

## Marc B. Parlange

### President, University of Rhode Island

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### Personal

Born, July 5, 1962, in Providence, R.I., USA, Married, two children

U.S. Citizen; Canadian & Australian Permanent Resident; Professional Engineer (B.C., Canada)

### Higher Education

1990 **Ph.D.** Civil and Environmental Engineering, Cornell University, Ithaca, NY, USA

1987 **M.S.** Agricultural Engineering, Cornell University, Ithaca, NY, USA

1984 **B.S.** Applied Mathematics, Griffith University, Brisbane, Australia

### University Faculty Appointments

2021 - **Professor**, URI, Ocean, Civil, Environmental & Mechanical Engineering

2017 - 2021 **Professor**, Monash University, Dept. of Civil Engineering, Melbourne, Australia

2013 - 2017 **Professor**, University of British Columbia (UBC), Department of Civil Engineering, Faculty of Applied Science, Canada – Affiliate Professor 2019 - 2022

2004 - 2013 **Professor**, Ecole Polytechnique Fédérale de Lausanne (EPFL), Switzerland  
Environmental Eng., School of Architecture, Civil and Environmental Engineering

1996 - 2004 **Professor**, Johns Hopkins University (JHU), USA  
Department of Geography and Environmental Engineering, School of Engineering  
*Joint Appointments:* Mechanical Engineering & Earth and Planetary Sciences  
Center for Environmental and Applied Fluid Mechanics

1990 - 1996 **Assistant & Associate Professor** ('93), University of California, Davis, USA  
Departments: Land, Air and Water Resources (College of Agricultural and Environmental Sciences) & Biological and Agricultural Engineering (College of Engineering)

### University Administrative Experience

2021 - **President**, University of Rhode Island

2017 - 2021 **Provost and Senior Vice-President**, Monash University, Australia

2013 - 2017 **Dean**, Faculty of Applied Science, (Engineering, Architecture, Planning, Nursing), UBC

2008 - 2013 **Dean**, School of Architecture, Civil and Environmental Engineering, EPFL

2004 - 2007 **Director**, Institute (Dept.) of Environmental Engineering, EPFL

2001 - 2004 **Chair**, Department of Geography and Environmental Engineering, JHU

## **Research Interests: Hydrology and Fluid Mechanics in the Environment**

Land-atmosphere exchange; Atmospheric Boundary Layer; Large Eddy Simulation; Turbulence; Water Resources; Hurricanes; Coastal & Urban Environments; Wind Engineering; Snow Physics; Blue Economy.

## **Honors and Awards**

2020	Hydrologic Sciences Medal, American Meteorological Society (Centennial)
2020	Fellow, American Meteorological Society
2017	Member, U.S. National Academy of Engineering
2017	Fellow, Canadian Academy of Engineering
2017	Distinguished Visiting Fellow, Cecil Green College, University of British Columbia
2017	UBC Teaching Award. ' <i>Just desserts</i> ', Student Society (Alma Mater Society)
2015	Fellow, American Association for the Advancement of Science
2010	EPFL Teaching Award, La Polysphere – Agepoly (Student Society).
2009	Hydrologic Sciences Award, American Geophysical Union
2006	Dalton Medal, European Geosciences Union
2004	NCAR Outstanding Publication Award (Joint with NCAR & JHU colleagues)
1998 - 2003	Affiliate Scientist, National Center for Atmospheric Research (NCAR), Boulder
1997	Macelwane Medal, American Geophysical Union
1997	Fellow, American Geophysical Union
1994 (July)	Japan Visiting Lecturer Award in Hydrology and Hydraulics (Organizer, Civil Engineering Research Institute, Sapporo)

## **Editorial and Science Foundation Appointments**

2006 - 2013	Research Council Member, Swiss Science Foundation, Div. 2: Mathematics, Natural and Engineering Sciences. Div. 4: Interdisciplinary.
2004 - 2009	Editor in Chief, Water Resources Research
1997 - 2002	Editor, Advances in Water Resources
1994 - '97, '09 -'15	Editorial Board, Advances in Water Resources
1993 - 1997	Associate Editor, Water Resources Research

## Visiting Appointments

- 2002 - 2003    Professeur Invité: EPFL
- 1991 - 2002    Visiting Scientist: National Center for Atmospheric Research  
(July - Aug.)    Boulder, CO (Host: Dr. Richard Katz)

## Higher Education (*other*)

- 1984 - 1990    Graduate Research Assistant, Cornell University  
1984            Internship – USDA/ARS, Sedimentation Laboratory, Oxford, MS.  
1982 - 1984    Undergraduate Teaching Assistant, Math/Physics, Griffith University

## Courses offered

**UBC (2013 - 2017)** Guest lectures in Engineering Hydrology

### EPFL (2004 - 2013)

- |                               |                                      |
|-------------------------------|--------------------------------------|
| 1. Environmental statistics   | 2. Analytical Hydrology              |
| 3. Hydrology for Engineers    | 4. Environmental Transport Phenomena |
| 5. Engineering Design Project | 6. Quantitative Methods              |
| 7. Fluid Mechanics            |                                      |

### Johns Hopkins University (1996 – 2004)

- |                                 |  |
|---------------------------------|--|
| 1. Fluid mechanics              | 2. Environmental transport phenomena                 |
| 3. Hydrology                    | 4. Micrometeorology & the Atmospheric Boundary Layer |
| 5. Vadose zone hydrology        | 6. Dynamic meteorology                               |
| 7. Applied Math for Engineering | 8. Seminars in Soils, Plants and Hydrology           |

### University of California, Davis (1990 – 1996)

- |                        |   |
|------------------------|---|
| 1. Evapotranspiration  | 2. Fluid Mechanics                                |
| 3. Watershed Hydrology | 4. Seminars in Soils, Plants and Micrometeorology |

## Selected Responsibilities at Monash (2017 - 2021)

**Provost & Senior Vice-President:** Chief Academic Officer of the University. Responsibilities: setting the University's academic strategy and priorities with view to improving the education and research performance of the University; oversight of faculties, academic related portfolios and university-wide centres and institutes oversight of academic staffing including recruitment, development, reward and recognition, policies and procedures; strategic leadership for the delivery of academic programs; identifying and cultivating interdisciplinary areas of excellence and collaboration.

Ten Faculties: Art, Design and Architecture; Arts; Business and Economics; Education; Engineering, Information Technology; Law; Medicine, Nursing and Health Sciences; Pharmacy and Pharmaceutical Sciences; Science: some 67'000 students in Australia, 4'000 academic & 6'000 professional staff

University Library; Monash Sustainable Development Institute (MSDI); Monash University Accident Research Center (MUARC); World Mosquito Program (WMP)  
Student Load Planning and Tuition Pricing  
Monash University Enterprise Bargaining Team  
Scale and Focus – University implementation of the strategic plan (*Focus Monash*) operations

Graduate student program, Higher Degree by Research (HDR) – PhD., M.S. programs.

University Research Strategy themes: **AI & Data Science** [Data Futures Institute]; **Better Governance and Policy** [Policy Futures Institute]; **Health Sciences** [Monash Institute Medical Engineering, Antimicrobial Resistance Center, Healthy Aging]; **Sustainable Development** [Monash Sustainable Development Institute, Energy Institute, Cities Institute, The Melbourne Experiment]

Research Office & Infrastructure; University Research Platforms; Center & Institutes

International Networks of Excellence (U. Warrick, Penn State, UBC, Kings College, U. Newcastle)

European Microbiology Laboratory [EMBL Australia: Australian lead]

Faculty and Graduate Affairs (Chair Promotions & Appointments)

University Academic Board

Committee on Inclusion and Diversity; Athena SWAN Committee

Board of 'Climate Works' (MSDI) & Monash Institute for Medical Engineering (MIME)

Boards: a) Monash Malaysia; b) IIT B – Monash Academy (Mumbai); c) Monash – Warwick Alliance

d) ARC Centre of Excellence for Mathematical & Statistical Frontiers; e) ARC Centre of Excellence in Exciton Science; f) ARC Centre of Excellence for Electromaterial Science.

### **Selected Responsibilities at UBC (2013 - 2017)**

**Dean, Faculty of Applied Science** 2013 (September) – 2017 (June)

Six Departments: Chemical and Biological Engineering, Civil Engineering, Electrical and Computer Engineering, Materials Engineering, Mechanical Engineering, Mining Engineering;

Four Schools: School of Nursing, School of Community and Regional Planning, School of Architecture and Landscape Architecture, School of Engineering @ UBC Okanagan: Civil, Mechanical/Materials, Electrical Engineering.

Established School of Biomedical Engineering, joint with the Faculty of Medicine,

In total: some 8'000 students & 300 faculty.

University Senate, 2013 – 2017

Member, e@UBC Advisory Board, 2016 – 2017

Member, Search committee, Entrepreneur in Residence, 2016

Member, University Sustainability Board, 2013 – 2016

Member, Advisory team, Biomedical Engineering Student Team, 2015 - 2017

Member, Graduate Programs in Engineering, Atmospheric Sciences and Applied Mathematics

Member, Consortium de recherche et d'innovation en aérospatiale au Québec (CARIC), 2014 - 2017

Member, Executive board: Institute for Sustainable Extractive Industries, 2013 – 2015

### **Selected Responsibilities at EPFL (2004 - 2013)**

**ENAC School Dean** 2008 (January) – 2013 (August)

Four Institutes: Architecture, Civil Engineering, Environmental Engineering, Urban Systems.

In total: some 2'000 students, 85 faculty.

**Director Environmental Engineering Institute** 2004 - 2007

Member, Graduate Board, Doctoral Program in Mechanics, 2009 - 2013

Chair, Academic Advisory Board, Landolt Chair for a Sustainable Future, 2008 – 2013

Chair, Science Review Committee, MIR – Lac Lemans Project, 2010 - 2011

Member, Expert Committee, International Centre for Earth Simulation Foundation, 2010 – 2012

Laboratory Spin-Off Company: Sensorscope (Environmental wireless sensing network)

Organizer, EPFL Research Day on Environmental Sustainability (visit of Al Gore), 2008

Member, Planning Board, EPF Competence Center for Environmental Sustainability, 2005 - 2007

Member, 'Direction' of School of Architecture, Civil and Environmental Engineering, 2006 - 2007  
Member or chair, PhD student exam commissions, Graduate groups: Civil and Environmental Engineering, Mechanics, Communication Systems; 2004 -  
Co-Chair, Bois Chamblard Environmental Biodiversity Science Steering Board, 2005 - 2007  
Seminar Organizer, 'EPFL Environmental Engineering Seminar Series', 2004 - 2007  
Scientific Advisor, Press Polytechnique Lausanne 2004 - 2007  
Member, EPFL Masters Fellowship Selection Committee 2005 - 2008

### **Selected Responsibilities at Johns Hopkins University (1996 – 2004)**

**Chair Department of Geography and Environmental Engineering** 2001 (July) – 2004 (June)  
Co-Chair, School of Engineering, Engineering Faculty Assembly, 2000 - 2002  
Chair, Johns Hopkins University Board of Review, 1999-2002  
Seminar Coordinator, Center for Environmental and Applied Fluid Mechanics, '98 -'00, '03 -'04  
Co-Organizer, JHU Student Symposium in Environmental Fluid Mechanics, 2002, 2003, 2004  
Foundation Director, Environmental Engineering Undergraduate Program, JHU 2000 – 2002  
[Environmental Engineering Programs, top ten US News ranking]  
Member, Graduate Fellowship Committee in Environmental Engineering, JHU 1996 - 2002  
Member, Advisory Group, Center for Environmental and Applied Fluids, JHU 1996 - 2004  
Chair or Member, ad-hoc promotion committees (10 JHU)  
Co-Chair, Scientific Computing Initiative, Engineering School, JHU 1999 - 2000  
Chair, Computer Committee, DoGEE, JHU 1996 - 2001

### **Selected Responsibilities at the University of California, Davis (1990 – 1996)**

Chair, Graduate Admissions, Hydrology Graduate Group, UC Davis, 1993 - 1996  
Chair, Field Committee (Campbell Tract), LAWR, UC Davis 1993 - 1996  
Chair and Member, Ad-hoc promotion review committees (3 UC Davis)

### **International Conferences Organized**

Co-Chair with Andrea Rinaldo, Latsis Symposium in Ecohydrology and Environmental Sustainability, EPFL, October 17 - 20, 2010  
  
Chair, Landolt Conference for a Sustainable Future, EPFL, September 26, 2008  
  
Co-Chair with Haydee Salmun, Charles Meneveau, Johns Hopkins Conference in Environmental Fluid Mechanics, April 2 - 4, 1998 *Tribute for Professor Owen Phillips*  
  
Co-Chair with Jan Hopmans, UC Davis Conference in Vadose Zone Hydrology, Sept. 6 - 8, 1995 *Tribute for Professors Donald Nielsen and James Biggar*

### **Membership in Professional Societies and Academies**

US National Academy of Engineering; Canadian Academy of Engineering (Fellow); Engineers and Geoscientists, British Columbia, EGBC (Professional Engineer, Licence: 42087), American Geophysical Union (Fellow); European Geosciences Union (Life Member); American Society of Civil Engineers; American Meteorological Society (Fellow); American Association for the Advancement of Science (Fellow); International Association of Hydrological Sciences; International Union of Geodesy and Geophysics (Swiss President, '10-'13); Société Suisse des ingénieurs et des architectes (section vaud); Phi Kappa Phi Honor Society

## **Selected Service in Professional Organizations**

### **Canadian National Council of Deans of Engineering and Applied Science (NCDEAS)**

NCDEAS vice-chair, 2015 – 2017; Chair elect 2017

Dean's Liaison Committee with the Canadian Engineering Accreditation Board, 2014 – 2017

### **American Geophysical Union**

Member, College of Fellows, New Frontiers Committee, 2019 –

Member, AGU Publications Committee (WRR liaison), 2015 – 2020

Member, Macelwane Award Committee, 2015 – 2019

Member, AGU Centennial Task Force Committee, 2015 - 2016

Chair, Horton Medal Committee, AGU, 2004 - 2006

Member, Horton Medal Committee, AGU, 2002 - 2004

Member, Biogeosciences Foundation Committee, AGU 1999 – 2001

Elected Secretary, Hydrology Section, American Geophysical Union, 1998 - 2000

Member, Water Resources Research Committee, AGU, 1996

Chair, Large Scale Field Experimentation Committee, AGU, 1994 - 1996

Member, AGU, Large Scale Field Experimentation Committee, 1991 - 1996; 2008 -

Annual Session Co-Organizer, Hydrology and Atmospheric Sections, AGU, 1991 - 2010

### **U.S. National Research Council**

Member, International Union committee on Soil Science, 2003 - 2005

Member, Committee on Hydrologic Sciences, 1997 - 2001

### **European Geosciences Union**

Member, Dalton Medal Committee, 2007 – 2009

Annual Session Co-Organizer in Hydrology and Nonlinear Processes, 2002 -

### **U.S. National Science Foundation, U.S. Department of Agriculture & NASA**

Member, ad hoc, Research proposal review panels, 1999 - 2004

**American Meteorological Society:** Member, Hydrology Committee, 1997 – 2000

## **Selected Service in other Universities**

### **External member PhD examination committee**

Lyon – Cemagref, Grenoble University, Environmental Engineering, 2011

Grenoble University, Fluid Mechanics, 2010

KU Leuven, Civil Engineering, 2010

MIT, Civil and Environmental Engineering, 2009

University of Porto, Portugal, Mechanical Engineering, 2008

Wageningen University, The Netherlands, Hydrology, 2007

Univ. Trento, Civil and Environmental Engineering, (4 Dissertations), 2007

University of Western Australia, Water Resources, Perth, 2002

University of Uppsala, Hydrology, Sweden, 2000

## **External member Faculty Search Committees**

Member, WSL Director (ETH domain), Zurich, 2006 – 2007  
Member, EAWAG Director (ETH domain), Zurich, 2004 – 2006  
Member, Professor search, ETH Zurich, 2004 – 2005; Environmental Engineering  
Member, Professor search, EPFL, 2002 – 2004; Civil and Environmental Engineering

## **External Research and Review Committees**

Member, University of Notre Dame, Civil and Environmental Engineering & Geology, 2020  
Member, British Columbia Consulting Engineers Awards Committee, 2016, 2017  
Member, Princeton School of Engineering and Applied Science Review Committee, 2015.  
Member, L'Oreal Women in Science Selection Committee, 2015.  
Member, External Comite d'Audit; Universite Jean Monnet, St. Etienne, 2014 -  
Member, Assessment Board, Environmental Engineering, DTU, Copenhagen, 2013.  
Member, Advisory Board, Dept. of Civil and Environmental Engineering, Princeton Univ., 2013 -  
Member, External Assessment Committee, Laboratoire des Ecoulements Géophysiques et Industriels (LEGI), University of Grenoble, 2010.  
Member, External Assessment Committee, Laboratoire d'étude des Transferts en Hydrologie et Environnement (LTHE), University of Grenoble, 2010  
Member, St. Anthony Falls University of Minnesota External Academic Review Board, 2006  
Member, Committee for assessment of the TU Delft Research Centers, 2006  
Member, Remote sensing research review committee, German National Science Foundation, 2006  
Co-Chair, Education and Research Unit, Hazards and Risks, (ETH Center for Competence in Environmental Sustainability, Management Committee), 2005 - 2008  
Panel Member, Italian Committee for the evaluation of research (Civil Engineering), 2005  
External Member, Committee for Energy and the Environment, Princeton University, 2003 - 2005  
Foreign Advisor, Dutch Royal Academy study in Hydrology, 2003  
Member, Advisory Committee, University of North Carolina, Institute of Math Science 2002 - 2006  
Chair, Committee on Measurement Technology, Consortium of Universities for the Advancement of Hydrologic Science, 2000 - 2002  
Secretary, Western USDA Soil Physics Project W-188, 1993 - 1994

## **Journal Reviewer**

Water Resources Research, Journal of the Atmospheric Sciences, Boundary Layer Meteorology, Journal of Hydrometeorology, Advances in Water Resources, Journal of Applied Meteorology and Climatology, Journal of Fluid Mechanics, Geophysical Research Letters, Journal of Hydrology, Journal of Geophysical Research – Atmospheres, Soil Sciences Society of America Journal, Soil Science, ASCE J. Hydrologic Engineering, Agricultural and Forest Meteorology, Journal of Glaciology, Hydrological Processes, Journal of Wind Engineering and Industrial Aerodynamics, Journal of Hydrometeorology, Journal of Climate, The National Academies: Sciences, Engineering, Medicine.

## **Proposal Reviewer**

NSF, USDA, NASA, NSERC, Swiss, German, Italian, Australian, Georgian, U.K., Israel, EU - Science Foundations; ETH domain Competence Centers in Environmental Sustainability & Energy and Materials.

**Ph.D. Students (year of graduation, present position, thesis title; 25 completed)**

- Gabriel Katul (UCD), 1993, Distinguished University Professor, School of the Environment, Duke University, "Coupled processes near the land-atmosphere interface"
- William Eichinger (UCD), 1995, Professor, Civil and Environmental Engineering, University of Iowa, "Pacific Ocean – Atmosphere feedbacks", Fellowship Los Alamos 94-95
- John Albertson (UCD), 1996, Professor, Civil and Environmental Engineering, Cornell University, "Large eddy simulation of land-atmosphere interaction", Fellowship NASA 94-96.
- Jozsef Szilagyi (UCD), 1997, Professor, University of Nebraska, School of Natural Resources & Budapest University of Technology and Economics, Department of Hydraulic and Water Resources Engineering, Hungary, "A semi-distributed watershed model"
- Tony Cahill (JHU), 1998, Associate Professor, Civil and Environmental Eng., Texas A&M University, "Hydrology at the land-atmosphere interface", Fellowship NASA 96-98; USDA 94-96
- Fernando Porte-Agel (JHU), 1999, Professor, School of Architecture, Civil and Environmental Engineering, EPFL, previously Associate Professor, Civil Eng., Univ. of Minnesota, "Subgrid-scale modeling for the atmospheric boundary layer", Co-advised with Charles Meneveau, Fellowship JHU 96-97
- Markus Pahlow (JHU), 2002, Senior Lecturer, University of Canterbury, Christchurch, New Zealand, "Atmospheric boundary layer dynamics and optical technologies to obtain extinction profiles from elastic lidar"
- Jan Kleissl (JHU), 2004, Professor, University of California, San Diego, Mechanical Engineering, 'Field experimental study of the Smagorinsky model and application to large eddy simulation' Co-advised with Charles Meneveau
- Elie Bou-Zeid (JHU), 2005, Professor, Princeton University, Civil and Environmental Engineering, 'A lagrangian scale dependent dynamic subgrid-scale model: parameterization of surface variability', Co-advised with Charles Meneveau, Wolman Fellowship JHU, '01-'02.
- Mariana Adam (JHU), 2005, British Meteorological Office, Director Lidar Group, 'Elastic lidar techniques for aerosol measurement'
- Chad Higgins (JHU), 2007, Associate Professor, Oregon State University, Biological and Ecological Engineering, 'Geometric Alignments in Atmospheric Boundary Layer Turbulence and Large Eddy Simulation' Co-advised with Charles Meneveau, EPA STAR Fellowship '01-'04
- Vijayant Kumar (JHU), 2008, Vice-President, Data Science and Engineering, Sentient Science, Boston, Mass. 'Land-atmosphere exchange from remote sensing and large eddy simulation' Co-advised with Charles Meneveau, Wolman Fellowship JHU '02- '03
- Marcelo Chamecki (JHU), 2008, Professor, University of California, Los Angeles, 'Dispersion of pollen into the atmosphere' Co-advised with Charles Meneveau, Wolman Fellowship JHU '03- '04
- Martin Froidevaux (EPFL), 2010, Clean Energy Consulting Firm 'Surface layer humidity from raman

lidar', Co-advised with Valentin Simeonov

Nikki Vercauteren (EPFL), 2010, Associate Professor in Meteorology at the University of Oslo, April 2021 'Evaporation from open water bodies'

Marc Calaf Bracons (EPFL), 2011, Associate Professor, Mechanical Eng. Univ. Utah, 'Study of a fully developed wind turbine array boundary layer', Co-advised with Charles Meneveau

Daniel Nadeau (EPFL), 2011, Associate Professor, Laval University, Quebec City, Civil Eng., 'Atmospheric boundary layer dynamics of transitioning flows over complex terrain'.

Theophile Mande (EPFL), 2014, Water Resources Engineer, Burkina Faso, 'Hydrology of the Sudanian Savanna in West Africa, Burkina Faso'

Francesco Ciocca (EPFL), 2014, Research Engineer, Marie Curie Research Fellow, Silixa Ltd and University of Birmingham, 'Physics of water vapor transport in soils, influence of diurnal cycle', Co-advised with Ivan Lunatti

Natalie Ceperley, (EPFL), 2014, Research Associate, University of Lausanne, 'Ecohydrology in water limited Savanna ecosystems'

Marc Diebold, (EPFL), 2014, Senior Hydraulic Engineer, E-dric, Mont-sur-Lausanne, Switzerland, 'Turbulent air flow over snow and rugged topography'

Raphael Mutzner (EPFL), 2015, Senior Hydraulic Engineer, E-dric, Mont-sur-Lausanne, Switzerland, 'Hydrology in high Alpine Environments'

Holly Jane Oldroyd (EPFL), 2015, Assistant Professor, UC Davis, 'Atmospheric turbulence over steep alpine slopes'

Marco G. Giometto (EPFL), 2016, Assistant Professor, Columbia University, Civil Engineering and Engineering Mechanics, 'Theoretical and numerical studies of atmospheric boundary-layer flows over complex terrain' \**Best Thesis Award in the EPFL Mechanics Doctoral School for 2016\**

Varun Sharma (EPFL), 2018, Post-doctoral Associate, SLF – EPFL, 'Wind-energy in mountain environments', Co-advised with M. Lehning

Manuel Schmid (UBC/Monash), 'Turbulence in the Atmospheric boundary layer' (Start 2016), Co-advised with Greg Lawrence

Kelsey Everard (UBC/Monash), 'Katabatic flows: simulation and experiment' (Start 2017), Co-advised with Greg Lawrence

**M.S. Students (year of graduation, present position, thesis title; 28 completed):**

Curtis Nicholson (UCD), 1992, Water Resources Engineer, Seattle, WA  
"Urban water quality runoff model"

Nida Hosn (UCD), 1993, Environmental Engineer/ Lawyer, L.A., CA  
"Heat and water flow in unsaturated soils at the land-atmosphere interface"

Noah Najarian (UCD), 1994, High School Teacher, NY, NY  
 “Unsaturated soil hydraulic parameters from disc tension infiltrometer experiments”

Teresa Ortenburger (UCD), 1995, Artist/ Environmental Safety Specialist, San Francisco, CA  
 “Lidar measurements of atmospheric boundary layer dynamics over an urban site”

Brad Moore (UCD), 1996, Water Resources Engineer, Sacramento, CA  
 “Bare soil evaporation: relation to near surface soil moisture and potential evaporation”

Ann Fridlind (UCD), 1996, Graduate Student, Stanford, CA, now NASA (non-thesis option)

Elizabeth Jacobs (JHU), 2000, Environmental Engineer, Pitt., PA (non-thesis option)

Lisa Koch (JHU), 2001, Environmental Engineer, Chicago, Illinois  
 “Lattice Boltzmann method studies of transport in porous media”

Evangelia Diapouli (JHU), 2001, Environmental Engineer, Athens, Greece,  
 “Estimation of the atmospheric extinction coefficient from single-wavelength lidar”

Sharon Palmer (JHU), 2002, Environmental Engineer, Atlanta, Georgia  
 “Determination of atmospheric boundary layer height from elastic backscatter lidar”

Alicia Joseph (JHU), 2004, Graduate Student, University of Maryland (non-thesis option)

Jan Overney (EPFL), 2006, Graduate Student, EPFL, Chemical Engineering  
 “Simulation of blowing snow”

Florian Habermacher (EPFL), 2006, Graduate Student, U. St. Gallen, Environmental Economics  
 “Numerical simulation of soil moisture and heat transfer for Land-Atmosphere exchange”

Vitor Silva (EPFL), 2006, Graduate Student, EPFL, Architecture, “Introduction a l’hypothese  
 d’ergodicite et aux mesures lidar”

Gian-Duri Lieberherr (EPFL), 2010, Swiss Civil Service, WSL, Zurich, “Modeling snow drift in the  
 turbulent boundary layer”

Romain Mage (EPFL), 2010, Environmental Engineer, Sion, CH, “Developpement de methods de  
 modelisation des flux turbulent dans un environnement alpin en utilisant des reseaux de  
 stations micrometeorologique” (Joint Advisor: Eric Pardyjak)

Malik Matthey (EPFL), 2010, Environmental Engineer, Lyon, France, “Stream temperature  
 Modeling using fiber optic distributed temperature measurements in a sub-Saharan  
 watershed, Burkina Faso” (Joint Advisors: Scott Tyler, Theo Mande)

Lucille Verrot (EPFL), 2010, Engineers without borders, Benin, ‘Determination d’un modele  
 d’humidite du sol pour le mil” (Joint Advisor: Natalie Ceperley)

Nicolas Sommer (EPFL), 2011, Engineer Meteo Suisse - Switzerland, ‘Atmospheric turbulence in  
 steep terrain during the morning radiation transition’: Awarded the Luce Grivat prize 2011  
 for the best MS Thesis in Environmental Science and Engineering. (Joint Advisor: Daniel  
 Nadeau)

Guillaume Jean Abel Andre Thouvenin (EPFL – Ecole Polytechnique Paris), 2012, Engineer – Switzerland, ‘Atmospheric flows over large wind farms’ (Joint advisor: Marc Calaf)

Pierre-Adil Abdelmoula (EPFL), 2012, Engineer – Switzerland, ‘Dynamics of trees on the hydrologic cycle of African Savanna’ (Joint advisors: Natalie Ceperley, Theo Mande)

Christine Weidman (EPFL), 2012, Engineer – Switzerland, ‘Precipitation spatial variability in African Savanna’ (Joint advisors: Natalie Ceperley, Theo Mande)

Maoya Bassiouni (EPFL), 2012, Engineer – USGS, Hawaii, ‘Understanding the controls of land-surface properties on evapotranspiration during the growing season of a Sudanian Savanna’ (Joint advisors: Natalie Ceperley, Theo Mande)

Alain Fuglister (EPFL), 2013, Engineer, ‘Erosion modeling in a semi-arid water catchment in Burkina Faso’ (Joint Advisors: Marc Bierkens, Rens van Beek)

Varun Sharma (EPFL), 2013, now PhD student, ‘Large Eddy Simulation of Wind Farms and the Atmospheric Boundary Layer’ (Joint advisors: Marc Calaf, Michael Lehning)

Pascal Egli, (ETHZ/UBC), 2014, ‘Flow over city environments: the effect of urban forest canopy’, now PhD student University of Lausanne. (Joint advisor: Marco Giometto, Andreas Christen)

Manuel Schmid, (EPFL/UBC), 2015, ‘Formulation of new immersed boundary method for fluid-structure interactions in LES’ (Joint advisors: Jan Hesthaven, Marco Giometto)

Valentine Arrieta, (EPFL/UBC), 2016, ‘Recession hydrograph analysis and watershed geomorphology’ (Joint advisors: Steven Weijjs, Andrea Rinaldo)

### **Postdoctoral Associates (current position and research topics; 24 completed)**

Marcus Folegatti (UCD), 1992, Professor, University Sao Paolo, Brazil; ‘Soil moisture dynamics’

Chia-Ren Chu (UCD), 1992-1993, Professor, Civil Eng., National Central University, Taiwan; ‘Turbulence in the lower atmosphere’

Fabrizio Ungaro (UCD), 1995-1996, Consiglio Nazionale delle Ricerche, Florence, Italy  
‘Optimal determination of soil hydraulic parameters’

Yu-Heng Tseng (JHU), 2003 – 2004, Scientist, National Center for Atmospheric Research, Boulder, CO; ‘Large Eddy Simulation for urban flows’ Co-advisor C. Meneveau

Wusi Yue (JHU), 2003 – 2007, Senior Engineer, GSE Systems Inc. Baltimore ‘Large Eddy Simulation for canopy flows’, Co-advisor C. Meneveau (JHU)

Ilja van Meerveld (EPFL), 2004 – 2006, Lecturer, University of Zurich, Switzerland  
‘Erosion of soils: experiments and models’

Ben Rogers (EPFL), 2005, Senior Lecturer, University of Manchester, UK ‘Large Eddy Simulation’

Elie Bou-Zeid (EPFL), 2005 - 2008, Professor, Princeton University, Civil and Environmental Engineering, ‘Field studies of subgrid-scale physics’, (Latsis Award, 2009.)

Ilya Serikov (EPFL), 2005 –2008, Max Plank Hamburg, 'Design of an atmospheric boundary layer lidar for temperature and humidity', Co-advisor Valentin Simeonov

Pablo Ristori (EPFL), 2007 - 2008, Assistant Professor, Argentina, 'Design, implementation and testing of ABL lidar', Co-advisor Valentin Simeonov

Ivan Lunati (EPFL), 2008 – 2009, Assistant Professor - FNS, Univ. Lausanne, 'Geological Engineering'

Hendrick Huwald (EPFL), 2005 – 2009, Research Engineer, EPFL, 'Snow/Ice–Atmosphere Interaction'

Silvia Simoni (EPFL), 2008 – 2010, Consulting Engineer, Start-up Firm on Natural Hazards (Mountain-eering), Italy 'Watershed modeling and data assimilation'

Vincent Luyet (EPFL), 2007 – 2009, Senior Engineer, Environmental Engineering Swiss Firm, Valais, CH, 'Design of the Swiss Experiment – education and outreach to middle and high schools'

Simone Padoan (EPFL), 2008 - 2010, Assistant Professor, Bocconi University of Milan, 'Extreme value statistics for hydrology'

Chad Higgins (EPFL), 2007 - 2011, Associate Professor, Oregon State University, 'Land-atmosphere exchange physics'

Megan Daniels (EPFL), 2010 - 2012, Research Scientist, Livermore National Laboratory, 'Mesoscale transport processes'

Marcus Hultmark (EPFL), 2011 - 2012, Associate Professor, Mechanical Engineering, Princeton University, 'Atmospheric boundary Layer turbulence measurement'

Marc Calaf Bracons (EPFL), 2011 - 2013, Associate Professor, Mechanical Engineering, University of Utah, 'Atmospheric boundary layer turbulence and LES wall models'

Steven Weijs (EPFL), 2011 - 2014, Assistant Professor, Civil Engineering, University of British Columbia, 'Information theory for hydrologic sciences'.

Natalie Ceperley (UBC), 2015 – 2016, Research Associate, University of Bern, 'Ecohydrology of West African Savanna'

Theo Mande (UBC), 2015 – 2016, Water Resources Engineer, Burkina Faso, 'Ecohydrology of West African Savanna'

Scott Salesky (UBC), 2014 – 2017, Assistant Professor, University of Oklahoma, 'LES and transport of particles in the lower atmosphere'

Marco Giometto (UBC), 2016 – 2017, Assistant Professor, Columbia University, 'Large Eddy Simulation of the Atmospheric Boundary Layer'

Mostafa Momen (Monash & Columbia), 2019, Assistant Professor, University of Houston, 'Turbulence in Hurricanes'

Chaoxun Hang (Monash), 2017 – 2020 (August), Assistant Professor (Sept.), Shanghai Jiao Tong

University, 'Drainage Flows in Complex Terrain, formulation of wall models'

### **Formal Advisor to EPFL - PhD students**

Christine Groot Zwaaftink, SLF - Davos, 2013, Primary Advisor: M. Lehning, Reducing inaccuracies of drifting snow modelling in Alpine terrain

Benjamin Walter, SLF - Davos, 2012, Primary Advisor: M. Lehning, Sheltering effect of vegetation against soil erosion and snow transport

Fereshteh Bagherimiyab, EPFL, 2012, Primary Advisor: U. Lemmin, Turbulence and coherent structures in gravel rivers

Rebeca Mott, SLF – Davos, 2011, Primary Advisor: M. Lehning, Understanding small scale variability of the mountain snow cover

Balazs Szintai, MeteoSwiss - Zurich, 2010, Primary Advisor: M. Rotach, Improving the Turbulence Coupling between High Resolution Numerical Weather Prediction Models and Lagrangian Particle Dispersion Models

Marcel Batlome, 2010, Primary Advisor: V. Simeonov, Development of the Jungfrauoch UV DIAL Lidar to Observe the Vertical Ozone Distribution in the Context of Stratosphere Troposphere Exchange and Long-Range Transport

Todor Dinoev, 2009, Primary Advisor: V. Simeonov, Automated Raman Lidar for Day and Night Operational Observation of Tropospheric Water Vapor

Francoise Faure, SLF, 2008. Primary Advisor: M. Lehning, Microscale airflow simulations over complex Alpine terrain

Pablo Ristori, 2007, Primary Advisor: V. Simeonov, Development of a high spatial and temporal resolution Raman lidar for turbulent observations

### **Hosted Sabbatical and Long Term Visitors**

Han Stricker, Wageningen University, 1994 – 1995; Gerard Kiely, University College Cork, 1995 – 1996; Fernando Porte-Agel, University of Minnesota, 2004 – 2005; John Selker, Oregon State University, 2005 – 2006; Shamuël Assouline, Volcani Center, 2005 – 2006; Francois Morel, Princeton University, 2005 – 2006; Anne Kraepiel, Princeton University, 2005 – 2006; Robert Anex, Iowa State University, 2005 – 2006; Chris Duffy, Penn State University, 2006 – 2007; Scott Tyler, University of Nevada, Reno, 2006 – 2007, 2009; Grace Brush, Johns Hopkins University, 2007 – 2008; Von Walden, University of Idaho, 2007 – 2008; Amilcare Porporato, Duke University, 2008 – 2009; Wilfried Brutsaert, Cornell University, 2008; Ronald Calhoun, Arizona State University, 2008 – 2009; Keith Beven, University of Lancaster, 2008; Eric Pardyjak, University of Utah, 2009 – 2010; Anne Nolin, Oregon State University, 2009 – 2010; Steve Drake, Oregon State University, 2009 – 2010; Nick van de Giesen, Delft University, 2010; Wilfried Brutsaert, Cornell University, 2010; Greg Characklis, University of North Carolina 2010 – 2011; Paolo D'Odorico, University of Virginia 2011; Jan Hopmans, UC Davis 2011; Chris Williams, Clark University 2011; Andreas Christen, University of British Columbia 2012 – 2013; Charles Meneveau, Johns Hopkins University, 2013; Gabriel Katul, Duke University, 2013; Susan Gaskin, McGill University, 2013 – 2014; A. Schleiss, EPFL, 2014; Elie Bou-Zeid, Princeton University, 2015; Robert Stoll, University of Utah, 2016 – 2017.

### **Publications**

## Journal Articles:

(h index = 56 ISI, Web of Science; h = 72 Google Scholar)

216. Momen M., M.B. Parlange, and M. Giometto, 2020, Cyclonic speedup and scrambling of classical boundary layer turbulence in hurricane winds, *submitted*.
215. Hang, C., H.J. Olydroyd, M.G. Giometto, E.R. Pardyjak, and M.B. Parlange, 2020, Local similarity functions for katabatic flows derived from field observations over steep and shallow angled slopes, *submitted*.
214. Hang, C., Nadeau, D.F., Pardyjak, E.R., and M.B. Parlange, 2020, A comparison of near surface potential temperature variance budgets for unstable atmospheric flows with contrasting vegetation cover flat surfaces and a gentle slope, *Environmental Fluid Mechanics*, 20(5): 1251–1279.
213. Nadeau, D.F., H.J. Oldroyd, E.R. Pardyjak, N. Sommer, Hoch, S.W., and M.B. Parlange, 2020, Field observations of the morning transition in a steep and narrow alpine valley, *Environmental Fluid Mechanics*, 20(5): 1199–1220.
212. Comola, F., M.G. Giometto, S.T. Salesky, M.B. Parlange, and M. Lehning, 2019, Preferential deposition of snow and dust over hills: governing processes and relevant scales, *Journal of Geophysical Research: Atmospheres*, 124(14): 7951-7974.
211. Salesky, S.T, M.G. Giometto, M. Chamecki, M. Lehning, and M.B. Parlange, 2019, The transport and deposition of heavy particles in complex terrain: insights from an Eulerian model for large eddy simulation, *arXiv preprint arXiv:1903.03521*
210. Schmid, M.F., G.A. Lawrence, M.B. Parlange, and M.G. Giometto, 2019, Volume averaging for urban canopies, *Boundary Layer Meteorology*, 173(3): 349-372.  
<https://doi.org/10.1007/s10546-019-00470-3>.
209. Momen, M., E. Bou-Zeid, M.B. Parlange, and M. Giometto, 2018, Modulation of mean wind and turbulence in the atmospheric boundary layer by baroclinicity, *Journal of the Atmospheric Sciences*, 75 (11): 3797-3821.
208. Margairaz, F., M.G. Giometto, M.B. Parlange, and M. Calaf, 2018, Comparison of dealiasing schemes in large-eddy simulation for the atmospheric boundary-layer flow, *Geoscientific Model Development* 11(10): 4069-4084.
207. Sharma, V., G. Cortina, F. Margairaz, M.B. Parlange, and M. Calaf, 2018, Evolution of flow characteristics through finite-sized wind farms and influence of turbine arrangement, *Renewable Energy*, 115: 1196-1208.
206. Li Q., E. Bou-Zeid, N. Vercauteren, and M. Parlange, 2018, Signatures of Air-Wave Interactions over a Lake, *Boundary Layer Meteorology*, 167(3):445-468.
205. Girard P., D.F. Nadeau, E.R. Pardyjak, M. Overby, P. Willemsen, R. Stoll, B.N. Bailey, and M. B. Parlange, 2018, Evaluation of the QUIC-URB wind solver and QES Radiant radiation-transfer model using a dense array of urban meteorological observations, *Urban Climate*, 24:657-674.
204. Ceperley, N.C., T. Mande, N. van de Giesen, S. Tyler, H. Yacouba, and M.B. Parlange, 2017, Evaporation from Savanna and agriculture in semi-arid West Africa, *Hydrology and Earth*

System Sciences (HESS), 21(8) 4149 – 4167.

203. Giometto, A. Christen, P. Egli, M.F. Schmid, N.C. Coops, and M.B. Parlange, 2017, Effects of trees on mean wind, turbulence, and momentum exchange within and above a real urban environment, *Advances in Water Resources*, 106: 154-168.
202. Giometto, M., G. Katul, J. Fang, and M.B. Parlange, 2017, Direct numerical simulation of slope flows up to Grash of number  $Gr=2.1 \times 10^{11}$ , *Journal of Fluid Mechanics*, 829: 589-620.
201. Sharma, V., M.B. Parlange, and M. Calaf, 2017, Perturbations to the spatial and temporal characteristics of the diurnally-varying atmospheric boundary layer due to an extensive wind farm, *Boundary Layer Meteorology*, 162(2), 255-282.
200. Giometto, M., R. Grandi, J. Fang, P.A. Monkewitz, and M.B. Parlange, 2017, Katabatic Flow: A closed-form solution with spatially-varying eddy diffusivities, *Boundary Layer Meteorology*, 162(2), 307-317.
199. Yang, J., Z-H. Wang, Q. Li, N. Vercauteren, E. Bou-Zeid, and M.B. Parlange, 2017, A novel approach for unraveling the energy balance of water surfaces with a single depth temperature, *Jan.* 62: 89-103.
198. Oldroyd, H.J., C.W. Higgins, E.J. Pardjak and M.B. Parlange, 2016, Buoyant turbulent kinetic energy (TKE) production in steep-slope katabatic flow, *Boundary Layer Meteorology*, 161: 405 – 416. doi:10.1007/s10546-016-0184-3.
197. Giometto, M.G., A. Christen, C. Meneveau, J. Fang, M. Krafczyk, and M.B. Parlange, 2016, Spatial characteristics of roughness sublayer mean flow and turbulence over a realistic urban surface, *Boundary Layer Meteorology*, 160: 425 – 452. doi:10.1007/s10546-016-0157-6.
196. Drake, S.A., H. Huwald, M.B. Parlange, J.S. Selker, A.W. Nolin, and C.W. Higgins, 2016, Attenuation of wind-induced pressure perturbations in alpine snow, *Journal of Glaciology*, 62(234): 674- 683, DOI: 10.1017/jog.2016.53.
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194. Oldroyd, H.J., E.R. Pardyjak, H. Huwald, and M.B. Parlange, 2016, Adapting tilt corrections and the governing flow equations for steep, fully three-dimensional, mountainous terrain, *Boundary Layer Meteorology*, 159(3): 539-565.
193. Sharma, V., M. Calaf, M. Lehning, and M.B. Parlange, 2016, Time-adaptive wind turbine model for an LES framework, *Wind Energy*, 19(5): 939-953.
192. Assouline, S, D. Li, S. Tyler, J. Tanny, S. Cohen, E. Bou-Zeid, M. Parlange, and G.G. Katul, 2016, On the variability of the Priestley-Taylor coefficient over different water bodies, *Water Resources Research*, 53(1): 150-163.
191. Gallice, A., B. Schaeffli, M. Lehning, M.B. Parlange and H. Huwald, 2015, Stream temperature prediction in ungauged basins: review of recent approaches and description of new physically based analytical model, *Hydrology and Earth System Sciences*, 19: 3727–3753.

190. Mande, T., N.C. Ceperley, G.G. Katul, S. Tyler, H. Yacouba, and M.B. Parlange, 2015, Suppressed convective rainfall by agricultural expansion in southeastern Burkina Faso, *Water Resources Research* (50<sup>th</sup> Anniversary Issue), 51(70): 5521-5530.
189. Mutzner, R., S.V. Weijs, P. Tarolli, M. Calaf, H.J. Oldroyd, and M.B. Parlange, 2015, Controls on the diurnal streamflow cycles in a small alpine headwater catchment, *Water Resources Research*, 51(5), May, 3403-3418.
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184. Oldroyd, H., G. Katul, E. Pardyjak, and M.B. Parlange, 2014, Momentum balance of katabatic flow on steep slopes covered with short vegetation, *Geophysical Research Letters*, 41(13): 4761–4768.
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180. Nadeau, D.F., A.N. Rousseau, C. Coursolle, H.A. Margolis, and M.B. Parlange, 2013, Summer Methane Fluxes from a Boreal Bog in northern Quebec, Canada, using eddy covariance measurements, *Atmospheric Environment*, 81: 464-474.
179. Higgins, C.W., E. Pardyjak, M. Froidevaux, V. Simeonov, and M.B. Parlange, 2013, Measured and estimated water vapor advection in the atmospheric surface layer, *Journal of Hydrometeorology*, 14(6): 1966-1972.
178. Hultmark, M., M. Calaf, and M.B. Parlange, 2013, A new wall-shear stress model for atmospheric boundary layer simulations, *Journal of the Atmospheric Sciences*, 70(11): 3460- 3470.
177. Diebold, M., C. Higgins, J. Fang, A. Bechmann, and M.B. Parlange, 2013, Flow over hills: A Large-Eddy Simulation of the Bolund Case, *Boundary Layer Meteorology*, 148(1): 177-194.
176. Nadeau, D.F., E.R. Pardyjak, C.W. Higgins, and M.B. Parlange, 2013, Similarity scaling over steep alpine slopes, *Boundary Layer Meteorology*, 147:401– 419, doi 10.1007/s10546-012-

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175. Higgins, C.W., G. Katul, Martin Froidevaux, V. Simeonov and M.B. Parlange, 2013, Are atmospheric surface layer flows ergodic?, *Geophysical Research Letters*, 40: 3342 - 3346, doi:10.1002/grl.50642.
174. Weijs, S., N. van de Giessen, and M.B. Parlange, 2013, Data compression to define information content of hydrological time series, *Hydrologic and Earth System Science*, 17:3171-3187, doi:10.5194/hess-17-3171-2013
173. Mutzner, R., E. Bertuzzo, P. Tarolli, S.V. Weijs, L. Nicotina, S. Ceola, N. Tomasic, I. Rodriguez-Iturbe, M.B. Parlange, A. Rinaldo, 2013, Geomorphic signatures on Brutsaert base flow recession analysis, *Water Resources Research*, 49(9): 5462–5472.
172. Assouline, S., S. Tyler, J. Selker, I. Lunati, C. Higgins, and M.B. Parlange, 2013, Evaporation from a shallow water table: Diurnal dynamics of water and heat at the surface of drying sand, *Water Resources Research*, 49: 4022-4034.
171. Dinoev, T.S., V.B. Simeonov, Y.F. Arshinov, S.M. Bobrovnikov, P. Ristori, B. Calpini, M.B. Parlange, and H. van den Bergh, 2013, Raman Lidar for meteorological observations, *RALMO – Part I: Instrument description, Atmospheric Measurement Techniques*, 6, 1329-1346.
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### **Dissertation and thesis:**

PhD Dissertation, 1990, Cornell University  
'Regional scale land-atmosphere interaction over complex forest terrain'  
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### **Edited Books:**

Parlange, M.B. and J.W. Hopmans, 1999, 'Vadose Zone Hydrology: Cutting across disciplines', Oxford University Press, New York, pp. 451.  
Miller, C.T., M.B. Parlange, and M. Hassanizadeh, 2003, '25 years of Advances in Water Resources', Elsevier Press, Amsterdam, pp. 548.

### **Editorials and Preface:**

Parlange, M.B., B. Berkowitz, A. Porporato, T. Torgersen, S.W. Tyler, 2005, Editorial: Future of Water Resources Research 41(1): W01001, 10.1029/2004WR003899

Miller, C.T., M.B. Parlange, S.M. Hassanizadeh, 2002, Special 25<sup>th</sup> anniversary issue of Advances in Water Resources, AWR, 25(8-12):859.

Miller, C.T. and M.B. Parlange, 2002, 25th anniversary of Advances in Water Resources, Advances in Water Resources: 25(2):127.

Kiely, G., M. Parlange, J. Albertson, 1999, Water resources and climate change processes – *Preface*, Advances in Water Resources, 239: 101-103.

Parlange, M.B., and J.W. Hopmans, 1999, Vadose Zone Hydrology: Cutting across disciplines - *Tribute to Donald R. Nielsen and J.W. Biggar - Preface*, Oxford University Press.

### **Book Chapters:**

14. Pardyjak, E., C. Higgins, and M.B. Parlange, 2012, Atmospheric Flux Measurements, in Handbook of Environmental Fluid Mechanics, Volume Two: Systems, Pollution Modeling, and Measurements, H.J. Fernando, Editor, CRC press,
13. Ceperley, N., A. Repetti, and M. Parlange, 2012, Application of soil moisture model to Marula (*Sclerocarya birrea*): Millet (*Pennisetum glaucum*) agroforestry system in Burkina Faso, Springer-Verlag, Technologies and Innovations for Development: Scientific Cooperation for a Sustainable Future, (J.-C Bolay, M.M. Schmid, G. Tejada, and E. Hazboun, Eds), 211- 229, 333 pp.
12. Lehning, M., N. Dawes, M. Bavay, M. Parlange, S. Nath and F. Zhao, 2009, Instrumenting the Earth: Next-generation sensor networks and environmental science, Microsoft Research, in: The Fourth Paradigm: Data-intensive scientific discovery, in tribute to Jim Gray, (T. Hey, S. Tansley and K. Tolle, Editors), 45-54, 252 pp.
11. Higgins, C., C. Meneveau, and M.B. Parlange, 2004, Energy dissipation in LES: dependence on flow structure and effects of eigenvector alignments, Cambridge University Press, in: Atmospheric Turbulence and Mesoscale Meteorology, Tribute to Doug Lilly (E. Federovich, R. Rotunno, B. Stevens, Editors), 51-70, 240pp.
10. Eichinger, W.E., M.B. Parlange, and G.G. Katul, 2001, Lidar measurements of the dimensionless humidity gradient in an unstably stratified atmosphere, American Geophysical Union, Models and observations of land-atmosphere interaction. (V. Lakshmi, J. Albertson, and J. Schaake, Eds), 7-13.
9. Ungaro, F., A.T. Cahill, M.B. Parlange, D.R. Nielsen, and M. Mata, 1999, Determination of field-scale hydraulic parameters using a nonlinear filter with quantitative spatial analysis, in: Characterization and measurement of the hydraulic properties of unsaturated porous media (2), (M. Th. Van Genuchten, F.J. Leij, and L. Wu, Editors), USDA, Riverside CA, 1367-1375.
8. Meneveau, C., J. O'Neil, F. Porte-Agel, S. Cerutti, and M.B. Parlange, 1999, Physics and Modeling of small scale turbulence for large eddy simulation, in: Trends in Mathematics, Birkhauser Verlag Basel/ Switzerland, 221-231.
7. Meneveau, C., F. Porte-Agel, and M.B. Parlange, 1999, Accounting for scale-dependence in the dynamic smagorinski model, in: Recent advances in DNS and LES, (D. Knight and L. Sakell,

Editors), Kluwer Academic Publishers' Dordrecht/Boston, 317-328.

6. Parlange, M.B., J.D. Albertson, W.E. Eichinger, and A.T. Cahill, 1999, Evaporation: Use of fast response turbulence sensors, raman lidar and passive microwave remote sensing, in: Vadose Zone Hydrology: Cutting across disciplines (M.B. Parlange and J.W. Hopmans, Editors), Oxford University Press, 260-278.
5. Albertson, J., G. Kiely and M.B. Parlange, 1996, Surface fluxes of momentum, heat and water vapor, in: Radiation and Water in the Climate System: Remote Measurements, (E. Raschke, Editor), NATO ASI Series 1: Global Environmental Change, Springer-Verlag pp. 59-82.
4. Nielsen, D.R., O. Wendroth, and M.B. Parlange, 1995, Opportunities for examining on-farm variability. In: Site-Specific Management for Agricultural Systems, ASA-CSSA-SSSA, Madison, WI, Chpt. 9, 95-132.
3. Nielsen, D.R., O. Wendroth and M.B. Parlange, 1994, Developing site-specific technologies for sustaining agriculture and our environment. In: Management of Land and Water Resources for Sustainable Environment (G. Narayanasamy, Editor), Agric. and Envir., Indian Soc. Soil Sci., New Delhi, 42-79.
2. Katul, G.G., J.D. Albertson, C.R. Chu and M.B. Parlange. 1994. Intermittency in Atmospheric Turbulence Using an Orthonormal Wavelet Representation. In: Wavelets in Geophysics (E. Foufoula-Georgiou and P. Kumar, Editors), Academic Press, pp. 81-105.
1. Romkens, M. J. M., R.L. Baumhardt, J.-Y Parlange, F. D. Whisler, M.B. Parlange, and S.N. Prasad. 1986. Effect of rainfall characteristics on seal hydraulic conductance, In: Assessment of Soil Surface Sealing and Crusting (F. Callebaut, D. Gabriels, and M. De Boodt, Editors), Ghent University Press, Belgium, 228-235.

### **Comments and Replies:**

1. Stagnitti, F., M. B. Parlange, T. S. Steenhuis, and J.-Y Parlange, 1987, Reply to comment on "Drainage from a uniform soil layer on a hillslope" by Hurley and Pantelis, *Water Resources Research*, 23:1704.
2. Cahill, A.T. and M.B. Parlange, 2000, Reply to comment on "On water vapor transport in field soils" by Or and Wraith, *Water Resources Research*, 36(10):3107-3110.
3. Barry D.A., J.-Y Parlange, W.L. Hogarth, R.S. Govindaraju, M.B. Parlange, D. Lockington, and L. Li, 2000, Comment on "Modeling transient stream/aquifer interaction with the non-linear Boussinesq equation and its analytical solution" by Serrano S.E., S.R. Workman, 1998, *Journal of Hydrology*, 235: (3-4) 289-292. Rejoinder to reply, p. 297.
4. Parlange, J.-Y, D. Lockington, G. Sander, W.L. Hogarth, D.A. Barry, L. Li, M.B. Parlange and R.G. Govindaraju, 2001, Comments on "Exact solution for horizontal redistribution by general similarity", *Soil Science Society of America Journal*, 65(3): 957-958.
5. Parlange J.-Y, D.A. Barry, W.L. Hogarth, R.S. Govindaraju, M.B. Parlange, and D. Lockington, 2004, Reply to the "Comments on 'On an exact analytical solution of the Boussinesq equation'", *TiPM52*, 389-394, 2003, *Transport in Porous Media*, 56(1):113-116.

## **Funded Research Projects:**

**ARC-linkage grant (with Woodside and Chevron)**, Title: Turbulence from tropical cyclones and near and off shore structures, 2020 – 2024, PI Mark Thompson, CI, David Burton, Marco Giometto (Columbia)

**NSERC, discovery grant**, Title: Land-atmosphere interaction over complex terrain: Hydrology and large-eddy simulation, 2015 – 2020.

**CFI, Instrumentation grant**, Title: Integrative laboratory for atmospheric research on greenhouse gas exchange at the landscape scale, PI Andrea Christian, 2015.

**Swiss NSF**, Title: Hydrologic and Large-Eddy Simulation studies with *in-situ* observations of land-atmosphere exchange and runoff generation in high alpine watersheds, 2011 – 2014.

**US NSF-Physical Meteorology**, Title: Large-Eddy-Simulation studies and in-situ observations of land atmosphere exchanges in large wind farms, 2011 – 2014, Co-I, PI: Charles Meneveau (JHU).

**Velux Foundation**, Title: Ecohydrology of water limited Savanna in Burkina-Faso, 2008 – 2012, Co-I with Alexandre Repetti (EPFL).

**NCCR/Mobile Information Communication Systems (MICS)**, Title: Wireless technology for watershed hydrology, M. Vetterli, M.B. Parlange, G. Berrenetxea, 2010 – 2012.

**NCCR/Mobile Information Communication Systems (MICS)**, Title: Development of field methods to obtain river discharge and sediment transport, E. Charbon, P. Fua, S. Susstrand, M. Vetterli, M.B. Parlange, G. Berrenetxea, 2010 – 2012.

**Swiss NSF**, Title: Coupled heat and water transport in soils, 2009 – 2012, Co-I with Ivan Lunati (UNIL)

**Swiss NSF**, Title: Large Eddy Simulation of atmospheric flows over complex alpine terrain, Funding Extension, 2009 – 2011.

**Swiss NSF**, Title: Scale effects and heterogeneity in land-atmosphere interactions: Simulations studies, field validations and parameterizations, 2008 – 2011.

### **FP-7, EU Science Foundation, Information and Communication Technologies,**

Title: HYDROSYS: Advanced spatial analysis tools for on-site environmental monitoring and management, Co-I with colleagues from EPFL, TU Graz, WSL, U. Cambridge, 2008 – 2012.

**Microsoft E-science**, Title: Joint EPFL/Microsoft project for the Swiss Experiment, Co-I with Karl Aberer and Martin Vetterli from EPFL and Fabrizio Gagliardi and colleagues from Microsoft Res., 2007 – 2009.

**Swiss Federal Institute of Technology-Center for Competence in Environment and Sustainability (CCES)**, Title: Spatial extremes and environmental sustainability: Statistical methods and applications in geophysics and the environment, Co-I with colleagues from EPFL, ETHZ and WSL, 2007 – 2010.

**Swiss Federal Institute of Technology-Center for Competence in Environment and Sustainability (CCES)**, Title: ‘The Swiss Experiment’, Co-I with colleagues from WSL, EPFL, ETHZ

and EAWAG, 2006 – 2007; 2009 – 2011.

**US NSF (Hydrology and Atmospheric Sciences)**, Title: Scale Effects And Heterogeneity In Land-Atmosphere Interactions: Large Eddy Simulation Studies And Parameterizations, C. Meneveau, M.B. Parlange, 2006 – 2009.

**Swiss NSF**, Title: Large Eddy Simulation of atmospheric flows over complex alpine terrain, M.B. Parlange, 2005 – 2008.

**Swiss NSF**, Title: Alpine field experiments for SGS parameterizations in LES, M.B. Parlange, 2005 – 2007.

**NCCR/Mobile Information Communication Systems (MICS)**, Title: Wireless technology for environmental applications, M. Vetterli, Karl Aberer, M.B. Parlange, Guillermo Berrenetxea, 2005 – 2009. Research team: Thierry Varidel, Mounir Krichane, Michel Bystranowski, Sébastien Dufey, Julien Mizzo, Davis Daidie, Thierry Betholet, Muhammad Shuaib Siddiqui, Olivier Couach.

**USDA**, Title: Flux of Nitrogen in Agricultural Systems, PI Tammo Steenhuis, '04-'06.

**NSF Water Cycle Program**, Title: Evaporation and the Atmospheric Boundary Layer Over Hilly Terrain: Instrumentation, Experimentation and Simulation, M.B. Parlange, M. Thomas, C. Meneveau, 2003 – 2006.

**NSF Biocomplexity Program**, Title: Instrumentation to measure the emission and transport of biological aerosols into the atmosphere: Linking across scales from Microns to Kilometers. M.B. Parlange, G. Brush, S. Chen, J. Katz, R. Ghanem, C. Meneveau, 2001- 2006.

**NSF Collaborations in Mathematical Geosciences Program**, Title: Renormalized Numerical Simulation in the Environment. S.Y. Chen, C. Meneveau, D. Naiman, J.-S. Pang, M.B. Parlange, 2002 – 2005.

**NSF Physical Meteorology Program**, Title: SGS2000: Analysis of Field Experimental Data to Elucidate Fundamental Physics in Parameterizations for Large – Eddy Simulations. C. Meneveau, M.B. Parlange, 2002 - 2004.

**NSF Environmental Engineering Program**, Title: Measurements of Particle Emissions from the World Trade Center Site in NYC. M.B. Parlange, J. Katz, 2002 – 2003.

**EPA Hazardous Center Program**, Title: Center for Hazardous Substances in Urban Environments. PI- Bower, E. – JHU – a total of 6 sub- research projects (Research Project #2 Lidar measurements and large eddy simulations of plume dispersion in an urban boundary layer, M.B. Parlange, C. Meneveau), 2001-2006.

**NSF Geosciences Program**, Title: Infrastructure for the Advancement of Hydrologic Science, Roger C. Bales, J. S. Selker, U. Lall, M. B. Parlange, M. W. Williams, C. J. Duffy, 2001 – 2004.

**NASA Hydrology Program**, Title: Sensitivity of coupled land-atmospheric boundary layer dynamics to surface heterogeneity using a new generation Large Eddy Simulation model in conjunction with Pathfinder, EOS and other imagery. M.B. Parlange, C. Meneveau, JHU; W.Brutsaert, Cornell; M.Jasinski, NASA; T.Schmugge, USDA), 2000 –2003.

**EPA Supersite Program**, Title: Baltimore Supersite: Highly time and size resolved concentrations of

urban PM2.5 and its constituents for resolution of sources and immune responses. PI J. Ondov – U. Maryland (Lidar Measurements of Local and Regional Winds, M.B. Parlange), 2000 – 2004.

**NSF Hydrology Program**, Title: Large Eddy simulation studies of land-atmosphere interaction over complex terrain, using new generation dynamic models. M.B. Parlange, C. Meneveau, National Science Foundation, 2000 – 2003.

**UCAR/NCAR – Environmental and Societal Impacts Group**, Title: Collaborative Research on Statistical Downscaling and Extremes in Hydrology and Climate. R. Katz, L. Mearns, M.B. Parlange, 1996-2002.

**USDA/NRI**, Title: Coupled heat and water transport in soils: Field and theoretical studies. M.B. Parlange, 1998-2001.

**NSF Physical Meteorology Program**, Title: Fundamental Investigation of Modeling for LES of Atmospheric Boundary Layer Flow near the Land-Atmosphere Interface. M.B. Parlange, C. Meneveau, 1998 – 2001.

**JHU Internal Program**, Development of Scanning Aerosol Lidar (JHU Engineering School - Applied Physics Program R&D collaboration), M.B. Parlange, 1997-1999.

**EPA**, Integrated Assessment of the Public Health Effects of Climate Change for the U.S. (EPA), PIs J. Patz, J.H. Ellis, Co-I, M.B. Parlange, 1996-1999.

**UC Davis Internal Program**, Construction, Testing and Application of a Tunable Diode Laser System for Measuring fluxes of Trace Gases into the Atmosphere (UC Davis Instrumentation Program), M.B. Parlange, W. E. Eichinger, D. Rolston, R. Shaw, R. Flocchini, 1996 – 1998.

**NIEHS Superfund Program**, Transport and Biodegradation of VOCs in the Vadose Zone, PI: D.E. Rolston, Co-I's G. Fogg, A. Jackman, M.B. Parlange, K. Scow, April 1, 1994 – March 30, 1998.

**NSF Hydrology Program**, Orthonormal Wavelet Analysis of Space-Scale Relationships in the Atmospheric boundary Layer over Complex Terrain, M.B. Parlange, 1993 – 1996.

**UC – Los Alamos Program**, Precipitation Modeling in the Western United State (INCOR-Los Alamos), M.B. Parlange, University of California Institutional Collaborative Research Program January 1, 1996 – December 31, 1996.

**UC – Los Alamos Program**, Land Surface Parameterizations for Climate and Hydrology Models (INCOR- Los Alamos), M.B. Parlange, W. Eichinger (Los Alamos); University of California Institutional Collaborative Research Program, 1994 – 1996.

**Kearney Foundation of Soil Science**, International Conference in Vadose Zone Hydrology: Cutting across disciplines, PIs: M.B. Parlange, J.W. Hopmans, 1994- 1995.

**California – Water Resources Center**, Coupled land-atmosphere heat and water vapor transport, M.B. Parlange, 1993-1995.

**Desert Research Institute**, Evaporation at Owens Lake Bed, PIs, M.B. Parlange, S. Tyler (UN-Reno), 1993- 1995.

**University of California Institutional Collaborative Research Program (INCOR)**, Atmospheric

Turbulence Measurement with LIDAR, M.B. Parlange, Co-I, W. Eichinger, (Los Alamos); 1991 – 1994.

**U.S. Geological Survey - Water Resources Research Grants Program**, Advection-Aridity Approach for Routine Evaporation Estimation and Subsurface Transport Simulation, P.I. M. B. Parlange, Co-I's D.R. Nielsen, J.W. Hopmans, 1992 – 1995.

**Kearney Foundation of Soil Science**, Volatilization Physics with LIDAR Systems, M.B. Parlange, 1992-1994.

**USDA**, Feasibility of Agroforestry Systems to Reduce Problem Agricultural Drain Waters, P.I. K. Tanji, Co-I's S. Gratten, M.B. Parlange, 1991-1993.

**California State Salinity Drainage Task Force**, Evapotranspiration Parameterization for Drainage Prediction and Reduction in Irrigation Water Management, PI: M.B. Parlange; 1990 – 1993.

**California Agricultural Experiment Station - Temporary Hatch Funds**, Turbulent Diffusion in Lower Atmosphere at Vegetation Surfaces, PI: R.H. Shaw, M.B. Parlange, 1991-1992.

**California Agricultural Experiment Station – Hatch Funds**, Water Management and Conservation in Western Irrigated Agriculture, M.B. Parlange, 1990 – 1996.

**California – Water Resources Center**, Land Surface Fluxes for Agricultural Water Resources, M.B. Parlange, 1991 – 1993.

**Kearney Foundation**, Development of evaporation models, M.B. Parlange, 1991- 1992.

**Kearney Foundation**, Infiltration in crusted soils, M.B. Parlange, 1990 – 1991.

## **Invited seminars and key note talks:**

(not including invited and regular conference presentations, > 300)

**2020** American Meteorological Society, Boston, MA, Centennial Meeting

School of Earth, Atmosphere and Environment, Monash University

**2019** University of New South Wales, Global Water Institute and Civil Engineering

Griffith University, Australia Rivers Institute, Brisbane

Westlake International Symposium in Engineering, Plenary speaker, Hangzhou, China

Chinano, Conference and Expo, on Australia – China research, Suzhou, China

**2018** Monash University, Civil Engineering Seminar Series

University of Warrick, Engineering and Applied Mathematics

**2017** Monash University, Mechanical Engineering Fluids Seminar

**2016** Cornell University, Norman R. Scott -- Biological and Environmental Engineering Lecture

University of Utah, Global Sustainability Lecture

Cornell University, Distinguished Lecture @ School of Civil and Environmental Engineering

Canadian Society of Mechanical Engineers (Key note: annual meeting, Okanagan)

Columbia University, Earth and Environmental Engineering

UBC Centennial: Water Ways: Understanding the Past, Navigating the Future

University of New South Wales, Civil Engineering

Monash University, Civil Engineering

University of Queensland, Civil Engineering

**2015** Natural Risks and Hazards Conference, National Taiwan University

Graduate student symposium in Environmental and Hydrotechnical Engineering, UBC

Water Resources, Alberta Innovates, University of Calgary

La recherche hydrologique au Quebec, Opening talk (ETS)

Princeton University, Environmental Engineering

**2014** Conference for a Clean Ganga, Delhi, India

Oregon State University, Ecohydrology conference dedicated to Richard Cuenca

National Center for Atmospheric Research, Boulder, Keynote at conference for Richard Katz

**2013** Green College, University of British Columbia

Mathematics of Planet Earth, Australian Mathematical Sciences Institute, Melbourne

EMERGE Alpine Hydrology workshop at the University of Bozen-Bolzano

Ecohydrology Conference, Ben-Gurion University of the Negev, Israel

University of British Columbia, Civil Engineering

Princeton-Fung Conference on Future Cities, Shanghai, China

**2012** Mobile Information Communication Systems- NCCR, 2012, Lausanne, Switzerland

University of Stockholm, Climate Center, Sweden

University of Oklahoma, Water Center Symposium

University of Oklahoma, NOAA, National Weather Center, Norman, OK

Gordon Conference- 2012, Flow in porous media, Les Diablerets, Switzerland

International Computational Water Resources Conference, University of Illinois -UC

Oregon State University, Water Resources Program

USGS (@Portland State University), Portland, Oregon

Hydrology Symposium in honor of W. Brutsaert / J.-Y Parlange, Cornell University

University of Grenoble, Institute of Glaciology and Snow, France

Ho Chi Minh City University of Technology, Vietnam

TU Vienna, Civil Engineering, Austria

**2011** University of Bern, Climate Institute

Imperial College London (Turbulence series), England

Ecole des Ponts, ParisTech, France

Ecole Mohammadia d'Ingénieurs – Rabat (RESCIF meeting), Morocco

**2010** Ecole Normale Supérieure de Lyon

Les Bisses Conference – Sion, Valais, CH

Cornell University, College of Agriculture and Life Sciences

Advances in Water Resources and Technology – Sion Valais, CH

Consortium of Universities for the Advancement of Hydrology, Boulder, CO

Meteo Suisse, Zurich

Ecohydrology Latsis Symposium, EPFL

**2009** Swiss – South African Meeting in Hydrology and Biodiversity

University of Rome, La Sapienza (CNR-Princeton Hydrology Conference)

Scuola Normale Superiore di Pisa, European Large Eddy Simulation Conference  
(QLES2009)

University of Genoa, Faculty of Engineering

**2008** ETH – Industry Dialog 2008, Swiss Re, Zurich

NCCR MICs Conference, Zurich

International Polar Foundation, Brussels

Beijing University, School of Engineering, China

Fudan University, Dept. of Environmental Engineering, China

Key Note Lecturer, St. Anthony Falls Lab. 75 Anniversary, Univ. Minnesota

Invited Lecture, ASCE – Mechanics Meeting, Minneapolis-St. Paul, Minn

Nokia Conference on wireless technologies, Lausanne

Summer School in Environmental Dynamics, Institute of Venice

**2007** University of Zurich

University of Neuchatel

Key Note lecturer: Data Sharing and Interoperability, IPSN' 07 MIT, Cambridge Mass

University of Washington

NUS, Singapore

Energy Film Festival, Keynote talk, Lausanne/ EPFL

Latsis Symposium, ETH Zurich

University of California, Berkeley, Hydrology meeting.

Wageningen University, The Netherlands

**2006** European Research Community on Flow, Turbulence and Combustion (Swiss Meeting)

Hydrology and Fluid Mechanics Institutes, University of Grenoble, France

Forschungszentrum Julich, Agrosphere Institute, Germany

NCCR MICs Industry Conference, Lausanne

Dalton Lecture, Vienne, European Geosciences Union

Lecon Inaugurale, EPFL

**2005** Meteo Suisse, Zurich

Paul Scherrer Institute, Switzerland

NCCR - MICs, Swiss Science Foundation

Swiss Conference on Environmental Sustainability – Lausanne (Olympic Museum)

Sino-Swiss Conference on Environmental Sustainability, Beijing

Chinese Academy of Sciences, Air Pollution Research Institute, Beijing

**2004** American Association for the Advancement of Science, Wavelets in Geosciences, Seattle

EPA Center, Hazardous substances in Urban Environments, Baltimore

Dept. Civil and Environmental Engineering, University of Padua, Italy

Avalanche research center, WSL, Davos, Switzerland

Institute for Atmosphere and Climate, ETH, Zurich, Switzerland

**2003** Institute of Fluid Dynamics, Mechanical and Process Engineering, ETH, Zurich

Hydrology & Water Resources Program, Wageningen University, The Netherlands

Dutch Royal Academy of Sciences, The Netherlands

Ecohydrology & Environmental Engineering Programs, Cornell University

European Geophysical Society (Prediction in Ungauged Basins), Nice, France

Aquatic Ecology Center, EAWAG; Kastanienbaum, Switzerland

Institute for Hydromechanics, Civil and Environmental Engineering, ETH, Zurich

Environmental Engineering, Perth, University of Western Australia

SAMSI, Inst. for Applied Math, Chapel Hill, University of North Carolina

**2002** Institute for Hydromechanics, University of Karlsruhe, Germany

Potsdam Institute for Climate Impacts Research (PIK), Germany

NCAR Geophysical Turbulence Program, Subfilter scale processes, Boulder, CO

Applied Physics Lab., Johns Hopkins University

European Geophysical Society (Atmospheric Turbulence), Nice, France

SUNY- Stony Brook, College of Ocean and Atmospheric Sciences, NY

Meteo France, CNRM – Toulouse, France

Air Pollution Group, Swiss Federal Inst. Tech., Lausanne

**2001** Iowa Institute of Hydraulics, Civil and Mechanical Engineering, University of Iowa

Center for Talented Youth Environment Day, Johns Hopkins University

Chapman Conference (AGU, Hillslope Hydrology, Sun River Oregon)

Environmental Engineering, Harvard University

Geophysical Fluid Dynamics Inst., Florida State University

**2000** First Kirkham Conference, Iowa State University

Civil and Environmental Engineering, MIT

Atmospheric Technology Div., NCAR, Boulder CO

**1999** Chemistry Department, University of Maryland, College Park

Boundary Layer Meteorology Program, NCAR, CO, Boulder

Conference on multiphase flow, Los Alamos National Laboratory, NM

NCAR-NOAA Conference on measurement and modeling of small scale turbulence, Boulder, CO

Hydrology Program, Uppsala University, Sweden

Hydrology Seminar Series, Oregon State University, Corvallis

Geophysics Program, Colorado School of Mines, Golden

Environmental Science and Engineering, Colorado School of Mines, Golden

Civil and Environmental Engineering, University of Wisconsin, Madison

Environmental and Water Resources Engineering, University of Colorado, Boulder  
Hydrometeorology Program, University of Colorado, Boulder

**1998** Keynote Opening Seminar, International Union of Soil Science, France, Montpellier

Geophysical Turbulence Program, Large Eddy Simulation Conference, NCAR, CO

Environmental Engineering Seminar Series, Johns Hopkins University

Environmental Science and Engineering Seminar Series, University of Delaware

Civil and Environmental Engineering, Princeton University

EAWAG & ETH Zurich, Switzerland

Earth and Planetary Science, Johns Hopkins University

**1997** Earth Science Program, Boston University

Environmental Engineering Science, California Institute of Technology

Hydrology Laboratory, USDA/ARS Beltsville, MD

European Union Conference, Water Resources and Climate Change, U.C. Cork, Ireland

Hydrology Graduate Program, Duke University

**1996** Hydrologic and Atmospheric Science Graduate Groups, University of California, Davis

Mechanical Engineering, Johns Hopkins University

Hydrology Seminar Series, Oregon State University, Corvallis

**1995** Civil and Environmental Engineering, University of Iowa, Iowa City

Civil and Environmental Engineering, U. of Illinois, Urbana

Geography and Environmental Engineering, Johns Hopkins University

Civil and Environmental Engineering, Cornell University, Ithaca NY

ETH Conference, Soil and Water Quality Symposium, Monte Verde, Switzerland

Environmental Science, University of California, Riverside

Soil Science Society of America, Seattle Washington

**1994** Civil Engineering Institute and Disaster Prevention Center, Sapporo, Japan

Civil Engineering, Hokkaido University, Sapporo, Japan

Environmental Science, University of Tsukuba, Japan

Civil Engineering, Chuo University, Tokyo, Japan

Civil Engineering, Tokyo Institute of Technology, Japan

Environmental Sciences Conference, Wageningen University, Netherlands

Atmospheric Science Program, Wageningen University, Netherlands

Climate Division, Livermore National Laboratory, CA

**1993** Environmental Science, University of California, Berkeley

Hydrology Program, University of Nevada, Reno & DRI

Hydrology and Water Resources, Wageningen University, Netherlands

Davies Laboratory, CSIRO, Townsville, Australia

Geophysical Research Program, Los Alamos National Laboratory, NM

**1992** NATO-ASI Conference on Migration and Fate of Pollutants, Acquafredda di Maratea, Italy

Joint Conference, University of California – MIT - French Grandes Ecoles, Paris, France

**1991** Civil and Environmental Engineering, University of California, Berkeley

Atmospheric Science Program, Los Alamos National Laboratory, NM

**1990** Geophysical Fluids Program, Florida State University, Tallahassee

Air Resources Board, California (AMS regional meeting, keynote lecture)

Land, Air and Water Resources, University of California, Davis

**1989** USGS, Reston, VA

USGS, Denver, CO

Civil Engineering, Utah State University

Land, Air and Water Resources, University of California, Davis

Civil and Environmental Engineering, University of California, Berkeley

Civil Engineering, Princeton University