CURRICULUM VITAE

Esko I. Kauppinen, PhD (Physics), Professor

PERSONAL INFORMATION

Family name	Kauppinen
Given names	Esko Ilmari
Date of birth	August 27, 1957
Place of birth	Sääminki, Finland

CURRENT POSITIONS

Head, Department of Applied Physics, Aalto University School of Science, Finland, 2020 - present
Professor, Department of Applied Physics, Aalto University School of Science, Finland, 2005 - present
Manager, NanoMaterials Group, Department of Applied Physics, Aalto University School of Science, Finland, 2002 - present

EDUCATION

B.S., Department of Physics, University of Helsinki, Finland,	1982.
M.S., Department of Physics, University of Helsinki, Finland,	1985.
Lic. Phil., Department of Physics, University of Helsinki, Finland,	1988.
PhD., Department of Physics, University of Helsinki, Finland,	1992.

PREVIOUS ACADEMIC APPOINTMENTS

Vice-Dean for Research and Innovations, Aalto University School of Science, 2017 – 2019
Distinguished Visiting Professor, Tokyo University of Agriculture and Technology, Tokyo, Japan, December 2014 – January 2015; June-July 2015.
Visiting Professor, SKKU University, Suwon, Korea June-July 2014, August 2015.
Visiting Professor, Tokyo University of Agriculture and Technology, Tokyo, Japan, October 2001.
ESF Nano Program Fellowship for Short Visit at EMAT, University of Antwerp, Antwerp, Belgium, June 28 - July 9, 1999.

Visiting Research Scientist, University of Florida, Gainesville, Florida, USA, 1987-1988.

Research Assistant, Department of Physics, University of Helsinki, Helsinki, Finland, 1982-1983.

PREVIOUS AND CURRENT NON-ACADEMIC POSITIONS AND APPOINTMENTS

Project Manager, EU FP7 Project No FP7-NMP-SL-2013-604472 (Call identifier FP7-NMP-2013-EU-Japan): *Indium replacement by single-walled carbon nanotube thin films (IRENA)*. Funded by EU for 1 799 648 € during 1.9.2013 - 28.02.2017 (EU project leader in a consortium of 3 partners, total EU budget 2 349 301; Chairman of the EU-Japan Joint Project Coordination Committee; 3 Japanese partners with 2 033 522 € funding from Japan).

Project Manager, Aalto Energy Efficiency (AEF) Research Program Project *MOPPI (Molecular and thin film engineering for building integrated photonics and process)*. Funded by Aalto University for 1 700 000 € during 1.9.2012 - 31.08.2016, project planned to continue until 31.08.2019 with similar funding level.

Project Manager, TKK 100 Year Anniversary Research Progam MIDE Project *CNB-E (Carbon NanoBuds for Energy Applications)*. Funded by TKK for 1 880 000 € during 1.1.2008 - 31.12.2012.

Project Manager, EU FP6 STREP Project No 033350 *BNC Tubes (Novel, Heteroatomic Boron, Nitrogen and Carbon Nanotubes*). Funded by EU for 2 500 000 €, total consortium funding 3 250 000 €, 2007-2010.

Project Manager, Research project *"Nanoparticle Emissions Simulator*", TEKES/FINE Research Program, 2004-2005.

Project Manager, Generic Research project *"Control of Small Particle Surface Forces and Surface Oxidation*", TEKES/PINTA Research Program, 2002-2006.

VTT Foreign Exchange Research Program Fellowship for period 30.9.-31.10.2001 at Tokyo University of Agriculture and Technology (TUAT), Tokyo, Japan for the theme of research *"Surface Force Control of Nanostructured Fine Particles"*.

JITA/AIST/MITI Invitation Program Fellowship for Foreign Researchers for period September 23 – October 22, 2000 at Mechanical Engineering Laboratory (MEL) of MITI, Tsukuba, Japan for the theme of research *"Control and Measurement of Nanometer Sized Particles"*.

STA Senior Scientist Fellowship No 499033 (Science and Technology Agency, Japan) for period November 3 – December 2, 1999 at Mechanical Engineering Laboratory (MEL) of MITI, Tsukuba, Japan for the theme of research *"Manufacturing, Measurement and Analysis of Nano-Scale Particles"*.

Program Manager, VTT Chemical Technology Basic Technology Research Program "Ultrafine Particles", 1995 – 1997. Advanced Aerosol Technology Laboratories designed and constructed and High Resolution FE-SEM and FE-(S)TEM facilities were selected, purchased and installed during this program in collaboration between VTT Chemical Technology, VTT Manufacturing Technology and VTT Energy.

VTT Research Professor on Nanotechnology, 2000-2010.

Group Manager, Aerosol Technology Group, VTT Processes, Espoo, Finland, 2002-2005.

Group Manager, Aerosol Technology Group, VTT Chemical Technology, Espoo, Finland, 1994 – 2001.

Head of the Aerosol Technology Group, Technical Research Centre of Finland, Laboratory of Heating and Ventilation, Espoo, Finland, 1991 – 1993.

Chief Research Scientist, VTT Chemical Technology, Espoo, Finland, 1993 – 2000.

Senior Research Scientist, Technical Research Centre of Finland, Laboratory of Heating and Ventilation, Espoo, Finland, 1989-1993.

Research Scientist, Technical Research Centre of Finland, Laboratory of Heating and Ventilation, Espoo, Finland, 1985-1989.

Research Scientist, Finnish Army Research Centre, Helsinki, Finland, 1986-1987.

Junior Research Scientist, Technical Research Centre of Finland, Laboratory of Heating and Ventilation, Espoo, Finland,1983-1985.

CURRENT RESEARCH INTERESTS

Gas phase synthesis of nanomaterials, including carbon nanotubes and fullerenes and polymer-drug composite nanoparticles and their characterization with advanced electron microscopic methods. Helicity controlled synthesis of nanotubes. Direct deposition of nanotube thin films for flexible electronics (e.g. transparent touch sensors and thin film field effect transistors TFT-FET) and energy applications.

CURRENT AND PAST MAJOR PUBLIC RESEARCH GRANTS

EU FP7 Project No FP7-NMP-SL-2013-604472 (Call identifier FP7-NMP-2013-EU-Japan): *Indium replacement by single-walled carbon nanotube thin films (IRENA)*. Funded by EU for 711 734 € during 1.9.2013 - 28.02.2017 (EU project leader in a consortium of 3 partners, total EU budget 2 349 301 € with EU funding of 1 799 648 €; 3 Japanese partners with 2 033 522 € funding from Japan; leader of the joint project coordination group).

EU FP7 LARGE Project No FP7-2012-NMP-ICT-FoF-314068: *Transparent Electrodes for Large Area, Large Scale Production of Organic Optoelectronic Devices (TREASORES).* Funded by EU for 397 617 € during 1.11.2012 - 31.10.2015 (member in a consortium of 14 partners, total EU funding for consortium 9 092 655 €).

Aalto Energy Efficiency (AEF) Research Program Project *MOPPI (Molecular and thin film engineering for building integrated photonics and process).* Funded by Aalto University for 456 000 € during 1.9.2012 - 31.08.2016 (coordinating partner in a consortium of 5 research groups, total funding for consortium 1 700 000 €), project planned to continue until 31.08.2019 with similar funding level.

High Strength Carbon Nano Hybrid Materials (HISCON). Funded by Academy of Finland for 488 000 € during 1.9.2012-31.08.2016.

TKK 100 Year Anniversary Research Program MIDE Visiting Professor Project related to *CNB-E (Carbon NanoBuds for Energy Applications)* project. Funded by Aalto for 100 000 € during 1.7.2012 - 30.06.2013 to invite Prof. Yutaka Ohno (Nagoya University, Japan) one year research visit to Aalto university.

Hierarchical Drug Nanoparticles for Controlled Drug Delivery Systems. Funded by Samsung via SAIT GRO 2011 program for 134 848 USD during 1.1.2012-31.12.2012.

High Performance Lithium Ion Battery Anodes based on Novel Nanocarbons. Funded by Tekes (the Finnish Funding Agency for Technology and Innovation) for 325 000 € during 1.5.2010-30.4.2013. Belongs to Strategic Japanese-Finnish Cooperative Program on "Materials for photonics, Optoelectronics, Solar Cells and Batteries". Collaborative project with Tokyoa A&T University, Tokyo and Toyota R&D Laboratories, Nagakute, Japan

Fundamentals of Material Assembly in Drug Nanoparticles and Formation of Nanocrystalline Coatings. Funded by Academy of Finland for 488 000 € during 1.1.2010-31.12.2013.

EU FP7 LARGE Project No NMP4-LA-2009-211464 *Novel Concepts, Methods, and Technologies for the Production of Portable, Easy-to-Use Devices for the Measurement and Analysis of Airborne Engineered Nanoparticles*

in Workplace Air (NANODEVICE). Funded by EU for 418 000 € during 1.4.2009 - 31.03.2013 (sub project 1 leader in a consortium of 26 partners, total EU funding for consortium 9 490 888 €).

TKK 100 Year Anniversary Research Progam MIDE Project *CNB-E (Carbon NanoBuds for Energy Applications).* Funded by TKK for 650 000 € during 1.1.2008 - 31.12.2012 (coordinating partner in a consortium, total funding for consortium 1 880 000 €).

Development of high-performance carbon nanotube thin film transistors. Funded by NEDO (New Energy and Industrial Technology Development Organization), Japan for 25 000 000 JPY during 1.6.2008-31.5.2012. Collaborative project with Nagoya University, Nagoya, Japan.

Kivipohjaisten toiminnallisten materiaalien sisäiset pinnat (SIPI). Funded by Tekes (the Finnish Funding Agency for Technology and Innovation) for 315 000 € during 1.1.2008-31.12.2010 (partner in a consortium).

Structural control and growth mechanism of single-walled and double-walled carbon nanotubes. Funded by Tekes – the Finnish Funding Agency for Technology and Innovation for 245 000 € during 1.8.2008-37.7.2010. Belongs to China-Finland nanotechnology strategic mutual collaborative initiative (NAMI) collaborative research. Collaborative project with Institute of Metal Research, Chinese Academy of science (IMR/CAS), Shenyang, China.

EU FP6 STREP Project No 033350 *BNC Tubes (Novel, Heteroatomic Boron, Nitrogen and Carbon Nanotubes*). Funded by EU for 880 000 € during 1.2.2007 - 31.01.2010 (coordinating partner in a consortium, total EU funding for consortium 2 500 000 €, total consortium funding 3 250 000 €).

Tailored Nanostabilizers for Biocomponent Interfaces (TAINA). Funded by TEKES via FINNANO research program for 216 000 € during 1.7.2005 – 30.06.2008 (partner in a consortium).

Nanomaterials in Wireless Tags Based on Printed Electronics (PRINTAG). Funded by TEKES via FINNANO research program for 168 000 € during 1.6.2005 – 31.05.2008 (partner in a consortium).

Molecular Scale memonry Elements (MOME). Funded by TEKES via FINNANO research program for 195 000 € during 1.8.2005 – 31.07.2008 (partner in a consortium).

Biophysical Modelling of Technical Phenomena for Energy and Fluid Flow Engineering Applications. Funded by TEKES and VTT for 92 000 € during 1.7.2005 – 31.12.2006 (partner in a consortium).

Fundamentals of novel drug nanoparticle synthesis method. Funded by Academy of Finland for 225 170 € during 1.1.2005-31.12.2008.

EU FP6 SSA Project No 013908 *NANOTOX (Investigative Support for the Elucidation of the Toxicological Impact of Nanoparticles on Human Health and the Environment*). Funded by EU for 84 804 € during 1.2.2005 - 31.12.2007 (partner in a consortium).

Synthesis and mechanistic investigations of single walled carbon nanotube growth: chirality and size control. Funded by Academy of Finland via post-doc program for 153 000 € during 1.8.2004 – 31.12.2007.

EU FP6 SSA Project *NANOROADMAP (Technological roadmaps till 2014 in nanoscience and nanotechnologies in materials, health and medical systems, energy fields).* Funded by EU and VTT Processes for 264 000 € during 1.1.2004 - 31.12.2005 (partner in a consortium).

Nanoparticle emissions simulator. Funded by TEKES via FINE research program for 400 000 € during 1.1.2004-31.12.2007 (coordinating partner in a consortium, total funding for consortium 800 000 €).

Electronic properties of carbon nanotubes. Funded by Academy of Finland via TULE research program for 132 000 € during 1.7.2003 – 31.12.2006 (partner in a consortium).

EU FP5 RTN2-2001-00510 Project "*Nanocluster*". Funded by EU for 190 000 € during 1.10.2002 – 30.9.2006 (partner in a consortium).

Control of Small Particle Surface Forces and Surface Oxidation. generic project of the TEKES-PINTA Research Program. Funded by TEKES and VTT Processes for 800 000 € during 2002 -2006 (coordinating partner in a consortium, total funding for consortium 3 400 000 €).

Participation to *TEKES Nanotechnology Research Program* 1996-1998, collaboration with Kemira Pigments and Neste in several projects.

Participation to *TEKES LIEKKI Combustion Research Program* 1991-1998, collaboration with Ahlström, Tampella, Foster Wheeler, IVO in several projects.

Participation to *TEKES SIHTI Environmental Engineering Research Program* 1991-1998, collaboration with ABB and IVO in several projects.

Participation to *TEKES Pigment Research Program 1999-2002*, collaboration with pigment and paper manufacturing companies.

AWARDS

Finnish Association for Aerosol Research (FAAR) Award 1992. For Excellent work in Aerosol Science related to Combustion and Aerosol Measurement.

Best Paper, Engineering Foundation Conference on Application of Advanced Technology to Ash-Related Problems in Boilers, Waterville Valley, New Hampshire, USA, July 16-21, 1995.

Air Pollution Control Research Award of 2001, Hengitysliitto (HELI), Helsinki, Finland.

Walter A. Mueller Memorial Award for the Best paper at the 10th International Symposium on Corrosion in the Pulp and Paper Industry, August 21-24, 2001, Helsinki, Finland. Co-Authors: Mäkipää, M., Lind, T., Pyykönen, J., McKeough, P., Oksa, M., Malkow, Th., Fordham, R.J., Baxter, D., Koivisto, L., Saviharju, K. and Vakkilainen, E.

Nanotech Finland Award of 2010 by TEKES, Finland, for a Remarkable Scientific Breakthrough in the Field of Nanotechnology.

LEE HSUN (H. Lee) Research Award of 2010 by the Institute of Metal Research, Chinese Academy of Sciences and Shenyang National Laboratory for Materials Science, Shenyang, China, for the Outstanding Contribution in the Field of Materials Science and Engineering.

Member of the Finnish Academy of Science and Letters. 2014.

International Association for Advanced Materials (IAAM) 2016 Medal For Notable and outstanding Research in the Advanced Materials Science & Engineering.

"Contribution to the Development of Nanoscience and Nanotechnologies" 2018 Medal of the United Nations Educational, Scientific and Cultural Organization (*UNESCO*).

ACTIVITIES RELATED TO SCIENTIFIC JOURNALS

Associate Editor

Aerosol Science and Technology,	1998-2001

Member of the Editorial Board

Report Series in Aerosol Science,	1991–2003
Journal of Aerosol Science,	1994-2000
Aerosol Science and Technology,	1994-1998
Powder Technology,	1999 – present

New Carbon Materials 2010 – present
Scientific Reports (Nature journal) 2013 - present

Reviewer

Nature Communications
Nature Materials
Nature Nanotechnology
JACS
ACS Nano
Advanced Materials
Aerosol Science and Technology
Applied Organometallic Chemistry
Carbon
Chemistry of Materials
Combustion and Flame
Combustion Science and Technology
Current Nanoscience
Drug Development and Industrial Pharmacy
Energy and Fuels
Environmental Science and Technology
Fuel Processing Technology
Journal of Aerosol Science
Journal of Applied Physics
Journal of Hazardous Waste and Hazardous Materials
Journal of Nanoparticle Research
Journal of Physical Chemistry
Journal of Pulp and Paper Science Canada
Nanoscale
Phys. Rev. B.
Powder Technology
Process Biochemistry
Water, Air & Soil Pollution

Guest Editor

Journal of Aerosol Science 29(4)1998, Special Issue on Combustion Aerosols

ACTIVITIES RELATED TO ACADEMIC DISSERTATIONS, APPOINTMENTS, TUTORING OF POST DOCTORAL SCIENTISTS AND REVIEWING PROPOSALS

External Examiner of PhD-thesis

1. Simonsen, O. (1993) *Condensation of Sulphuric Acid Vapors – Dynamics of Binary Aerosol Condensation*. Department of Chemical Engineering, Technical University of Denmark, Lyngby, Denmark. (Opponent).

2. Christensen, K.A. (1995) *The Formation of Submicron Particles from the Combustion of Straw*. Department of Chemical Engineering, Technical University of Denmark, Lyngby, Denmark. (Opponent).

3. Nielsen, L. B. (1998) *Combustion Aerosols from Potassium-Containing Fuels*. Department of Chemical Engineering, Technical University of Denmark, Lyngby, Denmark. (Opponent).

4. Tikkanen, J. (1999) *Liquid Flame Spray Development and its Applications*. Tampere University of Technology, Department of Physics, Tampere, Finland. (Opponent).

5. Nielsen, M. T. (2001) *Field Studies of Combustion Aerosols*. Department of Chemical Engineering, Technical University of Denmark, Lyngby, Denmark. (Opponent).

6. Patrikainen, T. (2002) *Studies on the Consequences of the Control of Nitrogen Oxide Emission: Slagging of Ash and Scrubbing of Flue Gas.* University of Oulu, Department of Chemistry, Oulu, Finland. (Opponent).

7. Nuutinen, L. (2003) *The Role of Ash Forming Material in Agglomeration during Fluidized Bed Combustion of Biomass Fuel.* University of Oulu, Department of Chemistry, Oulu, Finland. (External Reviewer).

8. Karvinen, S. (2003) *Experimental and Theoretical Studies on Doped and Undoped Rutile and Anatase TiO_2 for Photocatalyst and Pigment Use.* University of Joensuu, Department of Chemistry, Joensuu, Finland. (External Reviewer).

9. Marjamäki, M. (2003) *Electrical Low Pressure Impactor: Modifications and particle Collection Characteristics*. Tampere University of Technology, Department of Physics, Tampere, Finland. (External Reviewer).

10. Santiago Jimenez Torrecilla (2004) *Submicron Particle Formation in Biomass Combustion*. University of Zaragoza, Zaragoza, Spain. (Opponent).

11. Michael Strand (2004) *Particle Formation and Emission in Moving Grate Boilers Operating on Woody Biofuels*. Växjö University, Sweden. (Opponent).

12. Ollila, H. (2005) *The Characterization of Inorganic Matter in Solid Fuel by SEM-EDS*. University of Oulu, Department of Chemistry, Oulu, Finland. (Opponent).

13. Tuukkanen, S. (2006) *Dielectrophoresis as a Tool for DNA-based Electronic Device Fabrication and Elctrical Characterisation of Nanoscale DNA*. University of Jyväskylä, Jyväskylä, Finland. (External Reviewer).

14. Lyashenko, D. (2006) *Electronic and Non-Linear Optical Properties of Nanocarbons.* University of Joensuu, Joensuu, Finland. (Opponent).

15. Obratztsov, P. (2011) *Nonlinear optical phenomena in graphene based materials.* University of Eastern Finland. (Opponent).

16. Ismaligov, R. (2013) *Nano- and micro-structured carbons production by chemical vapor deposition*. University of Eastern Finland. (Opponent).

17. Miettinen, M. (2014) *Engineered nanomaterials via aerosol routes: formation, characteristics and safety aspects.* . University of Eastern Finland. (Opponent).

18. Tuyakova, F. (2017). *Carbon nanomaterials tailored for particular applications.* University of Eastern Finland. (Opponent).

19. Hedman D. (2019) *Single-walled carbon nanotubes. A theoretical study of stability, growth and properties.* Luleå University of Technology, Luleå, Sweden. (Opponent).

Superviser of PhD-thesis

1. Latva-Somppi, J. (1998) *Experimental Studies on Pulp and Paper Mill Sludge Ash Behaviour in Fluidized Bed Combustors.* Helsinki University of Technology, Espoo, Finland.

2. Lind, T. (1999) *Fly Ash Formation during Circulating Fluidized Bed Combustion of Coal and Biomasses.* Helsinki University of Technology, Espoo, Finland.

3. Joutsensaari, J. (1999) *Aerosol Synthesis of Nanostructured, Ultrafine Fullerene Powders.* Tampere University of Technology, Tampere, Finland.

4. Mikkanen, P. (2000) *Fly Ash Particle Formation in Kraft Recovery Boilers.* Helsinki University of Technology, Co-Advised with J. Jokiniemi.

5. Valmari, T. (2000) *Potassium Behaviour during Combustion of Wood in Circulating Fluidised Bed Power Plants*., Helsinki University of Technology, Co-Advised with J. Jokiniemi.

6. Ahonen, P. (2001) *Aerosol Production and Crystallization of Titanium Dioxide from Metal Alkoxide Droplets.* Helsinki University of Technology, Espoo, Finland.

7. Eerikäinen, H. (2005) *Preparation of Nanoparticles Consisting of Methacrylic Polymers and Drugs by an Aerosol Flow Reactor Method.* University of Helsinki.

8. Moisala, A. (2006) *Studies on Single Walled Carbon Nanotubes Production via Gas-Phase Chemical Vapour Deposition.* University of Helsinki.

9. Lähde, A. (2008) *Production and Surface Modification of Pharmaceutical Nano- and Microparticles with the Aerosol Flow Reactor.* University of Jyväskylä.

10. Anissimov, A. (2010) *Aerosol Synthesis of Carbon Nanotubes and NanoBuds.* Aalto University School of Science and Technology, Department of Applied Physics.

11. Reddy, P. (2010) *Supported CVD Synthesis of Carbon Nanotubes and Fibers.* Aalto University School of Science and Technology, Department of Applied Physics.

12. Susi, T. (2011) *Nitrogen-doped Single-walled Carbon Nanotube Thin Films.* Aalto University School of Science, Department of Applied Physics.

13. Rackauskas, S. (2011) *Non-catalytic growth of metal oxide nanowires: properties and growth mechanism investigations.* Aalto University School of Science, Department of Applied Physics.

14. Tian, Y. (2012) *Optical Properties of Single-walled Carbon Nanotubes and Nanobuds.* Aalto University School of Science, Department of Applied Physics.

15. Timmermans, M. (2013) *Carbon Nanotube Thin Film Transistors for Flexible Electronics.* Aalto University School of Science, Department of Applied Physics.

16. Kaskela, A. (2014) *Transparent, Conductive and Flexible Single-walled Carbon Nanotube Films.* Aalto University School of Science, Department of Applied Physics.

17. Borghei, M. (2015) *Novel Carbon Nanomaterials for the Direct Methanol Fuel Cell Electrodes.* Aalto University School of Science, Department of Applied Physics.

18. Rahikkala, A. (2015) *Self-assembly of block and graft copolymers in aerosol nanoparticles*. Aalto University School of Science, Department of Applied Physics.

19. Mustonen, K. (2015) *On the limit of single walled carbon nanotube random network conductivity.* Aalto University School of Science, Department of Applied Physics.

20. Laiho, P. (2018) *Thermophoretic and diffusive pas-phase transport of single-walled carbon nanotubes and their applications in thin film electronics*. Aalto University School of Science, Department of Applied Physics.

21. Liao, Y. (2019) *Carbon dioxide-assisted synthesisof single-walled carbon nanotubes and their thin film properties.* Aalto University School of Science, Department of Applied Physics.

22. Tsapenko, A. P. (2019) *Enhancing optoelectronic performance of randomly oriented single-walled carbon nanotube thin films.* Aalto University School of Science, Department of Applied Physics.

23. Iakovlev, V. Ya. (2019) *Advanced synthesis of single-walled carbon nanotube films by aerosol CVD method for electro-optical applications.* Aalto University School of Science, Department of Applied Physics.

24. Hussain, A. *(2019) Synthesis and applications of single walled carbon nanotubes from ethylene as carbon source.* Aalto University School of Science, Department of Applied Physics.

25. Ding, E.-X. *Gas phase synthesis of single-walled carbon nanotubes from liquid carbon source for transparent conducting film application.* Aalto University School of Science, Department of Applied Physics. In Progress.

26. Saeed, A. *Synthesis of carbon nanotubes with bimetallic catalyst nanoparticles made with surface plasma evaporation.* Aalto University School of Science, Department of Applied Physics. In Progress.

27. Nurcin, U. *Peptide microparticles for inhalation drug delivery.* Aalto University School of Science, Department of Applied Physics. In Progress.

28. Khan, T. *SWNT field effect transistors.* Aalto University School of Science, Department of Applied Physics. In Progress.

Reviewer for university performance

Lappeenranta University of Technology, Lappeenranta, Finland (3/2012)
Lithuanian Research Assessment Exercise (RAE) for Physical Sciences, Vilnius, Lithuania (02/2015)

Reviewer for professor appointment

University of New Mexico, Albuquerque, NM, USA (twice)
University of Utah, Salt Lake City, Utah, USA
University of Minnesota, Minneapolis, MN, USA
Technion – Israel Institute of Technology, Technion City, Haifa, Israel
TU Graz, Graz, Austria

Tutoring of post doctoral scientists

PhD (Physics) Unto Tapper	1995 - 2004
PhD (Physics) Bertram Schleicher	1996 – 1998
PhD (Engineering Physics) Terttaliisa Lind	1999 - 2005
PhD (Materials Science) Olivier Richards	1999 – 2001
PhD (Chemical Engineering) Wiwik Watanabe	1999 – 2002
PhD (Physical Chemistry) Albert Nasibulin	1999– 2011
PhD (Physics) Hua Jiang	2002 - 2012
PhD (Polymer Chemistry) Janne Raula	2003 – 2017
PhD (Materials Science) David Gonzales	2004– 2006
PhD (Materials Science) Paula Queipo	2004– 2006
PhD (Aeronautical Engineering) David P. Brown	2004 – 2007
PhD (Physics) Paola Ayala	2007 – 2009
PhD (Physical Chemistry) Virginia Ruiz	2007 – 2009
PhD (Physics) Markus Kaukonen	2008 – 2011
PhD (Physics) Toma Susi	2011 - 2013
PhD (Physics) Ying Tian	2012-2013,
2014 - 2017	
PhD (Physics) Antti Kaskela	2014 – 2015

PhD (Electronics) Nan Wei	2016 – present
PhD (Physics) Qiang Zhang	2016 – present
PhD Mohammad Tavakkoli	2018 - present

Reviewer of proposals for

Academy of Finland
European Commission (EU)
European Research Counsil (ERC)
European Science Foundation (ESF)
Natural Sciences and Engineering Research Council of Canada
Lithuanian State Science and Studies Foundation
Foundation for Polish Science
National Research Council of Romania
The Netherlands Organisation for Scientific Research (NWO)

Reviewer of Awards for

Nano*Mat* – Innovation Award. Netzwek Nanomaterialien. Geschäftsstelle und Forschungcentrum Karlsruhe Gmbh, Karlsruhe, Germany, 2005 - present

ACTIVITIES IN ACADEMIC SOCIETIES

President, Finnish Association for Aerosol Research (FAAR),	1993 - 1997
Vice President, Finnish Association for Aerosol Research,	1990 – 1993
Member, Finnish Association for Aerosol Research,	1983 - present
Member, FAAR Board of Directors,	1997 – 2000
FAAR representative at IARA (Int. Aerosol Research Assembly)	1990- 1997
FAAR representative at EAA (European Aerosol Assembly),	1995- 1997
Member, American Association for Aerosol Research (AAAR),	1984 - 2005
Member, AAAR Membership Committee,	1993 – 1995
Member, AAAR Board of Directors,	1995 -1998
Member, The Combustion Institute,	1994 – 2000
Member, Japan Association for Aerosol Science and Technology,	1994 - present
Member, Japan Society of Powder Technology,	1994– present
Member, The Scandinavian Society for Electron Microscopy,	1997-present
Member, IARA Award Committee,	2000-2002
Member, American Association of Pharmaceutical Scienctists,	2002- 2003
Member, GAeF (German Aerosol Society),	2003 –present
Member, GAeF Board of Directors,	2004 –present
Member, SFS (Finnish Physical Society),	2006 - 2007
Member, SFS Board of Directors,	2006 –2007
Vice-Member, Board of Directors, Center for New Materials, HUT	2006 – 2008
Member, Finnish Academy of Science and Letters	2014 – present

ACTIVITIES RELATED TO COMPANY MANAGEMENT

Member of the Board of Directors

Dekati Ltd, Tampere, Finland, January 2001 –August 2002
StreamWise Finland Oy, Helsinki, Finland, January 2001–December 2002
Particle Stream Technologies Oy, Helsinki, Finland, May 2001 – December 2002.
Canatu Oy, Helsinki, Finland, May 2004 - 2019
TeicosPharma Oy, Helsinki, Finland, 2009 – present
MetalCirc Oy, Helsinki, 2019 – present

Founding Member

StreamWise Finland Oy, Helsinki, Finland, January 2000
Particle Stream Technologies Oy, Helsinki, Finland, May 2001
Canatu Oy (www.canatu.com), Helsinki, Finland, May 2004
TeicosPharma Oy (www.teicospharma.com), Helsinki, Finland, May 2007
MetalCirc Oy, Helsinki, January 2019

ACTIVITIES RELATED TO INTERNATIONAL SCIENTIFIC PROGRAMS AND MEETINGS

Member of the Steering Committee

European Science Foundation (ESF) Scientific Program on "Vapor-Phase Synthesis and Processing of Nano-Particle Materials", 1995-1999.

European Consortium of Nanostructured Materials (ECNM), 1996-1999.
COST Action 523 "Nanostructured Materials", 1998-2003.

Planning Committee of the National Nanoscience and Technology Report in Finland, September 2003-May 2004.

NT14. 15th International Conference on the Science and Applications of Nanotubes. June 1-6, 2014, Los Angeles, USA.

NT15. 16th International Conference on the Science and Applications of Nanotubes. June 29 – July 3, 2015, Nagoya, Japan.

NT16. 17th International Conference on the Science and Applications of Nanotubes and Low Dimensional Materials. August 7– 13, 2016, Vienna, Austria.

NT17. 18th International Conference on the Science and Applications of Nanotubes and Low Dimensional Materials. June 25 – 30, 2017, Belo Horizonte, Brazil.

NT18. 19th International Conference on the Science and Applications of Nanotubes and Low Dimensional Materials. July 15– 20, 2018, Beijing, China.

NT19. International Conference on the Science and Application of Nanotubes and Low-Dimensional Materials. July 21– 26, 2019, Würzburg, Germany.

Member of the International Scientific Advisory Committee

The Fourth International Congress on Toxic Combustion Byproducts, The University of California, Berkeley, CA, USA, June 5.-7. 1995.

The Fifth International Congress on Toxic Combustion Byproducts, University of Dayton, Dayton, Ohio, USA, June 25.-27. 1997.

PARTEC 2004. International Congress for Particle Technology, March 16.-18. 2004, Nuremberg, Germany.

6th International Symposium & Exhibition on Gas Cleaning at High Temperatures, Osaka, Japan, October 20-22, 2005.

Nanofair 2006. 5th International Nanotechnology Symposium - New Ideas for Industry. November 21 – 22, 2006. Karlsruhe, Germany.

PARTEC 2007. International Congress for Particle Technology, March 27.-29. 2007, Nuremberg, Germany.

MSIN07. First International Forum on Metrology, Standardization and Industrial Quality of Carbon nanotubes. Rio de Janeiro, Brazil, June 22, 2007.

NT07. Eighth International Conference on the Science and Applications of Nanotubes. June 24-30, 2007, Ouro Preto, Minas Gerais, Brazil.

European NanOSH Conference –Nanotechnologies: A Critical Area in Occupational Safety and Health. Helsinki , Finland. December 3-5, 2007. NT07.

The 1th International Workshop on Nanocarbon Photonics and Optoelectronics (NPO2008). August 3-9, 2008. Polvijärvi, Finland.

The Fourth Workshop on Nucleation and Growth Mechanisms of Single Wall Carbon Nanotubes. April 10-14, 2009, Quadalupe, TX, USA.

NT10. Tenth International Conference on the Science and Applications of Nanotubes. June 27 –July 2, 2010, Montreal, Canada.

The 2nd International Workshop on Nanocarbon Photonics and Optoelectronics (NPO2010). August 1-6, 2010. Koli, Finland.

The Fifth Workshop on Nucleation and Growth Mechanisms of Single Wall Carbon Nanotubes. April 8-12, 2011, Bandera, TX, USA.

NT11. Eleveth International Conference on the Science and Applications of Nanotubes. July 11-16, 2011, Cambridge, UK.

NT12. Twelweth International Conference on the Science and Applications of Nanotubes. June 24-30, 2012, Brisbane, Australia.

The 3th International Workshop on Nanocarbon Photonics and Optoelectronics (NPO2012). July 29 - August 4, 2012. Polvijärvi, Finland.

The Sixth Workshop on Nucleation and Growth Mechanisms of Single Wall Carbon Nanotubes. April 12-16, 2013, Bandera, TX, USA.

NT13. 13th International Conference on the Science and Applications of Nanotubes. June 23-29, 2013, Espoo, Finland.

The 4th International Workshop on Nanocarbon Photonics and Optoelectronics (NPO2014). July 28 - August 1, 2014. Polvijärvi, Finland.

The Seventh Workshop on Nucleation and Growth Mechanisms of Single Wall Carbon Nanotubes. April 10-14, 2015, Bandera, TX, USA.

The Eigth Workshop on Nucleation and Growth Mechanisms of Single Wall Carbon Nanotubes. April 21-25, 2017, Bandera, TX, USA.

Guadalupe Workshop IX: WORKSHOP ON SINGLE WALL CARBON NANOTUBES & RELATED MATERIALS. April 15-19, 2019, Fredericksburge, TX, USA.

Chairman of the International Scientific Meetings

The Fifth Finnish National Aerosol Symposium, June 1-3, 1993, Helsinki, Finland.

European Aerosol Conference, September 18-22, 1995, Helsinki, Finland.

Workshop on CVD and Aerosol Synthesis of Materials, May 27, 1996, Espoo, Finland.

NEDO International Joint Project "Ash Behaviour Control" Symposium, August 16.-17., 1996, Espoo, Finland.

International Seminar on "Advanced Scanning Electron Microscopy and Modern Energy Dispersive Spectroscopy", November 21, 1996, Espoo, Finland.

International Seminar on "Advanced Transmission Electron Microscopy and Energy Spectroscopic Imaging", September 11, 1997, Espoo, Finland.

European Science Foundation (ESF) Scientific Program on "Vapour-Phase Synthesis and Processing of Nano-Particle Materials 1995-1999" Workshop on "High Resolution Microscopy of Small Particles", Espoo, Finland, September 12.-13., 1997.

European Science Foundation (ESF) Scientific Program on "Vapour-Phase Synthesis and Processing of Nano-Particle Materials 1995-1999" Workshop on "High Temperature Sampling and In-Situ Measurement of Nanoparticles", Karlsruhe, Germany, May 21-22, 1999.

European Science Foundation (ESF) Scientific Program on "Vapour-Phase Synthesis and Processing of Nano-Particle Materials 1995-1999" Workshop on "High - Temperature Generated Nanoparticles and Computational Fluid Dynamics", July 16-17, 1999, TU Denmark, Lyngby, Denmark.

Engineering Foundation (EF) Conference on Vapor Phase Manufacture of Materials III, Hotel Haikko Manor, Porvoo, Finland, July 26-31, 1999.

COST 523 Nanomaterials Working Group Meeting on Characterization, June 18-20, 2000, Espoo, Finland.

Materials Research Society (MRS) Spring Meeting 2012. Session EE: New Functional Nanocarbon Devices. April 9-13, 2012. San Francisco, CA, USA.

Solid State Devices and Materials (SSDM) 2012. Strategic Area 13: Application of Nanotubes, Nanowires, and Graphene. September 25-27, 2012. Kyoto, Japan.

NT13. 14th International Conference on the Science and Applications of Nanotubes. June 23-29, 2013, Espoo, Finland (chair).

CNTFA13. 1st Carbon Nanotube Thin Electronics and Applications Satellite Meeting (in connection to NT13). June 29, 2013. Tallin, Estonia.

Symposium on Carbon Materials, IUMAR-ICAM 20 13 (International Conference on Advanced Materials), September 23-27, 2013, Qingdao, China (co-chair from Europe).

Advanced Nano Carbon Devices and Materials. Symposium C. 2013 JSAP-MRS Joint Symposia. Doshisha University, Japan. September 16-20, 2013 (co-chair).

ECT Forum "Flexible Electronics with Novel Nanomaterials". Messukeskus, Helsinki, Finland. October 3, 2013.

CNTFA14. 2nd Carbon Nanotube Thin Electronics and Applications Satellite Meeting (in connection to NT14). June 1, 2014. Los Angeles, CA, USA.

CNTFA15. 3rd Carbon Nanotube Thin Electronics and Applications Satellite Meeting (in connection to NT15). June 28, 2015. Nagoya, Japan.

The 5th International Workshop on Nanocarbon Photonics and Optoelectronics (NPO2016). August 1-5, 2016. Lappeenranta, Finland (co-chair).

CNTFA16. 4rd Carbon Nanotube Thin Electronics and Applications Satellite Meeting (in connection to NT16). August 13, 2016, Vienna, Austria.

Materials Research Society (MRS) Fall Meeting 2016. Session NM3: Nanotubes and Related Nanostructures. November 27 - December 1, 2025. Boston, MA, USA.

CNTFA17. 5th Carbon Nanotube Thin Electronics and Applications Satellite Meeting (in connection to NT17). July 30, 2017, Belo Horizonte, Brazil.

CNTFA18. 6th Carbon Nanotube Thin Electronics and Applications Satellite Meeting (in connection to NT18). June15, 2018. Beijing, China.

The 6th International Workshop on Nanocarbon Photonics and Optoelectronics (NPO2018). August 6-10, 2018.Savonlinna, Finland (co-chair).

Materials Research Society (MRS) Fall Meeting 2018. Session NM01: Carbon Nanotubes, Graphenes and Related Nanostructures. November 27 -30, 2018. Boston, MA, USA.

The 7th Carbon Nanotube Thin Film Electronics and Applications Symposium (in connection to NT19). July 21– 26, 2019, Würzburg, Germany.

INVITED TALKS

International Scientific Meetings (total of 132)

1. *European Aerosol Conference 1991*, Karlsruhe, Germany.

2. *European Aerosol Conference 1994*, Blois, France, May 30 - June 2, 1994.

3. *4th Seminar of the series "Trends in Aerosol Research", speciel topic "Nanoparticles in Technology and in the Atmosphere*", January 27, 1995, University of Duisburg, Duisburg, Germany, organized by Deutsche Forschungsgemeinschaft (DFG), University of Duisburg and Gesellschaft fur Aerosolforschung (GAeF).

4. *Advanced Combustion Engineering Research Center (ACERC),* 10th Annual Meeting, March 6-8, 1996, Salt Lake City, UT, USA.

5. *9th Symposium on Inorganic and Analytical Chemistry*, May 24, 1996, Helsinki, Finland.

6. *FINEM 96*, October 23-24, 1996, Oulu, Finland.

7. *Pienhiukkaseminaari: terveysvaikutukset, päästöt ja lainsäädäntö*, Tampereen teknillinen korkeakoulu, Tampere, Finland, May 6, 1997.

8. *Advanced Clean Coal Technology International Symposium '97*, Tokyo, Japan, October 2-3, 1997.

9. *Japan Society of Powder Technology Annual Meeting*, November 24-25, 1999, Tokyo, Japan.

10. *Behavior of Inorganic Material In Recovery Boilers*, June 4-9 2000, Bar Harbor, Maine, USA.

11. *Italian Section on Combustion Institute Meeting*, May 22-25, 2000, Napoli, Italy.

12. *IFRF Technical Topic Meeting on Combustion Generated Fine Particles and Toxic Metals*, June 28, 2000, Copenhagen, Denmark.

13. *Fysikaalisen Farmasian XII Vuosittainen Symposium*, Helsinki, Finland, January 25, 2001.

14. *IUVSTA Workshop on Nanoparticles*, July 8-12, 2001, Stratford-upon-Avon, UK.

15. *ICCCI 2003, International Conference on the Characterization and Control of Interfaces for High Quality Advanced Materials*, September 24-27, 2003, Kurashiki, Japan.

16. *The 21st Century COE Program Seminar and the 3rd International Seminar Engineering Frontiers*, September 27, 2003, Kanazawa, Japan.

17. *Japan Powder Technology Society (APPIE) Seminar on Hot Gas Cleaning*. Tokyo Garden Palace Hotel, September 29, 2003, Tokyo, Japan.

18. *EU FP5 Research and Training Program "NanoCluster"* School, Leuven, Belgium, November 18.-21.2003.

19. *8th International Conference on Nanometer Scale Science and Technology, IVC- 16/ICAA-12/NANO-08/AIV-17*, Venice, Italy, June 28-July 2, 2004.

20. *CARAMEL-ELENA Carbon Nanotube Meeting*, Helsinki, Finland, 30-31 August, 2004.

21. *International Conference on Powder Technology*, Makuhari, Japan, October 10-11, 2004 (2 talks).

22. *NASA Johnson Space Center and the Rice University Center for Nanoscale Science and Technology workshop on "SWNT Nucleation and Growth Mechanisms"*, San Antonio, Texas, 8-12 April 2005.

23. *Workshop on "Aerosol Based Nanotechnology"*, September 2, 2005. Ghent, Belgium.

24. *6th International Symposium & Exhibition on Gas Cleaning at High Temperatures*, October 20-22, 2005, Osaka, Japan.

25. *20th IWEPNM 2006; Euroconference on Electronic Properties of Novel Materials : Molecular Nanostructures*. Kirchberg, Austria, 4.-11.3.2006.

26. *Particles 2006. Medical/Biochemical Diagnostic, Pharmaceutical, and Drug Delivery Applications of Particle Technology*. 13-16 May 2006, Orlando, Florida, USA.

27. *Nanotechnology in Northern Europe. NTNE2006 Congress and Exhibition*. 16-18 May 2006, Helsinki, Finland.

28. *NT06. Seventh International Conference on the Science and Applications of Nanotubes. Nanotube Tutorial "Synthesis Techniques"*. June 18-23, 2006, Nagano, Japan.

29. *ICCCI 2006, The Second International Conference on the Characterization and Control of Interfaces for High Quality Advanced Materials, and Joining Technology for New Metallic Glass and Inorganic Materials*. September 6-9, 2006, Kurashiki, Japan.

30. *Nanofair 2006. 5th International Nanotechnology Symposium - New Ideas for Industry*. November 21 – 22, 2006. Karlsruhe, Germany.

31. *NASA Johnson Space Center and the Rice University Center for Nanoscale Science and Technology workshop on "SWNT Nucleation and Growth Mechanisms"*, Burnett, Texas, USA, 15-19 April 2007.

32. *ChinaNANO2007*, Beijing, China, June 4-6, 2007.

33. *NT07. Eighth International Conference on the Science and Applications of Nanotubes*. June 24-30, 2007, Ouro Preto, Minas Gerais, Brazil.

34. *The 17th International Vacuum Congress (IVC-17), 13th International Conference on Surface Science (ICSS-13), International Conference on Nanoscience and Technology 2007 (ICN+T 2007), 6th Nordic Conference on Surface Science (NCSS-6), 22nd Nordic Semiconductor Meeting (NSM-22) and 4th Swedish Vacuum and Materials Science Meeting (SVM-4),* Stockholm, Sweden, July 1-6, 2007.

35. *Development of Nanotechnologies and Nanomaterials*. Russian-Finnish Scientific Conference, 12 – 13 September 2007, Helsinki.

36. *3rd NASA-NIST Workshop on Nanotube Measurements*. Gaithersburg, MD, USA September 26-28, 2007.

37. *GDR-E Nano-E Annual Meeting on Science and Applications of Nanotubes*. Autrans, France, October 15-19, 2007.
38. *NanoScience Days*, Jyväskylä, Finland. October 25-26, 2007.
39. *MRS Fall Meeting*, Boston, USA. November 26-30, 2007.
40. *European NanOSH Conference – Nanotechnologies: A Critical Area in Occupational Safety and Health*. Helsinki , Finland. December 3-5, 2007.
41. *13th Fluidization and Powder & Particle Process Symposium*. Tokyo, Japan, December 5-6, 2007.
42. *16th Nisshin Engineering Particle Technology International Seminar, NEPTIS-16*. Sendai, Japan, December 9-11, 2007.
43. *The Villa Conference on "Interaction Among Nanostructures" (VC-IAN)*. Orlando, FL, USA. February 3-7, 2008.
44. *Particles 2008. Particle Synthesis, Characterization, and Particle-Based Advanced Materials*. Orlando, FL, USA. 10-13 May, 2008.
45. *MIICS 2008. Mikkeli International Industrial Coating Symposium*. Mikkeli, Finland, March 26-28, 2008.
46. *LPHYS2008. 17th International Laser Physics Workshop*, Trondheim, Norway. June 30 - July 4, 2008.
47. *NanoteC08. International Conference on carbon nanoscience and nanotechnology*. August 27-30, 2008, University of Sussex, Brighton, UK.
48. *Nanotech Northern Europe (NTNE) 2008*. Copenhagen, Denmark, September 23-25, 2008.
49. *Nanotechnology International Forum*. December 3-5, 2008. Moscow, Russia.
50. *International Powder Technology Forum 2009*. Frankfurt, Germany. May 12-13, 2009.
51. *NT09. Tenth International Conference on the Science and Applications of Nanotubes*. June 21-26, 2009, Beijing, China.
52. *SPIE Optics + Photonics Conference 7399: Carbon Nanotubes, Graphene and Associated Devices II*. San Diego, CA, USA. August 2-6, 2009.
53. *ESF Research Conference: Nanocarbons - From Physicochemical and Biological Properties to Biomedical and Environmental Effects*. Acquafredda di Maratea , Italy. 8-13 September 2009.
54. *Second International Nanotechnology Forum*. October 6-8, 2009. Moscow, Russia.
55. *MIICS 2010. Mikkeli International Industrial Coating Symposium*. Mikkeli, Finland, March 17-18, 2010.
56. *The Second International Workshop on Nanocarbon Photonics and Optoelectronics (NPO2010)*, Koli, Finland, August 1-6, 2010.
57. *International Conference on Nanotechnology: Fundamentals and Applications*. Ottawa, Canada, August 4 - 6, 2010.
58. *2010 International Conference on Solid State Devices and Materials (SSDM 2010)*. September 22-24, 2010. The University of Tokyo, Tokyo, Japan.
59. *A3 Symposium on Emerging Materials 2010: Nanocarbons and Nanowires for Energy*. November 7-11, 2010. Chonju, Korea.
60. *219th ECS (Electrochemical Society) Meeting*, Montreal, QC, Canada, May 1-6, 2011.
61. *IEEE Technology Time Machine - Symposium on Technologies Beyond 2020*. Hong Kong, June 1-3, 2011.
62. *3rd International Conference from Nanoparticles and Nanomaterials to Nanodevices and Nanosystems* (IC4N). Crete, Greece, June 26-29, 2011. (Plenary)
63. *A3 Symposium of Emerging Materials: Nanomaterials for Energy & Environments*. October, 13-15, 2011. Urumqi, XinJiang, China.

64. *ECI (Engineering Conferencies International) Conference on Carbon-Based Nano-Materials and Devices. Suzhou*, China, October 17-22, 2011.
65. *ISETS'11. International Symposium on Ecotopia Science*. December 9-11, Nagoya, Japan.
66. *The Third International Workshop on Nanocarbon Photonics and Optoelectronics (NPO2012)*. July 29 - August 4, 2012. Polvijärvi, Finland.
67. *A3 Symposium of Emerging Materials: Nanomaterials for Energy & Environments*. October 29 - November 1, 2012. Sendai, Japan.
68. *The Sixth Workshop on Nucleation and Growth Mechanisms of Single Wall Carbon Nanotubes*. April 12-16, 2013, Bandera, TX, USA.
69. *10th International Symposium on Agglomeration*, 2-4 September 2013. Kobe, Japan (Plenary).
70. *China NANO2013, Symposium on Carbon Nanomaterials*. September 5-7, 2013, Beijing, China (Keynote).
71. *Symposium on Carbon Materials, IUMAR-ICAM 2013 (International Conference on Advanced Materials)*, September 23-27, 2013, Qingdao, China (Keynote).
72. *6th Finnish-Russian Photonics and Laser Symposium PALS'13*. October 3-5, 2013. Kuopio, Finland.
73. *A3 Symposium of Emerging Materials: Nanomaterials for Energy and Electronics*. November 10 - 14, 2013. Jeju Island, Korea.
74. *Workshop on Nanoparticles in Reactive Environment*. January 27-29, 2014. Marseille, France.
75. *Nanomaterials by design*. March 3-4, 2014. Chicheley Hall, Kavli Royal Society International Centre, Chicheley, Buckinghamshire MK16 9JJ, UK.
76. *The 46th Fullerenes-Nanotubes-Graphene General Symposium*. March 3-5, 2014. Tokyo, Japan (Keynote).
77. *2014 MRS Spring Meeting, Symposium MM: Nanotubes and Related Nanostructures*. April 21-24. San Francisco, USA.
78. *CARBON 2014. The World Conference on Carbon. Carbon Materials for Ubiquitous and Sustainable Life*. June 29 – July 4, 2014. Jeju Island, Korea.
79. *The 4th International Workshop on Nanocarbon Photonics and Optoelectronics (NPO2014)*. July 28 - August 1, 2014. Polvijärvi, Finland.
80. *Industrial Sumposium of the 47th Fullerenes-Nanotubes-Graphene General Symposium*. September 2, 2014. Nagoya, Japan.
81. *A3 Symposium on Emerging Materials: sp2 Nanocarbon for Energy 2014*. November 18 - 21, 2014. Tianjin, China.
82. *The 2nd Muju International Winter School Series (MIWS2-2015)*. January 25-31, Muju, Korea.
83. *Innovation Network for Substitution of Critical Raw Materials. 3rd Strategic Workshop Event*. February 11, 2015. Brussels, Belgium.
84. *The 48th Fullerenes-Nanotubes-Graphene General Symposium*. February 21-23, 2015. Tokyo, Japan.
85. *The Seventh Workshop on Nucleation and Growth Mechanisms of Single Wall Carbon Nanotubes*. April 10-14, 2015, Bandera, TX, USA.
86. *NT15. 15th International Conference on the Science and Applications of Nanotubes*. June 29 – July 3, 2015, Nagoya, Japan (Keynote).
87. *NT15. 15th International Conference on the Science and Applications of Nanotubes*. Special Panel "Applications of Carbon Nanotubes". June 29 – July 3, 2015, Nagoya, Japan.
88. *The 5th Int'l Conference on the Characterization and Control of Interfaces for High Quality Advanced Materials and the 51st Summer Symposium on Powder Technology (ICCCI2015)*. July 7-10, 2015. Kurashiki, Japan.
89. *The international symposium on nanomaterials and nanotechnology 2015 (ISNN 2015)*. September 1-2, 2015. Beijing, China.

90. *China NANO2015, Symposium on Carbon Nanomaterials*. September 3-5, 2015, Beijing, China (Keynote).
91. *The 49th Fullerenes-Nanotubes-Graphene General Symposium*. September 7-9, 2015. Kita-Kyushu, Fukuoka, Japan.
92. *2015 IBS Conference: Nano Science & Neuroimaging. Opening Ceremony for N Center. The Bilateral Forum for the 2nd Multifunctional Nanomaterials between Sungkyunkwan University and Peking University*. September 9-12, 2015. Sungkyunkwan University, Suwon, Korea.
93. *6th A3 Symposiusm on Emerging Materials. Nanomaterials for Electronics, Energy, and Environment.* November 9-12, 2015. Fukuoka, Japan.
94. *GDR*-I Graphene and Nanotubes & GDR Mesoscopic Quantum Physics 2015 Annual Meetings. November 29 – December 4, 2015. Centre Paul Langevin, Aussois, France.
95. *Pacifichem Symposium #227. Carbon Nanotubes: Preparation, Characterization and Applications*. December 15-20, 2015. Honolulu, Hawaii, USA.
96. *40th International Conference and Exposition on Advanced Ceramics and Composites (ICACC 2016)*. January 24-29, 2016. Daytona Beach, FL, USA.
97. *AIST Graphene Consortium Workshop*. February 1, 2016. Tokyo, Japan.
98. *The 50th Fullerenes-Nanotubes-Graphene General Symposium*. February 20-22, 2016. Tokyo, Japan.
99. *International meeting on the chemistry of graphene and carbon nanotubes (ChemOnTubes2016)*. April 3 - 7, 2016. Brussels, Belgium.
100. *E-MRS 2016 Spring Meeting*, May 2-6, Lille, France.
101. *10th International Conference on New Diamond and Nano Carbons (NDNC2016)*. May 22-26. Xi'an, China.
102. *Global Gaphene Forum*. Session 2: 2D Electronics and Photonics. August 24, 2016. Onboat Viking Line, Helsinki, Finland.
103. *FPEChina 2016 - The Chinese Printed Electronics Symposium*. October 24-25, 2017. Changzhou, China.
104. *Microprocesses and Nanotechnology Conference*. November 8-11. Kyoto, Japan.
105. *International Symposium on Carbon Nanotube in Commemoration of its Quarter-Century Anniversary (CNT25)*. November 15-18.2017. Tokyo, Japan.
106. *2016 China International Carbon Materials Conference (CICMC 2016)*. December 8.-9., 2016. Shanghai, China.
107. *2017 Frontier on Carbon Nanomaterials*. January 13-14, 2017. Beijing, China.
108. *Printed & Flexible Electronics Congress 2017*. February 21.-22, 2017. London, UK
109. *The 52nd Fullerenes-Nanotubes-Graphene General Symposium*. March 1.-4., 2017. Tokyo, Japan.
110. *The 4th International Forum on Graphene in Shenzhen*. April 9.-12., 2017. Shenzhen, China.
111. *The Eigth Workshop on Nucleation and Growth Mechanisms of Single Wall Carbon Nanotubes*. April 21-25, 2017, Bandera, TX, USA.
112. *China NANO2017, Symposium on Carbon Materials*. August 29-31, 2017, Beijing, China (Keynote).
113. 8*th A3 Symposiusm on Emerging Materials. Nanomaterials for Energy and Electronics.* October 25-29, 2017. Suzhou, China.
114. *2017 International Conference on Functional Carbons*. November 1-4, 2017. Taipei, Taiwan.
115. *8th A3 Symposiusm on Emerging Materials. Nanomaterials for Energy and Electronics.* October 25-29, 2017. Suzhou, China.
116. *The 54th Fullerenes-Nanotubes-Graphene General Symposium*. March 10-12, 2018. Tokyo, Japan.
117. *The 5th International Forum on Graphene in Shenzhen*. April 11-14, 2018. Shenzhen, China.

118. *International Powder and Nanotechnology Forum @ ACHEMA2018*. June 12-13, 2018. Frankfurt, Germany.
119. *The 6th Int'l Conference on the Characterization and Control of Interfaces for High Quality Advanced Materials and the 54st Summer Symposium on Powder Technology (ICCCI2018)*. July 9-12, 2018. Kurashiki, Japan.
120. *NT18. 19th International Conference on the Science and Application of Nanotubes and Low-dimensional Materials*. July 15-20, 2018. Beijing, China.
121. *Frontiers of Ceramics & Materials*. September 24-25, Cologne, Germany.
122. *AsiaNANO 2018. Asian Conference on Nanoscience and Technology*. October 18 – 21, 2018. Qingdao, China.
123. *9th A3 Symposium on Emerging Materials. Nanomaterials for Energy and Electronics.* October 29-31, 2018. Kyoto, Japan.
124. *The 2nd International Conference on Advanced Functional Materials & Interfaces (AFMI).* November 1-5, 2018. Wuhan, China.
125. *III International Workshop on Electromagnetic Properties of Novel Materials*. December 18-20, 2018. Skolkovo Institute of Science and Technology, Moscow, Russia.
126. *CIAiS International Symposium 2019. Research and Education Consortium for Innovation of Advanced Integrated Science.* March 1, 2019. The University of Tokyo, Tokyo, Japan.
127. *The 56th Fullerenes-Nanotubes-Graphene General Symposium*. March 2-4, 2019. Tokyo, Japan.
128. *The 6th (2019) International Forum on Graphene in Shenzhen*. April 10-13, 2019. Shenzhen, China.
129. *Guadalupe Workshop IX: WORKSHOP ON SINGLE WALL CARBON NANOTUBES & RELATED MATERIALS*. April 15-19, 2019, Fredericksburge, TX, USA.
130. *International Symposium on Advanced Nanocarbon Materials – Science, Technology and Applications*. October 18th, 2019. Meijo University, Nagoya, Japan.
131. *International Workshop on Advances in Nano-Materials and Nano-Devices*. October 24th, 2019. The University of Tokyo, Tokyo, Japan.
132. *109th A3 Symposium on Emerging Materials. Nanomaterials for Electronics, Energy and Environment.* October 26-30, 2019. Suwon, Korea.

Universities, Research Institutes and Companies (Total of 228)

1986 (3) Lovelace Inhalation Toxicology Research Institute (ITRI), NM, USA
Los Alamos National Laboratory, NM, USA
University of Minnesota, MN, USA

1987 (1) Finnish Army Research Centre, Helsinki, Finland

1988 (1) University of Cincinnati, OH, USA

1989 (2) Technical University of Schwitzerland (ETH), Zurich, Schwitzerland
Finnish Meteorological Institute, Helsinki, Finland

1990 (1) Imatran Voima (IVO), Vantaa, Finland

1991 (4) PSI Technology, Inc., MA, USA
FLS Miljo, Copenhagen, Denmark
Ahlström, Karhula, Finland
Tampella Power, Tampere, Finland

1992 (8) Oregon State University, OR, USA
Tokyo A & T University, Tokyo, Japan
RIKEN (Institute for Physical and Chemical Research), Tokyo, Japan

CRIEPI, Yokosuka Research Laboratories, Nagasaki, Japan
University of Vienna, Vienna, Austria
Helsinki University of Technology, Espoo, Finland
Outokumpu Research, Inc., Pori, Finland
Åbo Akademi University, Turku, Finland

1993 (10) University of New Mexico, NM, USA
ABB Fläkt, Växjö, Sweden
EnviroPower, Tampere, Finland
ABB Corporate Research Center, Baden, Zwitzerland
PSI PowerServe, Inc., MA, USA
Oregon State University, OR, USA
Prupprect & Patashnik, Co, NY, USA
University of Toronto, Toronto, Canada
Energy and Environmental Research Center, University of North Dakota, ND, USA
Ahlstrom Recovery Inc., GA, USA

1994 (6) University of Utah, UT, USA
Brigham Young University, UT, USA
ABB Combustion Engineering, CT, USA
Technical University of Denmark, Copenhagen, Denmark
Delft University of Technology, Delft, Netherland
Helsinki University of Technology, Espoo, Finland

1995 (1) ABB Fläkt, Växjö, Sweden

1996 (5) University of Copenhagen, Copenhagen, Denmark
Tokyo University of Agriculture and Technology, Tokyo, Japan
Foster Wheeler Energy Oy, Karhula, Finland
Kemira Pigments Oy, Pori, Finland
Orion Pharmaceuticals Oy, Espoo, Finalnd

1997 (5) Inhale Therapeutics, Inc., Palo Alto, CA, USA
Aradigm Corporation, Hayward, CA, USA
Dura Pharmaceutical, San Diego, CA, USA
University of Helsinki, Department of Chemistry, Helsinki, Finland
Orion Pharma Oy, Kuopio, Finland

1998 (2) Lawrence Berkeley Laboratory, Berkeley, CA, USA
University of Connecticut, Corrs, CT, USA

1999 (8) University of Minnesota, Minneapolis, MN, USA
EERC, Grand Forks, ND, USA
Cabot Corp., IL, USA
Kyoto University, Kyoto, Japan
Tokyo University of Agriculture and Technology, Tokyo, Japan
University of Hiroshima, Hiroshima, Japan
National Institute of Material and Chemical Research, Tsukuba, Japan
Seoul National University, Seoul, Korea

2000 (2) University of Joensuu, Joensuu, Finland
Omya, Ofringen, Switzerland

2001 (7) Tokyo University of Agriculture and Technology, Tokyo, Japan
University of Hiroshima, Hiroshima, Japan
Muroran Institute of Technology, Muroran, Japan
Institute for Physical and Chemical Research (RIKEN), Saitama, Japan
Kobe Gakuin University, Kobe, Japan
Kanazawa University, Kanazawa, Japan
Mitsubishi Gas Chemical PLC, Tsukuba, Japan

2002 (9) Tokyo University of Agriculture and Technology, Tokyo, Japan
Helsinki University of Technology, Espoo, Finland
Yale University, New Haven, CT, USA
TU Munich, Munich, Germany
Tanabe Pharmaceutical Co., Osaka, Japan
Meijo Pharmaceutical University, Nagoya, Japan
Gifu Pharmaceutical University, Gifu, Japan
Fujisawa Co., Osaka, Japan
Yamanouchi Co., Tokyo, Japan

2003 (6) University of Florida, Gainesville, FL, USA
Helsinki University of Technology, Espoo, Finland
University of Kyoto, Kyoto, Japan
University of California Los Angeles, Los Angeles, CA, USA
Central Research Institute of Electric Power Industry (CRIEPI), Yokosuka Laboratories, Yokosuka, Japan

2004 (14) University of Cambridge, Cambridge, England
ETH Zurich, Zurich, Switzerland
Philips Research Laboratories, Eindhoven, The Netherlands
Finnish Institute of Occupational Health and Safety, Helsinki, Finland
Laboratoire d'Etude des Microstructures (LEM), Onera-CNRS, Chatillon, France
Toyota Central R&D Laboratories, Nagoya, Japan
Fujitsu Central R&D Laboratories, Nagakute, Japan
NTT Basic Research Laboratories, Nagakute, Japan
University of Tsukuba, Tsukuba, Japan
National Institute of Material Science (NIMS), Tsukuba, Japan
Meijo University, Nagoya, Japan
Nagoya University, Nagoya, Japan
Växjö University, Växjö, Sweden
Stala Oy, Lahti, Finland

2005 (12) Helsinki University of Technology, Espoo, Finland
Greenvironment Oy, Lahti, Finland
Tallin Technical University, Tallin, Estonia
NASA-Johnson Space Center, Houston, TX, USA
Carbon Nanotechnology Laboratory, Rice University, Houston, Texas, USA
Beijing University, School of Physics, Beijing, China
Tsinghua University, Department of Chemical Engineering, Beijing, China
Shanghai Eastern-China Normal University, Shanghai, China
Shanghai Institute of Ceramics, Chinese Academy of Sciences, Shanghai, China
University of Tokyo, Tokyo, Japan
Tokyo University of Agriculture and Technology, Tokyo, Japan
Shinshu University, Nagano, Japan

2006 (8) HP Dimo, Dublin, Ireland
HP Laboratories, Corvallis, OR, USA
Oklahoma University, Department of Chemical Engineering, Norman, OK, USA
AIST Nanocarbon Center, Tsukuba, Japan
Advanced Technology Institute (ATI), University of Surray, Guildford, England.
Drug Discovery and Development Technology Center (DDTC), University of Helsinki, Helsinki, Finland.
Ulm University, Department of Physics, Ulm, Germany

2007 (4) KCL, Espoo, Finland
University of Karlsruhe, Germany
University of Helsinki, Laboratory of Polymer Chemistry, Helsinki, Finland
Technical University of Graz, Graz, Austria

2008 (8) Shinshu University, Nagano, Japan
Ohio University, Athens, Ohio, USA
Montreal University, Montreal, Canada
Epson Intelligence Corporation, Suwa, Japan
NEC Basic Research Laboratories, Tsukuba, Japan
Nissei Plastic Industrial Co, LTD., Sakaki-Maci, Nagano-Ken, Japan
Institute of Metal Research, Chinese Academy of Sciences, Shenyang, China
Samsung, Seoul, Korea

2009 (10) SKKU University, Suwon, Korea
Columbia University, New York, NY, USA
CRNS, Ottawa, Canada
Keio University, Kawasaki, Japan
Aixtron Inc., Tokyo, Japan
Seoul National University, Seoul, Korea
Chinese Academy of Sciences, Institute of Physics, Beijing, China
Toyota Central R&D Laboratories, Nagoya, Japan
Tokyo A&T University, Tokyo, Japan
University of Texas at Dallas, Dallas, Texas, USA

2010 (10) Solvay AS, Brussels, Belgium
Institute of Metal Research (IMR), Chinese Academy of Sciences 8CAS), Shenyang, China
Peking University, Beijing, China
Technical Research Centre of Finland, Espoo, Finland
Advanced Institute of Science and Technology (AIST), Tsukuba, Japan
Kyushu University, Fukuoka, Japan
Japan Fine Ceramics Center (JFCC), Nagoya, Japan
Gobe Gakuin University, Gobe, Japan
Toyota Central Laboratories, Nagagute, Japan
Tokyo A&T University, Tokyo, Japan

2011 (6) Nagoya University, Nagoya, Japan
AIST, Tsukuba, Japan
Kanazawa University, Kanazawa, Japan
Tohoku University, Sendai, Japan
Waseda University, Tokyo, Japan
Sherbrook University, Sherbrook, Canada

2012 (15) Kanazawa University, Kanazawa, Japan
Tokyo A&T University, Tokyo, Japan (2 seminars)
Tokyo University, Tokyo, Japan (2 seminars)
Advanced Institute of Science and Technology (AIST), Tsukuba, Japan
University of California Riverside (UCR), Riverside, CA, USA
University of Southern California, Los Angeles, CA, USA
Technical Research Centre of Finland (VTT), Espoo, Finland
Korea University, Seoul, Korea
Samsung Advanced Institute of Technology (SAIT, 2 seminars), Suwon, Korea
National University of Singapore, Singapore
Columbia University, New York, NY, USA
IBM, Yorktown Heights, NY, USA
Corning Co., Corning, NY, USA
TEKES, Helsinki, Finland
Tohoku University, Sendai, Japan

2013 (8) Tokyo University, Tokyo, Japan
Tokyo A&T University, Tokyo, Japan
Duke University, Raleigh, NC, USA
MIT, Cambridge, MA, USA
Institute of Metal Research, Chinese Academy of Sciences, Shenyang, China
University of Science and Technology Beijing (USTB), Beijing, China

Northwestern Polytechnical University, Xi'an, China
Canatu Oy, Helsinki, Finland

2014 (16) Kobe Gakuin University
TU Erlangen, Nuremberg, Germany
The University of Tokyo, Tokyo, Japan
Tokyo A&T University, Tokyo, Japan
NIST, Gaithersburg, USA
Honda Research Institute USA Inc., Columbus, USA
Nissha Printing, Kyoto, Japan
Osaka University, Osaka, Japan
AIST, Tsukuba, Japan
Mitsubishi Chemical R&D Center, Tokyo, Japan
Aalto University School of Electrical Engineering, Espoo, Finland
Dalian Maritime University, Dalian, China
Chinese Academy of Science, Dalian Institute of Catalyses, Dalian, China
Tokyo A&T University, Tokyo, Japan
Waseda University, Tokyo, Japan
The University of Tokyo, Japan

2015 (14) The University of Tokyo, Tokyo, Japan
Tokyo A&T University, Tokyo, Japan
Columbia University, New York, NY, USA
Corning Corporation, Corning, NY, USA
I²SNER World Premier Institute, Kyushu University, Fukuoka, Japan
Kyushu University, Department of Applied Chemistry, Fukuoka, Japan
Tokyo A&T University, Tokyo, Japan
Tohoku University, Sendai, Japan
Gunma University, Gunma, Japan
University of Helsinki, Helsinki, Finland
Philip Morris International, Neuchatel, Switzerland
Institute of Metal Research, Chinese Academy of Sciences, Shenyang, China
The University of Tokyo, Tokyo, Japan
AIST, Tsukuba, Japan

2016 (7) The University of Tokyo, Tokyo, Japan (2 seminars)
AIST, Tsukuba, Japan
Tokyo A&T University, Tokyo, Japan
University of Science and Technology Beijing, Beijing, China
Institute of Physics, Chinese Academy of Sciences, Beijing, China
University of Bordeaux, Bordeaux, France
Skoltech, Moscow, Russia

2017 (4) Tsinghua University, Peking, China
The University of Tokyo, Tokyo, Japan
Tokyo A&T University, Tokyo, Japan
University of Eastern Finland, Kuopio, Finland
Dalian Maritime University, Dalian China

2018 (13) Tsinghua University, Peking, China
University of Science and Technology Beijing, Beijing, China
Dalian Maritime University, Dalian China
Institute of Metal Research, Chinese Academy of Sciences, Shenyang, China
Nagoya University, Nagoya, Japan
Kanazawa University, Kanazawa, Japan
Denso Corporation, Aichi, Japan
University of Newcastle, Newcastle, Australia
University of Vienna, Vienna, Austria
Peking University, Beijing, China
Qingdao University of Science and Technology, Qingdao, China

Waseda University, Tokyo, Japan
The University of Tokyo, Tokyo, Japan

2019 (6) Tokyo A&T University, Tokyo, Japan
Luleå Technical University, Luleå, Sweden
The University of Tokyo, Tokyo, Japan
Nara Institute of Science and Technology, Takayama, Japan
Nagoya University, Nagoya, Japan
AIST, Tsukuba, Japan

PUBLICATIONS

Prof. Kauppinen has **more than 450 fully refereed journal publications** with Hirsch-index over 70 and over 17 200 citations (Google Scholar) and **18 patents**. In addition to fully refereed publications listed above, international conference proceedings publications, book chapters, conference abstracts, popular and news articles as well as technical reports prior August 1, 2010 are listed in VTT publications database JURE, which shows total of **631** publications.

LANGUAGE SKILLS

Finnish (native language)
English (fluent), Swedish (fluent), German (moderate)

MILITARY SERVICE

1986 – 1987 (8 months), 6 months appointment at the Finnish Army Research Laboratory in Helsinki Finland.

Espoo, Finland, October 30th, 2020.