

Curriculum vitae

Role in the project Centre director Principal investigator

Personal information

First name, Surname:	Nina Frederike Jeppesen Edin		
Date of birth:	210164	Sex:	Female
Nationality:	Danish		
Researcher unique identifier(s) (ORCID, ResearcherID, etc.):	ResearcherID: J-4275-2015	ORCID: https://orcid.org/0000-0002-6995-131X	
URL for personal website:	http://www.mn.uio.no/fysikk/personer/vit/nina/index.html		

Education

Year	Faculty/department - University/institution - Country
2009	Ph.D./ Faculty of Mathematics and Natural Sciences/Department of Physics/ University of Oslo/ Norway
2003	M.Sc./ Faculty of Mathematics and Natural Sciences/Department of Physics/ University of Oslo/ Norway

Positions - current and previous

(Academic sector/research institutes/industrial sector/public sector/other)

Year	Job title – Employer - Country
2018-	Associate Professor/ University of Oslo /Norway
2018-2019	Scientific advisor/Sci-Group/Norway
2016-2018	Senior engineer/ University of Oslo /Norway
2013-2016	Researcher/ University of Oslo /Norway
2009-2010	
2010-2013	Postdoc/ University of Oslo /Norway

Career breaks

Year	Reason
-2009	Career as professional classical musician

Project management experience

Year	Project owner - Project - Role - Funder
2021-2024	European organization for nuclear research , CERN –PRISMAP (101008571)-Partner- EU H2020
2020-2022	Department of physics, UiO – NanoDOS - Co-PI - NFR
2019-2022	Department of physics, UiO - Life Science Convergence environment PROCCA- Co-PI - UiO:Life Science.
2018-2021	Diatec monoclonals - MEDPROT – partner -NFR
2019-2021	OUS – ProGRID – Co-PI- HSØ

Supervision of students

Master's students	Ph.D. students	University/institution - Country
12 finished (9 ongoing)	1 finished, 3 ongoing	University of Oslo-Norway, Main supervisor
10 finished (2 ongoing)	2 ongoing	University of Oslo-Norway, Co-supervisor

Other relevant professional experiences

Year	Description - Role
2018-	Member of committee for planning of infrastructure and work flow at the research facility of the coming proton therapy centre at OUS
2018-2021	Board member MEDPROT/NRF-BIA project/Norway
2018-	Member of European Particle Therapy Collaborative Network (EPTN), as organized by the European Society for Radiotherapy and Oncology (ESTRO)
2021-	Member of master program board UiO
2020	Leader of assessment committee for Associate professor in physics education research at the Centre for Computing in Science Education, UiO
2019-	Member of committee for revision of bachelor program in physics at UiO
2019	Grant proposal reviewer, NTNU Health, biomedical engineering/Norway
2018-	First Opponent PhD defense, Steffen Nielsen: Århus University/Denmark, 3 rd opponent for 2 PhD dissertations.
2009-	Referee of the international journals: Scientific Reports (Nature), International Journal of Oncology Biology Physics, PLOS ONE, Acta Radiologica, Acta Oncologica, Radiotherapy and Oncology, Journal of Clinical Laboratory Analysis, MDPI (Multidisciplinary Digital Publishing Institute), Molecular and cellular proteomics, Nitric Oxide, International Journal of Radiation Biology, Molecules and International Journal of Molecular Sciences

Publication statistics

Total number of publications (peer-reviewed papers in international journals): 23

Abstracts and presentations at national and international conferences: ~30

10-year track record

Publication statistics

In the last 10 years, I have co-authored 14 peer-review journal articles (+1 accepted). I am first/corresponding author on 8 of these articles, single author on one.

Added value of my expertise for the SFF

With my expertise in both radiation physics and radiation biology, I have been instrumental in setting up a cell irradiation facility at Oslo Cyclotron Laboratory and am head of the cell laboratory at Department of Physics. Our group is the only in Norway currently doing cell experiments with proton irradiation. We are also doing animal proton irradiation studies in collaboration with the Danish Centre for proton therapy in Aarhus. I have long experience in studying biological responses to radiation and have identified several factors including IL-13, TGF- β 3 and peroxynitrite as major factors involved in induction of radiation resistance. Ongoing research indicates a role for TGF- β 3 as a mitigator of radiation damage.

Representative publications (last 10 years)

Edin, NFJ, Olsen, DR, Sandvik, JA, Malinen, E and Pettersen, EO 2012. Low dose hyperradiosensitivity in T-47D cells is eliminated by chronic moderate hypoxia but returns after reoxygenation. *International Journal of Radiation Biology* 88:311-319. Developed the theory and the research idea, performed the measurements, analyzed data, and wrote the article.

Cheng C, Edin NF, Lauritzen KH, Aspmodal I, Christoffersen S, Jian L, Rasmussen LJ, Pettersen EO, Xiaoqun G, Bergersen LH. 2012. Alterations of monocarboxylate transporter densities during hypoxia in brain and breast tumour cells. *Cellular Oncology* 35(3):217-27. Joint first author. Performed measurements, analyzed data, and contributed in writing the article.

Edin NJ, Sandvik JA, Vollan HS, Reger K, Görlach A and Pettersen EO. 2013. The role of nitric oxide radicals in removal of hyper-radiosensitivity by priming irradiation. *Journal of Radiation Research* 54:1015-1028. Developed the theory and the research idea, performed the measurements, analyzed data, and wrote the article.

Edin, N.F. 2014. The role of interleukin-13 in the removal of hyper-radiosensitivity by priming irradiation. *J Radiat Res.* 55(6): p. 1066-74. Developed the theory and the research idea, performed the measurements, analyzed data, and wrote the article.

Edin NJ, Christoffersen S, Fenne S, Sandvik JA, Pettersen EO. Cell inactivation by combined low dose-rate irradiation and intermittent hypoxia. *Int J Radiat Biol.* 2015:1-10. Developed the theory and the research idea, built the experiment, performed the measurements, analyzed data, and wrote the article.

Edin NJ, Altaner C, Altanerova V, Ebbesen P, and Pettersen EO. 2016. Low dose-rate irradiation for 1 h induces protection against lethal radiation doses but does not affect life span of DBA/2 mice. *Dose Response* 14 (4). Developed the theory and the research idea, performed the measurements, analyzed data, and wrote the article.

Dahle TJ, Rykkelid AM, Stokkevåg CH, Mairani A, Gørgen A, Edin NJ, et al. 2017. Monte Carlo simulations of a low energy proton beamline for radiobiological experiments. *Acta Oncologica* 2017:1-8. Performed measurements, analyzed data, contributed to discussions and writing of manuscript.

Bousquet PA, Sandvik JA, Edin NFJ, Kregel U. 2018. Hypothesis: Hypoxia induces de novo synthesis of NeuGc gangliosides in humans through CMAH domain substitute. *Biochemical and Biophysical Research Communications.* Volume 495. (1), P. 1562-1566. Performed measurements, analyzed data, contributed to discussions and writing of manuscript.

Grigalavicius M, Mastrangelopoulou M, Berg K, Arous D, Ménard M, Tine Raabe, Brondz E, Siem S, Görgen A, Edin N, Malinen E, and Theodossiou T. 2019. *Proton-dynamic therapy following photosensitiser activation by accelerated protons demonstrated through fluorescence and singlet oxygen production*. NATURE COMMUNICATIONS 2019 Sep 4;10(1):3986. Contributed to setting up experiment, measurements, data analysis, discussions and writing of manuscript.

Görgen A, Guttormsen M, Larsen AC, Siem S, Edin NFJ, Gjersdal H, Henriksen G, Malinen E, Modami V, Schoultz B, Sobas PA, Theodossiou TA, and Wike JC. 2020. *The Oslo Cyclotron Laboratory*. European Physics Journal. In press. Contributed to writing of manuscript

Teaching activities (last 10 years)

- 2019- : Responsible for bachelor-course in experimental physics (fys2150), Department of physics, University of Oslo
- 2009- : Lecturer (responsible since 2018) master course in Cellular Radiobiology (fys4720), Department of Physics, University of Oslo.
- 2009: Lecturer and responsible for laboratory course in Biophysics and medical physics (fys3700/4700), Department of Physics, University of Oslo.

Prizes, awards, academy memberships (last 10 years)

- 2018 2nd place Innovation Award from Inven2/Norway
- 2012- Member, Radiation Research Society.
- 2018- Member, European Society for Radiotherapy and Oncology (ESTRO)
- 2019- Member, European Radiation Research Society

Patents

Filed March 3rd, 2011. UK application number 1103645.6. Title: Method to inhibit resistance to radiation and DNA intercalating agents before treatment. (Inventors: Nina F. Jeppesen Edin, Erik O. Pettersen, Peter Ebbesen Joe A. Sandvik)

Filed March 3rd, 2011. UK application number 1103643.1. Title: Method to identify patients with resistance to radiation and various chemotherapeutic agents. (Inventors: Nina F. Jeppesen Edin, Erik O. Pettersen, Peter Ebbesen Joe A. Sandvik)