

CV Summary

Title & full name: Prof. Dr. Kai Rothkamm
Profession: Radiation Biologist
Institute, city, country: UKE, Department of Radiotherapy, Hamburg, Germany
Qualifications / education: PhD Radiation Biophysics, JLU Gießen, 2000
Diploma Physics, JLU Gießen, 1997

Main areas of professional interest / specialisation: Radiobiology; tumour biology; translational radiation research; under- and postgraduate education in oncology

Professional experience / appointments: PostDoc at Saarland Uni 1999-2003; Senior Scientist Gray Cancer Institute London 2003-2006; CRUK Junior Group Leader Oxford Uni 2006-2008; Senior Group Leader HPA/PHE CRCE Harwell 2008-2015; Professor Experimental Radiation Oncology UKE Hamburg since 2015; Deputy Director (Science) University Cancer Center Hamburg since 2017.

Research interests: DNA damage response, DNA double-strand break repair, biomarkers of ionising radiation exposure and effect, molecular-targeted tumour radiosensitisation

Professional membership & associations: ESTRO; German Society for Radiation Oncology (DEGRO); Society for Biological Radiation Research (GBS); German Society for DNA Repair Research; Association for Radiation Research; Expert Group on Radiological Protection Science, OECD Committee on Radiation Protection and Public Health (2013-2016); Scientific Council of the International Association of Biological and EPR Radiation Dosimetry (2013-2015); WHO Radiation Emergency Medical Preparedness and Assistance Network (REMPAN, 2013-2015); NATO HFM-222 RTG Radiation Bioeffects and Countermeasures (2011-2016); ISO/TC 85/SC 2/WG 18 "Biological Dosimetry" (2010-2015); BSI Technical Committee NCE/2 "Radiation Protection and Measurement" (2010-2015); WHO BioDoseNet (2009-2015); EURADOS Working Group 10 "Retrospective Dosimetry" (2010-2015); Society for Radiological Protection (2009-2015).

Honours and awards:

- A few young scientist, poster and national research awards.
- Reviewer for scientific journals: Abdom Radiol, Aging, Appl Radiat Iso, BioTechniques, BMC Clin Pathol, BMC Mol Biol, Br J Cancer, Br J Radiol, Cancer Lett, Chaos Soliton Fract, Clin Cancer Res, Clin Oncol, DNA Repair, EBioMedicine, Eur Phys J D, Genome Integrity, Health Phys, Int J Biochem Cell Biol, Int J Mol Sci, Int J Radiat Biol, Int J Radiat Oncol Biol Phys, Invest Radiol, IOP Science Books, J Innate Immun, J Physiol Pharmacol, J Radiat Res, J Radiol Prot, Methods, Mol Cancer, Mutagenesis, Mutat Res-Fund Mol M, Mutat Res Genet Toxicol Environ M, Mutat Res Rev Mutat Res, Nucleic Acids Res, Oncotarget, PLoS One, Radiat Environ Biophys, Radiat Meas, Radiat Oncol, Radiat Prot Dosim, Radiat Res, Radiother Oncol, Sci Rep, Strahlenther Onkol, Theor Biol Med Model
- Reviewer for research funding: Breast Cancer Now; Cancéropôle CLARA; Cancer Research Wales; Department of Health, UK; Deutsche Forschungsgemeinschaft (DFG); Deutsche Krebshilfe; Dutch Cancer Society; European Research Council (ERC), French Cancer Institute (INCa), Government of Canada's Genomics Research and Development Initiative (GRDI); Health Research Board, Ireland; International Atomic Energy Agency (IAEA); Medical Research Council South Africa (MRC-SA); National Institute for Health Research, UK (NIHR); National Institutes of Health (NIH);

Partnership for Advanced Computing in Europe (PRACE); German Council of Science and Humanities (Wissenschaftsrat).

- Scientific committee member and reviewer for various conferences: GBS 2018 in Frankfurt; DGMP/ISMRM Conference 2018 in Nürnberg; DEGRO 2018 in Leipzig; ERRS & GBS 2017 in Essen; ConRad 2015 & 2017 in München; Symposium für Experimentelle Strahlentherapie und Klinische Strahlenbiologie in Dresden 2016, Tübingen 2017 & Hamburg 2018; EPR BIDOSE in Mandelieu 2010, Leiden 2013 & Hanover, NH 2015; 1st SYRA3 COST Conference in Krakow 2014.

Top most international scientific publications / books: (papers with >150 citations)

- Rothkamm, K. and Löbrich, M. (2003) Evidence for a lack of DNA double-strand break repair in human cells exposed to very low X-ray doses. *Proc. Natl. Acad. Sci. USA* 100, 5057-5062.
- Rothkamm, K., Krüger, I., Thompson, L.H., and Löbrich, M. (2003) Pathways of DNA double-strand break repair during the mammalian cell cycle. *Mol. Cell. Biol.* 23, 5706-5715.
- Kühne, M., Riballo, E., Rief, N., Rothkamm, K., Jeggo, P. A., and Löbrich, M. (2004) A double-strand break repair defect in ATM-deficient cells contributes to radiosensitivity. *Cancer Res* 64, 500-508.
- Rothkamm, K., Balroop, S., Shekhdar, J., Fernie, P. and Goh, V. (2007). Leukocyte DNA damage following multi-detector row CT: a quantitative biomarker of low level radiation exposure. *Radiology* 242, 244-251.
- Rothkamm, K. and Horn, S. (2009) γ -H2AX as protein biomarker for radiation exposure. *Ann Ist Super Sanità*, 45:265-271.
- Burdak-Rothkamm, S., Short, S.C., Folkard, M., Rothkamm, K. and Prise, K.M. (2007) ATR-dependent radiation-induced gamma-H2AX foci in bystander primary human astrocytes and glioma cells. *Oncogene* 26, 993-1002.
- Rothkamm, K., Kühne, M., Jeggo, P.A., and Löbrich, M. (2001) Radiation-induced genomic rearrangements formed by nonhomologous end-joining of DNA double-strand breaks. *Cancer Res* 61, 3886-3893.
- Ainsbury, E.A., Bakhanova, E., Barquinero, J. F., Brai, M., Chumak, V., Correcher V., Darroudi, F., Fattibene, P., Gruel, G., Guclu, I. Horn, S., Jaworska, A., Kulka, U., Lindholm, C., Lloyd, D., Longo, A., Marrale, M. Monteiro Gil, O., Oestreicher, U., Pajic, J., Rakic, B., Romm, H., Trompier, F. Veronese, I., Voisin, P., Vral, A., Whitehouse, C. A., Wieser, A. Woda, C. Wojcik, A. and Rothkamm, K. (2011) Review of retrospective dosimetry techniques for external ionising radiation exposures. *Radiat Prot Dosimetry*, 147, 573-592.

Final statement

I have spent the past 20 years working as a radiobiologist at six different institutions in Germany and the United Kingdom and have had the opportunity to participate in numerous European and international research projects and networks focusing on DNA damage and repair, experimental oncology, radiation protection and biological dosimetry. These experiences have made me appreciate the vast pools of local knowledge, skills and resources available in individual institutions and groups throughout Europe and beyond. I strongly believe that it is one of the core responsibilities of organisations such as ESTRO to tap into and bring together this rich collective store of expertise in order to help us tackle the next big challenges in radiation oncology.