

CV September 10, 2014

A. Personal data

TERHIKKI MANNINEN

Ilmatieteen laitos

PL 503

FI-00101 Helsinki

Tel: 050 407 7899

Terhikki.Manninen@fmi.fi

Date of birth: June 3, 1956

Nationality: Finnish

Employer, beginning January 1, 2003: Finnish Meteorological Institute

Position, beginning January 1, 2014: Head of the Satellite and Radar Applications group,
Senior Research Scientist

B. Education:

M. Sc. in Physics (Distinction), Helsinki University of Technology, 1981

(Low temperature physics, "Platinum-NMR –thermometer in precision measurements", in Finnish)

Lic. Tech. in Physics, Helsinki University of Technology, 1986

(Semiconductor physics, "Mathematical modelling of epitaxial growth of silicon, in Finnish)

Dr. Tech. in Physics, (Helsinki University of Technology, 1996

(Remote sensing, "Microwave Surface Backscattering and Surface Roughness of Baltic Sea Ice")

Participation in the Creativity training arranged by Vaisala 1982

Participation in the Analytic troubleshooting training arranged by Vaisala 1982

Participation in the manager education arranged by Finnish Meteorological Institute in 2008-2010.

Language proficiency: Finnish (native), English (good), Swedish (good), Germany (modest),
French (modest)

C. Previous positions and mobility:

1977-1978, Helsinki University of Technology, Department of Mechanics, Part time assistant

1978-1981, Helsinki University of Technology, Low Temperature Laboratory, research assistant

1981 – 1986, Vaisala Oy, Department of Microsensors, process research and development

1986 - December, 1994, Finnish Institute of Marine Research, Department of Physical Oceanography,
research scientist

January 1995 – December 2002, VTT (Technical Research Centre of Finland), Senior research scientist

January 2003-, Finnish Meteorological Institute, Senior research scientist, 2006-2007; Deputy Head of
the Satellite Applications group: 2008-2013, Head of the Surface Remote Sensing group

D. Professional activities and achievements

Expert and reviewer tasks:

- Evaluation of Norwegian Research Council proposals during 2011 - 2015
- Regular reviewer in several international journals, such as IEEE Transactions on Geoscience and Remote Sensing, Remote Sensing of Environment, Journal of Geophysical Research, Geoscience and Remote Sensing Letters, Remote Sensing, Photogrammetric Engineering and Remote Sensing.

Supervision of thesis:

- M.Sc. thesis of Aku Riihelä, 2007 (Helsinki University of Technology, Laboratory of Space Technology)
- B.Sc. thesis of Tuure Karjalainen, 2010 (Metropolia, Land Surveying Technology)
- Techniciens Supérieurs Exploitation thesis of Mélanie Remy, 2011 (Ecole Nationale de la Météorologie)
- B.Sc. thesis of Antti Kokko, 2011 (University of Helsinki, Department of Physics)
- B.Sc. thesis of Niina Puttonen, 2012 (University of Helsinki, Department of Physics)
- M.Sc. thesis of Emmihenna Jääskeläinen, 2012 (University of Tampere, Department of Mathematics and Statistics)
- PhD thesis of Aku Riihelä (Aalto University, Department of Radio Science and Engineering) 2008-2014.

Ongoing supervision of thesis:

- PhD thesis of Kati Anttila (University of Helsinki, Division of Geophysics and Astronomy), 2009-
- PhD thesis of Emmihenna Jääskeläinen (University of Helsinki, Department of Mathematics and Statistics, 2013-

Inspection of thesis:

- M.Sc. thesis of Eeva Bruun (University of Helsinki, Department of Forest Sciences) 2011
- M.Sc. thesis of Kalle M. Vanhatalo (University of Helsinki, Department of Forest Sciences) 2012
- M.Sc. thesis of Pezhman Safdari (University of Helsinki, Department of Forest Sciences) 2015

Positions of trust and memberships in councils, boards, committees, networks, scientific associations, etc:

- Participation in the Scientific Advisory group of ENVISAT/ASAR 2001 – 2002
- Member of the steering group of the project Satellite Application Facility on Climate Monitoring (EUMETSAT) 2006-2007.

Experience of leadership (department, research group, etc.):

- Head of the Surface remote sensing group of the Earth Observation Unit of Finnish Meteorological Institute 2008-2013. (Deputy head 2006-2007.)
- Head of the Satellite and radar applications group of the Meteorological Research Unit of Finnish Meteorological Institute since 2014.

Joint efforts and cooperation, e.g., with industry, trade and business life:

- During VTT period several projects had industrial partners, such as Masa Yards, Stora Enso etc.

Participation in/organization of conferences, workshops, etc.:

- Participation in numerous conferences such as IGARSS, PEERS, URSI, EUMETSAT Meteorological satellite symposia, PolINSAR and various other symposia arranged by ESA.
- Chairman in two sessions of IGARSS'12
- Chairman of one session in URSI 2016

Administrative assignments (teaching, research, general, etc.):

- Research activities in Helsinki University of Technology, Finnish Institute of Marine Research, VTT and Finnish Meteorological Institute
- Teaching assistant at Helsinki University of Technology
- Occasional lecturing of University of Helsinki and Helsinki University of Technology
- General administration of Surface Remote Sensing group at Finnish Meteorological Institute

Public appearances, tutorials, talks:

- Numerous conference presentations

Invited talks:

- Joint NASA LCLUC Science Team Meeting & GOF-C-GOLD/NERIN, NEESPI Workshop, in Tartu, Estonia August 25-28, 2010 ("Field Experiments in northern Europe: SNORTEX")

External research funding:

Funding acquisition from TEKES, ESA, EU, SA and EUMETSAT since 1990's.

Current international research projects:

Project supported by EUMETSAT:

- Participation in project Satellite Application Facility on Climate Monitoring CM-SAF (Coordinator DWD), CDOP2 phase 2012 – 2017.
- PI in the SCOPE-CM project of WMO "Multiplatform surface albedo demonstrator from polar-orbiting satellites". Other participants are NOAA, University of Massachusetts Boston and EUMETSAT. 2014 -2016.

Project supported by ESA:

- Principal investigator of the SOAR-EU project ID-16829 "Estimation of the aerodynamic roughness z_0 of snow/sea ice using Radarsat-2 fully polarimetric data (ZZERO)" 2014 – 2017

Project supported by EC:

- Participation in the Life+ project "Climate change indicators and vulnerability of boreal zone applying innovative observation and modelling techniques" (Monimet) (PI Arslan) 2013-2017, LIFE12 ENV/FI/000409)

Previous international research projects:

Projects funded by ESA:

- Participation in Study of Microwave interaction with the Earth's surface in (PI Hallikainen) 1989, ESTEC Contract 8447/89/NL/PB(SC)
- Participation in project "Scatterometer & Radiometer Land Applications" (PI Hallikainen) 1995 - 1996, ESRIN Contract: 11122/94/I-HGE(SC)
- Participation in project "Retrieval Algorithms for Active Remote Sensing" (PI Le Toan) 1996 - 1998, ESTEC Contract: 12008/96/NL/NB(SC)
- Participation in project "The Retrieval of Geo- and Bio-Physical Information from Remote Sensing Data" (PI Bach) 1998 - 2000, ESTEC, Contract: 12950/98/NL/GD.

- Participation in the ESA project “Geostationary High Resolution Optical Mission: How to Perform Atmospheric Correction (GEO-HR)”, (PI Hedley) 2012 - 2013, ESA ITT AO/1-7084/12/NL/AF.

Projects supported by EUMETSAT:

- Participation in project Satellite Application Facility on Climate Monitoring CM-SAF (Co-ordinator DWD), POP phase 2003.
- Participation in project Satellite Application Facility on Climate Monitoring CM-SAF (Co-ordinator DWD), IOP phase 2003 – 2007.
- Participation in project Satellite Application Facility on Climate Monitoring CM-SAF (Co-ordinator DWD), CDOP phase 2007 – 2012.

Projects supported by ESA:

- Participation in ERS-1 Application Oriented Pilot Project PIPOR/Finland (PI Leppäranta) 1990 - 1993
- Participation in ERS-1 Application Oriented Pilot Project "Operational sea ice charting using ERS-1 SAR images (OSIC)" (PI Grönvall) 1993 - 1994.
- Participation in the ESA ENVISAT AO-project "ENVISAT and sea ice properties in the Baltic Sea" (ESSI) (PI Grönvall) 2000-2001 funded by TEKES, FIMR and VTT.
- Principal investigator of the ENVISAT AO-project "ENVISAT in boreal forest mapping and LAI estimation (ENBOR FORMAL)". Funded by TEKES, FFRI and VTT 1998 – 2004 and by FMI 2003 - 2004.
- Principal investigator of the ESA AO-project "Arctic albedo from SAR (ARCS)" 2009 - 2014.

Projects supported by EC:

- Participation in project "European Forest Observations by Radars" (Co-ordinator Le Toan) 1996 - 1998. Contract ENV4-CT96-0303. The project was also funded by the Technology Development Centre and the Finnish Academy of Sciences.
- Participation in project “Satellite Evaluation co-operation Network NorSEN (Co-ordinator Kyrö)” 2005-2007.
- Participation in the FP7 project “Infrastructure for the European Network for Earth System Modelling (IS-ENES)”, 2009 – 2013, Coordinator CNRS.
- Participation in the FP7 project “Coordinating Earth Observation Data Validation for RE-analysis for Climate Services (CORE-CLIMAX)”, 2013-2015, Coordinator University of Twente.

Other international scientific activity:

- Participation in the VALERI network 2003 -
- Organization of the SNORTEX campaigns 2008, 2009 and 2010
(<http://media.seitasaatio.fi/mediapaja/NETTIVIDEOITA/Webbisivu/Snortex.html>) in Sodankylä together with Météo-France.
- Participation in the NEESPI network 2009 –
- Participation in the COST ES0903 network 2009 –
- Participation in the COST ES1404 network 2014 -

Number of publications and/or artistic achievements:

- Above 50 peer reviewed papers in international journals.
- Altogether over 140 publications.

Citation statistics (number of citations, h-index):

- The Web of Science h-index is 13 (in Remote Sensing, 2015).