

Scientific Curriculum Vitae

Personal Information

Name Peter Kuess
Date of Birth September 8th 1982
Place of Birth Klagenfurt am Wörthersee, Austria
Nationality Austrian
Degrees Mag. rer. nat., PhD
Orcid 0000-0003-2961-1692

Professional Address

Division Medical Radiation Physics, Department of Radiation Oncology
Medical University of Vienna / AKH Wien
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Summary of scientific work

First or senior author 14
Co-author 34

Total number of publications 48

Hirsch index 12 (*Scopus*)
Conference contributions > 20

[Link to Publons profile](#)

Research Activities

- Dosimetry: Photons (kV and MV), Protons, and Carbon ions
- Image Processing: Radiomics, Textural Analysis, Deep Learning
- Image Guided Radiotherapy: Multimodal Imaging, Adaptive Radiotherapy
- MRI in Radiotherapy
- Pre-Clinical Research

Research Activities

- Dosimetry: Photons (kV and MV), Protons, and Carbon ions
- Image Processing: Radiomics, Textural Analysis, Deep Learning
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- Pre-Clinical Research

Clinical Activities

- Quality assurance
- Periodic checks of linear accelerators and imaging units for IGRT
- Commissioning and periodic checks of imaging units for particle therapy
- Commissioning of dosimetric equipment for particle therapy
- Commissioning of multi-parametric MRI sequences for clinical protocols
- Maintenance and trainings of X-ray units for pre-clinical research for MedUni and external users

Education

- 04/2022 **Applied for Venia docendi at Medical University Vienna.**
status pending
- 12/2018 **Fachanerkennung für Medizinische Physik.**
according to ÖGMP (Job title "Medizinphysiker")
- 10/2009–06/2014 **PhD in Medical Physics, Medical University of Vienna.**
Automated analysis of positron emission tomography (PET) based in-vivo monitoring in hadron therapy; Supervisor: Prof. Dr. Dietmar Georg
- 06/2009 **Master of Science in Physics, Vienna Environmental Research Accelerator (VERA), Nuclear Physics and Isotopic Research, Faculty of Physics, in cooperation with the Institute of Atomic and Subatomic Physics.**
Exploring AMS for the measurement of the (n,gamma) cross-section of ^{209}Bi at energies relevant for nuclear astrophysics and nuclear technology; Supervisors: Prof. Dr. Robin Golser, Dr. Anton Wallner
- 10/2003–06/2009 **Diploma Study in Physics, University of Vienna.**
- 06/2002 **Matura, mit gutem Erfolg.**
school leaving examination
- 09/1197–06/2020 **High School, HTL for IT und Business, Villach.**

Professional Experience

- since 12/2014 **Assistant post-doc, Medical University of Vienna, Department of Radiation Oncology, Division of Medical Physics.**
Paternity Leave (07/2019–12/2019)
Part-time Medical Physicist at EBG MedAustron
- 02/2010–11/2014 **Scientific assistant, Medical University of Vienna, Department of Radiation Oncology, Division of Medical Physics.**
employed within the ENVISION project
- 10/2007–06/2009 **Student Assistant, University of Vienna, Department of Nuclear Physics and Isotopic Research.**
- 10/2002–09/2003 **Alternative civilian service, Rotes Kreuz (Red Cross), Klagenfurt.**

List of Publications: Peter Kuess

- [1] S. Helmbrecht, A. Santiago, W. Enghardt, P. Kuess, and F. Fiedler. “On the feasibility of automatic detection of range deviations from in-beam PET data.” *Phys. Med. Biol.* 57 (2012), pp. 1387–97. DOI: 10.1088/0031-9155/57/5/1387.
- [2] P. Kuess, W. Birkfellner, W. Enghardt, S. Helmbrecht, F. Fiedler, and D. Georg. “Using statistical measures for automated comparison of in-beam PET data.” *Med. Phys.* 39 (2012), pp. 5874–81.
- [3] J. Góra, J. Hopfgartner, P. Kuess, B. Paskeviciute, D. Georg, J. Hopfgartner, P. Kuess, B. Paskeviciute, and D. Georg. “Is there room for combined modality treatments? Dosimetric comparison of boost strategies for advanced head and neck and prostate cancer”. *J. Radiat. Res.* 54 Suppl 1 (2013), pp. i97–112. DOI: 10.1093/jrr/rrt067.
- [4] P. Kuess, S. Helmbrecht, F. Fiedler, W. Birkfellner, W. Enghardt, J. Hopfgartner, and D. Georg. “Automated evaluation of setup errors in carbon ion therapy using PET: feasibility study.” *Med. Phys.* 40 (2013), p. 121718.
- [5] D. Georg, J. Hopfgartner, J. Góra, P. Kuess, G. Kragl, D. Berger, N. Hegazy, G. Goldner, and P. Georg. “Dosimetric considerations to determine the optimal technique for localized prostate cancer among external photon, proton, or carbon-ion therapy and high-dose-rate or low-dose-rate brachytherapy”. *Int. J. Radiat. Oncol. Biol. Phys.* 88 (2014), pp. 715–722. DOI: 10.1016/j.ijrobp.2013.11.241.
- [6] P. Kuess, E. Bozsaky, J. Hopfgartner, G. Seifritz, W. Dörr, and D. Georg. “Dosimetric challenges of small animal irradiation with a commercial X-ray unit”. *Z. Med. Phys.* 24 (2014), pp. 363–372. DOI: 10.1016/j.zemedi.2014.08.005.
- [7] P. Andrzejewski, P. Kuess, B. Knäusl, K. Pinker, P. Georg, J. Knoth, D. Berger, C. Kirisits, G. Goldner, T. Helbich, R. Pötter, and D. Georg. “Feasibility of dominant intraprostatic lesion boosting using advanced photon-, proton- or brachytherapy.” *Radiother. Oncol.* 117 (2015), pp. 509–514. DOI: 10.1016/j.radonc.2015.07.028.
- [8] J. Góra, P. Kuess, M. Stock, P. Andrzejewski, B. Knäusl, B. Paskeviciute, G. Altorjai, and D. Georg. “ART for head and neck patients: On the difference between VMAT and IMPT”. *Acta Oncol.* 54 (2015), pp. 1166–1174. DOI: 10.3109/0284186X.2015.1028590.
- [9] S. Helmbrecht, P. Kuess, W. Birkfellner, W. Enghardt, K. Stützer, D. Georg, and F. Fiedler. “Systematic analysis on the achievable accuracy of PT-PET through automated evaluation techniques”. *Z. Med. Phys.* 25 (2015), pp. 146–155. DOI: 10.1016/j.zemedi.2014.08.004.
- [10] K. Frings, S. Gruber, P. Kuess, M. Kleiter, and W. Dörr. “Modulation of radiation-induced oral mucositis by thalidomide : Preclinical studies”. *Strahlenther. Onkol.* 192 (2016), pp. 561–568. DOI: 10.1007/s00066-016-0989-5.
- [11] P. Kuess, D. Georg, H. Palmans, and W. Lechner. “Technical Note: On the impact of the incident electron beam energy on the primary dose component of flattening filter free photon beams”. *Med. Phys.* 43 (2016), pp. 4507–4513. DOI: 10.1118/1.4954849.
- [12] S. Walsh, E. Roelofs, P. Kuess, P. Lambin, B. Jones, D. Georg, and F. Verhaegen. “A validated tumor control probability model based on a meta-analysis of low, intermediate, and high-risk prostate cancer patients treated by photon, proton, or carbon-ion radiotherapy”. *Med. Phys.* 43 (2016), pp. 734–747. DOI: 10.1118/1.4939260.

- [13] N. Kostiukhina, D. Georg, S. Rollet, P. Kuess, A. Sipaj, P. Andrzejewski, H. Furtado, I. Rausch, W. Lechner, E. Steiner, H. Kertész, and B. Knäusl. “Advanced Radiation DOSimetry phantom (ARDOS): a versatile breathing phantom for 4D radiation therapy and medical imaging”. *Phys. Med. Biol.* 62 (2017), pp. 8136–8153. DOI: 10.1088/1361-6560/aa86ea.
- [14] P. Kuess, P. Andrzejewski, D. Nilsson, P. Georg, J. Knoth, M. Susani, J. Trygg, T. H. Helbich, S. H. Polanec, D. Georg, and T. Nyholm. “Association between pathology and texture features of multi parametric MRI of the prostate”. *Phys. Med. Biol.* 62 (2017), pp. 7833–7854. DOI: 10.1088/1361-6560/aa884d.
- [15] P. Kuess, T. T. Böhlen, W. Lechner, A. Elia, D. Georg, and H. Palmans. “Lateral response heterogeneity of Bragg peak ionization chambers for narrow-beam photon and proton dosimetry”. *Phys. Med. Biol.* 62 (2017), pp. 9189–9206. DOI: 10.1088/1361-6560/aa955e.
- [16] W. Lechner, P. Kuess, D. Georg, and H. Palmans. “Equivalent (uniform) square field sizes of flattening filter free photon beams”. *Phys. Med. Biol.* 62 (2017), pp. 7694–7713. DOI: 10.1088/1361-6560/aa83f5.
- [17] M. Linke, H. T. T. Pham, K. Katholnig, T. Schnöller, A. Miller, F. Demel, B. Schütz, M. Rosner, B. Kovacic, N. Sukhbaatar, B. Niederreiter, S. Blüml, P. Kuess, V. Sexl, M. Müller, M. Mikula, W. Weckwerth, A. Haschemi, M. Susani, M. Hengstschläger, M. J. Gambello, and T. Weichhart. “Chronic signaling via the metabolic checkpoint kinase mTORC1 induces macrophage granuloma formation and marks sarcoidosis progression”. *Nat. Immunol.* 18 (2017), pp. 293–302. DOI: 10.1038/ni.3655.
- [18] A. Garpebring, P. Brynolfsson, P. Kuess, D. Georg, T. H. Helbich, T. Nyholm, and T. Löfstedt. “Density estimation of grey-level co-occurrence matrices for image texture analysis”. *Phys. Med. Biol.* 63 (2018), p. 195017. DOI: 10.1088/1361-6560/aad8ec.
- [19] S. Gruber, M. Arnold, N. Cini, V. Gernedl, S. Hetzendorfer, L.-M. Kowald, P. Kuess, J. Mayer, S. Morava, S. Pfaffinger, A. Rohorzka, and W. Dörr. “Radioprotective Effects of Dermatan Sulfate in a Preclinical Model of Oral Mucositis—Targeting Inflammation, Hypoxia and Junction Proteins without Stimulating Proliferation”. *Int. J. Mol. Sci.* 19 (2018), p. 1684. DOI: 10.3390/ijms19061684.
- [20] S. Gruber, N. Cini, L.-M. Kowald, J. Mayer, A. Rohorzka, P. Kuess, and W. Dörr. “Upregulated epithelial junction expression represents a novel parameter of the epithelial radiation response to fractionated irradiation in oral mucosa”. *Strahlenther. Onkol.* 194 (2018), pp. 771–779. DOI: 10.1007/s00066-018-1302-6.
- [21] S. Gruber, K. Frings, P. Kuess, and W. Dörr. “Protective effects of systemic dermatan sulfate treatment in a preclinical model of radiation-induced oral mucositis”. *Strahlenther. Onkol.* 194 (2018), pp. 675–685. DOI: 10.1007/s00066-018-1280-8.
- [22] S. Khachonkham, R. Dreindl, G. Heilemann, W. Lechner, H. Fuchs, H. Palmans, D. Georg, and P. Kuess. “Characteristic of EBT-XD and EBT3 radiochromic film dosimetry for photon and proton beams”. *Phys. Med. Biol.* 63 (2018), p. 065007. DOI: 10.1088/1361-6560/aab1ee.
- [23] M. Khan, G. Heilemann, P. Kuess, D. Georg, and A. Berg. “The impact of the oxygen scavenger on the dose-rate dependence and dose sensitivity of MAGIC type polymer gels”. *Phys. Med. Biol.* 63 (2018), 06NT01. DOI: 10.1088/1361-6560/aab00b.
- [24] M. Kowaliuk, E. Bozsaky, S. Gruber, P. Kuess, and W. Dörr. “Systemic administration of heparin ameliorates radiation-induced oral mucositis—preclinical studies in mice”. *Strahlenther. Onkol.* 194 (2018), pp. 686–692. DOI: 10.1007/s00066-018-1300-8.

- [25] M. Stock, D. Georg, A. Ableitinger, A. Zechner, A. Utz, M. Mumot, G. Kragl, J. Hopfgartner, J. Gora, T. Böhlen, L. Grevillot, P. Kuess, P. Steininger, H. Deutschmann, and S. Vatnitsky. “The technological basis for adaptive ion beam therapy at MedAustron: Status and outlook”. *Z. Med. Phys.* 28 (2018), pp. 196–210. DOI: 10.1016/j.zemedi.2017.09.007.
- [26] S. Walsh, E. Roelofs, P. Kuess, Y. Van Wijk, B. Vanneste, A. Dekker, P. Lambin, B. Jones, D. Georg, and F. Verhaegen. “Towards a clinical decision support system for external beam radiation oncology prostate cancer patients: Proton vs. photon radiotherapy? a radiobiological study of robustness and stability”. *Cancers* 10 (2018), p. 55. DOI: 10.3390/cancers10020055.
- [27] M. Clausen, S. Khachonkham, S. Gruber, P. Kuess, R. Seemann, B. Knäusl, E. Mara, H. Palmans, W. Dörr, and D. Georg. “Phantom design and dosimetric characterization for multiple simultaneous cell irradiations with active pencil beam scanning”. *Radiat. Environ. Biophys.* 58 (2019), pp. 563–573. DOI: 10.1007/s00411-019-00813-1.
- [28] M. Daniel, P. Kuess, P. Andrzejewski, T. Nyholm, T. Helbich, S. Polanec, F. Dragschitz, G. Goldner, D. Georg, and P. Baltzer. “Impact of androgen deprivation therapy on apparent diffusion coefficient and T2w MRI for histogram and texture analysis with respect to focal radiotherapy of prostate cancer”. *Strahlenther. Onkol.* 195 (2019), pp. 402–411. DOI: 10.1007/s00066-018-1402-3.
- [29] M. Kowaliuk, I. Schröder, P. Kuess, and W. Dörr. “Heparin treatment mitigates radiation-induced oral mucositis in mice by interplaying with repopulation processes”. *Strahlenther. Onkol.* 195 (2019), pp. 534–543. DOI: 10.1007/s00066-018-01423-4.
- [30] P. Kuess, T. T. Böhlen, W. Lechner, A. Elia, D. Georg, and H. Palmans. “Reply to Comment on ”Lateral response heterogeneity of Bragg peak ionization chambers for narrow-beam photon and proton dosimetry””. *Phys. Med. Biol.* 64 (2019), p. 198002. DOI: 10.1088/1361-6560/ab3ba0.
- [31] F. Padilla-Cabal, P. Kuess, D. Georg, H. Palmans, L. Fetty, and H. Fuchs. “Characterization of EBT3 radiochromic films for dosimetry of proton beams in the presence of magnetic fields”. *Med. Phys.* 46 (2019), pp. 3278–3284. DOI: 10.1002/mp.13567.
- [32] S. Sarsarshahi, Z. Madjd, E. Bozsaky, J. Kowaliuk, P. Kuess, M. H. Ghahremani, and W. Doerr. “An evaluation of the effect of bortezomib on radiation-induced urinary bladder dysfunction”. *Strahlenther. Onkol.* 195 (2019), pp. 934–939. DOI: 10.1007/s00066-019-01497-8.
- [33] L. Fetty, M. Bylund, P. Kuess, G. Heilemann, T. Nyholm, D. Georg, and T. Löfstedt. “Latent Space Manipulation for High-Resolution Medical Image Synthesis via the StyleGAN”. *Z. Med. Phys.* 30 (2020), pp. 305–314. DOI: 10.1016/j.zemedi.2020.05.001.
- [34] L. Fetty, T. Löfstedt, G. Heilemann, H. Furtado, N. Nesvacil, T. Nyholm, D. Georg, and P. Kuess. “Investigating conditional GAN performance with different generator architectures, an ensemble model, and different MR scanners for MR-sCT conversion”. *Phys. Med. Biol.* 65 (2020), p. 105004. DOI: 10.1088/1361-6560/ab857b.
- [35] H. Fuchs, A. Elia, A. Resch, P. Kuess, and D. Georg. “Computer assisted beam modeling for particle therapy”. *Med. Phys.* 48 (2020), pp. 841–851. DOI: 10.1002/mp.14647.
- [36] S. Khachonkham, S. Gruber, E. Mara, R. Preuer, P. Kuess, W. Dörr, D. Georg, and M. Clausen. “RBE variation in prostate carcinoma cells in active scanning proton beams in vitro measurements in comparison with phenomenological models”. *Physica Med.* 77 (2020), pp. 187–193. DOI: 10.1016/j.ejmp.2020.08.012.
- [37] J. Kowaliuk, S. Sarsarshahi, J. Hlawatsch, A. Kastsova, M. Kowaliuk, A. Krischak, P. Kuess, L. Duong, and W. Dörr. “Translational Aspects of Nuclear Factor-Kappa B and Its Modulation by Thalidomide on Early and Late Radiation Sequelae in Urinary Bladder Dysfunction”. *Int. J. Radiat. Oncol. Biol. Phys.* 107 (2020), pp. 377–385.

- [38] P. Kuess, S. Haupt, J. Osorio, L. Grevillot, H. Fuchs, D. Georg, and H. Palmans. “Characterization of the PTW-34089 type 147 mm diameter large-area ionization chamber for use in light-ion beams”. *Phys. Med. Biol.* 65 (2020), 17NT02. DOI: 10.1088/1361-6560/ab9852.
- [39] E. Mara, M. Clausen, S. Khachonkham, S. Deycmar, C. Pessy, W. Dörr, P. Kuess, D. Georg, and S. Gruber. “Investigating the impact of alpha/beta and LET_d on relative biological effectiveness in scanned proton beams: An in vitro study based on human cell lines”. *Med. Phys.* 47 (2020), mp.14212. DOI: 10.1002/mp.14212.
- [40] J. Osorio, P. Kuess, A. Carlino, M. Stock, S. Vatnitsky, and H. Palmans. “Beam monitor calibration of a synchrotron-based scanned light-ion beam delivery system”. *Z. Med. Phys.* 31 (2020), pp. 154–165. DOI: 10.1016/j.zemedi.2020.06.005.
- [41] G. Heilemann, M. Matthewman, P. Kuess, G. Goldner, J. Widder, D. Georg, and L. Zimmermann. “Do Generative Adversarial Networks help to overcome the limited data problem in segmentations?” *Z. Med. Phys. (in press)* (2021). DOI: 10.1016/j.zemedi.2021.11.006.
- [42] S. Irmak, L. Fetty, D. Georg, P. Kuess, and W. Lechner. “Cone beam CT based validation of neural network generated synthetic CTs for radiotherapy in the head region”. *Med. Phys.* 48 (2021), pp. 4560–4571. DOI: 10.1002/mp.14987.
- [43] P. Kuess, W. Lechner, D. Georg, and H. Palmans. “Reply to comment on ‘Lateral response heterogeneity of Bragg peak ionization chambers for narrow-beam photon and proton dosimetry’”. *Phys. Med. Biol.* 66 (2021), p. 168001. DOI: 10.1088/1361-6560/AC16BF.
- [44] L. Zimmermann, M. Buschmann, H. Herrmann, G. Heilemann, P. Kuess, T. Nyholm, D. Georg, and N. Nesvacil. “An MR only acquisition and artificial intelligence based image processing protocol for photon and proton therapy using a low field MR”. *Z. Med. Phys.* 31 (2021), pp. 78–88. DOI: 10.1016/j.zemedi.2020.10.004.
- [45] B. Knäusl, P. Kuess, D. Georg, M. Stock, and L. Zimmermann. “Possibilities and challenges when using synthetic computed tomography in an adaptive carbon-ion treatment workflow”. *Z. Med. Phys. (accepted)* (2022).
- [46] A. F. Resch, F. Padilla-Cabal, M. Rego, W. Lechner, G. Heilemann, P. Kuess, D. Georg, and H. Palmans. “Accelerating and improving radiochromic film calibration by utilizing the dose ratio”. *Med. Phys. (accepted)* (2022).
- [47] L. Zimmermann, H. Fuchs, N. Reisz, A. Ableitinger, D. Georg, and P. Kuess. “Efficient full Monte Carlo modelling of an advanced X-ray device”. *Z. Med. Phys. (accepted)* (2022). DOI: 10.1016/j.zemedi.2022.04.006.
- [48] L. Zimmermann, B. Knäusl, M. Stock, C. Lütendorf-Caucig, D. Georg, and P. Kuess. “An MRI sequence independent convolutional neural network for synthetic head CT generation in proton therapy”. *Z. Med. Phys.* 32 (2022), pp. 218–227. DOI: 10.1016/j.zemedi.2021.10.003.

Submitted Manuscripts

- [1] P. Kuess, N. Sejkora, A. Klampfer, S. Madlner, P. Weiss, S. Schmied, D. Georg, S. Özdemir-Fritz, G. Groemer, and A. Hirtl. “Characterising novel space suit textiles in proton beams using radiotherapy-based dosimetry”. *submitted to Advances in Space Research* (2022).

Oral conference contributions

- 09/2021 Response Homogeneity of Large Area Ionization Chambers, 3 Ländertagung der ÖGMP, DGMP und SGSMP , Virtual Meeting
- 06/2021 Response Homogeneity of Large Area Ionization Chambers, PTCOG, Virtual Meeting

- 05/2019 Characterization of a prototype plane-parallel ionization chamber with 147 mm diameter, Alpe-Adria Medical Physics Meeting, Graz, Austria (presented by co-author)
- 06/2018 Imaging dose burden for head and pelvic patients utilizing the ImagingRing system, ÖGMP Tagung, Vienna, Austria
- 04/2017 Lateral response heterogeneity of Bragg peak ion chambers for narrow-beam photon & proton dosimetry, ESTRO 36, Vienna, Austria
- 04/2016 Association between pathology and texture features of multi parametric MRI of the prostate, ESTRO 35, Turin, Italy
- 05/2014 Systematic analysis on the achievable precision of Particle Therapy-PET measurements for ¹²C-beams by means of automated evaluation techniques, 6th Alpe-Adria Medical Physics Meeting, Budapest, Hungary
- 04/2014 Dosimetric considerations to determine the optimal technique for localized prostate cancer (young scientists poster discussion), ESTRO 33, Vienna, Austria
- 02/2014 Dosimetric considerations to determine the optimal technique for localized prostate cancer, ICTR-PHE, Geneva, Switzerland
- 05/2013 Automated detection of setup errors in carbon ion therapy using particle therapy PET: feasibility study”, ÖGMP Annual Meeting, Innsbruck, Austria
- 04/2013 Automated detection of setup errors in carbon ion therapy using particle therapy PET: feasibility study, (poster discussion) ESTRO 32, Geneva, Switzerland
- 05/2012 An automated approach for the comparison of PET data for ion beam therapy verification, 5th Alpe-Adria Medical Physics Meeting, Trieste, Italy
- 01/2012 Automated detection of ion beam modifications in in-beam PET images, Radioactive Isotopes in Clinical Medicine and Research, Bad Hofgastein, Austria
- 09/2011 Automatische Detektion von Änderungen der Strahlreichweite bei in-beam PET Daten, 3 Ländertagung der ÖGMP, DGMP und SGSMP, Vienna, Austria

Poster contributions (First Author)

- 06/2022 Medical Imaging Cluster Festival, Vienna, Austria
- 05/2018 ESTRO 37, Barcelona, Spain
- 05/2016 PTCOG 55, Prague, Czech Republic
- 07/2013 ULICE final meeting and ENLIGHT annual meeting, Wiener Neustadt, Austria
- 06/2013 9th YSA-PhD-Symposium, Vienna, Austria
- 04/2013 PTCOG 52, Essen, Germany
- 11/2012 ESTRO 32, Geneva, Switzerland
- 06/2012 MedAustron Symposium, Wiener Neustadt, Austria
- 06/2012 8th YSA-PhD-Symposium, Vienna, Austria
- 05/2012 ESTRO 31, Barcelona, Spain
- 04/2012 ENVISION Mid Term Review Meeting, Ciudad Real, Spain
- 03/2012 ICTR-PHE, Geneva, Switzerland

Teaching

In parenthesis SWS of own contribution

MUW PhD Programme

SS2015	Doctoral Students Seminar: Radiation Physics Applications in Radiation Oncology 2 SWS (1)	
WS2015	Doctoral Students Seminar: Ion Beam Therapy - General Concepts and Recent Developments 2 SWS (0.5)	
SS2016	Basic Seminar: Medical Physics VIII - Physical Fundamentals of Radiation Oncology 2 SWS (0.66)	
SS2018	Doctoral Students Seminar: Radiation Physics Applications in Radiation Oncology 2 SWS (0.75)	
WS2018	Doctoral Students Seminar: Ion Beam Therapy 2 SWS (0.5)	
SS2020	Journal Club: Advanced Radiotherapy Techniques 2 SWS (0.9)	
WS2020	Doctoral Students Seminar: Radiation Physics Applications in Radiation Oncology 2 SWS (0.8)	
SS2022	Doctoral Students Seminar: Ion Beam Therapy 1 SWS (0.8)	
WS2022	Basic Seminar: Ion beam therapy physics 2 SWS (0.9)	
	Total own SWS in MUW PhD Programme	6.81

MUW Medical Degree Programme

SS2016	BL 18 – Haut und Sinnesorgane 0.8 SWS (0.67)	
WS2016	BL 3 – Vom Molekül zur Zelle 1.73 SWS (1.07)	
SS2017	BL 18 – Haut und Sinnesorgane 0.8 SWS (0.67)	
WS2017	BL 3 – Vom Molekül zur Zelle 1.73 SWS (1.07)	
SS2018	BL 18 – Haut und Sinnesorgane 0.8 SWS (0.67)	
WS2018	BL 3 – Vom Molekül zur Zelle 1.73 SWS (1.07)	
SS2019	Bl 18 – Haut und Sinnesorgane 0.8 SWS (0.67)	
WS2019	BL 3 – Vom Molekül zur Zelle 1.73 SWS (1.07)	
SS2020	Bl 18 – Haut und Sinnesorgane 0.8 SWS (0.67)	
WS2020	BL 3 – Vom Molekül zur Zelle 1.73 SWS (1.07)	
SS2021	Bl 18 – Haut und Sinnesorgane 0.8 SWS (0.67)	
WS2021	BL 3 – Vom Molekül zur Zelle 1.73 SWS (1.07)	
SS2022	Bl 18 – Haut und Sinnesorgane 0.8 SWS (0.67)	
	Total own SWS in MUW Medical Degree Programme	11.24

Technical University of Vienna

SS2022	Einführung in die medizinphysikalischen Grundlagen der Ionentherapie 2 SWS (0.68)	
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University of Applied Sciences Wiener Neustadt

WS2021	Medizinische Bildverarbeitung	
WS2021	CAD and E-Health	
WS2022	Medizinische Bildverarbeitung	

MUW Postgraduate Course Medical Physics

WS2015 Practical Training in Medical Radiation Physics I

Supervised MSc Students

- Anna Klampfer *"Investiations of novel space suit textiles in a proton beam"* TU Wien ongoing – co-supervision with Albert Hirtl
- Alexander Kampitsch *"Quantitative Analyse der Apparent Diffusion Coefficient-Karten von Teilchentherapie-Hirntumorpapienten in Abhängigkeit der applizierten Dosis"* FH Gesundheitsberufe OÖ (06/2021)
co-supervision with Univ.-Prof. Dietmar Georg:
- Viktoria Moser *"Large area ionization chamber - StingRay - for particle therapy"* TU Vienna (12/2021)
- Sarah Haupt *"Dose area product measurements with a novel large area ionization chamber in scanned proton beams"* TU Vienna (05/2019)
- Niklas Reisz *"Modelling of the head scatter of the ImagingRing System"* TU Vienna (06/2018)
- Merim Cato *"Development of a Monte Carlo simulation to predict the beta plus activity distribution in a patient during particle therapy"* TU Vienna (01/2018)
- Anna Huber *"Dosimetrical consideration using the Imaging Ring at MedAustron"* FH Wiener Neustadt (05/2017)
- Hunor Kertesz *"ARDOS Phantom: Research applications including further developments"* FH Wiener Neustadt (10/2016)
- Lukas Gnam *"Monte Carlo based dose calculation for an X-Irradiator in pre-clinical research"* TU Vienna (01/2016)
- Gerhard Seifritz *"Dosimetrie im niederenergetischen Röntgenbereich im Rahmen der Inbetriebnahme einer Tierbestrahlungsanlage"* Postgraduate M.Sc. Course on Medical Physics MUW (05/2015)

Supervised BSc Students

- Laurens Klihm *"Erstellung von robusten Planvorlagen in der Kleintierbestrahlung"* FH Campus Wien (ongoing)
- Bojan Radonjić *"Untersuchung relevanter Einstellungen mit der Micro-RayStation anhand dosimetrischer Parameter bei der Bestrahlung von Kleintieren"* FH Campus Wien (05/2022)
- Patricia Platzer *"Range measurements for carbon ions in water - Support during Commissioning Shifts at MedAustron"* FH Campus Wien (10/2019)
- Katrin Munzenrieder *"Usage of textural feature analysis on medical images using the software MICE"* FH Technikum (05/2017) – co-supervision with Univ.-Prof. Dietmar Georg
- Georg Maier *"Commissioning and QA of a breathing phantom for the usage in Radiotherapy"* TU Vienna (04/2016) – co-supervision with Univ.-Prof. Dietmar Georg

Awards

- 09/2020 Georg D (PI) , Clausen M, Gruber S, Knäusl B, **Kuess P**, Fuchs H, Resch A
Wissenschaftspreis des Landes Niederösterreich 2020
- 05/2014 Alpe-Adria Working Community Price, Instituted on the occasion of the 6th
Alpe-Adria Medical Physics Meeting in Budapest, Hungary

Skills

- Languages German (native)
English (fluently spoken and written)
- Computer Various Treatment Planning Systems and Medical Imaging Software
Various Programming Languages and Office Software
Neural Networks and Deep Learning
- Administration Excellent management skills
Study coordination assistance for the EC project ENVISION and the Christian
Doppler Laboratory for Medical Radiation Research for Radiation Oncology
Research coordination assistance between the Department of Radiation Oncology
(MedUni Wien) and EBG MedAustron

Collaboration Partners

MedAustron, TU Wien, Univ. Umeå (Sweden), FH Campus-Wien, FH Wiener
Neustadt, FH Gesundheitsberufe Oberösterreich - Campus Linz, Österreichisches
Weltraum Forum, PTW Dosimetry, IBA Dosimetry

Professional Membership

Austrian Society for Medical Physics (ÖGMP)
European Society for Radiotherapy & Oncology (ESTRO)

Review Activities

Physics in Medicine and Biology, Radiotherapy and Oncology, Biomedical Physics
and Engineering Express (BPEX), Strahlentherapie und Onkologie, Medical
Physics (Distinguished Reviewer for 2021 - doi/10.1002/mp.14734), Physica
Medica, Zeitschrift für Medizinische Physik, Nuclear Inst. and Methods in
Physics Research B, PhD Examiner: University of Melbourne