

Andrea Castelletti

Dept. of Electronics, Information,
and Bioengineering
Politecnico di Milano
Piazza Leonardo da Vinci, 32
20133 Milano, Italy

Phone: +39 (0)2 2399 3584
Fax: +39 (0)2 2399 3412
andrea.castelletti@polimi.it
<http://www.ei.deib.polimi.it>
Born 29.01.1974, Italian

KEY INFORMATION



Andrea Castelletti is a full professor of Natural Resources Management and Environmental Systems Analysis and Management at Politecnico di Milano, Italy and a senior scientist at the Department of Civile and Environmental Engineering, ETH Zurich, Switzerland. He received a MSc degree in Environmental Engineering and a PhD in Information Engineering from Politecnico di Milano in 1999 and 2005. He was visiting scholar at Cornell University, Lancaster University, and University of Western Australia. From 2007 to 2015 he was Adjunct Professor at the Centre for Water Research of the University of Western Australia. He is the head of the Environmental Intelligence Lab at Politecnico di Milano.

Dr. Castelletti research interest includes water systems planning and control under uncertainty and risk, decision-making for complex engineering systems, big environmental data analytics and smart sensing, information theory and selection for environmental decision making. He is leading a group with 1 assistant professor, 4 post-docs, 4 PhD students and 2 research associates, and he is involved in a number of national and international projects as coordinator or principal investigator, raising more than 4.2 M€ in the last six years.

Dr. Castelletti is co-author of 2 international books on integrated water resource management, more than 180 publications in international journals, book chapters and conference proceedings. In 2009 is was awarded a senior fellowship by the Japanese Society for the Promotion of Science, in 2010 an Early Career Excellence Award by the International Environmental Modelling and Software Society, in 2013 the Italy-Canada Innovation prize, in 2016 the EFARRI award, and in 2018 he was Biennial Medalist for the International Environmental Modelling and Software Society.

Dr. Castelletti serves the scientific community as the chair of the EGU Program Committees on Water policy, management and operation and member of the ASCE/EWRI Environmental and Water Resources Systems Technical Committee (since 2011). He is the past chair and current deputy chair of the IFAC Technical Committee TC8.3 on Modelling and Control of Environmental Systems (2008-2014). He is Associate Editor of Water Resources Research, Journal of Hydrology, Environmental Modelling and Software, and the Socio-Ecological Systems Modelling. More information on <http://www.ei.deib.polimi.it/>.

EDUCATION

PhD in *Information Engineering* (cum laude)

Politecnico di Milano
Milano, I
May 2005

MSc in *Environmental and Land Planning Engineering*

Politecnico di Milano
Milano, I
June 1999

PROFESSIONAL EXPERIENCE

Current position

Full Professor
Dept. of Electronics, Information, and
Bioengineering

Politecnico di Milano
Milano, I
October 2020 -

Senior Researcher
Inst. of Environmental Engineering

ETHZ
Zurich, CH

June 2014 -

Past positions

Associate Professor
Dept. of Electronics and Information

Politecnico di Milano
Milano, I
December 2014 - October 2020

Assistant Professor
Dept. of Electronics and Information

Politecnico di Milano
Milano, I
September 2006 - November 2014

Adjunct Professor
Centre for Water Research

University of Western Australia
Perth, WA
2009-2015

Post-doc
Dept. of Electronics and Information

Politecnico di Milano
Milano, I
March 2004 - September 2006

PhD Student Information Engineering
Dept. of Electronics and Information

Politecnico di Milano
Milano, I
February 2001 - March 2005

Research Associate
Dept. of Electronics and Information

Politecnico di Milano
Milano, I
October - December 2000
June - December 1999

Visiting positions

Ezra Systems Engineering Visiting Scholar
Dept. of Systems Engineering

Cornell University
Ithaca, NY, USA
October 2019

Mary Upson Visiting Professor
Dept. of Civil and Environmental Engineering

Cornell University
Ithaca, NY, USA
July - September 2018

JSPS Fellow
Dept. of Civil Engineering

Tottori University
Tottori, J
July - August 2009

Gledden Research Fellow
Centre for Water Research

University of Western Australia
Perth, WA
November 2007 - February 2008
August 2009 - November 2009

Visiting Graduate Student
System and Control Group

Lancaster University
Lancaster, UK
September - December 2003

Visiting Graduate Student
Operations Research Group

SUPSI - IDSIA
Lugano, CH
June - December 2001

AWARDS

Prizes and Fellowships

2019: *1st Ezra Systems Engineering Visiting Scholar* Cornell University, Ithaca, NY.
2019: *2018 Best Practice Oriented Paper Award*, Journal of Water Resources Planning and Management.
2018: *iEMSs Biennial Medallist*.
2018: *Mary Upson Fellowship* Cornell University, Ithaca, NY.
2018: *WssTP Innovation Award* for the category Digital Water Prize.
2016: *EFARRI Award for Responsible Research and Innovation*.
2016: *2016 IDEA AAMAS Best Paper Award*.
2016: *2015 Best Research Paper Award*, Journal of Water Resources Planning and Management.
2013: *Canada-Italy Innovation Award*.
2012: *Editors' Citation for Excellence in Refereeing* for Water Resources Research.
2010: *iEMSs Early Career Research Excellence Award*.
2009: *Japan Society for the Promotion of Science (JSPS) Fellowship*.
2008: *Outstanding Reviewer Award* for Environmental Modelling and Software.
2007: *Gledden Fellowship* for senior researchers, University of Western Australia, Perth, WA.
2006: *Rotary-Fondazione Cariplo* prize for young environmental scientists.
2005: *Dimitri Chorafas* international prize for the best Ph.D. thesis in ICT at Politecnico di Milano.

Keynote Speeches and Lectures

2020: *Dammed or damned: Five open challenges in river basin development: the role of ICT*, Environmental Science Seminar Series, Parson Lab, MIT, Boston, MA, USA.
2019: *Dam filling: An overlooked aspect of dam planning*, World Hydropower Congress, Paris, France.
2018: *Good Dams, Bad Dams – Strategic Dam Planning and Contextual Operation Design Drive Hydropower Sustainability*, AGU Fall Meeting, Washington DC, USA.
2018: *Improving seasonal forecasts through the state of multiple large-scale climate signals to inform water management*, AGU Fall Meeting, Washington DC, USA.
2018: *Soft-Path solutions for hard water problems: A journey in the drying Italian sub-alpine lake district*, EZRA's Round Table Systems Seminars, Cornell University, Ithaca, NY, USA.
2016: *Embedding human behavior in natural systems models: From myth to reality?*, Weston Roundtable Series, Nelson Institute University of Wisconsin Madison, Madison, WI, USA.
2016: *Water and energy nexus under changing climate: challenges and opportunities from a water management perspective*, Understanding the Water-Energy Nexus: Integrated Water and Power System Modelling - A workshop organised by the European Commission and the US Department of Energy, Ispra, Italy.
2016: *Modeling and managing urban water demand through smart meters, big data and gamified ICT*, RISE 2016, Hanoi, VietNam.
2015: *Exploring the energy and food nexus under changing climate: lessons learnt from a cooperation project in the Red River Basin*, VACI 2015, Hanoi, VietNam.
2015: *Integrated water management under change: insights from a case study in Northern Italy*, GIWP International Workshop on Groundwater Over-exploitation Control and Management Measures, Beijing, China.
2015: *Challenges and benefits of Direct Policy Search in advancing multiobjective reservoir management*. EGU Annual Assembly. Vienna, Austria.
2014: *Dynamic emulation modelling for the optimal operation of water systems: an overview*. AGU Fall Meeting. San Francisco, CA, USA.
2014: *On the direct use of exogenous information in water system real time control*, Workshop "From operational hydrological forecast to reservoir management optimization", Canadian Water Association and Rio Tinto Alcan, Québec City, Québec, Canada.

2012: *Improved reservoir operation by direct use of hydro-meteorological information*. EGU Annual Assembly. Vienna, Austria.

TEACHING ACTIVITY

Lectures

2019- : *Environmental Systems Analysis and Management*, Bachelor in Environmental and Land Planning Engineering, School of Civil and Environmental Engineering, Politecnico di Milano, Milano, Italy.

2008- : *Natural Resources Management*, MSc in Environmental and Land Planning Engineering, School of Civil and Environmental Engineering, Politecnico di Milano, Milano, Italy.

2012- : *Participatory and Integrated Water Resources Planning*, Master of Advanced Studies (MAS) in Sustainable Water Resources and MSc in Environmental Engineering, ETH, Zurich, Switzerland.

2011-2016 : *Natural Resources Management and Integrated Water Resources Management*, MSc in Geomatic and Environmental Engineering, School of Civil and Environmental Engineering, Politecnico di Milano, Milano, Italy.

2004-08: *Modelling and Control of Environmental Systems*, MSc in Environmental and Land Planning Engineering, School of Civil and Environmental Engineering, Politecnico di Milano, Milano, Italy.

PhD and other advanced courses

2020/2019: *Global water challenges: Water management in a changing world*, PhD Course Resource Planning and Management within Sustainable Development, Politecnico di Milano, Italy.

2019: *Approximate Dynamic Programming and Reinforcement Learning for the optimal control of complex engineering systems*, PhD in Systems Engineering, Cornell University, Ithaca, NY, USA

2018: *Beyond Stochastic Dynamic Programming: Approximate Dynamic Programming and Reinforcement Learning for the optimal control of water resources systems*, Summer School on Water Resources Systems, Universidad de Chile, Santiago, Chile.

2018: *Complex environmental systems*, IDEA League Doctoral School Engineering Complex Systems with Big data and IT, Politecnico di Milano, Italy.

2018: *Planning and managing complex water resources system*, IDEA League Doctoral School Engineering Complex Systems with Big data and IT, Politecnico di Milano, Italy.

2015: *Dammed or damned: the role of hydropower in the water energy nexus*, E4D Winter School on Global Water Challenges, ETH, Zurich, Switzerland.

2014: *Water as a Global Resource*, Spring School 2014, Alta Scuola Politecnica, Belgirate, Italy.

2011: *Integrated and Participatory Water Resources Management*, Master of Advanced Studies (MAS) in Sustainable Water Resources, ETH, Zurich, Switzerland.

2011: *Integrated and Participatory Management of Water Resources for flood risk mitigation and river quality control: problems, solutions and tools*, Workshop organized by the Polish Ministry of Environment, Poland.

2010: *Integrated and Participatory Management of Water Resources for flood risk mitigation and river quality control: problems, solutions and tools*, Advanced Course at the Escuela Politecnica do Litoral (ESPOL), Guayaquil, Ecuador.

2009: *The Italian/Swiss conflict in the management of Lake Maggiore*, Spring School 2009, Alta Scuola Politecnica, Bardonecchia, Italy.

2008: *Decision support for flood protection*, Master of Advanced Studies (MAS) in Hydraulic Engineering, ETH, Zurich, Switzerland.

2008: *Integrated and Participatory Water Resources Management: problems, solutions and tools*, Advanced Course at the Institute for Water Resources Planning, Hanoi, VietNam.

2008: *The Italian/Swiss conflict in the management of Lake Maggiore*, Spring School 2008, Alta Scuola Politecnica, Bardonecchia, Italy.

2005: *Integrated planning and management of water resources* Master in Business and Environmental

Management (MEMA), Università Bocconi, Milano, Italy.

2001: *Decision Support System for environmental resource management: reinforcement learning and neurodynamic approach to management policies design*, Ph.D School in Automation and Control, Università di Brescia, Italy.

Invited lectures and seminars

2020: *Dammed or damned: Six open challenges in river basin development: the role of ICT*, Wuhan University, Wuhan, China.

2020: *Dammed or damned: Six open challenges in river basin development: the role of ICT*, CROSS Seminar, ZJU-UIUC Institute, Zhejiang University, Zhejiang, China.

2019: *Six open challenges in river basin development: the role of ICT*, TU Berlin, Berlin, Germany.

2018: *Soft-Path solutions for hard water problems: a journey in the drying Italian sub-alpine lake district*, ISTP Colloquium, ETH, Zurich, Switzerland.

2018: *Operationalizing weather and climate services for robust water resources management and planning*, CMCC Seminar, Mediterranean Centre for Climate Change, Bologna, Italy.

2018: *Sediment connectivity and strategic river basin planning: new opportunities from parsimonious sediment budget modelling and robust optimization*, EWRS Seminar, Cornell University, Ithaca, NY, USA.

2018: *Integrated management of the Red Thai Binh River dam systems*, Hanoi University of Natural Resources, Hanoi, VietNam.

2017: *Intelligent metering systems, big data and informatics - A long-term vision from the academic perspective*, Porto Water Innovation Week, Porto, Portugal.

2017: *Direct Policy Search: a flexible and robust approach to complex water operation problems?*, Fondazione Eni Enrico Mattei (FEEM), Milan, Italy.

2016: *Embedding human behavior in natural systems models: From myth to reality?*, International Food Policy Research Institute (IFPRI), Washington DC, USA.

2016: *Beyond SDP: recent advances in multiobjective control for water systems operation*, DHI, Copenhagen, Denmark.

2015: *Integrated and participatory water resources planning: some ideas*, ICO Workshop, Urmia, Iran.

2015: *Irrigation water management in a changing climate: From inertia to co-adaptation*, JRC Ispra, Italy.

2015: *An integrated platform coupling smart water meters, data intensive modelling and gamified ICT to support residential water management*, ETH, Zurich, Switzerland.

2015: *The role of coordination and information for integrated water management in a changing climate*, International Expert Meeting on the Zayandeh-Rud River Sustainability, Isfahan, Iran.

2014: *Beyond Dynamic Programming: some recent advances in multiobjective control to overcome DP's curses in water system operation*, Cornell University, Ithaca, NY, USA.

2013: *A procedural approach to integrated and participatory water resource planning*, Laval University, Quebec City, Canada.

2012: *Recent advances in approximate dynamic programming for water reservoir operation*, Atelier Rio Tinto Alcan Hydro-Québec Production en Optimisation stochastique de la production hydroélectrique, Montreal, Canada.

2012: *Interactive response surface using computationally intensive models for lake water quality remediation*, Singapore Delft Water Alliance, National University of Singapore, Singapore.

2010: *Recent experiences in dealing with complexity and high dimensionality in water resources management*, Montefiore Institute, University of Liège, Liège, Belgium.

2010: *Recent experiences in dealing with complexity and high dimensionality in water resources management*, ETH, Zurich, Switzerland.

2009: *Multi-objective optimal design of water quality rehabilitation interventions in lakes and reservoirs*, CWR Seminars, University of Western Australia, Perth, Australia.

2009: *A procedural approach to integrated and participatory water resource planning*, DPRI, Kyoto University, Kyoto, Japan.

2009: *A procedural approach to integrated and participatory water resource planning*, Tottori University, Tottori, Japan.

2008: *A procedural approach to integrated and participatory water resource planning*, CWR Seminars, University of Western Australia, Perth, Australia.

2004: *TwoLe a Multi-Objective Decision Support System for implementing the IMA-PIP procedure*, Synthesis Workshop of Harmoni-CA/ WP5, Osnabrück, Germany.

2003: *Integrated planning and management of water reservoir systems: the Lake Maggiore case study*, Environmental Science Seminars, Lancaster University, United Kingdom.

Student supervision

PhD students:

2020 - : Wenjin Hao, *Urban water demand modeling across multiple spatiotemporal scales*.

2018 - : Angelo Carlino, *Multiobjective optimal climate control policy design*.

2018 - : Marco Tangi, *Strategic robust dam planning under multiple co-varying uncertainties*.

2017 - : Paolo Gazzotti, *Agent based modelling of climate policy negotiations* (co-supervisor).

2016 - 2020: Marta Zaniolo, *Dynamic information selection in evolutionary direct policy search*.

2016 - 2020: Dr. Federico Giudici, *Optimal design of off-grid water-energy systems in small Mediterranean islands*.

2016 - 2020: Dr. Federica Bertoni, *Advancing joint design and operation of water resources systems under uncertainty* now digital data scientist at Falck Renewables.

2014 - 2018: Dr. Emanuele Mason, *Beyond full rationality: Modelling tradeoff dynamics in multiobjective water management* now consultant at Enersen.

2014 - 2017: Dr. Simona Denaro, *Conflict mitigation in water resources systems by informed data-driven control and financial hedging tools* now Post-doc at University of North Carolina at Chapel Hill.

2013 - 2017: Dr. Rafael Schmitt, *CASCADE: A framework for modeling fluvial sediment connectivity and its application for designing low impact hydropower portfolios* now Post-doc at Stanford University.

2013 - 2017: Dr. Andrea Cominola, *Modelling residential water consumers behaviour: From smart metered data to demand management* now Assistant Professor at TU Berlin.

2012 - 2016: Dr. Li Yu, *Advancing coupled human-water systems analysis by agent-based modeling* now Post-doc at ETH Zurich.

2010 - 2013: Dr. Matteo Giuliani, *Agent-based modeling for water resources management in complex decision-making contexts* (co-supervisor) now Assistant Professor at Politecnico di Milano.

2010 - 2013: Dr. Daniela Anghileri, *Management of multi-purpose reservoirs under climate change: impact assessment and adaptation strategies* (co-supervisor) now Post-doc at University of Southampton.

2009 - 2012: Dr. Roberta Fornarelli, *An analytical and modelling approach to assess the impact of water transfers on reservoir water quality* (co-supervisor, University of Western Australia) now data analytics specialist at Curtin University.

2008 - 2011: Dr. Xuan Thi Quach, *Assessing and optimizing the operation of the HoaBinh reservoir in Vietnam by multiobjective optimal control techniques* (co-supervisor).

2007 - 2010: Dr. Stefano Galelli, *Dealing with complexity and dimensionality in water resources management* (co-supervisor) now Associate Professor at Singapore University of Technology and Design.

2005 - 2008: Dr. Francesca Pianosi, *Novel methods for water reservoir management* (co-supervisor) now Lecturer at University of Bristol.

MSc students: supervisor of more than 80 MSc theses since 2002 on topics related to modelling and control of water resources systems.

RESEARCH ACTIVITIES

Research projects

Since 2014, I have raised more than 4.5 M€ of fundings with the following projects:

2021-2025 *GoNEXUS: Innovative tools and solutions for governing the water-energy-food-ecosystems NEXUS under global change*, EU H2020-LC-CLA-14-2020, Role: Principal Investigator, Total grant: € 6,067,720. Grant income: € 1,081,125.

2021-2025 *CLINT: CLimate INTelligence: Extreme events detection, attribution and adaptation design using machine learning*, EU H2020-LC-CLA-12-2020, Role: Coordinator Total grant: € 4,999,813. Grant income: € 468,125.

2020-2022 *MODFaBe, Modelling individual farmer behaviours in Coupled Human Natural Systems under changing climate and society*, EU H2020-MSCA-IF-2018, Role: Coordinator. Grant income: € 171,473.

2020-2023 *NEWAVE, Next Water Governance*, H2020-MSCA-ITN-2019, Role: Principal Investigator. Total grant: 4,039,273. Grant income: € 261,499.

2019-2021: *ADDapt: Contrasting drying climate with soft-paths measures: lake Como, Italy*, Regione Lombardia, Role: Coordinator. Total grant: € 600,000. Grant income: € 400,000.

2019-2021 *IN-WOP: Mind the Water Cycle Gap: Innovating Water Management Optimisation Practice*, EU-JPI, Role: Investigator. Total grant: € 705,636. Total granted: € 150,000.

2018-2021: *ProjectO: Demonstration of planning and technology tools for a circular, integrated and symbiotic use of water*, EU H2020-IND-CE-2016-17, Role: Principal Investigator Total grant: € 9,261,272. Grant income: € 902,750.

2018-2019: *US-EU Integrated Power and Water Systems Modelling study*, EU-DG Energy, Role: Principal Investigator. Total grant: € 204,000. Grant income: € 100,000.

2017-2020: *IRIS: Italian Research and development Initiative for Spaceborne river monitoring*, ISPRA, Accordo di collaborazione tecnico-scientifica, art. 15, L. n. 241/1990, Role: Principal Investigator. Grant: € 178,000.

2016-2018: *SO-WATCH: SOft-path WATer management adaptation to CHanging climate*, Cariplo Foundation Grants, Role: Coordinator. Total grant: € 298,410. Grant income: € 154,350.

2016-2019: *AMBER: Adaptive Management of Barriers in European Rivers*, EU H2020-SC5-07, Role: Principal Investigator. Total grant: € 6,238,103. Grant income: € 249,625.

2016-2019: *DAFNE: A Decision-Analytic Framework to explore the water-energy-food NExus in complex and transboundary water resources systems of fast growing developing countries*, Eu H2020-Water5, Role: Principal Investigator, Deputy coordinator. Total grant: € 5,320,410. Grant income: € 512,920.

2015-2018: *IMPRES: IMProving PRedictions and management of hydrological EXtremes*, EU H2020-Water2, Role: Principal Investigator. Total grant: € 7,996,848. Grant income: € 253,250.

2014-2016: *SmarrH2O: an ICT Platform to leverage on Social Computing for the efficient management of Water Consumption*, EU-FP7-ICT, Role: Principal Investigator, Deputy coordinator. Total grant: € 2,508,842. Grant income: € 623,927.

2014-2015: *Assessing the operational value of SAR retrieved snow information*, ASI (Italian Space Agency), Role: Investigator.

2012-2015: *IMRR Integrated and Sustainable Water Management of Red-Thai Binh River System (Vietnam)*, Italian Ministry of Foreign Affairs, Role: WP leader: Grant: 1,592,250.

2010-2011: *HALTFLOOD: Hydrological models correction by data-driven approaches*, Contract by RSE-WEB spa, Role: Coordinator. Grant: € 20,000.

2009-2010: *Tono Dam Optimization*, Tottori University for the Japan Ministry of Construction, Role: Coordinator. Grant: € 33,000.

2007-2009: *CAVE: Using abandoned mine to control floods*, Cariplo Foundation; Role: Investigator. Total grant: € 355,000. Grant income: € 150,000.

2005-07: *TwoLe: A decision-support system for water resources planning and management at the regional*

scale, Cariplo Foundation; Role: Investigator.

2004-05: *Decision Support Systems for water resources management: state of the art and open issues*, MIUR-COFIN, Role: Investigator.

2004-05: *Harmonised Modelling Tools for Integrated River basin Management* (Harmoni-CA), EU-FP5, Role: Consultant to PIK Potsdam.

2001-04: *Management of the Environment and Resources using Integrated Techniques*, EU-FP5, Role: Investigator - Total grant: € 1,099,834 (EU contribution). Grant income: € 155,550.

2001-03: *Designing the optimal operation of regulated lakes in a multi-objective context (application to Lake Iseo, Italy)*, Lake Iseo Environmental Agency; Role: Investigator.

1999-01: *Supporting the negotiations between Italy and Switzerland on the operation of Lake Maggiore*, EU-Interreg II, Role: Investigator.

SERVICES

Scientific societies

Chair of EGU Subdivision of Hydrology - Water policy, management and control, since 2016.

Chair of the IFAC Technical Committee on Modelling and Control of Environmental Systems (T.C. 8.3), 2008-2014.

Member of the IAHS Working Group on Natural and man-made control systems in water resources, since 2014.

Member of the ASCE/EWRI Environmental & Water Resources Systems Technical Committee since 2011.

Member of the IFAC Technical Committee on Modelling and Control of Environmental Systems (T.C. 8.3), since 2002.

Journals editorial boards

Associate Editor of Journal of Hydrology since 2020.

Associate Editor of Socio-Environmental Systems Modelling since 2018.

Associate Editor of Water Resources Research since 2013.

Associate Editor of Environmental Modelling and Software since 2011.

Associate Editor of Journal of Water Resources Planning and Management 2014-2019.

Associate Editor of Acta Geophysica 2011 - 2019.

Guest Editor of Environmental Modelling and Software for the Special Issue "Urban Water Demand Management" (with A. Rizzoli, D. Savic, R. Stewart), 2017-18.

Guest Editor of Environmental Modelling and Software for the Thematic Issue "Emulation techniques for the reduction and sensitivity analysis of complex environmental models" (with M. Ratto and A. Pagano) 2008-09.

Guest Editor of Environmental Modelling and Software for the Special Issue "Bayesian Networks in water resources planning and management" (with R. Soncini Sessa), 2005-06.

PhD committees

University of Saskatchewan, Canada, 2019

University of Oulu, Finland, 2019

Griffith University, Australia, 2017

Conference scientific committees and session organisation

2019

Member of the Advisory Board of the 16th International Specialised Conferences on Small Water and

Wastewater Systems, Murdoch, Australia, 1-5 December 2019.

Chair of the International Programme Committee of the 1st IFAC Workshop on Control Method for Water Resource Systems, Delft, The Netherlands, September 2019.

Convener of the session on Water and Society: Water, Energy, and the City (with A. Cominola, A. Stillwell, N. Ajami) at the *AGU Fall Meeting* in San Francisco, CA, USA December 2019. **2018**

Convener of the Session on Modelling and Managing Urban Water and Energy Demands in the Era of Big Data (with A. Cominola, A. Stillwell, S. Galelli) at the 9th International Congress on Environmental Modelling and Software (iEMSs 2018), Fort Collins, CO, USA, June 2018.

Convener of the Session on Challenges and opportunities for sustainable sediment management on basin scales (with G.M. Kondolf, P. Carling, R. Batalla, H. Habersack) at the *EGU General Assembly 2018*, Vienna, Austria, April 2018.

Convener of the Session on Water Resources Management and Policy in a Changing World (with T. Foster, J. Kwakkel, K. Madani, J. Harou, M. Pulido-Velazquez, G. Characklis, P. Reed, A. Tilmant) at the *EGU General Assembly 2018*, Vienna, Austria, April 2018.

2017

Convener of the Session on Water Resources Management and Policy in a Changing World (with K. Madani, J. Kwakkel, J. Harou, M. Pulido-Velazquez, G. Characklis, P. Reed, A. Aghakouchak, L. Garrote, A. Tilmant) at the *EGU General Assembly 2017*, Vienna, Austria, April 2017.

2016

Convener of the *Symposium and Summer School on Smart Systems for Water Management* (with A. Rizzoli), Ascona, CH, August 2016.

Convener of the session on Conflict resolution and multi-objective decision-making at the *Environmental and Water Resources Institute (EWRI) Conference* in West Palm Beach, FL, May 2016.

Convener of the session ICT for Energy and Water Demand Management (with M. Giuliani, A. Rizzoli, K. Madani, M. Pulido-Velazquez, D.E. Rosenberg, D. Savic, M. Tavoni) at the *8th International Congress on Environmental Modelling and Software* (iEMSs), Toulouse, France, July 2016.

Convener of the session Water Resources Management and Planning - Modeling and Software for Improving Decisions and Engaging Stakeholders (with Julien Harou, P. Reed, A. Tilmant, D. Rosenberg, J. Kasprzyk) at the *8th International Congress on Environmental Modelling and Software* (iEMSs), Toulouse, France, July 2016.

Convener of the Session on Water Resources Management and Policy in a Changing World (with K. Madani, J. Harou, M. Pulido-Velazquez, W. Buytaert, G. Characklis, P. Reed, A. Aghakouchak, L. Garrote, A. Tilmant, S. Pande) at the *EGU General Assembly 2016*, Vienna, Austria, April 2016.

2015

Convener of the Session on Metamodeling and Surrogate Modeling: Addressing Model Uncertainty and Support for Decision (with M. Fienen, A. Jakeman, S. Razavi) at the *AGU Fall Meeting* in San Francisco, CA December 2015

Convener of the Session on Control of Water Systems (with R. van Nooijen, A. Kolechkina) at the *26th IUGG General Assembly*, Prague, June 2015.

Convener of the Session on Individual Preferences & Management Institutions at the *Environmental and Water Resources Institute (EWRI) Conference*, Austin TX, May 2015.

Convener of the Panel Discussion: Past Successes, Current State of the Art, and Future Challenges for Water Resources Systems Analysis (with K. Madani) at the *Environmental and Water Resources Institute (EWRI) Conference*, Austin TX, May 2015.

Convener of the Session on Water Resources Management and Policy in a Changing World (with K. Madani, J. Harou, M. Pulido-Velazquez, W. Buytaert, C. Brown, G. Characklis, P. Reed, A. Aghakouchak, L. Garrote, A. Tilmant, S. Pande) at the *EGU General Assembly 2015*, Vienna, Austria, April 2015.

2014

Chair of the session on Modelling and Control of Environmental Systems (TC8.3), 19th *IFAC World Congress*,

Cape Town, SA, August 2014.

Convener of the session Water Resources Management and Planning - Modeling and Software for Improving Decisions and Engaging Stakeholders (with J. Harou, P. Reed, A. Tilmant, D. Rosenberg, J. Kasprzyk), 7th International Congress on Environmental Modelling and Software (iEMSs), San Diego CA, USA, June 2014.

Convener of the Session on Decentralized (Agent-Based) Modeling for Water Resources Systems Analysis (with X. Cai and E. Zechman) at the *Environmental and Water Resources Institute (EWRI) Conference* in Portland OR, May 2014.

Convener of the Session on Hydrology and management of controlled water systems (with R.R.P. van Nooijen, N. Sheutze, A. Kolechkina, F. Pianosi, and R. Romanowicz) at the *EGU General Assembly 2014*, Vienna, Austria, April 2014.

2013

Convener of the Session on Advances in modelling and control of large-scale water resources systems (with S. Galelli, H. Maier, P. Reed, D. Savic, G. Kuczera, G. Dandy and M. Thyer) at the 20th International Conference on Modeling and Simulation, Adelaide, Australia, December 2013.

Convener of the Session on Decentralized Modelling for Water Resources System Analysis (with X. Cai and K. Madani) at the *Environmental and Water Resources Institute (EWRI) Conference* in Cincinnati OH, May 2013.

Convener of the Session on Hydrology and management of controlled water systems (with R.R.P. van Nooijen, N. Sheutze, A. Kolechkina, and F. Pianosi) at the *EGU General Assembly 2013*, Vienna, Austria, April 2013.

2012

Member of the Scientific Committee of the *IWA Conference on New Development in IT and Water*, Amsterdam, The Netherlands, November 2012.

Convener of the Session on Striking the Balance: Advancing Multi-Objective Decision Support for a Changing World (with F. Pianosi, P. Reed, D. Savic, and A.V. Lotov) at the 6th *Biennial meeting of the International Environmental Modelling and Software Society*, Leipzig, Germany, July 2012.

Convener of the Session on System Identification and Control Theory applications for Environmental Systems Management (with M. Volta and A.E. Rizzoli) at the 6th *Biennial meeting of the International Environmental Modelling and Software Society*, Leipzig, Germany, July 2012.

Convener of the Session on Water management and planning - models and tools to help share, allocate and develop water resources in unique institutional, economic and political contexts (with J. Harou, M. Pulido-Velazquez, and E. Qureshi) at the 6th *Biennial meeting of the International Environmental Modelling and Software Society*, Leipzig, Germany, July 2012.

Member of the International Organizing Committee of *IFAC Workshop on Dynamics and Control in Agriculture and Food Processing*, Plovdiv, Bulgaria, June 2012.

Convener of the Session on Hydrology and management of controlled water systems (with R.R.P. van Nooijen, A. Kolechkina, P.C., Young, and F. Pianosi) at the *EGU General Assembly 2012*, Vienna, Austria, April 2012.

Convener of the Session on Stakeholder participation in hydrology (with T. Krueger, G. Carr, A. Voinov, and K. Daniell), *EGU General Assembly 2012*, Vienna, Austria, April 2012.

2011

Chair of the Session on Advances in Modelling and Control of Large-scale Water Resources Systems (with S. Galelli, X. Cai, and P. Reed), *MODSIM2011*, Perth, Australia, December 2011.

Congress Associate Editor, 18th *IFAC World Congress*, Milan, I, August 2011.

Convener of the Session on Stakeholder participation in hydrology (with T. Krueger, G. Carr, and A. Voinov), *EGU General Assembly 2011*, Vienna, Austria, April 2011.

2010

Member of the International Organizing Committee of *IFAC Conference on Modelling and Control in Agri-*

culture, Horticulture and Post-Harvest Processing, Kyoto, Japan, December 2010.

Member of the Organizing Committee of the 5th *Biennial meeting of the International Environmental Modelling and Software Society*, Ottawa, Canada, July 2010.

Member of the International Organizing Committee of *IFAC Conference on control methodologies and technologies for energy efficiency*, Vilamoura, Portugal, March 2010.

2009

Chair of the Session on Effective use of process based models in environmental decision making (with R. Soncini Sessa), *18th IMACS World Congress MODSIM09*, Cairns, Australia, July 2009.

2006

Chair of the Special Session on Bayesian Decision Networks (with M. Borsuk and C. Pollino), *3rd Biennial meeting of the International Environmental Modelling and Software Society*, Burlington, USA, July 2006.

2005

Chair of the session on Modelling and Control of Environmental Systems (TC8.3), *16th IFAC World Congress*, Prague, CZ, 4-8 July, 2005.

2004

Member of the National Organizing Committee of *IFAC Workshop on Modelling and Control of Water Resource Systems*, Venice, Italy, October 2004.

Faculty services

Member of the Board of the PhD program in Information Technology, Politecnico di Milano.

Member of the Advisory board for ERASMUS candidates, School of Civil and Environmental Engineering, Politecnico di Milano.

Affiliations

Member of the ASCE Environmental Water Resources Institute, since 2010.

Member of the European Geosciences Union (EGU), since 2009.

Member of the American Geophysical Union (AGU), since 2007.

Member of the International Federation of Automatic Control (IFAC), since 2002.

Member of the International Association of Hydrological Sciences (IAHS), since 2002.

Member of the Environmental Modelling and Software Society (iEMSs), since 2001.

PUBLICATIONS

Books

[A.1] R. Soncini Sessa, **A. Castelletti**, E. Weber, *Integrated and participatory water resources management: Theory*, Elsevier, Amsterdam, NL, 2007.

[A.2] **A. Castelletti**, R. Soncini Sessa (eds.), *Topics on System Analysis and Integrated Water Resource Management*, Elsevier, Amsterdam, NL, 2006.

Journals

[B.1] A. Cominola, M. Giuliani, **A. Castelletti**, P. Fraternali, S. L. Herrera Gonzales, J. C. Guardiola Herrero, J. Novak, and A. E. Rizzoli, Long-term water conservation is fostered by smart meter-based feedback and digital user engagement, *npj Clean Water*, under review, 2021.

[B.2] F. Bertoni, **A. Castelletti**, M. Giuliani, and P.M Reed, Designing with Information Feedbacks: Forecast Informed Reservoir Sizing and Operation, *Water Resources Research*, under review, 2021.

- [B.3] M. Giuliani, J.R. Lamontagne, P.M. Reed, and **A. Castelletti**, Confronting Conflicting Human Pressures and a Changing World: A State-of-the-Art Review of Optimal Reservoir Control, *Water Resources Research*, 2021, under review.
- [B.4] M. Zaniolo, M. Giuliani, and **A. Castelletti**, Neuro-Evolutionary Direct Policy Search for Multi-Objective Optimal Control, *IEEE Transactions on Neural Networks and Learning Systems*, under review, 2021.
- [B.5] M. Giuliani, J.R. Lamontagne, M. Heiazi, P.M. Reed, and **A. Castelletti**, The unintended consequences of climate mitigation for African river basins, *Nature*, 2021, under review.
- [B.6] M. Zaniolo, M. Giuliani, S. Sinclair, P. Burlando, and **A. Castelletti**, When timing matter: misdesigned dam filling impacts hydropower sustainability, *Nature Communications*, 2021, under review.
- [B.7] F. Giudici, D. Anghileri, **A. Castelletti**, and P. Burlando, Advancing the description of human decisions in catchment-scale hydrological models by including adaptive reservoir operations, *Journal of Hydrology*, 2021, accepted.
- [B.8] A. Di Mauro, A. Cominola, A. Di Nardo, **A. Castelletti**, Urban Water Consumption at Multiple Spatial and Temporal Scales. A Review of Existing Datasets. *Water*, 13, 36, 2021.
- [B.9] B. Belletti, C. Garcia de Leaniz, J. Jones, S. Bizzi, L. Borger, G. Segura, **A. Castelletti**, et al., More than one million barriers fragment Europe's rivers, *Nature*, 588, 436-444, 2020.
- [B.10] W. Wu, H.R. Maier, G.C. Dandy, M. Arora, and **A. Castelletti**, The changing nature of the water-energy nexus in urban water supply systems: A critical review of changes and responses. *Journal of Water and Climate Change*, doi.org/10.2166/wcc.2020.276, 2020.
- [B.11] S. Denaro, **A. Castelletti**, M. Giuliani, and G. Characklis, Insurance portfolio diversification through bundling for competing agents exposed to uncorrelated drought and flood risks. *Water Resources Research*, 56, 1–20, 2020.
- [B.12] F. Giudici, **A. Castelletti**, M. Giuliani, and H.R. Maier, An active learning approach for identifying the smallest subset of informative scenarios for robust planning under deep uncertainty, *Environmental Modelling & Software*, 127, 2020.
- [B.13] F. Bertoni, M. Giuliani, and **A. Castelletti**, Integrated design of dam size and operations via Reinforcement Learning, *Journal of Water Resources Planning and Management*, 146(4), 2020.
- [B.14] M. Giuliani, L. Crochemore, I. Pechlivanidis, and **A. Castelletti**, From skill to value: isolating the influence of end-user behaviour on seasonal forecast assessment. *Hydrology and Earth System Science*, 24, 5891–5902, 2019.
- [B.15] F. Bertoni, M. Giuliani, **A. Castelletti**, and P.M. Reed, Discovering Dependencies, Trade-offs, and Robustness in Joint Dam Design and Operation: An Ex-post Assessment of the Kariba Dam. *Earth's Future*, 7(12), 1367-1390, 2019.
- [B.16] D. Anghileri, S. Monhart, C. Zhou, K. Bogner, **A. Castelletti**, P. Burlando, and M. Zappa, The value of subseasonal hydrometeorological forecasts to hydropower operations: how much does pre-processing matter? *Water Resources Research*, 55, 2019.
- [B.17] M. Giuliani, M. Zaniolo, **A. Castelletti**, G. Davoli, and P. Block, Detecting the state of the climate system via artificial intelligence to improve seasonal forecasts and inform reservoir operations, *Water Resources Research*, 55, 2019.
- [B.18] A. Cominola, K. Nguyen, M. Giuliani, R.A. Stewart, H.R. Maier, and **A. Castelletti**, Data mining to uncover heterogeneous water use behaviors from smart meter data, *Water Resources Research*, 55, 2019.
- [B.19] R.J. Schmitt, S. Bizzi, **A. Castelletti**, J.J. Opperman, G.M. Kondolf, Planning dam portfolios for low sediment trapping shows limits for sustainable hydropower in the Mekong, *Science Advances*, 5(10) eaaw2175, 2019.

- [B.20] M. Tangi, R. Schmitt, S. Bizzi, **A. Castelletti**, The CASCADE toolbox for analyzing river sediment connectivity and management, *Environmental Modelling & Software*, 119, 400-406, 2019.
- [B.21] J.D. Quinn, P.M. Reed, M. Giuliani, and **A. Castelletti**, What is controlling our control rules? Opening the black box of multi-reservoir operating policies using time-varying sensitivity analysis, *Water Resources Research*, 55, 2019.
- [B.22] G. Bloeschl, M.F.P. Bierkens, [...] , **A. Castelletti**, et al. Twenty-three unsolved problems in hydrology – a community perspective, *Hydrological Sciences Journal*, 64:10, 1141-1158, 2019.
- [B.23] F. Giudici, **A. Castelletti**, E. Garofalo, M. Giuliani, M., and H.R. Maier, Dynamic, multi-objective optimal design and operation of water-energy systems for small, off-grid islands, *Applied Energy*, 250, 605-616, 2019.
- [B.24] A. Ahmadalipour, H. Moradkhani, **A. Castelletti**, N. Magliocca, Future drought risk in Africa: Integrating vulnerability, climate change, and population growth, *Science of The Total Environment*, 662, 672-686, 2019.
- [B.25] D. Anghileri, M. Botter, **A. Castelletti**, H. Weigt, P. Burlando, A comparative assessment of the impact of climate change and energy policies on Alpine hydropower, *Water Resources Research*, 54, 9144-9161, 2018.
- [B.26] S. Bizzi, E. Mason, A. Cominola, **A. Castelletti**, K. Paik, Multicriteria optimization model to generate on-DEM Optimal Channel Networks, *Water Resources Research*, 54, 5727-5740, 2018.
- [B.27] J. Quinn, P.M. Reed, M. Giuliani, **A. Castelletti**, J. Oyler, R. Nicholas, Exploring how changing monsoonal dynamics and human pressures challenge multi-reservoir management of food-energy-water tradeoffs, *Water Resources Research*, 54(7), 4638-4662, 2018.
- [B.28] A. Alborzi, A. Mirchi, H. Moftakhari, I. Mallakpour, S. Alian, A. Nazemi, E. Hassanzadeh, O. Mazdiyasn, S. Ashraf, K. Madani, H. Norouzi, M. Azarderakhsh, A. Mehran, M. Sadegh, **A. Castelletti**, A. AghaKouchak, Climate-informed environmental inflows to revive a drying lake facing meteorological and anthropogenic droughts, *Environmental Research Letters*, 13, 084010, 2018.
- [B.29] M. Zaniolo, M. Giuliani, **A. Castelletti**, M. Pulido-Velasquez, Automatic design of basin-specific drought indexes for highly regulated water systems, *Hydrology and Earth System Science*, 22, 2409-2424, 2018.
- [B.30] P. Biglarbeigi, M. Giuliani, and **A. Castelletti**, Partitioning the impact of streamflow and evaporation uncertainty on the operations of multipurpose reservoirs in arid regions, *Journal of Water Resources Planning and Management*, 144(7), 05018008, 2018.
- [B.31] R.A. Stewart, K. Nguyen, C. Beal, H. Zhang, O. Sahin, E. Bertone, A. Silva Vieira, **A. Castelletti**, A. Cominola, M. Giuliani, D. Giurco, M. Blumenstein, A. Turner, A. Liu, S. Kenway, D. A. Savić, C. Makropoulos, P. Kossieris, Integrated intelligent water-energy metering systems and informatics: Visioning a digital multi-utility service provider, *Environmental Modeling and Software*, 105, 94-117, 2018.
- [B.32] E. Mason, M. Giuliani, **A. Castelletti**, F. Amigoni, Identifying and modelling dynamic preference evolution in multipurpose water resources systems, *Water Resources Research*, 54, 3162-3175, 2018.
- [B.33] D. Anghileri, **A. Castelletti**, P. Burlando, Alpine hydropower in the decline of the nuclear era: exploring trade-offs between revenue and production in the Swiss Alps, *Journal of Water Resources Planning and Management*, 144(8), 04018037, 2018.
- [B.34] C. McPhail, H.R. Maier, J.H. Kwakkel, M. Giuliani, **A. Castelletti**, S. Westra, Robustness metrics: How are they calculated, when should they be used and why do they give different results?, *Earth's Future*, 6, 169-191, 2018

- [B.35] R.J. Schmitt, S. Bizzi, **A. Castelletti**, G.M. Kondolf, Improved trade-offs of hydropower and sand connectivity by strategic dam planning in the Mekong, *Nature Sustainability*, 1, 96–104, 2018.
- [B.36] A. Cominola, M. Giuliani, **A. Castelletti**, D.E. Rosenberg, A.M. Abdallah, Implications of data sampling resolution on water use simulation, end-use disaggregation, and demand management, *Environmental Modeling and Software*, 102, 199-212, 2018.
- [B.37] C. Rouge, M. Pulido-Velazquez, A. Lopez-Nicolas, P. Garrone, R. Marzano, **A. Castelletti** and J. Harou, Assessment of smart-meter-enabled dynamic pricing at utility and river basin scale, *Journal of Water Resources Planning and Management*, 144(5), 04018019, 2018.
- [B.38] G.M. Kondolf, R.J. Schmitt, P. Carling, S. Darby, M. Arias, S. Bizzi, **A. Castelletti**, T. Cochrane, S. Gibson, M. Kumm, C. Oeurng, Z. Rubin, T. Wild, Changing sediment budget of the Mekong: Cumulative threats and management strategies for a large river basin, *Science of the Total Environment*, 625, 114–134, 2018.
- [B.39] S. Denaro, **A. Castelletti**, M. Giuliani, G.W. Characklis, Fostering cooperation in power asymmetrical water systems by the use of direct release rules and index-based insurance schemes, *Advances in Water Resources*, 115, 301-314, 2018.
- [B.40] M. Giuliani, J. D. Quinn, J. D. Herman, **A. Castelletti**, P.M. Reed, Scalable multi-objective control for large scale water resources systems under uncertainty, *IEEE Transactions on Control Systems Technology*, 26(4), 1492-1499, 2018.
- [B.41] A. Cominola, M. Giuliani, **A. Castelletti**, J. Lund, Segmentation analysis of residential water-electricity demand for customized demand-side management programs, *Journal of Cleaner Production*, 172, 1607-1619, 2018.
- [B.42] F. Recanatì, **A. Castelletti**, G. Dotelli, P. Melia, Trading off natural resources and rural livelihoods. A framework for sustainability assessment of small-scale food production in water-limited regions, *Advances in Water Resources*, 10, 484–493, 2017.
- [B.43] R. Schmitt, S. Bizzi, **A. Castelletti**, G.M. Kondolf, Stochastic modeling of sediment connectivity for reconstructing sand fluxes and origins in the unmonitored Se Kong, Se San, and Sre Pok Tributaries of the Mekong River, *Journal of Geophysical Research: Earth Surface*, 123, 2–25, 2017.
- [B.44] J. Zatarain Salazar, P.M. Reed, J.D. Quinn, M. Giuliani, **A. Castelletti**, Balancing Exploration, Uncertainty and Computational Demands in Many Objective Reservoir Optimization, *Advances in Water Resources*, 109, 196-210, 2017.
- [B.45] Y.Li, M. Giuliani, **A. Castelletti**, A coupled human-natural system to assess the operational value of weather and climate services for agriculture, *Hydrology and Earth System Science*, 21(9), pp. 4693-4709, 2017.
- [B.46] J.D. Quinn, P.M. Reed, M. Giuliani, **A. Castelletti**, Rival framings: A framework for discovering how problem formulation uncertainties shape risk management trade-offs in water resources systems, *Water Resources Research*, 53(8), 7208-7233, 2017.
- [B.47] S. Denaro, D. Anghileri, M. Giuliani, **A. Castelletti**, Informing the operations of water reservoirs over multiple temporal scales by direct use of hydro-meteorological data, *Advances in Water Resources*, 103, 51-63, 2017.
- [B.48] A. Cominola, M. Giuliani, D. Piga, **A. Castelletti**, A.E. Rizzoli, A Hybrid Signature-based Iterative Disaggregation algorithm for Non-Intrusive Load Monitoring, *Applied Energy*, 185, 331-344, 2017.
- [B.49] M. Giuliani, Y. Li, A. Cominola, S. Denaro, E. Mason, **A. Castelletti**, A Matlab toolbox for designing Multi-Objective Optimal Operations of water reservoir systems, *Environmental Modelling & Software*, 85, 293-298, 2016.

- [B.50] M. Giuliani, Y. Li, **A. Castelletti**, C. Gandolfi, A coupled human-natural systems analysis of irrigated agriculture under changing climate, *Water Resources Research*, 52, 6928–6947, 2016.
- [B.51] S. Culley, S. Noble, A. Yates, M. Timbs, S. Westra, H.R. Maier, M. Giuliani, **A. Castelletti**. A bottom-up approach to identifying the maximum operational adaptive capacity of water resource systems to a changing climate, *Water Resources Research*, 52, 6751–6768, 2016.
- [B.52] R. Schmitt, S. Bizzi, **A. Castelletti**, Tracking multiple sediment cascades at the river network scale identifies controls and emerging patterns of sediment connectivity, *Water Resources Research*, 52, 3941–3965, 2016.
- [B.53] D. Anghileri, N. Voisin, **A. Castelletti**, F. Pianosi, B. Nijssen, D. Lettenmaier, Value of long-term streamflow forecast to reservoir operations for water supply in snow-dominated catchments, *Water Resources Research*, 52, 4209–4225, 2016.
- [B.54] D. Piga, A. Cominola, M. Giuliani, **A. Castelletti**, A.E. Rizzoli, Sparse optimization for automated energy end use disaggregation. *IEEE Transactions on Control Systems Technology*, 24(3), 1044–1051, 2016.
- [B.55] M. Giuliani, **A. Castelletti**, R. Fedorov, and P. Fraternali, Using crowdsourced web content for informing water systems operations in snow-dominated catchments, *Hydrology and Earth System Science*, 20, 5049–5062, 2016.
- [B.56] J. Zatarain Salazar, P.M. Reed, J.D. Herman, M. Giuliani, **A. Castelletti**, A diagnostic assessment of evolutionary algorithms for multi-objective reservoir control, *Advances in Water Resources* 92, 172–185, 2016.
- [B.57] M. Giuliani, D. Anghileri, **A. Castelletti**, P.N. Vu, R. Soncini-Sessa, Large storage operations under climate change: expanding uncertainties and evolving tradeoffs, *Environmental Research Letters*, 11(3), 035009, 2016.
- [B.58] M. Giuliani, **A. Castelletti**, Is robustness really robust? How different definitions of robustness impact decision-making under climate change, *Climatic Change*, 135(3), 409–424, 2016.
- [B.59] S. Galelli, **A. Castelletti**, A. Goedbled, High-Performance Integrated Control of water quality and quantity in urban water reservoirs, *Water Resources Research*, 51(11), 9053–9072, 2015.
- [B.60] M. Giuliani, F. Pianosi, **A. Castelletti**, Making the most of data: an information selection and assessment framework to improve water systems operation. *Water Resources Research* 51(11), 9073–9093, 2015.
- [B.61] M. Giuliani, **A. Castelletti**, F. Pianosi, E. Mason, P.M. Reed, Curses, tradeoffs, and scalable management: advancing evolutionary multi-objective direct policy search to improve water reservoir operations. *Journal of Water Resources Planning and Management*, 142(2), 04015050, 2016.
- [B.62] A. Cominola, M. Giuliani, D. Piga, **A. Castelletti**, A.E. Rizzoli, Benefits and challenges of using smart meters for advancing residential water demand modeling and management: a review. *Environmental Modeling and Software*, 72, 198–214, 2015.
- [B.63] M. Giuliani, **A. Castelletti**, F. Amigoni, and X. Cai, Multiagent Systems and Distributed Constraint Reasoning for regulatory mechanism design in water management, *Journal of Water Resources Planning and Management*, *Journal of Water Resources Planning and Management*, 141(4), 04014068, 2015 (**best research paper 2015**).
- [B.64] H.R. Maier, Z. Kapelan, J. Kasprzyk, J. Kollat, L.S. Matott, M.C. Cunha, G.C. Dandy, M.S. Gibbs, E. Keedwell, A. Marchi, A. Ostfeld, D. Savic, D.P. Solomatine, J.A. Vrugt, A.C. Zecchin, B.S. Minsker, E.J. Barbour, G. Kuczera, F. Pasha, **A. Castelletti**, M. Giuliani, P.M. Reed, Evolutionary algorithms and other metaheuristics in water resources: Current status, research challenges and future directions, *Environmental Modelling and Software*, 62, 271–299, 2014.

- [B.65] S. Galelli, B.H. Greer, H.R. Maier, **A. Castelletti**, G.C. Dandy, M.S. Gibbs, An evaluation framework for input variable selection algorithms for environmental data-driven models, *Environmental Modelling and Software*, 62, 33-51, 2014.
- [B.66] M. Giuliani, J.D. Herman, **A. Castelletti**, and P.M. Reed, Many-objective reservoir policy identification and refinement to reduce policy inertia and myopia in water management, *Water Resources Research*, 50(4), 3355–3377, 2014.
- [B.67] R. Schmitt, S. Bizzi, and **A. Castelletti**, Characterizing fluvial systems at basin scale by fuzzy signatures of hydromorphological drivers in data scarce environments, *Geomorphology*, 214, 69-83, 2014.
- [B.68] B.W.J. Surridge, S. Bizzi, and **A. Castelletti**, A framework for coupling explanation and prediction in hydroecological modelling, *Environmental Modelling and Software*, 61, 274-286, 2014.
- [B.69] F. Pianosi, **A. Castelletti**, L. Mancusi, and E. Garofalo, Improving flow forecasting by error correction modelling in altered catchment conditions, *Hydrological Processes*, 28(4), 2524-2534, 2014.
- [B.70] **A. Castelletti**, H. Yajima, M. Giuliani, R. Soncini Sessa, and E. Weber, Planning the optimal operation of a multi-outlet reservoir with water quality and quantity targets. *Journal of Water Resources Planning and Management*, 140(4), 496–510, 2014.
- [B.71] S. Galelli and **A. Castelletti**, Assessing the predictive capability of randomized tree-based ensembles in streamflow modelling, *Hydrology and Earth System Science* 17, 1-16, 2013.
- [B.72] S. Galelli and **A. Castelletti**, Tree-based Iterative Input variable Selection for hydrological modelling, *Water Resources Research*, 49(7), 4295–4310, 2013.
- [B.73] M. Giuliani and **A. Castelletti**, Assessing the value of cooperation and information exchange in large water resources systems by agent-based optimization, *Water Resources Research*, 49(7), 3912–3926, 2013.
- [B.74] **A. Castelletti**, F. Pianosi, and M. Restelli, A multiobjective reinforcement learning approach to water resources systems operation: Pareto frontier approximation in a single run. *Water Resources Research*, 49(6), 3476–3486, 2013.
- [B.75] R. Fornarelli, S. Galelli, **A. Castelletti**, J.P. Antenucci, and C. Marti, An empirical modeling approach to predict and understand phytoplankton dynamics in a reservoir affected by inter-basin water transfers. *Water Resources Research*, 49, 3626–3641, 2013.
- [B.76] D. Anghileri, **A. Castelletti**, F. Pianosi, R. Soncini Sessa, E. Weber, Optimizing watershed management by coordinated operation of storing facilities, *Journal of Water Resources Planning and Management*, 139(5), 492-500, 2013.
- [B.77] F. Pianosi, **A. Castelletti**, M. Restelli, Tree-based Fitted Q-iteration for Multi-Objective Markov Decision Processes in Water Resources Management. *Journal of Hydroinformatics*, 15(2), 258-27, 2013.
- [B.78] P. Fraternali, **A. Castelletti**, R. Soncini-Sessa, C. Vaca Ruiz, A.E. Rizzoli, Putting Humans in the Loop: Social Computing for Water Resources Management, *Environmental Modelling and Software*, 37, 68-77, 2012.
- [B.79] **A. Castelletti**, S. Galelli, M. Ratto, R. Soncini Sessa, P.C. Young, A general framework for Dynamic Emulation Modelling in environmental problems. *Environmental Modelling and Software*, 34, 5-18, 2012.
- [B.80] M. Ratto, **A. Castelletti**, A. Pagano, Emulation techniques for the reduction and sensitivity analysis of complex environmental models, *Environmental Modelling and Software*, 34, 1-4, 2012.
- [B.81] **A. Castelletti**, F. Pianosi, X. Quach, R. Soncini Sessa, Assessing water resources management and development in Northern Vietnam. *Hydrology and Earth System Science*, 16, 189-199, 2012.

- [B.82] **A. Castelletti**, S. Galelli, M. Restelli, R. Soncini Sessa, Data-driven dynamic emulation modelling for the optimal management of environmental systems. *Environmental Modelling and Software*, 34, 30-43, 2012.
- [B.83] **A. Castelletti**, J.P. Antenucci, D. Limosani, X. Quach, R. Soncini-Sessa, Interactive response surface approaches using computationally intensive models for multiobjective planning of lake water quality remediation, *Water Resources Research*, 47, W09534, 2011.
- [B.84] **A. Castelletti**, S. Galelli, M. Restelli, R. Soncini Sessa, Tree-based reinforcement learning for optimal water reservoir operation. *Water Resources Research*, 46, W09507, 2010.
- [B.85] **A. Castelletti**, A.V. Lotov, R. Soncini Sessa, Visualization-based multi-objective improvement of environmental decision-making using linearization of response surfaces. *Environmental Modelling and Software*, 25(12), 1552-1564, 2010.
- [B.86] H. Yajima, **A. Castelletti**, R. Soncini-Sessa, Optimal operation of the selective withdrawal system in Tono dam reservoir. *Annual Journal of Hydraulic Engineering*, JSCE , 54, 2010.
- [B.87] **A. Castelletti**, F. Pianosi, R. Soncini Sessa, J.P. Antenucci, A multi-objective response surface approach for improved water quality planning in lakes and reservoirs. *Water Resources Research*, 46, W06502, 2010.
- [B.88] **A. Castelletti**, F. Pianosi, R. Soncini Sessa, Water reservoir control under economic, social and environmental constraints. *Automatica*, 44(6), 1595–1607, 2008.
- [B.89] **A. Castelletti**, F. Pianosi, R. Soncini Sessa, Integration, participation and optimal control in water resources planning and management, *Applied Mathematics and Computation*, 206(1), 21-33, 2008.
- [B.90] **A. Castelletti**, F. Pianosi, R. Soncini Sessa, Receding horizon control for water resources management, *Applied Mathematics and Computation*, 204(2), 621-631, 2008.
- [B.91] **A. Castelletti**, D. De Rigo, A. Rizzoli, R. Soncini Sessa, E. Weber, Neuro-Dynamic Programming for designing water reservoir network management policies, *Control Engineering Practice*, 15(8), 1001-1011, 2007.
- [B.92] **A. Castelletti**, R. Soncini Sessa, Bayesian Networks in water resources planning and management, *Environmental Modelling and Software*, 22(8), 1073-1074, 2007.
- [B.93] **A. Castelletti**, R. Soncini Sessa, Coupling real time control and socio-economic issues in water system planning, *Environmental Modelling and Software*, 22(8), 1114-1128, 2007.
- [B.94] **A. Castelletti**, R. Soncini Sessa, Bayesian network and participatory modelling, *Environmental Modelling and Software*, 22(8), 1075-1088, 2007.
- [B.95] **A. Castelletti**, R. Soncini Sessa, A procedural approach to strengthening integration and participation in water resource planning, *Environmental Modelling and Software*, 21(10), 1455-1470, 2006.
- [B.96] R. Soncini Sessa, **A. Castelletti**, E. Weber, A DSS for integrated planning and management of water reservoir systems, *Environmental Modelling and Software*, 18(5), 395-404, 2003.

Book chapters

- [C.1] **A. Castelletti**, A. Cominola, A. Facchini, M. Giuliani, P. Fraternali, S. Herrera, M. Melenhorst, I. Micheel, J. Novak, C. Pasini, A.E. Rizzoli, and C. Rottondi. Gamified approaches for Water Management Systems: an Overview, in (P. Tsakalides, A. Panousopoulou, A. Tsagkatakis and L. Montestruque eds.) *Water Smart Grids - A Cyber-physical Approach* CRC Press, Taylor & Francis Group, 2018.
- [C.2] **A. Castelletti**, F. Pianosi, R. Soncini-Sessa. Stochastic and Robust Control of Water Resource Systems: Concepts, Methods and Applications. in (L. Wang and H. Garnier eds.) *System Identification, Environmental Modelling, and Control System Design*, Springer-Verlag, London, UK, pp. 383-401, Ch. 19, 2011.

- [C.3] A. Becker, R. Soncini-Sessa, **A. Castelletti**, F.F. Hattermann, P. Willems, P. Stalnacke, Y. Laurans, W.J. de Lange. How can models help implementing the Water Framework Directive? in (F.F. Hattermann and Z.W. Kundzewicz eds.) *Water Framework Directive: Model supported Implementation: A Water Manager's Guide*, IWA Publishing, London, UK, pp. 11-54, Ch. 1, 2009.
- [C.4] A. Becker, **A. Castelletti**, G.D. Gooch, F.F. Hattermann, S. Kaden, Z.W. Kundzewicz, Y. Laurans, S. Muhar, R. Soncini-Sessa, P. Stalnacke, P. Willems, Practical experiences from existing case studies and pilot river basins, in (F.F. Hattermann and Z.W. Kundzewicz eds.) *Water Framework Directive: Model supported Implementation: A Water Manager's Guide*, IWA Publishing, London, UK, pp. 99-222, Ch. 6, 2009.
- [C.5] **A. Castelletti**, A. Nardini, R. Soncini Sessa, Decision making: a challenging task, in (R. Soncini Sessa, F. Cellina, F. Pianosi, E. Weber) *Integrated and participatory water resources management. Practice*, Elsevier, Amsterdam, NL, 2007.
- [C.6] E.Betti, **A. Castelletti**, F. Cellina, R. Soncini Sessa, E. Weber, Model identification, in (R. Soncini Sessa, F. Cellina, F. Pianosi, E. Weber) *Integrated and participatory water resources management. Practice*, Elsevier, Amsterdam, NL, 2007.
- [C.7] E.Betti, **A. Castelletti**, F. Cellina, R. Soncini Sessa, E. Weber, The control problem, in (R. Soncini Sessa, F. Cellina, F. Pianosi, E. Weber) *Integrated and participatory water resources management. Practice*, Elsevier, Amsterdam, NL, 2007.
- [C.8] **A. Castelletti**, F. Cellina, F. Pianosi, R. Soncini Sessa, Criteria and Indicators, in (R. Soncini Sessa, F. Cellina, F. Pianosi, E. Weber) *Integrated and participatory water resources management. Practice*, Elsevier, Amsterdam, NL, 2007.
- [C.9] **A. Castelletti**, R. Soncini Sessa, A Participatory and Integrated Planning Procedure for Decision Making in Water Resource Systems, in (A. Castelletti, R. Soncini Sessa eds.) *Topics on System Analysis and Integrated Water Resource Management*, 3-24, Elsevier, Amsterdam, NL, 2006.
- [C.10] P.C. Young, **A. Castelletti**, F. Pianosi, The Data-Based Mechanistic Approach in Hydrological Modelling, in (A. Castelletti, R. Soncini Sessa eds.) *Topics on System Analysis and Integrated Water Resource Management*, 27-48, Elsevier, Amsterdam, NL, 2006.
- [C.11] **A. Castelletti**, F. Cellina, R. Soncini Sessa, E. Weber, Comprehensive Testing and Application of the PIP Procedure: the Verbano Project Case Study, in (A. Castelletti, R. Soncini Sessa eds.) *Topics on System Analysis and Integrated Water Resource Management*, 223-241, Elsevier, Amsterdam, NL, 2006.

Conferences

- [D.1] M. Giuliani and **A. Castelletti**, Data-driven control of water reservoirs using El Niño Southern Oscillation indexes, in Proceedings - 2019 IEEE International Conference on Environment and Electrical Engineering and 2019 IEEE Industrial and Commercial Power Systems Europe, IEEEIC/I and CPS Europe, Genoa, Italy, 11-14 June 2019.
- [D.2] M. Zaniolo, M. Giuliani and **A. Castelletti**, Data-driven modeling and control of droughts, in Proceedings of the 1st IFAC Workshop on Control Methods for Water Resource Systems (CMWRS 2019), Delft, The Netherlands, 19-20 September 2019.
- [D.3] G. Marchetti, S. Bizzi, B. Belletti, P. Carbonneau, **A. Castelletti**. Orbital grain size mapping from Sentinel 2 images, Proceedings of Integrative Science Rivers Conference, Lione, France, 4-8 June 2018.
- [D.4] R.J.P. Schmitt, S. Bizzi, M. Giuliani, **A. Castelletti**, G.M. Kondolf, Identifying sustainable and robust trade-offs between hydropower and sediment trapping under uncertain sediment yields in the Mekong River Basin, Proceedings of Integrative Science Rivers Conference, Lione, France, 4-8 June 2018.

- [D.5] A. Cominola, **A. Castelletti**, M. Giuliani, K. Nguyen, and R. A. Stewart. Are Urban Water Distribution Systems "smart"? A Roadmap Of R&D Priorities Towards A Digital Transformation Of Utilities, in Proceedings of 2018 IWA World Water Congress & Exhibition, Tokyo, Japan, 16-21 September 2018.
- [D.6] A.E. Rizzoli, **A. Castelletti**, P. Fraternali, and J. Novak, Demo Abstract: SmarH2O, demonstrating the impact of gamification technologies for saving water, in Proceedings of 6th D-A-CH+ Conference on Energy Informatics, also in Computer Science - Research and Development, 33, 275–276, Lugano, Svizzera, 55-6 October 2017.
- [D.7] F. Bertoni, M. Giuliani and **A. Castelletti**. Scenario-based fitted Q-iteration for adaptive control of water reservoir systems under uncertainty, In Proceedings of the 20th IFAC World Congress also IFAC-PapersOnLine, 50(1), 3183-3188, Toulouse, France, 9-14 July, 2017.
- [D.8] **A. Castelletti**, R. Fedorov, P. Fraternali, and M. Giuliani, Multimedia on the Mountaintop: Using Public Snow Images to Improve Water Systems Operation, in Proceedings of the ACM Multimedia Conference, Amsterdam, The Netherlands, 15-17 October 2016.
- [D.9] A. Cominola, A. Moro, L. Riva, M. Giuliani, and **A. Castelletti**, Profiling residential water users's routines by eigenbehavior modelling, in Proceedings of the 8th International Congress on Environmental Modelling and Software (iEMSs 2016), Toulouse, France, July 10-14 2016.
- [D.10] A. Cominola, M. Giuliani, **A. Castelletti**, A. M. Abdallah, and D. E. Rosenberg, Developing a stochastic simulation model for the generation of residential water end-use demand time series, in Proceedings of the 8th International Congress on Environmental Modelling and Software (iEMSs 2016), Toulouse, France, July 10-14, 2016.
- [D.11] F. Amigoni, **A. Castelletti**, P. Gazzotti, M. Giuliani, and E. Mason, Using Multiagent Negotiation to Model Water Resources Systems Operations, in Proceedings of the international workshop of the 2016 Autonomous Agents and MultiAgent Systems International Conference on Issues with Deployment of Emerging Agent-based Systems, Singapore, (winner of IDEAS/AAMAS 2016 Best Paper Award), 2016.
- [D.12] F. Amigoni, **A. Castelletti**, P. Gazzotti, M. Giuliani, and E. Mason, Water Resources Systems Operations via Multiagent Negotiation, in Proceedings of the 2016 Autonomous Agents and MultiAgent Systems International Conference, Singapore, 2016.
- [D.13] I. Micheel, J. Novak, P. Fraternali, G. Baroffio, **A. Castelletti**, and A.E. Rizzoli, 2015. Visualizing and gamifying water & energy consumption for behavior change. In Proceedings of Fostering Smart Energy Applications Workshop (FSEA) at Interact 2015, Bamberg. D, 2015.
- [D.14] R. Schmitt, S. Bizzi, and **A. Castelletti**, Process based classification of sediment connectivity at the river basin scale, REFORM International Conference on River and Stream Restoration, Wageningen, NL, 30 June - 2 July 2015.
- [D.15] S. Denaro, U. Del Gobbo, **A. Castelletti**, S. Tebaldini, and A. Monti Guarnieri, Informing water management by direct use of SAR retrieved snow information in snow-rainfall dominated watersheds, IEEE International Geoscience and Remote Sensing Symposium, (IGARSS 2015), Milan, I, 26-31 July, 2015.
- [D.16] F. Amigoni, **A. Castelletti**, and M. Giuliani, Modeling the Management of Water Resources Systems Using Multi-Objective DCOPs. Proceedings of the 14th International Conference on Autonomous Agents and Multiagent Systems (AAMAS 2015), Istanbul, Turkey, 4–8 May 2015.
- [D.17] A. Cominola, M. Giuliani, D. Piga, **A. Castelletti**, and A.E. Rizzoli, Modeling residential water consumers' behaviors by feature selection and feature weighting. IAHR World Congress, The Hague, NL, 8 June-3 July 2015.
- [D.18] D. Piga, A. Cominola, M. Giuliani, **A. Castelletti**, and A.E. Rizzoli, 2015. A convex optimization approach for automated water and energy end use disaggregation. IAHR World Congress, The Hague, NL, 8 June-3 July 2015.

- [D.19] M. Giuliani, E. Mason, **A. Castelletti**, F. Pianosi, and R. Soncini-Sessa, Universal approximators for direct policy search in multi-purpose water reservoir management: A comparative analysis, Proceedings of the 19th IFAC World Congress, Cape Town, SA, 24-29 August 2014.
- [D.20] M. Giuliani, **A. Castelletti**, and P. Reed, Improving the protection of aquatic ecosystems by dynamically constraining reservoir operation via direct policy conditioning, IFAC World Congress, Cape Town, SA, 24-29 August 2014, Proceedings of the 19th IFAC World Congress, Cape Town, SA, 24-29 August 2014.
- [D.21] J.J. Harou, P. Garrone, A. E. Rizzoli, A. Maziotis, **A. Castelletti**, P. Fraternali, J. Novak, R. Wissmann-Alves, and P.A. Ceschi, Smart metering, water pricing and social media to stimulate residential water efficiency: opportunities for the SmartH2O project, Proceedings of the 16th Conference on Water Distribution System Analysis, WDSA 2014, Bari, I, July 2014.
- [D.22] L. Beltrame, D. Carbonini, S. Galelli, **A. Castelletti**, and M. Giuliani, Quantifying ENSO impacts at the basin scale using the Iterative Input variable Selection algorithm, Proceedings of the 7th International Congress on Environmental Modelling and Software (iEMSs), San Diego, CA, USA, 15-19 June 2014.
- [D.23] A.E. Rizzoli, **A. Castelletti**, A. Cominola and P. Fraternali, A. Diniz dos Santos, B. Storni, R. Wissmann-Alves, M. Bertocchi, J. Novak, and I. Micheel, The SmartH2O project and the role of social computing in promoting efficient residential water use: an outlook, Proceedings of the 7th International Congress on Environmental Modelling and Software (iEMSs), San Diego, CA, USA, 15-19 June 2014.
- [D.24] H.B. Greer, S. Galelli, **A. Castelletti**, H.R. Maier, G.C. Dandy, and M.S. Gibbs, A new evaluation framework for input variable selection algorithms used in environmental modelling, Proceedings of the 7th International Congress on Environmental Modelling and Software (iEMSs), San Diego, CA, USA, 15-19 June 2014.
- [D.25] P. Biglarbeigi, M. Giuliani, and **A. Castelletti**, Many-objective direct policy search in the Dez and Karoun multireservoir system, Iran, EWRI World Congress, Portland, OR, 1-4 June 2014.
- [D.26] F. Recanati, P. Melià, G. Dotelli, and **A. Castelletti**, Conciliare sicurezza alimentare e impatti ambientali: Water Footprint di scenari di produzione agricola nella Striscia di Gaza, in Atti del VIII Convegno Scientifico dell'Associazione Rete Italiana LCA, Florence, Italy, 19-20 June 2014.
- [D.27] F. Recanati, P. Melià, G. Dotelli, and **A. Castelletti**, Trading off food security and environmental impacts: the sustainability of food production in the Gaza Strip, ECOMONDO 2014, Rimini, Italy, 5-8 October, 2014
- [D.28] S. Caietti, S. Galelli, A. Goedbloed, and **A. Castelletti**, Emulation modelling of salinity dynamics to inform real-time control of water quality in a tropical lake, Proceedings of MODSIM 2013, Adelaide, AUS, 1-6 December 2013.
- [D.29] L. Cozzi, S. Galelli, **A. Castelletti**, and S. Jolivet, Numerical weather models as virtual sensors to data-driven rainfall predictions in urban catchments, Proceedings of MODSIM 2013, Adelaide, AUS, 1-6 December 2013.
- [D.30] M. Giuliani, **A. Castelletti**, S. Galelli, R. Soncini-Sessa, E. Weber, Many-objective Operation of Selective Withdrawal Reservoirs Including Water Quality Targets, Proceedings of EWRI World Congress, Cincinnati, OH, 19-23 May 2013.
- [D.31] L. Mancusi, E. Garofalo, F. Pianosi, **A. Castelletti**, Improving streamflow prediction for run-of-river hydropower operation by error correction: the Aniene River case study, Proceedings of the 9th ICOLD European Club Symposium, Venice, 10-12 April, 2013.
- [D.32] R. Fedorov, D. Martinenghi, M. Tagliasacchi and **A. Castelletti**, Exploiting user generated content for mountain peak detection, 2nd International Workshop on Social Media for Crowdsourcing and Human Computation, Paris, France, May 1 2013.

- [D.33] **A. Castelletti**, M. Giuliani, R. Soncini-Sessa, Multi-Agent water resources management: Centralized vs Distributed approach, Proceedings of 10th International Conference on Hydroinformatics, Hamburg, Germany, 14-18 July 2012.
- [D.34] **A. Castelletti**, F. Pianosi, Improved reservoir operation by hydroclimatic information, Proceedings of 10th International Conference on Hydroinformatics, Hamburg, Germany, 14-18 July 2012.
- [D.35] **A. Castelletti**, S. Galelli, S. Caietti Marin, H. Eikaas, Improved dynamic emulation modelling by time-series clustering: the case study of Marina Reservoir, Singapore, Proceedings of 6th Biennial meeting of the International Environmental Modelling and Software Society, Leipzig, Germany, 1-5 July 2012.
- [D.36] **A. Castelletti**, F. Pianosi, L. Alberti, G. Oberto, Planning infrastructural measures for ground-water development in a coastal aquifer by Global Interactive Response Surfaces: the Nauru island case study, Proceedings of 6th Biennial meeting of the International Environmental Modelling and Software Society, Leipzig, Germany, 1-5 July 2012.
- [D.37] M. Giuliani, **A. Castelletti**, F. Amigoni, X. Cai, Multi-agent optimization for distributed watershed management, Proceedings of 6th Biennial meeting of the International Environmental Modelling and Software Society, Leipzig, Germany, 1-5 July 2012.
- [D.38] F. Pianosi, **A. Castelletti**, M. Lovera, Identification of a flow-routing model for the Red River network, Proceedings of 16th IFAC Symposium on System Identification (SYSID12), 11-13 July, Bruxelles, Belgium, 2012.
- [D.39] **A. Castelletti**, F. Pianosi, M. Restelli, Tree-based Fitted Q-iteration for Multi-Objective Markov Decision problems. In: The 2012 International Joint Conference on Neural Networks (IJCNN). p. 1-8, Brisbane, Australia, 2012.
- [D.40] H. Yajima, **A. Castelletti**, R. Soncini-Sessa, E. Weber, Optimal Operation of Selective Withdrawal System Using Fitted-Q Algorithm in a Reservoir, Proceedings of the 34th World Congress of the International Association for Hydro- Environment Research and Engineering: 33rd Hydrology and Water Resources Symposium and 10th Conference on Hydraulics in Water Engineering, 26 June-1 July, Brisbane, Australia, 2011.
- [D.41] **A. Castelletti**, S. Galelli, M. Restelli, R. Soncini-Sessa, A data-driven Dynamic Emulation Modelling approach for the management of large, distributed water resources systems, MODSIM 2011, 12-16 December, Perth, Australia, 2011.
- [D.42] R. Fornarelli, S. Galelli, J. Antenucci, **A. Castelletti**, Input variable selection for ecological modelling in inter-basin water transfer management, MODSIM 2011, 12-16 December, Perth, Australia, 2011.
- [D.43] **A. Castelletti**, S. Galelli, M. Restelli, R. Soncini-Sessa, Dynamic Emulation Modelling of a 1D hydrodynamic ecological model: Tono dam case study, in Proceedings of the 18th IFAC World Congress, 28 August-2 September, Milano, I, 2011.
- [D.44] **A. Castelletti**, F. Pianosi, M. Restelli, Multi-Objective Fitted Q-Iteration: Pareto frontier approximation in one single run, in Proceedings of the 2011 IEEE International Conference on Networking, Sensing and Control, 11-13 April, Delft, NL, 2011.
- [D.45] **A. Castelletti**, S. Galelli, M. Restelli, R. Soncini-Sessa, Tree-based features selection for dimensionality reduction of large-scale control system, in Proceedings of 2011 IEEE Symposium on Adaptive Dynamic Programming and Reinforcement Learning, 11-15 April, Paris, F, 2011.
- [D.46] **A. Castelletti**, S. Galelli, A. Salvetti, A. Ventimiglia, Extra-trees and feature ranking in rainfall-runoff modelling, in Proceedings of 9th International Conference on Hydroinformatics, 7-11 September, Tianjin, CN, 2010.

- [D.47] **A. Castelletti**, S. Galelli, M. Restelli, R. Soncini-Sessa. Fitted Q-iteration for the optimal operation of multi-purpose water reservoir, in Proceedings of 9th International Conference on Hydroinformatics, 7-11 September, Tianjin, CN, 2010.
- [D.48] **A. Castelletti**, S. Galelli, R. Soncini-Sessa. A tree-based feature ranking approach to enhance emulation modelling of 3D hydrodynamic-ecological models, in Proceedings 5th Biennial Meeting of the International Environmental Modelling and Software Society (iEMSs) Ottawa, Canada 2010.
- [D.49] **A. Castelletti**, D. Limosani, A.V. Lotov, X. Quach, R. Soncini-Sessa. Response Surface approximation and Interactive Decision Maps for water quality planning, in Proceedings 5th Biennial Meeting of the International Environmental Modelling and Software Society (iEMSs) Ottawa, CA, 2010.
- [D.50] **A. Castelletti**, M. De Zaiacomo, S. Galelli, M. Restelli, P. Sanavia, R. Soncini-Sessa, J.P. Antenucci, An emulation modelling approach to reduce the complexity of a 3D hydrodynamic-ecological model of a reservoir, in Proceedings of International Symposium on Environmental Software Systems (ISESS2009), October 2-9, Venice, I, 2009.
- [D.51] L. Biasio, **A. Castelletti**, D. Limosani, F. Pianosi, R. Soncini-Sessa, J.P. Antenucci, Multi-objective design of water quality rehabilitation interventions by response surfaces, in Proceedings of the 18th World IMACS Congress and MODSIM09 International Congress on Modelling and Simulation. July 13-17, Cairns, Australia, 2009.
- [D.52] **A. Castelletti**, F. Pianosi, R. Soncini-Sessa, P.C. Young, A DBM model for snow-melt simulation, Proceedings of 15th IFAC Symposium on System Identification (SYSID09), July 6-8, Saint-Malo, France, 2009.
- [D.53] **A. Castelletti**, R. Soncini-Sessa, A procedural approach to environmental sustainable, social acceptable and economic sound decision-making in water resources planning, Proceedings of 4th ECRR Conference, June 16-21, Venice, Italy, 2008.
- [D.54] **A. Castelletti**, D. de Rigo, R. Soncini Sessa, L. Tepsich, On-line design of water reservoir policies based on inflow prediction, Proceedings of 17th IFAC World Congress, Seoul, South Korea, 6-11 July 2008.
- [D.55] **A. Castelletti**, F. Pianosi, V. Sachero, R. Soncini Sessa, TwoLe/P: a MODSS Implementing PIP Procedure for Participative Water Basin Planning, Proceedings 3rd International Symposium on Integrated Water Resources Management - IWRM 2006, Bochum, Germany, October 2006.
- [D.56] **A. Castelletti**, R. Soncini Sessa, Integrated and participatory water resource modelling through bayesian belief networks, Proceedings 12th IWRA World Water Congress, World Water Congress, New Delhi, India, 22-25 November 2005.
- [D.57] **A. Castelletti**, R. Soncini Sessa, Improving participation in water resource planning through bayesian belief networks: a case study in Central Italy, Proceedings of the International Conference on Reservoir Operation and River Management (ICROM), Guangzhou and Three Gorges, China, 17-24 September 2005.
- [D.58] de Rigo, D., **A. Castelletti**, A.E. Rizzoli, R. Soncini-Sessa, and E. Weber (2005). A selective improvement technique for fastening Neuro-Dynamic Programming in Water Resources Network Management, Proceedings 16th IFAC World Congress, Prague, Czech Republic, 4-8 July.
- [D.59] **A. Castelletti**, F. Pianosi, R. Soncini Sessa, P.C. Young, Data Base Mechanistic modelling of a snow affected basin, Proceedings 16th IFAC World Congress, Prague, Czech Republic, 4-8 July 2005.
- [D.60] **A. Castelletti**, R. Soncini Sessa, PIP: a Participatory and Integrated Planning procedure for decision making in water resource systems, IFAC Workshop on Modelling and Control of Water Resource Systems, Venice, Italy, 29 September - 1 October 2004.

- [D.61] **A. Castelletti**, F. Cellina, R. Soncini Sessa, E. Weber, The PIP procedure in the planning of lake Verbano, IFAC Workshop on Modelling and Control of Water Resource Systems, Venice, Italy, September - 1 October 2004.
- [D.62] **A. Castelletti**, D. De Rigo, A.E. Rizzoli, R. Soncini Sessa, E. Weber, Neuro-Dynamic Programming for the efficient Integrated Water Resources Management, IFAC Workshop on Modelling and Control of Water Resource Systems, Venice, Italy, September - 1 October 2004.
- [D.63] **A. Castelletti**, F. Pianosi, R. Soncini Sessa, P.C. Young, DBM modelling in the upper Ticino river basin, IFAC Workshop on Modelling and Control of Water Resource Systems, Venice, Italy, September - 1 October 2004.
- [D.64] **A. Castelletti**, R. Soncini Sessa, The Verbano project, 2nd Harmoni-Ca WP3 workshop, Berlin, Germany, 7-9 January, 2004.
- [D.65] **A. Castelletti**, R. Soncini Sessa, An integrated and participatory decisional procedure for water system planning, 1st Catch-Mod Workshop, Amsterdam, The Netherlands, 16-17 September 2003.
- [D.66] **A. Castelletti**, R. Soncini Sessa, Criteria, indexes and indicators, 1st Harmoni-Ca WP3 workshop, Berlin, Germany, 16-17 June 2003.
- [D.67] **A. Castelletti**, R. Soncini Sessa, E. Weber, A two-level DSS for participatory planning water reservoir systems, Policies and Tools for sustainable management in EU, MULINO-FEEM, Venice, Italy, November 2002.
- [D.68] R. Soncini Sessa, **A. Castelletti**, E. Weber, Participatory decision making (plenary lecture), Proceedings 1st Biennial Meeting of the International Environmental Modelling and Software Society (iEMSs), Lugano, Switzerland, 24-27 June 2002.
- [D.69] E. Weber, A.E. Rizzoli, R. Soncini Sessa, **A. Castelletti**, A lexicographic optimization in water resource planning: the case of lake Verbano, Italy, Proceedings 1st Biennial Meeting of the International Environmental Modelling and Software Society (iEMSs), Lugano, Switzerland, 24-27 June 2002.
- [D.70] **A. Castelletti**, A.E. Rizzoli, R. Soncini Sessa, E. Weber, New ideas in the design of water reservoir management policies (plenary lecture), Proceedings IFAC Workshop on Modelling and Control in Environmental Issues, Keio University, Yokohama, Japan, 22-23 August 2001.
- [D.71] **A. Castelletti**, G. Corani, A.E. Rizzoli, R. Soncini Sessa, E. Weber, Reinforcement learning in the operational management of a water system, Proceedings IFAC Workshop on Modeling and Control in Environmental Issues, Keio University, Yokohama, Japan, 22-23 August 2001.

Abstracts/Extended abstracts

- [E.1] M. Giuliani, L. Crochemore, I. Pechlivanidis and **A. Castelletti**, Isolating the Role of End-User Behavior in the Assessment of Seasonal Forecast Value. In 2019 AGU Fall Meeting, San Francisco CA, USA, 8-13 December 2019.
- [E.2] M. Zaniolo, M. Giuliani and **A. Castelletti**. Neuro-Evolutionary Direct Policy Search for the optimal control of multi-purpose water resources systems, in Proceedings of the 1st IFAC Workshop on Control Methods for Water Resource Systems (CMWRS 2019), Delft, The Netherlands, 19-20 September 2019.
- [E.3] F. Giudici, M. Giuliani, and **A. Castelletti**, Multi-objective optimal control of integrated water-energy systems in small off-grid islands, in Proceedings of the 1st IFAC Workshop on Control Methods for Water Resource Systems (CMWRS 2019), Delft, The Netherlands, 19-20 September 2019.
- [E.4] F. Bertoni, **A. Castelletti**, and J. Lautze, Balancing Hydropower Revenue and Malaria Control Via Dam Operation: A Case Study in the Zambezi River Basin, in Proceedings of the 1st IFAC Workshop on Control Methods for Water Resource Systems (CMWRS 2019), Delft, The Netherlands, 19-20 September 2019.

- [E.5] F. Giudici, and **A. Castelletti**, Robust design of off-grid hybrid energy systems under climatic and technological uncertainty, in proceeding of DMDU 2019 Annual Meeting, Delft, The Netherlands, 5-11 November 2019.
- [E.6] F. Bertoni, **A. Castelletti**, M. Giuliani, P.M. Reed, Do we understand performance dependencies, trade-offs, information value, and robustness in dam design and operation?, in proceeding of DMDU 2019 Annual Meeting, Delft, The Netherlands, 5-11 November 2019.
- [E.7] F. Giudici, M. Giuliani, **A. Castelletti**, H.R. Maier, Selection of the smallest subset of informative scenarios for the robust optimization of off-grid hybrid energy systems, in proceeding of DMDU 2019 Annual Meeting, Delft, The Netherlands, 5-11 November 2019.
- [E.8] A. Cominola, M. Giuliani, **A. Castelletti**, P. Fraternali, A.E. Rizzoli, and J. Guardiola, Water saving tips, peer pressure, and gamification: long-term behavior change and rebound effects from a long experimental trial. In 2019 AGU Fall Meeting, San Francisco CA, USA, 8-13 December 2019.
- [E.9] J. Zatarain-Salasar, F. Bertoni, M. Giuliani, **A. Castelletti**, and M. Micotti, Optimal infrastructure expansion sequencing and management to meet water, food and energy demands in the Zambezi river basin. In 2019 AGU Fall Meeting, San Francisco CA, USA, 8-13 December 2019.
- [E.10] M. Giuliani, **A. Castelletti**, and J.D. Herman. Data-driven behavioral models of water reservoir operators, in Proceedings 29th European Conference on Operational Research, Valencia, Spain, 11-14 June 2019
- [E.11] F. Bertoni, **A. Castelletti**, M. Giuliani, and P.M. Reed, Exploring How Reservoir Design and Operational Trade-offs Are Shaped by Information Feedbacks. In 2019 AGU Fall Meeting, San Francisco CA, USA, 8-13 December 2019.
- [E.12] **A. Castelletti**, M. Zaniolo, M. Giuliani, and P. Burlando, Seasonal drought forecasts to optimally balancing multisector interests during reservoir filling transients. In 2019 AGU Fall Meeting, San Francisco CA, USA, 8-13 December 2019.
- [E.13] M. Zaniolo, M. Giuliani, P.J. Block, and **A. Castelletti**, Neuro-Evolutionary Policy Search for Identifying Key Inputs to Operate Multi-objective Reservoirs Exhibiting Variable Dynamics. In 2019 AGU Fall Meeting, San Francisco CA, USA, 8-13 December 2019.
- [E.14] F. Giudici, **A. Castelletti**, E. Garofalo, and H.R. Maier, Exploring the Effects of Climate Change and Technological Innovation on the Robust Design of Off-grid Hybrid Energy Systems. In 2019 AGU Fall Meeting, San Francisco CA, USA, 8-13 December 2019.
- [E.15] M. Giuliani, M. Zaniolo, **A. Castelletti**, G. Davoli, and P.J. Block, Do we really need inflow forecasts to improve reservoir operations?. In 2019 AGU Fall Meeting, San Francisco CA, USA, 8-13 December 2019.
- [E.16] A. Castelletti, M. Giuliani, M.H. Ramos, M. Pulido-Velazquez, D. Gustafson, H. Macian-Sorribes, L. Crochemore, I. Pechlinvanidis, and G. Thirel, (2019), Six challenges to successfully inform hydropower operation by improved hydro-meteorological forecasts. In 2019 AGU Fall Meeting, San Francisco CA, USA, 8-13 December 2019.
- [E.17] M. Giuliani, M. Zaniolo, R. Badagliacca, L. Spinelli, and **A. Castelletti**, A robust decision analytic framework to design sustainable development pathways in transboundary river basins: the Omo-Turkana case study, in World Environmental & Water Resources Congress (ASCE EWRI 2019), Pittsburgh, PA, USA, 2019.
- [E.18] M. Zaniolo, M. Giuliani, and **A. Castelletti**, Neuro-Evolutionary Direct Policy Search to design the optimal operation of multi-purpose water resources systems, in World Environmental & Water Resources Congress (ASCE EWRI 2019), Pittsburgh, PA, USA, 2019.
- [E.19] **A. Castelletti**, R. Schmitt, M. Giuliani, S. Bizzi, and G.M. Kondolf, Sediment connectivity and strategic river basin planning: new opportunities from parsimonious sediment modelling

and robust optimization, in World Environmental & Water Resources Congress (ASCE EWRI 2019), Pittsburgh, PA, USA, 2019.

- [E.20] J.D. Quinn, P.M. Reed, M. Giuliani, **A. Castelletti**, J. Oyler, and R. Nicholas, At what cost? Understanding the multi-sectoral consequences of designing multi-reservoir systems for increasingly extreme floods, in World Environmental & Water Resources Congress (ASCE EWRI 2019), Pittsburgh, PA, USA, 2019.
- [E.21] M. Giuliani, J. Lamontagne, and **A. Castelletti**, Evaluating the robustness of the water- energy- food nexus using integrated climate and socio-economic scenarios, in Geophysical Research Abstracts Vol 20, EGU General Assembly, Vienna, Austria, 2019.
- [E.22] M. Zaniolo, M. Giuliani, **A. Castelletti**, and P. Burlando, Informing efficient reservoir filling strategies by seasonal drought forecasts, in Geophysical Research Abstracts Vol 20, EGU General Assembly, Vienna, Austria, 2019.
- [E.23] F. Bertoni, **A. Castelletti**, M. Giuliani, and P.M. Reed, Do we understand performance dependencies, trade-offs, and robustness in dam design and operation?, in Geophysical Research Abstracts Vol 20, EGU General Assembly, Vienna, Austria, 2019.
- [E.24] **A. Castelletti**, M. Zaniolo, M. Giuliani, F. Kleinschroth, S. Sinclair, and P. Burlando, Economically efficient and socially inclusive river basin development: does a balance exist?, in Geophysical Research Abstracts Vol 20, EGU General Assembly, Vienna, Austria, 2019.
- [E.25] A. Cominola, K. Nguyen, M. Giuliani, R.A. Stewart, H.R. Maier, and **A. Castelletti**, Data-driven behavioural modelling of smart meter data to identify end-use determinants of residential water use, in Geophysical Research Abstracts Vol 20, EGU General Assembly, Vienna (Austria)
- [E.26] R. Taormina, A. Cominola, M. Giuliani, S. Galelli, and **A. Castelletti**, Development of a demand- and network-based tool for automatic detection of post meter leakages, in Geophysical Research Abstracts Vol 20, EGU General Assembly, Vienna, Austria, 2019.
- [E.27] V. Tesini, S. Denaro, **A. Castelletti**, and G. Characklis, Integrated infrastructural and financial options to manage weather risk in a multipurpose regulated lake, in Geophysical Research Abstracts Vol 20, EGU General Assembly, Vienna, Austria, 2019.
- [E.28] M. Tangi, R. Schmitt, S. Bizzi, and **A. Castelletti**, CASCADE: a toolbox for network-scale sediment connectivity assessment, in Geophysical Research Abstracts Vol 20, EGU General Assembly, Vienna, Austria, 2019.
- [E.29] M.G. Pelosi, L. Monaco, A. Carlino, and **A. Castelletti**, Improved energy-water modelling for hydropower capacity expansion planning under climate change: a case study in the Zambezi River Basin, in Geophysical Research Abstracts Vol 20, EGU General Assembly, Vienna, Austria, 2019.
- [E.30] G. Falcini, E. Muratore, F. Giudici, **A. Castelletti**, D. Airoidi, E. Garofalo, M. Giuliani, H.R. Maier, Robust design of off-grid water-energy systems under climate and socio-economic changes, in Geophysical Research Abstracts Vol 20, EGU General Assembly, Vienna, Austria, 2019.
- [E.31] A. Carlino, P. Zamberletti, F. Recanati, M. Giuliani, **A. Castelletti**, A. De Vita, M. Kannavou, and A. Makrysopoulos, Integrated water-energy modelling: a scenario-based analysis to support energy system transition policies in the EU, in Geophysical Research Abstracts Vol 20, EGU General Assembly, Vienna, Austria, 2019.
- [E.32] J. Zatarain Salazar, F. Bertoni, M. Giuliani, and **A. Castelletti**, Optimal Infrastructure Sequencing and Management in the Zambezi River Basin, in Geophysical Research Abstracts Vol 20, EGU General Assembly, Vienna, Austria, 2019.
- [E.33] S. Cazzaniga, F. Bertoni, M. Giuliani, and **A. Castelletti**, How does uncertainty affect cooperation strategies in transboundary water resources systems? A case study on the Zambezi River Basin, in Geophysical Research Abstracts Vol 20, EGU General Assembly, Vienna, Austria, 2019.

- [E.34] M.H., Ramos, **A. Castelletti**, M. Pulido Velazquez, D. Gustafsson, M. Giuliani, H. Macian-Sorribes, M. Cassagnole, L. Crochemore, I. Pechlivanidis, and G. Thirel, Policy brief: making climate services impactful on hydropower reservoir optimization, in Geophysical Research Abstracts Vol 20, EGU General Assembly, Vienna, Austria, 2019.
- [E.35] L. Preiss, M. A. Thyer, H. R. Maier, P. Prevos, R. Stewart, **A. Castelletti**, and A. Cominola. What Lies Behind Household Water Consumption? A Framework and Review of Heterogeneous Determinants of Household Water Consumption. In 2018 AGU Fall Meeting, Washington DC, USA, 10-14 December 2018.
- [E.36] **A. Castelletti**, M. Zaniolo, M., Giuliani, and P. Block, Improving seasonal forecasts through the state of multiple large-scale climate signals to inform water management, in 2018 AGU Fall Meeting, Washington DC, USA, 10-14 December 2018.
- [E.37] J.D. Quinn, P.M. Reed, M., Giuliani, and **A. Castelletti**, What is controlling our control rules? Time-varying sensitivity analysis reveals the importance of adaptive and coordinated information use for multi-reservoir operations, in 2018 AGU Fall Meeting, Washington DC, USA, 10-14 December 2018.
- [E.38] M., Giuliani, J. Lamontagne, and **A. Castelletti**, Evaluating the Robustness of the Water-Energy-Food Nexus Using Integrated Climate and Socio-Economic Scenarios, in 2018 AGU Fall Meeting, Washington DC, USA, 10-14 December 2018.
- [E.39] A. Cominola, M. Giuliani, R. Taormina, S. Galelli, and **A. Castelletti**. Automatic Detection Of Post Meter Leakages Enables Reduced Water Losses And Costs For Urban Residential Water Users, in 2018 IWA World Water Congress & Exhibition, Tokyo, J, 16-21 September 2018.
- [E.40] A. Cominola, M. Giuliani, and **A. Castelletti**. An information extraction-based approach to estimate residential water-related energy from single-point smart meter data, in the 9th International Congress on Environmental Modelling and Software (iEMSs 2018), Fort Collins, USA, 24-28 June 2018. (oral)
- [E.41] A. Cominola, M. Giuliani, **A. Castelletti**, D. E. Rosenberg, and A. M. Abdullah. Can data from intelligent water meters inform water demand modelling and management accurately, feasibly, and cost-effectively? in Geophysical Research Abstracts Vol 19, EGU General Assembly, Vienna, Austria, 8-13 April 2018. (PICO)
- [E.42] A. Cominola, E. Spang, M. Giuliani, **A. Castelletti**, J. Lund, and F. Loge. Segmentation analysis of hourly water and electricity use in Southern California to support demand-side management programs, in Geophysical Research Abstracts Vol 19, EGU General Assembly, Vienna, Austria, 8-13 April 2018.
- [E.43] A. Cominola, A. Ghetti, and **A. Castelletti**. Building an open high-resolution residential water end-use dataset with non-intrusive metering, intrusive metering, and water use diaries, in Geophysical Research Abstracts Vol 19, EGU General Assembly, Vienna, Austria, 8-13 April 2018.
- [E.44] P. Zamberletti, F. Giudici, M. Giuliani, D. Anghileri, **A. Castelletti**, and P. Burlando, High spatial resolution assessment of climate change impact on an Alpine watershed, in Geophysical Research Abstracts Vol 19, EGU General Assembly, Vienna, Austria, 8-13 April 2018.
- [E.45] S. Denaro, **A. Castelletti**, M. Giuliani, and G. Characklis, Insurance portfolio diversification through bundling for competing agents exposed to uncorrelated drought and flood risks, in Geophysical Research Abstracts Vol 19, EGU General Assembly, Vienna, Austria, 8-13 April 2018.
- [E.46] M. Giuliani, R. Schmitt, S. Bizzi, **A. Castelletti**, and G.M. Kondolf, Balancing hydropower production and sediment delivery via robust planning of dam portfolios under competing effects of dam sediment trapping and land use change, in Geophysical Research Abstracts Vol 19, EGU General Assembly, Vienna, Austria, 8-13 April 2018.

- [E.47] P.R. Bianchi, L. Gianelli, **A. Castelletti**, J. Lautze, F. Bertoni, Water-related disease control via dam operation: balancing hydropower production and malaria spreading on Kariba reservoir, in Geophysical Research Abstracts Vol 19, EGU General Assembly, Vienna, Austria, 8-13 April 2018.
- [E.48] C. McPhail, H. Maier, J. Kwakkel, M. Giuliani, **A. Castelletti**, and S. Westra, Using and understanding robustness metrics: Guidance for decision-makers, in Geophysical Research Abstracts Vol 19, EGU General Assembly, Vienna, Austria, 8-13 April 2018.
- [E.49] J.D. Quinn, P. Reed, M. Giuliani, and **A. Castelletti**, Coordination and adaptation: how advances in multi-objective control can reduce food-energy-water conflicts in multi-reservoir systems, in Geophysical Research Abstracts Vol 19, EGU General Assembly, Vienna, Austria, 8-13 April 2018.
- [E.50] M.Zaniolo, M., Giuliani, and **A. Castelletti**, Informing water supply operations with basin-customized drought indexes under changing climate, in Geophysical Research Abstracts Vol 19, EGU General Assembly, Vienna, Austria, 8-13 April 2018.
- [E.51] R. Schmitt, S. Bizzi, **A. Castelletti**, and G.M. Kondolf, From project-based planning to strategic basin-scale assessments: opportunities and challenges for changing the paradigm of hydropower planning and sediment management, in Geophysical Research Abstracts Vol 19, EGU General Assembly, Vienna, Austria, 8-13 April 2018.
- [E.52] B. Belletti, S. Bizzi, **A. Castelletti**, C. Garcia de Leaniz, L. Borger, J. Jones, R. Olivo del Amo, G. Segura, J. Tummers, and W. van der Bund and the AMBER consortium, Small isn't beautiful: the impact of small barriers on longitudinal connectivity of European rivers, in Geophysical Research Abstracts Vol 19, EGU General Assembly, Vienna, Austria, 8-13 April 2018.
- [E.53] M. Giuliani, L. Crochemore, I. Pechlivanidis, and **A. Castelletti**, From seasonal forecast skill to end-user economic benefit: the case of the Lake Como, in Geophysical Research Abstracts Vol 19, EGU General Assembly, Vienna, Austria, 8-13 April 2018.
- [E.54] D. Anghileri, S. Monhart, C. Zhou, K. Bogner, **A. Castelletti**, P. Burlando, and M. Zappa, How different de-biasing techniques contribute to improve forecast quality and value for hydropower operations, in Geophysical Research Abstracts Vol 19, EGU General Assembly, Vienna, Austria, 8-13 April 2018.
- [E.55] M. Zaniolo, M. Giuliani, **A. Castelletti**, and P. Block, Improving the management of extreme weather events using teleconnection-based seasonal hydroclimatic forecasts, in Geophysical Research Abstracts Vol 19, EGU General Assembly, Vienna, Austria, 8-13 April 2018.
- [E.56] F. Giudici, **A. Castelletti**, D. Airoldi, E. Garofalo, M. Giuliani, and H. Maier, Contrasting non-dynamic and dynamic models of the water-energy nexus in small, off-grid Mediterranean islands, in Geophysical Research Abstracts Vol 19, EGU General Assembly, Vienna, Austria, 8-13 April 2018.
- [E.57] A. Carlino, F. Bertoni, and **A. Castelletti**, Integrated water-energy system modelling for optimal hydropower production planning under changing climate in the Zambezi River, in Geophysical Research Abstracts Vol 19, EGU General Assembly, Vienna, Austria, 8-13 April 2018.
- [E.58] F. Bertoni, M. Giuliani, and **A. Castelletti**, An inverse nested approach to optimize planning and operation of water reservoir systems, in Geophysical Research Abstracts Vol 19, EGU General Assembly, Vienna, Austria, 8-13 April 2018.
- [E.59] S. Cesari de Maria, A. Borghi, A. Facchi, P. Zamberletti, M. Giuliani, E. Weber, **A. Castelletti**, S. Bizzi, and C. Gandolfi, Novel framework to improve water management adaptation under climate change scenarios, in Geophysical Research Abstracts Vol 19, EGU General Assembly, Vienna, Austria, 8-13 April 2018.
- [E.60] M. Tangi, S. Bizzi, **A. Castelletti**, R. Schmitt, and H. Piegay, Balancing hydropower development and sediment starvation in the Balkan: the case study of the Vjosa river, in Geophysical Research Abstracts Vol 19, EGU General Assembly, Vienna, Austria, 8-13 April 2018.

- [E.61] G. Marchetti, S. Bizzi, B. Belletti, Patrice Carbonneau, and **A. Castelletti**, Orbital grain size mapping from Sentinel 2 images, in Geophysical Research Abstracts Vol 19, EGU General Assembly, Vienna, Austria, 8-13 April 2018.
- [E.62] S. Bizzi, B. Belletti, P. Carbonneau, **A. Castelletti**, and H. Piégay, The uptake of emerging remote sensing technologies into river survey practices, in Geophysical Research Abstracts Vol 19, EGU General Assembly, Vienna, Austria, 8-13 April 2018.
- [E.63] D. Anghileri, S. Monhart, C. Zhou, K. Bogner, **A. Castelletti**, P. Burlando, M. Zappa, Hydrometeorological ensemble predictions in Switzerland: Using streamflow forecasts to improve hydropower reservoir operations, in 2018 HEPEX Workshop, Melbourne, Australia, 6 – 8 February 2018.
- [E.64] F. Bertoni, M. Giuliani, and **A. Castelletti**, Integrating operation design into infrastructure planning to foster robustness of planned water systems, in Geophysical Research Abstracts Vol 18, EGU General Assembly, Vienna, Austria, 8-13 April 2017.
- [E.65] S. Denaro, **A. Castelletti**, M. Giuliani, and G.W. Characklis, Financial tools to induce cooperation in power asymmetrical water systems, in Geophysical Research Abstracts Vol 18, EGU General Assembly, Vienna, Austria, 8-13 April 2017.
- [E.66] F. Bertoni, M. Giuliani, and **A. Castelletti**, Scenario-based fitted Q-iteration for adaptive control of water reservoir systems under uncertainty, in Geophysical Research Abstracts Vol 18, EGU General Assembly, Vienna, Austria, 8-13 April 2017.
- [E.67] M. Zaniolo, M. Giuliani, and **A. Castelletti**, Designing basin-customized combined drought indices via feature extraction, in Geophysical Research Abstracts Vol 18, EGU General Assembly, Vienna, Austria, 8-13 April 2017.
- [E.68] F. Giudici, D. Anghileri, **A. Castelletti**, and P. Burlando, On the effects of adaptive reservoir operating rules in hydrological physically-based models, in Geophysical Research Abstracts Vol 18, EGU General Assembly, Vienna, Austria, 8-13 April 2017.
- [E.69] M. Squeri, M. Giuliani, **A. Castelletti**, M. Pulido-Velazquez, P. Marcos-Garcia, and H. Macian-Sorribes, Assessing the skill of seasonal meteorological forecast products for predicting droughts and water scarcity in highly regulated basins, in Geophysical Research Abstracts Vol 18, EGU General Assembly, Vienna, Austria, 8-13 April 2017.
- [E.70] C. Samale, B. Zimmerman, M. Giuliani, **A. Castelletti**, and P. Block, Improving seasonal forecast through the state of large-scale climate signals, in Geophysical Research Abstracts Vol 18, EGU General Assembly, Vienna, Austria, 8-13 April 2017.
- [E.71] E. Mason, S. Bizzi, A. Cominola, **A. Castelletti**, and K. Paik, Exploring 3D optimal channel networks by multiple organizing principles, in Geophysical Research Abstracts Vol 18, EGU General Assembly, Vienna, Austria, 8-13 April 2017.
- [E.72] M. Giuliani, **A. Castelletti**, R. Fedorov, and P. Fraternali, How much can a single webcam tell to the operation of a water system?, in Geophysical Research Abstracts Vol 18, EGU General Assembly, Vienna, Austria, 8-13 April 2017.
- [E.73] F. Giudici, D. Anghileri, **A. Castelletti**, and P. Burlando, On the effects of adaptive reservoir operating rules in hydrological physically-based models, in Geophysical Research Abstracts Vol 18, EGU General Assembly, Vienna, Austria, 8-13 April 2017.
- [E.74] J. Luchner, D. Anghileri, and **A. Castelletti**, Determining effective forecast horizons for multi-purpose reservoirs with short- and long-term operating objectives, in Geophysical Research Abstracts Vol 18, EGU General Assembly, Vienna, Austria, 8-13 April 2017.
- [E.75] J. Haas, D. Zuniga, W. Nowak, M. Olivares, **A. Castelletti**, and A. Tilmant, The future of hydropower planning modeling, in 2018 AGU Fall Meeting, New Orleans, USA, 11-15 December 2018.

- [E.76] R. Schmitt, S. Bizzi, **A. Castelletti**, and G.M. Kondolf, Lost opportunities and future avenues to reconcile hydropower and sediment transport in the Mekong Basin through optimal sequencing of dam portfolios, in 2018 AGU Fall Meeting, New Orleans, USA, 11-15 December 2018.
- [E.77] G.M. Kondolf, R. Schmitt, P.A. Carling, S.E. Darby, M.E. Arias, S. Bizzi, **A. Castelletti**, T.A. Cochrane, S. Gibson, M. Kummu, Z. Rubin, and T.B Wild, Losing ground in mega-deltas: basin-scale response to existential threats to the Mekong Delta, in 2018 AGU Fall Meeting, New Orleans, USA, 11-15 December 2018.
- [E.78] M. Giuliani, **A. Castelletti**, and P. Block, Improving seasonal forecasts of hydroclimatic variables through the state of multiple large-scale climate signals
- [E.79] M. Zaniolo, M. Giuliani, and **A. Castelletti**, Design and application of drought indexes in highly regulated mediterranean water systems, in 2018 AGU Fall Meeting, New Orleans, USA, 11-15 December 2018.
- [E.80] J.D. Quinn, P.M. Reed, M. Giuliani, **A. Castelletti**, J. Oyler, and R. Nicholas, Exploring How Changing Monsoonal Dynamics and Human Pressures Challenge Multi-Reservoir Management of Food-Energy-Water Tradeoffs, in 2018 AGU Fall Meeting, New Orleans, USA, 11-15 December 2018.
- [E.81] S. Denaro, M. Giuliani, **A. Castelletti**, and G.W. Characklis, Index-based insurance contracts to foster cooperation between agents exposed to uncorrelated drought and flooding risks, in 2018 AGU Fall Meeting, New Orleans, USA, 11-15 December 2018.
- [E.82] M. Giuliani, R. Fedorov, **A. Castelletti**, and P. Fraternali, Using web content for informing water management in snow-dominated catchments, in The 8th International Congress on Environmental Modeling and Software (iEMSs 2016), Toulouse France, 2016 (oral).
- [E.83] M. Giuliani and **A. Castelletti**, Is Robustness Really Robust? How Different Definitions of Robustness Impact Decision-making Under Climate Change, in World Environmental & Water Resources Congress (ASCE EWRI 2016), West Palm Beach, FL, USA, 2016. (oral)
- [E.84] A. Cominola, M. Giuliani, **A. Castelletti**, E. Spang, and J. Lund, Unveiling residential water consumers? behavior and profiles through machine learning techniques, in World Environmental & Water Resources Congress (ASCE EWRI 2016), West Palm Beach FL, USA, 2016. (oral)
- [E.85] E. Mason, M. Giuliani, **A. Castelletti**, and F. Amigoni, Modelling water operators' time varying risk aversion by an agent-based multi lateral negotiation protocol, in World Environmental & Water Resources Congress (ASCE EWRI 2016), West Palm Beach FL, USA, 2016. (oral)
- [E.86] J. Zatarain-Salazar, P. M. Reed, J. Quinn, M. Giuliani, and **A. Castelletti**, Balancing Exploration, Uncertainty and Computational Time in Many-Objective Reservoir Policy Optimization, in World Environmental & Water Resources Congress (ASCE EWRI 2016), West Palm Beach, FL, USA, 2016. (oral)
- [E.87] D. Anghileri, N. Voisin, **A. Castelletti**, F. Pianosi, B. Nijssen, and D. P. Lettenmaier, Value of long-term streamflow forecast to reservoir operations for water supply in snow-dominated catchments, in World Environmental & Water Resources Congress (ASCE EWRI 2016), West Palm Beach, FL, USA, 2016. (oral)
- [E.88] D. Anghileri, M. Botter, **A. Castelletti**, and P. Burlando. Exploring the impact of co-varying water availability and energy price on productivity and profitability of Alpine hydropower. European Geosciences Union General Assembly, Vienna, Austria, 17 – 22 April 2016.
- [E.89] D. Anghileri, F. Giudici, **A. Castelletti**, and P. Burlando. Advancing reservoir operation description in physically based hydrological models. European Geosciences Union General Assembly, Vienna, Austria, 17 – 22 April 2016.

- [E.90] D. Anghileri, **A. Castelletti**, and P. Burlando. Alpine hydropower in a low carbon economy: Assessing the local implication of global policies. European Geosciences Union General Assembly, Vienna, Austria, 17 – 22 April 2016.
- [E.91] M. Giuliani, A. Cominola, A. Alsahaf, **A. Castelletti**, and M. Anda, Data-driven behavioural modelling of residential water consumption to inform water demand management strategies, in EGU General Assembly, Vienna (Austria), 2016. (oral)
- [E.92] M. Giuliani, J. Quinn, J. D. Herman, **A. Castelletti**, and P. M. Reed, Scalable multi-objective control for large scale water resources systems under uncertainty, in EGU General Assembly, Vienna (Austria), 2016. (oral)
- [E.93] Y. Li, M. Giuliani, **A. Castelletti**, and P. M. Reed, Resolving Multi-Stakeholder Robustness Asymmetries in Coupled Agricultural and Urban Systems, in EGU General Assembly, Vienna (Austria), 2016. (oral)
- [E.94] Y. Li, M. Giuliani, and **A. Castelletti**, Assessing the value of post-processed state-of-the-art long-term weather forecast ensembles for agricultural water management mediated by farmers' behaviours, in EGU General Assembly, Vienna (Austria), 2016.
- [E.95] V. Pham, M. Giuliani, and **A. Castelletti**, ENSO detection and use to inform the operation of large scale water systems, in EGU General Assembly, Vienna (Austria), 2016. (oral)
- [E.96] L. Bellagamba, S. Denaro, J. Kern, M. Giuliani, **A. Castelletti**, and G. Characklis, Designing and assessing weather-based financial hedging contracts to mitigate water conflicts at the river basin scale. A case study in the Italian Alps, in EGU General Assembly, Vienna (Austria), 2016. (poster)
- [E.97] R. Fedorov, M. Giuliani, **A. Castelletti**, and P. Fraternali, Putting humans in the loop: Using crowdsourced snow information to inform water management, in EGU General Assembly, Vienna (Austria), 2016. (poster)
- [E.98] T. Ketelsen, M. Giuliani, **A. Castelletti**, V. A. Nguyen, Y. Yamabayashi, and M. Kato, Hydro-resilience: understanding the impacts of climate change on the long-term performance of hydropower in Southeast Asia, in 6th International Conference on Water Resources and Hydropower Development in Asia, Vientiane, Lao PDR, 2016. (oral)
- [E.99] A. Cominola, M. Giuliani, **A. Castelletti**, D. Piga, and A. E. Rizzoli, Modeling and managing urban water demand through smart meters: Benefits and challenges from current research and emerging trends, in 2015 AGU Fall Meeting, San Francisco (California), 2015. (oral)
- [E.100] E. Mason, P. Gazzotti, F. Amigoni, M. Giuliani, and **A. Castelletti**, Modelling Tradeoffs Evolution in Multipurpose Water Systems Operation in Response to Extreme Events, in 2015 AGU Fall Meeting, San Francisco (California), 2015. (oral)
- [E.101] S. Galelli, A. Alsahaf, M. Giuliani, and **A. Castelletti**, Yielding physically-interpretable emulators – A Sparse PCA approach, in 2015 AGU Fall Meeting, San Francisco (California), 2015. (poster)
- [E.102] A. Cominola, M. Giuliani, D. Piga, **A. Castelletti**, A.E. Rizzoli, The Smarth2O platform: advancing residential water management by smart metering and data intensive modeling of consumers' behaviors. EWRI World Congress, May 17-21, Austin, TX, 2015 (poster).
- [E.103] Y. Li, M. Giuliani, **A. Castelletti**, An agent based decision framework to advance agricultural water management under global change. EWRI World Congress, May 17-21, Austin, TX, 2015 (oral).
- [E.104] J. Zatarain Salazar, P.M. Reed, J. Herman, M. Giuliani, **A. Castelletti**, Diagnostic Assessment of the Difficulty using Direct Policy Search in Many-Objective Water Reservoir Control. EWRI World Congress, May 17-21, Austin, TX, 2015 (oral).
- [E.105] M. Giuliani, **A. Castelletti**, F. Pianosi, E. Mason, P.M. Reed, Curses, tradeoffs, and scalable management: advancing evolutionary multi-objective direct policy search to improve water reservoir operations. EWRI World Congress, May 17-21, Austin, TX, 2015 (oral).

- [E.106] **A. Castelletti**, M. Giuliani, J. Zatarain-Salazar, J. Hermann, F. Pianosi, P.M. Reed, Challenges and Benefits of Direct Policy Search in Advancing Multiobjective Reservoir Management, Geophysical Research Abstracts. Vienna, 12-17 2015, vol. 17 (invited)
- [E.107] D. Anghileri, **A. Castelletti**, P. Burlando, Operation of hydropower generation systems in the Alps under future climate and socio-economic drivers, Geophysical Research Abstracts. Vienna, 12-17 2015, vol. 17 (oral)
- [E.108] S. Culley, S. Noble, M. Timbs, A. Yates, M. Giuliani, **A. Castelletti**, H. Maier, S. Westra, A bottom-up, vulnerability-based framework for identifying the adaptive capacity of water resources systems in a changing climate, Geophysical Research Abstracts. Vienna, 12-17 2015, vol. 17 (oral)
- [E.109] A. Alshahaf, M. Giuliani, S. Galelli, **A. Castelletti**, Model reduction of process-based hydro-ecological models: a comparison between projection- and selection-based methods, Geophysical Research Abstracts. Vienna, 12-17 2015, vol. 17 (poster)
- [E.110] M. Giuliani, D. Anghileri, **A. Castelletti**, R. Soncini-Sessa, The role of water reservoir operation in climate change impact assessments: expanding uncertainties and evolving tradeoffs, Geophysical Research Abstracts. Vienna, 12-17 2015, vol. 17 (poster)
- [E.111] S. Denaro, D. Anghileri, **A. Castelletti**, E. Fumagalli, M. Giuliani, Modeling the water-energy nexus under changing energy market and climate conditions: a case study in the Italian Alps, Geophysical Research Abstracts. Vienna, 12-17 2015, vol. 17 (poster)
- [E.112] **A. Castelletti**, S. Galelli, M. Giuliani, Dynamic emulation modelling for the optimal operation of water systems: an overview, AGU Fall Meeting, San Francisco, CA, 15-22 December 2014 (invited)
- [E.113] J. Zatarain-Salazar, P.M. Reed, J. Herman, M. Giuliani, **A. Castelletti**, Diagnostic Assessment of the Difficulty Using Direct Policy Search in Many-Objective Reservoir Control, AGU Fall Meeting, San Francisco, CA, 15-22 December 2014 (poster)
- [E.114] R. Schmitt, S. Bizzi, **A. Castelletti**, Integrating Sediment Connectivity into Water Resources Management Through a Graph Theoretic, Stochastic Modeling Framework, AGU Fall Meeting, San Francisco, CA, 15-22 December 2014 (poster)
- [E.115] M. Giuliani, D. Anghileri, **A. Castelletti**, M. Micotti, R. Soncini-Sessa, E. Weber, Integrated and Sustainable Water Management of Red–Thai Binh Rivers System Under Change, AGU Fall Meeting, San Francisco, CA, 15-22 December 2014 (oral)
- [E.116] S. Galelli, M. Giuliani, **A. Castelletti**, A. Alshahaf, Projection- vs. selection-based model reduction of complex hydro-ecological models, AGU Fall Meeting, San Francisco, CA, 15-22 December 2014 (poster)
- [E.117] A. Cominola, R. Nanda, M. Giuliani, D. Piga, **A. Castelletti**, A.E. Rizzoli, A. Maziotis, P. Garone, J. Harou, The SmartH2O project: a platform supporting residential water management through smart meters and data intensive modeling, AGU Fall Meeting, San Francisco, CA, 15-22 December 2014 (oral)
- [E.118] Y. Li, **A. Castelletti**, M. Giuliani, Assessing the Value of Post-processed State-of-the-art Long-term Weather Forecast Ensembles within An Integrated Agronomic Modelling Framework, AGU Fall Meeting, San Francisco, CA, 15-22 December 2014 (poster)
- [E.119] S. Denaro, M. Giuliani, **A. Castelletti**, Informing Water Management by Direct Use of Snow Information as Surrogate of Medium-to-Long Range Streamflow Forecast, AGU Fall Meeting, San Francisco, CA, 15-22 December 2014 (poster)
- [E.120] **A. Castelletti**, M. Giuliani, R. Soncini-Sessa, Integrated and Sustainable Water Management of Red-Thai Binh Rivers System, EWRI World Congress, Portland, OR, 1-4 June 2014. (oral)
- [E.121] M. Giuliani, J. Herman, **A. Castelletti**, P. Reed, A decision analytic framework to overcome policy inertia and myopia in river basin management, EWRI World Congress, Portland, OR, 1-4 June 2014.

- [E.122] D. Anghileri, D. Spartá, **A. Castelletti**, M. Boschetti. Impact of deforestation on local precipitation patterns over the da river basin, Vietnam. EGU General Assembly, Vienna, A, Geophysical Research Abstracts. Vienna, 27 April - 2 May 2014, vol. 16.
- [E.123] S. Galelli, A. Goedbloed, P. Schmitter, **A. Castelletti**. Conjunctively optimizing flash flood control and water quality in urban water reservoirs by model predictive control and dynamic emulation. Geophysical Research Abstracts. Vienna, 27 April - 2 May 2014, vol. 16. (poster)
- [E.124] G. Humphrey, S. Galelli, **A. Castelletti**, H. Maier, G. Dandy, M. Gibbs, Automatic input selection for hydrological modelling: a comparative analysis. Geophysical Research Abstracts. Vienna, 27 April - 2 May 2014, vol. 16. (oral)
- [E.125] M. Giuliani, J.D.Herman, **A. Castelletti**, P.M. Reed. Many-objective reservoir policy identification and refinement to reduce institutional myopia in water management. Geophysical Research Abstracts. Vienna, 27 April - 2 May 2014, vol. 16. (oral)
- [E.126] M. Giuliani, E. Mason, **A. Castelletti**, F. Pianosi. Universal approximators for multi-objective direct policy search in water reservoir management problems: a comparative analysis. Geophysical Research Abstracts. Vienna, 27 April - 2 May 2014, vol. 16. (poster)
- [E.127] M. Giuliani, J.D. Herman, **A. Castelletti**, and P.M. Reed. Many-objective reservoir policy identification and refinement to reduce institutional myopia in water management. In 2013 AGU Fall Meeting, San Francisco, CA, 9-13 December 2013. (oral)
- [E.128] H.B. Greer, H.R. Maier, **A. Castelletti**, S. Galelli, G.C. Dandy, M.S. Gibbs, A new evaluation framework for input variable selection algorithms used in environmental modelling, MODSIM 2013, Adelaide, AUS, 1-6 December 2013. (oral)
- [E.129] M. Giuliani, Y. Li, M. Mainardi, C. Arias Munoz, **A. Castelletti**, and C. Gandolfi. Co-adapting water demand and supply to changing climate in agricultural systems, a case study in Northern Italy. In 2013 AGU Fall Meeting, San Francisco, CA, 9-13 December 2013. (oral)
- [E.130] D. Anghileri, N. Voisin, F. Pianosi, **A. Castelletti**, B. Nijssen, D.P. Lettenmaier, How good do seasonal streamflow forecasts need to be to improve reservoir operation? In 2013 AGU Fall Meeting, San Francisco, CA, 9-13 December 2013. (oral)
- [E.131] R.J. Schmitt, D. Bernardi, S. Bizzi, **A. Castelletti**, R. Soncini-Sessa, Complementing data-driven and physically-based approaches for predictive morphologic modeling: Results and implication from the Red River Basin, Vietnam, In 2013 AGU Fall Meeting, San Francisco, CA, 9-13 December 2013. (poster)
- [E.132] M. Giuliani and **A. Castelletti**, Independent, Coordinated, and Cooperative Management of the Zambezi River via Agent-based Optimization, EWRI World Congress, Cincinnati, OH, 19-23 May 2013 (oral).
- [E.133] L. Cozzi, S. Galelli, S. Jolivet, and **A. Castelletti**, Weather models as virtual sensors to data-driven rainfall predictions in urban watersheds. Geophysical Research Abstracts. Vienna, 07-12 April, vol. 15, 2013. (poster)
- [E.134] S. Denaro, Q. Dinh, S. Bizzi, D. Bernardi, S. Pavan, **A. Castelletti**, L. Schippa, and R. Soncini-Sessa, Balancing hydropower production and river bed incision in operating a run-of-river hydropower scheme along the River Po. Geophysical Research Abstracts. Vienna, 07-12 April, vol. 15, 2013. (poster)
- [E.135] L. Alberti, G. Oberto, F. Pianosi, and **A. Castelletti**, Optimal design of saltwater intrusion control systems by Global Interactive Response Surfaces: the Nauru island case study. Geophysical Research Abstracts. Vienna, 07-12 April, vol. 15, 2013. (poster)
- [E.136] M. Giuliani, M. Mainardi, **A. Castelletti**, and C. Gandolfi, Water demand and supply co-adaptation to mitigate climate change impacts in agricultural water management. Geophysical Research Abstracts. Vienna, 07-12 April, vol. 15, 2013. (oral)

- [E.137] S. Bizzi, **A. Castelletti**, A. Cominola, E. Mason, and K. Paik A multi-objective optimization framework to model 3D river and landscape evolution processes. Geophysical Research Abstracts. Vienna, 07-12 April, vol. 15, 2013. (poster)
- [E.138] D. Anghileri, **A. Castelletti**, F. Pianosi, R. Soncini-Sessa, and E. Weber, Optimizing watershed management by coordinated operation of storing facilities. Geophysical Research Abstracts. Vienna, 07-12 April, vol. 15, 2013. (poster)
- [E.139] F. Recanati, **A. Castelletti**, P. Melià, and G. Dotelli, Assessing food security in water scarce regions by Life Cycle Analysis: a case study in the Gaza strip. Geophysical Research Abstracts. Vienna, 07-12 April, vol. 15, 2013. (poster)
- [E.140] R. Schmitt, S. Bizzi, and **A. Castelletti**, Data mining of external and internal forcing of fluvial systems for catchment management: A case study on the Red River (Song Hong), Vietnam. Geophysical Research Abstracts. Vienna, 07-12 April, vol. 15, 2013. (poster)
- [E.141] F. Remondi, A.P. Georgakakos, and **A. Castelletti**, A hydrological model for the Sudd wetland using remotely sensed and ground data, Geophysical Research Abstracts. Vienna, 07-12 April, vol. 15, 2013. (poster)
- [E.142] M. Giuliani, J. Herman, **A. Castelletti**, P. Reed, Evolutionary Agent-based Models to design distributed water management strategies, AGU Fall Meeting 2012, San Francisco, CA, December 2012 (poster).
- [E.143] **A. Castelletti** and S. Galelli, Dynamic Emulation Modelling of large physically-based environmental models, AGU Fall Meeting 2012, San Francisco, CA, December 2012 (oral).
- [E.144] M. Giuliani, M. Mainardi, **A. Castelletti**, E. Chiaradia and C. Gandolfi, Coupling pre-season farmers planning and optimal water supply management to mitigate climate change impacts, AGU Fall Meeting 2012, San Francisco, CA, December 2012 (poster).
- [E.145] M. Giuliani and **A. Castelletti**, The role of cooperation and information exchange in transnational river basin: the Zambezi River case, AGU Fall Meeting 2012, San Francisco, CA, December 2012 (poster).
- [E.146] R. Schmitt, S. Bizzi, **A. Castelletti**, Basin-scale characterization of river hydromorphology by map derived information: A case study on the Red River, Vietnam, AGU Fall Meeting 2012, San Francisco, CA, December 2012 (poster).
- [E.147] **A. Castelletti**, Improved reservoir operation by direct use of hydro-meteorological information. Geophysical Research Abstracts. Vienna, 22-27 April, vol. 14, 2012. (invited)
- [E.148] S. Bizzi, **A. Castelletti**, and F. Pianosi, Directly assessing uncertainty in designing the optimal operation of water resources systems by batch mode reinforcement learning. Geophysical Research Abstracts. Vienna, 22-27 April, vol. 14, 2012. (oral)
- [E.149] M. Giuliani, **A. Castelletti**, F. Amigoni, and X. Cai, Multiagent distributed watershed management. Geophysical Research Abstracts. Vienna, 22-27 April, vol. 14, 2012.
- [E.150] F. Pianosi, X. Quach, **A. Castelletti**, and R. Soncini-Sessa, Assessing water reservoir management and development in Northern Vietnam. Geophysical Research Abstracts. Vienna, 22-27 April, vol. 14, 2012. (oral)
- [E.151] **A. Castelletti** and F. Pianosi, Improving water resources system operation by direct use of hydroclimatic Information, AGU Fall Meeting 2011, San Francisco, CA, December 2011 (oral).
- [E.152] **A. Castelletti** and M. Giuliani, Multi-agent water resources management, AGU Fall Meeting 2011, San Francisco, CA, December 2011 (poster).
- [E.153] **A. Castelletti**, S. Galelli, M. Restelli, and R. Soncini-Sessa, A data-driven Dynamic Emulation Modelling approach for the management of large, distributed water resources systems, Geophysical Research Abstracts. Vienna, vol. 13, 2011. (oral).

- [E.154] **A. Castelletti**, P. Tesini, A. Tilmant, and E. Weber, Re-operating a system of multiple reservoirs to reconcile intersectoral competition for water: The Kafue River Basin in Zambia, *Geophysical Research Abstracts*. Vienna, vol. 13, 2011 (poster).
- [E.155] A. Soncini, D. Bocchiola, **A. Castelletti**, and E. Weber, Lake reservoir management under transient climate change in the Italian Alps, *Geophysical Research Abstracts*. Vienna, vol. 13, 2011 (poster).
- [E.156] F. Pianosi, **A. Castelletti**, S. Galelli, M. Restelli, and R. Soncini-Sessa, Reinforcement Learning for multi-objective water system management, *Geophysical Research Abstracts*. Vienna, vol. 13, 2011 (poster).
- [E.157] **A. Castelletti**, S. Galelli, M. Restelli, R. Soncini-Sessa, Batch-mode Reinforcement Learning for improved hydro-environmental systems management, American Geophysical Union (AGU), Fall Meeting 2010, San Francisco, CA, December 2010 (poster).
- [E.158] J.P. Antenucci, **A. Castelletti**, A.V. Lotov, R. Soncini-Sessa, Application of Pareto frontier visualization in drinking water quality planning in Googong Reservoir (Australia), 6th Moscow International Conference on Operation Research, Moscow, RUS, October 2010 (oral).
- [E.159] **A. Castelletti**, S. Galelli, Ensembles of extremely randomized trees and feature ranking for streamflow prediction, European Geosciences Union (EGU), General Assembly 2010, Vienna, Austria, May 2010 (oral).
- [E.160] J.P. Antenucci, L. Biasio, **A. Castelletti**, D. Limosani, F. Pianosi, R. Soncini-Sessa, New approaches for managing source water to meet water treatment targets, 1st IWA (International Water Association) Symposium on Lake and Reservoir Management, National Cheng Kung University, Tainan, Taiwan, June 2009 (oral).
- [E.161] C. Gandolfi, R. Gandolfi, R. Soncini Sessa, D. Agostani, **A. Castelletti**, D. De Rigo, A. Facchi, B. Ortuani, F. Pianosi, M. Rienzner, V. Sacher, L. Tepsich, E. Weber, IWRM in the Adda basin, Northern Italy, *Geophysical Research Abstracts*. Vienna, vol. 9, 2011. (poster).
- [E.162] **A. Castelletti**, G. Garbarini, R. Soncini-Sessa, H. Yajima, Reinforcement learning control of selective withdrawal reservoirs accounting for both quality and quantity targets, *Proceedings of the 18th World IMACS Congress and MODSIM09 International Congress on Modelling and Simulation*. July 13–17, Cairns, Australia, 2009.
- [E.163] **A. Castelletti**, R. Soncini Sessa, E. Weber, TwoLe: a Multi-Objective DSS for Participatory and Integrated Planning of multipurpose reservoir systems, Tutorial at the International Conference on Reservoir Operation and River Management (ICROM), Guangzhou and Three Gorges, China, September 2005 (oral).
- [E.164] **A. Castelletti**, R. Soncini Sessa, Bayesian Belief Network modeling of irrigation district: the Vomano case study, MERIT Workshop, Venice, I, September 2004 (oral).

Theses

- [F.1] **A. Castelletti**, Water reservoir management in stochastic environment, PhD Thesis (Supervisor: R. Soncini-Sessa), Politecnico di Milano, 2005
- [F.2] **A. Castelletti**, Q-learning in the management of water systems, MSc Thesis, Politecnico di Milano, 1999.

Reports

- [G.1] A. De Vita, M. Kannavou, A. Makrysopoulos, A. Carlino, **A. Castelletti**, M. Giuliani, F. Recanatì, P. Zamberletti, C. Kost, S. Langle, Study on US-EU Integrated Power and Water Systems Modelling, European Commission, Directorate-General for Research and Innovation, doi: 10.2777/85572, 2019

Citation report

Number of citations (April 2020)

4710 - GOOGLE SCHOLAR

2517 - ISI WEB OF SCIENCE

3207 - SCOPUS

Hirsch Index (April 2020)

38 - GOOGLE SCHOLAR

31 - SCOPUS

30 - ISI WEB OF SCIENCE

i10-index (April 2020)

82 - GOOGLE SCHOLAR

Milano, January 28th 2021

Andrea Castelletti

