

GDRI GEOMECH

Multi-Physics and Multiscale Couplings in Geo-environmental Mechanics

Annual Seminar

La Rochelle, 11-13 June 2018

Program

Monday June, 11th

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| 10h00-11h30 | | |
| 11h30-12h00 | Opening | O. Millet & F. Nicot |
| 12h00-12h30 | Material instability: a general overview | F. Nicot, Irstea Grenoble |
| 12h30-14h00 | <i>Lunch (Résidence Lafayette)</i> | |
| 14h00-15h00 | Rupture of a dilatant region located at a compressed geological interface | P. Selvadurai, Mc Gill University |
| 15h00-15h30 | Mechanical modeling of the size effect in granular materials | Z. Yin, GeM |
| 15h30-16h00 | Multiscale modelling of the long term creep of storage concrete | F. Grondin, GeM |
| 16h00-16h30 | <i>Coffee Break</i> | |
| 16h30-17h00 | On a discrete element method to develop thermo-elastic coupling using a model of thermal expansion | G. Alhadj Hassan, LTI |
| 17h00-17h30 | DEM-FEM coupling method to simulate thermally induced stresses and local damage in composite materials | W. Leclerc, LTI |
| 17h30-18h00 | A Halo based approach to better control the stress field dispersion in 3D Discrete Element Method (DEM) simulation | D. Moukadiri, LTI |
| 18h30-20h00 | Discussions | |
| 20h00-22h00 | <i>Dinner (Résidence Lafayette)</i> | |

Tuesday June, 12th

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| 09h00-10h00 | Artificial intelligence, a new paradigm of knowledge | F. Darve, 3SR Grenoble |
| 10h00-10h30 | Generalized geometry in Mechanics | V. Salnikov, LaSIE |
| 10h30-11h00 | <i>Coffee Break</i> | |
| 11h00-11h30 | Build and analyze a baked anode material with <i>PFC</i> | F. Dedecker, Itasca |
| 11h30-12h00 | Discrete modeling for civil engineering applications: contribution of the High Performance Computing (HPC) | P. Pizette, IMT Douai |
| 12h00-12h30 | Micromechanics-based constitutive modelling of granular materials taking into account fabric evolution | C. Zhao, LaSIE-Twente University |
| 12h30-14h00 | <i>Lunch (Résidence Lafayette)</i> | |
| 14h00-14h30 | Flow control using reduced order models | C. Allery, LaSIE |
| 14h30-15h00 | Towards a monolithic Discrete Element and Multi-physics solver utilizing the GPU | J. Joubert, IMT Douai |
| 15h00-15h30 | On the stabilizing role played by rattlers in granular materials | A. Wautier, Irstea Grenoble |
| 15h30-16h00 | Multiscale modelling of cohesive granular materials: possible ways to extend the 3D H-model | M. Miot, Irstea Grenoble |
| 16h00-16h30 | <i>Coffee Break</i> | |
| 17h30-20h00 | Cross-team collaborations | |
| 20h00-22h30 | <i>Dinner (in La Rochelle inner city)</i> | |

Wednesday June, 13th

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| 09h00-9h30 | Second-grade elasticity revisited | F. Froiio, ECL-LTDS A. Zervos, Univ. Southampton |
| 9h30-10h00 | Some recent results on capillary bridges properties | H. Nguyen, LaSIE |
| 10h00-10h30 | Dilative Behavior of Kaolinite under Drained Creep Condition | M. Hattab, LEM3 |
| 10h30-11h00 | <i>Coffee Break</i> | |
| 11h00-11h30 | Crack initiation and propagation of clayey materials under bending test related to initial suction | M. Jrad, LEM3 |
| 11h30-12h00 | DEM Calibration Procedure for Bulk Physical Tests | S. Ben Turkia, IMT Douai |
| 12h00-12h30 | Conclusions and perspectives | |
| 12h30-14h00 | <i>Lunch (Résidence Lafayette)</i> | |
| 14h00-15h00 | Small discussion groups | |
| 15h00 | <i>End of meeting</i> | |