

Andrea Castelletti

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Politecnico di Milano
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KEY INFORMATION

Andrea Castelletti received a MSc degree in Environmental Engineering and a PhD in Information Engineering from Politecnico di Milano (I) in 1999 and 2005. Since 2006 he is Assistant Professor of Natural Resources Management and Integrated Water Resources Management in the School of Civil and Environmental Engineering at the same university. Since 2012 he is lecturing Participatory and Integrated Water Resources Planning at ETH Zurich (CH). He was visiting scholar at IDSIA (CH), Lancaster University (UK), and University of Western Australia. Since 2007 he is Adjunct Professor at the Centre for Water Research of the University of Western Australia. He is also the co-funder and head of the Hydroinformatics Lab at Politecnico di Milano. In 2014 he obtained the National Abilitation as Associate Professor.

Dr. Castelletti is co-author of two international books on integrated water resource management, about 90 publications in international journals (32), book chapters (10) and conference proceedings (50). In 2009 he 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, and in 2013 the Italy-Canada Innovation prize.

Dr. Castelletti serves the scientific community as the chair of the IFAC Technical Committee TC8.3 on Modelling and Control of Environmental Systems (since 2008) and member of the ASCE/EWRI Environmental and Water Resources Systems Technical Committee (since 2011). He is Associate Editor of Water Resources Research, member of the editorial board of Environmental Modelling and Software, and Associate Editor of Acta Geophysica. In 2008 he was given an Outstanding Reviewer Award for his services to Environmental Modelling and Software and in 2012 he received the Editors' Citation for Excellence in Refereeing for Water Resources Research.

EDUCATION

PhD in Information Engineering (cum laude)
Dept. of Electronics and Information

Politecnico di Milano
Milano, I
May 2005

MSc in Environmental and Land Planning
Engineering

Politecnico di Milano
Milano, I
June 1999

CURRENT POSITION

Assistant Professor (Abil. Associate Professor)
Dept. of Electronics, Information, and
Bioengineering

Politecnico di Milano
Milano, I

September 2006 -

Adjunct Professor
Centre for Water Research

University of Western Australia
Perth, WA
January 2008 -

Temporary Lecturer
Dept. of Civil and Environmental Engineering

ETH
Zurich, CH
January 2012 -

PAST POSITIONS

Research Associate
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

Honorary Research Fellow
Centre for Water Research

University of Western Australia
Perth, WA
several times from **August 2009**

JSPS Fellow
Dept. Civil Engineering

Tottori University
Tottori, JAP
July - August 2009

Gledden Research Fellow
Centre for Water Research

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

Visiting Graduate Student
System and Control Group

Lancaster University
Lancaster, UK
September - December 2003

Visiting Graduate Student
Operation Research Group

IDSIA
Lugano, CH
June - December 2001

AWARDS

2013: *Canada-Italy Innovation Award.*

2012: *Editors' Citation for Excellence in Refereeing* for Water Resources Research.

2010: *iEMs 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 Lectures

2014: A. Castelletti, 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, September 17 – 19, 2014, Québec City, Québec, Canada

2012: A. Castelletti, Improved reservoir operation by direct use of hydro-meteorological information. EGU Annual Assembly. Vienna, 22-27 April, 2012.

TEACHING

Lectures

2009- : *Natural Resources Management and Integrated Water Resources Management* (10 ECTS), MSc Geomatic and Environmental Engineering, Politecnico di Milano, Milano, I.

2008- : *Gestione delle Risorse Naturali* (10 ECTS), LS In Ingegneria Ambientale e Territoriale, Politecnico di Milano, Milano, I.

2012- : *Participatory and Integrated Water Resources Planning* (3 ECTS), Master of Advanced Studies (MAS) in Sustainable Water Resources and MSc in Environmental Engineering, ETH, Zurich, CH.

2004-08: *Modellistica e Controllo dei Sistemi Ambientali* (5 ECTS), LS In Ingegneria Ambientale e Territoriale, Politecnico di Milano, Milano, I.

Tutoring (Politecnico di Milano, I)

2004-08: *Modellistica e Controllo dei Sistemi Ambientali*, LS In Ingegneria Ambientale e Territoriale.

2004-05: *Analisi dei Sistemi*, LS In Ingegneria Ambientale e Territoriale.

2003-04: *Modellistica e Simulazione*, LS In Ingegneria Ambientale e Territoriale.

2001-05: *Gestione delle Risorse Naturali*, LS In Ingegneria Ambientale e Territoriale.

PhD and advances courses

2011: *Integrated and Participatory Water Resources Management* (6hrs), Master of Advanced Studies (MAS) in Sustainable Water Resources, ETH, Zurich, CH.

2011: *Integrated and Participatory Management of Water Resources for flood risk mitigation and river quality control: problems, solutions and tools* (20 hrs with R. Soncini-Sessa et al.), Workshop organized by the Polish Minister of Environment, Poland

2010: *Integrated and Participatory Management of Water Resources for flood risk mitigation and river quality control: problems, solutions and tools* (20 hrs with R. Soncini-Sessa et al.), Advanced Course at the Escuela Politecnica do Litoral (ESPOL), Guayaquil, Ecuador

2009: *The Italian/Swiss conflict in the management of Lake Maggiore* (4 hrs with R. Soncini-Sessa), Spring School 2009, Alta Scuola Politecnica, Bardonecchia, I.

2008: *Decision support for flood protection* (6hrs), Master of Advanced Studies (MAS) in Hydraulic Engineering, ETH, Zurich, CH.

2008: *Integrated and Participatory Water Resources Management: problems, solutions and tools* (20 hrs with R. Soncini-Sessa), Advanced Course at the Institute for Water Resources Planning, Hanoi, VN.

2008: *The Italian/Swiss conflict in the management of Lake Maggiore* (4 hrs with R. Soncini-Sessa), Spring School 2008, Alta Scuola Politecnica, Bardonecchia, I.

2005: *Integrated planning and management of water resources* (6hrs) Master in Business and Environmental Management (MEMA), Università Bocconi, Milano.

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

Invited Lectures and Seminars

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

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, CA.

2012: *Interactive response surface using computationally intensive models for lake water quality remedia-*

tion, Singapore Delft Water Alliance, National University of Singapore.

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

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

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

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

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

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

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

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

Supervision of PhD and MSc students

PhD:

2013 - : Quentin Desmèreaux, *Water reservoir operation in snow-affected basins* (co-supervisor, Sherbrooke University)

2013 - : Rafael Schmidt, *Operational hydromorphology: machine learning to improve analysis and operation of fluvial systems*

2013 - : Andrea Cominola, *Water user profiling and modelling using smart sensor and social network data*

2012 - : Li Yu, *Water Management under Global Change*

2010 - 2013: Matteo Giuliani, *Agent-based modeling for water resources management in complex decision-making contexts* (co-supervisor)

2010 - 2013: Daniela Anghileri, *Management of multi-purpose reservoirs under climate change: impact assessment and adaptation strategies* (co-supervisor)

2009 - 2012: Roberta Fornarelli, *An analytical and modelling approach to assess the impact of water transfers on reservoir water quality* (co-supervisor, University of Western Australia)

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

2007 - 2010: Stefano Galelli, *Dealing with complexity and dimensionality in water resources management* (co-supervisor)

2005 - 2008: Francesca Pianosi, *Novel methods for water reservoir management* (co-supervisor)

MSc: supervisor and co-supervisor of more than 30 MSc theses since 2002 on topics related to modelling and control of water resources systems.

RESEARCH PROJECTS

2014-2016: *SmartH2O: an ICT Platform to leverage on Social Computing for the efficient management of Water Consumption*, EU-FP7-ICT, Role: deputy PI and project leader in the research unit at Politecnico di Milano.

2012-2015: *IMRR Integrated and Sustainable Water Management of Red-Thai Binh River System (Vietnam)*,

Italian Ministry of Foreign Affairs, *Role*: leader of two WPs.

2010-2011: *HALTFLOOD: Hydrological models correction by data-driven approaches*, Contract by RSE-WEB spa, *Role*: principal investigator.

2009-2010: *Tono Dam Optimization*, Tottori University for the Japan Ministry of Construction, *Role*: principal investigator.

2007-2009: *CAVE: Using abandoned mine to control floods*, Cariplo Foundation; *Role*: investigator.

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*: project leader in the research unit at Politecnico di Milano.

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*: project leader in the research unit at Politecnico di Milano.

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.

INTERNATIONAL RESEARCH COLLABORATIONS

In addition to funded research projects, Dr. Castelletti is cooperating with a number of researchers worldwide through formal (i.e. a Memorandum of Understanding (MOU) exists) and informal collaborations:

University of Western Australia, AUS (Prof. Jorg Imberger, Dr. Matthew Hipsey), MOU

Lancaster University, UK (Prof. Peter C. Young, Dr. Ben Surridge)

Cornell University, USA (Dr. Patrick Reed), MOU

GeorgiaTech, USA (Prof. Aris Georgakakos)

University of California, Berkeley, USA (Prof. J. Hunt)

University of Illinois at Urbana Champaign, USA (Prof. Ximing Cai)

Singapore University of Technology and Design, Singapore (Dr. Stefano Galelli)

Swiss Technical University of Technology Zurich, CH (Prof. Paolo Burlando, Prof. Wolfgang Kinzelbach)

Laval University, Canada (Prof. Amaury Tilmant)

Technical University of Delft, NL (Prof. Ronald van Nooijen, Prof. Peter-Jules Overloop), MOU

Russian Academy of Science, RUS (Prof. Alexander Lotov), MOU

University of Adelaide, AUS (Prof. Holger Meier, Prof. Graham Dendy)

Korea University, Seoul, K (Prof. Kyungrock Paik)

University of Manchester, UK (Dr. Julien Harou)

Polish Academy of Science, POL (Prof. Renata Romanowicz), MOU

Sherbrooke University, CAN (Prof. Robert Leconte)

University of Washington, USA (Prof. Dennis Lettenmaier, Dr. N. Voisin)

SERVICES

Societies

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

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

Journals

Associate Editor Water Resources Research since 2013.

Member of the editorial board of Environmental Modelling and Software since 2011.

Associate Editor of Acta Geophysica since 2011.

Conferences

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 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, AUS, 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, B, 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, AUS, 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 Agriculture, Horticulture and Post-Harvest Processing*, Kyoto, J, December 2010.

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

Member of the International Organizing Committee of *IFAC Conference on control methodologies and technologies for energy efficiency*, Vilamoura, P, 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, AUS, 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*, Praha, CZ, 4-8 July, 2005.

2004

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

Faculty

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

Member of the University Committee for the Evaluation of Teaching, Politecnico di Milano.

Member of the Advisory board for ERASMUS candidates, Faculty 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 IFAC Technical Committee on Modelling and Control of Environmental Systems (T.C. 8.3), since 2005.

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] 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, *Water Resources Research*, accepted.

- [B.2] R. Schmitt, S. Bizzi, and A. Castelletti, Characterizing fluvial systems by fuzzy signatures of hydromorphological drivers, *Geomorphology*, accepted.
- [B.3] B.W.J. Surridge, S. Bizzi, and A. Castelletti, Coupling explanation and prediction in the modelling of hydroecological data, *Environmental Modelling and Software*, accepted.
- [B.4] M. Giuliani, A. Castelletti, F. Amigoni, and X. Cai, Agent-based optimization as a tool to balance efficiency and practicability in watershed management, *Journal of Water Resources Planning and Management*, accepted.
- [B.5] S. Galelli and A. Castelletti, Assessing the predictive capability of randomized tree-based ensembles in streamflow modelling, *Hydrology and Earth Systems Science* 17, 1-16, 2013.
- [B.6] S. Galelli and A. Castelletti, Tree-based Iterative Input variable Selection for hydrological modelling, *Water Resources Research*, doi: 10.1002/wrcr.20339, 2013.
- [B.7] M. Giuliani and A. Castelletti, Assessing the value of cooperation and information exchange in large water resources systems by agent-based optimization: the Zambezi River basin case, *Water Resources Research*, doi: 10.1002/wrcr.20287, 2013.
- [B.8] F. Pianosi, A. Castelletti, L. Mancusi, and E. Garofalo, Improving flow forecasting by error correction modelling in altered catchment conditions, *Hydrological Processes*, doi:10.1002/hyp.9788, 2013.
- [B.9] 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, doi: 10.1002/wrcr.20295, 2013.
- [B.10] R. Fornarelli, S. Galelli, A. Castelletti, J.P. Antenucci, and C. Marti, An inductive modeling approach to predict phytoplankton dynamics in a reservoir affected by inter-basin water transfers. *Water Resources Research*, 49, doi: 10.1002/wrcr.20268, 2013.
- [B.11] 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*, doi: 10.1061/(ASCE)WR.1943-5452.0000348, 2013.
- [B.12] D. Anghileri, A. Castelletti, F. Pianosi, R. Soncini Sessa, E. Weber, Mitigating conflicts at the watershed scale by centralized operation of storing facilities, *Journal of Water Resources Planning and Management*, doi: 10.1061/(ASCE)WR.1943-5452.0000313, 2013.
- [B.13] 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.14] 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*, doi:10.1016/j.envsoft.2012.03.002, 2012.
- [B.15] A. Castelletti, S. Galelli, M. Ratto, R. Soncini Sessa, P.C. Young, A general framework for Dynamic Emulation Modelling (DEMo) in environmental problems. *Environmental Modelling and Software*, 34, 5-18, 2012.
- [B.16] 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.17] 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.18] 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.19] 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.20] 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.21] 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, doi:10.1016/j.envsoft.2010.05.011, 2010.
- [B.22] A. Castelletti, R. Soncini-Sessa, H. Yajima, Optimal operation of the selective withdrawal system in Tono dam reservoir. *Annual Journal of Hydraulic Engineering*, JSCE , 54, 2010.
- [B.23] 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, 16pp, doi:10.1029/2009WR008389, 2010.
- [B.24] A. Castelletti, F. Pianosi, R. Soncini Sessa, Water reservoir control under economic, social and environmental constraints. *Automatica*, 44(6), 1595–1607, 2008.
- [B.25] 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.26] A. Castelletti, F. Pianosi, R. Soncini Sessa, Receding horizon control for water resources management, *Applied Mathematics and Computation*, 204(2), 621-631, 2008.
- [B.27] 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.28] A. Castelletti, R. Soncini Sessa, Bayesian Networks in water resources planning and management, *Environmental Modelling and Software*, 22(8), 1073-1074, 2007.
- [B.29] A. Castelletti, R. Soncini Sessa, Coupling real time control and socio-economical issues in water system planning, *Environmental Modelling and Software*, 22(8), 1114-1128, 2007.
- [B.30] A. Castelletti, R. Soncini Sessa, Bayesian network and participatory modelling, *Environmental Modelling and Software*, 22(8), 1075-1088, 2007.
- [B.31] 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.32] 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, 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.2] 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.3] A. Becker, A. Castelletti, G.D. Gooch, F.F. Hattermann, S. Kaden, Z.W. Kundzewicz, Y. Laursans, 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.4] 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.5] 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.6] 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.7] 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.8] 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.
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