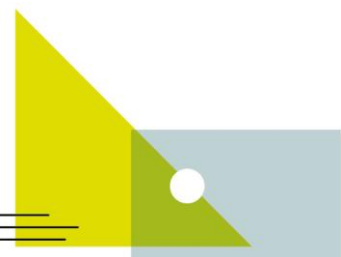


# **Implementation and Practice of Image-guided Stereotactic Body Radiotherapy**

*2022 online edition*

**Scientific Programme**

**24 May – 28 June 2022**





# Meet the faculty

## Course directors

- Matthias Guckenberger, *Radiation Oncologist, University Hospital Zurich, Zurich (CH)*
- Dirk Verellen, *Medical Physicist, Iridium Kankernetwerk, University of Antwerp, Antwerp (BE)*

## Teachers

- Coen Hurkmans, *Medical Physicist, Catharina Hospital, Eindhoven (NL)*
- Karin Dieckmann, *Radiation Oncologist, Medical University of Vienna, Vienna (AT)*
- Maria Hawkins, *Clinical Oncologist, University College London, London (UK)*
- Mischa S. Hoogeman, *Medical Physicist, Erasmus Medical Centre-Daniel den Hoed Cancer Centre, Rotterdam (NL)*
- Piet Ost, *Radiation Oncologist, Ghent University, Ghent (BE)*
- Stephanie Tanadini Lang, *Medical Physicist, University Hospital Zurich, Zurich (CH)*
- Suresh Senan, *Radiation Oncologist, Amsterdam University Medical Centers, VUmc location, Amsterdam (NL)*
- Sarah Barrett, *Assistant Professor Radiation Therapy, Trinity College (IE)*

## Guest Speakers

- Filippo Alongi, *Radiation Oncologist, IRCCS Sacro Cuore Don Calabria; Associate professor, University of Brescia (IT)*
- Alex De Caluwé, *Radiation Oncologist, Institut Jules Bordet (BE)*
- Marion Essers, *Medical Physicist, Instituut Verbeeten (NL)*
- Alison Tree, *Clinical Oncologist, Royal Marsden Hospital Trust & Institute of Cancer Research, London (UK)*
- Arjun Sahgal, *Radiation Oncologist, Sunnybrook Health Sciences Centre (CA)*
- Enrica Seravalli, *Medical Physicist, UMC Utrecht, The Netherlands (NL)*
- Stephanie Kroeze, *Radiation Oncologist, University Hospital Zurich (CH)*
- Lotte Wilke, *Medical Physicist, University Hospital Zürich (CH)*

# Module 1: Clinical, technological and biological basis of SBRT

Clinical chair: Matthias Guckenberger (MG)

Physics chair: Dirk Verellen (DV)

Week 1: 23 – 27 May 2022

Guest speaker:

- Stephanie Kroeze (SK)



**Pre-recorded  
lectures**

- Rec 1.1: What defines SBRT? – *Speaker MG (20 min)*
- Rec 1.2: Biology of high-dose per fraction SBRT – *Speaker MG (20 min)*
- Rec 1.3: Margin calculations for stereotactic treatments – *Speaker MSH (20 min)*
- Rec 1.4: ICRU91 on prescribing, recording and reporting of stereotactic treatments – *Speaker DV (20 min)*

**Live class - Tuesday 24 May 2022, 17:00 – 19:25 CET**



**Theoretical  
session**

Time	Lecture	Speaker	Moderator
17:00 – 17:10	Introduction to the topic	MG	DV
17:10 – 17:15	Executive summary of Recorded Lectures 1.1 and 1.2	MG	DV
17:15 – 17:25	Q&A		
17:25 – 17:30	Executive summary of Recorded Lectures 1.3 and 1.4	DV	MG
17:30 – 17:40	Q&A		
17:40 – 18:00	Up-to-date lecture Clinical 1: Evidence-based indications for SBRT in current international guidelines	MG	DV
18:00 – 18:05	Q&A		
18:05 – 18:25	Up-to-date lecture Clinical 2: Limitations of SBRT: toxicity of SBRT alone and in combination with systemic therapy	<i>Guest speaker: SK</i>	DV
18:25 – 18:30	Q&A		
18:30 – 18:50	Up-to-date lecture Physics 1: Technology for stereotactic treatments	CH	MG
18:50 – 18:55	Q&A		
18:55 – 19:15	Up-to-date lecture Physics 2: Most recent recommendations on QA and treatment planning	DV	MG
19:15 – 19:25	Q&A and Wrap-up		



## Practical session

**Live class - Thursday 26 May 2022, 17:00 – 18:15 CET**

Time	Lecture	Speaker	Moderator
17:00 – 17:05	Introduction to the topic	MG	DV
17:05 – 17:25	Clinical Journal Club: ground-breaking publications from 2022	MG	DV
17:25 – 17:40	<i>Q&amp;A and Discussion</i>		
17:40 – 18:00	Physics Journal Club: ground-breaking publications from 2022	DV	MG
18:00 – 18:15	<i>Q&amp;A and Discussion</i>		

## Module 2: SBRT for primary prostate cancer

**Clinical chair: Piet Ost (PO)**

**Physics chair: Stefanie Tanadini-Lang (STL)**

**Week 2: 30 May – 3 June 2022**

**Guest speakers:**

- **Alison Tree (AT)**



## Pre-recorded lectures

- Rec 2.1: Clinical best-practice of SBRT for prostate cancer – Guest speaker AT (20 min)
- Rec 2.2: Uncertainties in prostate SBRT – Speaker STL (20 min)
- Rec 2.3: Margin calculations for prostate SBRT – Speaker MSH (20 min)

**Live class - Tuesday 31 May 2022, 17:00 – 19:25 CET**



## Theoretical session

Time	Lecture	Speaker	Moderator
17:00 – 17:10	Introduction to the topic	PO	STL
17:10 – 17:15	Executive summary of Recorded Lectures 2.1	PO	STL
17:15 – 17:25	<i>Q&amp;A</i>		
17:25 – 17:30	Executive summary of Recorded Lectures 2.2 and 2.3	STL	PO
17:30 – 17:40	<i>Q&amp;A</i>		

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**Live class - Tuesday 31 May 2022, 17:00 – 19:25 CET**

Time	Lecture	Speaker	Moderator
17:40 – 18:00	Up-to-date lecture Clinical 1: - SBRT for primary prostate cancer: indications and managing toxicity	PO	STL
18:00 – 18:05	Q&A		
18:05 – 18:25	Up-to-date lecture Clinical 2: Expanding indications for prostate SBRT and integration of systemic therapy	PO	STL
18:25 – 18:30	Q&A		
18:30 – 18:50	Up-to-date lecture Physics 1: Online adaptive SBRT for prostate cancer	STL	PO
18:50 – 18:55	Q&A		
18:55 – 19:15	Up-to-date lecture Physics 2: MR guidance for target volume definition and during treatment	STL	PO
19:15 – 19:25	Q&A and Wrap-up		

**Live class - Thursday 2 June 2022, 17:00 – 18:15 CET**



**Practical session**

Time	Lecture	Speaker	Moderator
17:00 – 17:05	Introduction	PO/STL	PO/STL
17:05 – 17:25	Basic case presentation A-Z	PO/STL	PO/STL
17:25 – 17:40	Q&A and Discussion		
17:40 – 18:00	Challenging case presentation A-Z	PO/STL	PO/STL
18:00 – 18:15	Q&A and Wrap-up		

## Module 3: SBRT for early stage NSCLC

Clinical chair: Suresh Senan (SS)

Physics chair: Mischa S. Hoogeman (MSH)

Week 2: 6 June - 10 June 2022



### Pre-recorded lectures

- Rec 3.1: : Indication and patient selection of SBRT for early-stage NSCLC - *Speaker SS (20 min)*
- Rec 3.2: Clinical best-practice of SBRT for early-stage NSCLC - *Speaker SS (20 min)*
- Rec 3.3: Motion and motion detection in lung SBRT - *Speaker MSH (20 min)*
- Rec 3.4 Motion management for lung SBRT - *Speaker DV (20 min)*

### Live class - Tuesday 7 June 2022, 17:00 – 19:25 CET



### Theoretical session

Time	Lecture	Speaker	Moderator
17:00 – 17:10	Introduction to the topic	MSH	SS
17:10 – 17:15	Executive summary of Recorded Lectures 3.1 and 3.2	SS	MSH
17:15 – 17:25	Q&A		
17:25 – 17:30	Executive summary of Recorded Lectures 3.3 and 3.4	MSH	SS
17:30 – 17:40	Q&A		
17:40 – 18:00	Up-to-date lecture Clinical 1: SBRT for centrally located NSCLC	SS	MSH
18:00 – 18:05	Q&A		
18:05 – 18:25	Up-to-date lecture Clinical 2: Other high-risk situations in SBRT for early-stage NSCLC	SS	MSH
18:25 – 18:30	Q&A		
18:30 – 18:50	Up-to-date lecture Physics 1: Treating multiple lesions in the lung	MSH	SS
18:50 – 18:55	Q&A		
18:55 – 19:15	Up-to-date lecture Physics 2: New technologies in lung SBRT	MSH	SS
19:15 – 19:25	Q&A		



## Practical session

**Live class - Thursday 9 June 2022, 17:00 – 18:15 CET**

Time	Lecture	Speaker	Moderator
17:00 – 17:05	Introduction	SS	MSH
17:05 – 17:25	Basic case presentation A-Z	MSH/SS	MSH/SS
17:25 – 17:40	Q&A		
17:40 – 18:00	Challenging case presentation A-Z	MSH/SS	MSH/SS
18:00 – 18:15	Q&A and Wrap-up		

## Module 4: SBRT for Brain Metastases

**Clinical chair: Karin Dieckmann (KD)**

**Physics chair: Coen Hurkmans (CH)**

**Guest speakers**

**Week 4: 13 – 17 June 2022**

• **Enrica Seravalli (ES)**

• **Marion Essers (ME)**



## Pre-recorded lectures

- Recorded Session 4.1: Overview of multidisciplinary management of brain metastases – *Speaker KD (20 min)*
- Recorded Session 4.2: Clinical best practice of SRS for brain metastases – *Speaker KD (20 min)*
- Recorded Session 4.3: QA and QA equipment – *Speaker DV (20 min)*
- Recorded Session 4.4: End-to-end accuracy and patient QA for brain mets (including MR-CT match) - *Speaker CH (20 min)*

**Live class - Tuesday 14 June 2022, 17:00 – 19:25 CET**

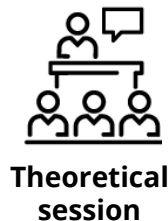


## Theoretical session

Time	Lecture	Speaker	Moderator
17:00 – 17:10	Introduction to the topic	CH	KD
17:10 – 17:30	Up-to-date lecture Physics 1: Brain metastases SRS workflow on the MR-Linac: advantages and challenges	<i>Guest speaker ES</i>	CH
17:30 – 17:35	Q&A		
17:35 – 17:40	Executive summary of Recorded Lectures 4.1 and 4.2	KD	CH
17:40 – 17:50	Q&A		
17:50 – 17:55	Executive summary of Recorded Lectures 4.3 and 4.4	CH	KD

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**Live class - Tuesday 14 June 2022, 17:00 – 19:25 CET**



Time	Lecture	Speaker	Moderator
17:55 – 18:05	Q&A		
18:05 – 18:25	Up-to-date lecture Clinical 1: Challenges in the treatment of Brain Metastases. From single to multiple brain metastases	KD	CH
18:25 – 18:30	Q&A		
18:30 – 18:50	Up-to-date lecture Clinical 2: Individual decisions in the treatment of brain metastases	KD	CH
18:50 – 18:55	Q&A		
18:55 – 19:15	Up-to-date lecture Physics 2: Maskless surface guided intracranial radiotherapy	<i>Guest speaker ME</i>	CH
19:15 – 19:25	Q&A		

**Live class - Thursday 16 June 2022, 17:00 – 18:15 CET**



Time	Lecture	Speaker	Moderator
17:00 – 17:05	Introduction	KD/CH	KD/CH
17:05 – 17:25	Basic case presentation A-Z	CH	KD
17:25 – 17:40	<i>Q&amp;A and Discussion</i>		
17:40 – 18:00	Challenging case presentation A-Z	KD	CH
18:00 – 18:15	<i>Q&amp;A and Wrap-up</i>		



**Live demo - Thursday 16 June 2022, 18:15 – 18:30 CET**

Time	Talk	Speaker	Company
18:15 – 18:30	Planning of a patient case with liver metastasis	Suzanne Currie	Varian



## Module 5: Up-to-date week

**Clinical chairs:** Maria Hawkins (MH) , Piet Ost (PO), Suresh Senan (SS), Karin Dieckmann (KD)

**Physics chairs:** Coen Hurkmans (CH), Dirk Verellen (DV), Mischa S. Hoogeman (MSH)

**RTT chair:** Sarah Barrett (SB)

**Week 5:** 20 – 24 June 2022

**Guest speakers:**

- Arjun Sahgal (AS)
  - Filippo Alongi (FA)
- 



**Pre-recorded  
lectures**

### ***SBRT for OMD***

- Rec 5.1: Definition and characterization of OMDSS – *Speaker MG (20 min)*
  - Rec 5.2: Efficacy of SBRT as locally ablative Tx modality for OMD – *Speaker MG (20 min)*
  - Rec 5.3: Errors and safety – *Speaker DV (20 min)*
  - Rec 5.4: EQ2Gy in clinical practice – *Speaker STL (20 min)*
- 



**Pre-recorded  
lectures**

### ***Spinal SBRT and SBRT for non-spine bone metastases***

- Rec 5.5: Overview multidisciplinary management of vertebral metastases – *Speaker PD (20 min)*
  - Rec 5.6: Step-by-Step practice of SBRT for vertebral metastases – *Guest speaker AS (20 min)*
  - Rec 5.7: Prescription and dose calculation in SBRT – *Speaker CH (20 min)*
  - Rec 5.8: Historical overview on Stereotaxy – *Speaker DV (20 min)*
- 

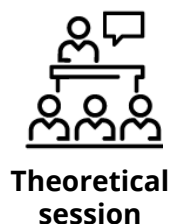


**Pre-recorded  
lectures**

### ***SBRT for primary liver cancer and pancreatic cancer***

- Rec 5.9: Overview of multidisciplinary management of brain metastases – *Speaker MH (20 min)*
- Rec 5.10: Clinical best practice of SRS for brain metastases – *Speaker MH/MSH (20 min)*
- Rec 5.11: Step-by-Step clinical practice of SBRT for liver and pancreatic cancer – *Speaker MH (20 min)*
- Rec 5.12: Treatment planning in liver and pancreatic cancer – *Speaker STL (20 min)*
- Rec. 5.13: Motion uncertainties in the treatment of liver and pancreatic cancer – *Speaker MSH (20 min)*

**Live class - Tuesday 21 June 2022, 17:00 – 19:25 CET**

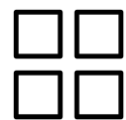


Time	Lecture	Speaker	Moderator
17:00 – 17:05	Introduction	MG	STL
17:05 – 17:15	Case presentation	MG	STL
17:15 – 17:20	Q&A		
17:20 – 17:40	Up-to-date lecture Clinical 1 - SBRT for OMD	MG	STL
17:40 – 17:45	Q&A		
17:45 – 18:05	Up-to-date lecture Physics 1 - SBRT for OMD	STL	CH
18:05 – 18:10	Q&A		
18:10 – 18:20	Case presentation - Physics	CH	STL
18:20 – 18:25	Q&A		
18:25 – 18:45	Up-to-date lecture Clinical 2 - Spine SBRT and SBRT for non-spine bone metastases	<i>Guest speaker FA</i>	MG
18:45 – 18:50	Q&A		
18:50 – 19:10	Up-to-date lecture Physics 2 - Spine SBRT and SBRT for non-spine bone metastases	CH	STL
19:10 – 19:25	Q&A and Wrap-up		

**Live class - Thursday 23 June 2022, 17:00 – 18:15 CET**



17:00 – 18:15 Parallel session – Clinicians – Chair MH			
Time	Lecture	Speaker	Moderator
17:00 – 17:15	Introduction to the topic	MH	KD
17:15 – 18:15	Questions and open discussion		



17:00 – 18:15 Parallel session – Physicists – Chair DV			
Time	Lecture	Speaker	Moderator
17:00 – 17:15	Introduction to the topic	DV	MSH
17:15 – 18:15	Questions and open discussion		

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**Live class - Thursday 23 June 2022, 17:00 – 18:15 CET**

17:00 – 18:15	Parallel session – RTTs – Chair Sarah Barreth		
Time	Lecture	Speaker	Moderator
17:00 – 17:10	Introduction to the topic	SB	STL
17:10 – 18:15	Questions and open discussion		

**Live demo - Thursday 23 June 2022, 18:15 – 18:30 CET**



**Product  
Demo**

Time	Talk	Speaker	Company
18:15 – 18:30	Planning of a patient case with liver metastasis	Raffaele Meroni	Accuray

## Module 6: Emerging indications and technologies

**Clinical chairs: Matthias Guckenberger (MG)**

**Physics chair: Dirk Verellen (DV)**

**Guest speakers:**

**Week 6: 27 June – 1 July 2022**

- Alex De Caluwé (AD)
- Lotte Wilke (LW)

**Live class - Tuesday 28 June 2022, 17:00 – 19:10 CET**



**Theoretical  
session**

Time	Lecture	Speaker	Moderator
17:00 – 17:25	HOT clinical topic: neoadjuvant and definitive SBRT for breast cancer	Guest speaker AD	KD
17:15 – 17:25	Q&A		
17:25 – 17:50	HOT clinical topic: pediatric SBRT	KD	MG
17:50 – 18:00	Q&A		
18:00 – 18:25	Physics aspects related to Tachycardia treatments	Guest speaker LW	DV
18:25 – 18:30	Q&A		
18:30 – 18:55	Hot Physics topic: FLASH radiotherapy	DV	KD
18:55 – 19:10	Q&A		