



Marco Mazzuoli

Fixed-term assistant professor

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Education and training

2013

PhD in Fluid Dynamics and Processes in Environmental Engineering

Transition to turbulence in an oscillatory boundary layer and its effects on the motion of a rigid particle - European PhD label

University of Genoa - Genoa - IT

2009

Master Degree Environmental Engineering

Bank stability model in river meandering - 110/110 e lode

University of Florence - Florence - IT

2006

Bachelor of Science Environmental Engineering

110/110

University of Florence - Florence - IT

Academic experience

2018 - ONGOING

Research Fellow (RTD)

DICCA University of Genoa - Genoa - IT

2015 - 2017

Post-doc

DICCA University of Genoa - Genoa - IT

2014 - 2015

Post-doc

Karlsruhe Institute of Technology - Karlsruhe - DE

2013 - 2014

Post-doc

DICCA University of Genoa - Genoa - IT

Language skills

Italian

Mother tongue

English

Proficient

German

Basic

B1 certificate
obtained in
Germany.

Teaching activity

2020 - in course

Teaching the course of "Hydrodynamics" (Nautical engineering, cod. 67397) at DITEN, University of Genoa

2018 - 2020

Co-Teaching the course of "Hydraulics" (Civil Engineering, cod. 60397) at DICCA, University of Genoa

2010

Teaching support to the course of Hydrodynamics 1 at DITEN, University of Genoa

June 2021

Organiser and lecturer of an Advanced Course at International Centre for Mechanical Sciences (CISM), Udine, Italy

Title: 'Physics of granular suspensions: micro-mechanics of geophysical flows' (<https://www.cism.it/en/activities/courses/C2108/>)

Research interests

My research activity focuses on the fluid mechanics related to the geophysical phenomena, in particular the sediment transport and the origin of morphogenetic features in coastal environment.

I am also interested in particulate flows, the rheology of granular suspensions as well as the origin and propagation of debris flows.

Most of my investigations were carried out by means of direct numerical simulations of the basic mechanical processes. However, I had the occasion to study the mechanics of vegetated or artificially reinforced soils and the role of vegetation in the slope stabilization, with laboratory experiments.

Grants

2017 - 2020

NICOP Project pr.nr. 1000006450

ONR Global - US

Principal investigator

Title: "Developing a probabilistic model for sediment transport in oscillatory flow using direct numerical simulations"

2014 - 2016

NICOP Project pr.nr. N6290914PR00165

ONR Global - US

Participant

Title: "Numerical investigation on the effect of turbulent vortices on the incipient erosion of a sand-mud seafloor"

2014 - 2016

Research Project nr. UH 242/4-2

Deutsche Forschungsgemeinschaft (DFG) - DE

Participant

Title: "Open channel flow over fixed spheres"

Editorial activity

Reviewer for prestigious international journals: among others Journal of Fluid Mechanics, International Journal of Multiphase Flow, Journal of Geophysical Research, Advances in Water Resources, European Journal of Mechanics B/Fluids, Geomorphology, Chemical Engineering Science, Journal of Hydraulic Research.

I am reviewer of ERC project proposals for the European Commission as well as of CINECA (Bologna, Italy) HPC project proposals.

Assignments abroad

2019

J1 Program nr. P-1-01285 at University of Florida (UF), Gainesville, FL, USA

Short-Term Scholarship at the UF Department of Mechanical and Aerospace Engineering (MAE), UF

Project granted by Prof. S. Balachandar (CCMT, MAE)

2012

DAAD research grant for "short research periods" at IfH, KIT, Germany

Title: "Numerical investigation of an oscillatory boundary layer over a rough wall"