. Mateo</u> , P. Aljabar, C. Brouwer, S. Both, M. Gooding, H. Langendijk (United Kingdom)	PH-0608

Interdisciplinary track

Plenary Session: Highlights of Proffered papers (late-breaking abstracts)

11:40 - 12:40	<hr/>	Plenary
	Chair: B. Slotman (The Netherlands) Chair: U. Ricardi (Italy)	
11:40	The PET-boost trial: isotoxic homogeneous or FDG-directed dose escalation in stage II-III NSCLC <u>S. Cooke</u> , D. De Ruysscher, B. Reymen, M. Lambrecht, G. Fredberg Persson, C. Faivre-Finn, E. Dieleman, R. Lewensohn, J. Van Diessen, K. Sikorska, F. Lalezari, J. Sonke, J. Belderbos (The Netherlands)	OC-0609
11:50	FAST-Forward phase 3 RCT of 1-week hypofractionated breast radiotherapy: 5-year results <u>A.M. Brunt</u> , J.S. Haviland, D.A. Wheatley, M.A. Sydenham, A. Alhasso, D. Bloomfield, C. Chan, M. Churn, S. Cleator, C.E. Coles, M. Emson, A. Goodman, A. Harnett, P. Hopwood, A.M. Kirby, C. Kirwan, C. Morris, Z. Nabi, E. Sawyer, N. Somaiah, L. Stones, I. Syndikus, M. Wilcox, J.M. Bliss, J.R. Yarnold (United Kingdom)	OC-0610
12:00	APBI with 3D-CRT vs. WBI: cosmetic and toxicity results of the prospective randomised IRMA trial <u>B. Meduri</u> , A. Baldissera, M. Stam, G. Blandino, L. Boersma, S. Parisi, M. Valli, E. Koiter, L. Frassinelli, S.	OC-0611

	Ciabatti, P. Giacobazzi, A.G. Morganti, R. D'amico, C. Iotti, F. Bertoni, P.M.P. Poortmans, G.P. Frezza (Italy)	
12:10	The FLAME trial: benefit of a focal boost for prostate cancer on biochemical disease-free survival <u>L.G.W. Kerkmeijer</u> , V.H. Groen, F.J. Pos, K. Haustermans, E.M. Monninkhof, R.J. Smeenk, M.C. Kunze-Busch, H.C.J. De Boer, J.R.N. Van Der Voort Van Zyp, M. Van Vulpen, C. Draulans, L. Van Den Bergh, S. Isebaert, U.A. Van Der Heide (The Netherlands)	OC-0612
12:20	Prostate Only or Pelvic Radiotherapy in High Risk Prostate Cancer: Outcomes of a Randomised Trial <u>V. Murthy</u> , P. Maitre, G. Panigrahi, D. Chaurasia, R. Krishnatry, R. Phurailatpam, G. Prakash, G. Bakshi, M. Pal, S. Menon, U. Mahantshetty (India)	OC-0613
12:30	Evidence-Based Hypofractionated Radiotherapy Uptake in Europe: An Explorative GIRO-HERO Analysis <u>C. Oliveira</u> , N. Defourny, C. Gasparotto, B. Tawk, D. Rodin, J.M. Borras, C. Grau, Y. Lievens (Canada)	OC-0614

Clinical track

Multidisciplinary Tumour Board: Paediatric oncology

11:40 - 12:40	Lehar 1-2-3
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Chair: R. Kortmann (Germany)
 Panelist: B. Diletto (Italy)
 Panelist: H. Boztug (Austria)
 Panelist: A. Hojreh (Austria)

Young track

Symposium: Young lunch symposium: Mentoring

12:45 - 14:15

Stolz 1-2

	Chair: V. Jendrossek (Germany) Co-chair: E. Rivin del Campo (France)	
12:45	Mentoring & Sponsorship in Radiation Oncology: Relational and Strategic Career Development. <u>C.D. Fuller</u> (USA)	SP-0615
13:15	Mentoring <u>K. Tanderup</u> (Denmark)	SP-0616

Interdisciplinary track

Symposium: Preventing radiation-induced toxicity in head and neck cancer patients

14:15 - 15:30

Strauss 1

The session will begin with an overview of the impact of radiation-induced toxicities on treatment outcomes in head and neck radiotherapy followed by a clinician's point of view on preventing these toxicities. Next, a presentation on automated treatment planning will explain its role in reducing toxicities and in selecting optimal treatment modality (photons vs. protons). The limitations of deriving NTCP models from organs at risk DVHs without considering differences in radiosensitivity of different regions of the organs will be made clear and possible solutions offered before concluding the session with a presentation of pertinent trials, strategies and audits on mucositis management.

	Chair: C. Chargari (France) Co-chair: G. Plavc (Slovenia)	
14:15	Clinical approaches to preventing toxicity in head and neck cancer patients <u>J. Kazmierska</u> (Poland)	SP-0617

14:33	Automated treatment planning for prevention of radiation-induced toxicity <u>M. Hoogeman</u> (The Netherlands)	SP-0618
14:51	Insight in sub-organ radiosensitivity profiles may improve prediction models of toxicity <u>G. Defraene</u> (Belgium)	SP-0619
15:09	Management of Radiation Toxicity in Head and Neck Cancers <u>M. Hickman</u> (United Kingdom)	SP-0620

Clinical track

Symposium: Multidisciplinary treatment of hepatocellular cancer

14:15 - 15:30	Plenary
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Over the past decade we witnessed an enormous evolution in the treatment of hepatocellular cancer. In this session the different treatment options will be discussed. Depending on the stage and the location of the disease these patients can be treated with either stereotactic body radiotherapy (SBRT) with photons or heavy ions or transcatheter arterial chemoembolization (TACE) or selective internal radiation therapy (SIRT). For more advanced stages the different systemic treatment options will also be addressed.

	Chair: K. Haustermans (Belgium) Co-chair: <i>TBC</i>	
14:15	The radiation oncologist's point of view <u>V. Vitolo</u> (Italy)	SP-0621
14:33	The medical oncologist's point of view <u>J. Dekervel</u> (Belgium)	SP-0622
14:51	The interventional radiologist's point of view <u>O. Van Delden</u> (The Netherlands)	SP-0623
15:09	The surgeon's point of view <u>C. Riediger, J. Weitz</u> (Germany)	SP-0624

Clinical track

Symposium: Novel approaches in the management of non-melanoma skin cancer

14:15 - 15:30

Lehar 1-2-3

Non-melanoma skin cancer is the most common cancer in the world, and radiotherapy plays an important role in the management of the disease. The discussion of international skin cancer experts will cover the most important issues and trends on this topic. Current roles of EBRT and BT with emphasis on the rising incidence of skin cancer in an aging population, as well as principles of imaging and planning will be explained. The experts will discuss postoperative – individualised – radiotherapy in skin cancer. Merkel cell carcinoma, an aggressive and immunogenic form of skin cancer, will also be covered as an oncologic emergency.

Chair: J. Widder (Austria)

Co-chair: M. Spalek (Poland)

14:15	Merkel cell carcinoma: an oncologic emergency <u>J. Kaanders</u> , E.M. Zwijnenburg, R.P. Takes, W.L.J. Weijs, J.E.M. Werner, C.M.L. Van Herpen, G.J. Adema, S.F.K. Lubeek (The Netherlands)	SP-0625
14:33	Surgery for NMSC <u>C. Ulrich</u> (Germany)	SP-0626
14:51	Radiotherapy for non-melanoma skin cancer in 21st century <u>A. Rembielak</u> , (United Kingdom)	SP-0627
15:09	What is our target after complex skin reconstruction? <u>K. Skladowski</u> (Poland)	SP-0628

Physics track

Debate: This house believes that there is no future for adaptive radiotherapy in EBRT without an MR-linac

14:15 - 15:30

Schubert 4-5-6

	Chair: B. Heijmen (The Netherlands) Co-chair: J. Edmund (Denmark)	
14:15	For the motion (there is no future for ART without an MR-linac) <u>U. Oelfke</u> (United Kingdom)	SP-0629
14:30	Against the motion (there is a future for ART without an MR-linac) <u>M. Scorsetti</u> (Italy)	SP-0630
14:45	For the motion rebuttal (there is no future for ART without an MR-linac) <u>C. Gani</u> (Germany)	SP-0631
15:00	Against the motion rebuttal (there is a future for ART without an MR-linac) <u>S. Korreman</u> (Denmark)	SP-0632
15:15	Discussion	

Physics track

Proffered Papers: Proffered papers 33.2: Dosimetry and QA

14:15 - 15:15

Strauss 3

	Chair: J. Schiphof-Godart (The Netherlands) Chair: K. Slosarek (Poland)	
14:15	The dose response of high-resolution diode detectors in magnetic field <u>T. Tekin</u> , B. Delfs, I. Büsing, A. Schönfeld, B. Poppe, H.K. Looe (Germany)	OC-0633
14:25	Correction for ion recombination in a built-in monitor chamber at ultra-high dose rates	OC-0634

	<u>E. Konradsson</u> , M. Lempart, B. Blad, C. Ceberg, K. Petersson (Sweden)	
14:35	ImageDosis: 2D real-time dosimetry system <u>L. De Freitas Nascimento</u> , D. Verellen, J. Goossens, F. Vanhavere, M. Akselrod (Belgium)	OC-0635
14:45	Highly spatially resolved 2D plastic scintillation detector system for small field real-time QA <u>P. Pittet</u> , J. Ribouton, P. Jalade, J. Esteves, F. Blanc, G. Haefeli, P. Hopchev, J. Galvan, G. Lu (France)	OC-0636
14:55	Identifying links between beam modeling accuracy and IROC phantom performance <u>M. Glenn</u> , R. Howell, J. Pollard-Larkin, C. Peterson, D. Followill, S. Kry (USA)	OC-0637
15:05	Multivariate log file analysis for MLC failure prediction <u>A. Wojtasik</u> , M. Bolt, C.H. Clark, A. Nisbet, T. Chen (United Kingdom)	OC-0638

RTT track

Symposium: Challenging cancers

14:15 - 15:30 Strauss 2

	Chair: M. Leech (Ireland) Co-chair: M. Buijs (The Netherlands)	
14:15	What is new in radiotherapy for soft tissue sarcoma? <u>A.R. Lopes Simões</u> (United Kingdom)	SP-0639
14:40	Challenges in Treating Older Adults with Cancer <u>A. O'donovan</u> (Ireland)	SP-0640
15:05	Video-assisted Immobilisation (VAR) of Children and Youths during external beam radiotherapy <u>N. Ritt</u> (Austria)	SP-0641

Young track

Symposium: How to become a department head

14:15 - 15:30

Stolz 1-2

	Chair: A. Gasnier (France) Co-chair: H. Hammami (Tunisia)	
14:30	How to become a department head - A medical physicist's perspective <u>P. Keall</u> (Australia)	SP-0642
14:45	How to become a department head - Clinical perspective <u>C. Marijnen</u> (The Netherlands)	SP-0643
15:00	How to become a department head - Clinical perspective <u>M. Guckenberger</u> (Switzerland)	SP-0644
15:15	How to become a department head - RTT perspective <u>I. Lobato</u> (Portugal)	SP-0645
15:30	How to become a department head - Radiobiology perspective <u>A. Chalmers</u> (United Kingdom)	SP-0646

Physics track

Poster Highlights: Poster highlights 21 PH: Predictive modelling

14:15 - 15:15

Poster Area 2

	Chair: K. Tanderup (Denmark) Chair: G. Palma (Italy)	
14:15	The effect of contouring variation on biochemical recurrence following prostate radiotherapy T. Soares Mullen, A. Jenkins, C. Johnson-Hart, A. Green, A. McWilliam, M. Aznar, M. Van Herk, <u>E.M. Vasquez Osorio</u> (United Kingdom)	PH-0647

14:23	Radiotherapy of prostate cancer:impact of treatment characteristics on the incidence of second tumor <u>S. Cammelli</u> , M. Ntreta, E. Scirocco, G. Macchia, F. Deodato, S. Bisello, G. Siepe, A.R. Alitto, S. Cilla, V. Valentini, A.G. Morganti, M. Buwenge (Italy)	PH-0648
14:31	Can we dose escalate in anal cancer without an increase in dose to OARs? <u>N. Abbott</u> , M. Robinson, J. Copeland, M. Harrison, M. Hawkins, R. Muirhead, R. Adams, D. Sebag-Montefiore (United Kingdom)	PH-0649
14:39	External validation of survival of lung cancer patients due to setup uncertainties towards the heart <u>C. Brink</u> , U. Bernchou, A. Bertelsen, O. Hansen, T. Schytte, L. Holloway, M. Van Herk, C. Johnson-Hart, G.J. Price, M.C. Aznar, A. McWilliam, C. Faivre-Finn, C. Hansen (Denmark)	PH-0650
14:47	Validating a hidden Markov model for lung anatomical change classification using EPID dosimetry <u>C. Wolfs</u> , N. Varfalvy, R. Canters, S. Nijsten, L. Archambault, F. Verhaegen (The Netherlands)	PH-0651
14:55	Standardization influences repeatability and prognostic value of radiomic features <u>I. Fornacon-wood</u> , J. O'Connor, C. Faivre-Finn, G. Price (United Kingdom)	PH-0652
15:03	Sacrum D30% >38.8Gy3 predicts for insufficiency fracture following pelvic chemo-radiotherapy <u>R. Mir</u> , A. Dragan, Y. Tsang, A. Padhani, P. Hoskin (United Kingdom)	PH-0653

Clinical track

Poster discussion: CL: Gynaecology

15:30 - 16:00

The Village: Poster Discussion Station 1

	Chair: I. Jürgenliemk-Schulz (The Netherlands) Chair: S. Curcean (Romania)	
15:30	The Correlation Between Linoleic Acid Metabolic Pathway and Nutritional Risk of Radiation Enteritis <u>C. Ma</u> , X. Xu, M. Zhang, X. He, S. Qin, J. Zhou (China)	PD-0654
15:35	Comprehensive analysis of patient outcome after local relapse of locally advanced cervical cancer <u>M. Fabien</u> , A. Schernberg, S. Gouy, A. Maulard, L. Alexandra, C. Genestie, A. Pierre, M. Kissel, I. Fumagalli, P. Pautier, E. Deutsch, C. Haie-Meder, P. Morice, C. Chargari (France)	PD-0655
15:40	A contouring atlas on MRI of emerging pelvic female organs at risk for daily practice radiotherapy <u>A. Allajbej</u> , F. Patani, L. Gasparini, F.C. Di Guglielmo, C. Bonfiglio, D. Fasciolo, C. Rosa, M. Trignani, A. Vinciguerra, L. Caravatta, M. Di Tommaso, R. Cianci, R. Basilico, A. Augurio, D. Genovesi (Italy)	PD-0656
15:45	Survival in optimally resected stage III endometrial cancer: adjuvant radiotherapy in the modern era <u>J.L. Chen</u> , C. Pan, Y. Liou, C. Kuo, Y. Huang (Taiwan)	PD-0657
15:50	Suboptimal dosimetric coverage of PET/CT hotspots is associated with recurrence for cervical cancer <u>F. Lucia</u> , D. Visvikis, V. Bourbonne, J. Bert, R. Abgral, G. Dissaux, O. Miranda, O. Pradier, M. Hatt, U. Schick (France)	PD-0658

15:55	Looking Beyond D90: Correlating EUBED, gBEUD with Outcome in Cervical Cancer Brachytherapy <u>D. Todor</u> , E. Fields, A. Allen, D. Batchelar, E. Brouillard, J. Ding, M. Kudla, F. Bachand, G. Hajdok, D. D'Souza (USA)	PD-0659
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Clinical track

Poster discussion: CL: Head and neck 2

15:30 - 16:00	The Village: Poster Discussion Station 2
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15:30	Chair: C. Rasch (The Netherlands) Chair: R. Zahu (Romania) Radical chemoradiation with IMRT-SIB for LAHNSCC: Preliminary outcome. <u>T. Basu</u> , B. Patineedi, H. Vyaas, P. Kendre, A. Karpe, N. Raut, I. Ambulkar, D. Nayek, S. Rao, S. Gawde, U. Saxena, S. Vangipuram, A. Kasat, K. Arrmugam (India)	PD-0660
15:35	Retropharyngeal Lymphadenopathy in Oropharyngeal Cancers:impact on distant metastasis and survival <u>Z. Iyizoba-Ebozue</u> , L. Murray, M. Arunsingh, K. Dyker, S. Vaidyanathan, A. Scarsbrook, R. Prestwich (United Kingdom)	PD-0661
15:40	Can PNI and BMI predict severe radiation induced toxicities in Head and Neck cancer? <u>G. Fanetti</u> , V. Lupato, J. Polesel, C. Gobitti, E. Minatel, F. Matrone, A. Revelant, A. Caroli, F. Elisabetta, V. Giacomarra, E. Vaccher, G. Franchin (Italy)	PD-0662
15:45	The trend of neutrophil-to-lymphocyte ratio as a predictor of prognosis to nasopharyngeal carcinoma <u>P. Yang</u> , Y. Zhao, A. Mohamed, H. Liang, C. Chen, Y. Xu, C. Nantavithya, D. Kannarunimit, Y. Shi, H. Wang, H. Jin (China)	PD-0663

15:50	Outcome and toxicity of RT in elderly HNSCC patients -experience from a large monocentric cohort <u>E. Haehl</u> , A. Rühle, H. David, T. Von Kalckreuth, T. Sprave, A. Knopf, A.L. Grosu, N.H. Nicolay (Germany)	PD-0664
15:55	Outcomes of head & neck paragangliomas treated with surgery, radiation therapy or close observation. <u>A. Mangaj</u> , S. Ghosh-Laskar, P. Pai, A. Budrukkar, D. Nair, M. Swain, N. Mummudi, S. Thiagranjan, N. Tiwari (India)	PD-0665

Clinical track

Poster discussion: CL: Prostate 2

15:30 - 16:00	The Village: Poster Discussion Station 3
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	Chair: B.A. Jereczek-Fossa (Italy) Chair: E. González Del Portillo (Spain)	
15:30	Prostate radiotherapy with Carbogen and Nicotinamide. Final results of the phase 1b/II PROCON trial <u>K. Yip</u> , P. Hoskin, N. Thiruthaneeswaran, R. Alonzi (United Kingdom)	PD-0666
15:35	Early analysis from two phase I trials on SBRT of isolated nodal recurrences in prostate patients <u>F. Deodato</u> , A. Re, A. Ianiro, M. Ferro, G. Macchia, V. Picardi, M. Boccardi, M. Buwenge, P. Assalone, F. Berardinelli, G. Maselli, S. Cammelli, M. Ferro, C. Romano, S. Mignogna, V. Valentini, A.G. Morganti, S. Cilla (Italy)	PD-0667
15:40	Longitudinal analysis of patient-reported urinary incontinence 2yr after post-prostatectomy RT E. Garibaldi, A. Bresolin, D. Cante, G. Sanguineti, F. Munoz, V. Vavassori, J.M. Waskiewicz, G. Girelli, B. Avuzzi, A. Faiella, E. Villa, A. Magli, B.N. Chiorda, P. Gabriele, M. Gatti, T. Rancati, R. Valdagni, N. Di Muzio, C. Fiorino, <u>C. Cozzarini</u> (Italy)	PD-0668

15:45	Uncovering multifocality – PSMA-PET radiomic features for detection of intraprostatic microlesions <u>A.S. Bettermann</u> , S. Spohn, S. Kiefer, C.A. Jilg, J. Kranz-Rudolph, T.F. Fassbender, P. Bronsert, N.H. Nicolay, M. Mix, J. Ruf, M. Benndorf, A.L. Grosu, C. Zamboglou (Germany)	PD-0669
15:50	Population outcomes of EBRT with LDR brachytherapy boost for intermediate, high-risk prostate cancer <u>J. Oh</u> , I. Spadiner, V. Lapointe, J. Morris (Canada)	PD-0670
15:55	Matched pair analysis of salvage radiotherapy vs observation for post-prostatectomy PSA recurrence <u>T. Wiegel</u> , D. Tilki, F. Preisser, R. Pompe, F. Chun, M. Graefen, H. Huland, A. Siegmann, D. Böhmer, V. Budach, R. Thamm, D. Bartkowiak (Germany)	PD-0671

RTT track

Poster discussion: RTT 2

15:30 - 16:00 The Village: Poster Discussion Station 4

Chair: M. Rossi (The Netherlands)

Chair: C. Dickie (Canada)

15:30	Effect of a vacuum mattress on bone & target intra-fraction motion during MR-guided lymph node SBRT <u>A.M. Werenstein-honingh</u> , P.S. Kroon, D. Winkel, C.G. Gadella-Van Hooijdonk, G.G. Sikkes, N.G.P.M. Vissers, W.S.C. Eppinga, M. Intven, B.W. Raaymakers, I.M. Jürgenliemk-Schulz (The Netherlands)	PD-0672
15:35	MRI vs CBCT image guidance when treating lymph nodes in patients with locally advanced (LA)-NSCLC <u>S. Brown</u> , M. Dubec, R. Chuter, C. Eccles, R. Hales, J. Parker, J. Rodgers, L. Whiteside, M. Van Herk, C. Faivre Finn, D. Cobben (United Kingdom)	PD-0673

15:40	The role of radiation therapists in the area of online and adaptive treatment on the MR Linac G. Sikkes, <u>E.N. De Groot - van Breugel</u> , N.G.P.M. Vissers, G.H. Bol, S.L. Hackett, P.S. Kroon, B. Van Asselen, I.M. Jürgenliemk-Schulz (The Netherlands)	PD-0674
15:45	Evaluation of transbronchial implanted fiducials for lung tumor tracking in Cyberknife <u>Y.Y. Chan</u> , K.M. Ku (Hong Kong (SAR) China)	PD-0675
15:50	A pilot study on evaluating the breast reproducibility of Chabner® XRT Radiation Bra using MRI <u>S.T. Chiu</u> , S.Y. Man, G. Chiu (Hong Kong (SAR) China)	PD-0676
15:55	Breath-hold versus free breathing in SBRT of adrenal metastases <u>M. Mast</u> , M. De Kuijer, J. Van Egmond, E. Kouwenhoven, D. Krist, H. Ceha (The Netherlands)	PD-0677

Interdisciplinary track

Award Lecture: K. Breur Award Lecture

16:00 - 16:20	Plenary
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16:00	Chair: U. Ricardi (Italy)	
16:05	Eternal mammary nodes <u>P. Poortmans</u> (Belgium)	SP-0678

Interdisciplinary track

Award Lecture: Donal Hollywood Award

16:20 - 16:40

Plenary

Chair: E. Gershkevitsh (Estonia)

- 16:20 **On-line MRI-based proton beam range verification: first experimental proof-of-concept** OC-0679
S. Schellhammer, S. Gantz, L. Karsch, E. Van der Kraaij, J. Smeets, A. Serra, J. Pawelke, A. Hoffmann (Germany)

Interdisciplinary track

Proffered Papers: Proffered papers 33.1: Image guided radiotherapy

16:45 - 17:45

Strauss 1

Chair: V. Valentini (Italy)

Chair: M.Y. Schlager (Austria)

- 16:45 **Risk factors for urinary incontinence in locally advanced cervix cancer: an EMBRACE analysis** OC-0680
S. Spampinato (awardee), L.U. Fokdal, R. Pötter, C. Haie-Meder, J.C. Lindegaard, M. Schmid, A. Sturdza, I. Jürgenliemk-Schulz, U. Mahantshetty, B. Segedin, P. Hoskin, K. Bruheim, B. Rai, F. Huang, R. Cooper, E. Van der Steen-Banasik, E. Van Limbergen, R. Nout, C. Kirisits, K. Kirchheiner, K. Tanderup (Denmark)
- 16:55 **Deep learning auto contouring of OAR for HN radiotherapy: a blinded evaluation by clinical experts** OC-0681
V. Grégoire, P. Blanchard, A. Allajbej, C. Petit, N. Milhade, F. Nguyen, S. Bakkar, G. Boulle, E. Romano, W. Zrafi, A. Lombard, E. Ullmann, N. Paragios, E. Deutsch, C. Robert (France)
- 17:05 **CBCT dose prior to radiotherapy causes up to 15 times more cell death than predicted** OC-0682

	<u>N. Suchowerska</u> , P. Kench, L. Rogers, A. Estaves, T. Gorjara, D. McKenzie (Australia)	
17:15	RTTs at the helm: moving towards RTT-led MR-guided radiotherapy <u>R. Hales</u> , J. Rodgers, L. Whiteside, G. Budgell, J. Berresford, A. Choudhury, C. Eccles (United Kingdom)	OC-0683
17:25	Stereotactic MR-Guided Adaptive Radiation Therapy for Inoperable Pancreatic Cancer <u>C. Hassanzadeh</u> , S. Rudra, L. Henke, H. Kim (USA)	OC-0684
17:35	MRI-linac-based head-and-neck radiotherapy: a new concept for optimal neck sparing <u>T. Van Heijst</u> , J. Mases, S.L. Meyer Viol, E. Brand, C.H.J. Terhaard, P.H. Doornaert, M.E.P. Philippens, C.P.J. Raaijmakers (The Netherlands)	OC-0685

Clinical track

Proffered Papers: Proffered papers 34: Particle therapy in CNS tumours

16:45 - 17:45	Plenary
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	Chair: P.M. Witt Nyström (Sweden) Chair: S. Habraken (The Netherlands)	
16:45	Quality of life and patient-reported outcomes after proton therapy for brain tumors in adults. <u>S. Kroeze</u> , P. Mackeprang, C. De Angelis, M. Walser, A. Pica, B. Bachtalary, U.L. Kliebsch, D.C. Weber (Switzerland)	OC-0686
16:55	RBE-dependence on LET and fractionation in the rat cervical spinal cord after oxygen ion irradiation <u>L. Hintz</u> , M. Saager, P. Peschke, S. Brons, J. Debus, C. Glowa, C.P. Karger (Germany)	OC-0687
17:05	Risk factors for late brain lesions in proton treated glioma patients: ventricular proximity and RBE <u>E. Bahn</u> , J. Bauer, S. Harrabi, K. Herfarth, J. Debus, M. Alber (Germany)	OC-0688

17:15	Shrinking-field concept spares the periventricular region in proton therapy of gliomas	OC-0689
	<u>J. Eulitz</u> , C. Hahn, F. Raschke, C. Karpowitz, W. Enghardt, E. Troost, M. Krause, A. Lühr (Germany)	
17:25	Dose-dependent changes in subcortical deep grey matter structures after cranial radiotherapy	OC-0690
	<u>S. Nagtegaal</u> , S. David, M. Philippens, A. Leemans, J. Verhoeff (The Netherlands)	
17:35	Cerebellar volume reduction after photon or proton radio(chemo)therapy of glioblastoma patients	OC-0691
	<u>F. Raschke</u> , A. Seidlitz, I. Platzek, B. Beuthien-Baumann, J. Van den Hoff, D. Krex, J. Kotzerke, C. Jentsch, M. Baumann, M. Krause, E. Troost (Germany)	

Clinical track

Proffered Papers: Proffered papers 35 : Late-breaking abstracts

16:45 - 17:45 Lehar 1-2-3

	Chair: F. Sedlmayer (Austria) Chair: L. Kepka (Poland)	
16:45	Phase 1 study of olaparib as radiosensitizer for locally advanced non-small cell lung cancer	OC-0692
	<u>R. De Haan</u> , J. Van Diessen, H.M.U. Peulen, E. Van Werkhoven, A.J. De Langen, F. Lalezari, C. Vens, J. Schellens, N. Steeghs, M.M. Van Den Heuvel, M. Verheij, B. Van Triest (The Netherlands)	
16:57	Involved-Field Irradiation in Definitive Chemoradiotherapy for Loco-Regional Esophageal Cancer	OC-0693
	<u>K. Zhao</u> , H. Zhu, E. Rivin Del Campo, C. Yun, J. Ye, Z. Zhu, W. Zhao, J. Zhou, C. Wu, H. Tang, F. Min, L. Li, Q. Lin, Y. Xia, J. Li (China)	
17:09	An ESTRO-ACROP Delphi consensus on salvage SBRT for intraprostatic relapse after PCa radiotherapy	OC-0694
	<u>B.A. Jereczek-Fossa</u> , G. Marvaso, M. Pepa, S.G.	

	Gugliandolo, D. Zerini, S. Gandini, A. Vavassori, B. De Bari, F. Alongi, V. Fonteyne, B. Pieters, P. Hoskin, A. Tree, A. Bossi, P. Cornford, A. Toledano, J. Hannoun-Levi, R. Miralbell, D. Fuller, M. Scorsetti, S. Arcangeli, L. Livi, G. Janoray, D. Pasquier, P. Ost (Italy)	
17:21	MRI-guided robotic needle insertion for prostate brachytherapy: proof of principle study in patients <u>M. Moerland</u> , A.L.H.M.W. Van Lier, L.J. Van Schelven, M.J. Van Son, M. Peters, E. Boskovic, R. Schokker, K.M. Van Vliet-Van Den Ende, S. Van Der Vegt, J. Verkerk, E. Beld, W.S.C. Eppinga, J.J.W. Lagendijk, J.R.N. Van Der Voort Van Zyp (The Netherlands)	OC-0695
17:33	Development of dose constraints to the brain areas implied in cognition: a prospective study <u>J. Jacob</u> , M. Ribeiro, M.A. Benadjaoud, C. Jenny, L. Feuvret, J. Simon, M. Bernier, D. Antoni, K. Hoang-Xuan, D. Psimaras, A. Carpentier, D. Ricard, P. Maingon (France)	OC-0696

Physics track

Proffered Papers: Proffered papers 36 - Managing uncertainties in proton therapy

	16:45 - 17:45	Schubert 4-5-6
16:45	<p>Chair: K. Parodi (Germany)</p> <p>Chair: F. Padilla Cabal (Austria)</p> Particle therapy: Assessing clinical benefit of direct stopping-power prediction from dual-energy CT <u>N. Peters</u> , P. Wohlfahrt, C. Hofmann, C. Möhler, S. Makocki, C. Richter (Germany)	OC-0697
16:55	First-in-man validation of CT-based stopping-power prediction using prompt-gamma range verification <u>J. Berthold</u> , C. Khamfongkhrua, A. Jost, J. Petzoldt, J. Thiele, T. Hölscher, P. Wohlfahrt, C. Hofmann, G. Pausch, G. Janssens, S. Julien, C. Richter (Germany)	OC-0698

17:05	Relative biological effectiveness in proton therapy: accounting for variability and uncertainties <u>J. Ödén</u> , K. Eriksson, E. Traneus, A. Dasu, P. Witt Nyström, I. Toma-Dasu (Sweden)	OC-0699
17:15	Accelerated robust IMPT optimization with sleeper scenarios <u>G. Buti</u> , K. Souris, A. Barragan Montero, J.A. Lee, E. Sterpin (Belgium)	OC-0700
17:25	Can we use the same planning strategies for diaphragm motion in IMPT as we use in VMAT? <u>S. Visser</u> , H. Neh, C. O. Ribeiro, E.W. Korevaar, A. Meijers, B. Poppe, S. Both, J.A. Langendijk, C.T. Muijs, A. Knopf (The Netherlands)	OC-0701
17:35	Is there a correlation between robustness and tumor control for skull base proton PBS treatments? <u>C. De Angelis</u> , F. Albertini, D.C. Weber, M. Walser, A. Lomax, A. Bolsi (Switzerland)	OC-0702

Physics track

Proffered Papers: Proffered papers 37: 4D and Adaptive RT

16:45 - 17:45		Strauss 3
	Chair: <i>TBC</i>	
	Chair: <i>TBC</i>	
16:45	Patterns of practice for adaptive and real-time radiation therapy: part I intra-fraction motion <u>G. Distefano</u> , J. Bertholet, P. Poulsen, T. Roggen, C. Garibaldi, N. Tilly, J. Booth, U. Oelfke, B. Heijmen, M. Aznar (United Kingdom)	OC-0703
16:55	Six degrees of freedom dynamic motion-including dose reconstruction in a treatment planning system <u>S. Skouboe</u> , R. De Roover, C.G. Muurholm, W. Crijns, T. Ravkilde, R. Hansen, T. Depuydt, P.R. Poulsen (Denmark)	OC-0704

17:05	Dose restoration: an online adaptive strategy to fight against range uncertainties in proton therapy <u>E. Borderías</u> , X. Geets, E. Sterpin (Belgium)	OC-0705
17:15	First MRI-guided MLC-tracking using a deformable motion phantom <u>P. Borman</u> , P. Woodhead, M. Perrin, E. Barberi, J. Lagendijk, B. Raaymakers, M. Fast (The Netherlands)	OC-0706
17:25	A physiological 4D deformable phantom with complex motion profiles for MR and CT guided RT QA <u>M. Perrin</u> , N. Hartman, K.I. Penev, J. Dietrich, P.T.S. Borman, C. Zachiu, M.F. Fast, E. Barberi (Canada)	OC-0707
17:35	Development of an anthropomorphic multimodal abdominal 4D Phantom for MR-guided Radiotherapy <u>A. Weidner</u> , T. Buening, A. Runz, G. Echner (Germany)	OC-0708

RTT track

Proffered Papers: Proffered papers 38: Current status of MR guided RT

16:45 - 17:45	Strauss 2
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	Chair: M. Heinitz (Switzerland) Chair: <i>TBC</i>	
16:45	How to be efficient with online adaptation on a MR-linac <u>T. Janssen</u> , A. Betgen, L. Wiersema, R. Verhage, E. Van der Bijl, F. Pos, M. Donker, P. Remeijer, M. Nowee, U.A. Van der Heide (The Netherlands)	OC-0709
16:55	Initial clinical experience with the MR-Linac System – Treatment workflow management J. Day, A. Moreira, <u>C. Weber</u> , N. Weitkamp, L. Wilke, M. Guckenberger, H. Garcia Schüler, S. Tanadini-Lang, N. Andratschke (Switzerland)	OC-0710

17:05	Acute toxicity of MR-guided radiotherapy for prostate cancer at the 1.5 T MR-linac	OC-0711
	<u>P.K. Møller</u> , J. Gornitzka, U. Bernchou, L. Dysager, A.S. Bertelsen, C.J. Nyborg, T. Schytte (Denmark)	
17:15	Improvement of respiratory motion monitoring using SENSE and Compressed SENSE for MR-guided RT	OC-0712
	<u>Y. Ho</u> , O.L. Wong, J. Yuan, Y. Zhou, K.Y. Cheung, S.K. Yu (Hong Kong (SAR) China)	
17:25	MR-linac boosts for patients with cervix cancer ineligible for brachytherapy; preliminary experience	OC-0713
	<u>J. Hes</u> , A. Van Lier, A. De Leeuw, M. Den Hartogh, P. Kroon, E. De Groot-van Breugel, I. Jürgenliemk-Schulz (The Netherlands)	
17:35	Feasibility of online adaptive MR-guided radiotherapy for rectal cancer on a 1.5T MR-linac.	OC-0714
	<u>M. Intven</u> , S. De Mol van Otterloo, S. Mook, P. Doornaert, R. Tijssen (The Netherlands)	

Young track

Networking session : Young networking

16:45 - 17:45

Stolz 1-2

Physics track

Poster Highlights: Poster highlights 22 PH: Outcome modelling

16:15 - 16:45

Poster Area 2

	Chair: E. Bahn (Germany) Chair: I. Toma-Dasu (Sweden)	
16:45	External validation of ERITCP as response predictor in rectal cancer using MR-guided Radiotherapy <u>D. Cusumano</u> , L. Boldrini, P. Yadav, Y. Gao, G. Chiloiro, A. Piras, S. Broggi, J. Lenkowicz, L. Placidi, H. Musunuru, N. Dinapoli, B. Barbaro, L. Azario, M.A. Gambacorta, M. De Spirito, M. Basetti, Y. Yang, C. Fiorino, V. Valentini (Italy)	PH-0715
16:53	Radiomics pCR predictive model in rectal cancer: an intercontinental validation on real world data L. Boldrini, J. Lenkowicz, L.C. Orlandini, N. Dinapoli, G. Yin, D. Cusumano, C. Casà, Q. Peng, G. Chiloiro, M.A. Gambacorta, <u>J. Lang</u> , V. Valentini (China)	PH-0716
17:01	Locally Advanced Pancreatic Cancer: Robust Radiomic based model of outcome after radio-chemotherapy <u>M. Mori</u> , P. Passoni, E. Incerti, S. Broggi, G.M. Cattaneo, M. Reni, E. Spezi, N. Slim, E.G. Vanoli, V. Bettinardi, L. Gianolli, M. Picchio, N.G. Di Muzio, C. Fiorino (Italy)	PH-0717
17:09	Quantitative MRI in prognosticating clinical outcomes in carcinoma cervix treated with Radiotherapy <u>S. Mitra</u> , A. Jajodia, V.P.B. Koyyala, V. Mahawar, A. Dewan, S. Aggarwal, I. Singh Wah, S. Barik, K. Dobriyal, J. Mukhee, H. Khurana, R. Tripathy, A. Rao, A. Chaturvedi (India)	PH-0718
17:17	18F-FDG-PET/CT parameters as predictors of survival and response to nCRT in esophageal cancer <u>L. Marr</u> , T. Pyka, J.C. Peek, B. Haller, M. Jesinghaus, W. Weichert, W. Weber, S.E. Combs, S. Münch (Germany)	PH-0719

17:25	delta-radiomics based on MRI predicts response to concurrent chemoradiotherapy in esophageal cancer D. An, <u>B. Li</u> , Q. Cao, W. Yin (China)	PH-0720
17:33	Predicting overall survival in central NSCLC treated with SBRT: nomogram development and validation <u>M. Duijm</u> , E. Oomen - de Hoop, N. Van der Voort van Zyp, H. Tekatli, P. Van de Vaart, M. Hoogeman, S. Senan, J. Nuyttens (The Netherlands)	PH-0721

Tuesday
7 April
2020



Interdisciplinary track

Teaching Lecture: Spatially fractionated GRID radiotherapy - rationale and promise

08:30 - 09:10

Strauss 1

Chair: H. Lyng (Norway)

08:30 **Spatially fractionated GRID radiotherapy - rationale and promise** SP-0722
E. Malinen (Norway)

Interdisciplinary track

Teaching Lecture: Noninvasive cardiac radioablation for ventricular tachycardia

08:30 - 09:10

Stolz 1-2

Chair: N. Andratschke (Switzerland)

08:30 **Noninvasive cardiac radioablation for ventricular tachycardia** SP-0723
C. Robinson (USA)

Clinical track

Teaching Lecture: Is it safe to treat central lung lesions with SBRT?

08:30 - 09:10

Lehar 1-2-3

Chair: M. Hoyer (Denmark)

08:30 Is it safe to treat central lung lesions with SBRT? SP-0724
N. Haasbeek (The Netherlands)

Clinical track

Teaching Lecture: Sexual rehabilitation and management of sexual problems after treatment for pelvic cancer

08:30 - 09:10

Schubert 4-5-6

Chair: C. Verhoef (The Netherlands)

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|-------|--|---------|
| 08:30 | Sexual rehabilitation after treatment of gynecological cancer
<u>K. Kirchheimer</u> (Austria) | SP-0725 |
| 08:50 | Sexual rehabilitation and management of erectile dysfunction after treatment for male pelvic cancer
<u>L. Incrocci</u> (The Netherlands) | SP-0726 |

Physics track

Teaching Lecture: Dosimetry and QA for MR-Linacs

08:30 - 09:10

Strauss 3

Chair: U. Oelfke (United Kingdom)

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| 08:30 | Dosimetry and QA for MR-Linacs | SP-0727 |
| | <u>B. Van Asselen, S.L. Hackett, S.J. Woodings, B.W. Raaymakers, J.W.H. Wolthaus (The Netherlands)</u> | |

Physics track

Teaching Lecture: Overview of micro/nanodosimetry and application to particle beams

08:30 - 09:10

Strauss 2

Chair: B. Reniers (Belgium)

08:30	Overview of micro/nanodosimetry and application to particle beams H. Palmans (Austria)	SP-0728
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RTT track

Teaching Lecture: Real time adaptive radiotherapy with MRlinac

08:30 - 09:10

Lehar 4

Chair: B. Wisgrill (Austria)

08:30 Real time adaptive RT with MR-linac SP-0729
A. Betgen (The Netherlands)

Interdisciplinary track

Symposium: The latest news on FLASH: ultra-high dose rate radiotherapy

09:15 - 10:30

Strauss 1

Chair: B.S. Sørensen (Denmark)

Co-chair: R. Jumeau (Switzerland)

09:15 **Regeneration of lung tissue after FLASH radiotherapy** SP-0730
C. Fouillade, M. Dutreix, V. Favaudon (France)

09:40	Physics treatment planning and delivery issues for FLASH Radiotherapy <u>W. Verbakel</u> (The Netherlands)	SP-0731
10:05	Towards clinical implementation of FLASH radiotherapy <u>M. Vozenin</u> (Switzerland)	SP-0732

Interdisciplinary track

Symposium: Dose accumulation and re-irradiation for thoracic malignancies

09:15 - 10:30

Stolz 1-2

Within this session the results of reirradiation, enhanced by hyperthermia and/or preceded by surgery, after locoregional recurrence of breast cancer as well as in case of radiation associated sarcoma will be highlighted. Additionally, the standard treatment of ipsilateral breast tumor recurrence, salvage mastectomy, will be compared with second breast-conserving surgery followed by multicatheter interstitial brachytherapy as reirradiation modality. The third speaker will focus on retreatment tolerance of thoracic normal tissues and will address the validity of the LQ model in hypofractionation and SBRT. Finally, treatment challenges as image registration, avoidance of the previous irradiated area and the complexity of dose summation will be discussed.

	Chair: B. Pieters (The Netherlands) Co-chair: M. Duijm (The Netherlands)	
09:15	Challenges and solutions for thoracic re-irradiation <u>G. Van Tienhoven</u> (The Netherlands)	SP-0733
09:33	Possibilities for second breast conserving treatment after a local recurrence <u>C. Polgár</u> (Hungary)	SP-0734
09:51	Thoracic normal tissue tolerance to re-irradiation <u>A. Van der Kogel</u> (USA)	SP-0735
10:09	Treatment planning challenges for re-irradiation in the thoracic region <u>E. Adams</u> (United Kingdom)	SP-0736

Clinical track

Symposium: Multimodal approaches to oligometastatic disease: state-of-the-art in NSCLC

09:15 - 10:30

Lehar 1-2-3

	Chair: C. Le Pechoux (France) Co-chair: A. Botticella (France)	
09:15	Systemic treatment for OM-NSCLC: which, when, how much? <u>W. Eberhard</u> (Germany)	SP-0737
09:33	Local ablative radiotherapy: targeting a selection or treating everything? <u>F. McDonald</u> (United Kingdom)	SP-0738
09:51	The role of interventional radiology in oligometastatic disease <u>L. Tselikas</u> (France)	SP-0739
10:09	Immunotherapy and SBRT in NSCLC: friends or enemies <u>E. Troost</u> (Germany)	SP-0740

Clinical track

Joint Debate: ESTRO-ESGO: This house believes that lymph node dissection can be omitted in FIGO stage IB1/2(<4 cm)iN1(imaging) cervical cancer

09:15 - 10:30

Schubert 4-5-6

	Chair: H. Westerveld (The Netherlands) Chair: P. Morice (France)	
09:15	For the motion <u>C. Chargari</u> (France)	SP-0741
09:33	Against the motion <u>A. Fagotti</u> (Italy)	SP-0742

09:51	For the motion rebuttal: Para-aortic lymph node sampling should always be performed in case of pelvic N+ disease <u>E. Van der Steen-Banasik</u> (The Netherlands)	SP-0743
10:09	Against the motion rebuttal: PA LN sampling should always be performed in case of pelvic N+ disease <u>S.K. Shrivastava</u> (awardee), S. Chopra Sastri, D. Borade (India)	SP-0744

Physics track

Symposium: Quo-vadis log file based QA for adaptive radiotherapy?

09:15 - 10:30	Strauss 3
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	Chair: D. Georg (Austria) Co-chair: T. Gauer (Germany)	
09:15	Log file based QA in practice – photon beam therapy <u>N. Papanikolaou, C. Kabat</u> (Usa)	SP-0745
09:40	Log file based QA in practice – proton beam therapy <u>F. Albertini</u> (Switzerland)	SP-0746
10:05	What log file based QA can do and what it cannot solve <u>M. Pasler</u> (Germany)	SP-0747

Physics track

Symposium: PBT planning: lessons learned

09:15 - 10:30	Strauss 2
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Chair: L.P. Muren (Denmark)
Co-chair: T. Jagt (The Netherlands)

09:15	The worst-case scenario survival guide: uncertainties in proton therapy. <u>M. Lowe</u> (United Kingdom)	SP-0748
09:40	A systematic, large-scale planning comparison for patient selection in proton therapy <u>S. Habraken</u> (The Netherlands)	SP-0749
10:05	Problems solved and open questions in clinical practice of proton treatment planning <u>M. Schwarz</u> (Italy)	SP-0750

RTT track

Symposium: Innovations in radiotherapy

09:15 - 10:30

Lehar 4

Innovations in Radiotherapy will start with a description of dosimetric properties and practical aspects of flexible materials for 3D printed bolus and how to produce efficient and more comfortable customized bolus for patients. The second talk will describe intraluminal BT for oesophageal cancer, describing how novel adaptors may solve problems occurring during treatment with currently used applicators. Concluding with surface-guided radiotherapy, its use and indication for motion management, positioning, gating and as a solution towards markerless RT positioning from CT to treatment delivery.

	Chair: M. Rossi (The Netherlands) Co-chair: M. Maspero (The Netherlands)	
09:15	3D bolus: practical aspects <u>S. Goncalves</u> (Portugal)	SP-0751
09:40	Endoscope-guidable Multichannel Applicator - An in-house development for endoluminal brachytherapy of the oesophageal cancer <u>B. Wisgrill</u> (Austria)	SP-0752
10:05	SGRT on 4D dynamic approach: facts and trends <u>F. Moura</u> (Portugal)	SP-0753

Interdisciplinary track

Symposium: Ultra hypofractionation for localised prostate cancer

11:00 - 12:15

Strauss 1

Ultrahypofractionation for the treatment of (localized) prostate cancer is emerging. In this session first the radiobiological base of (ultra)hypofractionation in prostate cancer will be highlighted. Then, different treatment modalities will be discussed in comparison to ultrahypofractionation, such as LDR and HDR brachytherapy, and special attention to previous and future trial design and outcome measures. After that an update of the clinical evidence of ultrahypofractionation for localized prostate cancer is provided, and if SBRT should be considered standard of care in 2020. To conclude, the physical aspect of SBRT will be discussed, with focus on the different (planning)techniques, constraints and set-up.

Chair: P. Blanchard (France)

Co-chair: K. De Vries (The Netherlands)

11:00	Is prostate cancer sensitive to large doses per fraction <u>M. Joiner</u> (USA)	SP-0754
11:18	Comparative effectiveness of different radiation techniques for localized prostate cancer. <u>C. Salembier</u> (Belgium)	SP-0755
11:36	Stereotactic body radiotherapy for localised prostate cancer – clinical evidence in 2020 <u>A. Tree</u> (United Kingdom)	SP-0756
11:54	Treatment planning and dose constraints for prostate SBRT <u>P. Mancosu</u> (Italy)	SP-0757

Interdisciplinary track

Joint Symposium: ESTRO-IASLC: Combined radiotherapy and immunotherapy in NSCLC

11:00 - 12:15

Stolz 1-2

	Chair: U. Ricardi (Italy)	
	Chair: G. Scagliotti (Italy)	
11:00	The immune microenvironment in lung cancer - impact on effect of combined radiotherapy and immunotherapy? <u>Å. Helland</u> (Norway)	SP-0758
11:18	Immunotherapy approaches to advanced lung cancer TBC	SP-0759
11:36	Immunotherapy and (chemo)radiotherapy in Stage III NSCLC <u>Y. Lievens</u> (Belgium)	SP-0760
11:54	Combining immunotherapy and thoracic radiotherapy in SCLC <u>S. Senan</u> (The Netherlands)	SP-0761

Clinical track

Symposium: Current status of radiotherapy for non-malignant disease outside the brain

11:00 - 12:15

Lehar 1-2-3

Radiotherapy is an attractive treatment option for non-malignant disease outside the brain but little attention is dedicated to this topic. Improvement in heart function can be achieved with stereotactic ablative radiotherapy in refractory ventricular tachycardia. Pain relief and decrease in anti-pain drug usage can be obtained with radiotherapy of painful inflammatory diseases. Functional in Dupuytren, Ledderhose or cosmetic impairments in keloids disease can be minimized with radiotherapy and if needed safely with re-irradiation. Therefore to bring up radiotherapy implementation in daily practice four excellent speakers will summarize the knowledge about this treatment which can significantly improve patient's quality of life.

Chair: D. Gabrys (Poland)

	Co-chair: A. Napieralska (Poland)	
11:00	Stereotactic ablative radiotherapy for refractory ventricular tachycardia <u>R. Jumeau</u> (Switzerland)	SP-0762
11:18	The role of radiotherapy in the management of painful inflammatory diseases <u>L. Miszczyk</u> , L. Tomasz, M. Miszczyk (Poland)	SP-0763
11:36	(Re-)Irradiation in Morbus Dupuytren and Ledderhose <u>R. Steenbakkers</u> (The Netherlands)	SP-0764
11:54	Brachytherapy in management of (recurrent) keloid <u>L. Tagliaferri</u> (Italy)	SP-0765

Clinical track

Joint Symposium: ESTRO-ESR: Online MR-guided radiotherapy - Where are we right now?

11:00 - 12:15	Schubert 4-5-6
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High precision radiation treatment, allowing for high doses to the tumor and maximum sparing of normal tissues is now approached by different technical options. MRI-Linacs are a breakthrough technology now available. This session will outline the advantages and challenges in MR guided treatment planning as well as the MR for treatment assessment. Radiation adaptation is a major advantage of this technology. Treatment of moving targets, dose escalation strategies, functional imaging adaptation and clinical implications for frequent tumor locations will be addressed in this symposium.

	Chair: P.C. Lara Jimenez (Spain) Co-chair: N. Lev-Cohain (Israel)	
11:00	The radiologist prospective <u>N. Lev-Cohain</u> (Israel)	SP-0766
11:18	Clinical indications - Rationale and strategies <u>M. Intven</u> (The Netherlands)	SP-0767
11:36	Motion-based treatment delivery <u>L. Boldrini</u> (Italy)	SP-0768

11:54 **Online MR-guided radiotherapy - Adaptation by size or function** SP-0769
S. Bhide (United Kingdom)

Physics track

Debate: This house believes that radiomics will improve predictive models in RT

11:00 - 12:15

Strauss 3

Chair: N. Jornet (Spain)

Co-chair: N. Dinapoli (Italy)

11:00	For the motion: <u>A. Dekker</u> (The Netherlands)	SP-0770
11:20	Against the motion <u>T. Rancati</u> (Italy)	SP-0771
11:40	For the motion (rebuttal) <u>A. Dekker</u> (The Netherlands)	SP-0772
11:50	Against the motion (rebuttal) <u>T. Rancati</u> (Italy)	SP-0773
12:00	Discussion	

Physics track

Symposium: Tumour tracking – is it worth the effort?

11:00 - 12:15

Strauss 2

This symposium will cover the different aspects of tumour tracking including quality assurance, imaging, delivery and assessment. Beginning with image registration algorithms and prediction models (Prof. Baroni). Followed by patient specific quality assurance methods and phantoms, along with discussion of accuracy metrics for markerless tracking (Dr. Hazelaar). The processes involved in markerless workflows from imaging to delivery and the influence of different motion management systems (Dr Skrobala) will be discussed. Finally clinical experience with tumour tracking, both with and

without markers, on the Vero gimbaled linac system will be shared (Prof. Bert).

	Chair: D. Verellen (Belgium) Co-chair: E. Colvill (Switzerland)	
11:00	Image registration algorithms and prediction models - overview and pitfalls <u>G. Baroni, C. Paganelli</u> (Italy)	SP-0774
11:18	How to QA tumor tracking in the clinic? Equipment and patient specific aspects <u>C. Hazelaar</u> (The Netherlands)	SP-0775
11:36	Workflow aspects for markerless tumor tracking - from imaging to delivery <u>A. Skrobala</u> (Poland)	SP-0776
11:54	Clinical experience with markerless tumor tracking <u>C. Bert</u> (Germany)	SP-0777

RTT track

Symposium: Particle Therapy - possibilities and limitations

11:00 - 12:15

Lehar 4

Particle Therapy treatments need not only to immobilize the patient, placing them in a stable and reproducible position, but changes in the particle range from target motion and physical uncertainties will also impact the dose distribution. In this symposium featured international speakers share their experience on these issues from an RTT perspective. They will address the demands of selecting positioning and immobilisation device as well as anxiety management for paediatric patients. Cover basic physics and the uncertainties to consider for treatment planning with particles in comparison to photons, review indication for motion mitigation and technical approaches to treat moving targets.

	Chair: A. Schouboe (Denmark) Co-chair: S. Pilskog (Norway)	
11:00	Positioning and immobilisation- challenges in particle therapy from a clinical perspective <u>P. Randers, M. Fuglsang Jensen, M. Giørtz, A. Schouboe, K. Seiersen, A. Vestergaard</u> (Denmark)	SP-0778

11:25	Treatment planning considerations in particle therapy <u>I. Kristensen</u> (Sweden)	SP-0779
11:50	Motion management: what are the differences between photon and proton therapy? <u>H. Hentschel</u> (Austria)	SP-0780

Interdisciplinary track

Debate: Closing debate: This house believes that radiotherapy is a curative treatment for systemic oligometastatic disease

12:20 - 13:20	Strauss 3
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	Chair: A. Chalmers (UK) Chair: B. Slotman (The Netherlands)	
12:20	For the motion <u>D. Palma</u> (Canada)	SP-0781
12:35	Against the motion <u>M. Guckenberger</u> (Switzerland)	SP-0782
12:50	For the motion (rebuttal) <u>A. Tree</u> (United Kingdom)	SP-0783
13:05	Against the motion (rebuttal) <i>TBC</i>	SP-0784

Interdisciplinary track

Plenary Session: Closing remarks

13:20 - 13:30

Strauss 3

U. Ricardi (Italy)

Posters



Clinical track

Poster: Clinical track: Head and Neck

Comparison of the intra-arterial and systemic chemoradiotherapy for gingival carcinoma	PO-0786
<u>Y. Mukai</u> , I. Koike, Y. Hayashi, M. Sugiura, T. Koizumi, K. Mitsudo, M. Hata (Japan)	
Outcome comparison between pT4/N1b papillary thyroid cancer (PTC) and rpT4/N1b PTC after adjuvant RT	PO-0787
<u>C. Kim</u> , N.K. Lee (Korea Republic of)	
Smell Protocol:Exclusive Interventional Radiotherapy in The Treatment of Nasal Vestibule Carcinomas	PO-0788
<u>V. Lancellotta</u> , L. Tagliaferri, E. De Corso, G.C. Passali, G.C. Mattiucci, M.A. Gambacorta, D. Rizzo, B. Fionda, F. Deodato, G. Di Cintio, A. Salvati, G. Paludetti, V. Valentini, J. Galli, F. Bussu (Italy)	
Utilising radiotherapy dose to guide 3D surgical reconstructions for mandibular osteoradionecrosis	PO-0789
<u>N. West</u> , N. Willis, J. Adams, M. Kennedy, S. Iqbal (United Kingdom)	
Single-fraction adjuvant electronic brachytherapy (e-BT) after resection of conjunctival carcinoma	PO-0790
S. Serpa, M. Buitrago, D. Ramirez, G.J. Sarria, P. Fuentes Rivera, F.A. Giordano, <u>G. Sarria</u> (Germany)	
Sexual health in HPV-related oropharyngeal cancer survivors after (chemo)radiotherapy	PO-0791
<u>G. Casswell</u> , K. Gough, A. Drowdowsky, M. Bressel, S. Shrestha, A. Coleman, D. Rischin, I. D'Costa, T. Fua, A. Tiong, C. Liu, B. Solomon, L. McDowell (Australia)	
Reproducibility of the Mixing Ability Test in patients with head and neck cancer	PO-0792
<u>J. Vermaire</u> , F.M. Weinberg, C.P.J. Raaijmakers, I.M. Verdonck-de Leeuw, C.H.J. Terhaard, C.M. Speksnijder (The Netherlands)	

Does delivered OAR dose improve prediction of late toxicity in head & neck cancer patients?	PO-0793
<u>D. Noble</u> , K. Harrison, L.E.A. Shelley, A.M. Bates, J.E. Bailey, M.Z. Wilson, M. Romanchikova, S.J. Thomas, A. Hoole, R. Jadon, G.C. Barnett, R.J. Benson, S.J. Jefferies, N.G. Burnet, R. Jena (United Kingdom)	
Induction chemotherapy followed by moderately accelerated IMRT in head and neck cancer patients	PO-0794
<u>A. Re</u> , S. Cilla, M. Ferro, A. Ianiro, G. Macchia, V. Picardi, M. Boccardi, S. Cammelli, C. Romano, D. D'Addario, M. Buwenge, S. Mignogna, M. Ferro, V. Valentini, G. Sallustio, A.G. Morganti, F. Deodato (Italy)	
Pre-chemoradiotherapy nutritional status affects treatment response and survival in HNSCC patients	PO-0795
<u>Y.M. Liou</u> , C. Kuo, Y. Lee, Y. Huang, C. Pan, J.L. Chen (Taiwan)	
Observational study of radiotherapy plus cetuximab in patients with LA-SCCHN: JROSG12-2	PO-0796
<u>Y. Ota</u> , T. Kodaira, M. Shimokawa, H. Fujii, T. Nakashima, N. Monden, T. Yokota, A. Homma, S. Ueda, U. Takashi, J. Itami, S. Noda, Y. Nishimura, M. Someya, M. Kobayashi, A. Terahara, A. Yorozu, H. Onishi, T. Akimoto (Japan)	
Postoperative radiation to open head and neck wounds	PO-0797
<u>P. Hirapara</u> , A.K. Patidar, K. Viroliya, K. Jani, S. Batham, M. Jain, M. Gandhi (India)	
Early mortality after radical radiotherapy in head and neck cancer	PO-0798
<u>K.H. Jensen</u> , I.R. Vogelius, M. Andersen, J. Overgaard, J.G. Eriksen, M. Farhadi, E. Andersen, J. Johansen, J. Friborg (Denmark)	
Target delineation uncertainties using MRI for H&N cancer patients	PO-0799
<u>R. Zukauskaite</u> , C.N. Rumley, C.R. Hansen, M. Jameson, Y. Trada, J. Johansen, N. Gyldenkerne, J.G. Eriksen, F. Aly, M. Heinke, R.L. Christensen, M. Lee, C. Brink, L. Holloway (Denmark)	
Outcomes of patients with locally advanced oral cavity SCC treated radically at Guys' Cancer Centre	PO-0800
<u>K. Sambasivan</u> , A. Michaelidou, G. Ross, R. Oakley, A. Lyons, L. Cascarini, A. Fry, J. Jeannon, M. Reis Ferreira, M. Lei, T. Guerrero Urbano (United Kingdom)	

Hypofractionated radiotherapy for HNSCC: a retrospective analysis of single Institution	PO-0801
<u>F. Sanna</u> , F. Cabras, A. Carai, S. Marogna, A.R. Musu, E. Orefici, G. Piredda, P. Pittau, C. Sini, M. Urpis, L. Pelagatti, M.C. Santona, M. Giobbe, L. Bandinu, S. Cau, L. Canu, F. Salis, S. Dei, F. Capelli, S. Campoccia (Italy)	
Impact of LINE-1 methylation on survival in patients with locally advanced oropharyngeal carcinoma.	PO-0802
<u>G. Fanetti</u> , V. Lupato, M.T. Casarotto, S. Sulfaro, V. Giacomarra, C. Furlan, V. Baggio, S. Romeo, P. Boscolo-Rizzo, E. Vaccher, G. Franchin, J. Polesel, E. Fratta (Italy)	
Outcomes of reirradiation in head and neck cancers: Two institutional experience	PO-0803
<u>H. Lee</u> , H. Wu, I.A. Kim, K. Eom, C.W. Wee, J.H. Lee, J.H. Kim (Korea Republic of)	
Adjuvant radiotherapy in the management of major salivary gland tumors – Retrospective analysis	PO-0804
<u>A. Florindo</u> , S. Saraiva, T.C. Tomás, A. Abrunhosa-Branquinho, V. Mendonça, M. Filomena de Pina (Portugal)	
Dental insurance status influences prophylactic dental care prior to head and neck radiation	PO-0805
E. Watson, W. Xu, M. Giuliani, J. Huang, S. Huang, B. O'Sullivan, J. Ringash, A. Hosni, J. Kim, J. Waldron, A. Bayley, J. Cho, S. Bratman, D. Goldstein, W. Maxymiw, M. Glogauer, <u>A. Hope</u> (Canada)	
Prognostic value of eosinophil levels in oropharyngeal cancer: a retrospective multicentric study	PO-0806
<u>F. Olivero</u> , P. Franco, F. Ferreri, A. Casadei Gardini, K. Andrikou, F. Arcadipane, A. Gastino, V. De Luca, S. Cascinu, U. Ricardi (Italy)	
The association between mean platelet volume and prognosis in patients with oropharyngeal cancer.	PO-0807
<u>T. Langsenlehner</u> , K. Lukasiak, E. Thurner, D. Delago, O. Knittelfelder, H. Stranzl-Lawatsch, G. Jakse, W. Renner (Austria)	
Geometric and dosimetric evaluation of submandibular gland sparing following gland transfer	PO-0808
<u>V. Moiseenko</u> , T. Atwood, C. Coffey, P. Hua, M. Cornell, P. Sanghvi (USA)	

Lymph flow guided radiotherapy for oral tongue cancer: histological verification of the concept	PO-0809
<u>S. Novikov</u> , P. Krzhivitckiy, Z. Radgabova, S. Kanaev, M. Kotov, A. Artemyeva, O. Ponomareva, M. Girshovitch, J. Melnik (Russian Federation)	
Prognostic value of lymph node-to-primary tumor standardized uptake value ratio in NPC	PO-0810
<u>T. Hung</u> , J.T. Chang, C. Lin (Taiwan)	
Influence of time between surgery and postoperative radiation therapy in head and neck cancer	PO-0811
R. Franco, D.M. Leandro, K. Marco Aurélio, G. De Castro Junior, <u>G. Marta</u> (Brazil)	
Hypofractionated Chemoradiation in LAHNC; QOL, Toxicity and Local Control in Radiation courses.	PO-0812
<u>G. Ferraris</u> , D. Davalos, D. Fernandez, L. Caussa, F. Díaz Vazquez (Argentina)	
Total tumor volume as a prognostic factor in head and neck cancer patients.	PO-0813
<u>I. Bashir</u> , S. Sahu, S. Pandita, M. Kharbanda, R. Sharma, A. Bhatnagar (India)	
Clinical feature and survival result of ascending,descending,mixed types of NPC in non- endemic area	PO-0814
<u>P. ZHANG</u> , Y. Fan, K. Xie, L. Kang, Q. Yang, W. Guan, A. Chen, Q. Tang (China)	
Validation of a Prognostic Model for Predicting Larynx Preservation Outcome in Catalan Population.	PO-0815
<u>J. Marruecos Querol</u> , J. Rubió-Casadevall, A. Lozano, M. Buxó, I. Linares, I. Planas, J. Vayreda, B. Cirauqui, M. Taberna, V. Quiroga, M. Tobed, T. Bores, M. Saigi, E. Felip, S. Recalde, A. Eraso, R. Mesia (Spain)	
Organs at Risk in Re-Irradiation of Head and Neck Cancer: An Individual Risk-Benefit Tradeoff	PO-0816
<u>T. Held</u> , S.B. Harrabi, K. Lang, S. Akbaba, P. Windisch, D. Bernhardt, S. Rieken, K. Herfarth, J. Debus, S. Adeberg (Germany)	
Implication of BRAF mutations in well-differentiated thyroid carcinoma.	PO-0817
<u>J.A. Dominguez Rullan</u> , R. Hernanz Lucas, C. Vallejo Ocaña, M. Martín Martín, S. Sancho García (Spain)	

Feasibility and first experience of MR-guided adaptive radiotherapy for head and neck cancer	PO-0818
<u>P. Balermpas</u> , J. Krayenbühl, M. Chamberlain, M. Bogowicz, H.I. Garcia-Schüler, N. Andratschke, A.K. Moreira, L. Wilke, S. Tanadini-Lang, M. Guckenberger (Switzerland)	
Repeated short-course radiotherapy regimen in elderly patients with advanced head and neck cancer	PO-0819
<u>M. Ferro</u> , G. Macchia, A. Re, A. Ianiro, M. Boccardi, C. Romano, V. Picardi, M. Ferioli, A. Arcelli, A. Zamagni, S. Cammelli, S. Mignogna, M. Ferro, M. Missere, M. Buwenge, C. Pozzo, S. Cilla, V. Valentini, A.G. Morganti, F. Deodato (Italy)	
Nutritional Risk Index and outcomes for head and neck cancer patients receiving chemo-radiotherapy	PO-0820
<u>J. OH</u> , A. Liu, E. Tran, E. Berthelet, J. Wu, R. Olson, N. Chau, A. Bowman, S. Hamilton (Canada)	
Prognostic Nutritional Index: A Predictive tool of treatment tolerance to head and neck radiotherapy	PO-0821
<u>A. George</u> (India)	
Dosimetric predictors of hypothyroidism in nasopharyngeal carcinoma patients treated with IMRT	PO-0822
L. Zhou, J. Chen, W. Shen, M. Chen, <u>Y. Chen</u> (China)	
A nomogram to predict locoregional recurrence for primary mucosal melanoma of the head and neck	PO-0823
<u>D. Dong</u> , S. Li, D. Zhao, W. Liu, L. Li, Y. Sun, X. Shaowen, B. Zheng, W. Wang (China)	
Feasibility and efficacy of radiotherapy in treating recurrent mucosal melanoma of the head and neck	PO-0824
<u>D. Dong</u> , S. Li, L. Li, B. Zheng, W. Wang (China)	
To analyze the feasibility, effectiveness and toxicity of re-irradiation in head and neck cancers.	PO-0825
<u>S. Batham</u> , R. Yadav, P. Roy, R. Toprani, K. Jani, M. Gandhi, P. Hirapara (India)	
Hypofractionated radiotherapyfor HNSCC: a retrospective analysis of single Institution	PO-0826
<u>F. Sanna</u> , F. Cabras, A. Carai, S. Marogna, A. Musu, E. Orefici, G. Piredda, P. Pittau, C. Sini, M. Urpis, L. Pelagatti, M.C. Santona, M. Giobbe, L. Bandinu, S. Cau, L. Canu, F. Salis, S. Dei, F. Capelli, S. Campoccia (Italy)	

Hypofractionated image guided re-irradiation in head - neck cancers; an Indian experience	PO-0827
<u>K. Talapatra</u> , P. Chadha, M. Deshpande, R. Mistry, R. Vadgaonkar, V. Mhatre, S. Pilakkal, S. Goyle, S. Limaye, I. Shaikh, S. Badhwar (India)	
Molecular Dynamics of Ebstein Barr Virus in Nasopharyngeal Carcinoma from a Non-Endemic area.	PO-0828
<u>M. Rafi</u> , R. Ganapathy, R. Ravikumar, C. Kainickal Thomas, K. Sankarareddiar, P. Sara George, R. Kunnam bath (India)	
Osteoradionecrosis of the mandible in head and neck cancer patients treated with VMAT	PO-0829
<u>C. Munoz Montplet</u> , J. Marruecos, A. De Pablo, D. Jurado Bruggeman, I. Romera Martínez, A. Onsès, R. Fuentes, J.C. Vilanova (Spain)	
Observation versus Adjuvant Radiotherapy in Early Stage Head and Neck Cancer of Oral Cavity.	PO-0830
<u>S.K. Barik</u> , N. Panda, P. C, G. N, P. Moharana, K. Sahni, I. Priyadarshini, S. Mohanty, S. A, R. Meher (India)	
IMRT for recurrent nasopharyngeal cancer: OAR tolerance and acute toxicity	PO-0831
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<u>K. Utaivichakul</u> , C. Chakkabat, A. Prayongrat, K. Shotelesuk, C. Lertbutsayanukul, D. Kannarunimit, C. Nantavithya, S. Kitpanit (Thailand)	
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<u>M.A. Rodriguez Medizabal</u> , M. Rico, S. Flamarique, M. Campo, A. Martin, L.O. Rosas, E. Martinez, M. Barrado, S. Pellejero, F. Mañeru (Spain)	
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<u>I. Chiovatero</u> , C. Mantovani, G.C. Iorio, C. Cavallin, A. Vella, E. Orlandi, M. Cerrato, S. Badellino, D. Caivano, M. Levis, V. De Luca, U. Ricardi (Italy)	

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<u>A. Beddok</u> , C. Saint-Martin, H. Mammar, F. Goudjil, S. Zefkili, S. Helfre, L. Feuvret, S. Bolle, S. Froelich, M. Amessis, D. Peurien, R. Dendale, C. Alapetite, V. Calugaru (France)	
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<u>T. Bostel</u> , M. Mattke, N.H. Nicolay, T. Welzel, D. Wollschläger, S. Akbaba, T. Sprave, J. Debus, M. Uhl (Germany)	

Clinical track

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<u>S. Vagge</u> , F. Guolo, F. Ballerini, S. Agostinelli, D. Tramontano, I. Chiola, E. Olivetta, R. Corvò, E. Angelucci, R. Lemoli (Italy)	
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<u>F. Kazmi</u> , B. Vellayappan, Y. Kheng Wei, I. Sin Huili, B. Fei Tan, S. Poh Shuxian (United Kingdom)	
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<u>I. Hadi</u> , A. Schummer, C. Eze, M. Dreyling, C. Belka, M. Li (Germany)	
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C. Trindade Mello Medici, L. Coelho Casimiro, A. Adolfo Guerra Soares Brandão, <u>G.P. MAURO</u> (Brazil)	
Clinical Activation Of An Efficient Low-Dose Total Body Irradiation Using The Tomodirect Approach	PO-0915
<u>A. Chiara</u> , S. Broggi, G. Salvadori, J. Peccatori, A. Assanelli, S. Piemontese, M. Pasetti, S. Sellì, R. Calandrino, F. Ciceri, C. Fiorino, N. Di Muzio (Italy)	
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<u>A. Haraldsson</u> , W. Stina, J. Engellau, C. Ceberg, S. Bäck, S. Ceberg, S. Engelholm, S. Warsi, P.E. Engström (Sweden)	
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<u>A. Alghisi</u> , P. Borghetti, M. Maddalo, A.M. Roccaro, A. Tucci, S.M. Magrini, A. Lo Casto, M.L. Bonù, D. Tomasini, A. Baiguini, G. Peretto, M. Buglione, L. Triggiani (Italy)	

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<u>C. Shelley</u> , J. Brady, F. Rahman, G. Mikhaeel (United Kingdom)	
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<u>V. De Luca</u> , S. Bartoncini, G.C. Iorio, R. Parise, E. Orlandi, C. Cavallin, C. Palladino, M. Levis, U. Ricardi (Italy)	
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<u>M. Oertel</u> , K. Elsayad, C. Weishaupt, K. Steinbrink, H.T. Eich (Germany)	
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<u>G. Simontacchi</u> , A. Peruzzi, G. Stocchi, M. Mariotti, B. Guerrieri, V. Salvestrini, C. Talamonti, S. Pallotta, L. Marrazzo, I. Desideri, S. Scoccianti, L. Livi (Italy)	
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Clinical track

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I. Martel-Lafay, S. Danhier, E. Blanc, I. Monnet, O. Gallocher, N. Salem, H. Berard, O. Bykicki (France)	
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A. Littlejohns, T. Janjua, P. Murray, P. Jain, K. Clarke, P. Dickinson, M. Teo, A. Saha, K. Franks, <u>F. Sun</u> (United Kingdom)	
Poor Diffusing Capacity for Carbon Monoxide (DLCO) is associated with worse survival post SABR	PO-1017
<u>F. Sun</u> , P. Jain, P. Murray, K. Clarke, P. Dickinson, M. Teo, A. Saha, K. Franks (United Kingdom)	
Lung SABRT treatment in oligometastatic patients, a prospective review	PO-1018
<u>E. Csiki</u> , M. Simon, J. Papp, Á. Kovács (Hungary)	
Long term outcomes and lung function evolution of primary lung tumors treated with Cyberknife SABR	PO-1019
<u>F. Sacino</u> , N. Jansen, C. Mievis, L. Seidel, S. Cucchiaro, P. Coucke (Belgium)	
Does MR imaging give us advantage in contouring thoracic structures for Cardiac SABR?	PO-1020
<u>L. Fuertes</u> , M. Dubec, M. Anjanappa, J. Rodgers, R. Hales, A. Clough, M.C. Aznar, A. Choudhury (Spain)	

Stereotactic radiotherapy for unresectable locally advanced non small cell lung cancer	PO-1021
<u>F. Arcidiacono</u> , P. Anselmo, F. Trippa, M. Casale, M. Italiani, L. Draghini, S. Terenzi, S. Fabiani, A. Di Marzo, E. Maranzano (Italy)	
Clinical-dosimetric assessment with Prodvh software after adjuvant radiotherapy for MPM	PO-1022
<u>E. Salah ElDin Tantawi</u> , P. Borghetti, C. Cozzaglio, M. Bonù, N. Pasinetti, D. Greco, M. Maddalo, A. Baiguini, P. Vitali, E. Ranghetti, A. Guerini, M. Buglione, L. Spiazzi, S.M. Magrini (Italy)	
Impact of biological features in radiosurgery for Brain metastases from Non Small Cell Lung Cancer	PO-1023
<u>S. Durante</u> , G. Corrao, G. Marvaso, G. Piperno, F. Colombo, S.G. Gugliandolo, E. Rondi, S. Vigorito, S. Frassoni, V. Bagnardi, C.I. Fodor, L. Spaggiari, F. De Marinis, R. Orecchia, B.A. Jereczek-Fossa (Italy)	
Fractionated RT is equally effective but less toxic than SBRT for central early-stage NSCLC	PO-1024
<u>M. Leenders</u> , S. Peeters, J. Van Loon, A. Van Baardwijk, B. Reymen, K. Verhoeven, M. Öllers, R. Wanders, D. De Ruysscher (The Netherlands)	
Prognostic factors for PFS and OS in radically treated patients with oligometastatic NSCLC	PO-1025
<u>M. Leenders</u> , R. Robeers, L. Hendriks, J. Van Loon, G. Bootsma, R. Wanders, C. Pitz, B. Reymen, R. Houben, A. Van Baardwijk, K. Verhoeven, S. Peeters, D. De Ruysscher (The Netherlands)	
Role of neoadjuvant radiochemotherapy in non-Pancoast T4 N0/1 M0 NSCLC	PO-1026
<u>N. Guberina</u> , C. Pöttgen, M. Schulter, M. Guberina, M. Stuschke, G. Stamatis, T. Plönes, D. Theegarten, T. Gauler, K. Darwiche, C. Aigner, W. Eberhardt (Germany)	
Disease natural history of lung oligometastatic colo-rectal cancer patients treated with SBRT	PO-1027
<u>L. Nicosia</u> , F. Cuccia, M. Rigo, V. Figlia, N. Giaj-Levra, R. Mazzola, F. Ricchetti, D. Tomasini, F. Alongi (Italy)	
Consolidation therapy with Durvalumab after radical CRT in stage IIII NSCLC: a preliminar analysis	PO-1028
<u>P. Borghetti</u> , G. Volpi, J. Imbrescia, M.L. Bonù, A. Guerini, O. Turla, M. Maddalo, P. Vitali, L. Triggiani, A. Donofrio, M. Buglione, S.M. Magrini (Italy)	

Preliminary analysis of patient cohorts treated pre vs post approval of consolidation IO in LA-NSCLC	PO-1029
<u>J. Taugner</u> , L. Käsmann, C. Eze, O. Roengvoraphoj, A. Tufman, C. Belka, F. Manapov (Germany)	
Challenges on the CT follow-up after SBRT to early stage NSCLC	PO-1030
<u>A. Giraldo Marin</u> , M.M. Marti Laosa, M. Ramos, J. Giralt (Spain)	
Initial report on feasibility of Hypo-IGRT in stage IIB-III NSCLC pts with poor PS & lung function	PO-1031
<u>C. Eze</u> , J. Taugner, N. Schmidt-Hegemann, O. Roengvoraphoj, L. Käsmann, M. Dantes, M. Li, C. Belka, F. Manapov (Germany)	
Clinical Features and Treatment Outcome of Resectable Pulmonary Large Cell Neuroendocrine Carcinoma	PO-1032
<u>J. Moon</u> , W.H. Lee, B.M. Lee, J. Lee, A.J. Yang, G. Yang, J. Kim, T.H. Kim, N. Kim, H.I. Yoon, J.H. Cho, C.G. Lee, S.H. Choi (Korea Republic of)	
The result of type C thymic epithelial tumor: multimodality treatment combined with radiotherapy	PO-1033
<u>G. Yang</u> , H.K. Byun, J. Kim, J. Lee, W.H. Lee, B.M. Lee, A.J. Yang, J.Y. Moon, J. Cho (Korea Republic of)	

Clinical track

Poster: Clinical track: Upper GI (oesophagus, stomach, pancreas, liver)

Chemoradiation-induced intratumoral immune microenvironment changes in oesophageal cancer	PO-1034
<u>C. Yip</u> , J.P.S. Yeong, W.Q. Leow, L.M. Wang, L.A.L. Lee, T.K.H. Lim, T.R. Siow, F.W.T. Lim, M.L.C. Wang, S.Z. Ho, F. Wang, M.C. .H. Ng, S.J. Ong, J.Y.C. Lam, W.K. Wong, H.S. Ong, E. Lim, A.K.H. Eng, C.H. Lim, W.H. Chan, A. .S.Y. Wong, J. Lee, J. Lin, E. Ong, M.L.K. Chua (Singapore)	
Central hepatobiliary toxicity after liver SBRT and hypo-fractionated Radiotherapy	PO-1035
<u>E. Gkika</u> , C. Weis, S. Kirste, F. Mohammad, S. Adebarh, D. Baltas, T. Brunner, A.L. Grosu (Germany)	

Analysis of serum pancreatic exocrine enzyme after radiotherapy for pancreatic carcinoma	PO-1036
<u>T. Iwai</u> , K. Ogura, M. Yamashita, T. Ogata, T. Hattori, T. Mitsuyoshi, T. Imagumbai, M. Kokubo (Japan)	
A new nodal delineation protocol for upper third oesophageal cancers in the SCOPE 2 trial	PO-1037
<u>O. Nicholas</u> , G. Radhakrishna, R. Banner, S. Mukherjee, M. Hawkins, T. Crosby, S.H. Gwynne (United Kingdom)	
Robotic radiosurgery treatment in HCC with PVT: Interim analysis of a prospective study	PO-1038
<u>D. Dutta</u> , T. Tatineni, R. Madhavan, K. Kataki, H. Nair, S. Gopinath, R. Kannan, R. Holla (India)	
Lymphopenia and worse OS are associated with GTV and fraction in patients with HCC treated with EBRT	PO-1039
<u>H. Zhang</u> , J. Sun, S. Du, Z. Zeng (China)	
Peritreatment peripheral blood cells predict progression hazard in esophageal cancer after treatment	PO-1040
<u>J. Chen</u> , L. Xu, H. Guo, R. Huang, L. Guo, Y. Yu, F. Wu, Z. Chen, D. Li, C. Chen (China)	
Gender disparity in esophageal cancer -- a nationwide propensity score-matched study	PO-1041
<u>Y. Chou</u> , Y. Lee, H. Tseng, J. Chiou, J. Huang (Taiwan)	
SBRT vs conventionally fractionated radio-chemotherapy for pancreatic cancer: a case-control study	PO-1042
<u>A. Arcelli</u> , F. Bertini, A.G. Morganti, A. Guido, F. Deodato, S. Cilla, V. Scotti, M.E. Rosetto, I. Djan, S. Parisi, S. Cammelli, G.C. Mattiucci, M. Fiore, P. Bonomo, A. Bacigalupo, R.M. Niespolo, P. Gabriele, N. Simoni, R. Mazzarotto, G. Macchia (Italy)	
Reduction ratio of tumor volume is predictive factor in esophageal carcinoma undergoing SMART	PO-1043
<u>R. Huang</u> , H. Guo, J. Chen, T. Zhai, J. Chen, K. Lin, Z. Chen, D. Li, C. Chen (China)	
Postoperative hypofractionated Image-Guided IMRT concomitant to chemotherapy in biliary tract cancer	PO-1044
<u>N. Slim</u> , R. Tummineri, P. Passoni, A. Fasolo, A.M. Deli, L. Aldrighetti, N. Di Muzio (Italy)	
Addition of SBRT following TACE is associated with a survival benefit in Hepatocellular Carcinoma	PO-1045
<u>R. Kabarriti</u> , N.P. Brodin, K. English, N. Ohri, A. Kaubisch, M. Kinkhabwala, S. Kalnicki, C. Guha, M.K. Garg (USA)	

Treatment outcomes of liver metastasis treated with stereotactic body radiotherapy	PO-1046
<u>O.C. Güler</u> , B.A. Yıldırım, C. Onal (Turkey)	
GemOx with low-dose RT and SBRT for locally advanced pancreatic cancer: a prospective trial	PO-1047
<u>B. Meduri</u> , G. Aluisio, E. D'Angelo, M. Vernaleone, C. Tata, F. Gelsomino, A. Spallanzani, R. Ballarin, G. Luppi, F. Di Benedetto, F. Lohr (Italy)	
Postoperative complications and margins status after neoadjuvant SBRT for pancreatic cancer	PO-1048
<u>N. Simoni</u> , S. Paiella, R. Micera, T. Giuliani, S. Guariglia, E. Zivelonghi, A. Di Gioia, L. Addari, G. Malleo, R. Salvia, C. Bassi, R. Mazzarotto (Italy)	
Biliary tract tumors: the role of chemoradiotherapy – a review of the last 10 years	PO-1049
M. Simas, S. Saraiva, <u>V. Mareco</u> , M. Abdulrheman, M.F. Pina (Portugal)	
SBRT in liver cancer versus TACE. A prospective, non-randomised observational trial (HERACLES)	PO-1050
<u>T. Brunner</u> , E. Gkika, D. Bettinger, M. Schultheiss, L. Maruschke, N. Bartl, S. Kirste, F. Bamberg, R. Thimme, A. Grosu (Germany)	
Role of radiotherapy in resected R0/R+ pancreatic cancer: real life single institution experience.	PO-1051
<u>M. Lutsyk</u> , R. Ben Yosef (Israel)	
Hypofractionated VMAT for Fragile Patients with Oesophageal Cancer	PO-1052
<u>L. Deantonio</u> , S. Cima, S. Leva, A. Richetti, M. Valli (Switzerland)	
Involved-field radiation therapy for treatment of locally advanced pancreatic adenocarcinomas.	PO-1053
G.S. Munro, <u>R.C. Fogaroli</u> , A.C.A. Pellizzon, D.G. Castro, G.R.M. Gondim, M.L.G. Silva, M.J. Chen, H. Ramos (Brazil)	
Hypofractionated radiotherapy for unresectable esophagus-gastric carcinoma in elderly patients	PO-1054
<u>F. Lopez Campos</u> , M. Martín Martín, L. Pelari, E. Carrasco, M. Martín, J.A. Domínguez, S. Sancho (Spain)	
Recursive partitioning model based analysis for oligometastatic colorectal cancer treated with SBRT	PO-1055
<u>C. Franzese</u> , T. Comito, D. Franceschini, M. Loi, E. Clerici, P. Navarría, F. De Rose, A. Tozzi, L. Di Brina, P. Mancosu, G. Reggiori, S. Tomatis, M. Scorsetti (Italy)	

Chemoradiation for esophageal cancer using carboplatin and paclitaxel: A single centre experience	PO-1056
S. Gomberg, A. Gaya, K. Owczarczyk, <u>A. Qureshi</u> (United Kingdom)	
Influence of brachytherapy on local control of locally advanced esophageal carcinomas	PO-1057
<u>D. Scepanovic</u> , M. Lukacovicova - Kolarcikova, M. Pobijakova, M. Dzongov (Slovakia)	
Proton beam therapy for hepatocellular carcinoma of caudate lobe	PO-1058
<u>T. Iizumi</u> , T. Okumura, Y. Sekino, H. Numajiri, M. Mizumoto, K. Nakai, H. Ishikawa, H. Sakurai (Japan)	
Definite chemo-radiotherapy with dose-escalation to patients with esophageal cancer	PO-1059
<u>M. Nielsen</u> , E. Holtved (Denmark)	
Cyberknife SBRT for liver metastases in heavily pre-treated patients	PO-1060
<u>P. Martenka</u> , A. Skrobała (Poland)	
Stereotactic body radiotherapy for adrenal metastases of oligometastatic or oligoprogressive tumors	PO-1061
<u>L. König</u> , M.F. Häfner, S. Katayama, S.A. Koerber, E. Tonndorf-Martini, D. Bernhardt, B. Von Nettelbladt, F. Weykamp, P. Hoegen, S. Klüter, M.S. Susko, J. Debus, J. Hörner-Rieber (Germany)	
Stereotactic body radiotherapy can delay polymetastatic conversion in liver oligometastatic patients	PO-1062
<u>L. Nicosia</u> , F. Cuccia, V. Figlia, N. Giaj-Levra, R. Mazzola, F. Ricchetti, M. Rigo, M. Bonù, F. Alongi (Italy)	
Do we need a PTV around the boost in simultaneously integrated boost approaches of abdominal tumors?	PO-1063
<u>S. Stefanowicz</u> , S. Zschaeck, E.G.C. Troost (Germany)	
Pancreatic cancer SBRT: reaching consensus in a national survey by AIRO Gastrointestinal Group	PO-1064
<u>L. Gasparini</u> , F.C. Di Guglielmo, C. Di Carlo, C. Rosa, C. Bonfiglio, S. Marcucci, N. Adorante, P. Franco, M. Lupattelli, M. Nuzzo, D. Genovesi, L. Caravatta (Italy)	
Adjuvant chemoradiation (CRT) for gastric cancer: toxicity profile and outcome in Albanian patients	PO-1065
<u>F. Kraja</u> , E. Karaulli, I. Akshija, E. Rapushi, B. Doci, E. Tola, E. Cuedari, S. Ademi, E. Hafizi, O. Spahiu, A. Hoti (Albania)	

Clinical results of stereotactic body radiotherapy for elderly hepatocellular carcinoma patients	PO-1066
<u>J.Y. JANG</u> , J. Jung, J. Park, J.H. Kim, S.M. Yoon (Korea Republic of)	
Outcomes of combined modality treatment in resectable esophageal carcinoma patients	PO-1067
<u>S. BATHAM</u> , R. Yadav, J.M. Kothari, K. Jani, P. Roy, M. Gandhi, P. Hirapara, D. Parikh, A. Kaushal, V. Lavingia (India)	
How much lower dose is enough for SBRT in hepatocellular carcinoma considering normal liver?	PO-1068
<u>T. Nam</u> , J. Jae-Uk, S. Ju-Young, Y. Mee Sun, A. Sung-Ja, C. Woong-Ki, C. Ick Joon, K. Yong-Hyub, C. Shin Haeng (Korea Republic of)	
SBRT in Hepatocellular Carcinoma: impact of dose regimen and treatment sequence	PO-1069
<u>M. Loi</u> , T. Comito, C. Franzese, E. Clerici, M. Badalamenti, G. Reggiori, P. Mancosu, S. Tomatis, L. Rimassa, A. Santoro, M. Scorsetti (Italy)	
Effect of surgery in locally advanced esophageal cancer after chemoradiotherapy	PO-1070
<u>I. Alda Bravo</u> , S. Fernandez Alonso, M. Alarza Cano, M.Á. Pérez-Escutia, R. D'Ambrossi, M.C. Peña, M. Colmenero, J.F. Pérez-Regadera (Spain)	
Prognostic value of CA19-9 in patients with pancreatic adenocarcinoma after chemoradiotherapy	PO-1071
<u>Y. NAMPEI</u> , Y. Toyomasu, S. Ochiai, T. Mase, Y. Watanabe, T. Kawamura, A. Takada, Y. Yamashita, N. Ii, H. Sakuma, Y. Nomoto (Japan)	
Stereotactic radiotherapy in liver metastases of mesenchymal malignancies: role of patient selection	PO-1072
<u>L. Di Brina</u> , M. Loi, T. Comito, P. Navarría, C. Franzese, E. Clerici, D. Franceschini, F. Lobefalo, S. Tomatis, P. Mancosu, M. Scorsetti (Italy)	
Dosimetric Predictors of Survival in Esophageal Cancers Treated with Preoperative Chemoradiation	PO-1073
<u>S. Garcia</u> , A. Tavares, P. Peixoto, F. Costa, D. Saraiva, P. Varzim, A. Monteiro, M.P. Fontes, G. Pinto (Portugal)	
Adjuvant radio-chemotherapy after extended or simple cholecystectomy in gallbladder cancer.	PO-1074
<u>M. González Domingo</u> , P. González Mella, I. Perrot Rosenberg, N. Cardozo, R. Martin, G. Veillon Contreras, M.J. Maluk Alarcón (Chile)	

Simultaneous integrated boost concepts in radiotherapy for esophageal cancer: outcomes and toxicity	PO-1075
<u>J. Ristau</u> , M. Thiel, S. Körber, F. Sterzing, S. Katayama, K. Herfarth, J. Debus, M. Häfner (Germany)	
Gastric adenocarcinoma: Does one size fit all?	PO-1076
<u>R. Prasad</u> , J. McElroy, N. Sebastian, D. Diaz (USA)	
Carbon-ion radiotherapy for hepatocellular carcinoma with vascular invasion	PO-1077
<u>H. Makishima</u> , S. Yasuda, H. Kato, T. Kaneko, H. Sato, T. Chang, G. Kasuya, S. Yamada, H. Tsuji (Japan)	
Long survivors' nature of pancreatic cancer treated with chemoradiotherapy using photon or proton	PO-1078
<u>Y. Hiroshima</u> , N. Fukumitsu, T. Saito, H. Numajiri, K. Murofushi, K. Ohnishi, M. Mizumoto, K. Nakai, H. Ishikawa, T. Okumura, H. Sakurai (Japan)	

Clinical track

Poster: Clinical track: Lower GI (colon, rectum, anus)

Systematic review of colorectal/anal cancer guidelines: managing long-term symptoms and functioning	PO-1079
<u>L. Wiltink</u> , K. White, M. King, C. Rutherford (Australia)	
C-reactive protein-to-albumin ratio is a predictive marker for anal squamous cell carcinoma	PO-1080
<u>D. Martin</u> , F. Rödel, P. Balermpas, R. Winkelmann, C. Rödel, E. Fokas (Germany)	
Patterns of care analysis of treatment of anal squamous cell carcinoma in German speaking countries	PO-1081
<u>D. Martin</u> , J. Von der Grün, C. Rödel, E. Fokas (Germany)	
Identification of Cell-Free DNA profile in oligometastatic colorectal cancer	PO-1082
<u>M. Nakamura</u> , S. Kageyama, A. Motegi, H. Hojo, T. Akimoto (Japan)	

Efficacy and tolerance of VMAT-SIB intensified neoadjuvant chemoradiation in rectal cancer patients	PO-1083
<u>A. Re</u> , V. Picardi, F. Deodato, A. Ianiro, S. Cilla, M. Boccardi, M. Ferro, A. Arcelli, M. Buwenge, S. Cammelli, C. Romano, G. Restaino, M. Ferro, M. Specchia, A. Guido, S. Mignogna, V. Valentini, A.G. Morganti, G. Macchia (Italy)	
Stereotactic pelvic reirradiation for locoregional cancer relapse	PO-1084
<u>R. Kinj</u> , J. Doyen, J. Hannoun-Lévi, G. Baudin, J. Fererro, E. Francois, M. Chand, D. Borchiellini, L. Evesque, K. Benezery, P. Bondiau (Switzerland)	
Predicting the consensus molecular subtypes of colorectal cancer by weakly supervised deep learning	PO-1085
<u>S. Chen</u> , Z. Zhen, J. Wang, W. Hu (China)	
Innovative technologies in treatment of patients with squamous cancer of the anal canal	PO-1086
<u>V. Glebovskaya</u> , T. Sergey, A. Nazarenko, P. Bulychkin (Russian Federation)	
Simultaneous integrated boost and volumetric modulated arc radiotherapy in rectal cancer	PO-1087
<u>B. Low</u> , J. Saunders, A. Othman, P. McLoone, N. Mohammed (United Kingdom)	
Short Course Radiationtherapy chemotherapy and delayed surgery in locally advanced rectal carcinoma	PO-1088
<u>S. Mitra</u> , S. Aggarwal, A. Dewan, I. Kaur Wahi, S. Barik, K. Dobriyal, J. Mukhee, A. Jajodia, H. Khurana, A.K. Dewan (India)	
Major and complete response after neoadjuvant treatment in rectal cancer: a retrospective analysis	PO-1089
<u>M. Giraffa</u> , G. Chiloiro, E. Meldolesi, B. Corvari, C. Coco, R. Persiani, L. Sofo, S. Alfieri, B. Barbaro, V. Valentini, M.A. Gambacorta (Italy)	
Quality of life among men who have sex with other men treated for anal cancer: Impact of HIV status	PO-1090
<u>G.P. Mauro</u> , K.G.M.D.C. Vasconcelos, H.D.A. Carvalho (Brazil)	
Quality of life and sexual function of men who have sex with other men treated for anal cancer	PO-1091
<u>G.P. Mauro</u> , K.G.M.D.C. Vasconcelos, H.D.A. Carvalho (Brazil)	

Clinical results of particle therapy in patients with postoperative recurrence of rectal cancer	PO-1092
<u>T. Waki</u> , T. Okimoto, K. Terashima, Y. Niwa, D. Jin, Y. Demizu, K. Katsui, S. Tokumaru, S. Kanazawa (Japan)	
Defecography for sphincter evaluation in rectal cancer patients irradiated with dose intensification	PO-1093
<u>C. Rosa</u> , M. Di Tommaso, B. Seccia, A. Delli Pizzi, R. Cianci, R. Basilico, A. Di Pilla, M. Taraborrelli, L. Caravatta, D. Genovesi (Italy)	
Pathological complete response and outcomes in rectal cancer patients with treatment intensification	PO-1094
<u>C. Rosa</u> , M. Di Tommaso, L. Caravatta, M. Taraborrelli, D. Fasciolo, A. Augurio, R. Cianci, M. Di Nicola, D. Genovesi (Italy)	
Does CEA decrease after radical treatment of unresectable rectal cancer predicts the outcome?	PO-1095
<u>M. Kraszkiewicz</u> , A. Napieralska, L. Miszczyk, W. Majewski (Poland)	
Prediction of pathologic response by clinical characteristics following preoperative CRT in LARC	PO-1096
<u>J. Kim</u> , B. Kang, C. Song, S. Kang (Korea Republic of)	
Who needs postoperative CCRT in patients with pT3N0 rectal cancer with negative resection margin?	PO-1097
<u>J.Y. Baek</u> , Y. Jeong Il, P. Hee Chul, C. Doo Ho, Y. Gyu Sang, C. Won Kyung (Korea Republic of)	
Dosimetric correlation of acute urinary toxicity in patients with rectal cancer treated with IMRT	PO-1098
<u>A. Secerov Ermenc</u> , J. But Hadzic (Slovenia)	
Response prediction by daily fractional MRI during neoadjuvant radiochemotherapy in rectal cancer	PO-1099
<u>T. Bostel</u> , C. Dreher, D. Wollschläger, A. Mayer, S. Bickelhaupt, H. Schlemmer, P. Huber, F. Sterzing, J. Debus, N. Nicolay (Germany)	
Impact of neutrophil-lymphocyte ratio on the response of chemoradiation therapy of rectal cancer	PO-1100
<u>J.H. Lee</u> , J.H. Lee, S.H. Kim, H.C. Lee (Korea Republic of)	
Intensity-modulated radiotherapy treatment of anal cancer: single-institution outcomes	PO-1101
<u>E. Scott</u> , A. Kar, H. Ariyaratne (United Kingdom)	
Dose-volume analysis and sphincter-related toxicity of radiation therapy for rectal cancer	PO-1102
<u>N. Jullian</u> , F. Charlier, D. Van Gestel, F. Otte, L. Moretti (Belgium)	

The Energy Metabolism Changes In Rectal Cancer Patients After Neoadjuvant Radiochemotherapy	PO-1103
J. ACOSTA, E. Rodríguez, A. Moreno, J. Gomez, L. Torres, Y. López, J. Trilla, G. Baiges, A. Hernández, J. Joven, J. Camps, M. Arenas (Spain)	
Effect Of Neoadjuvant Radiochemotherapy On Activity Of Paraoxonase -1 In Rectal Cancer Patients	PO-1104
E. Rodríguez, J. Gomez, A. Moreno, <u>J. ACOSTA</u> , L. Torres, J. Trilla, Y. López, G. Baiges, A. Hernández, J. Camps, J. Joven, M. Arenas (Spain)	
Interstitial PDR brachytherapy for the treatment of squamous cell anal carcinoma	PO-1105
R. Bourdais, S. Achkar, T. Kumar, M. Kissel, M.H. Ta, F.A. Pounou Kamga, W. Boukhelif, J. Durand-Labrunie, C. Haie-Meder, C. Chargari (France)	
Dose intensification in locally advanced rectal cancer: a prospective observational study	PO-1106
E. Bertocchi, L. Nicosia, R. Mazzola, G. Barugola, F. Ricchetti, P. Dell'Abate, G. Ruffo, F. Alongi (Italy)	
Impact of fractionation on the treatment of squamous cell anal cancer: a dual-institution experience	PO-1107
M. Vernaleone, P. Bonomo, B. Meduri, G. Caramia, G. Aluisio, L. Visani, I. Desideri, C. Becherini, E. D'Angelo, L. Livi, F. Lohr (Italy)	
SCRT and chemotherapy vs LCRT for unresectable rectal cancers. A propensity matched-pair analysis	PO-1108
R. Engineer, A. Saklani, A. D'souza, S. Mokal, A. Dhyanji, S. Chopra (India)	
Radiotherapy toxicity in older patients with rectal cancer	PO-1109
E.D. Rodrigues Pinto, F.A. Lima Aires, M.M. Araújo Reis Lima Marques, M.G. Pinto (Portugal)	
Bladder dose constraints for conformal radiotherapy in rectal cancer: adaptation to prescribed dose	PO-1110
N. Fourati, L. Farhat, Z. Fessi, M. Frikha, W. Siala, W. Mnejja, J. Daoud (Tunisia)	
Pathological lymph node staging for intermediate-risk rectal cancer patients	PO-1111
A. Biche, A. Choudhury, L. Wee, A. Dekker, J. Van Soest, M. Berbee (The Netherlands)	

Total neoadjuvant therapy in high risk rectal cancer: a feasibility pilot study	PO-1112
<u>E. Palazzari</u> , A. Buonadonna, A. Lauretta, F. Navarria, E. Ongaro, L. Foltran, R. Innocente, C. Belluco, P. Ubiali, V. Canzonieri, M. Urbani, C. Colombo, G. Bertola, A. De Paoli (Italy)	
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<u>E. Palazzari</u> , O. Schioppa, A. Lauretta, F. Navarria, M. Gigante, A. Caroli, C. Bampo, R. Innocente, J. Polesel, G. Bertola, E. Vacccher, A. De Paoli (Italy)	
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<u>S. Hoendervangers</u> , H. Van Grevenstein, H. Verkooijen, M. Intven (The Netherlands)	
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<u>A. Guaineri</u> , L. Triggiani, F. Frassine, J. Imbrescia, F. Barbera, P. Vitali, F. Terraneo, L. Pegurri, E. Ranghetti, A. Taddeo, S.M. Magrini, M. Buglione (Italy)	

Clinical track

Poster: Clinical track: Gynaecological (endometrium, cervix, vagina, vulva

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<u>G. Macchia</u> , A. Cerrotta, F. Deodato, B. Pappalardi, A. Re, R. Santoni, M. Campitelli, G. Scambia, V. Valentini, C. Aristei, G. Ferrandina (Italy)	
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<u>I.J. CHO</u> , Y. Kim, J. Jeong, W. Chung, S. Ahn, T. Nam, J. Song, S. Cho, M.S. Yoon (Korea Republic of)	
The dilemma of cervical cancer during pregnancy. A 10 year single-center experience	PO-1118
<u>L. Juan Rodríguez</u> , M.H. Fassano Moore, M.A. Mera Errasti, B.J. Salazar Zúñiga, J.F. Pérez- Regadera Gómez (Spain)	

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J. Conway, L. Conroy, S. Ferguson, A. Zia, A. Liu, J. Weiss, A. Rink, <u>C. Jennifer</u> (Canada)	
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<u>C. Jennifer</u> , A. Julius, J. Manhertz, C. Heck, K. Chan, K. Lawrie, N.K. Quartey, J. Papadakos (Canada)	
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<u>N. Lavanya</u> , R. Mittal, G. Mulye, D. Aravindaksham, L. Scaria, S. Kohle, S. Kadam, S. Chopra, U. Mahantshetty (India)	
Sexual function in cervical cancer patients treated with definitive chemoradiation in South Africa	PO-1122
<u>P. Pillay</u> , C. Minnaar, J. Kotzen (South Africa)	
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<u>P. Pillay</u> , C. Minnaar, J. Kotzen (South Africa)	
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<u>E. Doyle</u> , L. Akyol, M. Zahra (United Kingdom)	
QoL records filled by patient or psychologist? Ns. experience in sexual dysfunction (DS) after RT.	PO-1125
<u>F. Piro</u> , D. Cosentino, A. Massenzo, A. Martilotta, U. Piro, L. Marafioti (Italy)	
Clinical experience of pelvic radiotherapy for postoperative uterine cervical cancer using VMAT	PO-1126
<u>T. Yamamoto</u> , R. Umezawa, M. Kubozono, H. Tokunaga, H. Matsushita, Y. Ishikawa, Y. Katagiri, K. Takeda, S. Tasaka, Y. Suzuki, N. Yaegashi, K. Jingu (Japan)	
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M. La Vecchia, <u>F. Cuccia</u> , G. Ferrera, G. Mortellaro, D. Cespuglio, L. Ognibene, G. De Gregorio, N. Luca, G. Trapani, E. Quartuccio, A. Gioia, A. Palmeri, G. Terranova, G. Napoli, A. Sanfratello, C. Lotà, M. Torchia, V. Venuti, V. Valenti, A. Tripoli, G. Evangelista, A. Lo Casto (Italy)	
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<u>R. Dejean</u> , M. Nourmoussavi, H. Bahig, T. Warkus, V. Samouelian, B. Cormier, M. Beauchemin, M. Barkati (Canada)	

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<u>K. Wada</u> , E. Nakanishi, M. Toratani, T. Ikawa, N. Kanayama, M. Morimoto, K. Konishi, T. Teshima (Japan)	
High-Dose-Rate Brachytherapy for primary vaginal melanoma treatment: a case report	PO-1130
<u>B. Pappalardi</u> , C.T. Delle Curti, F. Piccolo, C. Tenconi, T. Giandini, M. Carrara, A. Cerrotta (Italy)	
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<u>R. Rajan</u> , D.B. Kunheri, D.T. Tatineni (India)	
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<u>M.F. Ropero Carmona</u> , J. Quirós Rivero, J.L. Muñoz Garcia, J. Cabrera Rodriguez, Y. Ríos Kavadoy, V. Vera Barragán, P. Simón silva, B. Ortiz Sierra, B. Baños Pérez, C. Corral Fernandez (Spain)	
Concurrent chemoradiotherapy with or without brachytherapy; a retrospective clinical study	PO-1133
<u>B. Khadidja</u> , Z. Benyoucef, S. Sebti, L. Hamzi, F. Boulekhsaim, H. Boukabous, S. Khalfa, M. Zarroug, Z. Griballah, S. Toukal, S. Khoudri (Algeria)	
18F-FDG-PET/CT role in the adjuvant setting of endometrial cancer	PO-1134
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<u>F. Piccolo</u> , B. Pappalardi, M. Carrara, C. Tenconi, T. Giandini, C. Delle Curti, C. Fallai, A. Cerrotta (Italy)	
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<u>H.A. Zagloul</u> (Egypt)	
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<u>R. Rubiato Aragon</u> , S. Cordoba, M. Gaztañaga, M.G. Vázquez, G. Marquina, U.A. Corro, J. Romero, J. Velasco (Spain)	

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: U. Ricardi (Italy)	
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A. Jajodia, A. Chaturvedi, N. Gupta, A. Rao, M. Gairola, S. Mitra, V. Mahawar, <u>P. Ahlawat</u> , S. Goyal, V.P.B. Koyyala, S. Aggarwal, S. Tandon, R. Tripathi, S. Pasricha, A. Mehta (India)	
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<u>E. Nakken</u> , S.S. Os, K. Skipar, K. Bruheim (Norway)	
Lymphadenectomy for vaginal melanoma, does it improve outcomes?	PO-1142
<u>Z. Horne</u> , S. Teterichko, R. Wegner, S. Hasan, S. Crafton, E. Miller, T. Krivak, P. Sukumvanich, S. Beriwal (USA)	
Temporal course of late toxicity in patients undergoing pelvic radiation for cervical cancer	PO-1143
<u>J. Shejul</u> , S. Chopra, N. Ranjan, P. Patil, L. Naidu, S. Mehta, U. Mahantshetty (India)	
Adjuvant electronic brachytherapy for patients with endometrial cancer.	PO-1144
<u>M. Cerrolaza</u> , A. Campos, A. Méndez, M. Gascón, A. Miranda, S. Flamarique, S. Lozares, V. Navarro, R. Ibañez (Spain)	
Radiotherapy-induced changes in lymphocytes count important for immunotherapy of uterine cancers	PO-1145
<u>K. Holub</u> , G. Louvel (Spain)	
Evaluation of Dose to pelvic lymphnodes in CT-based High DoseRate Brachytherapy in Carcinoma Cervix	PO-1146
<u>S. Mitra</u> , A. Dewan, S. Aggarwal, I. Singh Wahi, S. Barik, K. Dobriyal, J. Mukhee, H. Khurana (India)	
Salvage radiotherapy for recurrent endometrial cancer: predictors of outcome.	PO-1147
<u>H. Almasri</u> , R. Cooper, F. Slevin, K. Cardale (Jordan)	
Implementation of a cervix cancer specific patient reported outcome measure in clinical practice	PO-1148
S. Atallah, L. Barbera, M. Folwell, D. Howell, A. Liu, <u>C. Jennifer</u> (Canada)	

Clinical track

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Long-term results of high-precision salvage radiation therapy after radical prostatectomy	PO-1149
<u>P. Bulychkin</u> , S. Tkachev, V. Matveev (Russian Federation)	
Biological target volume delineated and 3D UI guided hypofractional radiotherapy for prostate cancer	PO-1150
<u>J. Wang</u> , J. Ma, Y. Wang (China)	
Is the dose-distribution in bladder really unimportant for GU toxicity in prostate cancer patients?	PO-1151
<u>W. Majewski</u> , A. Napieralska (Poland)	
Postoperative Prostate Cancer treated with High-dose Radiotherapy.	PO-1152
<u>E. Amaya</u> , P. Samper, M. Hernández, M.D. De Las Peñas, J. Zapatero (Spain)	
Isolated bone metastases in prostate patients: preliminary analysis from two phase I trials on SRS	PO-1153
<u>F. Deodato</u> , A. Re, A. Ianiro, M. Boccardi, M. Ferro, S. Cammelli, C. Romano, V. Picardi, D. Traficante, A. Di Lallo, M. Buwenge, M. Ciuffreda, M. Ferro, S. Cilla, V. Valentini, A.G. Morganti, G. Macchia (Italy)	
Assessing the potential gains of a decision support system for primary treatment of prostate cancer	PO-1154
<u>Y. Van Wijk</u> , B. Ramaekers, C. Oberije, J. Van Roermund, B. Vanneste, P. Lambin (The Netherlands)	
The Impact of Undetectable PSA After Salvage Radiotherapy for Prostate Cancer	PO-1155
<u>I. Rodrigues</u> , C. Ferreira, J. Gonçalves, L. Carvalho, J. Oliveira, C. Castro, Â. Oliveira (Portugal)	
The Role Of Magnetic Resonance Imaging In Prostate Cancer	PO-1156
<u>E. González Del Portillo</u> , C. Gil Restrepo, P. Soria Carreras, M. Martín Izquierdo, Á. Virseda Rodríguez, J. García García, F. Gómez Veiga, L.A. Pérez Romasanta (Spain)	

Short-term results of coverage probability radiotherapy of MRI-staged prostate cancer	PO-1157
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Mobile app of individualized Patient Decision Aid for prostate cancer based on predictive models.	PO-1158
I. Halilaj (The Netherlands)	
Toxicity Profile in Postoperative Radiotherapy for Prostate Cancer with Moderate Hypofractionation	PO-1159
P. Pacifico, E.M. Bonetto, R.M. Niespolo, E. De Ponti, S. Vukcaj, S. Arcangeli (Italy)	
A pilot dual-platform transcriptomic analysis of diagnostic prostate biopsies & radical RT response	PO-1160
P. Charlton, D. O'Reilly, Y. Philippou, S. Rao, A. Lamb, G. Higgins, F. Hamdy, C. Verrill, R. Bryant, F. Buffa (United Kingdom)	
The first study in outcomes and toxicity of definite VMAT for prostate cancer in Southeast Asia	PO-1161
P. Wongsuwan, S. Vanitchpongphan, K. Tantisiriwat, K. Sooksatian, W. Sittiwong, P. Dankulchai (Thailand)	
Post HIFU Salvage Radiotherapy In Locally Relapsed Prostate Carcinoma: A Mono-Institutional Analysis	PO-1162
M. Rigo, R. Mazzola, G. Napoli, N. Giaj-Levra, V. Figlia, L. Nicosia, F. Ricchetti, C. Bellorofonte, F. Cuccia, F. Alongi (Italy)	
68Ga-PSMA PET-guided metastases directed stereotactic body radiotherapy in prostatic cancer patients	PO-1163
M. Rigo, R. Mazzola, V. Figlia, L. Nicosia, N. Giaj-Levra, F. Ricchetti, C. Francesco, F. Alongi (Italy)	
Long-term outcomes of radiotherapy regimen of 72 Gy in 30 fractions for prostate cancer	PO-1164
K. Tamari, R. Oh, H. Shiomi, S. Osamu, K. Ogawa (Japan)	
Toxicity and outcomes of postoperative hypofractionated Helical Tomotherapy for prostate cancer	PO-1165
F. Cuccia, G. Ferrera, V. Serretta, G. Mortellaro, F. Verderame, A. Lupo, D. Cesuglio, L. Ognibene, G. De Gregorio, E. Quartuccio, A. Gioia, M. La Vecchia, N. Luca, G. Trapani, V. Valenti, A. Tripoli, A. Lo Casto (Italy)	
IMRT versus 3D-CRT in the treatment of prostate cancer: comparison of outcomes and toxicity.	PO-1166
W. Guo, Y.C. Sun (China)	

Salvage therapies for PSMA PET-positive nodal recurrent prostate cancer	PO-1167
<u>N. Schmidt-Hegemann</u> , C. Eze, P. Rogowski, C. Schaefer, M. Li, A. Buchner, W.P. Fendler, P. Bartenstein, U. Ganswindt, C. Stief, C. Belka, A. Kretschmer (Germany)	
Radiotherapy in high risk prostate cancer: Whole pelvic radiotherapy vs prostate only radiotherapy	PO-1168
<u>A. Hernández</u> , L. Pelari, G. Caddedu, I. Císcar, K. Ytuza, S. Sastre, E. Carrasco, F. López, C. Vallejo, S. Sancho, A. Hervás (Spain)	
Influence of localisation of PSMA-positive oligo-metastases on efficacy of metastasis-directed EBRT	PO-1169
<u>N. Schmidt-Hegemann</u> , S. Kroeze, C. Henkenberens, M. Vogel, S. Kirste, J. Becker, I. Burger, T. Derlin, P. Bartenstein, M. Eiber, M. Mix, C. Lafougere, A. Müller, A. Grosu, S. Combs, H. Christiansen, M. Guckenberger, C. Belka (Germany)	
Long-Term testosterone levels and its influence in treatment outcomes in prostate cancer patients	PO-1170
<u>J.L. Munoz Garcia</u> , F. Ropero Carmona, B. Ortiz Sierra, Y. Rios Kavadoy, J. Quiros Rivero, J. Cabrera Rodriguez, P. Simon Silva, B. Baños Perez, C. Corral Fernandez (Spain)	
Low- and Intermediate-Risk Prostate Cancer. Stereotactic Body Radiation Therapy. Our experience.	PO-1171
<u>C. García Aguilera</u> , A. Méndez Villamón, S. Flamarique Andueza, D. Villa Gazulla, C. Escuín Troncho, J.M. Ponce Ortega, M.M. Puertas Valiño, M. Tejedor Gutiérrez (Spain)	
dose effects due to interfractional variability for hypofractionated radiotherapy of prostate cancer	PO-1172
<u>M. Splinter</u> , I. Sachpazidis, T. Bostel, P. Häring, C. Lang, A. Grosu, J. Debus, D. Baltas, N.H. Nicolay (Germany)	
Long term results of IG-IMRT in high risk prostate cancer patients: a monoinstitutional experience	PO-1173
<u>N. Di Muzio</u> , C.L. Deantoni, C. Cozzarini, I. Dell'Oca, F. Zerbetto, P. Mangili, S. Broggi, M. Paselli, A. Chiara, F. Borroni, R. Tummineri, L. Perna, R. Calandrino, C. Fiorino, A. Fodor (Italy)	
Results of a multinational clinical audit for prostate cancer radiotherapy: the IROCA project	PO-1174
<u>C. Lopes de Castro</u> , M. Fundowicz, A. Roselló, J. Jové, L. Deantonio, A. Aguiar, C. Pisani, S. Villà, A. Boladeras, E. Konstanty, M. Kruszyna-Mochalska, P. Milecki, D. Jurado-Bruggeman, J. Lencart, I. Modolell, C. Muñoz-Montplet, L. Aliste,	

M.G. Torras, M. Puigdemont, L. Carvalho, M. Krengli, F. Guedea, J. Malicki (Portugal)

SBRT for localised prostate cancer – Nordic results with mFU of 5.3 years PO-1175

K. Vuolukka, J. Palmgren, E. Tiainen, H. Janne, P. Auvinen, V. Kataja, J. Seppälä (Finland)

Ultra-hypofractionated SBRT for localized prostate cancer: single institution experience PO-1176

A. Acosta Rojas, A. Montero Luis, J. Valero Albarran, O. Hernando Requejo, E. Sanchez Saugar, R. Ciervide Jurio, M. Garcia-Aranda, X. Chen, R. Alonso Gutierrez, M.A. De la Casa, D. Zucca, P. Fernandez Leton, M.C. Rubio Rodriguez (Spain)

Treatment-related toxicity using prostate only vs prostate and pelvic lymph node radiation therapy. PO-1177

M. Parry, A. Sujenthiran, T. Cowling, J. Nossiter, P. Cathcart, N. Clarke, H. Payne, J. Van der Meulen, A. Aggarwal (United Kingdom)

Identifying skeletal-related events for prostate cancer in routinely collected hospital data. PO-1178

M. Parry, T. Cowling, A. Sujenthiran, J. Nossiter, B. Berry, P. Cathcart, N. Clarke, H. Payne, A. Aggarwal, J. Van der Meulen (United Kingdom)

Patient-reported outcomes following a high-dose rate brachytherapy boost for prostate cancer. PO-1179

M. Parry, J. Nossiter, T. Cowling, A. Sujenthiran, B. Berry, P. Cathcart, N. Clarke, N. Payne, J. Van der Meulen, A. Aggarwal (United Kingdom)

Patterns of failure after stereotactic ablative radiotherapy for abdomino-pelvic nodal disease PO-1180

F. Slevin, A. Littlejohns, P. Dickinson, K. Franks, R. Goody, R. Speight, J. Lilley, L. Murray, A. Henry (United Kingdom)

Metastasis-Directed Therapy influence in clinical outcomes of oligorecurrent prostate cancer PO-1181

A. Gonzalez Lopez, D. Büchsler, F. Suarez, E. Mayrata, F. Casquero, P. Bilbao, A. Gomez-Iturriaga (Spain)

PSMA-PET is superior to choline-PET based SABR for ADT deferral in oligometastatic prostate cancer PO-1182

C. Deijen, G. Vrijenhoek, W. Vogel, L. Moonen, F. Pos, H. Van der Poel, G. Borst (The Netherlands)

Do we need sigma constraints in era of intensity-modulated radiation therapy for prostate cancer?	PO-1183
<u>F. Patani</u> , D. Fasiolo, A. Allajbej, M. Trignani, M. Di Tommaso, A. Augurio, A. Vinciguerra, L. Caravatta, D. Genovesi (Italy)	
The significance of nomograms for predicting node metastasis in 68Ga-PSMA-PET/CT in prostate cancer	PO-1184
<u>C. Onal</u> , O.C. Guler, N. Torun, M. Reyhan (Turkey)	
Results of prostate cancer patients treated by integrated boost to dominant intraprostatic lesion	PO-1185
<u>A.R. Alitto</u> , M. Buwenge, G. Macchia, M. Ntreta, G. Siepe, E. Galofaro, F. Bertini, M. Ferioli, E. Mazzeo, E. Ippolito, G. Mantini, M. Ferro, A. Re, S. Cilla, V. Valentini, F. Deodato, A.G. Morganti, S. Cammelli (Italy)	
Impact of a low FODMAP diet on rectal gas and rectal volume during radiotherapy of prostate cancer	PO-1186
<u>C. Schaefer</u> , C. Zamboglou, N. Volegova-Neher, C. Martini, N.H. Nicolay, N. Schmidt-Hegemann, P. Rogowski, M. Li, C. Belka, A. Grosu, T. Brunner (Germany)	
A gene signature-based model to predict BCR-free survival after radical prostatectomy	PO-1187
M. Li, <u>R. Shi</u> , B. Claus (Germany)	
Optimal radiotherapy strategy as risk-group in non-metastatic prostate cancer patients (KROG 18-15)	PO-1188
<u>S.H. Choi</u> , Y.S. Kim, J. Yu, T. Nam, J. Kim, B. Jang, J.H. Kim, Y. Kim, B.K. Jung, A.R. Chang, Y. Park, S.U. Lee, K.H. Cho, J.H. Kim, H. Kim, Y. Choi, Y.J. Kim, D.S. Lee, Y.J. Shin, S.J. Shim, W. Park, J. Cho (Korea Republic of)	
VMAT SBRT for localized prostate cancer: 5-year update on toxicity and survival	PO-1189
<u>G.R. D'Agostino</u> , L. Di Brina, C. Franzese, C. Iftode, P. Mancosu, F. De Rose, E. Clerici, G. Reggiori, M. Badalamenti, M. Scorsetti (Italy)	
The 100 most cited articles in prostate cancer brachytherapy: A bibliometric study	PO-1190
<u>H. Zhao</u> , G. Cheng, N. Wu, M. He, Z. Zhao, N. Zhang (China)	
SIB-VMAT for DIL in prostate cancer: the preliminary result in acute toxicity and quality of life	PO-1191
<u>W. Sittiwong</u> , P. Dankulchai (Thailand)	

Elective Pelvic Nodes Irradiation in Patients with Prostate Cancer (PRO-EPI Study)	PO-1192
<u>M. Buglione</u> , A. Bruni, L. Bardoscia, S. Borghesi, E. Mazzeo, C. Cozzaglio, G. Mortellaro, L. Triggiani, R. Santini, R. Lisi, M. Valeriani, L. Amara, E. Cagna, S. Fondelli, A.M. Alitto, C. Franzese, P. Muto, A. Corsini, L. Livi, E. Garibaldi, M. Tartarelli, C.L. Deatoni, A. Baiguini, F. Bertoni, S.M. Magrini (Italy)	
18F-CHOLINE PET/68Ga-PSMA PET SBRT in oligorecurrent prostate cancer: comparative analysis	PO-1193
<u>R. Mazzola</u> , G. Napoli, G. Francolini, L. Triggiani, L. Nicosia, V. Figlia, N. Giaj-Levra, F. Ricchetti, M. Rigo, F. Cuccia, L. Livi, S.M. Magrini, M. Salgarello, F. Alongi (Italy) : U. Ricardi (Italy)	
MR-based adaptive IGRT of prostate cancer: feasibility, plan adaptation and acute toxicity	PO-1194
<u>D. Wegener</u> , F. Paulsen, C. De Colle, D. Thorwart, U. Grosse, A. Othman, S. Afat, J. Bedke, A. Stenzl, K. Nikolaou, D. Zips, A. Müller (Germany)	
Impact of Adjuvant Radiotherapy in node positive prostate cancer patients	PO-1195
<u>G. CORRAO</u> , M. Montesano, G. Marvaso, G.C. Mazzola, J. Franzetti, C. Fodor, D. Zerini, S. Gandini, S.P. De Angelis, F. Cattani, O. De Cobelli, R. Orecchia, B.A. Jereczek-Fossa (Italy)	
long term results with moderately hypofractionated RT in high-risk localized prostate cancer.	PO-1196
<u>S. Maulik</u> , I. Mallick, M. Arunsingh, S. Chatterjee, R. Achari, S. Chakraborty, B. Arun, S. Prasath (India)	
Short-term high precision RT for early PCa with SIB to the DIL: QoL assessment (AIRC IG 13218)	PO-1197
<u>G. Marvaso</u> , S.G. Gugliandolo, G. Corrao, S. Volpe, G. Riva, D.P. Rojas, D. Zerini, M. Pepa, P. Pricolo, S. Alessi, G. Petralia, F. Cattani, O. De Cobelli, R. Orecchia, B.A. Jereczek-Fossa (Italy)	
Comparison between built custom linked seeds and loose seeds in prostate brachytherapy	PO-1198
L. Ollivier, <u>F. Lucia</u> , C. Lucas, V. Bourbonne, J. Marolleau, N. Boussion, G. Goasduff, G. Fournier, G. Dissaux, O. Pradier, A. Valeri, U. Schick (France)	
Rectal toxicity prostate cancer treated with Brachytherapy: a radiomics-machine learning based NTCP	PO-1199
<u>G. Dissaux</u> , M. Ibrahim, F. Lucia, V. Bourbonne, N. Boussion, O. Pradier, D. Visvikis, A. Valeri, J. Bert, M. Hatt, U. Schick (France)	

Multimodality treatment for M1a prostate cancer: toxicity and early oncological results.	PO-1200
<u>C. Berghen</u> , S. Joniau, G. Devos, K. Poels, K. Haustermans, G. De Meerleer (Belgium)	
Oligorecurrent prostate cancer treated with metastasis-directed therapy: oncological outcomes	PO-1201
G. Devos, <u>C. Berghen</u> , S. Joniau, K. Poels, K. Haustermans, K. Rans, G. De Meerleer (Belgium)	
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Clinical track

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Clinical track

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Clinical track

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Gender disparity among United States academic oncology program leadership PO-1285

M. Chowdhary, A. Chowdhary, T. Royce, K. Patel, A. Chhabra, S. Jain, M. Knoll, N. Vapiwala, B. Pro, G. Marwaha (USA)

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T. Basu (India)

Quality of life (QL) in elderly breast cancer survivors. Effects of surgery. Global QL determinants PO-1287

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M. Golafshar, M. Petersen, T. DeWees (USA)

Clinical track

Poster: Clinical track: Other

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Physics track

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Physics track

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Physics track

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<u>E. Brunnenberg</u> , A. Lazareva, I. Steinseifer, R.J. Smeenk, P. Aljabar, R. Monshouwer (The Netherlands)	
Attention boosted convolution neural networks for parotid and parotid tumor segmentation on MR image	PO-1705
<u>W. Jiazhou</u> , H. Weigang, Y. Fangfang, X. Xianwu (China)	
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J. Dickmann, C. Sarosiek, G. Coutrakon, S. Rit, N. Detrich, V. Rykalin, M. Pankuch, R.P. Johnson, R.W. Schulte, K. Parodi, G. Dedes, <u>G. Landry</u> (Germany)	

Fibroblast Activation Protein (FAPI) PET for diagnostics and radiotherapy in head and neck cancer	PO-1707
<u>M. Syed</u> , P. Flechsig, J. Liermann, J. Debus, F. Giesel, U. Haberkorn, S. Adeberg (Germany)	
Retrospective automatic detection of calcified plaque in heart on planning CT:viability and benefits	PO-1708
<u>M. Lizondo</u> , N. Jornet, J. Fuentes-Raspall, D. Viladés-Mendel, R. Leta, A. Latorre-Musoll, P. Delgado-Tapia, P. Carrasco, J. Pérez-Alija, P. Gallego, P. Simón, A. Ruiz-Martínez, M. Adria, I. Valverde-Pascual, M. Barceló, N. Garcia, M. Ribas (Spain)	
Automated organ delineation in T2 head MRI using combined 2D and 3D convolutional neural networks	PO-1709
<u>L. Rusko</u> , B. Kolozsvari, P. Takacs, B. Darazs, R. Czabany, B. Gyalai, S. Kaushik, C. Cozzini, V. Paczona, K. Hideghety, H. McCallum, S.F. Petit, J. Kleijnen, J.A. Hernandez Tamames, F. Wiesinger (Hungary)	
A novel AI solution for auto-segmentation of multi-origin liver neoplasms	PO-1710
<u>A. Vaidyanathan</u> , W. Yousif MD, A. Ibrahim MD, B. Miraglio PhD, R. Leijenaar PhD, H. Woodruff PhD, S. Walsh PhD, P. Lambin MD PhD (The Netherlands)	
A CBCT based quality assurance technique for an MR-only radiotherapy workflow for head patients	PO-1711
<u>S. Irmak</u> , L. Fetty, T. Nyholm, G. Heilemann, D. Georg, N. Nesvacil, P. Kuess, W. Lechner (Austria)	
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<u>T. Torfeh</u> , R. Hammoud, S. Aouadi, S. Paloor, N. Al-Hammadi (Qatar)	
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<u>J. Zimmerman</u> , G. Poludniowski (Sweden)	
Multimodalities imaging PET/CT-MR for radiotherapy: study of positioning uncertainties	PO-1714
<u>P. Hinault</u> , I. Gardin, P. Gouel, P. Decazes, H. Souchay, P. Vera, D. Gensanne (France)	
Predicting dosimetric impact of (auto)contouring errors for OARs in prostate VMAT radiotherapy	PO-1715
<u>D. Sandys</u> , M. Tyryger, B. Al-Qaisieh, N. Michael (United Kingdom)	

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<u>K. Sandgren</u> , J. Jonsson, A. Keeratijarut Lindberg, T. Näsmark, S. Said, M. Staneva, A. Bergh, K. Riklund, A. Widmark, T. Nyholm (Sweden)	
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<u>M. Susenburger</u> , P. Paysan, I. Peterlik, A. Strzelecki, D. Seghers, M. Kachelrieß (Germany)	
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<u>L. Bokhorst</u> , M.H.F. Savenije, M.P.W. Intven, C.A.T. Van den Berg (The Netherlands)	
Clinical evaluation of deep learning auto-contouring in prostate and head and neck cancer.	PO-1719
<u>C. Hague</u> , W. Beasley, A. McPartlin, S. Owens, G. Price, H. Saud, N. Slevin, M. Van Herk, P. Whitehurst, R. Chuter (United Kingdom)	
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<u>Y. Tseng</u> , M. Zhang, Y. Song (USA)	
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<u>L. Toussaint</u> , S. Eskildsen, O. Casares-Magaz, C. Stokkevåg, Y. Lassen-Ramshad, H. Hasle, K. Tofting-Olesen, D. Grosshans, R. Mohan, M. Hoyer, L. Muren (Denmark)	
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<u>S. Rivera</u> , A. Lombard, D. Pasquier, S. Wong, E. Limkin, G. Auzac, J. Blancheotte, M.E. Chand-Fouché, A. Lamrani-Ghaouti, N. Bonnet, N. Paragios, C. Martineau-Huynh, E. Ullmann, A. Ruffier, E. Deutsch (France)	
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<u>D. Den Boer</u> , J. Veldman, A. Bel, Z. Van Kesteren (The Netherlands)	
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<u>R. Werner</u> , T. Sentker, F. Madesta, T. Gauer, C. Hofmann (Germany)	

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<u>F. Vaassen</u> , C. Hazelaar, A. Vaniqui, M. Gooding, B. Van der Heyden, R. Canters, W. Van Elmpt (The Netherlands)	
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<u>F. Faller</u> , S. Mein, B. Ackermann, W. Stiller, A. Mairani (Germany)	
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<u>D. Nash</u> , A. McWilliam, A.L. Palmer, E. Vasquez Osorio (United Kingdom)	
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<u>P. Costanza</u> , R.I. Mackay, K.J. Kirkby, M.J. Taylor (United Kingdom)	
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<u>K.J. Nelissen</u> , D.L.J. Barten, J.J. Laan, H. Westerveld, A. Bel, Z. Van Kesteren (The Netherlands)	
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<u>D. Barten</u> , Z. Van Kesteren, J. Visser, J. Laan, H. Westerveld, A. Bel (The Netherlands)	
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<u>P. Zaffino</u> , R. Raso, M.C. Angiocchi, M. Merola, S. Canino, M. Nonnis, A. Bavasso, C. Mezzotero, R.A. Anoja, E. Mazzei, M.F. Spadea (Italy)	
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<u>S. Amador Sánchez</u> , J. Dhont, J. De Mey, M. Malbrain, J. Vandemeulebroucke (Belgium)	
Validation of PSMA-PET/CT based contouring techniques for intraprostatic tumor definition	PO-1733
<u>D. Kostyszyn</u> , T. Fechter, D. Baltas, J. Ruf, M. Mix, P. Bronsert, A. Grosu, C. Zamboglou (Germany)	
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<u>G. Fonseca</u> , B. Van der Heyden, I. Almeida, I. Rinaldi, W. Van Elmpt, F. Verhaegen (The Netherlands)	

Superparamagnetic nickel ferrite nanoparticles as contrast agents in Magnetic Resonance Imaging	PO-1735
<u>C. Ferrer</u> , C. Huertas, R. Plaza, E. Corredoira (Spain)	
High frame rate CAIPIRINHA-TWIST-VIBE MRI for volumetric motion monitoring in MRgRT: a pilot study	PO-1736
<u>J. Yuan</u> , O.L. Wong, R.Y.W. Ho, Y. Zhou, K.Y. Cheung, S.K. Yu (Hong Kong (SAR) China)	
Pulse sequence optimization in pelvis on a 1.5T MR-Linac	PO-1737
<u>Y. Zhou</u> , J. Yuan, Y.W. Ho, B. Yang, L.C. Ho, K.Y. Cheung, S.K. Yu (Hong Kong (SAR) China)	
Dosimetric evaluation of deep learning generated synthetic CT data for H&N MRI only radiotherapy	PO-1738
<u>E. Palmér</u> , A. Karlsson, F. Nordström, C. Siversson, K. Petruson, M. Ljungberg, M. Sohlin (Sweden)	
A deep learning neural network to remove metal artefacts via residual learning for cone-beam CT	PO-1739
<u>M. Skaarup</u> , J. Edmund, M. Kachelriess, I. Vogelius (Denmark)	
Quantitative evaluation of ultra-low dose paediatric cone beam CT for image-guided radiotherapy	PO-1740
<u>A. Bryce-Atkinson</u> , R. De Jong, A. Bel, M.C. Aznar, G. Whitfield, M. Van Herk (United Kingdom)	
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<u>I. Steinseifer</u> , E. Brunenberg, C. Linthorst, R. Wijsman, J. Bussink, R. Monshouwer (The Netherlands)	
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<u>M. Van Herk</u> , A. McWilliam, K. Banfill, C. Faivre-Finn (United Kingdom)	
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<u>Y. GUO</u> , Y. Qing (China)	
Privacy preserving distributed liver tumor segmentation	PO-1744
<u>F. Zerka</u> , A. Vaidyanathan, S. Barakat, M. Benjamin, L. Ralph T.H., W. Sean, L. Philippe (The Netherlands)	
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L. Taeubert, Y. Berker, B. Beuthien-Baumann, A.L. Hoffmann, E.G.C. Troost, A. Pfaffenberger, M. Kachelrieß, <u>C. GILLMANN</u> (Germany)	

Deep learning artificial intelligence for auto-segmentation of the bowel bag.	PO-1746
<u>J. Miskell</u> , C. Thomas, M. Pearson (United Kingdom)	
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<u>M. Fernandes</u> , J. Teuwen, R. Wijsman, B. Stam, N. Moriakov, J. Bussink, R. Monshouwer (The Netherlands)	
Carbon-ion boost followed by photon IMRT for PCa: dosimetric and geometric evaluations, AIRC-IG14300	PO-1748
<u>G. Marvaso</u> , S.G. Gugliandolo, S. Comi, M. Pepa, S. Russo, B. Vischioni, F. Valvo, T. Giandini, B. Avuzzi, R. Valdagni, D. Ciardo, B.A. Jereczek-Fossa, F. Cattani, R. Orecchia (Italy)	
Contour propagation using Velocity deformable image registration for re-scanned head & neck patients	PO-1749
<u>R. Fullarton</u> , G. Kidane, D. Withers, C. Liz (United Kingdom)	
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<u>V. Mengling</u> , R. Perrin, F. Putz, R. Fietkau, C. Bert (Germany)	
Effect of pseudoCT methods on dose-derived rectal toxicity prediction in MR-only prostate RT	PO-1751
<u>C. Thomas</u> , I. Dregely, I. Oksuz, T. Guerrero-Urbano, A. Greener, A. King, S. Barrington (United Kingdom)	
Evaluation of the deformable image registration algorithm in Velocity image registration software	PO-1752
<u>R. Fullarton</u> , K. Ghirmay, W. Dom, L. Crees (United Kingdom)	
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<u>A. Lombard</u> , L. De Vitry D'Avaucourt, E. Ullmann, R. Marini-Silva, N. Bus, N. Paragios (France)	
A stereoscopic CT artifact reduction method image quality comparison to current vendor solutions	PO-1754
<u>D. Branco</u> , S. Kry, T. Paige, J. Rong, X. Zhang, S. Frank, D. Followill (USA)	
Use of 'Jigsaw puzzles' to train convolutional neural networks for segmentation with limited data	PO-1755
<u>E. Henderson</u> , E. Vasquez Osorio, M. Van Herk, A. Green (United Kingdom)	
Phantom investigation of the geometric accuracy of 4D-CBCT	PO-1756
<u>V. Giacometti</u> , C.E. Agnew, A. Ali, A.R. Hounsell, C.K. McGarry (United Kingdom)	

Physics track

Poster: Physics track: Implementation of new technology, techniques, clinical protocols or trials (including QA & audit)

Peer Review in Stereotactic Body Radiotherapy: The Impact of Case Volume	PO-1757
M. Huo, L. Morley, L. Dawson, J. Bissonnette, J. Helou, M. Giuliani, A. Berlin, D. Shultz, A. Hosni, A. Shessel, A. Barry (Canada)	
Performance studies of an MR linear accelerator using a 3D-printed ball-bearing phantom	PO-1758
H.L. Riis, B.C. Buthler, U. Bernchou, A.S. Bertelsen, S.N. Agergaard, V.N. Hansen, F. Mahmood, C. Brink (Denmark)	
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G. Liu, A. Qin, J. Zhou, D. Yan, L. Zhao, C. Stevens, I. Grills, P. Kabolizadeh, X. Li, X. Ding (USA)	
Magnetically focused minibeam for proton therapy	PO-1760
G. McAuley, C. Lim, A. Teran, J. Slater, A. Wroe (USA)	
A cross-platform daily QA of MRI simulator using an ACR MRI phantom	PO-1761
O.L. Wong, Y.W. Ho, J. Yuan, M.W.K. Law, C.C. Ho, C. Kin Yin, Y. Siu Ki (Hong Kong (SAR) China)	
Dummy Run for bone SBRT in french multicentric study	PO-1762
S. Thureau, L. Lebret, F. Jean Christophe, R. Modzelewski, N. Bonnet, V. Marchesi, A. Lisbona (France)	
Generation of artificial realistic MR and CT images using StyleGAN	PO-1763
L. Fetty, M. Bylund, G. Heilemann, D. Georg, T. Nyholm, P. Kuess, T. Löfstedt (Austria)	
Prognostic outcome prediction for head and neck cancer patients using convolutional neural networks	PO-1764
J. Guo, T. Zhai, R.J.H.M Steenbakkers, S. Both, J.A. Langendijk, P.M.A. Van Ooijen, N.M. Sijtsema (The Netherlands)	

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<u>L. Marrazzo</u> , G. Simontacchi, C. Arilli, S. Calusi, M. Casati, A. Compagnucci, C. Talamonti, L. Livi, S. Pallotta (Italy)	
A clinical solution for electron streaming shielding for partial breast treatments on Unity MR-linac	PO-1766
<u>J. Chick</u> , A. Mitchell, J. Sullivan, T. Herbert, R. Lawes, H. McNair, M. Schmidt, S. Nill, A. Kirby, U. Oelfke (United Kingdom)	
A national survey of total body irradiation to define best practice for the ALL-RIC trial	PO-1767
<u>P. Diez</u> , R. Mir, C. Stacey, E. Thomas, E. Miles, A. Hodgkinson, D.I. Marks (United Kingdom)	
A pre-treatment quality assurance survey on patients treated with the new Accuray Radixact platform	PO-1768
<u>M. Fusella</u> , A. Scaggion, N. Pivato, M.A. Rossato, A. Roggio, M. Paiusco (Italy)	
Multicenter end-to-end test for lung SBRT treatments	PO-1769
<u>S. Pallotta</u> , L. Marrazzo, S. Calusi, C. Talamonti, S. Russo, M. Esposito, C. Fiandra, F.R. Giglioli, M. Pimpinella, V. De Coste, A. Stravato, M. Stasi, P. Mancosu, R. Lisci (Italy)	
Failure Modes and Effects Analysis with Lu-177 Dotatate PRRT in a Radiation Oncology-based Program	PO-1770
<u>N. Maughan</u> , H. Kim, M. Roach, J. Garcia-Ramirez, M. Amurao, Y. Hao, J. Zoberi (USA)	
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<u>A. Haraldsson</u> , J. Engleson, E. Wieslander, P. Engström, A. Abri, M.A.R. Per (Sweden)	
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<u>C. Ankjærgaard</u> , E. Konradsson, J.B. Christensen, K. Petterson, C.E. Andersen, C. Ceberg (Denmark)	
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<u>V. Batista</u> , J. Fischer, B. Rhein (Germany)	
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<u>H.D. Nissen</u> , S.P. McIlroy, B.M. Havelund, C. Krog, J. Pløen, M. Berg (Denmark)	

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<u>T. Santos</u> , T. Ventura, J. Mateus, M. Capela, M.D.C. Lopes (Portugal)	
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<u>M. Mundayadan Chandroth</u> , A. Venning, B. Chick, B. Waller (Australia)	
Validation of the Pylinac software platform for MLC log file analysis	PO-1777
<u>J.F. Calvo Ortega</u> , M. Hermida-López, S. Moragues-Femenía, C. Laosa-Bello, J. Casals-Farran (Spain)	
Analysis of treatment times with a Halcyon 2.0 linac	PO-1778
<u>M. Hermida Lopez</u> , D. García Relancio, M. Comino Muriano, B. Pérez Esteve, E. Castillo Elías, Y. Carrera García, J. Giralt (Spain)	
The feasibility study of MLC-based IMRT treatment planning on a Cobalt-60 machine	PO-1779
<u>E. Borzov</u> , A. Nevelsky, R. Bar-Deroma, S. Billan (Israel)	
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<u>K.B. Kim</u> , S. Han, S.S. Lee, G.S. Cho, K.T. Kim, S.H. Choi, W. Jang, H.I. Kim, S.E. Han, M.C. Song (Korea Republic of)	
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<u>I. Silvestre Patallo</u> , A. Subiel, A. Westhorpe, C. Gouldstone, A. Tulk, R.A. Sharma, G. Schettino (United Kingdom)	
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<u>O.L. Wong</u> , J. Yuan, Y. Zhou, K.Y. Cheung, S.K. Yu (Hong Kong SAR) China)	
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<u>B. Yalvac</u> , B. Reniers (Belgium)	
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<u>L. Wilke</u> , S. Ehrbar, Y. Safarkhanlo, M. Bogowicz, J. Krayenbühl, M. Baumgartl, M. Chamberlain, L.S. Stark, M. Zamburlini, N. Andratschke, M. Guckenberger, S. Tanadini-Lang (Switzerland)	

Image registration evaluation of online Monaco on Unity MR-Linac - A phantom study	PO-1785
<u>Y. Zhou</u> , J. Yuan, Y.W. Ho, W.W. Lam, B. Yang, L.C. Ho, K.Y. Cheung, S.K. Yu (Hong Kong (SAR) China)	
Online IGRT-Halcyon specific guidance parameters in automatic matching for prostate cancer patients	PO-1786
<u>M. Altabas Gonzalez</u> , X. Maldonado Pijoan, L.J. Fernández Rodriguez, E. Castillo Elias, B. Pérez Esteve, M. Comino Muriano, Y. Carrera García, J. Matheos Pérez, A. Jurado Martínez, M.D.M. Ramírez Cruz, A. Palma Evans, D. Garcia Relancio, J. Giralt Lopez de Sagredo (Spain)	
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<u>M. Raczkowski</u> , M. Janiszewska, T. Siudziński, A. Maciejczyk (Poland)	
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<u>P.G. Franco</u> , E. Ambroa, I. Valverde-Pascual, J. Perez-Alijia (Spain)	
Commissioning experience with the world's first CT-integrated linear accelerator uRT-linac 506c	PO-1789
<u>L. YU</u> , J. Wang, W. Hu (China)	
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<u>T. Henry</u> (Sweden)	
Synchrotron Radiotherapy of Pet Cadavers at the Imaging and Medical Beamline	PO-1791
<u>L. Day</u> , M. Barnes, L. Smyth, M. Donzelli, S. Bartzsch, M. Klein, D. Butler, D. Hausermann, S. Ryan, J. Crosbie (Australia)	
Electron beam aperture cut-out customization using 3D printed ABS plastic	PO-1792
<u>A. Ferrando Sanchez</u> , J.I. Castaño Correa, E. Cabello Murillo, R. D'Ambrosi Centeno, G. Pozo Rodríguez, A.I. Milanés Gallet, R. Díaz Fuentes, A. Martín González, J.F. Pérez-Regadera Gómez (Spain)	
BioXmark liquid fiducials to enable radiotherapy tumor boosting in rectal cancer feasibility trial	PO-1793
<u>M. Berbée</u> , T. Opbroek, J. Paulissen, R. Houben, E. Van Limbergen, B. Ta, I. Steenbakkers, F. Verhaegen, R. De Ridder, R. Jansen, J. Melenhorst, F. Bakers, H. Grabsch, J. Buijsen, R. Canters (The Netherlands)	

Real-life experiences of an MR-Only prostate radiotherapy pathway with MR-CBCT soft-tissue matching	PO-1794
<u>H. McCallum</u> , J.J. Wyatt, J. Frew, C. Walker, N. Richmond, M. Wilkinson, S. Driver, K. Pilling, B. Rachel L, S. West, R.A. Pearson (United Kingdom)	
Clinical Validation of an AI software to auto segment OARs on CT datasets for Radiation Oncology	PO-1795
<u>C. Kota</u> , M. Haas, A. Smith, C. Murphy, H. Zhang (USA)	
Framework for Competency and Performance Assessment in Radiation Oncology: MRIdian Linac Case Study	PO-1796
<u>C. Kota</u> (USA)	
Dosimetric analysis of simultaneous integrated boost in the HYPORT Adjuvant Trial (NCT03788213)	PO-1797
<u>S. Bhusal</u> , S. Chatterjee, S. Chakraborty, A. Kumari, S. Bachianathan, A. Mahato, P. Lal, S. Gupta, P. Solomon, K.M. Das, S. Mandal (India)	
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<u>B. Vischioni</u> , A. Mirandola, M. Bonora, S. Ronchi, E. Mastella, E. Orlandi, N.A. Iacobelli, A. Cavallo, L. Licitra, C. Fallai, M. Ciocca, E. Pignoli, S.M. Magrini, P. Antognoni, F. Valvo (Italy)	
The quality improvement in prostate radiotherapy based on results from end-to-end national audits	PO-1799
<u>I. Koniarova</u> , T. Korinek, V. Dufek, I. Horakova (Czech Republic)	
Successful Implementation of Treatment Planning Trial QA for the PIVOTALboost Trial	PO-1800
<u>H. Mayles</u> , O. Naismith, N. Snelson, I. Syndikus (United Kingdom)	
A new standardized global plan complexity score indicator	PO-1801
<u>T. Santos</u> , T. Ventura, M.D.C. Lopes (Portugal)	

Radiobiology track

Poster: Radiobiology track: Radiobiology of normal tissues

LXA4 attenuates the radiation-induced pulmonary fibrosis via FPR2. PO-1802

J. KIM, S. Park, S.Y. Han, J. Cho (Korea Republic of)

Preventing Radioinduced Injury by Topical Application of an Amifostine Metabolite-Loaded Thermogel PO-1803

C. Clémenson, W. Liu, D. Bricout, L. Soyez-Herkert, C. Chargari, M. Mondini, R. Haddad, X. Wang-Zang, L. Benel, C. Bloy, E. Deutsch (France)

In silico model of radiation-therapy damage to microvasculature of tissues surrounding tumour PO-1804

A. Cicchetti, F. Laurino, T. Rancati, P. Zunino (Italy)

PM014 improves radiotherapy in an orthotopic lung cancer mouse model by alleviating fibrosis PO-1805

S. PARK, J. Kim, J. Kim, J. Cho (Korea Republic of)

Early radio-induced bladder wall thickening in rats: optimizing the methodology and first evidences PO-1806

A. Spinelli, A. Bresolin, S. Zuppone, G. Fallara, R. Vago, C. Fiorino, C. Cozzarini (Italy)

A multicenter assessment of HSPB1 and TGB1 SNPs for hematological toxicity in lung cancer patients PO-1807

O. Muñoz Muñoz, J. Cacicedo, B.D. Delgado Leon, S. Perez Luque, M. Borrego Reina, J.L. Lopez Guerra (Spain)

Radiobiology track

Poster: Radiobiology track: Radiobiology of stem cells (cancer and normal tissue)

Effects of photon, carbon ion and ultraviolet radiation on human mesenchymal stem cells PO-1808

A. Rühle, R. Lopez Perez, J. Brauer, R. Saffrich, J. Debus, A. Grosu, N.H. Nicolay, P.E. Huber (Germany)

Radiobiology track

Poster: Radiobiology track: Radiobiology of particles and heavy ions

**Parallel quantification of MR signal and
radioenhancement of Gd nanoparticles for MR-based
dosimetry**

PO-1809

P. Maury, M. Shahin, A. Darricau, S. Ammari, F. Lux, O. Tillement, A. Rouyar-Nicolas, C. Chargari, E. Deutsch, S. Lacombe, C. Robert, E. Porcel (France)

Radiobiology track

Poster: Radiobiology track: Tumour microenvironment

Determining the boundaries of the FLASH effect

PO-1810

B. Rothwell, N. Kirkby, M. Merchant, A. Chadwick, M. Lowe, R. Mackay, K. Kirkby (United Kingdom)

Radiobiology track

Poster: Radiobiology track: Immuno-radiobiology

**The prognostic value of CD8+ infiltration and PD-L1
expression in salivary gland cancers**

PO-1811

N. Kesar, R. Winkelmann, F. Rödel, J. Oppermann, S. Balster, S. Ghanaati, C. Brandts, D. Martin, C. Rödel, P. Balermpas, J. Von der Gruen (Germany)

Peripheral immune cells and intraoperative radiation in low-risk breast cancer	PO-1812
<u>I. Linares</u> , M.A. Berenguer Frances, R. Cañas-Cortés, M. Pujol-Canadell, M. Nuñez, S. Comas Antón, E. Martinez, M. Laplana, H. Pérez-Montero, M.J. Pla Farnós, B. Both, F. Guedea (Spain)	
Plasma biomarkers of immunogenic cell death during and after SBRT and concurrent chemo-RT for NSCLC.	PO-1813
<u>K. Reynders</u> , A.D. Garg, E. Van Limbergen, P. Agostinis, J. Vansteenkiste, L. Hendriks, K. Rouschop, M. Ručević, M. Lambrecht, D. De Ruysscher (The Netherlands)	
RT-induced abscopal effect despite unfavorable pretreatment immune signature	PO-1814
<u>E. Firat</u> , T. Watanabe, J. Scholber, R. Luo, N. Ehrat, F. Meiss, G. Niedermann (Germany)	
Radiotherapy combined to Duox1 inhibition in macrophages enhances their anti-tumor effect	PO-1815
<u>L. Meziani</u> (France)	
Impact of radiotherapy in immunological parameters in brain metastases by SRS	PO-1816
A. Gonzalez-Pose, A. Garcia-Perez, M. Gonzalez-Rodriguez, <u>A. Lopez Medina</u> , S. Mirete Bachiller, V. Ochagavia, I. Nieto, F.J. Salvador, V.M. Muñoz Garzón (Spain)	
Kinetics and dose-volume effect of radiotherapy on leucocyte and platelet blood cell components	PO-1817
<u>C. Terrones Campos</u> , B. Ledergerber, I. Vogelius, M. Helleberg, L. Specht, J. Lundgren (Denmark)	
Cytogenetic and immunological markers to predict side effects and tumour control in cancer patients	PO-1818
<u>Z. Juranyi</u> , Z. Kocsis S., K. Lumniczky, K. Balázs, P. Ágoston, G. Farkas, M. Kun-Gazda, G. Székely, T. Major, C. Pesznyák, G. Stelczer, K. Jorgo, L. Gesztesi, C. Polgár, G. Sáfrány (Hungary)	
Leukocyte migration towards particle radiation-induced senescence-associated secretory phenotypes	PO-1819
T. Walle, T. Beikert, J. Kraske, T. Trinh, A. Tietz, J. Debus, <u>P. Huber</u> (Germany)	
Repolarized macrophages, induced by SRS and anti-PD1, mediate long-term survival in murine glioma	PO-1820
<u>A. Stessin</u> , M. Clausi, S. Ryu (USA)	

Investigating immune microenvironment effects of radiotherapy in pre-clinical prostate cancer models

PO-1821

Y. Philippou, H. Sjoberg, E.A. Murphy, K. Jones, A. Gordon-Weeks, G. McKenna, G. Uzi, V. Cerundolo, I.G. Mills, F.C. Hamdy, R.J. Muschel, R.J. Bryant (United Kingdom)

Radiobiology track

Poster: Radiobiology track: Radiation and tumour metabolism

PET-CT based metabolic regression velocity following SBRT for spinal oligometastases

PO-1822

H. Vyas, S. Vangipuram, A. Bhange, D. Patel, B. Patneedi, K. Ar (India)

Radiobiology track

Poster: Radiobiology track: DNA damage response

New insights into cellular dose-response in vitro from high-throughput time-lapse AI assays

PO-1823

R. Koch, I. Dokic, M. Alber, E. Bahn (Germany)

Superparamagnetic iron oxide nanoparticles as radiosensitisers with magnetic fields.

PO-1824

E. Russell, M. Barry, S. Osman, G. Schettino, C. McGarry, K. Prise (United Kingdom)

Abiraterone sensitises response to high dose radiotherapy in prostate & bone cancer models in vitro.

PO-1825

T. Wright, K. Prise, A. Cole (United Kingdom)

Measuring probability of double-strand breaks along a 160 MeV Bragg curve

PO-1826

K. McConnell, L. Liu, C. Chang, V. Moiseenko (USA)

Radiobiology track

Poster: Radiobiology track: Biological therapies (e.g. viruses, vaccines)

Clinical application of radiation-enhancing nanoparticles PO-1827
N. Scher, P. Poortmans, V. Calugaru (France)

RTT track

Poster: RTT track: Patient preparation, positioning and immobilisation

Alignment of prostate cancer patients for radiotherapy on the MR-linac PO-1828

H. Barnes, J. Mohajer, A. Dunlop, G. Adair Smith, T. Herbert, R. Lawes, A. Tree, H. McNair (United Kingdom)

Can empty bladder filling protocol be implemented for localised prostate external beam radiotherapy? PO-1829

G. Chetiyawardana, C. Holborn, P. Hoskin, Y. Tsang (United Kingdom)

Clinical verification of the pitch functionality and setup accuracy of the Solstice SRS System PO-1830

C.L. Ong, E. Franken (The Netherlands)

Intravenous contrast media in radiation therapy planning CT scans - current practice and learning PO-1831

S. Minogue, C. Gillham, M. Kearney, L. Mullaney (Ireland)

Assessment of set up accuracy using an evacuated cushion for Proton Beam Therapy PO-1832

D. Roberts, P. Foden, L. Elliff, K. Allen, M. Lowe, C. Eccles (United Kingdom)

What is the best modality to distract patients during prolonged breath-holds? PO-1833

<u>N. Audag</u> , G. Van Ooteghem, M. Pirenne, G. Liistro, G. Reyhler, X. Geets (Belgium)	
Initial evaluation of a new immobilization system for lung SBRT	PO-1834
F.J. Conejo Monasterio, A. Montejo Arteche, <u>M. FERNANDEZ MONTES</u> , N. Sánchez Hernández, N. Pereda Barroeta, J.A. Válgoma Solanas, M. Castanedo Álvarez (Spain)	
Interventions demonstrate potential to promote patient comfort during radiotherapy.	PO-1835
<u>S. Goldsworthy</u> , S. Palmer, J.M. Latour, H. McNair, M. Cramp (United Kingdom)	
Impact of bladder and rectum preparation on in vivo dosimetry for prostate cancer patients	PO-1836
<u>Y.A.C. Fiagan</u> , E. Bossuyt, D. Nevens, P. Dirix, F. Theys, D. Verellen (Belgium)	
Reproducibility of the bite block during radiotherapy of head-and-neck cancer patients	PO-1837
<u>V. Leijser</u> , M. Heldens-van Rooy, M. Wendling (The Netherlands)	
Multiple Brain Mets: impact of patient positioning errors on optimal PTV margin strategy	PO-1838
<u>L. Capone</u> , B. Nardiello, R. El Gawahary, G. Raza, C. Scaringi, F. Bianciardi, P. Gentile, S. Paolini, G. Minniti (Italy)	
Implementation of image reduction for DIBH/FB breast patients following evaluation of an SGRT device	PO-1839
<u>M. Heinitz</u> , S. Perryck, C. Linsenmeier, S. Tanadini-Lang, G. Matthias, I. Pytko, M. Zamburlini, A. Moreira (Switzerland)	
Introduction of an RT consult to assess bladder size prior to planning CT scan for prostate patients	PO-1840
<u>W. GoldshakeR</u> , A. Aggarwal, T. Guerrero-Urbano, S. Harris, S. Hughes, S. Morris, V. Mullassery (United Kingdom)	
Efficacy of a new dedicated immobilization device for treatment of Central Nervous disease	PO-1841
<u>N. Giaj Levra</u> , V. Figlia, R. Mazzola, L. Nicosia, F. Ricchetti, M. Rigo, D. Tomasini, F. Cuccia, L. Agostinelli, R. Ruggieri, F. Alongi (Italy)	
Set-up accuracy of BrainLab immobilization mask for intracranial stereotactic radiotherapy	PO-1842
<u>C. Di Carlo</u> , M. Valenti, S. Costantini, F. Cucciarelli, F. Fenu, L. Vicenzi, S. Di Biase, S. Maggi, G. Mantello (Italy)	

Bladder and rectum volume control at the CT simulation stage of curative pelvic patients protocol	PO-1843
<u>M. Berg</u> , T. H Herbst, C. J Skovgaard, C. Krog, J.S. Rasmussen, K. Edwardsen, M. Christensen, S.D. Hansen (Denmark)	
Service evaluation of a new bladder filling protocol for radical prostate radiotherapy	PO-1844
<u>D. Burns</u> , K. Rosbottom, J. Mitchell (United Kingdom)	

RTT track

Poster: RTT track: Imaging acquisition and registration, OAR and target definition

Time trend analysis of target volume auto-contouring in locally advanced NSCLC over the course of RT	PO-1845
<u>S. Barrett</u> , M. Leech, L. Marignol (Ireland)	
Inter-fraction reproducibility of organs at risk in prostate and rectum RT treatments.	PO-1846
<u>N. Espinosa</u> , A. Coral Gallart, S. Bermejo Martinez, X. Nolla Nieto, G. Gomez De Segura Melcon, M. Mancera Soto, M. Lizondo Gisbert, N. Jornet Sala (Spain)	
ART in prostate cancer: how to use an offline approach with daily CBCT and deformable registration	PO-1847
<u>L. Capone</u> , F. Cavallo, F. Lusini, D. Di Minico, B. Nardiello, N. Leonardo, P. Gentile (Italy)	
Non-invasive Cardiac Radioablation for Ventricular Tachycardia	PO-1848
<u>K. Pilling</u> , M. Wilkinson, N. Richmond, C. Walker, L. McQuillan, R. Brooks, A. Ogilvie, E. Shepherd, D. Greenhalgh, N. Seller, R. McStay, P. Atherton (United Kingdom)	
Evaluation of an automatic contouring software in breast cancer treated in lateral position	PO-1849
<u>R. Msika</u> , N. Tkatchenko, M. Robilliard, A. Fourquet, Y. Kirova (France)	
Inter-observer variation in delineating cardiac substructures and coronary arteries	PO-1850
<u>Z. Naimi</u> , R. Moujahed, S. Ghorbel, M. Ben Rejeb, A. Hamdoun, J. Yahyaoui, L. Kochbati (Tunisia)	

Stereotactic radiation therapy for lung cancer: is a single 4-dimensional scan enough? PO-1851

A. Gonzalez Moya, P. Trémolières, A. Paumier, M. Mège, J. Blancheotte, T. Lizée, F. Legouté, D.B. Christelle, A. Damien, D. Stéphane (France)

RTT track

Poster: RTT track: Treatment planning and dose calculation / QC and QA

Changes in Dose Distribution in VMAT Plan for T3/4 NPC cases after teeth removal PO-1852

Y. Li (Hong Kong (SAR) China)

Dosimetric Studies of VMAT for Prostate Cancer: Comparison of Single and Mixed Energy Techniques PO-1853

A.H.L. Yuen (Hong Kong (SAR) China)

The effect of SpaceOAR hydrogel and posteriorly misplaced treatment on rectum dose in prostate SBRT PO-1854

A. Vanhanen, P. Reinikainen, T. Murtola (Finland)

Dosimetric effects of online adaptive replanning for prostate radiation therapy on 1.5T MR-Linac PO-1855

M.C. Lee, W.M.R. Luo, K.C. Chan, Y.Y. Chan (Hong Kong (SAR) China)

VMAT class solution for radiotherapy planning of esophageal carcinoma using Pinnacle Auto-Plan PO-1856

L. Abbenhuis, L. Tax, P. Van Kollenburg, M. Kunze-Busch, H. Rütten (The Netherlands)

A robust two isocenter VMAT technique for bilateral breast cancer. PO-1857

P. Van Kollenburg, M. Wendling, L. Abbenhuis, H. Meijer, P. Westhoff (The Netherlands)

Quality assurance of proton treatment plans by evaluating uncertainty doses in brain tumors. PO-1858

B. Ihsan, J. Kallehauge, M. Høyer, O. Nørrevang, K. Seiersen, Y. Lassen, B. Smulders, P.W. Nyström, A. Vestergaard (Denmark)

Evaluation of atlas-based synthetic CT for MRI radiotherapy planning in the head and neck region	PO-1859
<u>P.M.H. Lee, R. Appleyard, G. Chiu</u> (Hong Kong (SAR) China)	
Organs-at-risk sparing capabilities of Hybrid Partial-field VMAT during Whole Brain Radiotherapy	PO-1860
<u>A.H.L. Yuen, P.M. Wu, A.K.L. Li, P.C.Y. Mak</u> (Hong Kong (SAR) China)	
Impact of setup error in postoperative breast/chest wall radiotherapy with field in field technique	PO-1861
<u>M. Kenji, H. Yasushi, N. Kei, K. Teruhito, M. Teruhito</u> (Japan)	
Patient-specific SRS QA using the PRIMO Monte Carlo software	PO-1862
<u>J.F. Calvo Ortega, M. Hermida-López-, S. Moragues-Femenía, C. Laosa-Bello, J. Casals-Farran</u> (Spain)	
Independent dosimetric evaluation of the Oncentra Brachytherapy TPS	PO-1863
<u>S. Moragues Femenia, J. Calvo-Ortega, C. Laosa-Bello, J. Casals-Farran</u> (Spain)	
Can underdosage due to breast swelling be mitigated with robust optimization for breast radiotherapy	PO-1864
<u>K. Crama, E. Brondijk, J. Visser, A. Bel</u> (The Netherlands)	
Quality control of SBRT treatments with VMAT	PO-1865
<u>J.A. Válgorma Solanas, A. Montejo Arteche, M. FERNANDEZ MONTES, N. Pereda Barroeta, N. Sánchez Hernández, M. Castanedo Álvarez, F.J. Conejo Monasterio</u> (Spain)	
Comparison of dose evaluation using difference voxel sizes in Stereotactic Radiotherapy Planning	PO-1866
<u>T.L. Lai, E. Tsang</u> (Australia)	
Dosimetric study of LINAC-based SRS/SRT of multiple brain lesions:multiple/single isocenter approach	PO-1867
<u>S.W. Tsui, K.S. Yu, L.M. Cheung, S.C. Cheung</u> (Hong Kong (SAR) China)	
In silico hypofractionation feasibility study for lymph node oligometastases SBRT on the MRI-linac	PO-1868
<u>D. Winkel, W.S.C. Eppinga, M.P.W. Intven, A.M. Werenstein-Honingh, J. Hes, L.M.W. Snoeren, G.H. Bol, B.W. Raaymakers, I.M. Jürgenliemk-Schulz, P.S. Kroon</u> (The Netherlands)	
Dosimetry impact of manual vs. automated segmentation of lung contours in RayStation (RS)	PO-1869
<u>F. Vallejo Castañeda, M. Hinse</u> (Canada)	

Distal esophageal cancer - should we use 3D-CRT, IMRT or VMAT?	PO-1870
<u>T.H. Sulen</u> , L.B. Hysing, U.Ø. Sølvik, E.M. Høye, N.I. Glenjen, B.K. Abelseth, H. Gripsgård (Norway)	
Introducing proton therapy for thoracic cancer; an RTT perspective	PO-1871
<u>P. Klinker</u> , E. Blokzijl, H.P. Van der Laan, E. Korevaar, R. Wijsman (The Netherlands)	
Dosimetric comparison of VMAT vs t-IMRT for patients with Aeroform Air Expanders undergoing PMRT	PO-1872
<u>M. Cokelek</u> , H. Ho, T. Tran, B. Subramanian, R. Alinaghizadeh, F. Foroudi, J. Liew, D. Neoh, M. Law, S. Jassal, M. Chao (Australia)	
SIDCA in patients with ≥ 10 brain mets: evaluation of neurological toxicity and treatment accuracy.	PO-1873
<u>L. Capone</u> , B. Nardiello, R. El Gawahry, G. Raza, C. Scaringi, F. Bianciardi, B. Tolu, F. Rea, P. Gentile, S. Paolini, G. Minniti (Italy)	
Improving Treatment Accuracy of Cranial Boost Radiotherapy (RT) with Total Body Irradiation (TBI)	PO-1874
<u>I.Z. Tan</u> , J. Francis, G. Smyth, H. Burland, S. Eagle, H. Mandeville (United Kingdom)	
Is a single anterior field sufficient to treat regional nodes in breast cancer?	PO-1875
<u>H. Almasri</u> , P. Jain, S. Pace, S. Allen, S. Kumar (Jordan)	
A visual grading analysis-based audit for MR simulation sequence development	PO-1876
<u>L. Mcdaid</u> , L. Cooper, T. Edwards, A. McPartlin, S. Bonington, C. Eccles (United Kingdom)	
Survival and dosimetric parameters in stage III NSCLC patients undergoing radical chemo-radiotherapy	PO-1877
<u>I. Remmerts De Vries</u> , M. Ronden, P. De Haan, F. Spoelstra, N. Haasbeek, M. Dahele, I. Bahce, S. Senan, W. Verbakel (The Netherlands)	
Factors affecting the dose received by CIED during photon radiation therapy.	PO-1878
<u>W. Szyszka</u> , E. Konstanty (Poland)	

A novel and objective plan evaluation tool for dose escalation in NSCLC within the ADCSCaN trial	PO-1879
<u>A.R. Lopes Simões</u> , R. Mir, C. Lawless, A. Shaw, C. Peedell, T. Pope, J. Lester, D. Landau, C. Faivre-Finn, H. Matthew (United Kingdom)	
Cardiac exposure in left-sided breast cancer radiotherapy: which substructure should be contoured?	PO-1880
<u>Z. Naimi</u> , R. Moujahed, M. Ben Rejeb, S. Ghorbel, J. Yahyaoui, A. Hamdoun, M. Bohli, L. Kochbati (Tunisia)	
Dosimetric impact of left anterior descending artery contouring in left-sided breast irradiation	PO-1881
<u>Z. Naimi</u> , R. Moujahed, M. Ben Rejeb, S. Ghorbel, J. Yahyaoui, A. Hamdoun, L. Kochbati (Tunisia)	
The risk of pelvic insufficiency fractures after radiotherapy using planned dose analysis.	PO-1882
<u>L. Devlin</u> , S. Paterson, S. Morris (United Kingdom)	

RTT track

Poster: RTT track: Image guided radiotherapy and verification protocols

Movement of the hyoid during head and neck radiotherapy: Implications for off-line verification	PO-1883
<u>S. Hargreaves</u> , S. Jones, T. Rackley, J. Staffurth, M. Evans (United Kingdom)	
Matching time optimization in tangential breast RTT: CBCT and EPI comparison	PO-1884
<u>A. Lastrucci</u> , L. Marciello, L. Fedeli, E. Serventi, Y. Wandael, M. Carpentieri, S. Segnini, A. Aiazzi, M.A. Spediacci, M. Betti, S. Marzano, R. Ricci (Italy)	
Margin evaluation and Plan-of-the-day exploration for rectal tumors	PO-1885
<u>E. Kneepkens</u> , K. Waizy, E. Hagelaar, J. Cnossen, J. Theuws, P. Van Haaren (The Netherlands)	

Dosimetric impact of groin oedema in inguinal lymph node boosts in locally advanced vulvar cancer	PO-1886
<u>S.M.I. Mohamed</u> , L. Fokdal, M. Assenholt, J. Kallehauge, J.H.R. Lindegaard, K. Tanderup (Egypt)	
Reproducibility of Geometric QA in MR-RT	PO-1887
<u>C. Krog</u> , G. Grimnisdottir, H.D. Nissen (Denmark)	
Dose effects of interfraction target shifts in irradiation of prostate with two partial VMAT arcs.	PO-1888
<u>M. Admiraal</u> , A. De la Fuente, J. Van der Himst, S. Virginia (The Netherlands)	
To evaluate the feasibility of MR-only pelvis TomoTherapy during treatment planning and verification	PO-1889
<u>S.Y. Man</u> , R. Appleyard, G. Chiu (Hong Kong (SAR) China)	
Comparative assessment of the verification performance, ART and imaging dose between MVCT and kVCBCT	PO-1890
<u>Y.S. Tang</u> , A.M. Chow (Hong Kong (SAR) China)	
Bladder filling assessment in prostate cancer patients using ultrasound bladder measurements	PO-1891
<u>K. Kaczmarek</u> , B. Bak, D. Radola, T. Winiecki, T. Bajon (Poland)	
Stereotactic Radiation Therapy – how accurate we are?	PO-1892
<u>J. Ter-Minasjan</u> (Estonia)	
Average body diameter as a predictive factor for the usability of inline CBCT for spine SBRT	PO-1893
<u>J. Stam</u> , G. Lim, T. Wiersma, F. Koetsveld (The Netherlands)	
AD-HOC adaptive radiotherapy: how often do anatomical changes lead to treatment adaptation?	PO-1894
<u>Y. Van Herten</u> , N. Van Wieringen, J. Wiersma, R. De Jong, A. Bel (The Netherlands)	
Introduction of surface imaging as part of repeat CT procedure for proton breast cancer patients	PO-1895
<u>M. Kuijpers</u> , E. Batin, T. Van Faassen-van Loenen, A. Meijers, A. Crijns, J.A. Langendijk (The Netherlands)	
Implant geometry based PTV margins for prostate patients with daily setup on markers	PO-1896
<u>T. Rosario</u> , V. Spies, M. Admiraal (The Netherlands)	
CBCT for evaluation setup errors among different fixation in proton therapy to intracranial lesions	PO-1897
<u>Y.Y. Huang</u> , S. Tsai, Y.H. Lu, C. Lin, C. Kang, Y. Huang (Taiwan)	

Do 2DKV images add value in online position verification of breast ca patients treated with protons?	PO-1898
<u>T. Van Faassen</u> , E. Batin, M. Kuijpers, A. Meijers, A. Crijns, J.A. Langendijk (The Netherlands)	
Quantification of inter-observer variation before and after an educational intervention in MRgRT	PO-1899
<u>J. Rodgers</u> , R. Hales, L. Whiteside, J. Parker, L. McHugh, A. Cree, M. Van Herk, C. Eccles (United Kingdom)	
Is the 4D planning CT representative for breathing motion of esophageal tumors during treatment?	PO-1900
<u>Q. Roos</u> , Z. Faiz, M. Dieters, H.P. Van der Laan, L.A. Den Otter, J.T.M. Plukker, S. Both, J.A. Langendijk, A. Knopf, C.T. Muijs, N.M. Sijtsema (The Netherlands)	
Rectal volumes comparison in prostate cancer radiotherapy treated before and after noon in 1140 CBCT	PO-1901
<u>P. Umbarkar</u> , R. Harjani hinduja, S. Deshpande, S. Naidu, O. Jadhav, S. Ullagaddi, S. Shinde, N. Parmar, A. Jejurkar, P. Kamble, V. Anand, R. Bajpai, R. Kabre, P. Alurkar, W. Mistari, V. Kannan (India)	
Cone Beam Computed Tomography to assess pitch, roll and rotation in Head and Neck Radiotherapy	PO-1902
<u>D. Thornberry</u> , R. McLauchlan, D.M. Gujral (United Kingdom)	
Inter-observer variability of CTV registration in image-guided radiotherapy of oesophageal cancer.	PO-1903
<u>L. Wiersema</u> , F. Voncken, J.J. Sonke, F. Koetsveld (The Netherlands)	
ROI optimisation for surface guided radiation therapy	PO-1904
<u>T. SAUER</u> , D. Popp, R. Fietkau, C. Bert (Germany)	
IGRT protocols analysis in brain radiotherapy treatment	PO-1905
<u>A. Lastrucci</u> , Y. Wandael, E. Serventi, L. Marciello, L. Fedeli, M. Betti, G. Simontacchi, L. Livi (Italy)	
Use of cone beam ct (CBCT) to evaluate the intrafraction movements during lung SBRT	PO-1906
<u>A. Giraldo Marin</u> , A. Seoane, M.M. Marti Laosa, S. Mico, M. Ramos, J. Giralt (Spain)	
The effectiveness of SGRT for patient set-up in thoracic deep target radiotherapy	PO-1907
<u>S. Leva</u> , G. Libonati, M. Tettamanti, M. Casiraghi, S. Presilla, M.C. Valli, A. Richetti (Switzerland)	

Comparing soft tissue and bone to verify radiotherapy treatment position for lung cancer patients	PO-1908
<u>A. Sweeney</u> , D. Finn (United Kingdom)	
Interobserver variability of CBCT for prostate radiation therapy: Fiducial Markers vs CTV/PTV	PO-1909
<u>F.A. Lima Aires</u> , D. Saraiva, F. Costa, P. Peixoto, A. Monteiro, S. Garcia, M.G. Pinto (Portugal)	
Margins from CTV to PTV in Breast Cancer Patients: Comparison between tumorectomy and mastectomy	PO-1910
J. Matheos Pérez, <u>M. Altabas Gonzalez</u> , B. Pérez Esteve, M. Comino Muriano, A. Giraldo Marín, S. Micó Milla, R. Granado Carrasco, D. García Relancio, V. Reyes López (Spain)	

RTT track

Poster: RTT track: Motion management and adaptive strategies

Comparison of in-house self-held respiratory monitoring device and ABC system in DIBH left breast RT	PO-1911
<u>W.K. Chow</u> , V.W. Wu, G. Chiu, P.S.W. Kong (Hong Kong (SAR) China)	
Clinical experience of using stereotactic ablative body radiotherapy on inoperable pancreatic cancer	PO-1912
J. Duong, <u>Y.M. Tsang</u> , M. Harrison (United Kingdom)	
A Study on the Dose Difference of Target in Treatment of Prostate with Real-Time MRI Imaging	PO-1913
<u>Y. Lee</u> (Korea Republic of)	
Patient compliance during Deep Inspiration Breath Hold for left breast cancer radiotherapy	PO-1914
<u>M. Marson</u> , A. Ferretti, C. Angela, A. Vendrame, C. Cristina, P. Chiavatti, L. Vinante (Italy)	
Dosimetric impact of non-compliance/vcd failure in left breast rt treatments in DIBH	PO-1915
<u>G. Gómez de Segura Melcón</u> , S. Bermejo Martínez, A. Coral Gallart, N. Espinosa López, X. Nolla Nieto, N. Ventosa Lli, P. Carrasco de Fez (Spain)	

Applications of the Medusa surface tracking system for respiratory control in breast cancer patients	PO-1916
<u>H. Collela-Fleury</u> , S. Pallier-Boiteau, P. Beauzac, C. Pechmagre, A. De Oliveira, J. Assuli, E. Brot, P. Poortmans, E. Costa, S. Wakrim, R. Le Corre (France)	
Pre-trial plan selection training - is it sufficient for optimal plan selections online?	PO-1917
<u>A. Webster</u> , S. Hafeez, H. McNair, V.N. Hansen, C. Griffin, R. Lewis, E. Hall, R. Huddart (United Kingdom)	
Analysis of the impact of inspiratory volume levels using active breathing control on tumor motion	PO-1918
<i>Abstract withdrawn</i>	
DIBH reduces right coronary artery and lung radiation dose in right breast cancer loco-regional RT	PO-1919
<u>K. Stuart</u> , E. Gough, S. Ashworth, T. Moodie, W. Wang, K. Byth, J. Buck, S. Ghattas, L. Burke (Australia)	
Inter-fractional uterine and cervix motion during radiotherapy for cervix cancer	PO-1920
<u>G. Lewis</u> (United Kingdom)	
Comparison of dynamic tumor volumes in 4D-CT with two types of respiratory motion sensor	PO-1921
<u>S.H. Tsai</u> , Y. Huang, Y. Chen, P. Juang, C. Kang, C. Huang (Taiwan)	
Dosimetric replanification benefit in exceeded neurological structures doses during IMRT for NPC	PO-1922
M. Wafa, <u>H. Daoud</u> , F. Najla, S. Tarak, S. Wicem, F. Leila, D. Jamel (Tunisia)	
Intrafractional uncertainty of the heart position in DIBH and free breathing radiotherapy	PO-1923
<u>S. Fortin Jørgensen</u> , W. Ottoson, C.F. Behrens, G.F. Persson, S.N. Bekke (Denmark)	

RTT track

Poster: RTT track: Patient care, side effects and communication

Radiotherapy Late Effects: Sexual Care After Radiotherapy - A Rtt Led Sexual Care Clinic <u>H. Nisbet</u> , L. Caulfield, S. Matthews (United Kingdom)	PO-1924
"The journey of the superhero MeV": the CNAO's pediatric project <u>A. Mancin</u> , E. Villani, S. Montana, S. Tampellini, A. Iannalifi, F. Valvo, L. Gandola (Italy)	PO-1925
Defining compassion in cancer care: a co-production approach <u>A. Taylor</u> , D. Hodgson (United Kingdom)	PO-1926
Palliative haemostatic radiotherapy in gastro-oesophageal cancer- a single centre experience <u>K. Crowther</u> , J. O'Hare, C. Harrison (United Kingdom)	PO-1927
Initial clinical experience with the MR-Linac System - Patient perspective <u>N. Weitkamp</u> , A. Moreira, J. Day, S. Perryck, L. Wilke, M. Guckenberger, H. Garcia Schüler, S. Tanadini-Lang, N. Andratschke (Switzerland)	PO-1928
Correlation between dosimetric parameters and acute dermatitis of hypofractionated breast radiation <u>M. Bohli</u> , Z. Fessi, H. Jaffel, S. Tbessi, J. Yahyaoui, R. Moujahed, A. Hamdoun, L. Kochbati (Tunisia)	PO-1929
Factors influencing clinical trial participation: an assessment for a trial decision aid <u>C. Offermann-Wulms</u> , C. Roumen, A. Ankolekar, A. Van Engelen, R. Fijten, D. De Ruysscher (The Netherlands)	PO-1930
To evaluate Flamigel®RT in the skincare pathway for patients having breast radiotherapy. <u>J. Rigley</u> , G. Grant, T. Alagbe (United Kingdom)	PO-1931
Patients-Reported Outcomes (PROs) following SBRT for clinically localized Prostate Cancer <u>A. Mańczak</u> , P. Milecki (Poland)	PO-1932

RTT track

Poster: RTT track: Education and training/role development

Radiation therapists' knowledge, attitudes and practices in delivering lifestyle advice.	PO-1933
<u>N. Pallin</u> , R. Beeken, K. Pritchard-Jones, N. Woznitza, A. Fisher (United Kingdom)	
Multidisciplinary training using a virtual environment in radiotherapy	PO-1934
A. Williams, U. Shah, <u>Y.M. Tsang</u> (United Kingdom)	
MR-only prostate radiotherapy – how transferable are CT based image matching skills?	PO-1935
<u>R. Brooks</u> , H.M. McCallum, K. Pilling, R.A. Pearson, J.J. Wyatt (United Kingdom)	
Establishing the acceptability of a gold standard in IGRT assessment for radiation therapists	PO-1936
<u>E. Barker</u> , M. Leslie-Dakers, S. Higgins, T. Barnes, S. McGrail, A. Webster, S. Goldsworthy (United Kingdom)	
A new software for advanced education and assessment of tumour volume delineation in radiotherapy	PO-1937
<u>C. Piazzese</u> , E. Evans, E. Spezi, J. Staffurth, S. Gwynne (United Kingdom)	
Implementation of Stereotactic Radiosurgery (SRS) for brain metastases.	PO-1938
<u>A. Nielsen</u> , M.B. Andersen (Denmark)	
Training of RTT on CBCT online adaptive radiotherapy - first step finding the future "adapters"	PO-1939
L. Andersson, I.L. Gullander, K. Hansen, K. Lundgaard, A. Nielsen, K. Søltoft, A.K. Jacobsen, L. Calmels, R. Leikersfeldt, P. Geertsen, P. Sibolt, <u>D. Sjöström</u> (Denmark)	
Education and Training of RTTs of the Radiation Oncology Departments in Russia	PO-1940
<u>V. Glebovskaya</u> , S. Tkachev, A. Nazarenko, P. Bulychkin, E. Timoshkina, B. Dolgushin, V. Kuprieva, M. Kislyakova (Russian Federation)	

Current perspectives of RTTs in radiation oncology research: a national survey in Italy PO-1941

D. Piro, L. Boldrini, P. Cornacchione, D. Pasini, M. Balducci, M.A. Gambacorta, V. Valentini (Italy)

Palliative Radiotherapy Peer Review; A Multi-disciplinary retrospective audit. PO-1942

J. Mitchell, S. Dall, D. Finn, A. Sundaramurthy, F. Little, W. Urquhart, T. Evans, S. Campbell, C. Bedi (United Kingdom)

RTT track

Poster: RTT track: Risk management/quality management

Analysis of RT performance using quality indicators derived from automated treatment pathways PO-1943

L. Capone, D. Di Minico, B. Nardiello, F. Lusini, F. Cavallo, B. Tolu (Italy)

FMEA analysis of VMAT prostate treatment PO-1944

A. Lastrucci, M. Betti, L. Marciello, E. Serventi, Y. Wandael, L. Ferreri, S. Segnini, M.A. Spediacci, L. Fedeli, F. Meucci, S. Marzano, R. Ricci (Italy)

Practical test of proton plan before first treatment PO-1945

P.O. Haslund, U. Ingerslev, M. Giortz, S. Frost (Denmark)

Risk management for intraoperative electron radiotherapy accelerators PO-1946

A. Misiarz, M. Kruszyna-Mochalska, M. Bijok, B. Pawłowski, K. Kosiński, J. Pracz, J. Malicki, P. Kukołowicz (Poland)

ARIA 15 Visual care Path for quality assurance of radiation oncology course PO-1947

F. Fragnoli, I. Bonaparte, L. Branà, A. Aga, M. De Masi, A. Ciocia, C. Indelicati, R. Parabita, G. Sanfrancesco, C. De Pascali, F. Berloco, M. Caliandro, F. Gregucci, A. Surgo, R. Carbonara, A. Fiorentino (Italy)

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