

Short Curriculum Vitae of Jyrki Räsänen

Personal information

Born: 1953, Helsinki, Finland (male)

Academic Education

M.Sc. 1977 (Physics, University of Helsinki)

Licentiate 1979 (Physics, University of Helsinki)

Ph.D. 1981 (Physics, Applications of Low Energy Accelerators, University of Helsinki)

Adjunct professorships

University of Helsinki, 1983-03

University of Jyväskylä, 2004-

Current position

Professor (Ion beam based materials physics), University of Helsinki (2003-)

Head of the Department of Physics, Helsinki University (from 15.10.2018)

Head of the Division of Materials Physics (2008-2018), Department of Physics vice head

Head of the Accelerator Laboratory (1996-98 and 2003-2019)

Professional appointments

1998-03	Professor (exp. materials physics), University of Jyväskylä, Finland
1985, 1993, 2001, 2007	Senior scientist research grant, Academy of Finland
1991-98	University lecturer, University of Helsinki
1994-95	Visiting professor, IRMM/JRC, Belgium
1986-90	Laboratory manager, University of Helsinki
1984, 1992-93	Acting associate professor, University of Helsinki
1983	Post-doctoral fellow, University of Helsinki
1982	Inspector, Institute of Radiation Protection, Helsinki
1977-81	Graduate student

Other scientific achievements

- Advanced Materials World Congress 2015, Sweden. Member of Congress Committee.
- International Committee of conference series "European Conference on Accelerators in Applied Research and Technology, ECAART" (2013-), member. Guest Editor.
- Co-Chairman and Guest Editor, 17th International Conference on Radiation Effects in Insulators, Helsinki 2013.
- Invited talks and plenary lectures in major international conferences, session chair and member of the International Program Committees.
- Organising Committee member of several international Symposiums and Summer Schools.
- Committee member and lecturer of the Socrates-Erasmus Intensive Programmes "Thin Films and Multilayers as seen by local Probes" (2002-04), "Solid-State Physics with Nuclear Techniques" (1999-00) and "Engineering and Characterization of Nanostructures by Photon, Ion beam, and Nuclear Methods" (2008-10).

Patents

Modulation of magnetic properties of a substrate for electronic components. Vladimir Tuboltsev, Alexander Savin, Jyrki Räsänen, Jukka Pekola, Finnish patent 20095337, European patent pending.

Scientific expert tasks

Domestic

- Working group “Radiation protection education” set by the Ministry of Social Affairs and Health, representative of Helsinki University (2015-2017).
- Helsinki University research grant and post doc selection board member (2011, 2012).
- Faculty of Science, infrastructure board member, University of Helsinki (2010-13).
- Referee for a professorship (2010) at Lappeenranta University of Technology, staff scientist (2017) Aalto University.
- Faculty of Science, Scientific Advisory Board member, University of Helsinki (2004-09).
- Reviewer of about 30 PhD theses.
- PhD dissertation opponent Lappeenranta Technical University (2016).

International

- External Counseling Body member of the Institute of Nuclear Research (ATOMKI, 2010-15;2016-19); Research Institute for Particle and Nuclear Research (RMKI, 2010-12); Wigner Research Centre for Physics (2013-15;2016-19) of the Hungarian Academy of Sciences. Evaluation of these Research Institutes in 2019.
- Member of the Peer Review Panel IPERION-Integrated Project for the European Research Infrastructure on cultural heritage (2015-)
- EFDA-Power Plant Physics & Technology, Materials Work Package Project Board Member (2014-)
- Member of the Review Panel “Evaluation of IAEA’s work related to particle accelerators and nuclear instrumentation for analytical applications and materials science” December 2013.
- European Cooperation in Science and Technology (COST) Domain committee member: Materials, Physics and Nanosciences 2011-14; Domain expert 2010, Review Panel 2015-2016 (2 calls).
- Member of the User Selection Panel of the Budapest Neutron Centre, BNC (2010-).
- Expert panel of EU FP7 and Horizon 2020 programs.
- Expert for the Fund for Scientific Research-FNRS (F.R.S.-FNRS) and Research Foundation Flanders (FWO), Belgium.
- Member of the User Selection Panel of the EU funded international network “Ion beam laboratories, SPIRIT” (2009-13).
- Referee for a professorship (1986) at Rutgers, New Jersey, USA. Referee for a research position (1989), adjunct professorship (1993), professorship in (2000) and two professorships in (2002) at University of Lund, Sweden. Referee for a scientific advisor (full professor) position at Ruđer Bošković Institute, Croatia (2013 and 2019).
- Research project proposal and postdoctoral fellowship evaluation for Foundation for Scientific Research Belgium, Estonian Research Council (ETA), The Romanian National Research Council, Tartu University, Polish National Science Center and The Greek Ministry of Education.
- PhD thesis opponent in Sweden and Spain. Reviewer of a PhD thesis, Spain.
- Referee of: Physical Review B, Physical Review Letters, Analytica Chimica Acta and Nuclear Technology.
- Refereeing services for: Nuclear Instruments and Methods B, Physica B, Thin Solid Films, Biological Trace Element Research, Radiation Measurements, Journal of Alloys and Compounds, Encyclopedia of Analytical Chemistry: Instrumentation and Applications, Solid-State Electronics, Applied Physics A, Journal of Electromagnetic Waves and Applications, Physica Scripta, Nanotechnology, Journal of Physical Chemistry, Applied Surface Science, Journal of Physics D, Materials Chemistry and Physics, Radiation Physics and Chemistry, Nanoscale, Physical Review Applications, Journal of Magnetism and Magnetic Materials.

Supervision of students

Supervision of over 30 MSci theses, 3 licentiate theses, and supervision or co-supervision of over 25 PhD theses. Supervision of several foreign Erasmus students. Supervisor in the National Graduate Schools of materials physics and nanosciences. At the moment under supervision 2 students aiming at PhD degree.

Selected Academic and Administrative Confidential Posts

Domestic

- Faculty of Science, council member, University of Helsinki (2018-).
- Doctoral Programme in Materials Research and Nanosciences, University of Helsinki, leader (2016-2017)
- Faculty of Science, council vice member, University of Helsinki (2004-09).
- Department Council, University of Jyväskylä (1999-02) and University of Helsinki (2014-).
- Accelerator laboratory executive board, Jyväskylä (1998-03).
- Member of the planning and executive boards of the Renewable Energy Sources Training and Research Programme at Jyväskylä (2000-03).

International

- Associate Editor of Physica Scripta (2011-).
- Comments Editor of Physica Scripta (2010).
- Editorial Board member of Dataset Papers in Materials Science (2012-2018)
- Editorial Board member of Nuclear Instruments and Methods in Physics Research B (2000-05).
- European Microbeam Analysis Society, International Advisory Board member (1987-98).
- Coordinator of the EU –funded Socrates-Erasmus Intensive Programme “Ion beam, photon and nuclear methods in nanostructured materials” (2005-07).

Scientific work done in laboratories abroad

Institute for Reference Materials and Measurements, Joint Research Centre, Commission of the European Communities, Geel, Belgium; ATOMKI (Institute of Nuclear Research of the Hungarian Academy of Sciences), Debrecen, Hungary; Department of Physics, Division of Nuclear Physics, Lund Institute of Technology, Sweden; CERN/ISOLDE; Institut für Strahlen- und Kernphysik, University of Bonn, Germany.

Funding of research projects

Leader of about 15 externally funded projects at the University of Helsinki and of 6 projects at the University of Jyväskylä since 1994.

Major externally funded research projects (excluding funding applied for equipment)

University of Helsinki

Senior scientist research grant (1985, 1993 and 2007), Academy of Finland

Advanced Epitaxial Materials for Microelectronics Applications
(1994-96), Academy of Finland

Advanced Epitaxial Compound Semiconductors for Optoelectronics
(1997-99), Academy of Finland

Materials physics based on low energy ion bombardment
(2003-05), Academy of Finland

Cluster and ion beams for nanoelectronics and spintronics
(2008-11), Academy of Finland

In a consequence of redefined nanoscale plasticity:
Nanoscale Diffusion in Nanodeformed Semiconductors
(2010-13), Academy of Finland

Finnish Centre of Excellence in Atomic Layer Deposition
Research Team at Division of Materials Physics
(2012-17), Academy of Finland
Exit Funding, University of Helsinki (2018-2019)

Programmable Materials dedicated call.
Programmable Perovskites
(2012-15), Academy of Finland

Erosion, deposition and material transport in tokamaks
(2014 onwards annually), EuroFusion and TEKES

University of Jyväskylä
Senior scientist research grant (2000), Academy of Finland

Applications of Energetic Heavy Ions
(1999), Academy of Finland

Accelerator Based Materials Physics
(2000-01), Academy of Finland

Ion-Matter Interactions and Applications
(1999-01), Academy of Finland

Centre of Excellence, Nuclear and Condensed Matter Physics
Research Programme at JYFL (includes Ion-Matter Interactions)
(2000-05), Academy of Finland

Publications

Over 270 publications in international peer reviewed journals.
7 chapters in international text- and handbooks.
20 articles in conference proceedings.