PERSONAL INFORMATION

Enrico F. Creaco

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ORCID ID 0000-0003-4422-2417

Sex Male Date of birth 29/05/1978 | Nationality Italy

Current Position Full Professor of Hydraulic Infrastructures and Hydrology at the University of Pavia

Enterprise	University	EPR
☐ Management Level	☒ Full professor	☐ Research Director and 1st level Technologist / First Researcher and 2nd level Technologist / Principal Investigator
☐ Mid-Management Level	☐ Associate Professor	☐ Level III Researcher and Technologist
☐ Employee / worker level	☐ Researcher and Technologist of IV, V, VI and VII level / Technical collaborator	☐ Researcher and Technologist of IV, V, VI and VII level / Technical collaborator

WORK EXPERIENCE

From 01/08/2023

Full Professor of Hydraulic Infrastructures and Hydrology

- Conducting and leading research activities in the context of the Hydraulic Infrastructures and Hydrology Sector (Management of urban drainage systems, management of water quality in sewer systems, Simulation, management and optimal design of water distribution networks, protection of water distribution networks from contamination events, application of statistical methodologies to problems of hydrology and hydraulic infrastructures, analysis and modelling of demand in water distribution networks, optimization of irrigation networks, modelling of landslide triggering and runoff)

Business or sector University

From 01/09/2018 to 31/7/2023

Associate Professor of Hydraulic Infrastructures and Hydrology

Dipartimento di Ingegneria Civile e Architettura (DICAr) – Università degli Studi di Pavia

- Conducting and leading research activities in the context of the Hydraulic Infrastructures and Hydrology Sector (Management of urban drainage systems, management of water quality in sewer systems, Simulation, management and optimal design of water distribution networks, protection of water distribution networks from contamination events, application of statistical methodologies to problems of hydrology and hydraulic infrastructures, analysis and modelling of demand in water distribution networks, optimization of irrigation networks, modelling of landslide triggering and runoff)

Business or sector University

From 01/09/2015 to 31/08/2018

Assistant Professor of Hydraulic Infrastructures and Hydrology

Dipartimento di Ingegneria Civile e Architettura (DICAr) – Università degli Studi di Pavia

- Conducting and leading research activities in the context of the Hydraulic Infrastructures and Hydrology Sector (Management of urban drainage systems, management of water quality in sewer systems, Simulation, management and optimal design of water distribution networks, protection of water distribution networks from contamination events, application of statistical methodologies to problems of hydrology and hydraulic infrastructures, analysis and modelling of demand in water distribution networks, optimization of irrigation networks, modelling of landslide triggering and runoff)

Business or sector University

From 01/05/2014 to 31/06/2015

Research Fellow

College of Engineering, Mathematical and Physical Sciences (CEMPS) – University of Exeter

- Conducting research activities in the context of the modelling and optimization of urban hydraulic infrastructures

From 01/12/2010 to 30/04/2014

Assistant Professor of Hydraulic Infrastructures and Hydrology

Dipartimento di Ingegneria – Università degli Studi di Ferrara

- Conducting research activities in the context of the modelling and optimization of urban hydraulic infrastructures

Business or sector University

From 01/03/2009 to 30/11/2010 **Research Fellow**

Dipartimento di Ingegneria – Università degli Studi di Ferrara

- Conducting research activities in the context of the modelling and optimization of urban hydraulic infrastructures

Business or sector University

From 01/11/2007 to 30/10/2008 **Research Fellow**

Dipartimento di Ingegneria Civile e Ambientale – Università degli Studi di Catania

- Conducting research activities in the context of the modelling and optimization of urban hydraulic infrastructures

Business or sector University

From 2002 to 2005 **PhD Student**

Dipartimento di Ingegneria Civile e Ambientale – Università degli Studi di Catania

- Conducting research activities in the context of magagement and removal of sewer sediments

Business or sector University

From 2002 to 2002 **Visiting Researcher**

LGCIE – INSA, Lyon, France

- Conducting research activities in the context of magagement and removal of sewer sediments

Business or sector University

EDUCATION AND TRAINING

2006 **PhD in Hydraulic Engineering**

Università degli Studi di Catania

- Experimental Thesis: " Devices for the Removal of Solids from Sewer Channels. Experimental Investigations and Numerical Models".

2002 **(Bachelor + Master) 5 year Degree in Civil Engineering**

Università degli Studi di Catania

- Experimental Thesis: "Il Dimensionamento dello sfioratore laterale nel caso di coefficienti di efflusso variabili lungo la soglia"

WORK ACTIVITIES (last 5 years)

Awards

2023 - Inserted in the Top 2% Scientists' list in the database "Baas, Jeroen; Boyack, Kevin; Ioannidis, John P.A. (2021), "October 2023 data-update for "Updated science-wide author databases of standardized citation indicators"", Mendeley Data, V4, doi: 10.17632/btchxktzyw.6"

2022 - Inserted in the Top 2% Scientists' list in the database "Baas, Jeroen; Boyack, Kevin; Ioannidis, John P.A. (2021), "September 2022 data-update for "Updated science-wide author databases of standardized citation indicators"", Mendeley Data, V4, doi: 10.17632/btchxktzyw.4"

2022 - Second Place at the Battle Of Intermittent Water Supply, WDSA/CCWI 2022

2022 - Best Paper Award al 5th EWaS International Conference

2021 - Inserted in the Top 2% Scientists' list nel database "Baas, Jeroen; Boyack, Kevin; Ioannidis, John P.A. (2021), "August 2021 data-update for "Updated science-wide author databases of standardized citation indicators"", Mendeley Data, V3, doi: 10.17632/btchxktzyw.3"

2020 - Excellent Reviewer of the Journal Water

2019 - Best Associate Editor of the Journal of Water Resources Planning and Management

Editorial activity

Associate Editor of Journal of Water Resources Planning and Management – ASCE

Editorial Board of Scientific Reports – Nature and Sustainable Cities and Societies – Elsevier

Editorial Board and Section Board of Water-MDPI

Guest Editor of Water-MDPI for the following special issues: "Smart Urban Water Networks", "Advances in Modeling and Management of Urban Water Networks", "Advances in Water Distribution Networks", "Smart Technologies in Urban Water Systems"

Guest Editor of Sustainability-MDPI for the following special issue: "Sustainable Urban

Stormwater Management"
Topic Editor "Resilience of Interdependent Urban Systems", MDPI

Invited presentations

2023 – Presentation on climate change and urban water systems for an event at the University of Pavia

2018 - Selected by the Award Committee del Gruppo Italiano Idraulica for the Junior Marchi Lecture

Grants

2023 Work of consultancy "Methodologies and Algorithms for improving the performance of optimization algorithms" for the University of Coimbra. Funding: € 15,800 + VAT

2022-2025 Scientific manager for the University of Pavia for the project entitled "URCA! Urban Resilience to Climate Change: to Activate participatory mapping and decision support tool for enhancing the sustainable urban drainage", in reply to the 2020 PRIN call (total funding 598,243 €, 91,715 € of which for prof. Creaco's team)

2022 Work of consultancy entrusted by "Consorzio di Bonifica della Media Pianura Bergamasca", about the design of irrigation networks. Funding: € 38,000 + VAT

2020-2022 Leader of WP1.4 "Development of a hydrologic model for runoff assessment in reply to climate change scenarios", in the context of the CE4WE project "Circular Economy for Water and Energy", in reply to the Hub Ricerca e Innovazione call (total funding 2,000,000€, 90,000 € of which for prof. Creaco's team)

2020 Principal Investigator in a study entrusted by Accenture on the valorization of water resources at the national level, on behalf of the Ministery of Economics. Total funding: 161,400 € + VAT

2018-2021 Principal Investigator in project "NEWFRAME - NetWork-based Flood Risk Assessment and Management of Emergencies", in reply to the Fondazione Cariplo Call on "Research on Hydrologic Instability: a contribution to forecast, prevent and mitigate risk", year 2017 (total funding 144,000, 72,000 € of which for Prof. Creaco's team)

2018-2019 Scientific Manager for the University of Pavia and WP leader in EU project 778136 "Water Quality in Drinking Water Distribution Systems" in reply to Call: H2020-MSCA-RISE-2017 (total funding 243,000 €, 18,000 € of which for Prof. Creaco's team)

2018 Work of consultancy entrusted by Prof. Hatem Haidar from Lebanese University, about "Energy and leakage optimization in Lebanese water distribution networks". Funding: 4,000 €

ADDITIONAL INFORMATION

Publications

total number of publications in peer-review journals: 119 based on SCOPUS and ISI Web of Science

total number of citations: 2,513 based on SCOPUS

H index: 29 based on SCOPUS

Some relevant publications:

GULLOTTA, A., CAMPISANO, A., CREACO, E. ET AL. A SIMPLIFIED METHODOLOGY FOR OPTIMAL LOCATION AND SETTING OF VALVES TO IMPROVE EQUITY IN INTERMITTENT WATER DISTRIBUTION SYSTEMS. WATER RESOUR MANAGE (ISI), 35, 4477–4494 (2021).

JIA Y., ZHENG F., MAIER H.R., OSTFELD A., CREACO E., SAVIC D., LANGEVELD J., KAPELAN Z. (2021). WATER QUALITY MODELING IN SEWER NETWORKS: REVIEW AND FUTURE RESEARCH DIRECTIONS. WATER RESEARCH (ISI), 202, 117419, ISSN 0043-1354.

PALAZZOLO N, PERES DJ, BORDONI M, MEISINA C, CREACO E, CANCELLIERE A. (2021). IMPROVING SPATIAL LANDSLIDE PREDICTION WITH 3D SLOPE STABILITY ANALYSIS AND GENETIC ALGORITHM OPTIMIZATION: APPLICATION TO THE OLTREPÒ PAVESE. WATER (ISI), 2021; 13(6):801.

MANENTI S., AMICARELLI A., PALAZZOLO N., BORDONI M., CREACO E., MEISINA C. (2020). POST-FAILURE DYNAMICS OF RAINFALL-INDUCED LANDSLIDE IN OLTREPÒ PAVESE. WATER (ISI), 12, 2555.

CREACO E., HAIDAR H. (2019). MULTIOBJECTIVE OPTIMIZATION OF CONTROL VALVE INSTALLATION AND DMA CREATION FOR REDUCING LEAKAGE IN WATER DISTRIBUTION NETWORKS. J. WATER RESOUR. PLANN. MANAGE., 2019, 145(10): 04019046.

TODESCHINI S., MANENTI S., CREACO E. (2019). TESTING AN INNOVATIVE FIRST FLUSH IDENTIFICATION METHODOLOGY AGAINST FIELD DATA FROM AN ITALIAN CATCHMENT. JOURNAL OF ENVIRONMENTAL MANAGEMENT 246 (2019) 418–425.

CREACO, E., WALSKI, T. (2017). ECONOMIC ANALYSIS OF PRESSURE CONTROL FOR LEAKAGE AND PIPE BURST REDUCTION. JOURNAL OF WATER RESOURCES PLANNING AND MANAGEMENT (ISI), DOI: 10.1061/(ASCE)WR.1943-5452.0000846, ASCE (ISSN: 0733-9496).

TINELLI, S., CREACO, E., CIAPONI, C. (2017). SAMPLING SIGNIFICANT CONTAMINATION EVENTS FOR OPTIMAL SENSOR PLACEMENT IN WATER DISTRIBUTION SYSTEMS. JOURNAL OF WATER RESOURCES PLANNING AND MANAGEMENT (ISI), DOI: 10.1061/(ASCE)WR.1943-5452.0000814, ASCE (ISSN: 0733-9496).

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), HTTPS://DOI.ORG/10.1061/(ASCE)EE.1943-7870.0001013.

CREACO E., BERARDI L., SUN S., GIUSTOLISI O., SAVIC D. (2016). SELECTION OF RELEVANT INPUT VARIABLES IN STORMWATER QUALITY MODELLING BY MULTI-OBJECTIVE EVOLUTIONARY POLYNOMIAL REGRESSION PARADIGM. WATER RESOURCES RESEARCH (ISI), 52(4), 2403-2419, AGU (ISSN: 1944-7973).

CREACO E., FRANCHINI M., TODINI E. (2016). GENERALIZED RESILIENCE AND FAILURE INDICES FOR USE WITH PRESSURE DRIVEN MODELING AND LEAKAGE. JOURNAL OF WATER RESOURCES PLANNING AND MANAGEMENT (ISI), 142(8): 04016019, ASCE (ISSN: 0733-9496)., ASCE (ISSN: 0733-9496).

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).

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).

CREACO E., FRANCHINI M., WALSKI T.M. (2015). TAKING ACCOUNT OF UNDERTAINTY IN DEMAND GROWTH WHEN PHASING THE CONSTRUCTION OF A WATER DISTRIBUTION NETWORK. JOURNAL OF WATER RESOURCES PLANNING AND MANAGEMENT (ISI), 141(2), 04014049, ASCE (ISSN: 0733-9496).

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).

Date: Pavia, 17 November 2023

Signature: Enrico F. Creaco