

CURRICULUM VITAE

Anni Määttänen

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1 Personal data

Anni Elisa Määttänen

19th April 1979, Mikkeli, Finland

Research scientist (chargée de recherche) of the CNRS, LATMOS, Guyancourt, France

LATMOS (Laboratoire Atmosphères, Milieux, Observations Spatiales)

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2 Education and Training

- Tampereen yhteiskoulu, Tampere, Finland: 1998 Matriculation examination
- University of Helsinki (UH), Finland: 2002 M.Sc. (meteorology)
- University of Helsinki, Finland: Ph.D. (meteorology), 1.9.2002-23.11.2007. Thesis title "Investigations of planetary boundary layer processes and particle formation in the atmosphere of planet Mars", supervisors: prof. Hannu Savijärvi and Dr. Hanna Vehkamäki)

3 Language skills

Finnish: mother tongue

English and French: fluent, good professional vocabulary

Italian and Swedish: working knowledge

4 Previous professional appointments

Finnish Meteorological Institute (FMI):

- Acting weather observer 1995-2000
- Research assistant: 1998 (2 months), 1999 (3 months)
- Researcher (Ph.D. student in the Graduate school in astronomy and space physics) 1.1.2007-31.12.2007

University of Helsinki (UH), Department of Physical Sciences:

- Fee-paid course assistant 2001-2005 (in total 84 hours)
- Fee-paid lecturer 2006-2007 (in total 41 hours)
- Research assistant 1.6.2001-30.6.2002
- Research scientist 1.9.2002-31.12.2005
- Researcher on a grant 1.1.2006-31.12.2006
- Ph.D. student in the Graduate school in astronomy and space physics 1.1.2007-31.12.2007

Centre National d'Etudes Spatiales:

- Postdoctoral researcher in LATMOS, France, 1.1.2008-30.9.2009

Centre National de la Recherche Scientifique:

- Research scientist (chargée de recherche), LATMOS, France, 1.10.2009-

5 Scientific expertise

- Analysis of satellite observations (Mars Express, Mars Reconnaissance Orbiter)
- Nucleation theory and modeling (theory and atmospheric applications)
- Cloud microphysics (Mars CO₂ ice clouds, Venus sulfuric acid clouds)
- Planetary boundary layer modeling

Publications

- 23 peer-reviewed articles
- 2 book chapters
- 104 conference abstracts (1 invited)

Distinctions

- Prime d'Excellence Scientifique of the CNRS (2011-2014)

6 Teaching experience

Supervisor of Master students (if co-supervisor, percentage given):

- Constantino Listowski, LATMOS (M2, 03-06/2009, 50%)
- Lucky Puspitarini, LATMOS (M2, 03-06/2011, 50%)
- Sabrina Guilbon, LATMOS (M1, 04-06/2013)
- Sabrina Guilbon, LATMOS (M2, 03-06/2014, 50%)

Supervisor of Ph. D. students (if co-supervisor, percentage given):

- Constantino Listowski, "Modélisation des nuages de dioxyde de carbone (CO₂) sur Mars: application aux nuages mésosphériques", 1.10.2010-2.12.2013 (50%)
- Sabrina Guilbon, "Modélisation des nuages vénusiens : développement d'un modèle de nuages pour un modèle de climat vénusien global", 1.10.2014- (50%)

Qualification:

- Qualification of the Conseil National des Universités (France) 2008-2012.

Lectured courses (UH, Division of Atmospheric Sciences):

- Spring 2005: Lecture on planetary atmospheres on the course Introduction to meteorology and weather observations (1h)
- Spring 2006 and spring 2007: Introduction to meteorology and weather observations (total: 40 hours of lectures, 16 hours of exercises)

Supervising exercise classes:

- Autumn 2001, UH, Physics department: Physical climatology (10 h)
- Autumn 2002, UH, Physics department: Physics of the boundary layer I (10 h)
- Spring 2003, UH, Physics department: Dynamic meteorology II (22 h)
- Autumn 2003, UH, Physics department: Dynamic meteorology III (20 h)
- Spring 2004, UH, Physics department: Dynamic meteorology II (22 h)

Development and planning of teaching, UH Dept. of Physical Sciences:

- Planning of a change in evaluation methods in the course 'Introduction to meteorology and weather observations' during spring 2006. The changes were applied and tested during springs 2006&2007 and introduced in a national conference aimed at improving university teaching.

7 Research grants and major stipendiary support

Research grants and projects

- Responsible of the ATMARVEN 2011 and 2014 projects funded by the PNP (Programme National de Planétologie) for the Mars/Venus group of LATMOS (2011: 7000e, 201: 8000e). Collaborator in several other ATMARVEN projects 2010-
- Participant in the UPWARDS H2020 project, 2014- (coordinator: M.-A. Lopez Valverde, IAA, Granada, Spain)
- IPSL Solar System Group grant for inviting Prof. H. Vehkamäki for a visit of one week (October 2013)
- CNES grant for post-doctoral scientific research (21 months), 2008-2009, France
- Responsible for partner LATMOS in the Europlanet-RI H2020 project (submitted)
- Responsible for partner LATMOS of ANR project VENICE (VENus Investigations of Clouds and upper atmospherE), submitted in 2013 (not selected), resubmitted in 2014.

Awards, honours and major stipendiary support

- Idman foundation, personal grant (approx. 250 euros) 2000
- Kiukas foundation, personal grant (approx 830 euros) 2001
- European Space Agency, 2 travel grants (1000 euros) 2002,2006
- Väisälä foundation, 4 travel grants (7600 euros) 2002,2003,2004,2006
- Magnus Ehnrooth foundation, 4 travel grants (6400 euros) 2003,2005,2006,2007
- Association Franco-finlandaise pour la recherche scientifique et technique, travel grant (1000 euros) 2005
- Jenny and Antti Wihuri foundation, travel grant (2000 euros), 2005
- Alfred Kordelin Foundation Grant for scientific Ph.D. thesis work, 2006 (12 months)
- Emil Aaltonen foundation, travel grant (1800 euros) 2008

8 National and international networking

International research visits

- Observatoire de Paris, Meudon, France: 5 visits of 1 month during 2005-2007.
- Universidad Complutense de Madrid, Madrid, Spain, 11.-18.12. 2009
- Jet Propulsion Laboratory, CA, USA, 11.-12.10. 2011 and 11.7.2014
- Several visits to the University of Helsinki since position in France
- ESTEC, Noordwijk, the Netherlands, 6.-8.6.2012

Collaborations (few examples)

- Mars Express instrument teams (OMEGA, PFS, SPICAM, HRSC)
- MEx/OMEGA, MEx/SPICAM, MRO/MCS collaborations
- Co-I of the ExoMars Climate Sounder
- Co-I of SPICAM/Mars Express
- Co-I of Optical Depth Sensor (ODS/ExoMars)
- Science Team of ACS/TGO (IKI, Russia)
- Univ. Helsinki: nucleation studies, Mars boundary layer studies
- JPL and LESIA/Observatoire de Paris: MCS limb data analysis
- Mars Global Climate Model collaboration with the LMD (Paris)
- Finnish Meteorological Institute: the MetNet project
- Universidad Complutense de Madrid: Martian boundary layer

9 Membership in scientific societies

- Division for Planetary Sciences of the American Astronomical Society, 2005 -
- American Geophysical Union 2005 -
- The Finnish Association for Aerosol Research, 2006 -
- European Geophysical Union 2010 -

10 Other academic and professional activities

Organizational duties and responsibilities

- Co-responsible of the scientific department IMPEC of the LATMOS laboratory (with Cyril Szopa, 02/2014-)
- Tutor of Ph.D. students at LATMOS 05/2012-
- Mentor in the EGU Women in Geosciences mentoring program (2011-2012)
- Co-organizer of the LATMOS internal colloquium, April 2011, and the related departmental seminars (March-April 2011)
- Proposal manager and Co-I (03-04/2010) in the MIRTIS project, sent to the Announcement of Opportunity of NASA for the Mars Trace Gas Orbiter 2016.
- Convener of the EGU session “Atmospheres for terrestrial planets” 2014- (Co-convener 2010-2013)

- Responsible of organizing the seminars of LATMOS (09/2009-03/2012)
- Initiator, organizer and chair of biweekly guidance meetings for Ph.D. students and post-doctoral researchers in LATMOS 2008-2010 (still ongoing as monthly meetings).
- Organizer of SPICAM/SPICAV instrument group meetings in LATMOS 2008-2011.
- Co-organizer of visits of M2 students (Astronomy&Astrophysics) in LATMOS (2008&2009)
- Co-organizer of Mars group meetings of UH and FMI 2002-2007.
- Co-organizer of the simulation group guidance meetings in UH, 2005-2007.
- Responsible of activity reports of the simulation subgroup of UH, 2005-2007.
- Responsible of organizing exams in meteorology at the Department of Physics in University of Helsinki, 2002-2004.
- Participation in the organisation of the Space 2003 and Space 2005 expositions in Helsinki, 2003 and 2005

Referee of academic degrees

- Examiner of the Ph. D. of G. Martínez-Martínez, U. Complutense de Madrid, Madrid, Spain, June 2010

Representative in national and international groups and associations

- Representative of LATMOS in the Working Group "Animation scientifique" of the department "Science de la Planète et de l'Univers" of the Paris-Saclay University
- Member of the International Space Science Institute Team "Venus clouds" (2013-2014)
- Member of the International Space Science Institute Team "Mars Planetary Boundary Layer" (2009-2010)
- Member of the International Commission of Planetary Atmospheres Environments and their Evolution (ICPAE, 2009-)
- LOC member of The Fourth Mars Atmosphere Modeling and Observations Workshop, Paris, France, 8.-11.2.2011

Referee of Scientific Journals

- Journal of Geophysical Research (Planets)
- Icarus
- Planetary and Space Science

Invited presentations

- Invited presentation: A. Määttä et al. : Equatorial CO₂ clouds on Mars: OMEGA and HRSC data analysis. Third International Mars Atmosphere Modelling and Observations Workshop, Williamsburg, USA, 10.-13.11.2008.
- Invited talk for a general public at “The Physics Days”, the 45th annual meeting of the Finnish Physical Society, Helsinki, Finland, 29.3.2011.

Seminars

- 16.11.2006, Service d’aéronomie, Verrières-le-buisson, France: Particle formation in the Martian atmosphere.
- 24.11.2006, Laboratoire de Météorologie Dynamique, Paris, France: Particle formation in the Martian atmosphere.
- 1.12.2006, Observatoire de Paris, Meudon, France: Particle formation in the Martian atmosphere.
- 26.1.2007, University of Helsinki, Helsinki, Finland: Particle formation in the Martian atmosphere. Seminar series for graduate students.
- 14.3. 2007, University of Helsinki, Helsinki, Finland: Aerosol and boundary layer processes in the Martian atmosphere. Research seminar of the graduate school in astronomy and space physics.
- 28.3.2007, University of Helsinki, Helsinki, Finland: Weather on Mars: sunshine or dust storms? Seminar series in aerosol and environmental physics.
- 4.4.2007, University of Helsinki, Helsinki, Finland: Particle formation in the Martian atmosphere. Seminar series in aerosol and environmental physics.
- 5.12.2007, Observatoire de Paris, Meudon, France: A local dust storm seen by MEx/OMEGA and MEx/PFS.
- 22.1.2009, Observatoire de Paris, Meudon, France: Les nuages de CO₂ équatoriaux sur Mars: une étude combinée MEx/OMEGA et MEx/HRSC.
- 15.12.2009, Universidad Complutense de Madrid, Spain: The Martian Planetary Boundary Layer

Outreach

- Invited talk for a general public in “The Physics Days”, the 45th annual meeting of the Finnish Physical Society, Helsinki, Finland, 29.3.2011.
- Organiser of School of Science for a group of high school (physics) students of the Mikkeli high school in October 2012, 2013 and 2014. Three days of visits in laboratories (LATMOS, IAS) and a science centre (Cité des Sciences) in the Paris area.
- Participation in the Open Doors at LATMOS of the Fête de la Science (2012, 2013, 2014)
- Participation in two articles in Science&Vie magazine (January 2013, February 2014)

Formation and training courses

- Selected participant of the CNRS formation "Jeunes Talents" 2014
- METIER (METhods of Interdisciplinary Environmental Research) Graduate Training Course No. 1: Remote sensing of the atmosphere. 25.-29.9.2006, Ispra, Italy. Course offered by PEER (Partnership for European Environmental Research) and funded by the European community: participants selected via application procedure.
- The role of organic aerosols in cloud formation, CBACCI, Hyytiälä, Finland, August 2004
- Measurements of atmospheric aerosols Part I: Basics in aerosol physics and sampling techniques, CBACCI, May 2004, Hyytiälä, Finland
- Arctic air pollution, biosphere-atmosphere relations, CBACCI winter school, March 2004, Värriö, Finland
- Several CBACCI summer and winter schools in Hyytiälä and Värriö (SMEAR I and II stations), Finland, 2003–2004
- Formation and transformation of atmospheric aerosols, CBACCI summer school, June 2003, Hyytiälä, Finland