

CURRICULUM VITAE

Timo Veikko Vesala, 14th July 1963, Janakkala, Finland

1. Education and training

University of Helsinki: 1988 M.Sc; 1990 Lic.Phil.; 1991 Ph.D.

2. Professional appointments and career

2.1 Current position

Permanent position: Professor of Meteorology (*Professori*), University of Helsinki, 1.8.2001 –;

Docent (*Dosentti*), University of Eastern Finland, 1993 –

2.2 Previous positions

Finnish Meteorological Institute, Air Quality Department: Research worker (2 years) 1988 - 1989; **University of Helsinki, Department of Physics:** Assistant (*Assistentti*), 1990-1996; Research scientist, grant provided by the Nessling Foundation (7 months) 1993; Senior assistant (5 months) 1994, (5 months) 1995, (5 months) 1996, 1.1.1997-31.7.2001; Research scientist, grant provided by the University (6 months) 1996; **The Academy of Finland:** Junior Fellow (*Nuorempi tutkija*) (7 months) 1992; Academy Fellow (*Akatemiatutkija*), 1.9.1997-31.7.1998, 1.8.2000-31.7.2001; **University of Kuopio, Department of Environmental Sciences:** Professor (*Professori*) (2 months) 1994; **Academy of Finland, Senior Scientist (*Varttunut tutkija*)**, 1.8.2008-31.7.2009

2.3 Present research group

Senior scientists: Dr. I. Mammarella; *Post docs:* M. Acosta, E. Juurola, L. Järvi, P. Kolari, M. Nyman, M. Tomasic; *PhD students:* S. Haapanala, P. Keronen, L. Kulmala, A. Nordbo, M.-K. Tu, K. Wang; *Master students:* P. Alekseychik, O. Peltola

3. Grants

3.1 Research grants

7 projects (5 national and 2 international) started before 2000; total sum 350 000 EURO

Principal investigator in the EU project CARBOEUROFLUX (**An investigation on carbon and energy exchanges of terrestrial ecosystems in Europe**) (128 000 EURO ~ 770 000 mk), 2000-02; Coordinator in the EU project CORE (**Climate-Biosphere Interactions**) (total sum 997 000 EURO ~ 5 980 000 mk), 2000-02; Responsible leader of the project "**Development of relaxed eddy accumulation technique for aerosols and analysis of their organic components**" financed by University of Helsinki (600 000 mk), 2000-02; Co-ordinator in the INTAS project (**Random walk models for the footprint problem in the turbulent atmosphere**) (total sum 90 000 EURO ~ 540 000 mk), 2000-03; Responsible leader of the project "**Forest-Atmosphere Interactions**" financed by the Academy of Finland (600 000 mk), 2001-03; Principle investigator in the project "**Cross-disciplinary approach to determination of carbon balance of forests**" financed by the Academy of Finland (605 000 mk), 2001-03; Principal investigator in the EU project NOFRETETE (**Nitrogen oxides emissions from European forest ecosystems**) (216 000 EURO ~ 1 300 000 mk), 2001-04; Co-ordinator in the project "**Trace gas exchange over boreal landscapes**" by University of Helsinki (total sum 1 500 000 mk), 2001-03; Team leader in the Centre of Excellence of Academy of Finland "**Physics, Chemistry and Biology of Atmospheric Composition and Climate Change**" (290 000 EURO), 2002-06; Team leader in the Nordic Centre of Excellence "**Studies of Ecosystem Carbon Exchange and its Interaction with the Climate System**", (total Finnish funding 300 000), 2003-07; Activity leader in EU project **Carboeurope** (170 000 EURO), 2003-08; Principal investigator in "**Measurement and modeling of aerosol particle dry deposition into forest**" by Nessling foundation (55 000 EURO), 2004-06; Principal investigator in "**Environmental effects of the Kola air pollution sources in Kola area and in Finnish Lapland**" by Ministry of Environment (100 000 EURO), 2004-08; Co-

ordinator in the project **"Responses of Boreal Ecosystem Carbon exchange to changing environment in different spatio-temporal scales"** by University of Helsinki (total sum 440 000 EURO), 2005-07; Principal investigator in EU project **NitroEurope** (250 000 EURO), 2006-10; Principal investigator and Management committee member in EU project **IMECC** (140 000 EURO, 2007-10); Principal investigator and Management committee member in EU project **ICOS** (190 000 EURO, 2008-12); Co-ordinator in the project **"Exchange of Greenhouse Gases between Ecosystems and Atmosphere - Field Measurements and Modeling"** by Academy of Finland (240 000 EURO), 2008-10; Vice leader in **"Finnish Centre of Excellence in Physics, Chemistry, Biology and Meteorology of Atmospheric Composition and Climate Change"**, 2008-14; Principal investigator EU project **BRIDGE** "Sustainable Urban Planning Decision Support Accounting for Urban Metabolism" (160 000 EURO, 2008-10); Principal investigator in **Ubcasting project** by Tekes (200 000 EURO), 2008-09; Principal investigator/Steering group member in **ICOS preparation project** by University of Helsinki (150 000 EURO); Chair of COST action **"Advancing the integrated monitoring of trace gas exchange between biosphere and atmosphere"**, 2009-2011; Principal investigator in **Ubcasting 2** by Tekes (240 000 EURO), 2009-2011; Principal investigator EU project **GHG-Europe** (150 000 EURO, 2010-13); Co-ordinator in **ICOS-Finland** by Ministry of Education and Culture (2 000 000 EURO, 2010-11); Work package leader in **DEFROST** "Impacts of a changing cryosphere-depicting ecosystem-climate feedbacks from permafrost, snow and ice" (Nordic Centre of Excellence) (150 000 EURO, 2010-15)

3.2 Major stipendiary support since 2000

Centre for International Mobility: grant (45 000 mk) for Anca Gaman 2000; The Finnish Society of Sciences and Letters: grant (40 000 mk) for conference costs 2001; The Finnish Society of Sciences and Letters: grant (100 000 EURO) for an instrument 2002; The Finnish Society of Sciences and Letters: grant (5 000 EURO) for conference costs 2002; The Finnish Society of Sciences and Letters: grant (4 000 EURO) for research visits 2005; The Finnish Society of Sciences and Letters: grant (6 000 EURO) for research visits 2006; The Finnish Society of Sciences and Letters: grant (45 000 EURO) for Ph.D. student (2007-2010); Nessling Foundation: grant (20 000 EURO) for Ph.D. student 2010

4. Supervised theses

4.1 Doctoral theses

Üllar Rannik, 1998; Tuula Aalto, 1998; Gintautas Buzorius, 2000; Sanna Sevanto, 2003; Tanja Suni, 2004; Tiina Markkanen, 2004; Martti Perämäki (forest ecology), 2005; Teemu Hölttä, 2005; Eija Juurola (forest ecology), 2005; Mika Aurela, 2005; Nuria Altimir (forest ecology), 2006; Mari Pihlatie, 2007 (environmental sciences); Terhi Riutta, (forest ecology), 2008; Maarit Raivonen (forest ecology), 2008; Leena Järvi, 2009; Tea Thum (2009); Samuli Launiainen (2011)

4.2 Master theses

Veli-Matti Kerminen, 1991; Pekka Korhonen, 1993; Tuula Ahonen, 1994; Anu Kousa, 1996, University of Kuopio, Department of Applied Physics (UKuo, DAP); Niina Rusko, 1996, (UKuo, DAP); Timo Mattila, 1996; Heikki Lihavainen, 1996, (UKuo, DAP); Harri Kokkola, 1997, (UKuo, DAP); Petri Tiitta, 1997, (UKuo, DAP); Tiina Markkanen, 1997; Anu Penttinen, 1998 (UKuo, DAP); Teemu Hölttä, 1999, (University of Jyväskylä, Department of Physics); Mikko Strahlendorff, 2003; Jukka Raittila, 2004; Samuli Launiainen, 2005; Natalia Pimenoff, 2005; Leena Järvi, 2005; Risto Taipale, 2006; Hanna Hannuniemi, 2008; Annika Nordbo, 2009; Irina Hannukainen, 2010; Elina Viren, 2010

4.3 Present students under supervision

Hermann Aaltonen (2nd supervisor), Pavel Alexeychik (2nd supervisor; graduate), Sami Haapanala (2nd supervisor), Tiia Grönholm (2nd supervisor), Petri Keronen, Antti-Jussi Kieloaho (2nd supervisor), Janne Korhonen, Liisa Kulmala (2nd supervisor), Annika Nordbo, Olli Peltola (2nd supervisor; graduate), Risto Taipale (2nd supervisor), Mei-Kuei Tu, Gopalkrishnan Venugopalan (2nd supervisor), Kai Wang (2nd supervisor)

5. Scientific expert duties

5.1 Referee for scientific journals

Atmospheric Environment 1992-, Journal of Aerosol Science 1993-, Silva Fennica 1996-, Acta Forestalia Fennica 1998-, Journal of Geophysical Research 1999-, Boreal Environment Research 1999-, Hydrology and Earth System Sciences 2000-, Agricultural and Forest Meteorology 2000-, Tree Physiology 2000-, Forest Ecology and Management 2000-, Global Change Biology 2001-, Tellus 2001-, International Journal of Biometeorology 2002-, Plant, Cell and Environment, 2002-, Geophysical Research Letters, 2003-, Boundary Layer Meteorology, 2004-, Trees, 2005-, Atmospheric Research, 2005-; Plant Physiology 2006-, Annals of Botany 2007-; Global Biogeochemical Cycles 2007-; J. Applied Meteorology and Climatology, 2007-; Ecological Monographs, 2008-; Nature, 2008-; Biogeosciences, 2008-; J. Experimental Botany, 2008-; Plant Biology, 2009-; Plant Ecology, 2010-

5.2 Reviewer of research project proposals, nominations etc.

ALW, Netherlands Organization for Scientific Research 2001; Harvard University 2001; Metsäteho Oy 2001; North South Research Programmes, Ireland, 2003; Canadian Foundation for Climate and Atmospheric Sciences (CFCAS), Canada, 2005; Grant Agency Academy of Sciences of the Czech republic, 2005; Finnish Meteorological Institute, 2006; Austrian Science Fund, 2006; Lund University, 2007, 2008; US National Science Foundation, 2007-; Israel Science Foundation, 2009-; COST, 2009-; Helsinki University Centre for Environment , 2010-

5.3 Referee of theses

Markus Olin, 1993, Doctoral Thesis, University of Helsinki, Faculty of Science; Risto Hillamo, 1994, Doctoral Thesis, University of Helsinki, Faculty of Science; Janne Rinne, 2001, Doctoral Thesis, University of Helsinki, Faculty of Science; Arto Pennanen, 1995, M.Sc.Thesis, University of Kuopio, Department of Applied Physics; Jari Härkönen, 1996, Licentiate Thesis, University of Helsinki; Aarno Ojala, 1998, M.Sc.Thesis, University of Helsinki; Priit Tisler, 2002, Lic. Thesis, University of Helsinki; Ari Ikonen, 2002, M.Sc.Thesis, University of Kuopio; Jussi Ylinen, 2003, Lic. Thesis, University of Jyväskylä; Tuomo Suortti, 2005, Lic. Thesis, University of Helsinki

5.4 Opponent in Doctoral Dissertations

6.7.2001, Alexei Nadykto, University of Kuopio, Faculty of Science; 4.6.2003, Qingguo Wang, University of Joensuu, Faculty of Forestry; 3.12.2003, Amir Shakib-Manesh, University of Jyväskylä, Faculty of Mathematics and Natural Sciences; 12.12.2007, Richard Thomas, University of Manchester; 8.6.2010, Petra Kroon, Technical University Delft

5.5 Other

-Review of the book Radiative Transfer in the Atmosphere and Ocean by G.E. Thomas and K. Stamnes to journal Agricultural and Forest Meteorology (2003)
-Member of the management committee of COST action 735 "Tools for assessing global air-sea fluxes of climate and air pollution relevant gases" Participant in "Micrometeorological techniques for in situ measurements of greenhouse gases exchange" (Greenflux) Marie Curie Host Fellowship Action
-Chairman for the contention "Use of peat for energy" The Finnish Society of Sciences and Letters

6. Positions of trust

6.1 Organizer or Co-organizer of the international scientific conferences with established status

European Aerosol Conference, Helsinki, 18th-22nd September, 1995; International Conference on Nucleation and Atmospheric Aerosols, 26th-30th August, 1996; Integrated Land Ecosystem - Atmosphere Processes Study Conference, Helsinki 29th-3rd October,

2003; II CBACCI seminar for teachers, Helsinki, 2nd-3rd December, 2004 (Org.); ICOS conference and stakeholder meeting; ICOS ecosystem workshop, 31 May – 3 June, 2010

6.2 Organizer or Co-organizer of other scientific conferences

Workshop on the atmospheric dispersion of hazardous materials, Helsinki, 25th October, 1989; EUROFLUX workshop, Hyytiälä, 10th-12th December, 1998 (Organizer); Workshop on stochastic models for turbulent transport processes, Berlin, 23th-25th October, 2000; CARBOEUROFLUX workshop, Hyytiälä, 10th-12th January, 2001 (Org.); Workshop on Water transport in woody plants and linkages to plant structure and productivity, Hyytiälä, 14th-16th March, 2001 (Org.); Workshop on Phenology and CO₂ and H₂O fluxes, Hyytiälä, 3rd-5th September, 2001; 2nd INTAS Footprint Workshop, Thurnau, Germany, 29 September - 3 October, 2001; NOFRETETE workshop on N₂O and NO fluxes, Hyytiälä 25th-27th November 2002 (Org.); CORE Climate- Biosphere Interactions Workshop, Hyytiälä 8th-9th January 2003 (Org.); 3rd INTAS workshop on Flux and Concentration Footprints, Hyytiälä 26th-28th May 2003 (Org.); NECC workshop for flux measurement methodologies, 5th-6th September, 2006 (Org.); IMECC workshop for CO₂ flux measurement techniques, 18-20 June, 2007 (Org.); Workshop on Past, Present and Future Climate Dynamics, 22-23 October, 2007 (Org.); Workshop on eddy covariance flux measurements of CH₄ and N₂O exchanges, 8-11 April, 2008 (Org.); 10th Anniversary Euroflux workshop, 10-12 December, 2008 (Org.); COST workshop on Advancing the integrated monitoring of trace gas exchange between biosphere and atmosphere, 18-20 May, 2009 (Org.); BRIDGE Urban Metabolism and sustainable planning workshop, 11-12 June, 2009

6.3 Invited talks in the international scientific conferences with established status

- Overview on surface fluxes, *1st iLEAPS Science Conference*, 28.1.2006, Boulder, USA
- Turbulence and Biosphere-Atmosphere Exchange Processes, 17.4.2007, *Annual Meeting of European Geophysical Union*, Vienna, Austria.
- Atmosphere-Biosphere Interactions: from Karman Vortices to Soil Microbial Decomposition, *Physics Days*, 13.3.2009, Espoo, Finland.
- Dynamics of nocturnal exchange of ozone and carbon dioxide in and above a boreal forest canopy. *2nd Integrated Land Ecosystem-Atmosphere Processes Study (iLEAPS) Science Conference*, Melbourne, Australia, 28.8.2009

6.4 Editorial board membership

Report Series in Aerosol Science 1991-, Boundary Layer Meteorology 2005-, Associate Editor J. Geophysical Research 2007-, Agricultural and Forest Meteorology 2008-, Forests 2009-

6.5 Membership in scientific societies

The Finnish Association for Aerosol Research, Member of executive committee; Finnish Physical Society; The Finnish Society of Forest Science; The Finnish Society of Sciences and Letters; Geodetic-Geophysical National Committee of Finland

6.6 National and international infrastructures

- Steering group member in ESFRI ICOS (Integrated Carbon Observation System) preparatory phase project
- Co-ordinator of ICOS Finland

7. Awards

The Finnish Aerosol Award for theoretical work in aerosol science, 1991 Väisälä Award for meteorological research, The Finnish Society of Sciences and Letters, 2003 The 2004 Norbert Gerbier-MUMM International Award for the paper: B.E. Law et al., Agric. Forest Meteorol. 113; 97, 2002

13.1.2011, Timo Vesala