



## Curriculum Vitae          Petri Pellikka

### Petri Kauko Emil Pellikka

Born 26 November 1965 in Kuhmo, Finland and married since 1991, three children born in 1993, 1997 and 2004.

Professor of Geoinformatics (2002–), Department of Geosciences and Geography, University of Helsinki.

<https://tuhat.helsinki.fi/portal/fi/person/pkpellik>

Leader of Earth Change Observation Laboratory, [www.helsinki.fi/echolab](http://www.helsinki.fi/echolab)

Affiliated with Institute for Atmospheric and Earth System Research (INAR) of the University of Helsinki, 2018-

Affiliated with Helsinki Institute of Sustainability Science (HELSUS) of the University of Helsinki, 2018-

Director, Taita Research Station, University of Helsinki, Kenya (2010–) <http://blogs.helsinki.fi/taita-research-station/>.

Chairman, Taita Environmental Research and Resource Arc, Kenya (2010–).

Inspector of Tavastia College of the University of Helsinki (2006–) (Hämäläis-Osakunnan inspehtori).

### Main areas of specialization

Remote Sensing, Geoinformatics, Earth System Research, Physical Geography, Human-nature interaction, Sustainability Science, Development Geography.

### Education and training

Adjunct professor (docent), 1999 (Remote sensing applications in physical geography), University of Turku, Finland.

Doctor of Philosophy, 1998 (Physical geography), University of Oulu, Finland.

Licentiate of Philosophy, 1996 (Physical geography), University of Oulu, Finland.

Master of Science, 1990 (Geography, Development studies, Systematic-ecological botany, History), University of Helsinki, Finland.

Bachelor of Science, 1990, University of Helsinki, Finland.

High school graduation, 1984, Lempäälä High School, Finland.

### Academic affiliations abroad

University of Canterbury, Department of Geography, New Zealand, Erskine Visiting Fellow, February–May 2017.

Peking University, Institute of Remote Sensing and Geographic Information Systems, China, Visiting SAFAE expert, 2016-2017.

Lund University, Department of Physical Geography and Ecosystem Science, Visiting professor, September 2016.

University of Cambridge, Scott Polar Research Institute, United Kingdom, Visiting scientist, January-August 2008.

University of Ghent, Department of Biology, Belgium, Visiting scientist, August-December 2007.

Carleton University, Department of Geography, Ottawa, Canada, Post doctorate studies, 1998–1999.

Ludwig-Maximilian-Universität, Munich, Germany, Department of geographical remote sensing, Ph.D. studies, 1992–1995.

Sudan, remote sensing and mapping work in development cooperation project, 1991.

### Professional appointments

Academy of Finland, Member of the Research Council for Natural Sciences and Engineering, 2019-2021.

University of Helsinki, Department of Geography, Senior Research Scientist of the Academy of Finland, August 2007–July 2008.

University of Helsinki, Department of Geography, Professor of Geoinformatics, March 2002 – ongoing.

Academy of Finland, Research Council for Biosciences and Environment, Academy Research Fellow, Aug. 2001–March 2002.

University of Turku, Department of Geography, Professor of Physical Geography, Feb.–Aug. 2001.

Finnish Geodetic Institute, Dept. of Photogrammetry and Remote Sensing, Sr. Research Fellow, Sep. 2000–Feb. 2001.

Academy of Finland, Council for Environment and Natural Resources, Helsinki, Jr. Research Fellow, Aug. 1997–Aug. 2000.

University of Turku, Department of Geography, Turku, Assistant professor of Physical Geography, Jan. 1998–Feb. 2002.  
University of Oulu, Department of Geography, Oulu, Assistant professor of Physical Geography, Jan. 1992–Aug. 1997.  
Ympäristötutkimus Oy Metsätähti (Environmental Research Company), Helsinki, Researcher, Aug. 1991–Dec. 1991.  
ADESCO Oy, Sudan, Ass. land use planner in Agricultural Development of Eastern Sudan -project, Oct. 1990–July 1991.  
Finnagro Oy, Helsinki, GIS-Support Specialist, May 1990–Sep. 1990.  
National Land Survey, Aerial Photograph Office, Remote Sensing Unit, Helsinki, Trainee, April 1989–April 1990.

### Short-time assignments

Ministry for Foreign Affairs of Finland. Revision of development project document CHIESA (Climate change impacts on ecosystem services and food security in Eastern Africa – increasing knowledge, building capacity and developing adaptation strategies), 2010.  
United Nation, Food and Agriculture Organization, FAO-SWALIM. Invited expert and keynote speaker at the workshop: Potentialities and limitations in the use of remote sensing for detecting and monitoring environmental change in the Horn of Africa, 2007.  
European Commission, Global Monitoring for Environment and Security, 2005. Evaluator of proposals.  
Ministry of Foreign Affairs of Finland, mission in forestry sector in Kenya, 2004. Advisor.  
European Commission, 6<sup>th</sup> Framework Programme, Global change and ecosystems, 2004. Evaluator of proposals.  
European Commission, 6<sup>th</sup> Framework Programme, Global change and ecosystems, 2003. Evaluator of proposals.

### Research awards, research honours and major stipendiary support for research and education programmes

European Commission, 2018-2021, 250 000 €. Urban Innovative Actions Hope – Healthy outdoor premises for everyone. Sub-project on geovisualization of air quality.  
Academy of Finland, 2018-2022, 999 505 €. SMARTLAND - *Environmental sensing of ecosystem services for developing climate smart landscape framework to improve food security in East Africa*. With Timo Vesala and Laura Alakukku.  
Ministry of Foreign Affairs of Finland, 2017–2020, 698 272 €. TAITAGIS - *Improving capacity, quality and access of Geoinformatics teaching, research and daily use in Taita Taveta, Kenya*. Higher Education Institutional Cooperation Instrument.  
Ministry of Foreign Affairs of Finland, 2016–2017, 238 520 €. AFERIA - *Adaptation for Food Security and Ecosystem Resilience in Africa - Integrating Results, Building Capacity and Implementing Adaptation Strategies*.  
University of Helsinki, Centre for continuing education, 2014–2016, 68 000 €. *Use and application of geographic information systems, further education with companies*.  
Finnish Culture Foundation, 2016–2017. 32 000 €. *Remote sensing of water harvesting and carbon sequestration by forests in the Taita Hills, Kenya*.  
Ministry of Foreign Affairs of Finland, 2015–2017, 405 204 €. GIERI - *Strengthening geoinformatics teaching and research capacity in Eritrea higher education institutions*.  
alp-S GmbH, Austria, 2014–2015, 12 000 €. *Climate change impact detection and monitoring adaptation measures - development of remote-sensing tools*.  
University of Helsinki, 2013–2016, 210 000 €. GIMMEC Research Community. *Geoinformatics for monitoring and modeling of environmental change*.  
Ministry of Foreign Affairs of Finland, 2012–2016, 10 000 000 €. BIODEV – *Building biocarbon and rural development in West Africa*.  
University of Helsinki, Department of Geosciences and Geography share 362 192 €).  
Academy of Finland, 2013–2016, 595 000 €. TAITAWATER - *Integrated land cover-climate-ecosystem process study for water management in East African highlands*.  
Ministry of Foreign Affairs of Finland, 2011–2015, 4 333 900 000 €. *Climate Change Impacts on Ecosystem Services and Food Security in Eastern Africa - Increasing Knowledge, Building Capacity and Developing Adaptation Strategies* (University of Helsinki share 862 748 €).  
Nature Kenya, 2010. 10 000 €, *Conservation for Sustainable Living - Investing in capacity building, nature-based enterprises and business support to conserve the Dakacha Woodland by and for local communities*.  
University of Helsinki, 2010. 90 000 € for the purchase of airborne hyperspectral remote sensing sensor.  
University of Helsinki, 2009–. 32 000 € for a purchase and establishment of a Taita Research Station in Taita Hills, Kenya, and 71 000 € annual funding for the maintenance.  
Nokia Donation, 10 000 € for Taita Research Station.  
Academy of Finland, *Graduate school: Graduate school of watersheds and waters (VALUE)*, 2010–2014. 140 000 €. Coordinated by Prof. Björn Klöve. One Ph.D. student position.  
Academy of Finland, *Graduate school: Atmospheric composition and climate change: from molecular processes to global observations and models*, 2010–2013. 140 000 €. Coordinated by Prof. Markku Kulmala. One Ph.D. student position.  
University of Helsinki, 2009–2013. AISARES - *Graduate school in airborne imaging spectroscopy application and research in Earth sciences*, 280 000 €. Two Ph.D. student positions.  
Academy of Finland, Research Council for Biosciences and Environment, 2007–2008, 138 000 €. TAITASCAPE - *Forest structure, landscape fragmentation and population dynamics – a geoinformation approach*.  
European Commission, HYRESSA, 2006–2007, 12 000 €, *Hyperspectral remote sensing in Europe support action*, (<http://www.hyressa.net/>). Coordinated by Dr. Ils Reusen, VITO, Belgium.  
Academy of Finland, Research Council for Development Studies, 2006–2009, 295 000 €. TAITATOO - *Geoinformatics in*

*environmental conservation and community based natural resource management in the Taita Hills, Kenya.*

Ministry of Education, Finland and Faculty of Science, University of Helsinki, 2006–2009, 255 000 €. *GIMP - International Master Programme in Geoinformatics (GIMP).*

University of Helsinki, 2003–2007. Graduate school in geoinformatics, 280 000 €. Two Ph.D. student positions.

Ministry of Foreign Affairs of Finland, 16 000 €. Arranging a Remote sensing course in Kenya, 2006.

European Commission, Minerva, 2003–2005, 404 483 €. *GISAS - Geographic information systems applications for schools.*

Academy of Finland, Research Council for Development Studies, 2003–2005, 250 000 €. *TAITA - Development of land use change methodology in East African highlands applying geographic information systems*, (<http://www.helsinki.fi/science/taita>).

University of Helsinki, Faculty of Mathematics and Natural Sciences and Department of Geography, 2002, 23 500 €. Digital aerial camera system for mapping and studying biophysical properties of the environment.

European Commission, 5<sup>th</sup> Framework Programme, Energy, Environment and Sustainable Development, Global change, climate and biodiversity, 2001–2004, 2 260 908 €. *OMEGA - Development of operational monitoring system for European glacial areas – synthesis of earth observation data of the present, past and future.* EVK2-CT-2000-00069.

Academy of Finland, Research Council for Biosciences and Environment, 2001–2002, 295 400 FIM. *Application of multiangular remote sensing data in spectral and spatial analysis of land cover characteristics.*

National Technology Agency TEKES, 2000, 9 000 FIM, *Development of operational monitoring system for European glacial areas (preparation costs).*

Academy of Finland, 1997–2000, 308 700 FIM. *Applications for multispectral digital airborne imagery for environmental monitoring and natural resource assessment.*

Alfred Kordelin Foundation, 1996, 70 000 FIM. *Digital camera data calibration and applications in forest health assessment and digital elevation model generation.* Post doctorate studies at Carleton University, Canada.

Faculty of Science, University Oulu, 26 000 FIM. Finalization of the Ph.D. thesis.

Academy of Finland, 1991 and 1993, 376 000 FIM, Ph.D. studies at the University of Munich.

Jenny and Antti Wihuri Foundation, 1991, 30 000 FIM, Ph.D. studies at the University of Munich.

### Participation in scientific projects

Resource person for FORRSA (Forest restoration and rehabilitation in Southeast Asia, EC Asia-Link programme, coordinated by the University of Helsinki, 2005–2008.

Co-leader of a project: Development of forest health index using airborne multispectral digital imaging. Natural Science and Engineering Research Council of Canada and National Geographic Society of the US. Leader: Prof. Douglas J. King, Carleton University, Canada. 1998–

Supervisor of the Scandinavian POLLANDCAL-network (Pollen-Landscape-Calibration) for researcher training on Quantitative reconstructions of past land-use / land cover and floristic diversity inferred from fossil pollen data. NorFA (Nordic Academy of Advanced Study). Coordinator: Prof. Marie-José Gaillard-Lemdahl, University of Vaxjö, Sweden. 2001–2004.

Researcher at a project: Landscapes of the past, present and future: conquering compatibility problems to visualise and compare spatial data. Academy of Finland, Information Research Programme. Leader: Prof. Risto Kalliola, University of Turku. 1997–2002.

Researcher at a project: FOREST, Forest response to environmental stress at the timberline – sensitivity of Northern, Alpine and Mediterranean forest limits to climate. European Commission and Academy of Finland. Coordinator: Docent Sheila Hicks, University of Oulu. 1996–1999.

### Participation in teaching programmes

University of Helsinki, Palmenia - Centre for Continuing Education, 2014–2016. Use and application of geographic information system, further education with companies. Director of two programmes 2014–2016.

GIMP - International Master Programme in Geoinformatics (GIMP) of the University of Helsinki, 2006-2009. Director.

Virtual University in Geoinformatics (Ministry of Education, coordinated by Helsinki University of Technology. Partner.

GIS training course: GIS applications in environmental monitoring in the Taita Hills, Regional Centre for Mapping the Resources for Development, Nairobi, Kenya, 25.9–6.10.2006. Prof. Pellikka, M.Sc. Siljander, M.Sc. Clark. Funded by the Ministry of Foreign Affairs, Finland. Director.

### Editorial board memberships

Member of editorial board, section remote sensors of *Sensors*, 2016–. <http://www.mdpi.com/journal/sensors>

Associate editor of *Arabian Journal of Geosciences*, 2016–. <http://link.springer.com/journal/12517>

Guest editor of special issue on Monitoring of Land Changes, *Remote Sensing*, 2016.

Guest editor of special issue on Polar Remote Sensing, *International Journal of Applied Earth Observation and Geoinformation*, 2013.

Associate editor of *International Journal of Applied Earth Observation and Geoinformation* 2012–2015.

Member of the editorial board of *Positio*, 2013–2015 (Geoinformatics journal of Finland).

Member of the editorial board of *Fennia*, 2012– (Geographical Journal of Finland).

Member of the editorial board of the *International Journal of Applied Geospatial Research* 2010–.

Member of the editorial board of the *International Journal of Applied Earth Observation and Geoinformation*, 2007–.

Member of the editorial board of the *Photogrammetric Journal of Finland*, 2002–.

Guest editor of the geoinformatics special issue in *Terra*, 2003.  
Member of editorial board of *Maapallo*, 1989–1990.

#### Activity in scientific societies and organizations

Austrian Academy of Sciences, Scientific Advisory Board of Institute of Interdisciplinary Mountain Research, 2018-2021.  
University of Helsinki, Department of Geosciences and Geography, member of the Steering group, 2018–.  
University of Helsinki, Department of Geosciences and Geography, member of the departmental council, 2012–2017.  
Finnish University Partnership for International Development, UniPID, member in the board 2015- (vice-member 2009–2015).  
Director of Taita Research Station in Kenya of the University of Helsinki, 2011–.  
Invited member of the Finnish Academy of Science and Letters, 2010–.  
Chairman of the Taita Environmental Research and Resource Arc, Kenya, 2010–.  
Member of the COSPAR national committee in Finland (Committee in Space Research), 2006–.  
Member of Swedish Remote Sensing Committee, Swedish National Space Board 2012–2015.  
Member of the Bavarian Academy of Sciences, Kommission für Erdmessung und Glaziologie der Bayerischen Akademie der Wissenschaften, Germany, 2010–2015.  
Member of the Commission for Glaciology of the Bavarian Academy of Science, Germany, 2004–2010.  
Regional coordinator of the Working Group VIII.8 Polar and Alpine Research of the International Society for Photogrammetry and Remote Sensing, 2004–2008.  
Member of the board of GI Norden (Nordic geomatics organization), 2006–2007.  
Member of the board of ProGIS ry. (Finland), 2003–2006.  
Working Member of Geographical Society of Finland, 1997–.  
Member of Finnish Society of Photogrammetry and Remote Sensing, 1997 –à Member of Int. Soc. of Photogrammetry and Remote Sensing.

#### Other scientific merits

##### Nominations to professorships

Professorship of remote sensing at the Remote Sensing Laboratories of the Department of Geography, University of Zurich, Switzerland, 2007. Shortlisted and interviewed.  
Professorship of physical geography, Faculty of Mathematics and Natural Science, University of Joensuu, 2003. First position.  
Professorship of physical geography, Faculty of Mathematics and Natural Science, University of Turku, 2003. Shortlisted.  
Research professorship of remote sensing at the Finnish Meteorological Institute, 2001. Shortlisted.  
Professorship of geoinformatics, Faculty of Agriculture and Forestry, University of Helsinki, 2001. Shortlisted.

##### Evaluation tasks

Riksbankens Jubileumssfond - The Bank of Sweden Tercentenary Foundation, Sweden. Evaluator of a proposal, 2018.  
University of Helsinki. 2018. Evaluation of the 3-year research grant proposals within natural sciences.  
FNRS – Fonds de la Recherche Scientifique, Belgium. 2018. Evaluator of research grant proposals.  
American University of Beirut, Lebanon, 2017. Evaluator of a grant proposal.  
NOW - Netherlands Organisation for Scientific Research, Earth and Life Sciences, 2017. Evaluator of a grant proposal.  
Estonian Science Foundation, 2016. Evaluator of a proposal.  
Swedish Remote Sensing Committee, Swedish National Space Board. 2016. Evaluator of research proposal.  
FNRS – Fonds de la Recherche Scientifique, Belgium. 2016. Evaluator of research grant proposals.  
FNRS – Fonds de la Recherche Scientifique, Belgium. 2015. Evaluator of research infrastructure proposal.  
FNRS – Fonds de la Recherche Scientifique, Belgium. 2015. Evaluator of research grant proposals.  
FNRS – Fonds de la Recherche Scientifique, Belgium. 2015. Evaluator of research grant proposals.  
Swedish Remote Sensing Committee, Swedish National Space Board. 2014. Evaluator of research proposals.  
Swedish Remote Sensing Committee, Swedish National Space Board. 2014. Evaluator of user development proposals.  
Swedish Remote Sensing Committee, Swedish National Space Board. 2013. Evaluator of research proposals.  
Swedish Remote Sensing Committee, Swedish National Space Board. 2013. Evaluator of user development proposals.  
University of Helsinki, evaluation of the 3-year research grant proposals, 2014 within bio- and environmental sciences.  
FNRS – Fonds de la Recherche Scientifique, Belgium. 2014. Evaluator of research grant proposals.  
Los Alamos National Laboratory, New Mexico, USA. 2013. Doctoral fellowship evaluation.  
University of Helsinki. 2013. Evaluation of the 3-year research grant proposals within bio- and environmental sciences.  
FNRS – Fonds de la Recherche Scientifique, Belgium. 2013. Evaluator of research grant proposals.  
Government of Canada. 2012. Banting post-doctorate fellowships evaluation.  
Autonomous Province of Bolzano, Italy. 2012. Evaluation of a research proposal.  
Swedish Remote Sensing Committee, Swedish National Space Board. 2012. Evaluator of research proposals.  
Swedish Remote Sensing Committee, Swedish National Space Board. 2012. Evaluator of user development proposals.

NOW - Netherlands Organisation for Scientific Research, Earth and Life Sciences, 2011. Evaluator of a grant proposal.  
 FNRS – Fonds de la Recherche Scientifique, Belgium, 2012. Evaluator of research grant proposals.  
 Tekniikan Akateemiset, 2011. Evaluator of a student work in Tutki-kokeile-kehitä - student competition.  
 FNRS – Fonds de la Recherche Scientifique, Belgium, 2011. Evaluator of research grant proposals.  
 National Geographic Society, USA. 2010. Evaluator of a grant proposal.  
 Rufford Small Grants Foundation, USA. 2010. Evaluator of a nature conservation proposal.  
 EUFAR (European Facility for Airborne Research). 2010. Evaluator of a transnational access research proposal.  
 International Foundation for Science, Sweden. 2009. Evaluator of a proposal.  
 Circumpolar studies core courses of the University of the Arctic for University of Saskatchewan, Canada, 2007. Evaluator of a proposal.  
 Estonian Science Foundation, 2006. Evaluator of a proposal.  
 Slovakian Research and Development Support Agency, 2005. Evaluator of a proposal.  
 European Commission, Global Monitoring for Environment and Security, 2005. Evaluator of proposals.  
 European Commission, 6<sup>th</sup> Framework Programme, Global change and ecosystems, 2003. Evaluator of proposals.  
 European Commission, 6<sup>th</sup> Framework Programme, Global change and ecosystems 2004. Evaluator of proposals.

### Statements for filling academic positions

Associate professorship evaluation of Dr. Matti Kummu, Aalto University, Finland, 2019.  
 Full professorship evaluation, Dr. Timo Kumpula, University of Eastern Finland, 2018.  
 Habilitation evaluation of Dr. Martin Rutzinger, University of Innsbruck, Department of Geography, Austria, 2017.  
 Senior lecturership evaluation of 7 candidates, Earth System Science specialized in GIS and Remote Sensing, Faculty of Science, University of Gothenburg, Sweden, 2017.  
 Full professorship evaluation of Dr. Karin Hall, Dept. of Physical Geography and Ecosystem Science, Lund University, Sweden, 2016.  
 Associate professorship evaluation, Dr. Faisal Kamal Zaidi, King Saud University, Saudi Arabia, 2015.  
 Docentship evaluation of Dr. Sonja Kivinen, University of Eastern Finland, 2015.  
 Full professorship evaluation, Dr. Jawad Taleb Al-Bakri, University of Jordan, 2014.  
 Associate professorship evaluation, Dr. Timo Kumpula, University of Eastern Finland, 2014.  
 Lecturership evaluation in remote sensing and photogrammetry, Dr. Petri Rönholm, Aalto University, Department of Surveying, Finland, 2013.  
 Full professorship evaluation of Dr. Lars Eklundh, Dept. of Physical Geography and Ecosystem Science, Lund University, Sweden, 2011.  
 Full professorship evaluation of Dr. P.K. Joshi, TERI University, India, 2011.  
 Readership evaluation of Dr. Gareth Rees, Scott Polar Research Institute, University of Cambridge.  
 Docentship evaluation of Dr. Petteri Alho, Helsinki University of Technology, 2009.  
 Docentship evaluation of Dr. Petteri Muukkonen, Faculty of Biosciences, University of Helsinki, 2009.  
 Docentship evaluation of Dr. Ruizhi Chen, Tampere University of Technology, Finland, 2009.  
 Lecturer evaluation of Dr. Magnus Runnström and Dr. Andreas Persson, Dept. of Physical Geography and Ecosystem Analysis, Lund University, Sweden, 2008.  
 Associate professorship evaluation of Dr. Jawad Taleb Al-Bakri (in environment monitoring and remote sensing), Dept. of Land, Water and Environment, Faculty of Agriculture, University of Jordan, 2008.  
 Lecturership evaluation of 9 candidates (in physical geography specializing in applied GIS and in geomatics, Dept. of Physical Geography and Ecosystem Analysis, Lund University, Sweden, 2006.  
 Professorship evaluation of 12 candidates (in physical geography specializing in geoinformatics), Dept. of Physical Geography, University of Gothenburg, Sweden, 2006.  
 Professorship evaluation of Dr. Bengt Lundén (in remote sensing) at the Dept. of Geography and Quaternary Geology, Univ. of Stockholm, Sweden, 2005.

### Supervised academic theses or dissertations

#### Doctoral dissertations (21)

- Rami Piironen, 2018. Airborne imaging spectroscopy in mapping heterogeneous tropical land cover in Eastern Africa.
- Samuel Nthuni, 2018. Identification of tree species using airborne hyperspectral remote sensing data – case study of Ngangao forest in Taita Hills, Kenya. University of Nairobi, School of Engineering.
- Johanna Hohenthal, 2018. Local ecological knowledge in deteriorating water catchments - Reconsidering environmental histories and inclusive governance in the Taita Hills, Kenya.
- Jinxu Liu, 2017. Application of satellite image time series and texture information in land cover characterization and burned area detection. University of Helsinki, Department of Geosciences and Geography.
- Miia Salminen, 2017. Remote sensing of snow: factors influencing seasonal snow mapping in boreal forest region. University of Helsinki, Department of Geosciences and Geography.

- Athanasios Votsis, 2017. Space and price in adapting cities – Exploring the spatial economic role of climate-sensitive ecological risks and amenities in Finnish housing markets. University of Helsinki, Department of Geosciences and Geography.
- Mark Kipkurwa Boitt, 2016. Hyperspectral remote sensing for cropland assessment and modeling for agro-ecological zones: A case study of Taita Hills, Kenya. Jomo Kenyatta University of Science and Technology.
- Xiaochen Zou, 2015. Leaf orientation and the spectral reflectance of field crops. University of Helsinki, Department of Geosciences and Geography.
- Binyam Tesfaw Hailu, 2015. Multi-scale assessment of land changes in Ethiopia – understanding the impacts of human activities on ecosystems services. University of Helsinki, Department of Geosciences and Geography.
- Saku Anttila, 2013. Applicability of characterized variance and ecosystem interactions in water quality monitoring. University of Helsinki, Faculty of Biological and Environmental Sciences.
- Loice Omoro, 2012. Impacts of indigenous and exotic tree species on ecosystem services: Case study on the mountain cloud forests of Taita Hills, Kenya. University of Helsinki, Faculty of Agriculture and Forestry.
- Nina Himberg, 2011. Traditionally protected forests's role within transforming natural resource management regimes in Taita Hills, Kenya. University of Helsinki, Dept. of Geosciences and Geography, eximia.
- Eduardo Maeda, 2011. Integrated assessment of potential environmental impacts from agricultural expansion and climate change in the Taita Hills, Kenya. University of Helsinki, Dept. of Geosciences and Geography, eximia.
- Jia Xiaoqing, 2011. Study environment impact and landscape change of Gulian mining area. Department of Marine Sciences, Chinese of University of Geosciences, Beijing, China. Co-supervisor with Professor Hu Ke.
- Barnaby Clark, 2010. Enhanced processing of SPOT multispectral satellite imagery for environmental monitoring and modelling. University of Helsinki, Dept. of Geosciences and Geography, magna.
- Mika Siljander, 2010. Geospatial environmental data modelling applications using remote sensing, GIS and spatial statistics. University of Helsinki, Dept. of Geosciences and Geography, magna.
- Alemu Gonsamo Gosa, 2010. Remote sensing of leaf area index: enhanced retrieval from close-range and remotely sensed optical observations. University of Helsinki, Dept. of Geography, eximia.
- Janne Heiskanen, 2008. Remote sensing of boreal land cover: estimation of forest attributes and extent, University of Helsinki, Dept. of Geography, eximia.
- Petteri Muukkonen, 2006. Forest inventory based large scale forest budget carbon assessment: new enhanced methods and use of remote sensing, University of Helsinki, Dept. of Geography, magna cum laude.
- Kirsi Valta-Hulkkonen, 2005. Use of remote sensing methods in water quality studies. University of Oulu, Dept. of Geography, magna cum laude.
- Charles Burnett, 2002. Visualization and analysis of landscape in information space. University of Turku, Dept. of Geography, eximia.

#### M.Sc. theses (Univ. of Helsinki if not noted otherwise)

- Antti Autio, 2018. Transnational road project and regional development: Expectations of regional administration and realized impacts in Taita Taveta County, Kenya.
- Veera Karvonen, 2018. Elephants in Taita Taveta County Kenya: analysing and predicting the distribution.
- Oyelowo Oyedayo, 2018. Spatiotemporal modelling of rooftop rainwater water harvesting with LiDAR data in the Taita Hills, Kenya.
- Amanda Cardwell, 2017. Effect of land use on infiltration in Taita Hills, Kenya.
- Sakari Aärilä, 2017. Species distribution models explaining human-wildlife conflicts in Taita Taveta County, Kenya.
- Ruut Uusitalo, 2017. Modeling the spatial distribution of Culex and Stegomyia mosquitos collected in the Taita Hills, Kenya in 2016, with notes on other genera.
- Iina Haikarainen, 2017. Estimation of leaf area index of field crops using narrow-band indices: effects of leaf inclination angle distribution. Faculty of Agriculture and Forestry, University of Helsinki.
- Jesse Hietanen, 2016. Predicting soil organic carbon and nitrogen content using airborne laser scanning in the Taita Hills, Kenya.
- Toini Kuronen, 2016. Primates on farms – perceived human-wildlife conflicts around Ngangao indigeneous cloud forest, Taita Hills, Kenya.
- Arto Viinikka, 2016. Mapping individual tree species using airborne imaging spectroscopy and laser scanning data in Taita Hills, Kenya.
- Vuokko Heikinheimo, 2015. Impact of land change on aboveground carbon stocks in the Taita Hills, Kenya.
- Elina Virtanen, 2015. Fine resolution image grids for species distribution studies in data poor regions.
- Jessica Broas, 2015. Mapping aboveground biomass of trees outside forests in the Taita Hills, Kenya using airborne AisaEAGLE imaging spectroscopy data.
- Rami Piironen, 2014. Classification of agricultural crops of the Taita Hills, Kenya using airborne AisaEAGLE imaging spectroscopy data.
- Elisa Schäfer, 2014. Tree species diversity estimation using airborne imaging spectroscopy.
- Emilia Venäläinen, 2014. Geographical information systems supporting maritime search and rescue planning – evaluating

voluntary emergency response in the Gulf of Finland.

- Jenni Lahtinen, 2014. Paikkatietoanalyysit ja visualisoinnit vakuutusyhtiön operatiivisten riskien hallinnassa.
- Oula Seitsonen, 2013. Pitkän aikavälin maankäyttö ja arkeologisten kohteiden sijainnin ennustava mallintaminen Lounais-Keniassa.
- Emmi Sallinen, 2013. Visualisointipalvelun kohdearkkitehtuuri – standardit rajapinnat ja lähdekoodin sovellukset paikkatiedon visualisoinnissa verkkopalveluun.
- Nora Berg, 2013. Hyperspektraalisen AISA-kaukokartoitusaineiston soveltuvuus veden laadun parametrien, klorofylli a:n ja sameuden, arviointiin Vantaanjoessa (Estimation of water quality parameters chlorophyll a and turbidity in river Vantaa using hyperspectral AISA imagery).
- Tomi Aalto, 2013. Tehokkuutta jätehuoltoon – tyhjennysreittien optimointi pääkaupunkiseudulla (Routing network modelling for carbage collection).
- Pekka Itkonen, 2012. Estimating leaf area index and aboveground biomass by empirical modeling using SPOT HRVIR satellite imagery in the Taita Hills, Kenya.
- Peter Himberg, 2012. Ratakapasiteetin määrittäminen ilmakuvatulkinnan avulla (Estimation of railroad yard capacity with aerial photography).
- Tiia Palvimo, 2012. Network kernel estimation – the clustering of elderly people in Mänttä-Vilppula.
- Nina Kolu, 2012. Modelling least-cost corridors to increase indigenous forest patch connectivity in Taita Hills, Kenya
- Janne Saarikko, 2012. Kaukokartoitus kansainvälisessä kriisinhallinnassa – IKONOS- ja SPOT -satelliittikuvat tiestön kartoituksessa Kenian Taita Tavetan piirikunnassa. (Remote sensing in international crisis management – IKONOS and SPOT satellite imagery in road infrastructure mapping in Taita Taveta, Kenya).
- Sini Pöytäniemi, 2012. Predicting soil erosion with universal soil loss equation using GIS and remote sensing. A case study in Taita Hills, SE Kenya.
- Eeva Ruuska, 2012. The significance and sustainability of charcoal production in the changing landscape of Dakatcha woodland, SE-Kenya.
- Riikka Lehti, 2011. Suuronnettomuusriskien ja tulvariskien tiedonvaihdossa hyödynnettävät paikkatietomenetelmät.
- Märten Boström, 2011. The utilization of GPS in orienteering mapping in urban Helsinki and rural Kenya.
- Katri Tegel, 2011. A comparison of Landsat 7 ETM+ and TerraSAR-X material in estimating biomass in a two-stage sampling procedure.
- Paul Zulu, 2011. Land cover change detection: a case study of Chingola, Zambia.
- Teemu Tapanainen, 2010. Luonnossaliikkujan kulkukelpoisuusanalyysin parantaminen tarjoilla maastotiedoilla.
- Maria Vuori, 2009. Accessibility as a determinant of opportunities – a case study from Peruvian Amazonia.
- Jaakko Ikonen, 2009. A GIS-based a-priori estimation method for NAM rainfall-runoff model parameters – application to three head watershed in South-Western Finland.
- José Gama, 2009. Taita Hills MySQL database, and performing analysis with the statistics package R.
- Hanna Piepponen, 2009. Semi-analytical inversion model for remote sensing of water quality in Gulf of Finland.
- Heli Laaksonen, 2009. The new digital elevation model acquired using laser scanning by National Land Survey of Finland – use and possibilities.
- Juuso Vanonen, 2008. The conflicts of land in Taita Taveta District, Kenya.
- Anna Ruotsalainen, 2008. Enhancing local livelihoods in Taita Hills, Kenya: Indigenous tree species as part of farmers' livelihoods and environmental rehabilitation.
- Juha Tolvanen, 2007. Mail office location and delivery route evaluation and planning using GIS.
- Antero Keskinen, 2007. Mapping road infrastructure in developing countries applying remote sensing and GIS – the case of the Taita Hills, Kenya.
- Milla Lanne, 2007. Monitoring indigenous tropical montane forests in the Taita Hills using airborne digital camera imagery.
- Matti Pesu, 2007. Thematical mapping of glacier environment and assessment of glacier mass balance using pixel based and object orientated classification of Landsat satellite data.
- Pertti Parviainen, 2006. Detection of glacier facies and parameters using false colour digital camera data – case study Hintereisferner, Austria.
- Jussi Lehtonen, 2006. Modelling the availability of rescue services using geoinformatics in the West Uusimaa rescue department area.
- Miika Mäkelä, 2006. Aerial photograph segmentation methods in agroforestry studies in Uganda.
- Nina Himberg, 2006. Potentiality of ecotourism in the Taita Hills, Kenya.
- Katja Masalin, 2005. Land use change detection in the Taita Hills, Kenya applying aerial photography and SPOT XS satellite data.
- Pekka Hurskainen, 2005. Change detection of urban areas in SW-Kenya using airborne and spaceborne remote sensing data.
- Petri Liuha, 2005. Use of MODIS satellite data for phenological studies of birch in Finland.
- Harri Huttunen, 2004. Harmonization of geographic information models in Finland.
- Jari-Pekka Mäkiäho, 2003. Analysis of shoreline retreat in the Helsinki area in the postglacial period applying TIN-modelling.
- Janne Heiskanen, 2003. Assessment of glacier changes and mass balance using Landsat satellite data in Svartisen, Northern, Norway. University of Turku, Dept. of Geography.

- Pia Lähde, 2001. Personal navigation and cartography in tourism applications – case study of Ruissalo and Viena Karelia. University of Turku, Dept. of Geography.
- Jarno Mikkola, 2000. The impact of spectral image corrections on digital vegetation classification with aerial false – colour photographs. University of Oulu, Dept. of Geography.
- Matthias Schulz, 1999. Use of imaging spectrometer data to determine seasonal patterns and changes in wooded parkland and seashore landscape in southwestern Finland. University of Turku, Dept. of Geography.
- Kirsi Valta, 1998. Use of satellite imagery and aerial photography in pollen-landscape calibration. University of Oulu, Dept. of Geography.

#### B.Sc. thesis (Univ. of Helsinki if not noted otherwise)

- Petra Manninen, 2017. Maaperän respiraatio savanniekosysteemeissä (Soil respiration in savanna ecosystem).
- Joose Helle, 2016. Laserlentokeilaus ja hemisfäärikuvaus metsikkösadannan tutkimisessa Taitavuorilla Keniassa. Airborne laser scanning and hemispheric photography in canopy throughfall research in Taita Hills, Kenya).
- Magnus Udd, 2006. Generation of a large scale digital camera image mosaic over Sagala Hills, Kenya.
- Hanna Tikkanen, 2007. Modeling the distribution of homesteads in the Taita Hills using generalized linear models.
- Jaakko Ikonen, 2006. Hydrological modeling: A GIS approach – case study of the Upper Chi river basin (North-Eastern Thailand, Khorat Plateau).
- Douglas Cameron, 1999. The effects of BDRF and vignetting corrections on CIR airphotos. Carleton University, Dept. of Geography and Environmental Studies.

#### PhD studies under process (Univ. of Helsinki if not noted otherwise)

- James Mwangombe. Devolution of forest rights and sustainable forest management in Taita Taveta County, Kenya.
- Hanna Rosti. Primates research in isolated forest fragments of the Taita Hills, Kenya.
- Yang Liu. Estimation of isoprene emissions from forest, grassland and cropland in tropical landscape in East Africa.
- Maria Yli-Heikkilä. Field-level crop yield prediction based on remote sensing data.
- Peifeng Su. Real-time hyperspectral imagery processing for air pollution analysis.
- Antti Autio. Building a policy framework for climate smart landscapes in Taita Taveta County, Kenya.
- Tenaw Gerenew, Ethiopian Space Science and Technology Institute. Remote sensing of essential biodiversity variables in Ethiopia.
- Zhipeng Tang. Quantification and assessment of changes of vegetation growth and carbon sequestration in the Taita Hills, Kenya as a result of climate variation and land change.
- Sheila Wachiye. Greenhouse gas emissions (CH<sub>4</sub>, N<sub>2</sub>O, CO<sub>2</sub>) from dominant land cover types in the Taita Hills region, Kenya.
- Edward Amara. Assessment of land cover change impacts on ecosystem services in Sierra Leone.
- Hari Adhikari. Data fusion of satellite image time series with airborne hyperspectral and LiDAR data for landscape-level carbon model.
- Temesgen Alemayehu Abera. Assessment of extreme climate and its impacts on terrestrial ecosystem in Northern Ethiopia: a remote sensing and modeling approach.
- Matti Räsänen. Environmental sensing of carbon and water fluxes in sub-Saharan Africa.
- Henna-Reetta Hannula, Observations of temporal and geographical changes of snow and its modelling in climate change research.
- Dickens Odenyi, University of Nairobi, Modeling forest biodiversity and carbon storage in the East African Mountain.
- Pekka Hurskainen, Climate change impacts on ecosystem services; habitats of pollinators and pests of agricultural crops in Eastern Africa.
- Kirsikka Heinilä, Hyperspectral remote sensing data in snow characteristics studies.

#### Supervised visitors

- Prof. Yohei Shiraki, 2018-2019, Visiting professor, Rissho University, Japan.
- Mr. Yanlong Guan, 2018-2019, Visiting PhD student, North China Electric Power University, China.
- Ms. Stefania Albertazzi, 2018. Visiting PhD student, University of Padua, Italy.
- Dr. Mermoosh Ghadimi, 2016-2017. Visiting scientist. University of Tehran, Iran.
- Mr. Andres Caballero, 2014. PhD student, University of Granada, Spain.
- Mr. Crispus Mugambi, 2014. PhD student, Kenya Agricultural Research Institute. Kenya.
- Ms. Yelena Feingold, 2011–2012. Clark University, USA.
- Ms. Xiaoqing Jia, 2010–2011. China University of Geosciences. China.
- Dr. Rahali Hassane, 2009–2010. Scientific Institute, University of Rabat, Morocco. Head of the Geographic Information System Department.
- Dr. Pawan Kumar Joshi, 2009. Development of land cover change methods for the Taita Hills, Kenya. Assistant professor, TERI University, India.
- Emrah Hakki Erdogan, 2007. Development of USLA soil loss model for the Taita Hills, Kenya using geospatial data. PhD



student at the Ankara University, Turkey.

## Examined academic theses

### Ph.D. theses

- Yawen Kong, Chinese Academy of Science: Joint assimilation of multi-satellite and ground based CO<sub>2</sub> data based on GEOS-Chem nested model. External reviewer of doctoral dissertation proposal defense, 2018.
- Helena Haakana, University of Eastern Finland: Multi-source forest inventory data for forest production and utilization analyses at different levels. Examiner, 2017.
- Aleksi Räsänen, University of Jyväskylä, Finland: Developing and comparing methods for mapping habitat types and conservation values using remote sensing data and GIS methods. Opponent in the public examination of a doctoral dissertation, 2014.
- Anirudhha Ghosh, TERI University, India: Framework of unify sensor information for observing nature (FUSION) - Developing an integrative approach across selected applications, 2013.
- Allan Pope, Cambridge University, Scott Polar Research Institute, United Kingdom: Multispectral classification and reflectance of glaciers: In situ data collection, satellite data algorithm development, and application in Iceland & Svalbard, 2013
- Malin Johansson, Stockholm University, Department of Quaternary Geology and Physical Geography, Sweden: Remote sensing of the supra-glacial lakes on the West Greenland ice sheets. Member of the examination committee, 2012.
- Yechale Kebede Binuzeh, Andhra University, Department of Environmental Sciences, India: A study of land use / land cover dynamics, environmental degradation and management practices in Hare river watershed, Abayo Chamo Basin, Ethiopia, using geo-spatial technology. Examiner of PhD thesis, 2012.
- Timo Kumpula, University of Eastern Finland, Finland: Department of historical and geographical studies. Remote sensing in evaluation of land use issues on Eurasian rangelands, 2010. Opponent in a public examination of a doctoral dissertation, 2010.
- Timo Kumpula, University of Eastern Finland, Finland: Department of historical and geographical studies. Remote sensing in evaluation of land use issues on Eurasian rangelands. Examiner of a Ph.D. thesis, 2010.
- Baffour Aviah, University of Helsinki, Department of Forest Sciences, Finland: A geospatial approach assessing the synergies of agriculture-based poverty alleviation programmes – Adra's programme in the Ga west district of Ghana. Examiner of a Ph.D. thesis, 2010.
- Christoph Knoll, University of Innsbruck, Institute of Geography, Austria: Glaciers in South Tyrol: 1850-2006. Application of airborne laser scanner data, orthophotos and historical maps for the acquisition of recent and the reconstruction of past glacier extents. Examiner of a Ph.D. thesis, 2009.
- Eija Honkavaara, Helsinki University of Technology, Institute of Photogrammetry and Remote Sensing: Calibrating digital photogrammetric airborne imaging systems using test field. Opponent in a public examination of a doctoral dissertation, 2008.
- Ping Zhou, University of Helsinki, Department of Forest Ecology: Landscape-scale soil-erosion modeling and ecological restoration for a mountainous watershed in Sichuan, China. Examiner of a Ph.D. thesis, 2008.
- Eija Honkavaara, Helsinki University of Technology, Institute of Photogrammetry and Remote Sensing: Calibrating digital photogrammetric airborne imaging systems using test field. Examiner of a Dr.Tech. thesis, 2008.
- Sakari Tuominen, University of Helsinki, Dept. of Forest Resource Management: Estimation of local forest attributes by utilizing two-phase sampling and auxiliary data. Examiner of a doctoral thesis, 2006.
- Eija Kanto, University of Helsinki, Department of Physical Sciences, Division of Geophysics: Snow characteristics in Dronning Maud Land, Antarctica. Examiner of a Ph.D. thesis, 2005.
- Thomas Geist, University of Innsbruck, Institute of Geography: Application of airborne laser scanner technology in glacier research. Examiner of a Ph.D. thesis, 2005.

### M.Sc. or B.Sc. theses

- Belinda Kivivuori, Univ. of Helsinki, Dept. of Geosciences and Geography. The local perception on changes in water availability and accessibility in the Taita Hills, Kenya. Internal examiner of a M.Sc. thesis, 2013.
- Eveliina Puhakka, Univ. of Helsinki, Dept. of Environmental Sciences. Tropical rain forest corridor in Madagascar, satellite image based land cover classification, landscape analysis and forest quality measurements. External examiner of a M.Sc. thesis, 2012.
- Olli-Pekka Mattila, Univ. of Helsinki, Dept. of Physical Sciences, Div. of Geophysics: Summertime surface melting in coastal region of Dronning Maud Land, Antarctica detected from Envisat-ASAR imagery. External examiner of a M.Sc. thesis, 2006.
- Taru Hermunen, Univ. of Helsinki, Dept. of Geography: Land use policy in Kenya – experiences from Taita Taveta district. Internal examiner of M.Sc. thesis, 2004.
- Alexander Orava, Univ. of Helsinki, Dept. of Geography: Ylä-Lapin pöytämaisten katajien kasvumuodot ja habitaatit (The habitus and habitats of table junipers in Finnish Lapland). Internal examiner of M.Sc. thesis, 2003.
- Sanna Viilo, Univ. of Helsinki, Dept. of Geography: Digitaalisten paikkatietoaineistojen laadun ja tarkkuuden merkitys radioverkko-suunnittelussa (The importance of the quality and accuracy of digital geographic data in radio network planning). Internal examiner of M.Sc. thesis, 2003.
- Mari Riipinen, Univ. of Turku, Dept. of Geography: Kestävän kehityksen idealismi ja realismi (Idealism and realism of sustainable development). Internal examiner for M.Sc. thesis, 2001.
- Eeva-Maria Vuorenmaa, Univ. of Turku, Dept. of Geography: Meksikon Wixarika-intiaanien maanomistusoikeudet ja

maankäytön suunnittelu (Landownership and land use planning of the Wixarika Indians in Mexico). Internal examiner for M.Sc. thesis, 2001.

- Yves Martens, Univ. of Turku, Dept. of Geography: Use of remote sensing in analyzing forest landscape patterns: A case study from the Vienansalo Region and Eastern Finland. Internal examiner for M.Sc. thesis, 2001.
- Matthias Schulz, Univ. of Turku, Dept. of Geography: Use of imaging spectrometer data to determine seasonal patterns and changes in wooded parkland and seashore landscape in southwestern Finland. Internal examiner for M.Sc. thesis, 1999.
- Ilkka Suojanen, Univ. of Turku, Dept. of Geography: Satelliittikuvien ilmakehä- ja valaistuskorjausten tekeminen: esimerkkinä Vienan Karjalan alue (Atmospheric and illumination corrections for satellite imagery: case study of Viena Karelia, Russia). Internal examiner for M.Sc. thesis, 1999.
- Katja Juntunen, Univ. of Oulu, Dept. of Geography: Metsänkäyttö eräillä Kuhmon valtionmailla vuosina 1905-1950 ja sen vaikutus metsien luonnontilaisuuteen (The use of forest resources in crown lands in Kuhmo in 1905-1950, and its impact on forests). Internal examiner for M.Sc. thesis, 1997.

#### Review of articles submitted for publication in international journals

- Agricultural and Forest Meteorology, African Journal of Ecology, African Journal of Agricultural Research, Applied Geography, Applied Optics, Arabian Journal of Geosciences, Australian Journal of Soil Research, Boreal Environmental Research, Canadian Journal of Remote Sensing, Computers and Geosciences, Ecological Indicators, Egyptian Journal of Remote Sensing and Space Sciences, Environmental Conservation, Fennia, Forum for Development Studies, Forest Ecology and Management, GeoJournal, Geoscience and Remote Sensing Letters, GIScience and Remote Sensing, Global Ecology and Biogeography, International Journal of Applied Earth Observation and Geoinformation, International Journal of Digital Earth, Journal of East African Natural History, Journal of Environmental Management, Journal of Geophysical Research, Journal of Mountain Science, Journal of Selected Topics in Applied Earth Observations and Remote Sensing, Kuwait Journal of Science and Engineering, Land Degradation and Development, Landscape and Urban Planning, Natural Hazards, NATURE Plants, Photogrammetric Engineering & Remote Sensing, Plant Ecology, Remote Sensing Applications: Society and Environment, Remote Sensing of Environment, Remote Sensing of Ecology and Conservation, Scientific Reports, SENSORS, Tellus B, The Cryosphere Discussions, The Photogrammetric Journal of Finland.

#### Education administrative duties

- Member of Steering Committee of Geography Master Programme, 2017-
- Member of Steering Committee of Geography Bachelor Programme, 2017-
- Member of the Steering Committee of Doctoral Programme in Atmospheric Sciences, University of Helsinki, 2015-
- Member of the Steering Committee of Graduate School: Finnish Graduate School in Development Studies, 2008-2012.
- Member of Steering Committee of Graduate School: Atmospheric composition and climate change: from molecular processes to global observations and models 2010-2013.
- Leader of the post graduate school in hyperspectral remote sensing funded by the University of Helsinki (two Ph.D student positions) 2009-2013.
- Inspector of Tavast Nation student corporation of the Univ. of Helsinki (Hämäläis-Osakunta), 2006- (<http://www.hamalais-osakunta.fi>).
- Chairman of the Tavast student foundation stipendiary council, 2006- (<http://www.hys.net/>).
- Leader of the International Geoinformatics Master Programme funded by the Ministry of Education and Faculty of Science of the University of Helsinki, 2006-2009.
- Leader of the post graduate school in geoinformatics, University of Helsinki (three Ph.D. student positions) 2003-2007.
- Member of the Steering Committee of Virtual University in Geoinformatics, 2003-present.
- Member of the Steering Committee of the Graduate School of Remote Sensing funded by the Academy of Finland, 2003-2007.

#### Geospatial infrastructure administration activities

- Member of the National test area group of the National Council for GIS (Paikkatietoasiain neuvottelukunta), 2003-2007.
- Chair of the Research and Development group of the National Council for GIS, 2003-2004.
- Expert for the National Council for GIS, 2002-present.
- Member of the Council of Research and Teaching of Geoinformatics, University of Helsinki, (Geoinformatiikan tutkimuksen ja opetuksen neuvottelukunta), 2002-2007.
- Member of the board of Kevo Subarctic Research Station, 2000-2001.

#### Activities in international conferences

- Invited keynote speaker at 38th Annual EARSeL Symposium 9-12 July 2018 "Earth Observation Supporting Sustainability Research", Chania, Greece, 2018.
- Invited speaker at "International research and innovation partnerships – designing international co-operation projects to deliver on economic competitiveness and the Grand Challenges". 1. University of Helsinki experiences in fostering international cooperation projects in Kenya since 2003, and 2. "Managing human resources in international partnerships". OECD and National Research University, Moscow, May 2018.

- Evaluator of the abstracts, IEEE Geoscience and Remote Sensing Society, the International Geoscience and Remote Sensing Symposium 2014, Milan, Italy, 2015.
- Evaluator of the abstracts, IEEE Geoscience and Remote Sensing Society, the International Geoscience and Remote Sensing Symposium 2014, Quebec City, Canada, 2014.
- Member of the Programme Committee, 2013 SPIE conference: Remote Sensing of the Ocean, Sea Ice, Coastal Waters, and Large Water Regions, Dresden, September 23–26, 2013.
- Member of the Programme Committee, 2012 SPIE Remote Sensing Conference, Edinburgh, September 24–27, 2012. International Society for Optics and Photonics.
- Member of the Organization Committee, 12th International Circumpolar Remote Sensing Symposium, Levi, Finland. May 14–18, 2012. Moderator of a session.
- Invited keynote speaker and session chair at the Intl. conference Reframing Sustainability – Climate Change and North-South Dynamics, Helsinki, Finland, February 10–11, 2011.
- Member of the Programme Committee, Earth Observation of Global Changes, Munich, Germany, April 13–15, 2011.
- Member of the Programme Committee and Session Chair, Finnish Remote Sensing Days, Espoo, Finland, November 4–5, 2010.
- Member of the Scientific Committee of 6th Int. Symposium Agro Environ, Antalya, Turkey, April 28–May 1, 2008.
- Member of the Technical Committee of the 1<sup>st</sup> Int. Circumpolar Conf. on Geospatial Sciences and Applications, Yellowknife, NWT, Canada, 20–24 August, 2007.
- Member of the Scientific Committee, session chair and invited keynote speaker at the expert workshop: Potentialities and limitations in the use of remote sensing for detecting and monitoring environmental change in the Horn of Africa, Nairobi, Kenya, 12–13 June, 2007. FAO-SWALIM (<http://www.faoswalim.org/>).
- Session Chair for Session cold areas and snow in 10<sup>th</sup> Int. Symposium on Physical Measurements and Signatures in Remote Sensing, Davos, Switzerland, 11–13 March, 2007.
- Member of the Programme Committee and session chair of the workshop “GIS in developing countries” of Nordic GIS conference, Helsinki, Finland, 2–4 October, 2006.
- Member of the Programme Committee, ISPRS Commission VIII Mid-Congress Symposium Remote sensing applications for sustainable future, Haifa, Israel, 4–7 September, 2006.
- Session Chair at the Int. Conference on Wind effects on trees, Karlsruhe, Germany, 16–18 September, 2003.
- Member of the Programme Committee of the Scandinavian Research Conf. on Geographical Information Sciences (ScanGIS),
- Member of the Organization Committee of the ScanGIS 2003, 9<sup>th</sup> Scandinavian Research Conf. on Geographical Information Science, 4–6 June 2003, Espoo, Finland, 2003. Session chair of the GIS and future –session.
- Member of the Programme Committee, Intl. Airborne Remote Sensing Conf. and Exhibition, 1997 in Copenhagen, 1999 in Ottawa and 2001 in San Francisco.
- Session chair at the Intl. Airborne Remote Sensing Conf. and Exhibition, 1996 in San Francisco, 1997 in Copenhagen and 1999 in Ottawa.

#### Field and research excursions

- Field work in the Taita Hills, TAITASMART project, October 2018.
- Field work in the Taita Hills, August 2018.
- Field work at Turkana Basin Institute, Kenya, March 2018.
- Leader of Taita Field Course of the Geography Master Programme of the University of Helsinki to Taita Hills, Kenya, February 2018.
- Leading field work in the Taita Hills, Kenya related to Earth system science in the Taita Hills, November 2017.
- Leading field work in the Taita Hills, Kenya related to Earth system science in the Taita Hills, October 2016.
- Leading field work in the Taita Hills, Kenya related to development geography in the Taita Hills, February 2016.
- Leading airborne laser scanning acquisition and field work in the Taita Hills, Kenya, January 2015.
- Leading field work in the Taita Hills, Kenya, October 2014.
- Field work in Saudi Arabian mountains, April 2014.
- Field work in Sierra Leone linked to the BIODEV project, March 2014.
- Leading research and airborne remote sensing data acquisition in the Taita Hills, Kenya, January 2014.
- Leading research and airborne remote sensing data acquisition in the Taita Hills, Kenya, February 2013.
- Research visit to Taita Hills, Kenya related to TAITAWATER project, 2–11 December, 2012.
- Leader of an Alumni trip to Taita Research Station in Kenya 10–21. September, 2012.
- Organization or airborne remote sensing campaign and field work with Department of Resource Surveys and Remote Sensing, Kenya in the Taita Hills, Kenya in January 2012.
- Research expedition to Jimma, Ethiopia, December 2012.
- Research expedition to Mt. Kilimanjaro, Tanzania, August 2011.
- Research excursion to the Taita Hills, January 2011. Univ. of Helsinki, Dept. of Geosciences and Geography and Dept. Biological Sciences). Leader.
- Field work in Dakacha woodlands, Kenya, September 2010. Univ. of Helsinki, Dept. of Geosciences and Geography. Leader.

- Field work in Kasigau mountain, Kenya, Jan. 2010. Univ. of Helsinki, Dept. of Geography. Leader.
- Field work in the Taita Hills and Kasigau mountain, Kenya, Sep–Oct. 2009. Univ. of Helsinki, Dept. of Geography. Leader.
- Research excursion to the Coast Province of Kenya, January 2009, Univ. of Helsinki, Dept. of Geography. Leader.
- Field work in Gatineau Park, Quebec, Canada, August 2007, Univ. of Helsinki, Dept. of Geography. Leader.
- Field work in Taita Hills, Kenya, January 2007, Univ. of Helsinki, Dept. of Geography. Leader.
- Field work in Taita Hills, Kenya, January 2006, Univ. of Helsinki, Dept. of Geography. Leader.
- Field work in Taita Hills, Kenya, January 2005, Univ. of Helsinki, Dept. of Geography. Leader.
- Research excursion from Munich, Germany to Lake Garda, Italy, August 2005, Univ. of Helsinki, Dept. of Geography. Leader.
- Airborne remote sensing data acquisition campaign, Kenya, March 2004, Univ. of Helsinki, Dept. of Geography. Leader.
- Field work in Hintereisferner glacier, Austria, August 2003, Univ. of Turku, Dept of Geography. Leader.
- Airborne remote sensing data acquisition campaign, Kenya, March 2003, Univ. of Helsinki. Leader.
- Field work Hintereisferner glacier, Austria, Sep. 2002, Univ. of Turku, Dept. of Geography. Leader.
- Field work in Hintereisferner glacier, Austria, Sep. 2001, Univ. of Turku, Dept. of Geography. Leader.
- Field work in Svartisen glacier, Norway in August 2001, Univ. of Turku, Dept. of Geography. Leader.
- Field work in Viena Karelia, Russia, Sep. 2000, Univ. of Turku, Dept. of Geography. Leader.
- Field work in Viena Karelia, Russia, Sep. 1999, Univ. of Turku, Dept. of Geography. Led by prof. Kalliola.
- Field work in Gatineau Park, Quebec, Canada 1998–1999, Carleton University, Dept. of Geography. Leader.
- Field work in Northern Lapland in September 1997. Univ. of Oulu, Dept. of Geography. Leader.
- Research excursion to northern Fennoscandia, Sep. 1995, Univ. of Oulu, Dept. of Geography. Leader.
- Field work in the German Alps 1992–1995. Univ. of Munich, Dept. of Geography. Leader.
- Field work in Finnish-Norwegian border zone in Lapland, April 1992, Univ. of Oulu, Dept. of Geography.
- Research excursion to Kenya, Aug. 1989, Univ. of Helsinki, Dept. of Geography. Led by Dr. Tuhkanen.
- Research excursion to United States, Aug. 1988, Univ. of Helsinki, Dept. of Geography. Led by Prof. Heikkinen.

#### Language capabilities

Language	Speaking	Reading	Writing
Finnish	Mother language	Mother language	Mother language
English	Excellent	Excellent	Excellent
German	Good	Excellent	Good
Swedish	Good	Good	Fair
French	Fair	Fair	Fair
Kiswahili	Fair	Basics	Basics