

# CURRICULUM VITAE ET STUDIORUM

## Dr. Enrico Fortunato Creaco

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D.O.B. 29 May 1978

Abstract

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Enrico Creaco obtained his PhD in Hydraulic Engineering in 2006 and has researched topics pertinent to water and environmental systems for over ten years. Dr Creaco's career began at the Universities of Catania and then Ferrara, Italy, and he obtained an Associate Professor Qualification in the Hydraulics, Hydrology and Hydraulic Infrastructure Sector in December 2013. From May 2014 to June 2015 Dr Creaco took up a Research Fellow post at the University of Exeter and became Assistant Professor at the University of Pavia in September 2015. Since April 2016, he has been Honorary Senior Research Fellow at the University of Exeter. Since December 2016, he has been Adjunct Senior Lecturer at the University of Adelaide. Dr Creaco has been lecturer on hydraulic infrastructures at both undergraduate and postgraduate level and has published more than 50 papers in a variety of international journals. He is Associate Editor of the Journal of Water Resources Planning and Management-ASCE and participated in various national and international research projects.

Bibliometric indicators

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Number of papers on International Journals: 53 (ISI Web of Science) – 52 (Scopus)  
Citations: 553 (ISI Web of Science) – 622 (Scopus)  
H-Index: 14 (ISI Web of Science e Scopus)

Qualifications

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2 December 2013	Associate Professor Qualification in the Hydraulics, Hydrology and Hydraulic Infrastructure Sector
4 April 2006	PhD in Hydraulic Engineering, with thesis entitled “Devices for the Removal of Solids from Sewer Channels. Experimental Investigations and Numerical Models,” under supervision of Prof. Carlo Modica, University of Catania, Italy
July 2002	State examination granting license to practice as Professional Engineer
4 April 2002	5-year degree “cum laude” in Civil Engineering, University of Catania, Italy

## Language Competence

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Italian	Mother-tongue
English	Proficient
French	Basic

## Awards

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2018	Selected by the GII Award Committee for the Junior Marchi Lecture, to be held on 22 June 2018
2016	Appointed “Honorary Senior Research Fellow” at the College of Engineering, Mathematics and Physical Sciences, University of Exeter
2016	Paper “Multi-objective optimization of pipe replacements and control valve installations for leakage attenuation in water distribution networks” is Highly Cited in ISI Web of Science
2014	Winner of the Battle of Background Leakage Assessment for Water Networks, which took place at WDSA 2014
2012	Inserted in the short list of the 5 best young researchers in the field of Hydraulic Engineering in the context of the “Evangelista Torricelli” prize
2011	2011 ASCE Outstanding Reviewer for the Journal of Water Resources Planning and Management

## Research Group Membership

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2018	Action Group CTRL+SWAN of the European Innovation Partnership on Water
2013	Gruppo Italiano Idraulica (GII)
2012	Centro Studi Sistemi Acquedottistici (CSSA)
2005	Associazione Idrotecnica Italiana
2003	Centro Studi Idraulica Urbana (CSDU)

## Research Experience

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February 29 <sup>th</sup> 2016	Visiting Professor at the College of Engineering, Mathematics and Physical Sciences, University of Exeter
March 11 <sup>th</sup> 2016	
September 2015	Assistant Professor at the Department of Civil Engineering and Architecture, University of Pavia in the ICAR/02 scientific and teaching sector
May 2014 – June 2015	Research Fellow in the College of Engineering, Mathematics and Physical Sciences, University of Exeter
Dec 2013	Research Contract at the Department of Engineering, University of Ferrara in the ICAR/02 scientific and teaching sector in the topic “Progettazione ottimale delle reti acquedottistiche – Laboratorio in Rete – Tecnopolo di Ferrara – Terra & Acqua Tech”
Dec 2010 - Nov 2013	Assistant Professor at the Department of Engineering, University of Ferrara in the ICAR/02 scientific and teaching sector
Mar 2009 - Nov 2010	Research Contract at the Department of Engineering, University of Ferrara in the ICAR/02 scientific and teaching sector in the topic “PRRITT 2008 ENVIREN LAB.– Real time control and management of qualitative

	aspects in water distribution networks”; participated in PRIN2008 entitled “Efficiency and reliability in the processes of structural rehabilitation and distributed chlorination”
Dec 2007 - Nov 2008	Research Contract at the Department of Civil and Environmental Engineering, University of Catania in the ICAR/02 scientific and teaching sector in the topic “Numerical models for hydraulic networks”
Oct 2006 - Dec 2006	Research contract with the Department of Civil and Environmental Engineering, University of Catania concerning experimental tests on devices for intercepting sewer sediments in the framework of the project “Methodologies and devices for the management of sediments in sewer systems” of PRIN2005 entitled “Standardization in the design of hydraulic devices in sewer systems”
2003 - 2005	Research activities on sewer solid transport at “LGCIE INSA” center of Lyon (France), overall length of stays abroad – 1 year
2003 - 2005	PhD course in Hydraulic Engineering, University of Catania
Nov 2002 - Dec 2002	Research period at “LGCIE INSA” center of Lyon (France), fully funded by a scholarship from the University of Catania
2002	Participated in the design of the laboratory of Hydraulic Structures at the University of Catania – Enna site and in the set-up of the measurement facilities
2002	Participated in research activities at the Department of Civil and Environmental Engineering, University of Catania in solid transport, <i>real time control</i> and design of combined sewer overflow devices in sewer channels

#### Research Projects

2017/2018	Principal Investigator in project “NEWFRAME - NetWork-based Flood Risk Assessment and Management of Emergencies”, in reply to the Fondazione Cariplo Call on “Ricerca dedicata al dissesto idrogeologico: un contributo per la previsione, la prevenzione e la mitigazione del rischio”, year 2017
2017/2018	UNIPV Scientific Manager in EU project 778136 “Water Quality in Drinking Water Distribution Systems” in reply to Call: H2020-MSCA-RISE-2017
2017/2018	Coordination in the Training Work Package in EU project 778136 “Water Quality in Drinking Water Distribution Systems” in reply to Call: H2020-MSCA-RISE-2017
2014/2015	participation in European Research Project iWIDGET within the Seventh Framework Programme: “Improved Water efficiency through ICT technologies for integrated supply-Demand side management” (Main investigator: Prof. Dragan Savic)
2008-2010	participation in Italian Research Project PRIN 2008: Efficienza ed affidabilità nei processi di riabilitazione strutturale e clorazione distribuita (Main investigator: Prof. Marco Franchini)
2005-2007	participation in Italian Research Project PRIN 2005: Standardizzazione della progettazione dei manufatti idraulici presenti nelle reti di drenaggio urbano (Main investigator: prof. Carlo Modica)

## Seminar and Conference Presentations

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- 5-7 September 2017 CCWI, Sheffield, UK.
- 22-23 June 2017 Seminario Geri, Gaeta, Italy
- 7-9 November 2016 Computing and Control for the Water Industry, Amsterdam, The Netherlands
- 14 -16 September 2016 XXXV Convegno Nazionale di Idraulica e Costruzioni idrauliche, Bologna, Italy
- 28 June -1 July 2016 Novatech, Lyon, France
- 2-4 Sept 2015 Computing and Control for the Water Industry, Leicester, UK
- 14-17 July 2014 Water Distribution Systems Analysis Conference (WDSA 2014), Bari, Italy
- 2-4 Sept 2013 Computing and Control for the Water Industry, Perugia, Italy
- 10-15 Sept 2012 XXXIII Convegno Nazionale di Idraulica e Costruzioni idrauliche, Brescia, Italy
- 14-18 July 2012 HIC 2012 - 10th International Conference on Hydroinformatics "Understanding Changing Climate and Environment and Finding Solutions"
- 24 May 2012 Giornata di studio "Le reti acquedottistiche e di drenaggio: progettazione, manutenzione e sostenibilità alla luce degli aspetti economico-normativi", Ferrara, Italy
- 23-25 May 2012 WaterLossEurope 2012, Ferrara, Italy
- 5-7 Sept 2011 Computing and Control for the Water Industry 2011 "Urban Water Management - Challenges and Opportunities," Exeter, UK
- 12-15 Sept 2010 Water Distribution Systems Analysis Conference (WDSA 2010), Tucson, USA
- 27 June-1 July 2010 Novatech 2010, 7th International Conference on Sustainable Techniques and Strategies in Urban Water Management, Lyon, France
- 21-25 June 2010 SIMAI, X Congresso di Matematica Applicata e Industriale, Cagliari, Italy
- 20 May 2010 Giornata di studio "la gestione delle reti acquedottistiche: dagli aspetti tecnico-progettuali a quelli economico-normativi," Ferrara, Italy
- 17-18 Sept 2009 Quarto Seminario "La ricerca delle perdite e la gestione delle reti di acquedotto," Aversa, Italy
- 9-12 Sept 2008 XXXI Convegno Nazionale di Idraulica e Costruzioni Idrauliche, Perugia, Italy
- 31 Aug-5 Sept 2008 11<sup>th</sup> International Conference on Urban Drainage 11 ICUD, Edinburgh, Scotland
- 17-18 March 2008 Il ciclo delle acque in ambiente urbano. Il contributo di tre programmi di ricerca di interesse nazionale, Bologna, Italy
- 25-28 June 2007 NOVATECH 2007, 6th International Conference on Sustainable Techniques and Strategies in Urban Water Management, Lyon, France
- 17-18 May/6-8 June 2007 Sistemi e Tecnologie Avanzate per il Drenaggio Idraulico Urbano Moderno - STADIUM Politecnico di Milano
- 7-9 March 2007 Il ciclo delle acque in ambiente urbano. Il contributo di tre programmi di ricerca di interesse nazionale, Taormina, Italy
- 10-15 Sept 2006 XXX Convegno di Idraulica e Costruzioni Idrauliche, Roma, Italy

22-26 May 2006	SIMAI, VIII Congresso di Matematica Applicata e Industriale, Ragusa, Italy
7-10 Sept 2004	XXIX Convegno di Idraulica e Costruzioni Idrauliche, Trento, Italy
7-11 Nov 2003	XVIII European Junior Scientist Workshop on “Sewer Processes and Networks,” Almogrove, Portugal
7-10 Nov 2002	XVI European Junior Scientist Workshop on “Real Time Control and Measurement in Urban Drainage systems,” Grammichele, Italy

#### Master Class and Course Presentations

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2010	“L’utilizzo dei modelli EPR (Evolutionary Polynomial Regression)”
2008	Master class “Il comportamento idraulico dei manufatti nelle reti di drenaggio: modellazione sperimentale o numerica?”, coordinated by prof. Corrado Gisonni, in the context of the XXXI Convegno Nazionale di Idraulica e Costruzioni Idrauliche
2004	Master class “Deflussi urbani e corpi idrici ricettori”, coordinated by prof. Carlo Modica, in the context of XXIX Convegno di Idraulica e Costruzioni Idrauliche

#### Invited Conference Presentations

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2013	“Some aspects of the optimal design and management of water supply and sewer systems”, Seminar Series in Urban Water Management, Eawag, Dübendorf
2008	6 <sup>th</sup> Seminar on Real Time Control, in the context of the 11 <sup>th</sup> International Conference on Urban Drainage, 11 ICUD, Edimburgh

#### Courses attended

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2008	“Affidabilità ed efficienza del servizio idrico urbano”, coordinated by Prof. Viviani
2005	“Fenomeni di Trasporto Solido e Rischio Idraulico”, coordinated by Prof. Paris
2004	“Numerical methods for hyperbolic equations and applications”, held by Prof. Toro, University of Trento
2004	Corso di aggiornamento sulla progettazione di opere costiere”, coordinated by Dr. Scaccianoce
2003	“La sistemazione idraulica dei bacini montani”, coordinated by Prof. Maione

#### Invited Examiner of PhD students

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2018	Dr. Rui Pedro Carrapatoso Figueiredo, "Development of innovative methods and modelling approaches towards more balanced and efficient flood risk models", UME, IUSS Pavia, supervisor: Prof. Mario Martina.
2017	Dr. Diego Garcia, “Contribution to Big Data Analytics in Water Networks”, Universitat Politècnica de Catalunya, supervisor: Prof. Joseba Quevedo. President of the Examining Panel.

2017	Dr. Francesca Scarpa, “Functional sectorization and optimization of water distribution networks”, Technical University of Milan, supervisor: Prof. Gianfranco Becciu
2016	Dr. Duc Cong Hiep Nguyen, “Optimal Water Allocation and Scheduling for Irrigation Using Ant Colony Algorithms”, The University of Adelaide, supervisor: Prof. Holger Maier
2016	Dr. Gerard Sanz, Thesis “Demand Modeling for Water Networks Calibration and Leak Localization”, Universitat Politècnica de Catalunya, supervisor: Prof. Ramon Perez
2015	Dr. Irene Fernández, “Optimum management of pressurized irrigation networks”, Universidad de Córdoba, supervisors: Prof. M. Pilar Montesinos Barrios, Dr. Juan Antonio Rodríguez Díaz

#### On-going Work as Editor

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- Associate Editor of Journal of Water Resources Planning and Management, ASCE (since June 2014)
- Guest Editor of Water, MDPI (since October 2017)

#### On-going Work as Journal Reviewer

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- Applied Science, MDPI
- Energies, MDPI
- Engineering Optimization, Taylor & Francis
- Environmental Modelling & Software, Elsevier
- Hydrology research, IWA
- International Journal of Disaster Risk Reduction, Elsevier
- Iranian Journal of Science and Technology Transactions of Civil Engineering, Springer
- Journal of Engineering Mechanics, ASCE
- Journal of Environmental Management, Elsevier
- Journal of Hydraulic Engineering, ASCE
- Journal of Hydraulic Research, IAHR
- Journal of Hydroinformatics, IWA Publishing
- Journal of Water Resources Planning and Management, ASCE
- Journal of Water Supply: Research and Technology-AQUA, IWA
- Journal of Zhejiang University-SCIENCE A, Springer
- Reliability Engineering and System Safety, Elsevier
- Sadhana - Academy Proceedings in Engineering Sciences, Springer
- Sustainability, MDPI
- Urban Water Journal, Taylor & Francis
- Water Research, IWA
- Water, MDPI
- Water Resources Management, Springer
- Water Science and Technology, IWA
- Water Science and Technology-Water Supply, IWA

## Work as Reviewer of Conference Papers

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2013	CCWI 2013
2013	NOVATECH 2013
2012	9th Urban Drainage Modelling (UDM) 2012 International Conference
2011	Fifth Seminar on “La diagnosi e la gestione dei sistemi idrici”
2010	NOVATECH 2010

## Teaching Experience (University)

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December 2016	Adjunct Senior Lecturer in the School of Civil, Environmental and Mining Engineering, University of Adelaide
Settembre 2015- Marzo 2018	Advisor of PhD student Dr. Silvia Tinelli, in collaboration with prof. Ciaponi from the University of Pavia and prof. Juran from NYU, in the development of the PhD work
2017/2018	Lecturer in “Hydrology”, Bachelor Degree in Civil and Environmental Engineering, University of Pavia.
2017/2018	Member of the Teaching Board in the PhD programme in Civil Engineering and Architecture, University of Pavia.
2016/2017	Lecturer in “Hydrology”, Bachelor Degree in Civil and Environmental Engineering, University of Pavia.
2015/2016	Lecturer in “Optimizing the design and management of water distribution networks”, PhD programme in Civil Engineering and Architecture, University of Pavia.
2015/2016	Lecturer in “Applied Hydraulics”, Masters Degree in Civil Engineering, University of Pavia.
2015/2016	Lecturer in “Hydrology”, Bachelor Degree in Civil and Environmental Engineering, University of Pavia.
2014/2015	Exercises in module entitled “ECMM124 Hydroinformatics tools”, lectured by prof. Dragan Savic at the University of Exeter.
2003 - 2018	Advisor and coordinator of numerous dissertations for the following courses: <ul style="list-style-type: none"><li>- Master Degree in Civil Engineering, University of Catania</li><li>- Master Degree in Environmental and Territory Engineering, University of Catania</li><li>- Bachelor Degree in Civil Engineering at the University of Ferrara</li><li>- Bachelor Degree in Civil and Environmental Engineering, University of Pavia.</li><li>- Bachelor Degree in Industrial Engineering, University of Pavia.</li><li>- Master Degree in Civil Engineering, University of Pavia.</li></ul>
2013/2014	Lecturer in “Optimal Management of Water Systems”, Masters in Civil Engineering, University of Ferrara.
2013/2014	Exercises of “Hydraulic Infrastructures”, Masters in Civil Engineering, University of Ferrara.
2012/2013	Lecturer in “Optimal Management of Water Systems”, Masters in Civil Engineering, University of Ferrara.
2012/2013	Exercises of “Hydraulic Infrastructures”, Masters in Civil Engineering, University of Ferrara.

2011/2012	Lecturer in “Optimal Management of Water Systems”, Masters in Civil Engineering, University of Ferrara.
2011/2012	Exercises of “Hydraulic Infrastructures”, Masters in Civil Engineering, University of Ferrara.
2010/2011	Exercises of “Hydraulic Infrastructures”, Masters in Civil Engineering, University of Ferrara.
2007 - 2009	Seminars and teaching support activities, University of Catania
4 April 2006	Named by the Environmental and Territory Engineering Teaching Area Council of the University of Catania as expert on ICAR/02 subjects (i.e. Hydraulic and Maritime Infrastructures and Hydrology)

#### Teaching Experience (non-University)

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2008	Lecturer on IFTS Course for High Level Technician in G.P.S. and G.I.S.
2007	Lecturer on IFTS Course for High Level Technician in Water Systems
2007	Lecturer on Criteria and Instruments for managing wet weather flows
2005/2006	Lecturer on IFTS Course
2003/2004	Lecturer on Acotec Course
2002/2003	Lecturer on Sudget Course (Services and Formation for the Development)

#### Consultancy

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2018	Modelling support to Prof. Hatem Haidar Lebanese, University Faculty of Engineering, in the topic of Energy and leakage optimization in Lebanese water distribution networks
2017	Technical Support to CESI S.p.A. for testing the performance of flow meter through laboratory tests
2009/2010	Consultancy at ACOSSET Spa (water utility in Catania), for developing models for the analysis, design and real time control of water supply and sewer systems
2008/2009	Consultancy at ACOSSET Spa (water utility in Catania), for developing models for the analysis, design and real time control of water supply and sewer systems
2007	Consultancy at COGEN Spa (water utility in Enna), for developing the hydraulic model of the sewer system of Gagliano Castelferrato (EN)

#### Participation in Technological Laboratories and spin-offs

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2018	Member of the Med-Hydro s.r.l. - Coastal and Hydraulic Engineering and Research Spin off
2010/2013	Researcher in the Terra&Acqua Tech Laboratory of the University of Ferrara

#### Additional Note on Scientific Research

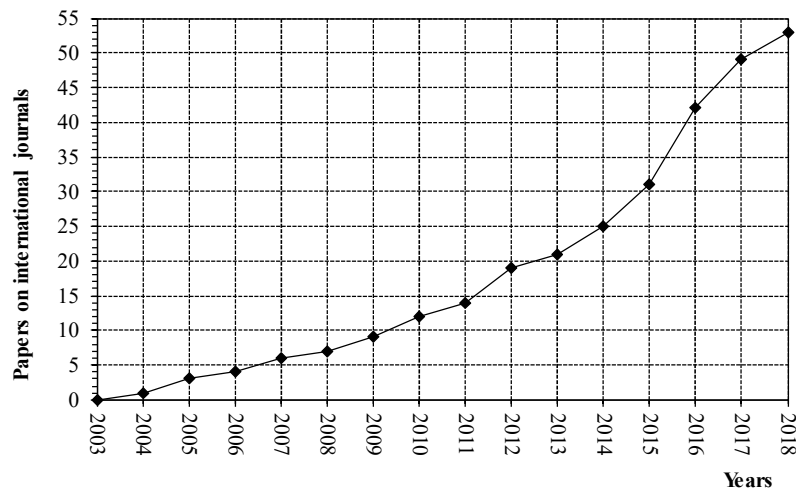
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Author and co-author of about 120 papers (see appendix A and appendix B), which belong to the topics of Hydraulic Infrastructures, Hydrology and Water Resources Management (ICAR/02 scientific and teaching sector):  
54 papers in International Journals (IJ)



5 papers in National Journals (NJ)  
 5 papers in International Books (IB)  
 39 papers presented at International Conferences (IC)  
 17 papers presented at National Conferences (NC)  
 PhD thesis (PhD)  
 Research Report (RR) concerning scientific activities abroad

- Continuity of the scientific productivity: cumulative number of papers on International Journals plotted against time, starting from 2003 (beginning of the PhD programme) (Fig. 1)



**Fig.1** – Total number of journal papers.

## APPENDIX A - LIST OF PAPERS

### International Journals:

- IJ.1 Campisano A., **Creaco E.**, Modica C. (2004). Experimental and numerical analysis of the scouring effects of flushing waves on sediment deposits. *Journal of Hydrology* (ISI), 299(2004), pp. 324-334, Elsevier (ISSN: 0022-1694).
- IJ.2 Campisano A., **Creaco E.**, Modica C. (2005). Discussion of “Gate and Vacuum Flushing of Sewer Sediment: Laboratory Testing” by Qizhong Guo, Chi-Yuan Fan, Ramjee Raghaven and Richard Field. *Journal of Hydraulic Engineering* (ISI), 131(12), pp. 1145-1146, ASCE (ISSN: 0733-9429).
- IJ.3 Bertrand-Krajewski J.-L., Campisano A., E. **Creaco E.**, Modica C. (2005). Experimental analysis of the Hydrass flushing gate and field validation of flush propagation modelling. *Water Science and Technology* (ISI), 51(2), pp. 129-137, IWA Publishing (ISSN: 0273-1223).
- IJ.4 Campisano A., **Creaco E.**, Modica C. (2006). Experimental analysis of the Hydrass flushing gate and laboratory validation of flush propagation modelling. *Water Science and Technology* (ISI), 54(6-7), pp. 101-108, IWA Publishing

(ISSN: 0273-1223).

- 5 IJ.5 Campisano A., **Creaco E.**, Modica C. (2007). Dimensionless approach for the design of flushing gates in sewer channels. *Journal of Hydraulic Engineering* (ISI), 133(8), pp. 964-972, ASCE (ISSN: 0733-9429).
- 6 IJ.6 Campisano A., **Creaco E.**, Modica C., Reitano S. (2007). Sensitivity analysis of the formulas for predicting hiding processes in simulating bed aggradation. *Communications to SIMAI Conferences* (NOT ISI), Vol.2 (ISSN: 1827-9015).
- 7 IJ.7 Campisano A., **Creaco E.**, Modica C. (2008). Laboratory investigation on the effects of flushes on cohesive sediment beds. *Urban Water Journal* (ISI), 5(1), pp. 3-14, Taylor & Francis (ISSN: 1573-062X).
- 8 IJ.8 **Creaco E.**, Bertrand-Krajewski J.L. (2009). Numerical simulation of flushing effect on sewer sediments and comparison of four sediment transport formulas. *Journal of Hydraulic Research* (ISI), 47(2), 195-202 (ISSN: 1814-2079).
- 9 IJ.9 Campisano A., **Creaco E.**, Modica C. (2009). P controller calibration for the real time control of moveable weirs in sewer channels. *Water Science and Technology* (ISI), 59(11), 2237-2244, IWA Publishing (ISSN: 0273-1223).
- 10 IJ.10 Campisano A., **Creaco E.**, Modica C. (2010). RTC of valves for leakage reduction in water supply networks. *Journal of Water Resources Planning and Management* (ISI), 136(1), 138-141, ASCE (ISSN: 0733-9496).
- 11 IJ.11 **Creaco E.**, Campisano A., Khe A., Modica C., Russo G. (2010). Head reconstruction method to balance flux and source terms in shallow water equations. *Journal of Engineering Mechanics* (ISI), 136(4), 517-523, ASCE (ISSN: 0733-9399).
- 12 IJ.12 **Creaco E.**, Franchini M., Alvisi S. (2010). Optimal placement of isolation valves in water distribution systems based on valve cost and weighted average demand shortfall. *Water Resources Management* (ISI), 24(15), 4317–4338 (ISSN: 0920-4741).
- 13 IJ.13 Campisano A., **Creaco E.**, Modica C. (2011). A simplified approach for the design of infiltration trenches. *Water Science and Technology* (ISI), 64(6), 1362-1367, IWA Publishing (ISSN: 0273-1223).
- 14 IJ.14 Alvisi S., **Creaco E.**, Franchini M. (2011). Segment identification in water distribution systems. *Urban Water Journal* (ISI), 8(4), 203–217, Taylor & Francis (ISSN: 1573-062X).
- 15 IJ.15 Alvisi S., **Creaco E.**, Franchini M. (2012). Crisp discharge forecasts and grey uncertainty bands using data-driven models. *Hydrology Research* (ISI), 43(5), 589-602, IWA Publishing (ISSN: 0029-1277).
- 16 IJ.16 **Creaco E.** (2012). Closure to Head reconstruction method to balance flux and source terms in shallow water equations by Creaco E., Campisano A., Khe A., Modica C., Russo G. *Journal of Engineering Mechanics* (ISI), 138(5), 553–554, ASCE (ISSN: 0733-9399).
- 17 IJ.17 **Creaco E.**, Franchini M., Alvisi S. (2012). Evaluating water demand shortfalls in

- segment analysis. *Water Resources Management* (ISI), 26(8), 2301–2321 Springer (ISSN: 0920-4741).
- 18 IJ.18 **Creaco E.**, Franchini M. (2012). Fast network multi-objective design algorithm combined with an a-posteriori procedure for reliability evaluation under various operational scenarios. *Urban Water Journal* (ISI), 9(6), 385-399, Taylor & Francis (ISSN: 1573-062X).
- 19 IJ.19 **Creaco E.**, Franchini M. (2012). A dimensionless procedure for the design of infiltration trenches. *Journal American Water Works Association* (ISI), 104(9), 45-46 (extended paper published on-line pages E501-E509) (ISSN: 2164-4535).
- 20 IJ.20 Campisano A., **Creaco E.**, Modica C. (2013). Numerical modelling of sediment bed aggradation in open rectangular drainage channels. *Urban Water Journal* (ISI), 10(6), 365-376, Taylor & Francis (ISSN: 1573-062X).
- 21 IJ.21 **Creaco E.**, Franchini M. (2013). A new algorithm for the real time pressure control in water distribution networks. *Water Science and Technology-Water Supply* (ISI), 13(4), 875-882 IWA Publishing (ISSN: 1606-9749).
- 22 IJ.22 **Creaco E.**, Franchini M., Walski T.M. (2014). Accounting for phasing of construction within the design of water distribution networks. *Journal of Water Resources Planning and Management* (ISI), 140(5), 598-606, ASCE (ISSN: 1943-5452).
- 23 IJ.23 Farina G., **Creaco E.**, Franchini M. (2014). Using EPANET for modelling water distribution systems with users along the pipes. *Civil Engineering and Environmental systems* (ISI), 31(1), 36-50, Taylor & Francis (ISSN: 1028-6608).
- 24 IJ.24 Marchi A., Salomons E., Ostfeld A., Kapelan Z., Simpson A.R., Zecchin A.C., Maier H.R., Wu Z.Y., Elsayed S. M., Song Y., Walski T., Stokes C., Wu W., Dandy G. C., Alvisi S., **Creaco E.**, Franchini M., Saldarriaga J., Páez D., Hernández D., Bohórquez J., Bent R., Coffrin C., Judi D., McPherson T., van Hentenryck P., Matos J.P., Monteiro A.J., Matias N., Yoo D.G., Lee H.M., Kim J.H., Iglesias-Rey P. L., Martínez-Solano F.J., Mora-Meliá D., Ribelles-Aguilar J.V., Guidolin M., Fu G., Reed P., Wang Q., Liu H., McClymont K., Johns M., Keedwell E., Kandiah V., Jasper M.N., Drake K., Shafiee E., Barandouzi M.A., Berglund A.D., Brill D., Mahinthakumar G., Ranjithan R., Zechman E.M., Morley M.S., Tricarico C., De Marinis G., Tolson B.A., Khedr A., Asadzadeh M. (2014). The Battle of the Water Networks II (BWN-II). *Journal of Water Resources Planning and Management* (ISI), 140(7), 04014009-1-14, ASCE (ISSN: 0733-9496).
- 25 IJ.25 **Creaco E.**, Franchini M. (2014). Comparison of Newton-Raphson Global and Loop Algorithms for Water Distribution Network Resolution. *Journal of Hydraulic Engineering* (ISI), 140(3), 313-321, ASCE (ISSN: 0733-9429).
- 26 IJ.26 **Creaco E.**, Franchini M., Walski T.M. (2015). Taking Account of Uncertainty in Demand Growth When Phasing the Construction of a Water Distribution Network. *Journal of Water Resources Planning and Management* (ISI), 141(2), 04014049-1-13, ASCE (ISSN: 0733-9496).

- 27 IJ.27 **Creaco E.**, Pezzinga G. (2015). Multi-objective optimization of pipe replacements and control valve installations for leakage attenuation in water distribution networks. *Journal of Water Resources Planning and Management* (ISI), 141(3), 04014059, ASCE (ISSN: 0733-9496).
- 28 IJ.28 **Creaco E.**, Pezzinga G. (2015). Embedding Linear Programming in Multi Objective Genetic Algorithms for Reducing the Size of the Search Space with Application to Leakage Minimization in Water Distribution Networks. *Environmental Modelling & Software* (ISI), 69, 308-318.
- 29 IJ.29 Wang Q., **Creaco E.**, Franchini M., Savic D., Kapelan Z. (2015). Comparing Low and High-Level Hybrid Algorithms on the Two-Objective Optimal Design of Water Distribution Systems. *Water Resources Management* (ISI), 29(1), 1-16, Springer (ISSN: 0920-4741).
- 30 IJ.30 **Creaco E.**, Farmani R., Kapelan Z., Vamvakeridou-Lyroudia L., Savic D. (2015). Considering the mutual dependence of pulse duration and intensity in models for generating residential water demand. *Journal of Water Resources Planning and Management* (ISI), doi: 10.1061/(ASCE)WR.1943-5452.0000557, ASCE (ISSN: 0733-9496).
- 31 IJ.31 **Creaco E.**, Fortunato A., Franchini M., Mazzola M.R. (2015). Water distribution networks robust design based on energy surplus index maximization. *Water Science & Technology: Water Supply* (ISI), 15(6), 1253-1258, IWA Publishing (ISSN: 1606-9749).
- 32 IJ.32 Campisano A., **Creaco E.**, Modica C. (2016). Application of Real-Time Control Techniques to Reduce Water Volume Discharges from Quality-Oriented CSO Devices. *Journal of Environmental Engineering* (ISI), 142(1): 04015049, ASCE (ISSN: 0733-9372).
- 23 IJ.33 **Creaco E.**, Franchini M., Todini E.. (2016). The combined use of resilience and loop diameter uniformity as a good indirect measure of network reliability. *Urban Water Journal* (ISI), 13(2), 167-181, Taylor and Francis (ISSN: 1573-062X).
- 34 IJ.34 **Creaco E.**, Franchini M., Walski T.M. (2016). Comparison of various phased approaches for the constrained minimum-cost design of water distribution networks. *Urban Water Journal* (ISI), 13(3), 270-283, Taylor and Francis (ISSN: 1573-062X).
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- 120 NC.17 Ciaponi C., **Creaco E.**, Tinelli S. (2017). Contaminazioni nelle reti idriche: sistemi di monitoraggio e di allarme. Atti del Corso "Tecniche per la Difesa del Suolo e dall'Inquinamento - XXXVIII Edizione", Editoriale Bios.

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#### **Research report:**

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## **APPENDIX B – HIGHLIGHTS OF THE RESEARCH ACTIVITY**

The most representative papers to describe the research activity are those published on the international journals (IJ.1-IJ.54).

The main topics dealt with during the research activities are:

1. Management of rainwaters in urban drainage systems
2. Management and removal of solids from sewer systems

3. Simulation and management of water supply systems
4. Optimal design of water distribution networks
5. Protection of water distribution networks from contamination events
6. Numerical modeling of shallow waters and solid transport in rivers
7. Application of statistical methodologies to problems of Hydrology and Hydraulic Infrastructures
8. Analysis of the demand in water distribution systems
9. Optimization of irrigations networks.

Pavia, May 31st 2018

(Dr. Enrico F. Creaco)

