

CURRICULUM VITAE



1. Full name and date

- Oksanen (Pääkkönen) Elina Johanna
- Female
- 8 August 2018

2. Date and place of birth, nationality, current residence

- May 19, 1964, Vehmersalmi, Finland
- Citizenship: Finnish
- Kuopio, Finland

3. Education and degrees awarded

- Title of Docent, Plant stress physiology, Univ Kuopio, Dep Ecology and Env Science, 1 Sept 1998
- Doctor of Philosophy, Dep of Ecology and Env Science, Univ Kuopio, Main subject Environmental science, 19 April 1996
- Master of Science, Dep of Botany/Plant Physiology, Univ Helsinki, Main subject Biology, 12 June 1992
- High school graduation, Kuopion Klassillinen Lukio, Kuopio, 31 May 1983

4. Other education and training, qualifications and skills

- Fulbright Study Tour, Alaska, May 2017, Alumni for Chairmanship of The Arctic Council actions of Finland 2017-2019
- UEF Coach Leadership course (5 ETCS), 2016-2017, Aducate, Univ Eastern Finland (UEF)
- Advanced/special courses: Bio- and ecotechnological methods in restoration, Univ Kuopio 1996; Biotechnology and genetic research, Univ Joensuu 1997; Course on Organic Farming, Kuopio 1991

5. Linguistic skills

- Finnish (mother tongue)
- English (fluent), Swedish (good), German (fair)

6. Current position

- Professor in Plant physiology and biotechnology, Dep Environmental and Biological Sciences, UEF. Permanent position, appointed 1 Aug 2004
- Vice Dean, Faculty of Science and Forestry, UEF, 2014-2017
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7. Previous work experience

- Senior Researcher Fellowship (Varttunut tutkija), Academy of Finland, Univ Joensuu, Faculty of Biosciences, 1 Aug 2008-31 July 2009
- Academy research fellow post (Akatemiatutkija), Academy of Finland, Univ Kuopio, Dep Ecology and Environmental Science, 1 Jan 2002-31 July 2004
- Post doctoral research post (Tutkijatohtori), Academy of Finland, Univ Kuopio, Dep Ecology and Environmental Science, 1 Jan 1998-31 Dec 2001
- Postdoctoral researcher in the Aspen FACE project in Michigan Technological University (MI, WI, USA), 1997-1998 (close collaboration until 2010)
- Postdoctoral visitor at the Swiss Federal Institute for Forest, Snow and Landscape Research, Birmensdorf, Switzerland, Oct-Nov 1996
- Project Researcher (Projektitutkija), Academy of Finland, Univ Kuopio, Dep Ecology and Environmental Science, 1 Jan 1995-31 Dec 1997
- Project Researcher, Univ Kuopio, Dep Ecology and Environmental Science, Maj and Tor Nessling Foundation, 1 March 1992-31 Dec 1994
- Project Researcher, Univ Helsinki, Dep Forest Ecology, 1 Dec 28-Feb 1991 and 4 Jan-31 Jan 1993
- Project Researcher, Univ Kuopio, 1 March-31 Oct 1991
- Gardening worker, Botanical Gardens of the Univ Helsinki, 19 May-1 Aug 1986
- Bank officer, Postipankki, Helsinki, 1 Sept 1983-29 Feb 1984

8. Research funding as well as leadership and supervision

a) Major own research funding: total amount 4.6 milj €

- Juho and Lempi Pitkänen Fund, 2016-2019, *Biological and biomedical spectral imaging*, 400 000 €
- Academy of Finland, 2015-2018, project nro 284931, Arctic Research Programme: *Towards more efficient Arctic research using dominant Betula species, spectromics and genomics*, total 695 014 € (share of Academy of Finland 458 709 €)
- Academy of Finland, 2014-2015, project nro 273163, FIRI 2013-research infrastructure: *NaPPI-National Plant Phenotyping Infrastructure*, total 328 572 € (share of Academy of Finland 230 000 €)
- UEF strategic funding (PhD study), 2013-2015, project 931526, 120 000 €

- UEF strategic funding (Infrastructure development) 2012, 35 200 €
- European Structural Fund, 2012-2015, project nro 818711, *Infrastructure for Plant Imaging Centre*, 452 260 €
- European Structural Fund, 2012-2015, project nro 706668, *Plant Imaging Centre*, 313 634 €
- Academy of Finland, 2011-2015: Academy (research) project nro 250636, *Molecular responses of birch and aspen to altered humidity*, total 691 481 € (share of Academy of Finland 552 781 €)
- Academy of Finland, 2011-2014: Development research project nro 138161, *Ozone sensitivity of the most important Indian crop and tree species*, total 592 490 € (share of Academy of Finland 471 330 €)
- Academy of Finland, 2008-2009: Senior Researcher Fellowship nro 124828, *From raw data to dynamic defence profiles - towards biologically relevant information from plant stress experiments*, 130 300 €
- Academy of Finland, 2006-2010: Research project nro 109933, *Impacts of warming and oxidative signalling on key cellular mechanisms of aspen and birch – towards understanding the possibilities for greenhouse gas mitigation*, 338 800 €
- Academy of Finland, 2004-2006: Bilateral researcher exchange with India, nro 106538, *Bioinformatics in ozone stress studies on trees*, 48 020 €
- Academy of Finland, 2002-2006: Research project nro 78743, *FACE experiments revealing interactive effects of greenhouse gases and nitrogen deposition in hardwood ecosystems*, 301 481 €
- Academy of Finland, 2001-2003: Bilateral researcher exchange with Russia, nro 74446, *Impact of interacting low temperature and ozone stress in European white birch (Betula pendula Roth)*, 15 574 €
- Academy of Finland, 1998-2001: Research project nro 63947, *Carry-over effects of ozone and interactions with carbon dioxide in deciduous trees (birch and aspen)*, 48 573 €
- Academy of Finland, 1998-1999: Research project nro 62936, *Stress- and defence-related gene expression in deciduous forest trees exposed to elevated ozone and carbon dioxide*, 32 628 €

b) Major research funding as participant/work package leader

- Marie Skłodowska-Curie Actions: Innovative Training Networks (ITN), 2018-2021: *Pathogen-informed Resistance to Oomycete disease in Ecosystems, Agriculture and Aquaculture* (PROTECTA), participant, leader Laura Grenville-Briggs (SLU), funding negotiations ongoing
- Tekes (The Finnish Funding Agency for Technology and Innovation), 2016-2017: *Computational spectral imaging for biological and biomedical applications* (CSBIOMED), WP leader, PI Prof Hauta-Kasari), 460 000 €
- Tekes, 2013-2015: *Spectral imaging and analysis in environmental and industrial applications*, WP leader, PI Prof Hauta-Kasari, 2 milj. €
- Tekes, 2014, *Laser-ablation spectroscopy in plant diagnostics*, partner, PI Prof Vahimaa, 785 000 €
- EU/FPS COST Action FP1204, 2013-2017: *Green Infrastructure approach: linking environmental with social aspects in studying and managing urban forests*, participant
- UEF strategic funding, 2011-2015: *Changing climate and biological interactions related to forests (CABI)*, WP leader, PI Prof Riitta Julkunen-Tiitto, total 1,5 milj €
- EU/FP0903 COST Action 2009-2013: *Climate Change and Forest Mitigation and Adaptation in a Polluted Environment*, participant
- Univ Joensuu, Competence Center, 2007-2009: *Adaptation of organisms to multiple environmental stresses*, vice-leader, PI Prof Kukkonen, total 180 000 €
- Univ Joensuu, Centre of Expertise, 2007-2009: *Centre for Applied Plant Biology*, WP leader, PI Prof Julkunen-Tiitto, total 250 000 €

c) Major personal grants

- FinCEAL Plus Travel Grant, 2017, travel costs for visiting researcher from India
- Japan Society for the Promotion of Science, BRIDGE Fellowship, 2017, grant for a visit
- Academy of Finland, Finnish-Japanese Joint Seminar 2014: *Design of Superior Machinery of Light Energy, Conversion in Photosynthetic organisms*, 2 700 €
- European Science Foundation, VOCBAS activity, 2006: Research visit in Institute of Agro-environmental and Forest Biology, IBAF, Rome, Italy, 1180 €
- Japan Society for the Promotion of Science (JSPS)/Academy of Finland, Bilateral researcher exchange 1999: Tokyo University of Agriculture and Technology (TUAT) and Univ Hokkaido, Japan, 28 300 FIM (4760 €)
- Emil Aaltonen Foundation, 1998: Postdoctoral research, 18 750 FIM (3154 €)
- Ella and Georg Ehrnrooth Foundation, 1997: Postdoctoral research, 50 000 FIM (8409 €)
- University of Kuopio, 1996: Postdoctoral research visit in Switzerland, 10 000 FIM (1682 €)

d) Supervision of post-doc researchers/ main supervisor (10):

Dr Laure Fauch, 2014-present, UEF; Dr Sarita Keski-Saari, 2011-present, UEF; Dr Viivi Ahonen, 2012-2014, UEF; Dr Jennifer Dumont (France) UEF, 2013-2014; Dr Johanna Riikonen, 2008-2010,

Univ Kuopio; Dr Mika Länneppää, 2007-2009, Univ Joensuu; Dr Sari Kontunen-Soppela, 2005-2008, Univ Joensuu/The Finnish Forest Research Institute; Dr Vivek Pandey (India): 2005-2006, Univ Joensuu; Dr Nadezhda Prozherina (Russia): 2002-2003 and 2006-2007, Univ Kuopio, Univ Joensuu; Dr Nora García (Spain): 1998-1999, Univ Kuopio

9. Merits in teaching and pedagogical competence

- Developing Phenomenon-based learning environment for teacher education in natural sciences (ILMA-project, 8000€), UEF, 2016
- Developing novel learning environment for spectral imaging in biology and biomedicine at Spectromics laboratory (www.spectromics.fi), collaboration with Olympus Corp. (Japan), 2015-2018
- Expert in the NASA Epic Challenge Program, introducing Innovative Conceptual Engineering design (ICED) and phenomenon-based learning pedagogy, 2015-present
- Leader for 12 courses on plant physiology, biochemistry and plant biotechnology at UEF (Joensuu campus), 2004-present
- Lecturer in the Master's Degree Programme in Wood Material Science, UEF, 2013-present
- Leader for the Doctoral Programme in Biology of Environmental Change (BEC), UEF, 2013.
- Leader for the Master's Degree Programme in Environmental Biology (EnvBio), UEF/Joensuu campus, 2011-2013
- Board member in the Finnish Doctoral Program in Plant Science (Univ Helsinki), 2011-2013
- Lecturer in Asia Network Programme (CIMO), Ajou Univ (South-Korea), 2007
- Lecturer in 13 different courses at Department of Ecology and Environmental Science, Univ Kuopio, 1992-2004
- **Supervision of doctoral theses/Completed (10):** Jenna Lihavainen, UEF 2016; Ashutosh Pandey, UEF 2015; Boy Possen, UEF 2014; Maarit Mäenpää, UEF 2012; Tarja Silfver, Univ Joensuu 2009; Elina Häikiö, Univ Kuopio 2009; Vera Freiwald, Univ Kuopio 2008; Annakaisa Elo, Univ Joensuu 2007; Ibrahim Mohamed Ahmed, Univ Kuopio 2005; Johanna Riikonen, Univ Kuopio 2004
- **Doctoral students under supervision (4):** Lars Granlund, UEF; Maya Deepak, UEF; Antti Tenkanen, UEF; Mustafa Munawar, UEF

10. Awards, prizes and honours

- First Class Medal of the Order of the White Rose of Finland, The President of Finland, 6 Dec 2016 (Suomen Valkoisen Ruusun Ritarikunnan 1 luokan ritarimerkki)
- Silver Medal, The Federation of Finnish Learned Societies (Tieteellisten seurain valtuuskunta), 2016
- The Best Doctoral Thesis of Finland in Environmental Science in 1996: *Ozone - Complex Risk for Birch*, Ympäristötieteellinen seura ry

11. Other academic merits

Pre-examiner of a doctoral dissertation (10): Nageswara Rao Mekala 2017 Univ Turku; Enjun Xu, Univ Helsinki 2015; Anna Lepistö, Univ Turku 2011; Minna Lintala, Univ Turku 2010; Reetta Ahlfors, Univ Helsinki 2008; Mirva Piippo, Univ Turku 2007; Katri Kostiainen, Univ Oulu 2007; Juha-Pekka Salminen, Univ Turku 2002; Riitta Tegelberg, Univ Joensuu 2002; Riikka Pellinen, Univ Helsinki 2001

Opponent of a doctoral dissertation (2): Jennifer Dumont, Univ Lorraine/INRA, France, 2013; Marja-Leena Laitinen, Univ Joensuu, 2003

Evaluation of scientific competence/ Professorship (2): Jaana Bäck, Univ Helsinki 2013, 2017

Evaluation of scientific competence/ Title of docent (3): Jaana Vuosku, Univ Oulu 2016; Saijaliisa Kangasjärvi, Univ Turku 2009; Mikael Brosché, Univ Helsinki 2008

Member of international peer evaluation committees of funding applications:

- Expert evaluator for Lab of Excellence ARBRE (*Advanced Research on the Biology of the Tree and Forest Ecosystems*), France, 2016
- Expert evaluator for research proposals for The Netherlands Organisation for Scientific Research (NWO), 2015, 2016
- Expert evaluator for research proposals for European Commission: Marie Skłodowska-Curie Actions (Horizon 2020), 2014- present; Marie Curie actions (FP7), 2007-2013; Marie Curie actions (FP6), 2004-2006
- Expert evaluator for the Government of the Russian Federation (Vladimir Putin), 2010
- Expert evaluator for The Luxembourg National Research Fund (FNR), Luxembourg AFR funding programme ("Aides à la Formation-Recherche"), 2009
- Expert evaluator for SEE-ERA.NET PLUS Joint Call by German Aerospace Centre (DLR), 2009
- Expert evaluator for Lithuanian State Science and Studies Foundation, 2007-2008

Memberships and positions of trust in scientific organizations and societies:

- UNIFI (Universities Finland) representative in the national LUMA-network, 2017-present
- Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES), member of the Finnish working group, Luontopaneeli, 2015-present
- European Plant Science Organization (EPSO), the Finnish representative, 2013-present
- IUFRO (International Union of Forest Research Organizations), officer in Division 7.01 Impacts of air pollution and climate change on forest ecosystems, 2011-present
- The Steering Committee of the Finnish Museum of Natural History (Luonnontieteellinen keskusmuseo/Luomus), Univ Helsinki, deputy member 2010-2014
- Scandinavian Society for Plant Physiology (SPPS), council member 2008-2015
- Intergovernmental Panel on Climate Change (IPCC), deputy member in the Finnish working group 2008-present
- The Finnish National Advisory Board on Biotechnology (Biotekniikan neuvottelukunta, BTNK), member/deputy member 2008-2016

Administrative responsibilities: Vice dean, Faculty of Science and Forestry, UEF, 2014-2017 and 2018-2021; Department head, Dep. Biology, UEF, 2011-2013; Head of Botanical Garden of Joensuu University, 2007–2012; Vice dean, Faculty of Biosciences, Univ Joensuu, 2006–2009; Vice head, Department of Biology, Univ Joensuu, 2005-2006

Referee for scientific and scholarly journals: 134 reviews (> 10 reviews/year) during 1997-2018 (e.g. Plant, Cell & Environment, New Phytologist, J Exp Botany, Nature), Member of the Tree Physiology Reviewer Board

Invited keynote lectures abroad (5): IUFRO Regional Congress for Asia and Oceania Beijing, China 2016; Third International Conference on Cellular Environmental Stressors in Biology and Medicine: Focus on Redox Reactions. Ferrara, Italy, 2014; Finnish-Japanese Joint Seminar 2014, Japan, 2014; Halmstad Ozone Impact Meeting, Sweden, 2013; ENVIRON Workshop, Tartu, Estonia, 2013

12. Scientific and societal impact of research

- **Publications:** 125 peer-reviewed scientific articles, 18 other scientific publications, 159 scientific conference papers
- h-index = 34 (Oksanen E or Paakkonen E), Citation number = 3500, Average number of citations per item = 31.4) according to Web of Science; h-index =45, Citation number = 5800 according to Google Scholar
- **10 most most cited publications** according to Web of Science: Karnosky et al. 2003, *Functional Ecology* 17: 289-304 (214 citations); Percy et al. 2002, *Nature* 420: 403-407 (207 cit); Karlsson et al. 2004, *Atm Env* 38: 2283-2294 (111 cit); Valkama et al. 2007, *Global Change Biology* 13: 184-201 (106 cit); Karnosky et al. 2007, *Plant Biology* 9: 181-190 (99 cit); Pääkkönen et al. *Plant, Cell, Env* 21: 671-684 (88 cit); Karlsson et al. 2007 *Env Poll* 146: 608-616 (85 cit); Pääkkönen et al. 1997, *Env Poll* 95: 37-44 (74 cit); Wustman et al 2001, *Env Poll* 115:473-481 (74 cit); Pääkkönen et al. 1993, *New Phytol* 125: 615-623 (72 cit)
- 45% of the scientific publication belong to JuFo class 3 or have IF > 5
- Recent paper in *Nature Genetics*: Salojärvi et al, 2017: Genome Sequencing and Population Genomic Analyses Provide Insights into the Adaptive Landscape of Silver Birch, 49: 904-912, doi:10.1038/ng.3862 (This is breakthrough paper using advanced genomic big data)
- Participating European ozone risk assessment work: Convention on Long-range Transboundary Air Pollution under UNECE, 1994-present

13. Position of trust in society and other societal merits

- Participating and chairing the activities of LUMA center (www.uef.fi/luma) at UEF: Promoting education in the field of science, environment, technology and mathematics and collaboration with Finnish school system, 2011–present

14. Other merits

- Establishing The Spectromics Laboratory (<http://www.uef.fi/en/web/spectromics>), accepted to Finland's Research Infrastructure Roadmap (Evaluation 2018: Advanced level).
- **Major contributions to launching the careers of outstanding researchers/experts (as supervisor):** Dr Riikonen is a Senior Researcher in Natural Resources Institute Finland (Luke); Dr Possen is a Consultant ecohydrology at Royal HaskoningDHV, Netherlands
- **Organizing scientific conferences and meetings:** EuroGard V, Botanical Gardens in the Age of Climate Change, Helsinki, Finland, 2013; IX Finnish Symposium on Plant Science, Joensuu, Finland, 2010, the main organizer
- **Senior scientist in the Nordic Centre of Excellence:** Nordic Centre for Studies of Ecosystem Carbon Exchange and its Interactions with the Climate System, 2003-2007.