

## INTRUSION 2023 Schedule

Monday 3 July ArCoD department	Monday 4 July ArCoD department	Wednesday 05 July Department of Mathematics
Opening 8:45 - 9:00	8:45	8:45
<b>Sorin Pop 9:00 - 9:35</b> Non-standard models for flow in porous media	9:00	<b>Florin Radu 9:00 - 9:35</b> Efficient solvers for Richards' equation
<b>Wietse M. Boon 9:35 - 9:55</b> Multipoint mixed finite element methods for rotation-based formulations of Stokes flow and Biot poroelasticity	9:35	<b>Matteo Icardi 9:35 - 9:55</b> High order Projection-based HOMogenisation for advection diffusion reaction problems
<b>Alessio Fumagalli 9:55 - 10:30</b> A machine learning approach that ensure local mass conservation for single-phase flow in fractured porous media	9:55	<b>Ilario Mazzieri 9:55 - 10:30</b> A space-time discontinuous Galerkin method for wave propagation problems in coupled poroelastic-elastic domains
<b>Elena Bachini 10:30 - 10:50</b> Geometrically intrinsic modeling of 2D diffusive wave overland flow for coupled surface-subsurface hydrological applications	10:30	<b>Massimo Frittelli 10:30 - 10:50</b> A bulk-surface reaction-diffusion model for electrodeposition and novel numerical solvers
Coffee break 10:50 - 11:30	10:50	Coffee break 10:50 - 11:30
<b>Amilcare M. Porporato 11:30 - 12:05</b> Moisture fluctuations in soil biogeochemical cycles: from the emblematic case of iron-redox cycles to current challenges	11:30	<b>Giorgio Cassiani 11:30 - 12:05</b> The "true" meaning of Hydrogeophysics: integration of geophysical data with hydrological modeling
<b>Giovanni Girardi 12:05 - 12:25</b> Modeling Water Stress in Root Water Uptake	12:05	<b>Patricia Diaz de Alba 12:05 - 12:25</b> Forward electromagnetic induction modelling in a multilayered half-space: An open-source software tool
<b>Sara Bonetti 12:25 - 13:00</b> Effects of small-scale soil structure features on hydrological, biogeochemical, and geomorphological processes	12:25	<b>Vittorio Di Federico 12:25 - 13:00</b> Non-Newtonian flow in fractured media: from deterministic to random approaches
Lunch break 13:00 - 14:35	13:00	Lunch break 13:00 - 14:15
<b>Massimiliano Ferronato 14:35 - 15:10</b> Numerical models for frictional contact mechanics and flow in fractured porous media	14:15	<b>Vincenzo Casulli 14:15 - 14:50</b> A coupled surface-subsurface model for hydrostatic flows under saturated and variably saturated conditions
<b>Fabio Durastante 15:10 - 15:30</b> Why diffusion-based preconditioning of Richards equation works: spectral analysis and computational experiments at very large scale.	14:35	<b>Shawkat B. M. Hassan 14:50 - 15:00</b> Analysing the role of soil and vegetation spatial variability in modelling hydrological processes for irrigation optimisation at large scale
<b>Fabio Difonzo 15:30 - 15:50</b> Nonnegative moment coordinates on finite element geometries	15:00	<b>Guglielmo F. A. Brunetti 15:00 - 15:10</b> Investigating Hyghly Heterogeneous Aquifers: A Unique Experimental Approach
Coffee break 15:50 - 16:20	15:20	<b>Ahmad R. Faqiri 15:10 - 15:20</b> Evaluation of concrete quality through estimation of absorbed water and water penetration depth using electromagnetic wave radar
<b>Marco Fois 16:20 - 16:30</b> A Semi-Conservative Depth Integrated Material Point Method For Run-Out of Flow-like Landslides and Mudflows	15:40	<b>Fabiano Castrogiovanni 15:20 - 15:30</b> A simplified numerical assessment of excessive DM growth in Self-Forming Dynamic Membrane Bioreactors (SFD MBR) for Wastewater Treatment
<b>Alberth Silgado 16:30 - 16:40</b> A virtual element scheme for the Brinkman model of porous media flow	16:00	<b>Pompilio Vergine 15:30 - 15:40</b> Wetlands deserve specific modelling tools for the effective management of their ecosystem services
<b>Maria C. Bovier 16:40 - 16:50</b> Stochastic Modeling of Anomalous Water Transport	16:20	Closing 15:40 - 16:00
<b>Giovanni V. Spinelli 16:50 - 17:00</b> ModelFreeFFC: A Versatile Tool for Fitting NMRRelaxation Dispersion Curves in Porous Media and Molecular Dynamics Studies	16:40	<b>Sabrina F. Pellegrino 15:50 - 16:10</b> A Spectral Method for a Nonlocal Richards' Equation
<b>Giovanni Pagano 17:00 - 17:10</b> Problem oriented discretizations for a vegetation model	16:00	<b>Alessandro Coclite 16:10 - 16:30</b> A finite difference scheme for nonlinear peridynamics
Discussion 17:10 - 17:30	16:20	16:20
17:30	17:00	17:00
17:30	Social tour in Bari vecchia 17:00 - 19:00 The tour will start from Bari Cathedral	17:00
20:00	20:00	20:00
20:00	Social dinner at "Al Sorso Preferito" 20:00	20:00