

**CURRICULUM VITAE – December 2022**  
**Jeffrey J. McDonnell, PhD, FRSC**

Global Institute for Water Security  
11 Innovation Boulevard  
Saskatoon SK, S7N 3H5, Canada  
Web of Science Researcher ID I-6400-2013

Tel: +1-306-966-1990  
E-mail: Jeffrey.McDonnell@usask.ca  
<http://www.usask.ca/watershed/>  
ORCID 0000-0002-3880-3162

**EDUCATION**

- 1989 **Ph.D., Forest Hydrology**, University of Canterbury, Christchurch, New Zealand.  
Thesis: "The age, origin and pathway of subsurface stormflow in a steep humid headwater catchment", 270p.
- 1985 **M.Sc., Watershed Ecosystems Graduate Program**, Trent University, Peterborough, Canada.  
Thesis: "Snowcover ablation and meltwater runoff on a small Precambrian Shield watershed", 127p.
- 1983 **B.Sc. (Honors), Physical Geography**, University of Toronto, Toronto, Canada.  
Thesis: "Storm waves, sediment flux and beach morphodynamics in a barred nearshore zone, Wymbolwood Beach, Ontario", 110p.

**REGISTRATION**

1999- P.H., Registered Professional Hydrologist (reg'n #1506), American Institute of Hydrology.

**CITIZENSHIP**

Canadian, British, American

**PROFESSIONAL EXPERIENCE**

- 2012- **Associate Director**, Global Institute for Water Security (2012-); **Professor**, School of Environment and Sustainability, University of Saskatchewan, Saskatoon, Saskatchewan (2012-); **Director**, MOST Facility (2015-); **University Distinguished Professor** (2022-).
- 1999-2012 **Richardson Chair in Watershed Science** (1999-12); **University Distinguished Professor** (2009-12), Department of Forest Engineering, Resources and Management; **Director** (2010-12), Institute for Water and Watersheds, Oregon State University, Corvallis Oregon.
- 1993-99 **Associate Professor** (1993-97); **Professor** (1997-99), SUNY College of Environmental Science and Forestry, Syracuse, New York.
- 1989-93 **Assistant Professor**, Department of Forest Resources, Utah State University, Logan Utah.

**GS h index = 99 Oct 2022 (Total citations 36,000); WOS h index = 82**

## HONORS AND AWARDS

- 2022 Outstanding Achievement Award, New Zealand Hydrological Society  
2022 University Distinguished Professor, University of Saskatchewan  
2022 Elected Fellow, American Association for the Advancement of Science (AAAS)  
2020 First Prize, Outstanding Scientific Publication Award, Luxembourg National Research Foundation (FNR)  
2018 Distinguished Researcher Award, University of Saskatchewan  
2016 International Hydrology Prize (Dooge Medal), International Association of Hydrological Sciences/UNESCO/World Meteorological Organization.  
2015 Elected Fellow, Royal Society of Canada (Canada's National Academy of Science)  
2015 J.W. George Ivany Internationalization Award, University of Saskatchewan  
2015 EGU Jim Dooge Award for best paper in *Hydrology and Earth System Science*  
2015 Nature, 'Multimedia Editor's top picks of 2015' (for 2015 *Nature* paper)  
2014 Elected Fellow, Geological Society of America  
2014 Fellow, Royal Geographical Society (UK)  
2014 NSERC Accelerator Award (\$120,000)  
2011 EPA Scientific and Technological Achievement Award (for 2010 *Nature-Geoscience* paper)  
2009 University Distinguished Professor, Oregon State University  
2009 Doctor of Science (DSc), University of Canterbury  
2009 Elected Fellow, American Geophysical Union  
2009 John Dalton Medal, European Geosciences Union  
2009-2017 Named Chair, 6<sup>th</sup> Century Chair of Hydrology, University of Aberdeen  
2008 Teaching and Mentoring Award, College of Forestry, Oregon State University  
2005 Elected Fellow, International Water Academy, Oslo Norway  
1999-2012 Named Chair, Richardson Chair in Watershed Science, Oregon State University  
1998 Gordon Warwick Medal, British Society for Geomorphology  
1995 Scientific Literacy and Information Scholar Award, State University of New York  
1990 Warren Nystrom Award, Association of American Geographers  
1987 Canterbury Earth Science Prize, Geological Society of New Zealand  
1987 Horton Research Grant Award, American Geophysical Union  
1986 Commonwealth Scholarship and Research Fellowship, New Zealand/Canada  
1985 John B. Webb Memorial Trophy, Canadian Society of Petroleum Geologists

## OTHER PROFESSIONAL DISTINCTIONS

### Named Lectures:

- 2020 Nanshan Distinguished Lecture on the Environment, Southern University of Science and Technology (SUSTech), Shenzhen China  
2017 EGU Leonardo Lecture, European Geophysical Union, EGU Leonardo Conference, Saig, Germany  
2016 Gallagher Lecturer, Department of Geoscience, University of Calgary, Alberta  
2015 Boussinesq Award Lecture, Royal Netherlands Academy of Arts and Sciences, Amsterdam, Netherlands

- 2013 Nannerl Keohane Distinguished Lecture, University of North Carolina at Chapel Hill and Duke University
- 2012 Borland Hydrology Award, Hydrology Days, Colorado State University
- 2011 Birdsall-Dreiss Distinguished Lecturer, Geological Society of America (55 university lecture tour funded by GSA)
- 2009 Woo Lecture, Canadian Geophysical Union
- 2006 Frontier Lecture, American Geophysical Union
- 2006 Penman Lecture, British Hydrological Society, Durham, UK

**Visiting Professorships:**

- 2023 NSERC Catalyst Professor, University of Valencia, Spain (5 months)
- 2023 Institute for Geological and Nuclear Sciences, Wellington, NZ (2 months)
- 2020 Foreign Affairs Canada, Visiting Professor, Universidad Nacional de San Luis, Argentina (3 months)
- 2019- Visiting Professor, Beijing Normal University
- 2019 Visiting Professor, Luxembourg Institute for Science and Technology (9 months)
- 2018-21 Distinguished Visiting Professor, Tsinghua University, Beijing, China
- 2018- Adjunct Professor, University of the Sunshine Coast, Tropical Forests and People Research Centre (3 months)
- 2018-2023 Distinguished Visiting Professor, Beijing Forestry University, Beijing, China
- 2018-2023 Distinguished Visiting Professor, Ludong University, Yantai, China
- 2018- Visiting Chair in Water Science, University of Birmingham, UK
- 2017- Honorary Professor, University of Aberdeen UK
- 2017 Visiting Professor, Luxembourg Institute for Science and Technology (3 months)
- 2016 Visiting Professor, Institute for Geological and Nuclear Science (IGNS) and University of Victoria, Wellington NZ (3 months)
- 2015 CONICYT Visiting Professor, Universidad Austral de Chile (3 months)
- 2014 Visiting Professor, University of Arizona and Biosphere-2 (3 months)
- 2013 Nannerl Keohane Distinguished Visiting Professor, University of North Carolina at Chapel Hill and Duke University (3 months)
- 2009-2014 Visiting Professor, Hohai University, Nanjing China
- 2008-2013 Honorary Professor, Nanjing Hydraulic Research Institute, China
- 2009 Visiting Project Scientist, Isotope Hydrology Division, International Atomic Energy Agency, Vienna, Austria (1 month)
- 2006-07 Fellow and Visiting Professor, Dept. Civil Engineering, Delft, The Netherlands (3 months)
- 2006 DIG Scholar, Dept. of Geography, University of Durham.
- 2005 STINT Fellow, Swedish National Science Foundation, University of Stockholm.
- 2004 Institute for the Study of Planet Earth Speaker, University of Arizona.
- 2003 Gledden Fellow, Center for Environmental Fluid Dynamics, University of Western Australia (3 months)
- 2000 Visiting Professor, Institute of Hydrology, Freiburg University (1 month)
- 1999 Benjamin Meaker Distinguished Visiting Professor, Institute for Advanced Studies, Bristol University (7 months)
- 1998 Hayward Fellow, LandCare New Zealand Ltd. (2 months)
- 1997 Invited Visiting Hydrologist, LandCare New Zealand.
- 1997 STA Fellow, Japan Science and Technology Agency, Japan Forestry and Forest

1989 Products Research Institute (3 months)  
Invited Fellow, Universities Space Research Association (USRA), NASA Marshall Space Flight Center (12 months; leave taken from Utah State University)

**Journal Editorships:**

2017- Editorial Board, *MASKANA* (the multidisciplinary journal of the University of Cuenca).

2015- Editorial Board, *Rhizosphere*, Elsevier.

2015- Editorial Board, *Sustainable Water Developments* (Book Series), CRC Press.

2014-16 Editorial Board, *Forest Research—Open Access*, OMICS Publishing Group

2014- Editorial Board, *Wires Water*, John Wiley and Sons

2014- Editorial Board, *Hydro-Science and Engineering*, Nanjing Hydraulic Res. Institute, China

2014-18 Associate Editor, *Journal of Hydrology and Hydromechanics*, Open access journal.

2014- Editorial Board, *Asian Journal of Geosciences*, Hindawi Publishers

2012- Editorial Board, *Water*, MDPI Publishers, Switzerland

2011- Editorial Board, *Advances in Water Science* (China), UNESCO

2011- Editorial Board, *International Journal of Hydrology Science and Technology* Inderscience Enterprises Ltd (UK).

2007- Editorial Board, *Ecohydrology*, John Wiley and Sons.

2006-11 Editorial Board, *Geography Compass*, Blackwell Publishers

2005-10 Associate Editor, *Hydrology and Earth System Science (HESS)*, European Geophysical Union

2004- Editorial Advisory Board, *Forest Science and Technology*, Taylor and Francis Ltd

2003-05 Associate Editor, *Journal of Hydrologic Engineering*, ASCE

2004-2014 Editor-in-Chief, *Benchmark Papers in Hydrological Sciences*, Book Series, IAHS Press

2004-2006 Senior Advisory Editor, *Encyclopedia of Hydrology*, John Wiley and Sons.

2005 Associate Editor (Rainfall-Runoff Processes), *Encyclopedia of Hydrology*, John Wiley and Sons.

1999-05 Founding Editor, *Hydrological Processes HP Today*, John Wiley and Sons.

1999-2006 Associate Editor, *Hydrological Sciences Journal*, IAHS Press.

1998-01 Editorial Advisory Board, *Progress in Environmental Science*, Edward Arnold.

1997-2007 Associate Editor, *Journal of Hydrology*, Elsevier Science Publishers.

1995-98 Associate Editor, *Water Resources Research*, American Geophysical Union

1994- Editorial Board, *Hydrological Processes*, John Wiley and Sons.

**Guest Editorships:**

2016 *Hydrological Processes*, Special Issue on Tribute to Keith Beven, (co-edited with Jake Peters, George Hornberger, Andrew Binley and Mike Kirkby).

2015 *Hydrological Processes*, Special Issue on Isotope Tracers in Hydrology (co-edited with Kevin McGuire).

2015 *Hydrological Processes*, Special Issue on Hydrogeology (co-edited with Henry Lin, John Nimmo and Yakov Pachepsky)

2012 Content Consultant, *Hydrology Careers*, Scholastic Books Inc,

2011 Content Consultant, *Hydrology*, Scholastic Books Inc,

- 2002 *Hydrological Processes*, Special Issue on Runoff Generation Modeling (co-edited with Stefan Uhlenbrook and Chris Leibundgut).
- 2001 *Hydrological Processes*, Special Issue on Forest Hydrology and Biogeochemistry (co-edited with Tadashi Tanaka).

**Invited/Elected International Boards, Committees and Commissions:**

- 2019-  
2019- CIFAR Advisory Board Member, Earth 4D - Subsurface Science and Exploration International Advisory Board, The “Lancang-Mekong Watershed Project”, Climate and Water Resources Change in Mainland Southeast Asia
- 2019-2020 Past President, AGU Hydrology Section
- 2019-2020 Chair, AGU Hydrology Section Nominations Committee
- 2017-18 Elected Member, AGU Council
- 2017-18 President, AGU Hydrology Section
- 2016 Chair, Editor-in-Chief Search Committee, Water Resources Research (AGU)
- 2015-16 Chair, AGU Fellows Selection Committee, Hydrology Section
- 2015-16 President-Elect, AGU Hydrology Section
- 2014 NSERC Joint Prizes Selection Committee (for the John C. Polanyi Award, the Brockhouse Canada Prize, and the Gerhard Herzberg Canada Gold Medal).
- 2014 Scientific Advisory Board, Plant-water interlinkages in northern uplands – mediation of climate change”. Leverhulme Trust UK
- 2013-17 Scientific Advisory Board, Water Institute, University of Waterloo
- 2014 Invited Delegate, Commonwealth Science Conference, Bangalore India
- 2012- Scientific Advisory Board, TERENO (Terrestrial Environmental Observatories), Helmholtz UFZ, Germany.
- 2011-14 AGU Fellows Selection Committee, Hydrology Section
- 2011 Member, Search Committee for EPA Director of the Environmental Sciences Division, National Exposure Lab, Las Vegas
- 2010-12 Scientific Advisory Committee, German Water Science Alliance, Helmholtz UFZ, Germany.
- 2010- Science Advisory Group, International Association of Hydrological Sciences, Prediction in Ungauged Basin (PUB) Initiative.
- 2009-12 Member, Dalton Medal Selection Committee
- 2009-11 Member, EGU Nominations Committee
- 2007-10 Member, AGU Nominations Committee
- 2006-09 Member, UNESCO PUB-HELP-FRIEND Technical Working Group
- 2005-07 Chair, Science Steering Group, International Association of Hydrological Sciences, Prediction in Ungauged Basin (PUB) Initiative.
- 2004-12 Chair, PUB Working Group on Slope Intercomparison Experiment (SLICE)
- 2004-12 Member, PUB Working Group on Hydrological Theory
- 2004-07 Member, UN Committee on IDP-PUB relations
- 2004-07 USA Representative, UNESCO HELP Program and network of hydrological observatories
- 2003-05 Member, Science Steering Group, International Association of Hydrological Sciences, Prediction in Ungauged Basin (PUB) Initiative.
- 2003-06 Member, IAPSO-IAHS Joint Commission on Groundwater-Seawater Interactions
- 2002-05 Member, Science Steering Group SSG, International Association of Hydrological

2001-03 Sciences (IAHS) Prediction in Ungauged Basin (PUB) Initiative.  
 Member, CUASHI Instruments Committee, AGU/NSF  
 2001-05 President, IAHS International Commission on Tracers (ICT),  
 2000-04 Member, AGU Horton Research Grant Committee.  
 1999 Member, Experts Group for IAEA-UNESCO-WMO Joint International Isotope Hydrology Program (JIHP).  
 1999-01 President-Elect, IAHS International Commission on Tracers (ICT)  
 1999-02 Member, Science Steering Committee SSC, IGBP Biospheric Aspects of the Hydrological Cycle (BAHC).  
 1998-00 Chair, Surface Water Committee, American Geophysical Union (AGU).  
 1996-00 Member, UNESCO International Hydrological Program, Working Group 6 - Hydrological Processes in the Humid Tropics.  
 1995-98 Deputy Chair, Surface Water Committee, American Geophysical Union (AGU).  
 1993-94 Member, New York City, Scientific Working Group on Hydrologically Sensitive Areas, New York City Water Supply, New York City, NY.  
 1991- Member, Surface Water Committee, American Geophysical Union (AGU).  
 1991-94 Wildland Erosion Committee, American Water Resources Association (AWRA)  
 1991-94 NASA Earth System Science Education Steering Committee, NASA.  
 1991-93 Chair, USU Global Change Fellowship Committee for U.S. Department of Energy (DOE) and Oak Ridge National Lab Associated Universities.

#### **Review Panels:**

2023 Canada Excellence Research Char (CERC) reviewer, NSERC  
 2020 Expert Reviewer, International evaluation of the Chinese Academy of Sciences (CAS) Center for Excellence in Eco-environmental Sciences  
 2020- CIFAR Azrieli Global Scholar Selection Committee Member  
 2018 External Reviewer, Helmholtz Association of German Research Centers (Environmental Program), Leipzig  
 2018 External Reviewer, IUFRO "Forests and Water " by the Global Forest Expert Panel.  
 2017 NSERC Site Review Team Member, Network Program Evaluation, Calgary.  
 2016 Roundtable Panel Member, Advisory Panel and Secretariat for Canada's Science Review, Department of Innovation, Science and Economic Development, Calgary.  
 2014 External Reviewer, State Water Resources Control Board, Cal/EPA Division of Water Rights Volume Depletion Approach Study, Sacramento CA.  
 2012- UN International Atomic Energy Agency (IAEA) Expert for *BRA7010 Sustainable Water Resources Management in a Uranium Production Site*, Instituto de Radioproteção e Dosimetria, Rio de Janeiro, Brazil  
 2011 Member, Review Team, Tsinghua University, Dept. Civil and Hydraulic Engineering  
 2008 NSF Committee of Visitors (COV), for the overall review of the NSF Geobiology and Low Temperature Geochemistry, Geomorphology and Land-Use Dynamics, Hydrological Sciences and Sedimentary Geology and Paleobiology programs, Washington DC  
 2005 Korean Sustainability of Water Resources Research Program, Seoul South Korea

- 2005 US Forest Service, Air and Water Research Logic Model review, Riverside CA.
- 1998 National Science Foundation Annual Review Panel Member, Civil Infrastructure
- 1994-98 Research Center, Puerto Rico EPSCoR Program (annual review in Mayaguez)
- 1998-00 Advisory Board and Peer Review Panel, Adirondack Park Agency.
- 1996 Environmental Protection Agency Review Panel Member, Ecological Assessment and Restoration Program, Washington, DC.
- 1995 McIntire-Stennis Review Panel, State of New York.

**Keynote Addresses and Invited Talks at International Conferences:**

- 2022 Café Geológico, Geological Survey of Brazil, Department of Hydrology, Rio de Janeiro, Brazil (via Zoom)
- 2021 Conference Keynote, XXIV Brazilian Symposium on Water Resources, Belo Horizonte City, Brazil (via Zoom)
- 2021 Conference Keynote, The River Chief International Forum on the Ecological Protection and High Quality Development of the Yellow River Basin, Zhengzhou China (via Zoom)
- 2021 2<sup>nd</sup> China Isotope Hydrology Forum, Yantai, China (via Zoom)
- 2021 Plenary Talk, Research and Observatory Catchments: The legacy and the future, CUAHSI Virtual Lecture Series
- 2020 Falling Walls and Berlin Science Week, Invited 3-member Panel on Breakthroughs in Water Diagnosis, Berlin Germany (via Zoom)
- 2019 UC Berkeley, Catchment Sciences Symposium, Berkeley, CA
- 2019 IUGG-IAHS, Session on *How to write and publish a paper in hydrology*, Montreal
- 2019 International Symposium on Water Security and Climate Change, SUSTech, Shenzhen, China
- 2017 EcoHydro2017: International Multidisciplinary Conference on: Hydrology and Ecology, Birmingham UK [Conference Keynote]
- 2017 AWRA Spring Specialty Conference on Aquatic System Connectivity, Alta Utah [Conference Keynote]
- 2017 European Geophysical Union, *Meet the Expert* Session, Vienna
- 2016 American Geophysical Union, Session on *Preferential flow and transport across scales in the Critical Zone*, San Francisco
- 2016 Joint European Stable Isotopes User Group (JESIUM) Meeting, Ghent Belgium.
- 2016 3rd International Conference on Hydropedology, Beijing, China.
- 2016 AGU Chapman Conference on Tropical Ecohydrology, Cuenca Ecuador
- 2015 American Geophysical Union, Session on *DEMs in watershed modeling*, San Francisco
- 2015 American Geophysical Union, Session on *Critical zone at large watershed scales*, San Francisco
- 2015 International Conference on Forests and Water, Kelowna, BC Canada
- 2014 American Geophysical Union, Session on Ecohydrological Change, San Francisco CA
- 2014 Soil Science Society of America, Session on Hydropedology, Long Beach CA
- 2014 Geological Society of America, Session on Critical Zone Hydrology, Vancouver BC
- 2014 Japan Geophysical Union, Session on Insight into Change and Evolution in Hydrology, Yokohama, Japan

- 2013 AGU Chapman Conference on Soil Mediated Drivers of Coupled Hydrological and Biogeochemical Processes, Tucson, AZ
- 2013 Hydrogeology and Sustainable Natural Resource Mgmt, Beijing Normal Univ.
- 2013 Gordon Research Conference on Catchment Science, Holderness, NH
- 2013 Washington Hydrogeology Symposium, Tacoma WA
- 2012 American Geophysical Union, Session on *Hydrogeophysics*, San Francisco
- 2012 American Geophysical Union, Session on *Scaling in hydrology*, San Francisco
- 2012 IAHS Prediction in Ungauged Basins Decadal Celebration, Delft, NL
- 2012 50 Years of Watershed Modeling: Past, Present and Future. Boulder CO
- 2012 2<sup>nd</sup> International Conference on Hydrogeology, Leipzig, Germany
- 2012 Joint Canadian Geophysical Union / Canadian Water Resources Association meeting, Banff AB
- 2011 50<sup>th</sup> Anniversary Meeting, New Zealand Hydrological Society, Wellington NZ
- 2011 Geological Society of America, Birdsall-Dreiss Lecture, Minneapolis, MN
- 2011 Modflow and More 2011, International Groundwater Modeling Center, Golden, CO
- 2011 Canadian GEOHAZARDS 5 Conference, Kelowna, BC
- 2011 IAHS PUB Meeting: Putting PUB into Practice, Canmore, AB
- 2011 National Groundwater Association Annual Meeting, Baltimore, MD
- 2011 BASIN: Role of Stable Isotopes in Water Cycle Research, Keystone CO
- 2010 First Annual Water Research Horizon Conference, Berlin Germany.
- 2010 CUAHSI Biennial Conference, Lunchtime Keynote on “How to Publish a Paper”, Boulder CO
- 2010 International Conference on Triggering of Mass Movements in Steep Terrain, Monte Verita, Switzerland.
- 2009 American Geophysical Union, Session on *The Fellows Speak*, Toronto Canada
- 2009 Canadian Geophysical Union, Woo Lecture, Toronto Canada
- 2009 European Geosciences Union, Vienna, Keynote lectures in five different sessions, including the Dalton Lecture, Vienna.
- 2008 2<sup>nd</sup> China PUB Conference on Integrated Water Management in Mountainous Areas, Chengdu China.
- 2008 Geological Society of American and Soil Science Society of America, Session on *Variably Saturated Flow in Soil and Rock*, Houston TX
- 2008 1<sup>st</sup> International Hydrogeology Conference, Penn State University, College Park PA
- 2008 CUAHSI Biennial Conference, Session on New Hydrological Theory, Boulder CO
- 2007 University of California at Berkeley, Catchment Sciences Symposium, Berkeley, CA
- 2007 American Geophysical Union Fall Meeting, Session on *Contributions by the US to International Hydrology*, San Francisco.
- 2007 American Geophysical Union Fall Meeting, Session on *Advances in Water Quality Modeling*, San Francisco. \*\*
- 2007 IUGG/IAHS General Assembly, Session on *Patterns, Thresholds and Non-linearities: Towards a new Theory of Catchment Hydrology*, Perugia, Italy.
- 2007 European Geophysical Union, Session on *Gauging the Ungauged Basin*, Vienna, Austria.\*\*



- 2007 IAEA International Conference on *Advances in Isotope Hydrology and its Role in Sustainable Water Resource Management*, Vienna, Austria.
- 2006 American Geophysical Union Fall Meeting, Session on *From Karst to Catchment—Preferential Flow Processes Within Surface and Subsurface Hydrologic Systems*, San Francisco.
- 2006 American Geophysical Union Fall Meeting, Session on *Bridging Hydrology, Soil Science, and Ecology: Hydropedology and Ecohydrology*, San Francisco (given by co-author)
- 2006 British Hydrological Society, 9<sup>th</sup> National Symposium, Durham, UK
- 2006 China PUB Conference on Flood Forecasting and Water Resources Assessment. Beijing China.
- 2006 IAHS 2020 1-Day Conference, IHE Delft, *The Future of Hydrology*, Delft NL
- 2005 American Geophysical Union Fall Meeting, Frontier Lecture on *The Future of Runoff Generation in Gauged and Ungauged Basins*, San Francisco
- 2005 American Geophysical Union Fall Meeting, Session on *Hydropedology*, San Francisco
- 2005 American Geophysical Union Fall Meeting, Session on *Watershed Characterization*, San Francisco
- 2005 Stockholm Water Conference, Session on *Policy Implications of PUB*, Stockholm, Sweden
- 2005 Sir Mark Oliphant Conference on *Thresholds and Pattern Dynamics*, Perth Australia
- 2005 IAHS Symposium on *Model Improvements Through Detailed Process Studies*, Foz Iguacu, Brazil
- 2004 American Geophysical Union Fall Meeting, Session on *Process Heterogeneity and Model Predictability*, San Francisco
- 2004 American Geophysical Union Fall Meeting, Session on *Experimental Catchments and Observatories for Cold Season Hydrologic Analysis*, San Francisco
- 2004 Geological Society of America, Session on *Upcoming Revolutions in Observing Systems: Implications for Hydrogeology*, Denver CO
- 2004 International Instrumented Watershed Symposium, Edmonton, Canada.
- 2004 American Geophysical Union Spring Meeting, Session on *Runoff Processes Identification*, Montreal\*\*
- 2004 American Geophysical Union Spring Meeting, Session on *Scale in Catchment Hydrobiogeochemistry*, Montreal\*\*
- 2004 European Geophysical Union, Session on *Links Between Vadose Zone and Catchment Hydrology*, Nice, France\*\*
- 2003 Water and Environment 2003: Indian Water Resources Engineering Society, Bhopal India
- 2003 American Geophysical Union Fall Meeting, Session on *Prediction in Ungauged Basins*, San Francisco
- 2003 American Geophysical Union Fall Meeting, Session on *Linkages Between Hydrology and Geomorphology*, San Francisco
- 2003 American Geophysical Union Fall Meeting, Session on *Hillslope Hydrology*
- 2003 International Association of Hydrological Sciences, Session on *Parameter Estimation Techniques*, Sapporo Japan
- 2003 IAEA 40<sup>th</sup> Anniversary Conference on Isotopes in Hydrology, Vienna Austria

- 2003 European Geophysical Society, Session on *Tracers and Biogeochemistry*, Nice France
- 2003 European Geophysical Society, Session on *Prediction in Ungauged Basins*, Nice
- 2001 American Geophysical Union Fall Meeting, Session on *Watershed Intercomparison*, San Francisco\*\*
- 2001 American Geophysical Union Fall Meeting, Session on *Non-Linear Geophysics*, San Francisco
- 2001 IGBP Global Change Forum, Session on *Mountains and Global Change*, Amsterdam
- 2000 European Geophysical Union, Session on *Mountain Hydrology*, Nice France.
- 2000 IUFRO and UNESCO Symposium *Forests-Water-People in the humid tropics Past, Present and Future Hydrological Research for Integrated Land and Water Management*, Kuala Lumpur, Malaysia.
- 1999 IAHS/IUGG, Session on *Integrated Methods in Catchment Hydrology—Tracer, Remote Sensing and New Hydrometric Techniques*, Birmingham, UK
- 1998 IUFRO Conference on Environmental Forest Science, Session on *Progress of Field Studies on the Water Cycle in Forests*, Kyoto Japan.
- 1998 American Geophysical Union Fall Meeting, Session on *The Links Between Soil Properties, Terrain Features, and Runoff Processes in Catchments*. San Francisco.
- 1996 American Geophysical Union Fall Meeting, Session on *Spatial Processes and Scaling: Merging Field Data Collect and Distributed Modeling*, San Francisco.
- 1995 International Association of Hydrological Sciences, Session on *Biospheric and Hydrological Aspects of Land-Surface Process Studies, Experiments and Modeling in Mountain Areas*, Boulder.
- 1994 American Geophysical Union Gordon Research Conference on *Hydrological-Biologic-Geochemical Interactions in Forest Watersheds*, New Hampshire.
- 1995 American Geophysical Union Spring Meeting, Session on *Innovative Techniques in Groundwater Hydrology*, Baltimore.
- 1993 European Geophysical Meeting, Session on *Spatially-Distributed Hydrological Modeling*, Wiesbaden, Germany.
- 1992 Association of American Geographers Annual Meeting, Session on *Dilettantism in Hydrology*, San Diego.

**Keynote Addresses and Invited Talks at International Workshops:**

- 2021 Apple Industry Forum on Intelligent Agriculture, Penglai, China.
- 2020 Workshop Keynote, International Workshop on Field Hydrological Research, The National Institute of Engineering, Mysura; The Indian Institute of Technology, Guwahati, India (via Zoom)
- 2020 Regional Workshop on “Forest Hydrology: A National Strategy”, Concepcion Chile
- 2020 Regional Workshop on Isotope Ecohydrology, Universidad Nacional de San Luis, Argentina, San Luis, Argentina
- 2019 Toward an International Critical Zone Network-of-Networks for the Next Generation through Shared Science, Tools, Data and Philosophy, San

Francisco, CA  
 2018 US DOE Watershed Collaboration Workshop, Crested Butte, CO (via Skype)  
 2017 Workshop on 'Water Ages', Freiburg, Germany  
 2017 Workshop on 'Isotope-based studies of water partitioning and plant-soil interactions in forested and agricultural environments', Tuscany, Italy (via Skype)  
 2016 TERENO Workshop on Ecology and Water Quality, Leipzig, Germany  
 2015 Workshop on Forest Hydrology: Future research questions and challenges, OSU Foundation, Portland OR  
 2015 Workshop on Critical Puzzles about Trees, Water, and Soil, Penn State University, University Park, PA  
 2015 PEDOFRACT Workshop, A Coruña, Spain  
 2014 Third International Tropical Hydrology Workshop, Malaysian Borneo.  
 2013 Ecohydrology of Semi-Arid Environments. Ben-Gurion University of the Negev, Israel  
 2013 US-Japan Hydrology and Biogeochemistry workshop, East-West Center, Hawaii  
 2011 Tropical Hydrology Workshop, U.S. Army Research Office, Maui, Hawaii  
 2009 Tropical Hydrology Workshop, U.S. Army Research Office, Republic of Panama  
 2009 Workshop on State-of-the-art of Residence Time Modeling, IAEA Vienna  
 2008 Invited Panelist, The California Flood Management Association, Panel on Climate Change Impacts on Flood Management, San Diego, CA  
 2008 Invited Panelist, The Nature Conservancy-USGS workshop on Regional Scale Streamflow-Ecological Relationships, Seattle.  
 2008 Biosphere 2 Hillslope Planning Workshop, National Center for Hydrological Synthesis and Biosphere 2, Oracle AZ \*\*  
 2008 Northwest Forest Soils Council, Workshop on Soil-Plant-Water Relations, Bellingham WA  
 2007 PUB Workshop on Conceptualizing Process Heterogeneity, Aberdeen, Scotland  
 2007 Multiscale Nonlinear Systems Workshop, Dept. of Mathematics, Oregon State University, Corvallis OR  
 2006 USA PUB Workshop, Oregon State University, Corvallis OR  
 2005 All-Sweden Hydrology Workshop on *State of the Art of Catchment Hydrology*, Stockholm  
 2005 Slope Intercomparison Experiment (SLICE) Workshop, HJ Andrews, Oregon  
 2004 UNESCO Workshop on *Pesticide Fate and Transport at the Hillslope and Watershed Scale*, GSF Munich, Germany.\*\*  
 2004 NATO Workshop on *State of the Art of Physically Based Modeling*, Moscow, Russia  
 2004 CUASHI Vision Workshop on *New Theory in Hydrology*, Corvallis OR  
 2004 Australia-Japan Workshop on *Prediction in Ungauged Basins*, Perth, Australia.  
 2002 Peter Wall Institute Workshop on *Scaling and Non-linearity*, UBC, Canada  
 2002 IAHS Inaugural Workshop on *Prediction in Ungauged Basins (PUB)*, Kofu Japan  
 2002 BC Workshop on *Small Stream Channels and Their Riparian Zones: Their Form, Function and Ecological Importance in a Watershed Context*, University of British Columbia, Canada  
 2001 IAEA Workshop on *Isotopes in Water Cycle Models*, Vienna, Austria  
 2001 CSIR Workshop on *Isotope Tracers in Catchment Hydrology*, Stellenbosch, South Africa,

- 2001 IGBP Joint BAHC and GEWEX Workshop, Amsterdam, The Netherlands.
- 2000 IGBP Joint IGBP BAHC & WCRP/GEWEX-ISLSCP Workshop, Caracas, Venezuela.
- 1999 NSF Joint Seminar on *Hydrology and Biogeochemistry of Forested Catchments*, East-West Center, Hawaii.
- 1999 IGBP BAHC Workshop on *Global Change and Mountain Regions*, Shonan Village, Japan.
- 1998 IGBP BAHC Workshop on *Mountain Headwater Hydrology and Ecology*, Pontresena, Switzerland.
- 1998 UNESCO Hydrology of the Humid Tropics Workshop on *Hydrological Processes and Modeling in the Humid Tropics*, Umea, Sweden.
- 1996 New Zealand Forest Research Institute (LandCare NZ) Workshop on *Future of Forest Catchment Research in New Zealand - planning through the year 2000*, Christchurch, NZ
- 1996 IGBP BAHC Workshop on *Predicting Global Change Impacts on Mountain Hydrology and Ecology*, Katmandu, Nepal.
- 1994 NATO Advanced Science Workshop on *Global Change Research and Education*, London, Ontario.
- 1994 IGBP BAHC Workshop on *Continental-Scale Transport of Nutrients and Sediments to Oceans*, Durham, New Hampshire.

*\*\*given on my behalf by one of my Post Docs or PhD students*

#### **Invited Talks at Universities:**

- 2022 Thompson Rivers University, Department of Geography & Environmental Studies
- 2021 University of British Columbia (Okanagan), Department of Earth, Environmental and Geographic Sciences Seminar Series (via Zoom)
- 2020 Water Resources Research Center Seminar Series, University of Hawai'i at Mānoa (via Zoom)
- 2020 School for Young Scientists "Modelling and forecasting of river flows and managing hydrological risks: towards a new generation of methods", Institute for Water Problems Institute of the Russian Academy of Sciences, (via Zoom)
- 2020 Distinguished Lecture, College of Water Science, BNU (via Zoom)
- 2020 Ludong University, Yantai China (via Zoom)
- 2020 Beijing Forestry University, Beijing China (via Zoom)
- 2020 Tsinghua University, Beijing China (via Zoom)
- 2020 77<sup>th</sup> Master Forum Talk, Westlake University, China (via Zoom)
- 2020 Beijing Normal University, Beijing, China (via Zoom)
- 2020 Postdoctoral and Early Researcher Career Development and Training (PERCAT) program, University of Birmingham UK (via Zoom)
- 2020 Universidad Nacional de San Luis, Argentina
- 2019 Ryerson University, Department of Geography & Environmental Studies, Toronto
- 2019 University of Padua, Dept. of Land, Environment, Agriculture and Forestry, Padua, Italy
- 2019 University of Florence, Dept. of Agriculture, Food, Environment and Forestry, Florence, Italy
- 2019 Beijing Forestry University, Beijing China
- 2019 Beijing Normal University, College of Water Science, Beijing China

2019 Tsinghua University, Dept of Hydraulic and Civil Engineering, Beijing China

2019 Glasgow University, Dept of Geography, Glasgow, Scotland

2019 Strasbourg University, Dept of Geology, Strasbourg France

2019 Ludong University, Dept of Natural Resources, Yantai China

2019 Bristol University Dept of Civil Engineering, Bristol UK

2019 University of Virginia, Water Resilience Program, Dept. Environmental Science

2018 University of Nevada, Reno, Graduate Program of Hydrologic Sciences, Reno

2018 University of Alabama, Dept of Geography, Tuscaloosa

2018 McMaster University, Global Water Futures, Early Career Mentoring, Hamilton.

2018 Ludong University, Yantai, China

2018 Tsinghua University, Dept of Civil and Hydraulic Engineering, Beijing China

2018 McMaster University, GWF Early Career Mentoring Event, Hamilton

2018 Northwest Agriculture and Forestry University, Yangling China

2018 Beijing Normal University, Beijing China

2018 Faculty of Soil and Water Conservation, Beijing Forestry University

2018 Distinguished Lecture, SUSTech, Shenzhen China

2018 Birmingham University, Campus World Water Day celebration, Birmingham UK

2018 Melbourne University, School of Engineering, Melbourne, Australia

2018 Monash University, Dept. of Civil Engineering, Melbourne, Australia

2018 University of the Sunshine Coast, Sustainability Institute, Sippy Downs, Australia

2017 Concordia University, Faculty of Engineering and Computer  
Sciences Distinguished Speaker Series, Montreal

2017 McGill University, Dept. of Earth and Planetary Sciences, Montreal

2017 Durham University, Dept. of Geography, Durham UK

2017 Kyoto University, Dept. of Civil Engineering, Kyoto, Japan.

2017 Giessen University, Institute for Landscape Ecology and  
Resources Management, Giessen, Germany

2017 Freiburg University, Faculty of Environment and Natural Resources, Freiburg,  
Germany

2017 University of Lausanne, Institute of Earth Surface Dynamics, Lausanne,  
Switzerland

2017 University of Luxembourg, Doctoral Training Program, Luxembourg

2016 Saskatchewan Polytechnic, Simulcast across 4 campus in Saskatchewan,  
Canada

2016 Oregon State University, Post Doc Association, Corvallis Oregon

2016 National Autonomous University of Mexico (UNAM), Mexico City, Mexico

2016 University of Victoria, Dept. of Earth and Environmental Science, Wellington NZ

2016 University of the Sunshine Coast, Sustainability Research Centre, Queensland,  
Australia

2015 Institute for Atmospheric and Climate Science, ETH Zurich, Switzerland

2015 Faculty of Geo-information Science and Earth Observation, Twente University,  
The Netherlands

2015 Dept. Civil Engineering, TU Delft, The Netherlands

2015 State Key Laboratory for Soil Erosion, NW Agriculture and Forestry University,  
China

2015 Dept. of Geology, University of Manitoba, Winnipeg MB

2015 Campus-Wide Lecture, Universidad San Francisco de Quito, Ecuador

2015 Dept. of Civil Engineering, Universidad Cuenca, Cuenca Ecuador  
 2015 Universidad Catolica de Chile, Santiago Chile  
 2015 Dept. of Resources, Water and Environmental Sciences, University of Cuenca, Ecuador  
 2014 Dept. Civil Engineering, Indian Institute of Science, Bangalore  
 2014 University of Southern California, Dept. of Earth Science, Los Angeles  
 2014 NW Agriculture and Forestry University, Yangling China  
 2014 Kyoto University, Dept. of Civil Engineering, Kyoto Japan  
 2014 Tohoku University, Dept. of Civil Engineering, Sendai Japan  
 2014 UC Irvine, Dept. of Civil and Environmental Engineering, Irvine CA  
 2013 Tsinghua University, Dept. of Hydraulics and Civil Engineering, Beijing.  
 2013 Virginia Tech, College of Natural Resources, Blacksburg, VA  
 2013 NC State University, Dept. Marine, Earth, & Atmospheric Sciences, Raleigh NC  
 2013 University of North Carolina, Ecology Program, Chapel Hill, NC  
 2012 University of South Carolina, Dept. of Earth and Ocean Science, Columbia SC  
 2012 CUASHI Cyber Seminar, 50 member universities. Broadcast from Savannah River Site  
 2012 University of Waterloo, The Water Institute, Waterloo ONT  
 2011 University of Victoria, Dept. of Geography, Wellington NZ  
 2011 Tsinghua University, Dept. of Civil and Hydraulic Engineering, Beijing China.  
 2011 University of Oregon, Dept. of Geography, Eugene OR  
 2011 University of Oregon, Dept. of Geology, Eugene OR  
 2011 University of Western Oregon, Dept. of Earth Sciences, Monmouth OR  
 2011 University of British Columbia, Kelowna Campus, Kelowna BC  
 2011 University of Calgary, Dept of Geosciences, Calgary AB  
 2011 University of Delaware, Delaware Environmental Institute, Newark, DE  
 2011 Syracuse University, Dept of Geology, Syracuse NY  
 2011 SUNY Oswego, Dept of Geology, Oswego NY  
 2011 SUNY Oneonta, Dept of Geology, Oneonta NY  
 2011 University of Massachusetts, Amherst MA  
 2011 Portland State University, Dept of Geology, Portland OR  
 2011 University of Arizona, Dept of Geology, Tucson, TX  
 2011 Florida International University, Dept of Earth System Science, Miami FLA  
 2011 University of Memphis, Dept of Geology, Memphis TN  
 2011 Baylor University, Dept of Earth Sciences, Waco TX  
 2011 University of Texas-Austin, Dept of Geology, Austin TX  
 2011 University of Texas-Arlington, Dept of Geology, Arlington TX  
 2011 Utah State University, Dept of Geology, Logan UT  
 2011 University of Alberta, Dept of Natural Resources, Edmonton, Canada  
 2010 Yale University, School of Forestry and Environmental Studies, New Haven, CT  
 2009 UC Santa Barbara, Bren School of the Environment, Santa Barbara CA  
 2009 University of Aberdeen, Dept. of Geography, Aberdeen, Scotland  
 2008 University of Connecticut, Dept of Civil and Env. Engineering, Storrs, CT  
 2008 Washington State University, Dept of Civil and Environmental Engineering, Pullman, WA  
 2007 Texas A & M University, Distinguished Lecture in Multi-Scale Nonlinear, College Station, TX

2007 University of Colorado, Hydrological Sciences Program, Boulder, CO  
 2006 National Center for Earth-Surface Dynamics, St. Anthony Falls Laboratory,  
 University of Minnesota, Minneapolis  
 2006 Durham University, Dept. of Geography, Durham, UK  
 2005 CUAHSI Cyber Seminar, 50 member US universities, Broadcast from Corvallis  
 2005 University of Stuttgart, Dept. of Civil and Environmental Engineering, Stuttgart,  
 Germany  
 2005 University of Uppsala, Dept of Physical Geography, Uppsala, Sweden  
 2005 University of Stockholm, Dept. of Geography and Quaternary Geology,  
 Stockholm Sweden  
 2005 Swedish Agricultural University, Dept. of Environmental Science, Uppsala,  
 Sweden  
 2005 University of Oregon, Dept of Geography, Eugene, OR  
 2005 University of Nevada Reno, Desert Research Institute, Reno NV  
 2004 University of Arizona, Dept. of Hydrology, Tucson AZ  
 2004 ETH Zurich, Dept. of Civil, Environmental and Geomechanics Engineering,  
 Switzerland  
 2004 EAWAG Dübendorf, Dept. of Environmental Chemistry, Zurich Switzerland  
 2004 University of Bern, Dept. of Geographical Sciences, Bern Switzerland.  
 2004 University of Illinois, Center for Water as a Complex System, Urbana-Champaign  
 IL  
 2004 CUAHSI Cyber Seminar, 50 member US universities, Broadcast from Corvallis  
 OR  
 2004 Boise State University, Dept. of Geology, Boise ID  
 2004 UC Berkeley, CUAHSI Hydrological Synthesis Center Review, Berkeley CA  
 2003 University of Western Australia, College of Geosciences, Perth, Australia  
 2003 University of Melbourne, Dept. of Civil Engineering, Melbourne, Australia  
 2003 Newcastle University, Dept. of Civil and Environmental Engineering, Newcastle,  
 Australia  
 2003 University of New South Wales, Dept. of Civil and Environmental Engineering,  
 Sydney, Australia  
 2003 Australia National University, iCAM Center, Canberra Australia  
 2003 Technical University of Vienna, Dept. of Civil Engineering, Vienna Austria  
 2003 University of Western Australia, Center for Water Research, Perth, Australia  
 2003 University of Oregon, Dept. of Geosciences, Eugene, OR  
 2003 Utah State University, Dept. of Civil and Environmental Engineering, Logan UT  
 2003 Stanford University, Dept. of Earth Science, Palo Alto, CA  
 2003 UC Davis, Dept. of Land Atmosphere and Water Science, Davis CA  
 2002 Uppsala University, Dept. of Earth Sciences, Uppsala, Sweden  
 2001 Colorado State University, Dept. of Earth Science, Fort Collins, CO  
 2000 Swiss Federal Institute (ETH) Zurich, Institute of Hydrology, Zurich Switzerland  
 2000 Freiburg University, Institute of Hydrology, Freiburg Germany (a 4-lecture series)  
 2000 Dartmouth University, Dept. of Earth Sciences, Hanover NH  
 1999 Imperial College London, Dept. of Civil Engineering, London UK  
 1999 Exeter University, Dept. of Geography, Exeter UK  
 1998 Princeton University, Distinguished Lecturer Series, Dept. of Civil and  
 Environmental Engineering, Princeton, NJ.

1998 University of Waterloo, Groundwater Center, Waterloo, Canada.  
 1998 Uppsala University, Dept. of Hydrology, Uppsala Sweden.  
 1998 Trent University, Watershed Ecosystems Program, Peterborough, Canada.  
 1997 University of Toronto, Dept. of Geography, Toronto, Canada.  
 1997 University of Tsukuba, Dept. of Earth Sciences, Tsukuba, Japan.  
 1997 University of North Carolina, Dept. of Earth Sciences, Charlotte, NC.  
 1996 Harvard University, Dept. of Earth and Planetary Sciences, Cambridge, Mass.  
 1996 Carnegie Mellon University, Dept. of Civil and Env. Engineering, Pittsburgh, Penn.  
 1996 University of Puerto Rico, Dept. of Civil Engineering, Mayaguez, Puerto Rico.  
 1996 Free University, Department of Hydrology, Amsterdam, The Netherlands.  
 1996 Freiburg University, Institute of Hydrology, Freiburg, Germany.  
 1994 Cornell University, Center for the Environment, Ithaca, New York.  
 1994 University of Puerto Rico, Dept. of Civil Engineering, Mayaguez, Puerto Rico.  
 1993 University of Florida, Department of Geology, Gainesville, Florida.  
 1993 University of Puerto Rico, Dept. of Civil Engineering, Mayaguez, Puerto Rico.  
 1992 University of Southern California, Department of Geography, Catalina Island Field Station, Catalina Island, California  
 1991 University College, Galway, Department of Civil Engineering, Galway, Ireland  
 1991 University of British Columbia, Department of Geography, Vancouver, Canada  
 1991 Simon Fraser University, Department of Geography, Vancouver, Canada  
 1990 University of Iowa, Department of Geography, Iowa City, Iowa  
 1989 Pennsylvania State University, Environmental Resources Research Institute, College Park, Pennsylvania

**Invited Talks at Research Institutes:**

2022 Water Stewardship Council, Okanagan Water Board, Kelowna BC  
 2019 Grand Ducal Institute, Academy of Sciences of Luxembourg, Luxembourg  
 2018 Lawrence Berkeley Lab, UC Berkeley, Berkeley CA  
 2017 Luxembourg Institute for Science and Technology (LIST), Luxembourg  
 2017 Helmholtz Agrosphere Institute, Forschungszentrum, Juelich, Germany  
 2017 Federal Institute for Geosciences and Natural Resources, Geozentrum, Hanover, Germany  
 2016 Institute for Geological and Nuclear Sciences, Lower Hutt, New Zealand  
 2013 National Hydrology Research Center, Environment Canada, Saskatoon SK  
 2011 National Institute for Water and Atmospheric Research (NIWA), Christchurch, NZ  
 2011 USGS Cascades Volcano Observatory, Vancouver WA  
 2008 Nanjing Hydraulic Research Institute, Nanjing China.  
 2008 Oak Ridge National Lab, Oak Ridge, TN  
 2008 Environmental Protection Agency, Ecological Services Group, Corvallis OR  
 2007 National Science Foundation, Hydrological Sciences Division and Earth Sciences Directorate, Washington DC  
 2007 NOAA National Weather Service, Washington DC  
 2006 Los Alamos National Lab, Los Alamos NM  
 2006 Savannah River Ecology Lab, Savannah River SC  
 2005 Korean Forest Research Institute, Seoul, Korea  
 2005 Environmental Protection Agency (EPA), Corvallis OR  
 2004 USGS Northwest Regional Science Meeting, HJ Andrews Conference Center



2004 USGS, Portland District Office, Water Resources Division, Portland OR  
 2004 Environmental Protection Agency (EPA), Corvallis OR  
 2003 US Forest Service, Savannah River Site, Aiken, SC  
 2003 US Forest Service, Watershed Research Group, Juneau, AL  
 2002 Environmental Protection Agency (EPA), Corvallis OR  
 2001 International Atomic Energy Agency (IAEA), Vienna, Austria  
 2001 CSIR, Ministry of Forests, Pretoria, South Africa  
 2001 CSIR, Ministry of Forests, Stellenbosch, South Africa  
 2000 Forschungszentrum für Umwelt und Gesundheit (GSF), Institute of Hydrology, Munich  
 2000 USRA/ARS Northwest Watershed Research Center, Boise ID  
 1999 Potsdam Institute for Climate Change (PIK), Berlin Germany  
 1998 Chinese Water Resources Agency, Nanjing, China  
 1998 Forest Research Institute, Seoul, South Korea  
 1998 Institute for Geological and Nuclear Sciences, Wellington, New Zealand  
 1997 Japan Forestry and Forest Products Research Institute, Tsukuba, Japan  
 1997 LandCare New Zealand, Christchurch, New Zealand  
 1997 U.S. Forest Service, Cooperative Research Unit, Syracuse, NY  
 1996 Nepal Institute of Forestry, Pokhara, Nepal  
 1995 LandCare New Zealand, Christchurch, New Zealand  
 1989 Environmental Sciences Division, Oak Ridge National Laboratory, Oak Ridge, Tenn.  
 1989 NASA, Earth Science and Applications Division, Marshall Space Flight Center, Huntsville, Alabama

**Shortcourses:**

2022 Hillslope Hydrology: A graduate shortcourse, Beijing Normal University (via Zoom)  
 2022 13<sup>th</sup> Annual *Catchment Science Summer School (5-days)*, University of Birmingham, UK  
 2021 12<sup>th</sup> Annual *Catchment Science Summer School (5-days)*, University of Birmingham, UK (via Zoom)  
 2020 *Launching an Academic Career: A 1-Day Shortcourse for PhD students and Post Docs*, University of Saskatchewan (via Zoom)  
 2020 11<sup>th</sup> Annual *Catchment Science Summer School (5-days)*, University of Birmingham, UK (via Zoom)  
 2020 *Launching an Academic Career: A 4-Day Shortcourse for PhD students and Post Docs*, Ludong University China (via Zoom)  
 2019 Invited Panelist, *Beyond Grad School: A guide to landing your dream job*. CUAHSI Cyber-Seminar, two sessions, ~120 attendees for each  
 2019 10<sup>th</sup> Annual *Catchment Science Summer School (5-days)*, University of Birmingham, UK  
 2018 9<sup>th</sup> Annual *Catchment Science Summer School (5-days)*, University of Birmingham, UK  
 2018 Introduction to Stable Isotopes in Aquatic Systems, Universidad de Las Américas, Ecuador  
 2018 1<sup>st</sup> Annual National Shortcourse *Isotope Tracers in Catchment Hydrology*,

- 2018 National Hydrology Research Centre, Saskatoon (with 9 co-instructors)  
*Launching an Academic Career: A 1-Day Shortcourse for PhD students and Post Docs*, University of Saskatchewan (with Maureen Reed)
- 2017 8<sup>th</sup> Annual *Catchment Science Summer School (5-days)*, University of Aberdeen, Scotland
- 2017 *Launching an Academic Career: A 1-Day Shortcourse for PhD students and Post Docs*, University of Saskatchewan (with Maureen Reed)
- 2016 Isotope Tracers in Catchment Hydrology, (4-days), Global Institute for Water Security, via WebEx to 55 USGS employees (with 4 co-instructors)
- 2016 7<sup>th</sup> Annual *Catchment Science Summer School (5-days)*, University of Aberdeen, Scotland
- 2016 Advanced Ecohydrology: A 1-Day Shortcourse for Graduate Students, University of Cuenca, Ecuador.
- 2016 *Launching an Academic Career: A 1-Day Shortcourse for PhD students and Post Docs*, University of Saskatchewan (with Maureen Reed).
- 2015 *Isotope Hydrology Shortcourse (2 Days)*, St Petersburg University, St. Petersburg, Russia
- 2015 6<sup>th</sup> Annual *Catchment Science Summer School (5-days)*, University of Aberdeen, Scotland
- 2015 How to Write a Scientific Paper: A ½ Day Shortcourse for PhD students. Northwest Agriculture and Forestry University, Yangling China
- 2015 *Launching an Academic Career: A 1-Day Shortcourse for PhD students and Post Docs*, University of Saskatchewan (with Maureen Reed)
- 2015 Forest Hydrology Shortcourse (4 days), Universidad Austral de Chile, Valdivia Chile
- 2014 5<sup>th</sup> Annual *Catchment Science Summer School (5-days)*, University of Aberdeen, Scotland
- 2014 IAEA *Isotope Hydrology Shortcourse (3-days)*, Manila, Philippines
- 2014 CUASHI *Watershed Hydrology Masterclass (5-days)*, University of Arizona and Biosphere 2, Oracle AZ
- 2014 *Launching an Academic Career: A 1-Day Shortcourse for PhD students and Post Docs*, University of Saskatchewan (with Maureen Reed)
- 2013 4<sup>th</sup> Annual *Catchment Science Summer School (5-days)*, University of Aberdeen, Scotland
- 2013 *Advanced Isotope Hydrology for Uranium Mining Applications (3-days)*, Federal University of Rio de Janeiro and Instituto de Radioproteção e Dosimetria, Rio de Janeiro, Brazil
- 2013 *Launching an Academic Career: A 1-Day Shortcourse for PhD students and Post Docs*, University of Saskatchewan (with Maureen Reed)
- 2012 *Launching an Academic Career: A 1-Day Shortcourse for PhD students and Post Docs*, San Francisco, CA (with Brian McGlynn, Thorsten Wagener and Kamini Singha)
- 2012 3<sup>rd</sup> Annual *Catchment Science Summer School (5-days) I*, University of Aberdeen, Scotland
- 2012 *Isotope Hydrology Shortcourse (1-day)*, Federal University of Rio de Janeiro and Instituto de Radioproteção e Dosimetria, Rio de Janeiro, Brazil
- 2012 *Forest Hydrology Masterclass (2-days)*, Arauco Ltd, Concepcion, Chile.

- 2011 2<sup>nd</sup> Annual *Catchment Science Summer School (5-days)*, University of Aberdeen, Scotland
- 2011 *Launching an Academic Career (1-day)*, University of Aberdeen, Scotland.
- 2010 IAEA *Isotope Hydrology Shortcourse for Nile Basin Water Managers (3-days)*, Cairo, Egypt
- 2010 *How to Succeed in an Academic Career (1-day)*, San Francisco, CA
- 2010 1<sup>st</sup> Annual *Catchment Science Summer School (5-days)*, University of Aberdeen, Scotland
- 2010 *Catchment Hydrology Monitoring (2-days)*, Federal University of Rio de Janeiro and Instituto de Radioproteção e Dosimetria, Rio de Janeiro, Brazil
- 2010 *Ethics in Peer Review*, Dept. of Fisheries and Wildlife Annual Graduate student conference, Corvallis OR
- 2010 *How to Write and Publish a Paper*, CUAHSI Science Conference, Boulder CO
- 2009 *How to Write and Publish a Paper*, Taught at the European Geosciences Union, Vienna.
- 2007 *Advanced Techniques in Experimental Hydrology, Winter School*, Delft University of Technology, UNESCO-IHE, Gabrielle Lippmann Institute.
- 2006 *Runoff Generation Processes and Modeling*, Taught at TU Delft, 1-Day
- 2005 *Runoff Generation in Forested Watersheds*, Taught at Stockholm University, 1-Day
- 2005 *Isotope Tracers in Catchment Hydrology*, Taught at Stockholm University, 1-Day
- 2004 *Runoff Generation in Forested Watersheds*, Taught at the USFS National Science Conference, San Diego, CA, 1-Day
- 2004 *Isotope Tracers in Catchment Hydrology*, Taught at Australia CSIRO Catchment Modeling School, Melbourne Australia, 1-Day
- 2003 *Isotope Hydrology in Environmental Engineering: A Primer*, Taught at the Center for Environmental Fluid Dynamics, University of Western Australia, 2 Days
- 2002 *Isotope Hydrology*, A shortcourse taught on behalf of the UN and the International Atomic Energy Agency IAEA, Nanjing China, 4 days.
- 2001 *Quantifying groundwater-surface water interactions using isotope tracers*, A shortcourse taught on behalf of the UN and the International Atomic Energy Agency IAEA at the CSIR Stellenbosch, South Africa, 2 days.
- 2001 *Tracers in Catchment Hydrology and Biogeochemistry* Taught with Rick Hooper and Carol Kendall at Oregon State University, 2 Days

## PUBLICATIONS

### A. BOOKS, EDITED BOOKS AND BOOK SERIES

McDonnell, J.J., 2023. *Perceptual Models in Catchment Hydrology*. Oxford University Press, in press.

McDonnell, J.J., 2022. 研”磨计：给青年学者的 17 条建议, University of Science and Technology Press / Wiley (translation of McDonnell, J.J., 2020. *Navigating an Academic Career* ISBN: 1119642108).

McDonnell, J.J., 2020. Navigating an Academic Career: A Brief Guide for PhD Students, Postdocs and New Faculty. AGU/Wiley, 96p, ISBN: 1119642108

McDonnell, J.J., Editor-in-Chief. 2006-2012. Benchmark Papers in Hydrology Book Series, IAHS Press, 9 volumes 2006-2012.

Anderson, M.G., Editor; J.J. McDonnell, Senior Advisory Editor. 2005. Encyclopedia of Hydrological Sciences, John Wiley and Sons, 5 volume set, 3,456 pages.

Kendall, C. and J.J. McDonnell, Editors, 1998. Isotope Tracers in Catchment Hydrology, Elsevier Science Publishers, 816p.

Uhlenbrook, S., J.J. McDonnell and C. Leibundgut, Editors. 2003. Runoff Generation Modeling. Hydrological Processes. Special Issue, Volume 17 (10), 377 pages.

McDonnell, J.J. and T. Tanaka, Editors. 2001. Hydrology and Biogeochemistry of Forested Catchments. John Wiley and Sons, 435p.

Leibundgut, C., J.J. McDonnell and G. Schultz, Editors. 1999. Integrated Methods of Catchment Hydrology: Tracer, Remote Sensing and New Hydrometric Techniques. IAHS Publication 258, Wallingford UK, 284pp.

McDonnell, J.J., S. Stribling, B. Neville, D. Leopold, Editors. 1996. Watershed Restoration Management: Physical, Chemical and Biological Considerations. American Water Resources Association, 514p.

McDonnell, J.J., D. Leopold, B. Neville, S. Stribling, Editors. 1996. New York City Water Supply Studies. American Water Resources Association, 174p.

Chad, S., L. Barbour, J.J. McDonnell, J. Gibson, 2021. Isotopic tracing of an oil sands mine water cycle, Alberta, Canada. Journal of Hydrology (Regional Studies), in review.

## **B. PEER-REVIEWED PAPERS**

### **2023**

Ferguson, G., J. McIntosh, S. Jasechko, J. Kim, J. Famiglietti and J.J. McDonnell. 2023. Chloride fluxes show isolation of deep groundwaters from the global water cycle. Nature Communications Earth and Environment, in review.

Li, H., H. Li, Q. Wu, B. Si, E. Jobbágy and J.J. McDonnell, 2023. Afforestation triggers water mining and a single pulse of water for carbon trade-off in deep soil. Nature-Communications, in review.

McDowell, N., K. Anderson-Teixeira, J. Biederman, D. Breshears, Y. Fang, L. Fernández-de-Uña, E. Graham, D. Mackay, J.J. McDonnell, M. Nehemy, C. Stevens Rumann, J. Stegen, N. Tague, M. Turner, X. Chen, 2023. Decoupling of transpiration and streamflow under changing disturbances and climate. One Earth, in review.

Nasta, P., D. Todini-Zicavo, G. Zuecco, C. Marchina, D. Penna, J.J. McDonnell, A. Amin, C. Allocca, F. Marzaioli, L. Stellato, M. Borga and N. Romano, 2023. Quantifying irrigation uptake in olive trees: A proof of concept approach combining isotope tracing and Hydrus-1D. *Hydrological Sciences Journal*, in review.

Nehemy, M., P. Maillet, A. Richardson, J. Stutz, W. Helgeson, C. Laroque, and J.J. McDonnell, 2023. Phenological assessment of boreal forest transpiration: A simple approach using stem diurnal cycles. *Agriculture and Forest Meteorology*, in review.

Wang, H., H. Li, W. Xiang, Y. Lu, H. Wang, W. Hu, B. Si, S. Jasechko and J.J. McDonnell, 2023. A 1000-yr record of temperature from isotopic analysis of the deep critical zone in central China. *Geophysical Research Letters*, in review.

Yang, C., R. Maxwell, J.J. McDonnell, X. Yang and D. Tijerina, 2023. The role of topography in controlling evapotranspiration age. *Geophysical Review Letters*, in review.

## **2022**

Asadollahi, M., M. Nehemy, J.J. McDonnell, A. Rinaldo and P. Benettin, 2022. Towards a closure of catchment mass balance: insight in the missing link from a vegetated lysimeter. *Water Resources Research*, 58(4), e2021WR030698. DOI: <https://doi.org/10.1029/2021WR030698>

Barua, S., I. Cartwright, P. Dresel, U. Morgenstern, J.J. McDonnell and E. Daly, 2022. Sources and mean transit times of intermittent streamflow in headwater catchments. *Journal of Hydrology*, 604, 127208. DOI: <https://doi.org/10.1016/j.jhydrol.2021.127208>

Benettin, P., N. Rodriguez, M. Sprenger, M. Kim, J. Klaus, C. Harman Y. van der Velde, M. Hrachowitz, G. Botter, K. McGuire, J. Kirchner, A. Rinaldo, and J.J. McDonnell. 2022. Transit times estimation in catchments: Recent developments and future directions. *Water Resources Research*, <https://doi.org/10.1029/2022WR033096>.

Chad, S., L. Barbour, J.J. McDonnell and J. Gibson, 2022. Using stable isotopes track hydrological processes at an operating oil sands mine, Alberta Canada. *Journal of Hydrology: Regional Studies*, 40, 101032. DOI: <https://doi.org/10.1016/j.ejrh.2022.101032>.

Fenicia, F. and J.J. McDonnell, 2022. Modeling streamflow variability at the regional scale: (1) Perceptual model development through signature analysis. *Journal of Hydrology*, 605, 127287. DOI: <https://doi.org/10.1016/j.jhydrol.2021.127287>

Fenicia, F., D. Meißner and J.J. McDonnell, 2022. Modeling streamflow variability at the regional scale: (2) Development of a bespoke distributed conceptual model. *Journal of Hydrology*, 605, 127286. DOI: <https://doi.org/10.1016/j.jhydrol.2021.127286>

Millar, C., K. Janzen, M. Nehemy, G. Koehler, P. Hervé-Fernández, H. Wang and J.J. McDonnell, 2022. On the urgent need for standardization in isotope-based ecohydrological investigations. *Hydrological Processes*, e14698. DOI: <https://doi.org/10.1002/hyp.1469>.

Nehemy, M., P. Benettin, S. Allen, K. Steppe, A. Rinaldo, M. Lehmann and J.J. McDonnell, 2022. Phloem water isotopically different to xylem water: Potential causes and implications for ecohydrological tracing. *Ecohydrology*, 15(3), e2417. DOI: [10.1002/eco.2417](https://doi.org/10.1002/eco.2417).

Nehemy, M., J. Maillet, N. Perron, C. Pappas, O. Sonnentag, J. Baltzer, C. Laroque and J.J. McDonnell, 2022. Snowmelt water use at transpiration onset: Phenology, isotope tracing and tree water transit time. *Water Resources Research*, e2022WR032344. DOI: <https://doi.org/10.1029/2022WR032344>.

## 2021

Amin, A., G. Zuecco, C. Marchina, M. Engel, D. Penna, J.J. McDonnell and M. Borga, 2022. No evidence of isotopic fractionation in olive trees (*Olea europaea*): a stable isotope tracing experiment. *Hydrological Sciences Journal*, 66(16): 2415-2430. DOI: [10.1080/02626667.2021.1987440](https://doi.org/10.1080/02626667.2021.1987440).

Aulenbach, B., R. Hooper, I. van Meerveld, D. Burns, J. Freer, J. Shanley, T. Huntington, J.J. McDonnell, and N. Peters, 2021. The evolving perceptual model of streamflow generation at the Panola Mountain Research Watershed. *Hydrological Processes*, DOI: [10.1002/hyp.14127](https://doi.org/10.1002/hyp.14127).

Benettin, P., M. Nehemy, M. Asadollahi, D. Pratt, M. Bensimon, J.J. McDonnell and A. Rinaldo, 2021. Tracing and closing the water balance in a vegetated lysimeter. *Water Resources Research*, DOI: [10.1029/2020WR029049](https://doi.org/10.1029/2020WR029049).

Benettin, P., M. Nehemy, L. Cernusak and J.J. McDonnell, 2021. On the use of leaf water to determine plant water source: A proof of concept. *Hydrological Processes*, DOI: [10.1002/hyp.14073](https://doi.org/10.1002/hyp.14073).

DeBeer, C., H. Wheeler, J. Pomeroy, A. Barr, J. Baltzer, J. Johnstone, M. Turetsky, R. Stewart, M. Hayashi, G. van der Kamp, S. Marshall, E. Campbell, P. Marsh, S. Carey, W. Quinton, Y. Li, S. Razavi, A. Berg, J.J. McDonnell, C. Spence, W. Helgason, A. Ireson, A. Black, B. Davison, A. Howard, J. Thériault, K. Shook and A. Pietroniro, 2021. Summary and synthesis of Changing Cold Regions Network (CCRN) research in the interior of western Canada – Part 2: Future change in cryosphere, vegetation, and hydrology. *Hydrology and Earth System Science*, DOI: [10.5194/hess-25-1849-2021](https://doi.org/10.5194/hess-25-1849-2021).

Ferguson, G., J. McIntosh, O. Warr, B. Sherwood Lollar, J. Famiglietti, J Kim, J. Michalski, J. Tarnas and J.J. McDonnell: 2021. Global crustal groundwater volumes larger than previous estimates. *Geophysical Research Letters*, DOI: [10.1029/2021GL093549](https://doi.org/10.1029/2021GL093549).

McDonnell, J.J., C Spence, D. Karran, I. van Meerveld and C. Harman, 2021. Fill and spill: Runoff generation at the scale of the beholder. *Water Resources Research* [Invited AGU 100 Centennial Paper], DOI: [10.1029/2020WR027514](https://doi.org/10.1029/2020WR027514)

McDonnell, J.J., C. Gabrielli, A. Ameli, J. Ekanayake, F. Fenicia, J. Freer, C. Graham, B. McGlynn, U. Morgenstern, A. Pietroniro, T. Sayama, J. Seibert, M. Stewart, K. Vache, M. Weiler and R. Woods, 2021. The Maimai M8 experimental catchment: Forty years of process-based research on steep, wet hillslopes. *Hydrological Processes*, DOI: 10.1002/hyp.14112.

Millar, C., K. Janzen, M. Nehemy, G. Koehler, P. Hervé-Fernández and J.J. McDonnell, 2021. The effect and detection of organics contamination on the measured hydrogen and oxygen stable isotopic composition of water vapour by laser spectroscopy methods. *Rapid Communications in Mass Spectrometry*, DOI: 10.1002/rcm.9118.

Peskett, L., K. Heal, A. MacDonald, A. Black and J.J. McDonnell, 2021. Tracer reveal limited influence of plantation forests on surface runoff in a UK natural flood management catchment. *Journal of Hydrology (Regional Studies)*, DOI: 10.1016/j.ejrh.2021.100834.

Sohel, M., J. Herbohn, S. Vega-Grau and J.J. McDonnell, 2021. Tropical forest water source patterns revealed by stable isotopes: a preliminary analysis of 46 neighbouring species. *Forest Ecology and Management*, DOI: 10.1016/j.foreco.2021.119355.

Vega-Grau, A., J.J. McDonnell, S. Schmidt, M. Annandale and J. Herbohn, 2021. Isotopic fractionation from deep roots to tall shoots: a forensic analysis of xylem water isotope composition in mature tropical savannah trees. *Science of the Total Environment*, DOI: 10.1016/j.scitotenv.2021.148675.

## **2020**

Amin, A., G. Zuecco, J. Geris, L. Schwendenmann, J.J. McDonnell, M. Borga, D. Penna, 2020. Depth distribution of soil water sourced by plants at the global scale: a new direct inference approach. *Ecohydrology*, DOI: 10.1002/eco.2177.

Camporese, M., C. Paniconi, M. Putti and J.J. McDonnell, 2020. Fill and spill hillslope runoff representation with a Richards equation-based model. *Water Resources Research*, DOI: 10.1029/2019WR025726.

Condon, L., K. Markovich, C. Kelleher, J.J. McDonnell, G. Ferguson and J. McIntosh, 2020. Where is the bottom of a watershed? *Water Resources Research*, 56(3), DOI: 10.1029/2019WR026010

Gabrielli, C.P. and J.J. McDonnell, 2020. Modifying the Jackson index to quantify the relationship between geology, landscape structure and water transit time in steep wet headwaters. *Hydrological Processes*, DOI:10.1002/hyp.13700.

McDonnell, J.J., 2020. The Maimai catchment, New Zealand. In Burt, T., D. Thompson and A. Serocka (eds). *Curious About Nature: A Passion for Field Work*. Cambridge University Press, DOI:10.1017/9781108552172

Millar, C., D. Pratt, D. Schneider, G. Koehler and J.J. McDonnell, 2020. Further experiments comparing direct vapor equilibration and cryogenic vacuum distillation for plant water stable isotope analysis. *Rapid Communications in Mass Spectrometry*, DOI: 10.1002/rcm.8530.

Nehemy, M., P. Benettin, D. Pratt, A. Rinaldo and J.J. McDonnell, 2020. Tree water deficit and dynamic source water partitioning. *Hydrological Processes*, DOI: 10.1002/hyp.14004.

Peskett L., A. MacDonald, K. Heal, J.J. McDonnell, J. Chambers, S. Uhlemann, K. Upton and A. Black, 2020. The impact of across-slope forest strips on hillslope subsurface hydrological dynamics. *Journal of Hydrology*, 581: DOI:10.1016/j.jhydrol.2019.124427

Schöne, B. R., Meret, A. E., Baier, S. M., Fiebig, J., Esper, J.J., McDonnell and L. Pfister, 2020. Freshwater pearl mussels from northern Sweden serve as long-term, high-resolution stream water isotope recorders, *Hydrology and Earth System Science*, DOI:10.5194/hess-24-673-2020.

Stamenković, V., K. Lynch, P. Boston, J. Tarnas (plus J.J. McDonnell and 98 others). *Deep Trek: Science of Subsurface Habitability & Life on Mars: A Window into Subsurface Life in the Solar System*, White Paper for the US National Academy of Science (NAS), 7-pages.

## 2019

Benettin, P., P. Quéloz, M. Bensimon, J.J. McDonnell and A. Rinaldo, 2019. Velocities, residence times, tracer breakthroughs in a vegetated lysimeter: a multitracer experiment. *Water Resources Research*, DOI:10.1029/2018WR023894

Blöschl, G., M. Bierkens, A. Chambel, C. Cudennec, G. Destouni, A. Fiori, J. Kirchner, J.J. McDonnell, H. Savenije, M. Sivapalan, C. Stumpff, E. Toth, E. Volpi, G. Carr, J. Salinas, B. Széles, A. Viglione and 200 others, 2019. 23 unsolved problems in hydrology – a community perspective. *Hydrological Sciences Journal*, 64:10, 1141-1158, DOI:10.1080/02626667.2019.1620507

Coles, A.E., B. McConkey and J.J. McDonnell, 2019. Fifty years of recorded hillslope runoff on seasonally-frozen ground: The Swift Current, Saskatchewan, Canada dataset. *Earth System Science Data*, 11, 1375-1383, DOI:10.5194/essd-11-1375

Evaristo J., M. Kim, J. van Haren, L. Pangle, C. Harman, P. Troch and J.J. McDonnell, 2019. Characterizing the fluxes and age distribution of soil water, plant water, and deep percolation in a model tropical ecosystem. *Water Resources Research*, DOI:10.1029/2018WR023265.

Evaristo, J. and J.J. McDonnell, 2019. Global analysis of streamflow response to forest management. *Nature*, DOI:10.1038/s41586-091-1306-0 (retracted Feb 2020 in issue 578:326, DOI: 10.1038/s41586-020-1945-1)

Fan, Y, M. Clark, D. Lawrence, S. Swenson, L. Band, S. Brantley, P. Brooks, W.E. Dietrich, A. Flores, G. Grant, J. Kirchner, D. Mackay, J.J. McDonnell, P. Milly, P. Sullivan, C. Tague, H. Ajami, N. Chaney, A. Hartmann, P. Hazenberg, J. McNamara, J. Pelletier, J Perket, E. Rouholahnejad-Freund, T. Wagener, X. Zeng, E. Beighley, J. Buzan, M Huang, B. Livneh, B. Mohanty, B. Nijssen, M. Safeeq, C. Shen, W. van Verseveld, J. Volk and D Yamazaki, 2019. Structures and functions of hillslope hydrology with relevance to Earth System Modeling:



Syntheses and testable hypotheses. *Water Resources Research*, DOI:10.1029/2018WR023903.

Gaj, M. and J.J. McDonnell, 2019. Possible soil tension controls on the isotopic equilibrium fractionation factor for evaporation from soil. *Hydrological Processes*, DOI:10.1002/hyp.13418.

Gaj, M., A. Lamparter, S. Woche, J. Bachmann, J.J. McDonnell and F. Stange 2018. The role of matric potential, solid interfacial chemistry and wettability on isotopic equilibrium fractionation. *Vadose Zone Journal*, DOI:10.2136/vzj2018.04.0083.

Lazo, P., G. Mosquera, J.J. McDonnell and P. Crespo, 2019. The role of vegetation, soils, and precipitation on water storage and hydrological services in Andean Páramo catchments. *Journal of Hydrology*, DOI:10.1016/j.jhydrol.2019.03.050.

Li H., B. Si, P. Wu and J.J. McDonnell 2019. Water mining from deep critical zone by apple trees growing on loess in monsoonal climate. *Hydrological Processes*, DOI:10.1002/hyp.13346.

López-Días, V., N. Martínez-Carreras, F. Barnich, T. Wirtz, J.J. McDonnell and L. Pfister, 2019. Fractionation of  $2\text{H}/\text{H}$  and  $18\text{O}/16\text{O}$  isotopic ratios in water through nafion membranes. *Journal of Membrane Science*, 752:128-139, DOI:10.1016/j.memsci.2018.11.003.

McDonnell, J.J., 2019. Step up to leadership for mid-career growth. *Nature*, DOI:10.1038/d41586-019-01936-7.

Nehemy, M., C. Millar, K. Janzen, M. Gaj, D. Pratt, C. Laroque and J.J. McDonnell, 2019.  $^{17}\text{O}$ -excess as a detector for co-extracted organics in vapor analyses of plant isotope signatures. *Rapid Communications in Mass Spectrometry*, 33(16): 1301-1310.

Pfister, L., C. Grave, J. Beisel and J.J. McDonnell, 2019. A global assessment of freshwater mollusk shell oxygen isotope signatures and their relation to precipitation and stream water. *Scientific Reports*, DOI:10.1038/s41598-019-40369-0.

Sprenger M., C. Stumpp, S. Allen, P. Benettin, M. Dubbert, A. Hartmann, M. Hrachowitz, J. Kirchner, J.J. McDonnell, N. Orłowski, D. Penna, S. Pfahl, M. Rinderer, N. Rodriguez, C. Werner and M Weiler 2019. The demographics of water: A review of water ages in the critical zone. *Reviews of Geophysics*, DOI:10.1029/2018RG000633

## **2018**

Ameli, A.A., C. Gabrielli, U. Mortgenstern and J.J. McDonnell, 2018. Groundwater subsidy from headwaters to their parent water watershed: A combined field-modeling approach. *Water Resources Research*, 54, DOI:10.1029/2017WR022356.

Caldwell, P., R. Jackson, C. Miniati, S. Younger, J. Vining, J.J. McDonnell, and D. Aubrey, 2018. Woody bioenergy crop selection can have large effects on water yield: A southeastern United States case study. *Global Change Biology and Bioenergy*, 117: 180-189, DOI:10.1016/j.biombioe.2018.07.021.

Coles, A.E. and J.J. McDonnell, 2018. Fill and spill drives runoff connectivity over frozen ground. *Journal of Hydrology*, 558:115-128, DOI:10.1016/j.jhydrol.2018.01.016.

Gabrielli, C.P. and J.J. McDonnell, 2018. No linkage between event based runoff and groundwater recharge on the Maimai hillslope. *Water Resources Research*, DOI:10.1029/2017WR021831.

Gabrielli C.P, Morgenstern U, Stewart M. and J.J. McDonnell, 2018. Contrasting groundwater and streamflow ages at the Maimai watershed. *Water Resources Research*, 54(6): 3937-3957, DOI:10.1029/2017WR021825.

Hu, H., F. Dominguez, P. Kumar, J.J. McDonnell and D. Gochis, 2018. Numerical water tracer model for understanding event-scale hydrometeorological phenomena. *Journal of Hydrometeorology*, 19(6):378-389, DOI:10.1175/JHM-D-17-0202.1.

McDonnell, J.J., J. Evaristo, K. Bladon, J. Buttle, I. Creed, S. Dymond, G. Grant, A. Iroume, C.R. Jackson, J. Jones, T. Maness, K. McGuire, D. Scott, C. Segura, R. Sidle and C. Tague. 2018. Water sustainability and watershed storage. *Nature-Sustainability*, 1:378–379, DOI:10.1038/s41893-018-0099-8.

Millar, C., D. Pratt, D. Schneider and J.J. McDonnell, 2018. A comparison of extraction systems for plant water stable isotope analysis. *Rapid Communications in Mass Spectrometry*, 32:1031-1044, DOI:10.1002/rcm.8136.

Orlowski, N., L. Breuer, N. Angeli, P. Boeckx, C. Brumbt, C. S. Cook, M. Dubbert, J. Dyckmans, B. Gallagher, B. Gralher, B. Herbstritt, P. Hervé-Fernández, C. Hissler, P. Koeniger, A. Legout, C. J. Macdonald, C. Oyarzún, R. Redelstein, C. Seidler, R. Siegwolf, C. Stumpp, S. Thomsen, C. Werner, M. Weiler and J.J. McDonnell, 2018. Inter-laboratory comparison of cryogenic water extraction systems for stable isotope analysis of soil water. *Hydrology and Earth System Science*, 22(7):3619-3637, DOI:10.5194/hess-22-3619-2018.

Orlowski, N., A. Winkler, J. J. McDonnell and L. Breuer, 2018. A simple greenhouse experiment to explore the effect of cryogenic water extraction for tracing plant source water. *Ecohydrology*, 11(5), DOI:10.1002/eco.1967.

Penna, D., L. Hopp, F. Scandellari, S. Allen, P. Benettin, M. Beyer, J. Geris, J. Klaus, J. Marshall, L. Schwendenmann, T. Volkman, J. von Freyberg, A. Amin, N. Ceperley, M. Engel, J. Frentress, Y. Giambastiani, J.J. McDonnell, G. Zuecco, P. Llorens, R. Siegwolf, T. Dawson and J. Kirchner. 2018. Ideas and perspectives: Tracing terrestrial ecosystem water fluxes using hydrogen and oxygen stable isotopes – challenges and opportunities from an interdisciplinary perspective. *Biogeosciences*, 15:6399–6415, DOI:10.5194/bg-15-6399-2018.

Pfister L, F. Thielen, E. Deloule, N. Valle, E. Lentzen, C. Grave C, J. and J.J. McDonnell, 2018. Pearl mussels as a stream water stable isotope recorder. *Ecohydrology*, DOI: 10.1002/eco.2007

Stein, S., J.J. McDonnell and M Miller, 2018. Discussing scientific ethics: what would you do? *Astronomy and Geophysics*, 59(4):4.12, DOI:10.1093/astrogeo/aty187.

Spence, C., J. Wolfe, C. Whitfield, H. Baulch, N. Basu, A. Bedard-Haughn, K. Belcher, R. Clark, G. Ferguson, M. Hayashi, K. Liber, J.J. McDonnell, C. Morrissey, J. Pomeroy, M. Reed and G. Strickert, 2018. Prairie Water: A Global Water Futures project to enhance the resilience of Prairie communities through sustainable water management. *Canadian Water Resources Journal*, 44(2):115-126, DOI:10.1080/07011784.2018.1527256.

## 2017

Allen, S.T., R.F. Keim, H.R. Barnard, J.J. McDonnell and J.R. Brooks, 2017. The role of stable isotopes in understanding rainfall interception processes: A review. *Wires Water*, 4(1), DOI: 10.1002/wat2.1187.

Ameli, A.A., K. Beven, M. Erlandsson, I.F. Creed, J.J. McDonnell and K. Bishop, 2017. Primary weathering rates, water transit times, and concentration-discharge relations: A theoretical analysis for the critical zone, *Water Resources Research*, 53(1):942-960, DOI: 10.1002/2016WR019448.

Appels, W.M., A. Coles and J.J. McDonnell, 2017. Infiltration into frozen soil: From core-scale dynamics to hillslope-scale connectivity, *Hydrological Processes*, DOI:10.1002/hyp.11399.

Asbjornsen, H., R. Manson, J. Scullion, F. Holwerda, L. Muñoz-Villers, M.S. Alvarado-Barrientos, D. Geissert, T. Dawson, J.J. McDonnell and L. Bruijnzeel, 2017. Interactions between payments for hydrologic services, landowner decisions, and ecohydrological consequences: Synergies and disconnection in the cloud forest zone of central Veracruz, Mexico. *Ecology and Society*, 22(2), DOI:10.5751/ES-09144-220225.

Bartlett, M.S., A.J. Parolari, J.J. McDonnell, and A. Porporato, 2018. Reply to comment by Fred L. Ogden et al. on "Beyond the SCS-CN method: A theoretical framework for spatially lumped rainfall-runoff response". *Water Resources Research*, 53(7):6351–6354, DOI: 10.1002/2017WR020456.

Berry, Z.C., J. Evaristo, G. Moore, M. Poca, K. Steppe, L. Verrot, H. Asbjornsen, L.S. Borma, M. Bretfeld, P. Hervé-Fernández and J.J. McDonnell, 2017. The two water worlds hypothesis: Addressing multiple working hypotheses and proposing a way forward. *Ecohydrology*, DOI: 10.1002/eco.1843.

Brantley, S. L., Eissenstat, D. M., Marshall, J. A., Godsey, S. E., Balogh-Brunstad, Z., Karwan, D. L., Papuga, S. A., Roering, J., Dawson, T. E., Evaristo, J., Chadwick, O., McDonnell, J.J. and K. Weathers, 2017. Reviews and syntheses: on the roles trees play in building and plumbing the critical zone. *Biogeosciences*, 14:5115-5142, DOI:10.5194/bg-14-5115-2017.

Coles, A., B. McConkey and J. McDonnell, 2017, Climate change impacts on hillslope runoff on the northern Great Plains, 1962-2013. *Journal of Hydrology*, 550:538-548, DOI: 10.1016/j.jhydrol.2017.05.023.

Evaristo, J., J.J. McDonnell and J. Clemens, 2017. Plant source water apportionment using stable isotopes: A comparison of simple linear, two-compartment mixing model approaches, *Hydrological Processes*, 31(21):3750-3758, DOI:10.1002/hyp.11233.

Evaristo, J. and J.J. McDonnell, 2017. A role for meta-analysis in hydrology, *Hydrological Processes*, 31(20):3588-3591, DOI:10.1002/hyp.11253.

Evaristo, J. and J.J. McDonnell, 2017. Prevalence and magnitude of groundwater use by vegetation: A global stable isotope meta-analysis. *Scientific Reports*, 7, 44110. DOI:10.1038/srep44110.

Evaristo, J. and J.J. McDonnell, 2017. Carbon, nitrogen, and water stable isotopes in plant tissue and soils across a moisture gradient in Puerto Rico. *Hydrological Processes*, 31(7):1558-1559, DOI:10.1002/hyp.11041.

Gaj, M., S. Kaufhold and J.J. McDonnell, 2017. Potential limitation of cryogenic vacuum extractions and spiked experiments. *Rapid Communications in Mass Spectrometry*, 31(9): 821-823., DOI:10.1002/rcm.7850.

Geris, J., D. Tetzlaff, J.J. McDonnell and C. Soulsby, 2017. Spatial and temporal patterns of soil water storage and vegetation water use in humid northern catchments. *Science of The Total Environment*, 595:486-493, DOI:10.1016/j.scitotenv.2017.03.275.

Jasechko, S., D. Perrone, K.M. Befus, M.B. Cardenas, G. Ferguson, T. Gleeson, E. Luijendijk, J.J. McDonnell, R.G. Taylor and Y. Wada, 2017. Global aquifers dominated by fossil groundwaters but wells vulnerable to modern contamination, *Nature (Geoscience)*, 10(6), 425-429, DOI:10.1038/NGEO2943.

Laudon, H., C. Spence, J. Buttle, S. Carey, J.J. McDonnell, J. McNamara, C. Soulsby and D. Tetzlaff, 2017. Save northern high-latitude catchments. *Nature (Geoscience)*, 10(5): 324–325, DOI:10.1038/ngeo2947.

Louch, J., V. Tatum, G. Allen, V. Hale, J.J. McDonnell, B. Danehy, G. Ice. 2016. Potential risks to freshwater aquatic organisms following a silvicultural application of herbicides in Oregon's Coast Range. *Integrated Environmental Assessment and Management*, 13(2):396-409, DOI:10.1002/ieam.1781.

McDonnell, J.J., 2017. Beyond the water balance. *Nature (Geoscience)*, 10(6):396, DOI:10.1038/ngeo2964.

McDonnell, J.J., 2017. Paper writing gone Hollywood. *Science*, 355(6320): 102-102, DOI: 10.1126/science.355.6320.102.

McDonnell, J.J., 2017. The sustainable scientist. *Science*, 357(6356):1202, DOI: 10.1126/science.357.6356.1202.

Pfister, L., N. Martínez-Carreras, C. Hissler, J. Klaus, G.E. Carrer, M.K. Stewart and J.J. McDonnell, 2017. Bedrock geology controls on catchment storage, mixing, and release: A comparative analysis of 16 nested catchments. *Hydrological Processes*, 31(10):1828-1845, DOI:10.1002/hyp.11134.

Pfister L., C. Wetzel, J. Klaus N. Martínez-Carreras, M. Antonelli, A. Teuling and J.J. McDonnell, 2017. Terrestrial diatoms as tracers in catchment hydrology: A review. *WIREs Water*, DOI: 10.1002/wat2.1241.

Pratt, D. and J.J. McDonnell, 2017. A portable experimental hillslope for frozen-ground studies. *Hydrological Processes*, 31(24):4450–4457, DOI:10.1002/hyp.11284.

Steelman, T., and J.J. McDonnell, 2017. Look for the leaders. *Nature*, 547(483), DOI:10.1038/nj7664-483a.

van Verseveld W., H. Barnard, C. Graham, J.J. McDonnell, R. Brooks and M. Weiler, 2017. A sprinkling experiment to quantify celerity-velocity differences at the hillslope scale. *Hydrology and Earth System Science*, 21:5891-5910, DOI:10.5194/hess-21-5891-2017.

Zhang Z.Q., Evaristo J., Li Z., Si B.C., McDonnell J.J. 2017. Tritium analysis shows apple trees may be transpiring water several decades old. *Hydrological Processes*, 31(5):1196-1201, DOI: 10.1002/hyp.11108.

## **2016**

Ameli, A., J.J. McDonnell and K. Bishop, 2016. The exponential decline in saturated hydraulic conductivity with depth: a novel method for exploring its effect on water flow paths and transit time distribution. *Hydrological Processes*, 30(14):2438-2450, DOI:10.1002/hyp.10777.

Ameli, A., N. Amvrosiadi, T. Grabs, H. Laudon, I. Creed, J.J. McDonnell, and K. Bishop, 2016, Hillslope permeability architecture controls on subsurface transit time distribution and flow paths, *Journal of Hydrology*, 54:17-30, DOI:10.1016/j.jhydrol.2016.04.071.

Bartlett, M.S., A.J. Parolari, J.J. McDonnell, and A. Porporato. 2016. Beyond the SCS-CN method: A theoretical framework for spatially lumped rainfall-runoff response. *Water Resources Research*, 52(6):4608-4627, DOI:10.1002/2015WR018439.

Bartlett, M.S., A.J. Parolari, J.J. McDonnell and A. Porporato, 2018. Framework for event-based semi-distributed modeling that unifies the SCS-CN method, VIC, PDM, and TOPMODEL. *Water Resources Research*, 52(9): 7036-7051, DOI:10.1002/2016WR019084.

Coles, A.E., C.E. Wetzel, N. Martinez-Carreras, L. Ector, J.J. McDonnell, J. Frentress, J. Klaus, L. Hoffmann and L. Pfister. 2016. Diatoms as a tracer of hydrological connectivity: are they supply limited? *Ecology*, DOI:10.1002/eco.1662.

Du, E., C.R. Jackson, J. Klaus, J.J. McDonnell, N.A. Griffiths, M.F. Williamson, J. Greco, and M. Bitew. 2016. Interflow dynamics on a low relief forested hillslope: Lots of fill, little spill. *Journal of Hydrology*, 534:648-658, DOI:10.1016/j.jhydrol.2016.01.039.

Evaristo, J., S. Jasechko and J.J. McDonnell, 2016. Isotopic composition of plant water sources Reply, *Nature*, 536:7617, DOI:10.1038/nature18947.

Evaristo, J., J.J. McDonnell, M.A. Scholl, L.A. Bruijnzeel and K.P. Chun, 2016. Insights into plant water uptake from xylem-water isotope measurements in two tropical catchments with contrasting moisture conditions, *Hydrological Processes*, 30(18): 3210-3227, DOI:10.1002/hyp.10841.

Griffiths, N. A., C. R. Jackson, J.J. McDonnell, J. Klaus, E. Du, and M. M. Bitew, 2016. Dual nitrate isotopes clarify the role of biological processing and hydrologic flow paths on nitrogen cycling in subtropical low-gradient watersheds, *Journal of Geophysical Research--Biogeosciences*, 121:422–437, DOI:10.1002/2015JG003189.

Hale, V. C., and J.J. McDonnell, 2016. Effect of bedrock permeability on stream base flow mean transit time scaling relations: 1. A multiscale catchment intercomparison, *Water Resources Research*, 52(2): 1358–1374, DOI:10.1002/2014WR016124.

Hale, V.C., J.J. McDonnell, M. K. Stewart, D. K. Solomon, J. Doolittle, G. G. Ice, and R. T. Pack, 2016. Effect of bedrock permeability on stream base flow mean transit time scaling relationships: 2. Process study of storage and release, *Water Resources Research*, 52(2): 1375–1397, DOI:10.1002/2015WR017660.

Jackson, R., E. Du, J. Klaus, N. Griffiths, M. Bitew and J.J. McDonnell, 2016. Interactions among hydraulic conductivity distributions, subsurface topography, and transport thresholds revealed by a multi-tracer hillslope irrigation experiment. *Water Resources Research*, 52(8): 6186–6206, DOI:10.1002/2015WR018364.

Jasechko, S., J. Kirchner, J. Welker and J.J. McDonnell. 2016. Substantial proportion of global streamflow less than three months old. *Nature (Geosciences)*, 9(2):126-129, DOI: 10/1038/NCEO.2636.

McDonnell, J.J., 2016. The 1-hour workday. *Science*, 353(6300):718-718, DOI: 10.1126/science.353.6300.718.

McDonnell, J.J., 2016. Orchestrating a powerful group. *Science*, 352(6283): 378-378, DOI:10.1126/science.352.6283.378.

Muñoz-Villers, L., D. Geissert, F. Holwerda and J.J. McDonnell, 2016. Factors influencing stream baseflow transit times in tropical montane watersheds. *Hydrology and Earth System Science*, 20(4):1621–1635, DOI:10.5194/hess-20-1621-2016.

Orlowski, N, D. Pratt and J.J. McDonnell, 2016. Intercomparison of soil pore water extraction methods for stable isotope analysis. *Hydrological Processes*, 30(19): 3434-3449, DOI:10.1002/hyp.10870.

Peters, N.E., J.J. McDonnell, A. Binley, G. Hornberger and M. Kirkby, 2016. HP Volume to honor Keith Beven, *Hydrological Processes*, DOI:10.1002/hyp.11058.

Potvin, C., D. Sharma, I. Creed, S. Aitken, F. Anctil, E. Bennett, F. Berkes, S. Bernstein, N. Bleau, A. Bourque, B. Brown, S. Burch, J. Byrne, A. Cunsolo Willox, A. Dale, D. de Lange, B. Dyck, M. Entz, J. Etcheverry, R. Faucher, A. Fenech, L. Fraser, I. Henriques, A. Heyland, M. Hoffmann, G. Hoberg, M. Holden, G. Huang, A. Jacob, S. Jodoin, A. Kemper, M. Lucotte, R. Maranger, L. Margolis, D. H. Matthews, I. Mauro, J.J. McDonnell, J. Meadowcroft, C. Messier, M. Mkandawire, C. Morency, N. Mousseau, K. Oakes, S. Otto, P. Palmater, T.S. Palmer, D. Paquin, A. Perl, A. Potvin, H. Ramos, C. Raudsepp-Hearne, N. Richards, J. Robinson, S. Sheppard, S. Simard, B. Sinclair, N. Slawinski, M. Stoddart, M.-A. Villard, C. Villeneuve, S. Wesche, T. Wright, 2016. Stimulating a Canadian narrative for climate. *FACETS*, 2:131-149, DOI:10.1139/facets-2016-0029.

Saffarpour, S., A. Western, R. Adams and J.J. McDonnell, 2016. Multiple runoff processes and multiple thresholds control agricultural runoff generation. *Hydrology and Earth System Science*, 20:4525-4545, DOI:10.5194/hess-20-4525-2016.

## **2015**

Allen, S.T., R.F. Keim, and J.J. McDonnell. 2015. Spatial patterns of throughfall isotopic composition at the event and seasonal timescales, *Journal of Hydrology*, 522:58-66, DOI:10.1016/j.jhydrol.2014.12.029.

Ali, G., D. Tetzlaff, C. Soulsby, J.J. McDonnell, S. Carey, H. Laudon, K. McGuire, J. Buttle, J. Seibert and J. Shanley. 2015. Comparison of threshold hydrologic response across northern catchments. *Hydrological Processes*, 29:3575-3591, DOI:10.1002/hyp.10527.

Ameli, A. A., J. R. Craig, and J.J. McDonnell, 2015. Are all runoff processes the same? Numerical experiments comparing a Darcy-Richards solver to an overland flow-based approach for subsurface storm runoff simulation. *Water Resources Research*, 51:10008–10028, DOI:10.1002/2015WR017199.

Appels, W., J. Freer, C. Graham and J.J. McDonnell. 2015. Factors affecting the spatial pattern of bedrock groundwater recharge at the hillslope scale. *Hydrological Processes*, DOI: 10.1002/hyp.10481.

Band, L., J.J. McDonnell, A. Barros, A. Bejan, T. Burt, W.E. Dietrich, R. Emanuel, J. Duncan, T. Hwang, G. Katul, Y. Kim, B. McGlynn, B. Miles, A. Porporato, C. Scaife and P.A. Troch, 2015. Ecohydrological flow networks in the subsurface. *Ecohydrology*, 7(4):1073-1078, DOI: 10.1002/eco.1525.

Bartlett, M., E. Daly, J.J. McDonnell, A. J. Parolari, A. Porporato. 2017. Stochastic rainfall-runoff model with explicit soil moisture dynamics. *Proceedings Royal Society A*, DOI: 10.1098/rspa.2015.0389.

Burt, T., N. Howden, J.J. McDonnell, J Jones and G. Hancock. 2015. Seeing the climate through the trees: observing climate and forestry impacts on streamflow using a 60-year record. *Hydrological Processes*, 29:473-480, DOI:10.1002/hyp.10406.

Burt, T.P. and J.J. McDonnell, 2015. Whither field hydrology? The need for discovery science and outrageous hydrological hypotheses, *Water Resources Research*, 51:5919-5928, DOI:10.1002/ 2014WR016839.

Costelloe, T. J., Peterson, K., Halbert, A. W., Western, and J. J., McDonnell. 2015. Groundwater surface mapping informs sources of catchment baseflow. *Hydrology and Earth System Science*, 19:1599-1613, DOI:10.5194/hess-19-1599-2015.

Evaristo, J., S. Jasechko, and J.J. McDonnell. 2015. Global separation of plant transpiration from groundwater and streamflow, *Nature*, DOI:10.1038/nature14983.

Geris, J., D. Tetzlaff, J.J. McDonnell, J. Anderson, G. Paton and C. Soulsby. 2015. Ecohydrological separation in wet, low energy northern environments? A preliminary assessment using different soil water extraction techniques. *Hydrological Processes*, 29, DOI: 10.1002/hyp.10603

Geris, J., D. Tetzlaff, J.J. McDonnell and C. Soulsby, 2015. The relative role of soil type and tree cover on water storage and transmission in northern headwater catchments. *Hydrological Processes*, 29:1844-1860, DOI:10.1002/hyp.10289.

Janzen, D. and J.J. McDonnell, 2015. A stochastic approach to modelling and understanding hillslope runoff connectivity dynamics. *Ecological Modeling*, 298:64-74, DOI: 10.1016/j.ecolmodel.2014.06.024.

Klaus, J., K. Chun, K. McGuire and J.J. McDonnell, 2015. Temporal dynamics of catchment transit times from stable isotope data. *Water Resources Research*, 51:4208–4223, DOI:10.1002/ 2014WR016247.

Klaus, J., J.J. McDonnell, C.R. Jackson, E. Du, and N. Griffiths, 2015. Where does streamwater come from in low relief forested watersheds? A dual isotope approach. *Hydrology and Earth System Science*, 19:125-135.

Lin, H.S., J.J. McDonnell, J.R. Nimmo, and Y.A. Pachepsky, 2015. Hydropedology: Synergistic integration of soil science and hydrology in the Critical Zone, *Hydrological Processes*, 29(21): 4559-4561, DOI:10.1002/hyp.10686.

Martinez-Carreras, N., C.E. Wetzel, J.J. Frentress, L. Ector, J.J. McDonnell, L. Hoffmann and L. Pfister, 2015. Hydrological connectivity inferred from diatom transport through the riparian-



stream system. *Hydrology and Earth System Science*, 19:3133-3151, DOI:10.5194/hess-19-3133-2015.

McDonnell, J.J., 2015. Creating a research brand, *Science*, 349 (6249): 758, DOI:10.1126/science.349.6249.758.

McGuire, K. and J.J. McDonnell, 2015. Tracer advances in catchment hydrology. *Hydrological Processes*, 29(25):5135-5138, DOI:10.1002/hyp.10740.

Munoz-Villers, L., F. Holwerda, M. Alvarado-Barrientos, D. Giessert, B. Marin-Castro, A. Gomez-Tagle, J.J. McDonnell, H. Asbjornsen, R. Dawson, L. Bruijnzeel. 2015. Hydrological effects of cloud forest conversion in central Veracruz, Mexico. *Ecohidrologia, bosque y uso del suelo*, (in Spanish), 36(3): 395-407, DOI:10.4067/S0717-92002015000300007.

Orlowski, N., L. Breuer and J.J. McDonnell, 2015. Critical issues with cryogenic extraction of soil water for stable isotope analysis. *Ecohydrology*, DOI:10.1002/eco.1722.

Pfister L, C. Wetzel, N. Martínez-Carreras, J. Iffly, J. Klaus, L. Holko and J.J. McDonnell, 2015. Examination of aerial diatom flushing across watersheds in Luxembourg, Oregon and Slovakia for tracing episodic hydrological connectivity. *Journal of Hydrology and Hydromechanics*, 63(3):235-245, DOI:10.1515/johh-2015-0031.

Seibert, J. and J.J. McDonnell. 2015. Gauging the ungauged basin: relative value of soft and hard data. *Journal of Hydrologic Engineering*, 20(1), DOI:10.1061/(ASCE)HE.1943-5584.0000861,A4014004.

Shanley, J.B., S.D. Sebestyen, J.J. McDonnell, B.L. McGlynn and T. Dunne, 2015. Water's way at sleepers river watershed – revisiting flow generation in a post-glacial landscape, Vermont USA, *Hydrological Processes*, 29(16), 3447-3459, DOI:10.1002/hyp.10377.

Stockinger, M.P., A. Lücke, J.J. McDonnell, B. Diekkrüger, H. Vereecken, and H. R. Bogen, 2015. Interception effects on stable isotope driven streamwater transit time estimates, *Geophysical Research Letters*, 42, 5299–5308, DOI:10.1002/ 2015GL064622.

## **2014**

Jasechko, S., Y. Wada, Y., J. Birks J. Welker, T. Gleeson, P. Fawcett, J.J. McDonnell and Z. Sharp, 2014. The pronounced seasonality of global groundwater recharge, *Water Resources Research*, 50: 8845-8867, DOI:10.1002/2014WR015809.

Klaus, J., J.J. McDonnell, C.R. Jackson, E. Du, and N. Griffiths, 2014. Where does streamwater come from in low-relief forested watersheds? A dual-isotope approach. *Hydrology and Earth System Science*, 19: 125-135, DOI:10.5194/hess-19-125-2015.

Laine-Kaulio, H., H. Koivusalo, S. Backnäs, T. Karvonen and J.J. McDonnell, 2014. Lateral subsurface stormflow and solute transport in a forested hillslope: A combined measurement and modeling approach. *Water Resources Research*, 8159–8178, DOI: 10.1002/2014WR015381.

McDonnell, J.J., 2014. The two water worlds hypothesis: Ecohydrological separation of water between streams and trees? *Wires Water*, DOI:10.1002/water2.1027.

McDonnell, J.J. and K. Beven, 2014. Debates—The future of hydrological sciences: A (common) path forward? A call to action aimed at understanding velocities, celerities and residence time distributions of the headwater hydrograph. *Water Resources Research*, 50: 5342–5350, DOI:10.1002/2013WR015141.

Pangle, L., J.J. McDonnell and J. Gregg, 2014. Rainfall seasonality and an ecohydrological feedback offset the potential impact of climate warming on evapotranspiration and groundwater recharge. *Water Resources Research*, 50, DOI:10.1002/2012WR013253.

### **2013**

Ali, G., C. Birkel, D. Tetzlaff, C. Soulsby, J.J. McDonnell and T. Paola, 2013. A comparison of wetness indices for the prediction of observed connected saturated areas under contrasting conditions. *Earth Surface Processes and Landforms*, DOI:10.1002/esp.3506.

Ali, G., Tetzlaff, D., Kruitbos, L., Soulsby, C., Carey, S., McDonnell, J.J., Buttle, J., Laudon, H., Seibert, J., McGuire, K., and Shanley, J., 2013. Analysis of hydrological seasonality across northern catchments using monthly precipitation–runoff polygon metrics. *Hydrological Sciences Journal*, 59(1):1–17, DOI:10.1080/02626667.2013.822639.

Allen, S. T., Brooks, J. R., Keim, R. F., Bond, B. J. and J.J. McDonnell, 2013. The role of pre-event canopy storage in throughfall and stemflow by using isotopic tracers. *Ecohydrology*, DOI: 10.1002/eco.1408.

Carey, S., D. Tetzlaff, J. Buttle, H. Laudon, J.J. McDonnell, K. McGuire, J. Seibert, C. Soulsby and J. Shanley, 2013. Use of color maps and wavelet coherence to discern seasonal and interannual climate influences on streamflow variability in northern catchments. *Water Resources Research*, 49(10):6194-6207, DOI:10.1002/wrcr.20469.

Gupta, H.V., G. Blöschl, J.J. McDonnell, H. H. G. Savenije, M. Sivapalan, A. Viglione and T. Wagener, 2013. Synthesis of the Benchmark Report, in Blöschl et al. *Runoff Prediction in Ungauged Basins: Synthesis Across Processes, Places and Scales*. Cambridge University Press.

Hrachowitz, M., Savenije, H.H.G., Blöschl, G., McDonnell, J.J., Sivapalan, M., Pomeroy, J.W., Arheimer, B., Blume, T., Clark, M.P., Ehret, U., Fenicia, F., Freer, J.E., Gelfan, A., Gupta, H.V., Hughes, D.A., Hut, R.W., Montanari, A., Pande, S., Tetzlaff, D., Troch, P.A., Uhlenbrook, S., Wagener, T., Winsemius, H.C., Woods, R.A., Zehe, E. and C. Cudennec, C., 2013. A decade of Predictions in Ungauged Basins (PUB) - a review. *Hydrological Sciences Journal*, 58(6):1198-1255, DOI:10.1080/02626667.2013.803183.

Jaeger, W., A. J. Plantinga, H. Chang, K. Dello, G. Grant, D. Hulse, J.J. McDonnell, S. Lancaster, H. Moradkhani A.T. Morzillo, P. Mote, A. Nolin, M. Santelmann and J. Wu, 2013.

Toward a formal definition of water scarcity in natural-human systems. *Water Resources Research*, 49(7):4506–4517, DOI:10.1002/wrcr.20249.

Klaus, J. and J.J. McDonnell, 2013. Hydrograph separation using stable isotopes: Review and evaluation *Journal of Hydrology*, 505:47-64, DOI:10.1016/j.jhydrol.2013.09.006.

Klaus, J. E. Zehe, M. Elsner, C. Külls, and J.J. McDonnell, 2013. Macropore flow of old water revisited: experimental insights from a tile-drained hillslope. *Hydrology and Earth System Sciences*, 17:103-118, DOI:10.5194/hess-17-103-2013.

Lanni C., J.J. McDonnell, L. Hopp, R. Rigon, 2013. Simulated effect of soil depth and bedrock topography on near-surface hydrologic response and slope stability. *Earth Surface Processes and Landforms*, 38:146-159, DOI:10.1002/esp.3267.

Laudon, H, D. Tetzlaff, C. Soulsby, S. Carey, J. Seibert, J. Buttle, J. Shanley, J.J. McDonnell and K. McGuire, 2013. Change in winter climate will affect dissolved organic carbon and water fluxes in mid-to-high latitude catchments, *Hydrological Processes*, 27(5):700-709, DOI: 10.1002/hyp.9686.

McDonnell, J.J., 2013. Are all runoff processes the same? *Hydrological Processes*, DOI: 10.1002/hyp.10076.

Muñoz-Villers, L. E. and J.J. McDonnell, 2013. Land use change effects on runoff generation in a humid tropical montane cloud forest region, *Hydrology and Earth System Science*, 17:3543-3560, DOI:10.5194/hess-17-3543-2013.

Pangle, L., J. Klaus, E. Berman, M. Gupta and J.J. McDonnell, 2013. A new multisource and high-frequency approach to measuring delta <sup>2</sup>H and delta <sup>18</sup>O in hydrological field studies. *Water Resources Research*, DOI:10.1002/2013WR013743.

Tetzlaff, D., C. Soulsby C, Buttle, R. Capell, S.K. Carey, L. Kruitbos, H. Laudon, J.J. McDonnell, K. McGuire, J. Seibert and J. Shanley, 2013. Catchments on the cusp? Structural and functional change in northern ecohydrology. *Hydrological Processes*, 27(5):766-774, DOI: 10.1002/hyp.9700.

## **2012**

Ali G, D. Tetzlaff, C. Soulsby, J.J. McDonnell and R. Capell, 2012. A comparison of similarity indices for catchment classification using a cross-regional dataset. *Advances in Water Resources Research*, 40:11-22, DOI:10.1016/j.advwatres.2012.01.008.

Ali, G., Tetzlaff, D., Soulsby, C. and J.J. McDonnell, 2012. Topographic, pedologic and climatic interactions influencing streamflow generation at multiple catchment scales. *Hydrological Processes*, 26(25):3858-3874, DOI: 10.1002/hyp.8416.

Gabrielli, C, J.J. McDonnell and T. Jarvis, 2012. The role of bedrock groundwater in rainfall-runoff response at hillslope and catchment scales. *Journal of Hydrology*, 450-451:117-133, DOI: 10.1016/j.jhydrol.2012.05.023.

Jenerette, G.D, G. Barron-Gafford, A. Guswa, J.J. McDonnell and J Villegas, 2012. Organization of complexity in water limited ecohydrology. *Ecohydrology*, 5:184-199, DOI: 10.1002/eco.217.

Kruitbos, L., D. Tetzlaff, C. Soulsby, J. Buttle, S. Carey, H. Laudon, J.J. McDonnell, K. McGuire, J. Seibert, R. Cunjak and J. Shanley, 2012. Hydroclimatic and hydrochemical controls on Plecoptera diversity and distribution in northern freshwater ecosystems, *Hydrobiologia*, 693:39-53, DOI:10.1007/s10750-012-1085-1.

Laudon, H., J. Buttle, S. K. Carey, J.J. McDonnell, K. McGuire, J. Seibert, J., Shanley, C. Soulsby, and D. Tetzlaff (2012), Cross-regional prediction of long-term trajectory of stream water DOC response to climate change, *Geophysical Research Letters*, 39(18), L18404, DOI:10.1029/2012GL053033.

Muños-Villers, L. and J.J. McDonnell, 2012. Runoff generation in a steep, tropical montane cloud forest catchment on permeable volcanic substrate. *Water Resources Research*, DOI:10.1029/2011WR011316.

Stewart, M., U. Morgenstern, J.J. McDonnell and L. Pfister, 2012. The 'hidden streamflow' challenge in catchment hydrology: A call to action for streamwater transit time analysis. *Hydrological Processes*, 26: 2061-2066, DOI: 10.1002/hyp.9262.

Wilcox, B., M. Seyfried, D. Breshears and J.J. McDonnell, 2012. Ecohydrologic connections and complexities in drylands: New perspectives for understanding transformative landscape change. *Ecohydrology*, 5:143-144. DOI: 10.1002/eco.1251

Wohl E., A. Barros, N. Brunzell, N. Chappell, M. Coe, T. Giambelluca, S. Goldsmith, R. Harmon, J. Hendrickx, J. Juvik, J.J. McDonnell, F. Ogden, 2012. The hydrology of the humid tropics. *Nature (Climate Change)*, 2:655-662, DOI:10.1038/nclimate1556.

## **2011**

Burt, T., N. Howden, F. Worrall and J.J. McDonnell 2011. On the value of long-term, low-frequency water quality sampling: avoiding throwing the baby out with the bathwater. *Hydrological Processes*, 25:828-830, DOI:10.1002/hyp.7961.

Burt, T., G. Hancock and J.J. McDonnell, 2011. Where does the water go when it rains? *Geography Review*, 25(1):38-41.

Gabrielli, C. and J.J. McDonnell, 2011. An inexpensive and portable drill rig for bedrock groundwater studies in headwater catchments. *Hydrological Processes*, DOI:10.1002/hyp.8212.

Goldsmith, G., L. Muñoz-Villers, F. Holwerda, J.J. McDonnell, H. Asbjornsen and T. E. Dawson, 2011. Stable isotopes reveal linkages among ecohydrological processes in a seasonally dry tropical montane cloud forest. *Ecohydrology*, DOI:10.1002/eco.268.

Hancock, G., K G Evans, J.J. McDonnell and L Hopp, 2011, Ecohydrological controls on soil

erosion and landscape evolution. *Ecohydrology*, DOI:10.1002/eco.241.

Hopp, L. and J.J. McDonnell, 2011, Examining the role of throughfall patterns on subsurface stormflow generation. *Journal of Hydrology*, DOI:10.1016/j.jhydrol.2011.08.044.

Hopp, L., J.J. McDonnell and P. Condon, 2011. Lateral subsurface flow in a soil cover over waste rock in a humid temperate environment. *Vadose Zone Journal*, DOI:10.2136/vzj2010.0094.

Lanni C., R. Rigon and J.J. McDonnell, 2011. On the relative role of upslope and downslope topography for describing water flow path and storage dynamics: a theoretical analysis. *Hydrological Processes*, DOI:10.1002/hyp.8263.

Sayama, T., J.J. McDonnell, A. Dhakal and K. Sullivan, 2011. How much water can a watershed store? *Hydrological Processes*, DOI:10.1002/hyp.8288.

## **2010**

Brooks, R., R. Barnard, R. Coulombe and J.J. McDonnell, 2010. Ecohydrologic separation of water between trees and streams in a Mediterranean climate. *Nature-Geoscience*, 3: 100-104, DOI:10.1038/NGEO722.

Barnard, H., Graham, C. VanVerseveld, W., Brooks, J., Bond, B., and J.J. McDonnell, 2010. Mechanistic assessment of hillslope transpiration controls of diel subsurface flow: a steady-state irrigation approach. *Ecohydrology*, 3(2):133-142, DOI:10.1002/eco.114.

Carey, S.K., D. Tetzlaff, J. Seibert, C. Soulsby, J. Buttle, H. Laudon, J.J. McDonnell, K. McGuire, D. Caissie, J. Shanley, M. Kennedy, K. Devito and J. Pomeroy, 2010. Inter-comparison of hydro-climatic regimes across northern catchments: synchronicity, resistance and resilience. *Hydrological Processes*, DOI:10.1002/hyp.7880.

Fenicia, F. S. Wrede, D. Kavetski, L. Pfister, H. Savenije and J.J. McDonnell, 2010. Assessing the impact of mixing assumptions on the estimation of streamwater mean residence time. *Hydrological Processes*, 24(12):1730-1741, DOI:10.1002/hyp.7595.

Govind, A., J.M. Chen, J.J., McDonnell, J. Kumari and O. Sonnentag, 2010. Effects of lateral hydrological processes on photosynthesis and evapotranspiration in a boreal ecosystem. *Ecohydrology*, DOI:10.1002/eco.141.

Graham, C., J.J. McDonnell and R. Woods, 2010. Hillslope threshold response to rainfall: (1) A field based forensic approach. *Journal of Hydrology*, DOI:10.1016/j.jhydrol.2009.12.015.

Graham, C. and J.J. McDonnell, 2010. Hillslope threshold response to rainfall: (2) Development and use of a macroscale model. *Journal of Hydrology*, DOI:10.1016/j.jhydrol.2010.03.008.

Graham, C., W. van Verseveld, H. Barnard and J.J. McDonnell, 2010. Estimating the deep seepage component of the hillslope and catchment water balance within a measurement uncertainty framework. *Hydrological Processes*, DOI:10.1002/hyp.7788.

Gu, W., M. Shang, S. Zhai, J. Lu, J. Frentress, J.J. McDonnell and C. Kendall, 2010. The rainfall-runoff paradox from natural experimental catchments. *Advances in Water Science (in Chinese)*, 21(4):478-488.

James, A., J.J. McDonnell and H.J. Tromp van Meerveld, 2010. Gypsies in the palace: experimentalist's view on the use of 3-D physics-based simulation of hillslope hydrological response. *Hydrological Processes*, DOI:10.1002/hyp.7819.

McDonnell, J.J., K. McGuire, P. Aggarwal, K. Beven, D. Biondi, G. Destouni, S. Dunn, A. James, J. Kirchner, P. Kraft, S. Lyon, P. Maloszewski, B. Newman, L. Pfister, A. Rinaldo, A. Rodhe, T. Sayama, J. Seibert, K. Solomon, C. Soulsby, M. Stewart, D. Tetzlaff, C. Tobin, P. Troch, M. Weiler, A. Western, A. Wörman, S. Wrede, 2010. How old is the streamwater? Open questions in catchment transit time conceptualization, modelling and analysis. *Hydrological Processes*, 24(12):1745-1754, DOI:10.1002/hyp.7796.

McGuire, K. and J.J. McDonnell, 2010. Hydrological connectivity of hillslopes and streams: Characteristic time scales and nonlinearities. *Water Resources Research*, Vol. 46, W10543, DOI:10.1029/2010WR009341.

Pfister, L., J.J. McDonnell, C. Hissler and L. Hoffmann, 2010. Ground-based thermal imagery as a simple, practical tool for mapping saturated area connectivity and dynamics. *Hydrological Processes*, DOI:10.1002/hyp.7840.

Seibert, J. and J.J. McDonnell 2010. Land-cover impacts on streamflow: a change-detection modelling approach that incorporates parameter uncertainty. *Hydrological Sciences Journal*, 55(3):316-332, DOI:10.1080/02626661003683264.

Seibert, J., R. Woodsmith and J.J. McDonnell 2010. Effects of wildfire on catchment runoff response: A modelling approach to detect changes in snow-dominated forested catchments. *Hydrology Research*, 41(5):378-390, DOI:10.2166/nh.2010.036.

Stewart, M., U. Morgenstern and J.J. McDonnell, 2010. Truncation of stream residence time: How the use of stable isotopes has skewed our concept of streamwater age and origin. *Hydrological Processes*, 24(12):1646-1659, DOI:10.1002/hyp.7576.

Surfleet, C., Skaugset, A. and J.J. McDonnell, 2010. Uncertainty assessment of forest road modeling with the Distributed Hydrology Soil Vegetation Model (DHSVM). *Canadian Journal of Forest Research*, 40(7):1397-1409, DOI:10.1139/X10-079.

Zégre, N., A. E. Skaugset, N. A. Som, J. J. McDonnell, and L. M. Ganio, 2010, In lieu of the paired catchment approach: Hydrologic model change detection at the catchment scale, *Water Resources Research*, 46, W11544, DOI:10.1029/2009WR008601.

## 2009

Berman, E., M. Gupta, C. Gabrielli, T. Garland, and J.J. McDonnell, 2009. High-frequency field-deployable isotope analyzer for hydrological applications. *Water Resources Research*, 45(10), DOI:10.1029/2009WR008265.

Hopp, L. and J.J. McDonnell, 2009. Connectivity at the hillslope scale: Identifying interactions between storm size, bedrock permeability, slope angle and soil depth. *Journal of Hydrology*, 376: 378-391, DOI:10.1016/j.jhydrol.2009.07.047.

Hopp, L., C. Harman, S. Desilets, C. Graham, J.J. McDonnell and P. Troch, 2009. Hillslope hydrology under glass: Confronting fundamental questions of soil-water-biota co-evolution at Biosphere 2. *Hydrology and Earth System Science*, 13:2105-2118, DOI:10.5194/hess-13-2105-2009.

McDonnell, J.J. 2009. Classics in Physical Geography Revisited: Hewlett JD, Hibbert AR. 1967. Factors affecting the response of small watersheds to precipitation in humid areas. *Progress in Physical Geography*, 33(2):1-6.

Pfister, L., J.J. McDonnell, S. Wrede, D. Hlúbíková, P. Matgen, F. Fenicia, L. Ector and L. Hoffmann 2009. The rivers are alive: On the potential for diatoms as a tracer of water source and hydrological connectivity. *Hydrological Processes*, DOI:10.1002/hyp.7426.

Pielke, R., K. Beven, G. Brasseur, J. Calvert, M. Chahine, D. Entekhab, E. Foufoula-Georgiou, H. Gupta, V. Gupta, W. Krajewski, E. Krider, M. Lau, J.J. McDonnell, W. Rossow, J. Schaake, S. Sorooshian and E. Wood 2009. Climate Change: The need to consider human forcings other than greenhouse gases. *EOS*, 90(45):413.

Sayama, T. and J.J. McDonnell, 2009. A new time-space accounting scheme to predict stream water residence time and hydrograph source components at the watershed scale. *Water Resources Research*, 45, 7, DOI:10.1029/2008WR007549.

Tromp van Meerveld, H.J. and J.J. McDonnell, 2009. Assessment of multi-frequency electromagnetic induction for determining soil moisture patterns at the hillslope scale. *Journal of Hydrology*, 368(1):56-67, DOI:10.1016/j.jhydrol.2009.01.037.

Van Verseveld, W. J., McDonnell, J. J., Lajtha, K. 2009. The role of hillslope hydrology in controlling nutrient loss. *Journal of Hydrology*, DOI:10.1016/j.jhydrol.2008.11.002.

Sayama, T. and J.J. McDonnell, 2009. Relationship between residence time and geographic source of stream flow in small watersheds - Analysis with a distributed rainfall-runoff model and field observation data. *Hydrological Changes and Watershed Management*, p. 223-229.

## 2008

Barthold, F.K., Sayama, T., Schneider, K., Breuer, L., Vaché, K.B., Frede, H.G. and J.J. McDonnell, 2008. Gauging the ungauged basin: A top-down approach in a large semiarid watershed in China. *Advances in Geosciences*, 18:3-8.

Fenicia, F., J.J. McDonnell and H. Savenije, 2008. Learning from model improvement: On the contribution of complementary data to process understanding, *Water Resources Research.*, 44, W06419, DOI:10.1029/2007WR006386.

Grant, G., S. Lewis, F. Swanson, J. Cissel and J.J. McDonnell, 2008. Effects of forest practices on peak flows and consequent channel response : a state-of-science report for western Oregon and Washington., Gen. Tech. Rep. PNW-GTR-760. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Stations. 76p.

Mazurkiewicz, A., J.J. McDonnell, D. Callery, 2008. Assessing the controls of the snow energy balance and water available for runoff in a rain-on-snow environment. *Journal of Hydrology*, 354:1-14, DOI:10.1016/j.jhydrol.2007.12.027.

Poor, CJ, J.J. McDonnell and J. Bolte 2008. Testing the hydrological landscape unit classification system and other terrain analysis measures for predicting low-flow nitrate and chloride in watersheds. *Environmental Management*, 42:877-893, DOI:10.1007/s00267-008-9168-5.

Qu, S., Bao W., McDonnell JJ, Yu Z., and Shi P., 2008. Isotope tracers in watershed hydrological modeling. *Advances in Water Science (in Chinese)*, 119(14):587-596.

Tetzlaff, D., McDonnell, J.J., Uhlenbrook, S., McGuire, K.J., Bogaart, P.W., Naef, F., Baird, A.J. Dunn, S.M., Soulsby, C. (2008). Conceptualizing catchment processes: simply too complex? *Hydrological Processes*, 22:1727-1730, DOI: 10.1002/hyp.7069.

Tromp-van Meerveld, H. J., A. L. James, J.J. McDonnell, and N. E. Peters, 2008. A reference data set of hillslope rainfall-runoff response, Panola Mountain Research Watershed, United States, *Water Resources Research*, 44, W06502, DOI:10.1029/2007WR006299.

Van Verseveld, W., J.J. McDonnell and K. Lajtha, 2008. A mechanistic assessment of nutrient flushing at the catchment scale. *Journal of Hydrology*, DOI:10.1016/j.jhydrol.2008.06.009.

## **2007**

Dunn, S., J.J. McDonnell and K. Vaché, 2007. Factors influencing the residence time of catchment waters: A virtual experiment approach. *Water Resources Research*, 43, W0604, DOI: 10.1029/2006Wr005393.

Lehmann, P., C. Hinz, G McGrath, H. J. Tromp - van Meerveld, J.J. McDonnell, 2008. Rainfall threshold for hillslope outflow: an emergent property of flow pathway connectivity. *Hydrology and Earth System Science*, 11:1047-1063, DOI:10.5194/hess-11-1047-2007.

McDonnell, J.J., M. Sivapalan, K. Vaché S. Dunn, G. Grant R. Haggerty, C. Hinz, R. Hooper, J. Kirchner, M. L. Roderick, J. Selker and M. Weiler, 2007. Moving beyond heterogeneity and process complexity: A new vision for watershed hydrology. *Water Resources Research*, 43, W07301, DOI:10.1029/2006WR005467.



McGuire, K.K., M. Weiler and J.J. McDonnell, 2007. Integrating tracer experiments with modeling to assess runoff processes and water transit times. *Advances in Water Resources*, 30(4):824-83, DOI:10.1016/j.advwatres.2006.07.004.

McGuire, K. and J.J. McDonnell, 2007. Stable isotope tracers in watershed hydrology. In. Lajthe K. and W. Michener (eds). *Stable Isotopes in Ecology and Environmental Sciences*, 2nd Edition. Blackwell Publishing, Oxford, pp 334-374. DOI:10.1002/9780470691854.ch11.

Poor, C.J. and J.J. McDonnell, 2007. The effects of land use on stream nitrate dynamics, *Journal of Hydrology*, 332:54-68, DOI:10.1016/j.jhydrol.2006.06.022.

Tromp van Meerveld, I., N.E. Peters and J.J. McDonnell, 2007. Effect of bedrock permeability on subsurface stormflow and the water balance of a trenched hillslope at the Panola Mountain Research Watershed, Georgia, USA. *Hydrological Processes*, 21:750-769, DOI: 10.1002/hyp.6265.

Weiler, M. and J.J. McDonnell, 2007. Conceptualizing lateral preferential flow and flow networks and simulating the effects on gauged and ungauged hillslopes. *Water Resources Research*, 43, W03403, DOI:10.1029/2006WR004867.

## **2006**

Bonell, M., J.J. McDonnell, F. Scatena, J. Seibert, S. Uhlenbrook and H. van Lanen, 2006. HELPing FRIENDs in PUBs: Charting a course for synergies within international water research programmes in gauged and ungauged basins. *Hydrological Processes*, 20(8):1867-1874, DOI: 10.1002/hyp.6196.

Cloke, H., J. Renaud, J.J. McDonnell and M. Anderson, 2006. Response to comment by Jozsef Szilagyi on "Using numerical modeling to evaluate the capillary fringe groundwater ridging hypothesis of streamflow generation". *Journal of Hydrology*, 329: 730-732, DOI: 10.1016/j.jhydrol.2006.03.019.

Cloke, H., M. Anderson, J.J. McDonnell and J. Renaud. 2006. Using numerical modelling to evaluate the capillary fringe groundwater ridging hypothesis of streamflow generation. *Journal of Hydrology*, 316:141-162, DOI: 10.1016/j.jhydrol.2005.04.017.

Keim, R. H. J. Tromp-van Meerveld and J.J. McDonnell, 2006. A virtual experiment on the effects of evaporation and intensity smoothing by canopy interception on subsurface stormflow generation. *Journal of Hydrology*, 327:352-364, DOI: 10.1016/j.jhydrol.2005.11.024.

McGuire, K. J., and J.J. McDonnell, 2006. A review and evaluation of catchment transit time modeling. *Journal of Hydrology*, 330:543-563. DOI:10.1016/j.jhydrol.2006.04.020.

Tromp Van Meerveld, I. and J.J. McDonnell, 2006. Threshold relations in subsurface stormflow 1: A 147 storm analysis of the Panola hillslope trench. *Water Resources Research*, DOI:10.1029/2004WR003778.

Tromp-van Meerveld, H.J. and J.J. McDonnell, 2006. Threshold relations in subsurface stormflow 2: The fill and spill hypothesis: an explanation for observed threshold behavior in subsurface stormflow. *Water Resources Research*, DOI:10.1029/2004WR003800.

Tromp-van Meerveld, H.J. and J.J. McDonnell, 2006. On the interrelations between topography, soil depth, soil moisture, transpiration rates and species distribution at the hillslope scale, *Advances in Water Resources*, 29:293-310, DOI: 10.1016/j.advwatres.2005.02.016.

Vaché, K. and J.J. McDonnell, 2006. A process-based rejectionist framework for evaluating catchment runoff model structure, *Water Resources Research*, W02409, DOI:10.1029/2005WR004247.

Weiler, M. and J.J. McDonnell, 2006. Testing nutrient flushing hypotheses at the hillslope scale: A virtual experiment approach. *Journal of Hydrology*, 319:339-356, DOI: 10.1016/j.jhydrol.2005.06.040.

Vache, K. B. and J.J. McDonnell, 2006. Process-based strategies for model structural improvement and reduction of model prediction uncertainty Predictions in Ungauged Basins: Promise and Progress, 303.

## **2005**

Asano, Y., T. Uchida and J.J. McDonnell, 2005. Searching for a post- variable source area concept of rainfall-runoff response in headwater. *Japanese Society of Hydrology and Water Resources* (in Japanese), 18(4):459-468.

Burns, D., T. Vitvar, J.J. McDonnell, J. Duncan and J. Hassett, 2005. Effects of suburban development on runoff generation in the Croton River basin, New York, USA. *Journal of Hydrology*, 311:266-281, DOI:10.1016/j.jhydrol.2005.01.022.

Devine, C. and J.J. McDonnell, 2005. The future of applied tracers in hydrogeology. *Hydrogeology Journal*, 13:255-258, DOI:10.1007/s10040-004-0416-3.

McDonnell, J.J., McGlynn, B., Vaché, K.B and H.J. Tromp van Meerveld, 2005. A perspective on hillslope hydrology in the context of prediction in ungauged basins. *International Association of Hydrological Sciences*, 301:204-212.

McGuire, K. J., J.J. McDonnell, M. Weiler, C. Kendall, J. M. Welker, B. L. McGlynn, and J. Seibert, 2005. The role of topography on catchment-scale water residence time. *Water Resources Research*, 41, DOI:10.10292004WR003657.

Tromp van Meerveld, H.J. and J.J. McDonnell, 2005. Comment to "Spatial correlation of soil moisture in small catchments and its relationship to dominant spatial hydrological processes", *Journal of Hydrology*, 286:113-134, DOI:10.1016/j.jhydrol.2004.09.002.

Uchida T., J.J. McDonnell and Y. Asano, 2005. Functional intercomparison of hillslopes and small catchments by examining water source, flowpath and mean residence time. *Journal of Hydrology*, 327:627-642, DOI:10.1016/j.jhydrol.2006.02.037.

Uchida, T., I. Tromp-van Meerveld and J.J. McDonnell, 2005. The role of lateral pipe flow in hillslope runoff response: An intercomparison of non-linear hillslope response, *Journal of Hydrology*, 311:117-133, DOI: 10.1016/j.jhydrol.2005.01.012.

Vitvar, T., Aggarwal, P.K., and J.J. McDonnell, 2005. A review of isotope applications in catchment hydrology. In: Aggarwal, P.K., Gat, J.R., and Froehlich, K.O.: *Isotopes in the water cycle- Past, Present and Future of a Developing Science*, Springer 2005, pp. 151-171. DOI: 10.1007/1-4020-3023-1\_12.

Weiler, M., J.J. McDonnell, I. Tromp van Meerveld and T. Uchida. 2005. Subsurface Stormflow Runoff Generation Processes. In: *Encyclopedia of Hydrological Sciences*. M.G. Anderson, Editor. Wiley. pp. 1719-1732.

Buttle, J. and J.J. McDonnell. 2005. Isotope tracers in catchment hydrology in the humid tropics. In: *Forest-Water-People in the Humid Tropics*. Bonell, M. and L.A. Bruijnzeel, Editors. Cambridge University Press pp. 770-789.

## **2004**

Freer, J., H. McMillan, J.J. McDonnell and K. Beven, 2004. Constraining Dynamic TOPMODEL responses for imprecise water table information using fuzzy rule based performance measures. *Journal of Hydrology*, 291:254-277, DOI:10.1016/j.jhydrol.2003.12.037.

Hjerdt, K., J.J. McDonnell, J. Seibert and A. Rodhe, 2004. A new topographic index to quantify downslope controls on local drainage. *Water Resources Research*, Vol. 40, W05602, DOI:10.1029/2004WR003130.

McDonnell, J.J. 2004. Editorial: HPToday and HPTomorrow. *Hydrological Processes*, 14: 2739-2741, DOI:10.1002/hyp.5681.

McDonnell, J.J. and R. Woods. 2004. Editorial: On the need for catchment classification. *Journal of Hydrology*, 299(1-2): 2-3, DOI:10.1016/j.jhydrol.2004.09.003.

McDonnell, J.J. 2004. Runoff processes and lateral water transfers. In: *Vegetation, Water, Humans and the Climate: A New Perspective on an Interactive System*. P. Kabat, M. Claussen, P.A. Dirmeyer, J.H.C. Gash, L.Bravo de Guenni, M. Meybeck, R.A. Pielke, Sr., C.J. Vörösmarty, R.W.A. Hutjes, S.Lütke-meier, Editors, Springer-Verlag, pp. 322-328.

McGlynn, B. L., J.J. McDonnell, J. Seibert, and C. Kendall, (2004), Scale effects on headwater catchment runoff timing, flow sources, and groundwater-streamflow relations, *Water Resources Research*, 40, W07504, DOI:07510.01029/02003WR002494.

McHale, M. R., C.P. Cirno, M.J. Mitchell, and J.J. McDonnell, 2004. Wetland nitrogen dynamics in an Adirondack forested watershed. *Hydrological Processes*, 18(10):1853-1870, DOI:10.1002/hyp.1452.

Uchida, T, U. Asano, T. Mizuyama and J.J. McDonnell, 2004. The role of upslope soil pore pressure on lateral subsurface storm flow dynamics. *Water Resources Research*, 40, W12401, DOI:10.1029/2003WR002139.

Vaché, K.B, J.J. McDonnell, J.P. Bolte, 2004. On the use of multiple criteria for a posteriori model rejection: Soft data to characterize model performance. *Geophysical Research Letters*, 31, DOI:10.1029/2004GRL021577.

Wagener, T., M. Sivapalan, J.J. McDonnell, P. Kumar, R. Hooper, 2004. Predictions in Ungauged Basins (PUB) - A catalyst for multi-disciplinary hydrology. *EOS*, 85(44):451, 457.

Weiler, M. And J.J. McDonnell, 2004. Water storage and soil movement. p. 1253-1260 In: *Encyclopedia of Forest Sciences*. Burley, J., J. Evans, and J. Youngquist, Editors. Elsevier Science Publishers.

Weiler, M. and J.J. McDonnell, 2004. Virtual experiments: A new approach for improving process conceptualization in hillslope hydrology. *Journal of Hydrology*, 285:3-18, DOI:10.1016/S0022-1694(03)00271-3.

Woodsmith, R., K. Vache, J.J. McDonnell, and J. Helvey, 2004. The Entiat Experimental Forest: Catchment-scale runoff data before and after a 1970 wildfire. *Water Resources Research*, Vol. 40, No. 11, W11701 10.1029/2004WR003296.

Becker, A., Bonell, M., Feddes, R.....J.J. McDonnell, et al., 2004. Responses of hydrological processes to environmental change at small catchment scales. In *Vegetation Water Humans and the Climate* pp: 301-338.

### **2003**

Burns, D., N. Plummer, J.J. McDonnell, E. Busenburg, G. Casile, C. Kendall, R. Hooper, J. Freer, N. Peters, K. Beven and P. Schlosser, 2003. The geochemical evolution of riparian ground water in a forested piedmont catchment. *Groundwater*, 41(7):913-925, DOI: 10.1111/j.1745-6584.2003.tb02434.x.

Cloke, H., J. -P. Renaud, A. J. Claxton, J.J. McDonnell, M. G. Anderson, J. R. Blake and P. D. Bates, 2003. The effect of model configuration on modelled hillslope–riparian interactions. *Journal of Hydrology*, 279 (1-4):167-181, DOI:10.1016/S0022-1694(03)00177-X.

McDonnell, J.J., 2003. Where does water go when it rains? Moving beyond the variable source area concept of rainfall-runoff response. *Hydrological Processes*, 17:1869-1875, DOI:10.1002/hyp.5132.

McDonnell, J.J. 2005. Discussion of "Simple estimation of prevalence of Hortonian flow in New York City watersheds" by M. Todd Walter, Vishal K. Mehta, Alexis M. Marrone, Jan Boll, Pierre Gerard-Marchant, Tammo S. Steenhuis, and Michael F. Walter. *ASCE Journal of Hydrologic Engineering*, 10(2):168-169, DOI:10.1061/(asce)1084-0699(2003)8:4(214).

McGlynn, B. and J.J. McDonnell, 2003. The role of discrete landscape units in controlling catchment dissolved organic carbon dynamics. *Water Resources Research*, 39(4):3-18, DOI:10.1029/2002wr001525.

McGlynn, B., J.J. McDonnell, Stewart, M., Seibert, J., 2003. On the relationships between catchment scale and streamwater mean residence time. *Hydrological Processes*, 17:175-181, DOI:10.1002/hyp.5085.

McGlynn, B. and J.J. McDonnell. 2003. Quantifying the relative contributions of riparian and hillslope zones to catchment runoff. *Water Resources Research*, 39(11), 1310, DOI:10.1029/2003WR002091.

Seibert, J, K. Bishop, A. Rodhe and J. McDonnell, 2003. Groundwater dynamics along a hillslope: A test of the steady state hypothesis. *Water Resources Research*, 39(1): 2-1 - 2-9, DOI:10.1029/2002wr001404.

Shanley, J., K. Hjerdt, J.J. McDonnell and C. Kendall, 2003. Shallow water table fluctuations in relation to soil penetration resistance. *Groundwater*, 41(7):964-972, DOI:10.1111/j.1745-6584.2003.tb02438.x.

Sherlock, M. and J.J. McDonnell, 2003. A new tool for hillslope hydrologists: Spatially distributed groundwater level and soilwater content measured using electromagnetic induction. *Hydrological Processes*, 17(10):1965-1977, DOI:10.1002/hyp.1221.

Sivapalan, M., K. Takeuchi, S. Franks, V. Gupta, H. Karambiri, V. Lakshmi, X. Liang, J.J. McDonnell, E. Mendiondo, P. O'Connell, T. Oki, J. Pomeroy, D. Schertzer, S. Uhlenbrook, E. Zehe, 2003. IAHS Decade on Predictions in Ungauged Basins (PUB), 2003-2012: Shaping an exciting future for the hydrological sciences. *Hydrological Sciences Journal*, 48(6):857-880, DOI: 10.1623/hysj.48.6.857.51421.

Uhlenbrook, S., J.J. McDonnell and C. Leibundgut, 2003. Preface: Runoff generation and implications for river basin modelling. *Hydrological Processes*. Special Issue 17:197-198, DOI: 10.1002/hyp.1118.

Uhlenbrook, S., J.J. McDonnell and C. Leibundgut, Editors, 2003. Runoff Generation Modelling. *Hydrological Processes Special Issue*, Volume 17(10), 377 pages.

Weiler, M., McGlynn, B., McGuire, K. and J.J. McDonnell, 2003. How does rainfall become runoff? A combined tracer and runoff transfer function approach. *Water Resources Research*, 39, DOI:10.1029 / 2003 WR002331.

Weiler, M., Uchida, T. and J.J. McDonnell, 2003. Connectivity due to preferential flow controls water flow and solute transport at the hillslope scale. *Proc. MODSIM 2003*, D. Post (ed), Interactive modeling of Biophysical, Social and Biological Systems for Resource Management Solutions: 398-403.

**2002**

Bond, B., J. Jones, G. Moore, N. Philips, D. Post and J.J. McDonnell, 2002. The zone of vegetation influence on baseflow revealed by diet patterns of streamflow and vegetation water use in a headwater basin. *Hydrological Processes*, 16:1671-1677, DOI:10.1002/hyp.5022.

Freer, J., J.J. McDonnell, K. Beven, D. Burns, R. Hooper, B. Aulenbach, C. Kendall and N. Peters, 2002. The role of bedrock topography on subsurface storm flow. *Water Resources Research*, 38(12):5-16, DOI:10.1029/2001wr000872.

McGlynn, B., J.J. McDonnell and D. Brammer, 2002. A review of the evolving perceptual model of hillslope flowpaths at the Maimai catchment, New Zealand. *Journal of Hydrology*, 257: 1-26, DOI: 10.1016/S0022-1694(01)00559-5.

McHale, M., J.J. McDonnell, M. Mitchell and C. Cirimo. 2002. A field-based study of soil water and groundwater nitrate release in an Adirondack forested watershed. *Water Resources Research*, 38(4):2-16, DOI: 10.1029/2000wr000102.

Seibert, J. and J.J. McDonnell. 2002. On the dialog between experimentalist and modeler in catchment hydrology: Use of soft data for multicriteria model calibration. *Water Resources Research*, 38(11): 23-11 - 23-14, DOI:10.1029/2001wr000978.

Seibert, J. and J.J. McDonnell. 2002. The Quest for an Improved Dialog Between Modeler and Experimentalist. In: *Calibration of Watershed Models*. Q. Duan, H. V. Gupta, S. Sorooshian, A.N. Rousseau, and R. Turcotte, Editors. AGU Monograph, Water Science and Applications Series Volume 6, DOI: 10.1029/006WS22.

Shanley, J., C. Kendall, T. Smith, D. Wolock and J.J. McDonnell, 2002. Controls on old and new water contributions to stream flow at some nested catchments in Vermont, USA. *Hydrological Processes*, 16(3):589-609, DOI:10.1002/hyp.312.

Sherlock, M., J.J. McDonnell, D. Curry and A. Zumbuhl, 2002. Physical controls on septic leachate movement in the unsaturated zone at the hillslope scale, Putnam County, New York, USA. *Hydrological Processes*, 16:2559 – 2575, DOI:10.1002/hyp.1048.

Unnikrishna, P.V., J.J. McDonnell and C. Kendall, 2002. Isotope variations in a Sierra Nevada snowpack and their relation to meltwater. *Journal of Hydrology*, 260:38-57, DOI: 10.1016/S0022-1694(01)00596-0.

Vitvar, T., D. Burns, G. Lawrence, J.J. McDonnell and D. Wolock, 2002. Estimation of baseflow residence times in watersheds from the runoff hydrograph recession: method and application in the Neversink watershed, Catskill Mountains, New York. *Hydrological Processes*, 16:1871 – 1877, DOI: 10.1002/hyp.5027.

## **2001**

Burns, D. A., J.J. McDonnell, R. P. Hooper, N.E. Peters, J.E. Freer, C. Kendall and K. Beven, 2001. Quantifying contributions to storm runoff through end-member mixing analysis and hydrologic measurements at the Panola Mountain Research Watershed (Georgia, USA). *Hydrological Processes*, 15(10):1903-1924. DOI: 10.1002/hyp.246.

Kendall, C., J.J. McDonnell, and W. Gu, 2001. A look inside 'black box' hydrograph separation models: A study at the Hydrohill Catchment. *Hydrological Processes*, 15(10):1877-1902, DOI:10.1002/hyp.245.

McDonnell, J.J. and T. Tanaka, 2001. On the future of forest hydrology and biogeochemistry. *Hydrological Processes*, 15(10):2053-2055, DOI: 10.1002/hyp.493.

McDonnell, J.J., T. Tanaka, M.J. Mitchell and N. Ohte, 2001. Foreword to special issue: Hydrology and biogeochemistry of forested catchments. *Hydrological Processes*, 15(10):1673-1674, DOI:10.1002/hyp.351.

Welsch, D.L., C.N. Kroll, J.J. McDonnell and D.A. Burns, 2001. Topographic controls on the chemistry of subsurface stormflow. *Hydrological Processes*, 15(10):1925-1938, DOI:10.1002/hyp.247.

## **2000**

McHale, M.R., M. Mitchell, J.J. McDonnell and C. Cirimo, 2000. Nitrogen solutes in an Adirondack forested watershed: Importance of dissolved organic nitrogen. *Biogeochemistry*, 48: 165-184, DOI:10.1023/a:1006121828108.

Sherlock, M., N. Chapell and J.J. McDonnell, 2000. The effects of experimental uncertainty on the calculation of hillslope flow paths. *Hydrological Processes*, 14(14): 2457-2472, DOI:10.1002/1099-1085.

Kendall, K., J. Shanley and J.J. McDonnell, 1999. A hydrometric and geochemical approach to test the transmissivity feedback hypothesis during snowmelt. *Journal of Hydrology*, 219:188-205, DOI: 10.1016/s0022-1694(99)00059-1.

## **1999**

McDonnell, J.J., L. Rowe and M. Stewart, 1999. A combined tracer-hydrometric approach to assess the effects of catchment scale on water flow path, source and age. *International Association of Hydrological Sciences Publication*, 258: 265-274.

McGlynn, B., J.J. McDonnell, J. Shanley and C. Kendall, 1999. Riparian zone flowpath dynamics during snowmelt in a small headwater catchment. *Journal of Hydrology*, 222:75-92, DOI:10.1016/s0022-1694(99)00102-x.

McIntosh, J., J.J. McDonnell and N.E. Peters, 1999. Tracer and hydrometric study of preferential flow in large undisturbed soil cores from the Georgia Piedmont, USA. *Hydrological Processes*, 13:139-155, DOI:10.1002.

## **1998**

Becker, A. and J.J. McDonnell, 1998. Topographical and ecological controls of runoff generation and lateral flows in mountain catchments. *International Association of Hydrological Sciences*, 248:199-206.

Brown, V.A. J.J. McDonnell, D.A. Burns and C. Kendall, 1998. The role of event water, a rapid shallow flow component, and catchment size in summer stormflow. *Journal of Hydrology*, 217: 171-190, DOI:10.1016/S0022-1694(98)00247-9.

Burns, D.A. and J.J. McDonnell, 1998. Effects of a beaver pond on runoff processes : comparison of two headwater catchments. *Journal of Hydrology*, 205:248-264, DOI:10.1016/S0022-1694(98)00081-X.

Burns, D., R. Hooper, C. Kendall, J. Freer, J.J. McDonnell, K. Beven, 1998. Base cation concentrations in subsurface flow from a forested hillslope: The role of flushing frequency. *Water Resources Research*, 34(12):3535-3544, DOI:10.1029/98wr02450.

Hooper, R., B. Aulenbach, D. Burns, J.J. McDonnell, J. Freer, C. Kendall and K. Beven, 1998. Riparian control of stream-water chemistry: Implications for hydrochemical basin models. *International Association of Hydrological Sciences*, 248:451-458.

McDonnell, J.J. and J. Buttle, 1998. Comment on "A deterministic-empirical model of the effect of the capillary-fringe on near-stream area runoff 1. Description of the model." by C. Jayatilaka and Gillham, *Journal of Hydrology*, 184:299-315, DOI:10.1016/S0022-1694(98)00116-4.

McDonnell, J.J. and C. Kendall, 1998. Isotope tracers in catchment hydrology. p. 1-9 In: *Isotope Tracers in Catchment Hydrology*. Kendall C. and McDonnell, Editors. Elsevier Science Publishers.

McDonnell, J.J., B. McGlynn, K. Kendall and J. Shanley, 1998. The role of near-stream riparian zones in the hydrology of steep upland catchments. *International Association of Hydrological Sciences*, 248:173-180.

McDonnell, J.J., D. Brammer, C. Kendall, N. Hjerdt, L. Rowe, M. Stewart and R. Woods, 1998. Flow pathways on steep forested hillslopes: The tracer, tensiometer and trough approach. p. 463-474, In Tani et al, Editors. *Environmental Forest Science*, Kluwer Academic Publishers.

Richey, D.G., J.J. McDonnell, M. Erbe and T. Hurd, 1998. A critical appraisal of published chemical and isotopic hydrograph separations from New Zealand, North America and Europe. *Journal of Hydrology (NZ)*, 37(2): 95-111.

## **1997**

Cirno, C. and J.J. McDonnell, 1997. Linking the hydrologic and biogeochemical controls of nitrogen transport in near-stream zones of temperate-forested catchments: a review. *Journal of Hydrology*, 199: 88-120, DOI:10.1016/S0022-1694(96)03286-6.

Freer, J., J.J. McDonnell, D. Brammer, K. Beven, R. Hooper and D. Burns, 1997. Topographic controls on subsurface stormflow at the hillslope scale for two hydrologically distinct catchments. *Hydrological Processes*, 11(9):1347-1352.

Freer, J., J.J. McDonnell, D. Brammer, K. Beven, R. Hooper and D. Burns, 1997. Topographic controls on subsurface storm flow at the hillslope scale for two hydrologically distinct small



catchments. *Hydrological Processes*, Re-published by Wiley as part of AGU Special Issue pp. 117-122.

McDonnell, J.J., 1997. The ranking of water resources journals. *EOS, Transactions American Geophysical Union*, 78(20):718.

McDonnell, J.J., 1997. Comment on The changing spatial variability of subsurface flow across a hillside by R. Woods and L. Rowe. *Journal of Hydrology (NZ)*, 36(1):103-106.

Sun, C., C. Neale, J.J. McDonnell and H. Cheng, 1997. Monitoring land-surface snow condition from SSM/I data using an artificial neural network classifier. *IEEE Trans. Geoscience and Remote Sensing*, 35(4): 801-809. DOI: 10.1109/36.602522.

### **1996**

Sun, C., C. Neale, and J.J. McDonnell, 1996. Snow classification from SSM/I data over varied terrain using an artificial neural network classifier. *International Geoscience and Remote Sensing Symposium: Remote Sensing For a Sustainable Future*. 1(IV). pp.133-135.

McDonnell, J.J., J. Freer, R. Hooper, C. Kendall, D. Burns and K. Beven, 1996. New method developed for studying flow on hillslopes. *EOS*, 77(47):465-472.

Sun, C., C. Neale and J.J. McDonnell, 1996. Snow wetness estimates of vegetated terrain from satellite passive microwave data. *Hydrological Processes*, 10(12):1619-1628, DOI:10.1002/.

### **1995**

Sun, C., H. Cheng, J.J. McDonnell and C. Neale, 1995. Identification of mountain snow cover using SSM/I and artificial neural network. *International Conference on Acoustics, Speech, and Signal Processing - Conference Proceedings*, 1(5)3451-3454.

Brammer, D. and J.J. McDonnell, 1995. An evolving perceptual model of hillslope hydrology at the Maimai catchment. p. 35-60 In: *Advances in Hillslope Hydrology*. M.G. Anderson, S. Brooks and T. Burt, Editors. John Wiley and Sons.

Harris, D.M., J.J. McDonnell and A. Rodhe, 1995. Hydrograph separation using continuous open-system isotopic mixing. *Water Resources Research*, 31(1):157-171, DOI:10.1029/94wr01966.

McDonnell, J.J. and M. Taratoot, 1995. Soil pipe effects on pore pressure dissipation and redistribution in low permeability soils. *Geotechnical Engineering*, 26(2):53-61.

Sauter, K.A. and J.J. McDonnell, 1995. An automated-system for measuring snow surface-energy balance components in mountainous terrain. *Hydrological Processes*, 8(5):437-446, DOI:10.1002/hyp.3360080506 .

Sauter, K.A. and J.J. McDonnell, 1995. An automated approach for measuring snow surface energy exchanges in mountainous terrain. *Hydrological Processes*, 10:45-54 (re-published by Wiley as part of special 10th Anniversary Issue).

Unnikrishna, P.V., J.J. McDonnell, D. Tarboton and C. Kendall. 1995. Isotopic analysis of hydrologic processes in a small semiarid catchment. International Association of Hydrological Sciences Publication, 229:295-304.

Tarboton, D.G., T. Jackson, J.Z. Liu, C. Neale, K. Cooley and J.J. McDonnell, 1995. A grid based distributed hydrologic model: testing against data from the Reynold's Creek experimental watershed. Proc. American Meteorological Society, Conference on Hydrology, 79-84.

McDonnell, J.J., 1995. Building an undergraduate Earth System Science education program. pp.137-142, In: Global Environmental Change Science: Education and Training

Unnikrishna, P.V., J.J. McDonnell, D.G. Tarboton, C. Kendall and K. Cooley, 1995. Stable isotope tracing as a tool for testing assumptions in a grid based distributed hydrologic model. Proc. American Meteorological Society, Conference on Hydrology, 86-91.

#### **1994**

O'Neill, M.P. and J.J. McDonnell, 1994. Effects of soil moisture dynamics on slope failure at Hyrum Reservoir, Utah.. Earth Surface Processes and Landforms, 20(3):243-253, DOI:10.1002/esp.3290200306.

Sauter, K.A. and J.J. McDonnell, 1994. An automated approach for measuring snow surface energy exchanges in mountainous terrain. Hydrological Processes, 8:437-446.

Unnikrishna, P.V., J.J. McDonnell and M.K. Stewart, 1994. Soil water isotopic residence time modelling. p. 237-260 In: Solute Processes and Modeling. Trudgill, S. Editor. Wiley International.

#### **1993**

Kendall, C. and J.J. McDonnell, 1993. Effect of intrastorm isotopic heterogeneities of rainfall, soil-water, and groundwater on runoff modeling. International Association of Hydrological Sciences, 215:41-48.

McDonnell, J.J., 1993. Fluid versus electronic multiplexing in recording tensiometer systems. Trans. Society Agricultural Engineers, 36(2):459-462.

#### **1992**

McDonnell, J.J. and C. Kendall, 1992. Stable isotopes in catchment hydrology. EOS, Transactions American Geophysical Union, 73(24):260-261.

Sauter, K.A. and J.J. McDonnell, 1992. Prediction of snowmelt rates at a forested alpine site in Northern Utah, Proc. Western Snow Conference, Jackson Hole, April 1992: 10. Pp:95-102.

#### **1991**

Hawkins, C., J. Dobrowolski, J.J. McDonnell and M. O'Neill, 1991. Interdisciplinary education in watershed science: A Natural Resources perspective. p. 249-254 In: Hydrology and Water

Resources Education, Training and Management. Raynal, J.A., Editor. Water Resources Publications, Littleton, Colorado.

McDonnell, J.J., I.F. Owens and M.K. Stewart, 1991. A case study of shallow flow paths in a steep zero-order basin: A physical-chemical-isotopic analysis. *Water Resources Bulletin*, 27(4):679-685.

McDonnell, J.J., M.K. Stewart and I.F. Owens, 1991. Effect of catchment-scale subsurface mixing on stream isotopic response. *Water Resources Research*, 27(12):3065-3073.

McDonnell, J.J., 1991. USA-USSR issues in environmental hydrology. *The Professional Geographer*, 43(1):106-107, DOI: 10.1111/j.0033-0124.1991.00106.x.

McDonnell, J.J., 1991. Preferential flow as a control of stormflow response and water chemistry in a small forested watershed. p p. 50-58 In: *Preferential Flow*, American Society of Agricultural Engineers. Gish, T.J. and A. Shirmohammadi, Editors.

Stewart, M.K. and J.J. McDonnell, 1991. Modeling base flow soil water residence times from deuterium concentrations. *Water Resources Research*, 27(10):2681-2694, DOI:10.1029/91wr01569.

#### **1990**

McDonnell, J.J., 1990. A rationale for old water discharge through macropores in a steep, humid catchment. *Water Resources Research*, 26(11):2821-2832, DOI:10.1029/WR026i011p02821.

McDonnell, J.J., 1990. The influence of macropores on debris flow initiation. *Quarterly Journal of Engineering Geology*, 23(4):325-332, DOI:10.1144/GSL.QJEG.1990.023.04.06.

McDonnell, J.J., M. Bonell, M.K. Stewart and A.J. Pearce, 1990. Deuterium variations in storm rainfall: Implications for stream hydrograph separations. *Water Resources Research*, 26: 455-458, DOI:10.1029/WR026i003p00455.

#### **1988**

McDonnell, J.J., 1988. Hydrological developments: Report on the 26th congress of the International Geographical Union. *Journal of Hydrology (NZ)*, 27(2):154-155.

#### **1987**

Buttle, J.M. and J.J. McDonnell, 1987. Modeling the areal depletion of snowcover in a forested catchment. *Journal of Hydrology*, 90(1-2):43-60, DOI:10.1016/0022-1694(87)90172-7.

McDonnell, J.J. and J.M. Buttle, 1987. On improving temperature-index snowmelt models in small watersheds. *Hydrological Science and Technology*, 3(1-2):53-59.

McDonnell, J.J. and C.H. Taylor, 1987. Surface and subsurface water contributions during snowmelt on a small Precambrian Shield watershed, Muskoka, Ontario. *Atmosphere-Ocean*, 25(3):251-266. DOI: 10.1080/07055900.1987.9649274.

***Papers in preparation, conference papers, abstracts and reports are omitted***

## **PROFESSIONAL SERVICE**

### **Academic Courses Taught**

- 2022- Catchment Hydrology, ENVS 819, 3-cr course, Masters of Water Security Program, University of Saskatchewan.
- 2020 Hillslope Hydrology, a 4-cr course for Beijing Normal University
- 2019-21 Fundamentals of Hydrology, Geog 427, taught at Beijing Normal University as part of the joint BNU-UofS Masters of Water Security degree)
- 2016- Isotope Tracers in Catchment Hydrology: A National Graduate Course and International Workshop, (graduate course, SENS), Univ. of Saskatchewan.
- 2015 Isotopes in the Biosphere (graduate course, SENS), Univ. of Saskatchewan.
- 2013- Breakthroughs in Water Security (graduate course, SENS), Univ. of Saskatchewan.
- 2012 The Hydrology of Canada (2<sup>nd</sup> year Undergraduate Course), Univ. of Saskatchewan.
- 2008-2012 *The Future Professoriate* (a course for PhD students, Post Docs and Assistant Professors interested in pursuing an academic career), Oregon State University
- 1989-2012 *Hillslope and Watershed Hydrology* (senior undergraduate/graduate course), USU, ESF, OSU and University of Saskatchewan (now in shortcourse format)
- 1990-2012 *Field Hydrology* (senior undergraduate/graduate course), ESF, OSU.

**Proposal Reviewer for:** National Science Foundation (Programs: Hydrological Sciences, Geosciences, Geographical and Regional Science, Ecology, EPSCoR), Environmental Protection Agency, Canadian GEWEX Program, National Science and Engineering Research Council (Canada), Utah State University, University of Puerto Rico, State University of New York, New York McIntire-Stennis Program, Longman Group Publishing Ltd. (UK), John Wiley and Sons (UK), U.S. Geological Survey (Water Resources Centers in Pennsylvania and New York), University of North Carolina, Canada Center for Innovation, ETH Zurich, Illinois Water Survey, Oregon State University; Swiss National Science Foundation; Australia National Science Foundation; The Nuffield Foundation (UK); The Leverhulme Trust (UK), NERC Program, LOCAR Instrumented Catchment Network, Government of Western Australia, Utah State University.

**Journal Reviewer for:** Nature, Nature-Geoscience, PNAS, Wires Water, Water Resources Research, Hydrological Processes, Journal of Hydrology, Water Resources Bulletin, Advances in Water Resources, ASCE Journal of Irrigation and Drainage ASCE Journal of Hydrologic Engineering, Atmospheric Research, Water Air and Soil Pollution, Geofísica Internacional, Boreal Environment Research, Soil Science Society of America Journal, Hydrological Sciences Journal, Hydrology and Earth Systems Science, Review of Environmental Science, Water SA, Ecohydrology.

**External International Examiner (PhD Theses, Faculty Review):** UC Santa Barbara, Duke University, The University of Western Australia, University of Waterloo, University of Toronto, ETH Zurich, University of British Columbia, University of Adelaide; University of Edinburgh; SUNY-ESF; UC Berkeley; Australia National University; University of Maryland; University of Western Ontario; University of South Carolina; Portland State University; University of San

Diego; Louisiana State University; University of Canterbury; University of Melbourne; University of Newcastle; UBC Kelowna; University of Mass.; Freiberg University; Utah State University; Colorado State University, Delft University of Technology, The Royal Society (UK), The Royal Society (New Zealand), University of North Carolina, CSIRO (Australia), Canada Research Chair Program..

#### **Conference and Workshop Organization:**

- 2023 Maimai Field Day (with Uwe Morgenstern), Reefton New Zealand
- 2020 Experimental Research Watersheds: Past, Present and Future. Beijing Normal University, Beijing China (Co-organized Fuqiang Tian and Chengzhong Pan) (now on hold due to COVID)
- 2019 Hillslope Hydrology: Past, Present and Future, University of Luxembourg, Belval
- 2015 Forest Hydrology: Vision and outlook, Portland Oregon.
- 2014 Chapman Conference on Spatial organization and complex behavior of intermediate scale catchments (Co-convener with 5 others), Luxembourg
- 2013 Subsurface Networks in Ecohydrology (with Larry Band), Chapel Hill, NC.
- 2009 Chapman Conference on Examining Ecohydrological Feedbacks of landscape change along elevation gradients in semi-arid regions, (with Brad Wilcox, David Breshears, Mark Seyfried), Sun Valley Idaho.
- 2009 State of the Art of Residence Time Computation, Analysis and Modeling, IAEA Vienna Austria
- 2007 IAHS-IUGG General Assembly, IAHS Main Program, Perugia, Italy
- 2006 NSF-sponsored USA PUB Workshop, October 2006 Corvallis OR
- 2005 UNESCO-sponsored PUB-HELP-FRIEND Workshop, Corvallis OR
- 2005 *Slope Intercomparison Experiment (SLICE)* International Workshop, HJ Andrews Experimental Forest, September 2005
- 2004 CUAHSI Vision Workshop on *Confronting the Theory Vacuum in Catchment Hydrology*, Corvallis OR (with Kellie Vache)
- 2003 Workshop Organizer; IAHS/IUGG *Isotopes in Water Cycle Models*, Sapporo Japan (with John Gibson and Pradeep Aggarwal), Sapporo Japan.
- 2003 Symposium Organizer, IAHS/IUGG, *Prediction in Ungauged Basins*, (with Enda O'Connell and M. Sivapalan), Sapporo Japan.
- 2001 Conference Co-organizer, Chapman Conference on *Catchment Runoff Processes and Modeling* (with Larry Band), American Geophysical Union, Sunriver OR
- 2000 Conference Co-Convener, International Workshop on Runoff Generation and Implications for River Basin Modeling, Freiburg, Germany (with Stefan Uhlenbrook and Chris Leibundgut).
- 2000 Conference Organizing Committee member, IUFRO and UNESCO Symposium *Forests-Water-People in the humid tropics Past, Present and Future Hydrological Research for Integrated Land and Water Management*, Kuala Lumpur, Malaysia
- 2000 Conference Organizer, USA-Japan Workshop on Forest Catchment Hydrology and Biogeochemistry, National Science Foundation, Japan JSPS and IGBP BAHC.
- 2000 Symposium Co-convener, Symposium 4: Integrated Methods of Catchment Hydrology - Tracer, Remote Sensing and New Hydrometric Techniques (with Chris Leibundgut, G. Schultz and D. Collins), IUGG/IAHS International Union of

- Geodesy and Geophysics and International Association of Hydrological Sciences, Birmingham, UK,
- 1997 Conference Organizer, *Syracuse Catchment Hydrology Meeting*, Syracuse New York
- 1996 Symposium Technical Chair, AWRA Summer Symposium *Watershed Restoration: Physical, Chemical and Biological Controls*, AWRA (American Water Resources Association) Symposium, Syracuse, NY.
- 1995 Symposium Co-convenor, *Tracer Technologies in Hydrology* (with Chris Leibundgut), IUGG/IAHS International Union of Geodesy and Geophysics and International Association of Hydrological Sciences, Boulder, Colorado.
- 1993 Conference Organizer, *Syracuse Catchment Hydrology Meeting*, Syracuse New York

**Conference Session Organization:**

- 2014 American Geophysical Union Fall Meeting, Session on *Ecohydrology*. (with Brad Wilcox and others), San Francisco CA
- 2014 1<sup>st</sup> International TERENO Conference, Session on *Modelling the Hydrosystem – Balancing of complexity and uncertainty* (with Sabine Attinger), Bonn, Germany
- 2013 American Geophysical Union Fall Meeting, Session on *Hydropedology* (with Henry Lin and others), San Francisco CA
- 2013 Canadian Geophysical Union Meeting, Isotope Hydrology and Climatology (with Julian Klaus and others), Saskatoon SK.
- 2012 American Geophysical Union Fall Meeting, Session on The value of long term streamflow records.(with Tim Burt and others), San Francisco CA
- 2008 European Geophysical Union, Session on *Benchmarking the prediction in ungauged basin (PUB) initiative*, (with Guenter Bloeschl), Vienna Austria.
- 2006 American Geophysical Union Fall Meeting, Session on *DOC fate and transport: from molecular to catchment scales* (with Tim Burt and others), San Francisco CA
- 2006 American Geophysical Union Fall Meeting, Session on *Watershed Characterization*. (with Andrew Binley and others), San Francisco CA
- 2005 American Geophysical Union Fall Meeting, Session on *The life and contributions of John Hewlett*, (with Doug Burns), San Francisco CA
- 2005 American Geophysical Union Fall Meeting, Session on Hydropedology (with Henry Lin)
- 2005 American Geophysical Union Fall Meeting, Session on Prediction in Ungauged Basins (with Thorsten Wagener, Brian McGlynn)
- 2005 International Association of Hydrological Sciences, Session on *Tracers and Remote Sensing*, (with John Gibson and Al Pietroniro), Foz Iguacu, Brazil
- 2004 American Geophysical Union / Canadian Geophysical Union Meeting, Session on *Isotope Tracing of Water and Carbon Cycling in Large River Basins*, (with P. Agarwal and J. Gibson), Montreal Canada
- 2004 Geological Society of America, Session on *Future of Applied Tracers in Hydrogeology*, (with Craig Devine), Denver CO
- 2004 American Geophysical Union / Canadian Geophysical Union Meeting, Session on *Catchment Classification* (with Kellie Vache), Montreal Canada

- 2003 American Geophysical Union Fall Meeting, Session on *Hillslope Hydrology* (with Larry Band and Markus Weiler), San Francisco CA
- 2003 MODSIM 2003, Session on *Measurements and Modeling in Catchment Hydrology*, (with Markus Weiler) Townsville, Australia
- 2002 American Geophysical Union Fall Meeting, Session on *Watershed Hydrology and Biogeochemistry* (with Mike Goeseff and Dave DeWalle), San Francisco CA
- American Geophysical Union Fall Meeting, Session on *Hydroecology of Mountain Catchments* (with Mark Williams), San Francisco CA
- 1999 American Geophysical Union Spring Meeting, Session on *Watershed Hydrology: Physical, Chemical and Policy Issues*, Boston Mass.
- 1997 American Geophysical Union Fall Meeting, Session on *Use of Tracers for Understanding Hydrological Processes*, (with Chris Leibundgut), San Francisco CA.
- 1997 Gordon Research Conference on Hydrobiogeochemistry of Forested Watersheds, Workshop Leader *Innovations in Field Monitoring Techniques* (with Frank Bowles and Greg Lawrence), Plymouth, New Hampshire.
- 1997 American Geophysical Union Spring Meeting, Session on *Hydrograph Separation Techniques in Catchment Hydrology*, (with Jamie Shanley), Baltimore MD.
- 1995 American Geophysical Union Spring Meeting, Session on *Interactions Between Water and Solutes in Small Catchments*, (with Carol Kendall), Baltimore MD.
- 1994 Western Pacific Geophysical Meeting, Session on *Headwater Hydrology and Slope Stability*, (with Roy Sidle), Hong Kong.
- 1993 American Geophysical Union Fall Meeting, Session on *Runoff Pathways in Small Catchments*, San Francisco, CA.
- 1992 Western Pacific Geophysical Meeting, Session on *Hillslope Hydrology*, Hong Kong.
- 1991 American Geophysical Union Fall Meeting, Session on *Isotope Tracing in Small Catchments*, (with Carol Kendall), San Francisco, CA.

**International Conference Steering Committees:**

- 2008 Member, Science Steering Committee, 2<sup>nd</sup> China-PUB Conference, Sichuan University, Chengdu, China.
- 2006 Member, Science Steering Committee, 1<sup>st</sup> China-PUB Conference, Tsinghua University, Beijing China.
- 2004- Member, International Technical Committee, *International Conference on Reservoir Operation & River Management (ICROM)*, Sun Yat-sen University, China
- 2003 Member, Science Steering Committee, *British Hydrological Society 2<sup>nd</sup> International Hydrology Conference*, Imperial College London, London UK
- 2000 Member, Scientific Advisory Committee, *Workshop on Runoff Generation Modeling*, Freiburg University, Freiburg Germany.
- 1998 Member, International Technical Committee, *Civil and Environmental Engineering -- Year 2000, New Frontiers and Challenges*, Asian Institute of Technology, Bangkok, Thailand.

## **RESEARCH GRANTS (APPLIED RESEARCH) FUNDED**

*Testing effects of soil amendments on nutrient poor mine covers soils at the MOST facility (Principal Investigator).*

Funded by NSERC Alliance Grant Program and Sunterra Canada, (\$225,000), 2022-2024

*Evaluation and testing of soil amendments for mine covers in cold regions (Principal Investigator):*

Funded by NSERC Alliance Grant Program and Profile Products USA, (\$126,176), 2020-2021

*The GREEN Facility (Principal Investigator):*

Funded by Western Economic Diversification (WED) (\$643,701, with match to total \$1.3M), 2017-2020

*Quantifying the effect of freeze-thaw cycles on mine cover design and performance; NSERC Collaborative Research and Development Grant (Principal Investigator):*

Funded by NSERC and Okane Consultants (\$200,000)

*The Mine Overlay Soil Test (MOST) Facility (Principal Investigator):*

Funded by Western Economic Diversification (WED) (\$1,846,000, with match to total \$5M), 2015-2018

*Salt release from soil sands reclamation covers, Co-Principal Investigator*

Funded by Syncrude (\$85,000), 2014-2015.

*Water use by Eucalyptus, Co-Principal Investigator*

Funded by the US Dept of Energy (\$1.2M USD; \$208,512 to U of S ), 2014-2019

*Hydrological impacts of cellulosic-based biofuel production: Principal Investigator*

Funded by the Dept. of Energy (\$325,000), 2009-2010.

*Combining field work and modeling to explore forest management effects on streamflow: Phase 1: Principal Investigator*

Funded by the National Council for Air and Stream Improvement (\$75,000), 2006-2007.

*Hydrological performance of cover systems at the Green Creek Mine: A combined field-modeling analysis: Principal Investigator*

Funded by Kennecott Greens Creek Mine (\$420,000), 2006-2009.

*Hillslope Hydrology of the Savannah River Site—Watershed Scale Analysis: Principal Investigator*

Funded by the US Forest Service (\$100,000), 2006-2007

*Hillslope Hydrology of the Savannah River Site for Tritium Phytoremediation: Principal Investigator*

Funded by the US Forest Service (\$90,000), 2004-2005



*A Combined Watershed-Reservoir Model for the Croton Watershed, New York; Co-Principal Investigator.*

Funded by: New York City, Dept. of Environmental Protection, (\$6,300,000), 1999-2002.

*Preliminary evaluation of linked watershed reservoir models; Co-Principal Investigator*

Funded by: New York City, Dept. of Environmental Protection, (\$65,000), 1998-1999.

*Contaminant Transport from Buried Galleys: A combined Physical, Chemical and Isotopic Study; Principal Investigator*

Funded by: New York City, Dept. of Environmental Protection (\$1,400,000), 1997-1998.

*Subsurface Stormflow and Contaminant Transport; Principal Investigator*

Funded by: New York City, Dept. of Environmental Protection (\$600,000), 1997-1998

*Evaluation of Non-Point Pollutant Removal by Best Management Practices; Principal Investigator*

Funded by: New York City, Dept. of Environmental Protection (\$275,000), 1994-1996.

#### **RESEARCH GRANTS (BASIC RESEARCH) FUNDED**

*Catalyst Grant on Fire and water: A new collaboration between the University of Saskatchewan and the University of Valencia (Principal Investigator)*

Funded by NSERC: (\$25,000), 2022-2024

*CREATE Grant on the Food-Water Nexus Education and Training (FWNET) (Co-Principal Investigator)*

Funded by NSERC (~\$2 million), 2022-2028

*CREATE Grant on Design of Living Infrastructure for Ecosystem Services (Co-Principal Investigator)*

Funded by NSERC (~\$2 million), 2019-2025

*CREATE Grant on Water Security (Co-Principal Investigator)*

Funded by NSERC (~\$2 million), 2018-2024

*Storage, mixing and release of water at the catchment scale (Principal Investigator)*

Funded by NSERC Discovery Grant Research Accelerator (\$570,000), 2019-2024

*Global Water Futures, (Co-Principal Investigator)*

Funded by NSERC (\$77M), 2016-2023

*Water storage and release (Principal Investigator)*

Funded by NSERC Discovery Grant Program (\$425,000), 2014-2019

*Water storage and release (Principal Investigator)*

Funded by NSERC Discovery Grant Research Accelerator (\$120,000), 2014-2019

*Isotope studies of watershed storage and release in the CCRN watersheds. (Principal Investigator)*

Funded by NSERC Network Program, (\$32,000), 2014-2015.

*Vegetation effects on water flow in high-latitude ecosystems (Co-Investigator)*

Funded by the European Research Council, (1.5M Euros, no direct \$ to U of S; funds U of S Post Doc visits and travel), 2014-2019.

*Water sustainability in the Willamette Basin, Oregon (Principal Investigator)*

Funded by NSF Hydrological Science (\$4.3 M), 2010-2015.

*Development of a new field based water isotope analyse, Phase II: Principal Investigator*

Funded by the Dept. of Energy, (\$70,000), 2010-2011.

*Development of a new field based water isotope analyse, Phase 1: Principal Investigator*

Funded by the Dept. of Energy, (\$35,000), 2009-2010.

*An integrated investigation of nutrient generation and delivery processes and pathways from paddock to small catchment scales*

Co-Principal Investigator

Funded by the Australian Research Council, (\$440,000 AUS) 2009-2012.

*Ecohydrological controls on watershed response to land use change in the montane cloud forest zone in Central Veracruz, Mexico*

Co-Principal Investigator

Funded by NSF Hydrological Sciences and NSF Ecology Programs (\$1,500,000) 2007-2011

*Headwater stream processes revealed by continuous ultra-high resolution thermal measurement*

Co-Principal Investigator

Funded by NSF Hydrological Sciences Program (\$193,000), 2007-2009.

*Understanding ecohydrological coupling in upland humid watersheds for soil and water management*

Principal Investigator

Funded by International Atomic Energy Agency (IAEA) (8,000 Euros per year), 2008--

*USA PUB Workshop for defining CUAHSI community science questions, Principal Investigator*

Funded by NSF Hydrological Sciences Program (\$80,000) 2005-2007

*Processes of Water Cycling and Streamflow Generation in Semi-Arid Watersheds in Eastern Washington (3) – Isotope Tracing of Water Sources; Principal Investigator*

Funded by the US Forest Service (\$50,000), 2004-2005

*Development of the Willamette Basin Watershed for UNESCO Hydrology, Environment, Life and Policy Program*, Principal Investigator  
"Funded" by UNESCO, 2004-

*Towards a new theoretical framework for watershed hydrology*, Principal Investigator  
Funded by: Consortium of Universities for the Advancement of Hydrological Sciences, (\$9,000)  
2004

*Use of isotope tracers to detect water source and water age at the HJ Andrews Experimental Forest*; Principal Investigator  
Funded by NSF HJ Andrews LTER Program (\$20,000) 2004-2005

*The Institute for Water and Watersheds Initiative*; Co-Principal Investigator  
Funded by the OSU Provost's Office, (\$1,500,000), 2005-2009

*Catchment water residence time: understanding the relation between landscape organization and runoff characteristics*, Co-Principal Investigator  
Funded by Dutch Science Foundation (\$250,000 EU), 2005-2007

*A Physically Based Method for Spatial Interpolation of Soil Measurements*; Co-Principal Investigator  
Funded by the Australia Research Council (\$260,825 AU), 2005-2007

*Processes of Water Cycling and Streamflow Generation in Semi-Arid Watersheds in Eastern Washington (2) – Snowmelt Hydrology*: Principal Investigator  
Funded by the US Forest Service (\$50,000), 2004-2005

*Modeling Mesoscale Flows in the Maybeso Catchment; (2) – Documenting Rainfall Spatial Patterns*, Principal Investigator  
Funded by the US Forest Service (\$50,000), 2004-2005

*Processes of Water Cycling and Streamflow Generation in Semi-Arid Watersheds in Eastern Washington (1) – Understanding Landuse Effects on Water quantity and Quality*: Principal Investigator  
Funded by the US Forest Service (\$100,000), 2003-2004

*Modeling Mesoscale flows in the Maybeso Catchment (1) -* Principal Investigator  
Funded by the US Forest Service (\$86,000), 2003-2004

*Hillslope Hydrology of the Oregon Coast Range*: Principal Investigator  
Funded by: BLM and US Forest Service (\$218,000), 2002-2003

*US-German Exchange Proposal for Hydrological Modeling*; Principal Investigator  
Funded by: National Science Foundation International Division (\$8,000), 2001-2002.

*Sources and Sinks of Nitrogen Within a Forested Watershed*; Co-Principal Investigator  
Funded by: NSF Environmental Biology and Ecosystem Studies (\$659,000), 2000-2002.

*Topographical Linkages Between Nitrogen and Organic Carbon Solutes Within a Forested Watershed*; Co-Principal Investigator  
Funded by: USDA Competitive Grants Program (\$100,000), 1999-2002

*Hillslope hydrology of the Maybeso Watershed, SE Alaska*; Principal Investigator  
Funded by the US Forest Service (\$50,000), 2001-2002

*Joint Seminar on Hydrology and Biogeochemistry of Forested Headwater Catchments*; Principal Investigator.  
Funded by: NSF International Programs, (\$20,000), 1999-2000.

*BAHC Workshop on Hydrology and Biogeochemistry of Forested Headwater Catchments*; Principal Investigator.  
Funded by: International Geosphere-Biosphere Program, (\$5,000), 2000.

*International Supplement: Hillslope-Riparian Zone Reservoir Mixing: A Multi-Catchment Test of a New Methodology for Predicting Stream Chemistry*; Principal Investigator  
Funded by: NSF International Programs, (\$63,242).

*Hillslope-Riparian Zone Reservoir Mixing: A Multi-Catchment Test of a New Methodology for Predicting Stream Chemistry*; Principal Investigator  
Funded by: NSF Hydrological Sciences Program (\$330,000), 1999-2001

*Effects of Forest Harvesting on Streamflow Generation and Water Quality in a Catskill Mountain Watershed*; Co-Principal Investigator  
Funded by: USDA McIntire Stennis Program (\$75,630), 1997-1999.

*Development of an Evolutionary Flow Path Model of Water and Solutes*; Principal Investigator  
Funded by: NSF Hydrological Sciences Program (\$300,000), 1994-1997.

*A Spatial/Temporal Investigation of the Hydrology and Biogeochemistry of N Transport within a Forested Hillslope/Wetland/Lake Ecotone*; Principal Investigator  
Funded by: USDA Competitive Grants Program (\$120,000), 1994-1996.

*Mapping Soil Macropores in a Japanese Cedar Catchment*; Principal Investigator.  
Funded by: EARTHWATCH (\$11,000), 1994.

*A Water Module for the NY State Environmental Science Program*; Co-Principal Investigator  
Funded by: SUNY Central Office of Educational Technology (\$12,000), June - Dec. 1994.

*Evaluation of Hydrological and Biogeochemical Pathways and Fluxes in a Forested Watershed in the Adirondack Mountains*; Co-Principal Investigator  
Funded by: USDA McIntire Stennis Program (\$66,630), 1994-1997.

*A Watershed Simulation Model With Vegetation*; Principal Investigator.  
Funded by: NSF Hydrological Sciences Program (\$156,559), 1993-1994.

*Mapping Soil Macropores in a New Zealand Rainforest Catchment*, Principal Investigator.  
Funded by: EARTHWATCH (\$35,000), 1992.

*Earth Systems Science Education Program for Utah State University*, Principal Investigator/Instructor.  
Funded by: NASA Headquarters and USRA (\$105,000), 1992-1993.

*Watershed Runoff Production in the Intermountain West at Varying Forested Basin Scales*, Principal Investigator.  
Funded by: Utah Agricultural Experiment Station (\$13,900), 1991-1995.

*Snowmelt Erosion From Simulated Waste Burial Trench Caps*, Co-Investigator.  
Funded by: U.S. Department of Energy (\$101,000), 1991-1992.

*Improvement and Further Development of SSM/I Overland Parameter Algorithms Using the WetNet Workstation*, Co-Principal Investigator.  
Funded by: NASA Headquarters (\$225,926), 1991-1994.

*A Spatially Distributed Water Balance Based on Physical, Isotopic and Airborne Remotely Sensed Data*, Co-Principal Investigator.  
Funded by: U.S. Geological Survey 105 Program (\$350,234), 1991-1993.

*Snowmelt Energy Balance and Melt Infiltration in Complex Terrain*, Principal Investigator.  
Funded by: Utah State University (\$16,000), 1991-1992.

*Effects of Streambank Erosion on Water Quality*, Co-Principal Investigator.  
Funded by: U.S. Department of Agriculture Competitive Grants Program (\$282,353), 1991-1993.

*Landslide Generation in a Laboratory Rainfall-Runoff Simulator*, Principal Investigator.  
Funded by: Utah State University (\$15,179), 1990.

*Snowmelt Processes in Northern Utah*, Principal Investigator.  
Funded by: Ecology Center, Utah State University (\$11,000), 1989.

*Vegetation-induced Moisture Flux, With Implications for Global Climate Modeling*, Co-Principal Investigator.  
Funded by: NASA Marshall Space Flight Center (\$51,000), 1989.

*Rainfall Oxygen-18 Variations in Mesoscale Events*, Principal Investigator.  
Funded by: NASA Marshall Space Flight Center (\$1,200), 1989.

#### **OTHER PRESENTATIONS:**

##### **Local University Seminars:**

- 2018 Dept of Civil and Geological Engineering, UofS, Saskatoon SK
- 2012 School of Environment and Sustainability, Saskatoon SK
- 2011 Dept. of Geosciences Seminar Series, OSU Corvallis OR

- 2011 Dept of Botany Seminar Series, OSU Corvallis OR
- 2010 OSU Stream Team Seminar Series, Corvallis OR
- 2006 Institute for Water and Watershed Graduate Orientation, OSU Corvallis OR
- 2004 OSU Math Department Seminar Series, OSU Corvallis OR
- 2004 HJA Science Hour, OSU Corvallis OR
- 2003 HJA Science Hour, OSU Corvallis OR
- 2003 OSU Hydrology Seminar Series, OSU Corvallis OR
- 2002 Dept. of Crop and Soil Science, OSU Corvallis OR
- 2002 Dept. of Bioresource Engineering, OSU, Corvallis OR
- 2002 Forest Engineering Seminar series, OSU Corvallis OR
- 2001 Oregon Dept of Forestry Workshop on Headwater Streams, Corvallis OR
- 2001 College of Forestry Freshman Class, Corvallis, OR
- 2000 HJ Andrews Annual Research Symposium, Corvallis, OR
- 2000 OSU Hydrophiles Group, Corvallis OR
- 2000 Dept. of Forest Engineering, OSU Corvallis OR
- 1998 Faculty of Forestry, SUNY-ESF, Syracuse, New York.
- 1996 Syracuse University, Dept. of Geology, Syracuse New York.
- 1996 Syracuse University, Dept. of Civil and Environmental Engineering, Syracuse, New York.
- 1996 Faculty of Forestry, SUNY-ESF, Syracuse, New York.
- 1995 Syracuse University, Dept. of Civil and Environmental Engineering, Syracuse, New York.
- 1992 Utah State University, Dept. of Civil and Environmental Engineering, Logan, Utah.
- 1991 Utah State University, Ecology Center, Logan, Utah.

**Public Lectures:**

- 2011 Society of American Foresters, North Coast Chapter, Cannon Beach OR
- 2009 Distinguished Professor Inaugural lecture, Memorial Union OSU.
- 2007 President's Circle, Development Fund Event, Seattle Athletic Club, Seattle WA
- 2006 Golder and Associates, Mining Engineering Group, Vancouver BC Canada
- 2003 CH2MHill, Portland OR office
- 2002 Golder and Associates, Mining Engineering Group, Vancouver BC Canada
- 1999 State Legislature of New York, SMART-NY Forum.
- 1998 SUNY-ESF Board of Trustees Meeting, Syracuse, New York.
- 1997 SUNY Brockport, Dept. of Earth Sciences, Keynote Speech for the Annual Awards Banquet.
- 1994 American Water Resources Association, Salt City Student Chapter, Syracuse, New York.
- 1994 Society of American Foresters, Syracuse New York Student Chapter, Syracuse, New York.
- 1992 California Earthwatch Society, Los Angeles, California, New York.
- 1990 Huntsville Geological Society, Huntsville, Alabama, New York.
- 1988 Royal Commonwealth Society, Keynote Speech for Annual Meeting, Christchurch, New Zealand.

**GRADUATE PROGRAM** (\* denotes co-supervision):

**Masters Directed:**

Allen, Scott. 2012, Isotopic composition of throughfall (co-advised with Barb Bond). MS Water Resources Engineering, OSU, **[now Assistant Professor, UNLV]**.

Alley, David. 2007, Sources of storm runoff in a semi-arid basin. MF in Forest Engineering, OSU. **[now Forest Hydrologist, Valley Forestry, Oregon]**.

Awasthi, Kesheb. 1995. A laboratory model of hillslope runoff. M.S. Plan B, SUNY-ESF, 35pp. **[now Dean of the Forestry School, Pokhara Nepal]**.

Brammer, Dean. 1996. Hillslope hydrology of a small forested catchment, Maimai New Zealand. M.S. SUNY-ESF, 90pp. plus appendices. **[now Research Hydrologist, U.S. Army Corps of Engineers, New England District]**.

Brown, Virginia. 1996. The role of event water, rapid shallow flowpaths and catchment size in summer stormflow. M.S. SUNY-ESF, 73pp. plus appendices.

Callery, David. Assessment of DEM-based terrain indices. MS in Water Resources Science, OSU, June 2007. **[now Forest Hydrologist, USFS Helena-Lewis and Clark, MT]**.

Chad, Spencer. 2020, Evaporation from tailings ponds, Oil Sands Alberta. MSc in Civil Engineering, UofS, (co-advised with Lee Barbour) **[now Consultant, Concentric Geoscience, Saskatoon SK]**.

Crosby, Jarett, 2021, Isotope tracing of water movement in apple trees. Masters of Water Security, UofS **[now Field Engineer, Pinter and Associates, Martinsville SK]**.

Gabrielli, Chris. A new portable drill rig for remote rock aquifer study. MS in Water Resource Science, OSU, June 2011. **[now Consultant, Selkermetrics, Corvallis OR]**.

Guselle, John, 2018. Isotope analysis of the water balance of a lysimeter. Masters of Water Security, UofS. **[now retired]**.

Kendall, Kim. 1997. Snowmelt runoff in steep humid areas: A test of the transmissivity feedback mechanism at the Sleepers River watershed. M.S. SUNY-ESF, 142pp.\* **[now Staff Scientist, Vermont Natural Resources Council]**.

Kumar, V. 1993. Development of GIS-based water quality model using AgNPS. M.S. Thesis, Civil and Environmental Engineering. Utah State University, 56pp.

Mazurkiewicz, Adam 2006. Modeling snowmelt hydrology using the physically-based SNOBAL model. MS in Forest Engineering, OSU. 82pp. **[now Senior Scientist, City of San Francisco]**.

McGlynn, Brian. 1997. Flowpaths in the riparian zone: Reconciling hydrometric, chemical and isotopic evidence. M.S. SUNY-ESF 78pp.\* **[now Professor, Duke University]**.

McIntosh, Janice. 1996. The effects of preferential flow on soil water movement and conservative solute transport in large intact soil cores. M.S. SUNY-ESF, 69pp. **[now Senior Scientist, CH2MHill].**

Millar, Cody, 2018. Soil water extraction effects on stable isotope composition. MSc SENS and CREATE Program in Water Security, U of S., MSc, **[now MOST Facility Manager, University of Saskatchewan].**

Pang, Tianze, 2021, Isotope tracing of water movement in apple trees. Masters of Water Security, UofS **[now PhD student, University of Prince Edward Island].**

Patchett, Susanne. 1999. Comparison of mixing models for isotope hydrograph separation. M.S. SUNY-ESF, 49pp.\*

Sauter, Keith. 1991. The use of bulk aerodynamic formulae for determining latent and sensible heat flux over melting snow: A field-based approach. M.S. Watershed Science, Utah State University, 110, pp. **[now Senior Scientist, Campbell Scientific Inc].**

Singh, Sukhwinder Singh. 2022. Rainfall-runoff response of green roofs. Masters of Water Security, UofS.

St Amant, Megan. 2022. Hydrology of mine covers. Masters of Water Security, UofS.

Taratoot, Mark. 1993. Moisture and energy conditions in a sloping laboratory soil mass. M.S. Watershed Science, Utah State University, 75pp. **[now Senior Scientist, City of Corvallis].**

Victory, Nicole. 2007. Quantifying dispersion in subsurface stormflow. MS in Civil and Environmental Engineering, OSU June 2007 \*

Welsch, Danny. 1999. Nitrogen flushing in the Catskill Mountains. M.S. SUNY-ESF, 74pp.\* **[now Professor, American University].**

Zumbuhl, Al. 1998. Spatial modeling of soil depth and landscape variability in a small forested catchment. M.S. SUNY-ESF, 119pp.

#### **PhDs Directed:**

Barnard, Holly. Ecohydrological processes at the HJ Andrews LTER. PhD (Forest Science; co-advised with Barb Bond), Aug 2008. **Awarded AGU Horton Research Grant, 2009 [now Professor, University of Colorado, Boulder].**

Burns, Doug. 1999. The hydrochemical evolution of stormflow in a forested Piedmont catchment. Ph.D. SUNY-ESF, 192pp. **[now Senior Scientist, USGS Troy NY].**

Coles, Anna. 2017. Overland flow processes on Prairie plots: the role of microtopography. PhD University of Saskatchewan **[now Hydrogeologist, Government of the Northwest Territories].**



Evaristo, Jaivime. 2016. The two water worlds hypothesis. PhD University of Saskatchewan, 172pp. **[now Associate Professor, Utrecht University, The Netherland]**  
Frentress, Jay, 2015. The role of riparian zones in controlled water and chemical flux. Oregon State University, 197pp. **[now Consultant, Hydrologist at Ramboll Sweden AB].**

Gabrielli, Chris. 2018, The role of bedrock groundwater at multiple stream scales. PhD. **Awarded Horton Research Grant, AGU 2014 [now Senior Research Scientist, Selkermetrics Inc]**

Graham, Chris. 2008. Bedrock influences on subsurface stormflow generation. PhD., Oregon State University **[now Senior Scientist, City of San Francisco].**

Goff, Bruce. 1991. Hydrologic and erosion response of a disturbed sagebrush hillslope. Ph.D. Watershed Science, Utah State University, 138pp. **[now Senior Scientist, GeomorphIS, San Diego].**

Hale, Cody. 2011. Effects of forest harvesting on streamflow generation processes, Ph.D. Forest Engineering, Oregon State University, **Awarded AGU Horton Research Grant 2010 [now Senior Scientist and Principal, Nutter and Associates].**

Harris, Dave. 1995. A watershed simulation model with vegetation. Ph.D. Watershed Science, Utah State University, 285pp. **[now retired consultant].**

Hjerdt, Nick. 2002. Scale effects on streamflow generation processes in till catchments. Ph.D. SUNY-ESF, 183pp **[now Senior Scientist, SMHI Sweden].**

McGuire, Kevin. 2004. Water residence time distribution and water age spectra. Ph.D. Oregon State University, 232pp. **[now Professor, Virginia Tech University].**

McGlynn, Brian. 2002. Characterizing Hillslope–Riparian–Stream Interactions: A scaling Perspective. Ph.D. SUNY ESF. 194 pp., **Awarded AGU Horton Research Grant 2003 [now Professor, Duke University].**

McHale, Mike. 1999. Hydrological controls of nitrogen cycling in an Adirondack watershed. Ph.D. SUNY-ESF, 221pp.\* **[now Senior Scientist, USGS Troy NY].**

Nehemy, Magali, 2020. Plant water transpiration: sources and ages. PhD, UofS, expected completion May 2020 (co-advised with Colin Laroque) **Awarded AGU Horton Research Grant 2019, [now Assistant Professor, Trent University].**

Pangle, Luke. 2012, Ecohydrological interactions at the plot scale: Asymmetrical warming. Oregon State University, 231pp. **[now Assistant Professor, Georgia State University].**

Peskett, Leo., 2019, Runoff processes in peat covered Scottish catchments. PhD University of Edinburg, (co-advised with Kate Heal) **[Lecturer, University of Edinburgh].**

Poor, Cara. 2006. Effect of landuse on streamwater nitrate. PhD (Civil and Environmental Engineering, 172 pp\* **[now Associate Professor, Oregon State University]**).

Sowat, Sohel. 2019. Examination of tree source water in a tropical forest. PhD (Forestry), University of the Sunshine Coast, Sippy Downs, Australia, (co-advised with John Herbohn), **[now Assistant Professor, North-South University, Bangladesh]**.

Sun, Changui. 1995. Integration of special sensor microwave imager (SSM/I) and in situ data for snow studies from space. Ph.D. Watershed Science, Utah State University, 140pp. **[now Senior Scientist, USDA California]**.

Tromp-VanMeerveld (now van Meerveld), Ilja. 2004. Hillslope hydrology: from patterns to processes, Ph.D. Oregon State University, Corvallis. 270 p. **[now Associate Professor, University of Zurich]**.

Unnikrishna, "Unni". 1995. Stable isotope tracer study of flow generation mechanisms in a small, semi-arid mountain watershed. Ph.D. Civil and Environmental Engineering. Utah State University, 230pp. **[now Senior Scientist, International Boundary and Water Commission, USA]**.

VanVerseveld, Willem. 2007. Hydrological controls on nutrient flushing at the hillslope scale. PhD. Oregon State University **[now, Senior Scientist, DELTARES, The Netherlands]**.

Vega, Adriana. 2022. University of Queensland, Plant water extractions from bauxite tailings. PhD (co-advised with John Herbohn).

#### **Postdocs Directed:**

Ali, Genevieve, PhD from University of Montreal, worked on *Process Hydrological Classification*, Sept 2010-Dec 2011 (co-advised with Doerthe Tetzlaff and Chris Soulsby). **[now Professor, McGill University]**.

Ameli, Ali, PhD from University of Waterloo, working on *Numerical models of overland- and subsurface flow*, September 2014-January 2015; Sept-Dec 2016 **[now Assistant Professor, University of British Columbia]**.

Appels, Willemijn., PhD from Wageningen University, working on *Overland Flow Modeling with Synthetic Microtopography*, November 2012 – June 2013 **[now Assistant Professor at Lethbridge University]**.

Cirno, Chris., Ph.D from Syracuse University, worked on *Hydrological-Biogeochemical Linkages in Nitrogen Cycling*, May 1994 - August 1994 **[was Dean at University Wisconsin Stephens Point; now deceased]**.

Coles, Anna, PhD from UofS, worked on Mine Cover Hydrology During Melt of Frozen Ground, April-Dec 2017. **[now Hydrogeologist, Government of the Northwest Territories]**.

Evaristo, Jaivime., PhD from UofS, worked on Isotope tracing of plant water, Jan-Dec 2017. **[now Associate Professor, Utrecht University]**.

Fernández, Pedro Hervé, PhD from Gent University, working on isotope fractionation of rainfall, April 2020-January 2022 **[now Centro Asistencial Docente e Investigación, Universidad de Magallanes, Punta Arenas, Chile]**.

Freer, Jim., Ph.D. from Lancaster University, England, worked on *Development of a Hydrogeochemical Version of TOPMODEL*, January 1995 - January 1997. **[now Professor at Bristol University; retired]**.

Gaj, Marcel, PhD from Freiburg University, working on Tracing water vapour isotope composition in soils, November 2016 – October 2018. **[now Projektleiter bei CONSULAQUA Hamburg Beratungsgesellschaft mbH]**.

Green, Hannah., Ph.D. from Lancaster University, England, worked on *Stormwater Management Modeling*, January 1995 - January 1997 **[now Senior Scientist at the UK Environment Agency]**.

Inamdar, Shreeram, PhD from U. of West Virginia, worked on *Hydrobiogeochemical Modeling*, September 1999 – August 2001 (co-supervised with main advisor Myron Mitchell) **[now Professor at University of Delaware]**.

James, April, PhD from McGill University, working on *Hillslope Flow Theory and Modeling*, Sept 2005-Aug 2007 **[now Associate Professor at Nipissing University]**.

Jameel, Yuseff, PhD from University of Utah, working on Bayesian Modeling of Dual Isotope Data, July-Dec 2018. **[Now Post Doc MIT]**

Jansen, Daryl., PhD from University of Saskatchewan, working on Directional Percolation Theory Approaches to Hydrological Modeling, October 2012 – September 2013 **[now Assistant Professor at University of Saskatchewan]**.

Jasechko, Scott, PhD from University of New Mexico, worked on Fractions of Young Water in Global streamflow, May-September, 2014 **[now Associate Professor at UC Santa Barbara]**.

Karran, Dan, PhD from University of Saskatchewan, working on Fill and Spill theory, April-Oct 2018 **[now Assistant Professor, Olds College, Olds Alberta]**.

Hopp, Luisa, PhD from Braunschweig University, working on Hydrology of Mine Covers, Oct 2006-Dec 2011 **[now Professor, Bayreuth University]**.

Keim, Richard, PhD from Oregon State University, worked on *Hillslope flow modeling with Throughfall Intensity Smoothing*, August 2003 – January 2004 **[now Professor, Louisiana State University]**.

Kim, Kyongha, PhD from Seoul University, South Korea, worked on *Dynamics of Subsurface Stormflow and Macropore-Matrix Interactions*, June 1994 - June 1996 **[now Director, Forest Research Institute, Seoul, retired]**.

Klaus, Julian, PhD from University of Munich, Germany, working on *Time Varying Residence Time Distributions at the Watershed Scale*, April 2011-2016 **[now Professor, University of Bonn]**.

Munos-Villers, Lyssette, PhD from INECOL Mexico, working on *Cloud Forest Hydrological Processes*, August 2008-July 2011 **[now Associate Professor, UNAM, Mexico City]**.

Nehemy, Magali, PhD from University of Saskatchewan, Oct 2021-June 2022, working on ecohydrological tracing. **[now Assistant Professor, Trent University]**.

Orlowski, Natalie , PhD from University of Giessen, working on *Soil Water Extraction Techniques*, June 2014-June 2015 **[now Professor, TU Dresden]**.

Pratt, Dyan, PhD from University of Saskatchewan, working on *Mine Cover Hydrology* and as MOST Facility Research Engineer, Jan 2016-19. **[now Consultant, Matrix Solutions Inc., Saskatchewan]**.

Rodriguez, Nicolas, PhD from KIT Germany, working on Travel Time Modeling using oxygen deuterium and tritium, April-June 2020. **[now Research Scientist, French National Institute for Agriculture, Food, and Environment (INRAE)]**.

Sayama, Takahiro, Ph.D. from Kyoto University, working on Incorporating Residence Times Estimates Into Model Structures and Testing, Aug 2007-July 2009 **[now Professor, Kyoto University]**.

Seibert, Jan, Ph.D. from Uppsala University, worked on *Distributed Watershed Modeling*, January 2000 – January 2001 **[now Professor, University of Zurich]**.

Sherlock, Mark, Ph.D. from Lancaster University, England, worked on *Hillslope Tracer Experiments of Septic Leachate in the New York City Water Supply Watershed*, April 1998 - March 2001. **[now, Senior Instructor, Breda International School, The Netherlands]**.

Simin, Qu, PhD from Hohai University, working on *Isotope Hydrology of the HJ Andrews Experimental Forest* (Sept 2006-Mar 2007) **[now Professor, Hohai University]**.

Timsic, Sandra, PhD from University of Saskatchewan, working on *Isotope Tracing of Water Balance Components Using Water and Vapor Extraction*, April 2013 – January 2014 **[now Senior Research Scientist, Dept of Geological Sciences, University of Saskatchewan]**.

Uchida, Taro, PhD from Kyoto University, worked on *Hillslope Hydrology Intercomparison and Classification*, (August 2002-January 2003) **[now senior scientist, National Institute for Land and Infrastructure Management, Japan]**.

Vaché , Kellie, PhD from Oregon State University, worked on *Mesoscale Watershed Modeling* (June 2003-May 2005) **[now Associate Professor, Oregon State University]**.

Vitvar, Tomas, PhD from ETH Zurich, worked on *Residence Time Modeling of Urban Waters*, January 2000-July 2003 **[now Professor, University of Guayaquil, Ecuador]**.

Wang, Hongxiu, PhD from NW Agriculture and Forestry University, Jan 2022-present, working on soil water extraction techniques for isotopic analysis.

Weiler, M., PhD from ETH Zurich, worked on *Hydrology of Alaska Headwater Catchments*, October 2001-September 2003 **[now Professor, Freiburg University]**.

Youn, HoJoong, Ph.D. from Seoul University, South Korea, worked on *Subsurface Flow and Landslide Initiation*, December 1995 - May 1996 **[now Senior Scientist, Forest Research Institute, Seoul]**.

#### **International Student Interns and Visitors Directed (37):**

Amed, S., IAEA and NRC Fellow from the Bangladesh Water Development Board, Isotope Traineeship, March-May, 2002

Anderson, Axel, PhD student from University of British Columbia, *Effect of forest roads on lateral flow interception*, Sept 2006. **[now Associate Professor, University of Alberta]**.

Biondi, Daniela, Recent PhD from University of Calabria, Italy, *Development of physically based watershed models with realistic internal flowpaths*, Sept-Dec 2008.

Barthold, Frauke, PhD student from Giessen University, *Development of model structures for ungauged basins in Inner Mongolia*, Sept-Dec. 2007.

Bustamante, Ramon, MSc student, Concepcion University, Chile, *Isotope applications in forest hydrology*. Oct 2014 -Jan 2015 **[now Senior Scientist, Arauco Inc, Chile]**.

Castro, Ariel, MSc student from Sonora Inst. Of Technology, Mexico. *Isotope tracers in watershed hydrological modeling*, May/June 2015.

Chaffe, Pedro, PhD student from Kyoto University, Japan, *Climate change induced changes in snowmelt runoff regime at the HJ Andrews Experimental Watershed*, May-August 2011. **[now Associate Professor, Federal University of Santa Catarina, Brazil]**.

Cloke, Hannah, PhD student from Bristol University, *Capillary fringe modeling, 2001*. **[now Professor, University of Reading]**.

Coles, Anna, PhD student from Durham University, UK, High frequency isotope tracing using a new nebulizer and gas analyzer, Sept-Dec., 2011. **[now Hydrogeologist for the NW Territories]**.

Fabrizio Fenicia, PhD student from TU Delft, Parsimonious watershed modeling—evaluating the value of data, Sept-Dec 2006. **[now Senior Scientist, EAWAG/ETH Zurich].**

Frey, Martin, PhD student from EAWAG/ETH Zurich, *A hillslope scale model experiment of threshold behavior*, Sept-Dec 2004. **[now Assistant Professor, ZHAW School of Engineering, Zurich].**

Garvelmann, Jakob, Pre-diplome student from Freiburg University, *Field measurements of water flux in steep coast range watersheds*, Sept-Dec 2008. **[now Assistant Professor, Karlsruhe Institute of Technology].**

Geris, Josie, Post Doc from University of Aberdeen, Tree water source quantification using stable isotopes, 2013. **[now Senior Lecturer, University of Aberdeen].**

Gerits, Miriam, PhD student from TU Delft, *Interception modeling and effects of subsurface runoff*, 2007. **[now Associate Professor, TU Delft].**

Holwerda, Friso, Post Doc from University of New Hampshire, Tropical cloud forest hydrology, August 2008-July 2011 **[now Associate Professor at UNAM, Mexico City].**

Lanni, Cristiano, PhD student from University of Trento, Effects of bedrock topography on landslide triggering, Sept 2010-March 2011.

Laine-Kaulio, Hanne, PhD student from Aalto University, Finland, **[now Senior Researcher, Aalto University, Finland].**

Martius, Olivia, Pre-diplome student from ETH Zurich, *EM Analysis of volumetric water content*, April – July 2001.

Min, Lan, PhD student from Tsinghua University, Beijing, *Hillslope hydrological modeling to quantify the interactions of factors influencing runoff generation*, Sept 2011-June 2012. **[now Staff Scientist, Tsinghua University].**

Penne, Daniele, PhD student from Padua University, *Spatial patterns of soil moisture at the catchment scale*, Sept 2006-June 2007. **[now Associate Professor, University of Florence].**

Marijn Piet, MS student from TU Delft, Freezer experiments on the effect of soil moisture content on frozen soil infiltrability, June-August, 2014 **[now Project Manager, Shell, The Netherlands].**

Pitt, Iris, MS Student from Utrecht University, *Parameterizing 2-water worlds into the WALNUTS biogeochemical model*, January-May 2011 **[now PhD student, Utrecht University].**

Roman Portmann, MSc student, Forest hydrological processes, University of Basel

Mario Martina, PhD student, Watershed modeling, University of Bologna, Feb-May 2005 **[now, Senior Hydrologist, Risk Engineering and Development Inc., Italy].**

Reiter, Mattias, Diplome student from Freiburg University, Germany, *Hillslope Hydrology of the Oregon Coast Range*, March 2003 – May 2003.

Ritter, Matthias, MS student from Freiburg University, Germany, *Forest transpiration controls on stream diel flux*, Sept-Dec 2010 **[now Senior Scientist, Price-Waterhouse, London]**.

Santos, Camyla, PhD student from Federal University of Santa Catarina, Brazil, *Plant water source apportionment*, Sept-Dec 2018.

Sebestyen, Stephen, PhD student from SUNY-ESF, Catchment hydrological processes and biogeochemistry, July-Dec 2004. **[now Senior Scientist, USDA Minnesota]**.

Seifert, Winnie, MSc student from Bayreuth University, Infiltration tests with brilliant blue dye in an ag field., Apr-Dec 2013

Spaaks, Jurriaan, PhD student from University of Amsterdam, The Netherlands, *Conceptual models of hillslope runoff generation*, Sept.-Dec 2008, **[now Assistant Professor, University of Amsterdam]**.

Starcke, Corinna, Pre-diplome student from Braunschweig University, Germany, *Isotopic Analysis of Columbia River Waters*, Sept 2000 – June 2001

Stöcker, Falko, MS student from Stuttgart University, Germany, *High frequency sampling of rainfall isotope composition: relationships with rainfall and air temperature*, Oct 2011-June 2012.

Stockinger, Michel, student from Helmholtz Julich, Germany, Interception effects on streamwater transit time modeling, Aug-Dec 2014. **[now Post Doc, Helmholtz UFZ, Leipzig]**.

Tritschler, Felix, MS student from the University of Dresden Germany, *Runoff generation in the Canadian Rockies.*, Sept-Dec 2012. **[now Post Doc, the University of Dresden]**.

Voss, Svenja, MS student from Freiburg University, Runoff on an ag field., Apr-Dec 2013.

Westhoff, Martin, PhD student, Hillslope hydrology, Apr-Dec 2004. TU Delft **[now Assistant Professor, Karlsruhe Institute of Technology]**.

Yerikuly, Zhayik, PhD student from Kazakhstan National Technical University, April-Oct 2014. **[now Professor, Kazakhstan National Technical University]**.

#### **Sabbatical Visitors Hosted (12):**

Barrios, Miguel, Assistant Professor, Universidad del Tolima – Colombia, April – July 2013.

Burt, Tim, Professor of Geography, Durham University, July-Dec., 2010.

Dunn, Sarah, Senior Scientist, McCauley Institute (now James Hutton Institute), July-Dec 2007.

Gu, Wei-Zu, Senior Scientist, Nanjing Hydraulic Research Institute, Sept—Dec 2010.

Hancock, Greg, Professor and Head, Dept. of Geography, University of Newcastle, Australia, June-Dec., 2010.

Hooper, Rick, Research Hydrologist USGS (Now CUAHSI), Sept 2001-June 2002.

Keller, Kent, Professor, Washington State University, Pullman WA, Sept 2015-Aug 2016.

Li, Zhi, Associate Professor, NW Agriculture and Forestry University, China, April 2015 – March 2017.

Ma, Haiyam, Associate Professor, Lanzhou University, Lanzhou China, Sept 2014-Dec 2015.

Pfister, Laurent, Senior Research Hydrologist, Lippmann Institute Luxembourg, April – July 2013.

Reaney, Sim, Senior Lecturer, Durham University, UK, July-Sept. 2009.

Smettem, Keith, Professor of Ecohydrology, University of Western Australia, April-June 2011.