

PERSONAL INFORMATION

Full Name: Massimiliano Cremonesi

Nationality: Italian

Birthdate and place: July, 3rd 1982 - Orzinuovi (BS), Italy

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EDUCATION

2010 Ph.D. in Structural, Earthquake and Geotechnical Engineering Politecnico di Milano (Italy)

Title: A Lagrangian finite element method for the interaction between flexible structures and free surface fluid flows Supervisor: Prof. U. Perego

2006 Master Degree in Mathematical Engineering, Politecnico di Milano (Italy)

2004 Bachelor Degree in Mathematical Engineering, Politecnico di Milano (Italy)

CURRENT POSITION

2019 Associate Professor of Solid and Structural Mechanics, Department of Civil and Environmental Engineering, Politecnico di Milano (Italy)

PREVIOUS POSITIONS

2014 – 2019 Assistant Professor of Solid and Structural Mechanics, Department of Civil and Environmental Engineering, Politecnico di Milano (Italy)

2012 – 2014 PostDoc at Department of Civil and Environmental Engineering, Politecnico di Milano

2011 PostDoc at Laboratoire de Mécanique et Technologie (LMT), École Normale Supérieure de Cachan, (France)

2010 PostDoc at Department of Structural Engineering, Politecnico di Milano (Italy)

TEACHING ACTIVITIES

2017 - 2022 Teacher of the course *Solid and Structural Mechanics* for Building Engineering, 9 ECTS, Politecnico di Milano, Italy

2016 – 2017 Teacher of the course *Mathematics and Solid Mechanics* for Environmental Architecture, 4 ECTS, Politecnico di Milano, Italy

2015 - 2022 Teacher of the course *Solid and Structural Mechanics* for Environmental Architecture, 8 ECTS, Politecnico di Milano, Italy

2014 - 2015 Teacher of the course *Statics and principles of structural behavior for Environmental Architecture*, 4 ECTS, Politecnico di Milano, Italy

2007 – 2014 Teaching assistant of the different courses of *Computational Mechanics, Advanced Computational Mechanics, Solid and Structural Mechanics, Fracture Mechanics* for Civil, Mathematical and Mechanical Engineering

Advanced teaching activities:

2021 Director of the advanced course on “Particle-Based Methods in Engineering and Applied Science”, Hamburg, Germany, 2-3 October, 2021

2019 -2021 Teacher of the course “Advanced topics in the finite element method for structural analysis”, Politecnico di Milano, 3 editions

SUPERVISION OF GRADUATE STUDENTS AND POSTDOCTORAL FELLOWS

2010 – date Supervisor of 25 Master students in Civil Engineering and 2 Master students in Mathematical Engineering.
Supervisor of 4 Ph.D. students in Structural, Earthquake and Geotechnical Engineering (2 ongoing).
Supervisor of 4 PostDoc fellows (2 ongoing).

PUBLICATIONS:

Author of 28 papers in peer-reviewed journals (top-ranked in the field of Computational Mechanics). According to the database Scopus at the current date (2022, March) MC has 787 citations and an h-index of 16. According to Google Scholar: citations number: 1051, h-index= 17.

CONFERENCES:

MC always participated actively in the national and international conferences in the area of Computational Mechanics, as testified by the more than 50 papers presented (of which 10 by invitation of the Organizers). He has been selected as invited plenary speaker for the conference “Scientific Computing in Electrical Engineering” (October, 2016), selected as “Keynote” Lecturer at “ECCOMAS Coupled Conference 2017 (June, 2017) and plenary lecturer at the Italian Conference of Applied and Theoretical Mechanics (September, 2019). MC has been invited to give seminars in different Institutions (e.g. TU Delft, University of Liege,...).

AWARDS AND ACKNOWLEDGEMENTS

2019 “AIMETA Junior” Prize for Mechanics of Solids and Structures (awarded, on a biennial basis, by the Italian Association of Theoretical and Applied Mechanics (AIMETA) to young (i.e., under 38) Italian scientists for outstanding research results

2016 Selected as a member of the Young Investigator Committee of ECCOMAS (European Community on Computational Methods in Applied Sciences). The Young Investigator Committee is composed of young scientists (40 years old or younger) with the final aim of promoting the activities of young researchers in the field of computational science.

2013 Awarded by NVIDIA Corporation with a computing graphics processing unit (GPU Tesla K20) for the development of scientific research

2012 National French qualification to the position of “Maître de conférences”, sector 60, Mécanique, génie mécanique, génie civil

2011 Finalist of the 1st PhD Olympiads (European competition for the best PhD thesis on Computational Mechanics)

ORGANISATION OF SCIENTIFIC MEETINGS

2023 Chairman and Organizer of the International Conference “Particles2023” organized by ECCOMAS and IACM, Milano” 9-11 October, 2023

2021 Organizer of the symposium “Particle-Based Methods For Natural Hazards Simulation” at Particles 2021, 4-6 October, 2021

2021 Organizer of the symposium “Advances in particle-based methods for the simulation of coupled problems” at Coupled2021, 13-26 June, 2021

2020 Organizer of the symposium “Numerical Simulation of Natural Hazards” at World Congress in Computational Mechanics and ECCOMAS Congress 2020, 19-24 July, 2020

2019 Organizer of the symposium “Particle-Based Methods for the Simulation of Natural Hazards” at Particles 2019, 28-30 October, 2019

2018 Organizer of the symposium “Numerical Simulation of Landslides and Debris Flows” at World Congress in Computational Mechanics, New York City, 22-27 July, 2018

2017 Chairman and Organizer of the International Conference “Young Investigator Conference

2017” organized by ECCOMAS (European Community on Computational Methods in Applied Sciences), Milano, 13-15 September 2017

INSTITUTIONAL RESPONSIBILITIES

- 2021 Member of a Committee for the recruitment of 4 Assistant Professors University of Pavia (Italy)
- 2021 to date Member of a Board of the PhD Course in Structural, Earthquake and Geotechnical Engineering
- 2019 to date Supervisor of Computational Mechanics Laboratory - Department of Civil and Environmental Engineering, Politecnico di Milano (Italy)
- 2019 to date Member of 5 Committees for a PhD Defence: University of Swansea (UK), University of Pavia (Italy), Politecnico di Milano (Italy), University of Liege (Belgium), Universitat Politècnica de Catalunya (Spain)
- 2010 to date Reviewer for the principal journal in the field of Computational Mechanics (approximately 15 reviews per year)

MEMBERSHIPS OF SCIENTIFIC SOCIETIES:

- 2018 – to date EUROMECH - European Mechanics Society
- 2017 – to date SISCO – Italian Association of Solid and Structural Mechanics
- 2007 – to date AIMETA – Italian Association of Theoretical and Applied Mechanics

FUNDING

2019-2021 *XFAST-SIMS: Extra fast and accurate simulation of complex structural systems*, PRIN project, funded by Ministry of Education, University and Research, MC coordinator of the local unit, amount Local Unit 140k€ (Global project 878k€)

2021 Numerical simulations of Archimedes Springs, DEMAC s.r.l., MC scientific coordinator, 37 k€

2020 Finite element numerical simulation of mechanical parts, DEMAC s.r.l., MC scientific coordinator 35 k€

2017 *Implementation of Vermeer-Neher elasto-visco-plastic constitutive law in a Abaqus user subroutine*, ENI s.p.a., MC, U. Perego and A. Ghisi scientific coordinators, 15k€

2016 *Numerical simulation of current interrupter*, Pfisterer S.r.l, MC scientific coordinator 1.5 k€

2016 *Lagrangian Approaches for the Modelling of Vacuum Arcs in 3D*, ABB Switzerland Ltd, Corporate research, MC and A. Frangi scientific coordinators, 34k€

2015 *Lagrangian Approaches for the Modelling of Vacuum Arcs in 3D*, ABB Switzerland Ltd, Corporate research, MC and A. Frangi scientific coordinators, 50k€

Participation in national and international projects:

2012-2013 member of a research unit of the European project GO4TIME “GLObal, Flexible, On demand and Resourceful Timing IC & MEMS Encapsulated System” (project funded by European Commission under the seventh framework program) local coordinator: A. Frangi.

2010-2014 member of the research unit of two “high-performance computing” projects. These two competitive projects were granted computing hours on large clusters.

2011 member of a research unit of the national project “Simulation of the dynamic response of structural systems under environmental actions” (project funded by the Italian Ministry of Education and Research) local coordinator: F. Perotti

Milano, March 2022
Massimiliano Cremonesi

