

Session 1 - Thursday, 07 May 08:30–10:15

1. Granular process in Geophysical flows

Conveners: Philippe Frey, Alexandre Valance and Manousos Valyrakis

EGU2020-2074 solicited

[A simple transport rate relation that unifies aeolian and fluvial nonsuspended sediment transport](#) | **Highlight**

Thomas Pähtz and Orencio Duran

EGU2020-2218

[Have we misunderstood the Shields curve?](#) | **Highlight**

Orencio Duran Vinent and Thomas Pähtz

EGU2020-21795 solicited

[Taking into account granular bed resistance in turbulent bedload transport with arbitrary slope and particle shape](#) | **Highlight**

Raphaël Maurin, Remi Monthiller, and Laurent Lacaze

EGU2020-10688

[Compaction front controls soil liquefaction dynamics of drained saturated grain layers, as evident by theory, numerical simulations and lab experiments](#)

Shahar Ben-Zeev, Einat Aharonov, Liran Goren, Renaud Toussaint, and Stanislav Parez

EGU2020-7631

[On the effect of surface roughness on velocity profiles and runout lengths of dry granular flows](#)

Lukas Reider and Roland Kaitna

EGU2020-22050

[High speed granular flows down inclines](#)

Zhu Yajuan, Renaud Delannay, and Alexandre Valance

EGU2020-5806

[Formation of stable aggregates by fluid-assembled solid bridges](#)

Douglas Jerolmack and Ali Seiphoori

2. Focus on segregation

Conveners: Philippe Frey, Alexandre Valance and Kimberly Hill

EGU2020-78

[Discrete element methods and continuum models in bedload transport](#)

Philippe Frey, Hugo Rousseau, Rémi Chassagne, Raphaël Maurin, and Julien Chauchat

EGU2020-9539

[Continuous modeling of grain size segregation in bedload transport](#)

Hugo Rousseau, Rémi Chassagne, Julien Chauchat, and Philippe Frey

EGU2020-9367

[Discrete simulations of an armoured sediment bed during bedload transport](#)

Rémi Chassagne, Raphaël Maurin, Julien Chauchat, and Philippe Frey

EGU2020-21839

[Unexpected segregation patterns in high speed granular flows](#)

Alexandre Valance, Renaud Delannay, and Aurelien Neveu

EGU2020-10063

[Experimental analysis of segregation in granular flows](#)

Silvia D'Agostino

EGU2020-21072

[Large-scale flume modelling of segregation processes in debris flows](#)

Julia Kimball and W Andrew Take

3. Sediment transport and morphodynamics

Conveners: Eric Lajeunesse, Philippe Frey and Manousos Valyrakis

EGU2020-2758

[Self-organisation of morphology and sediment transport in alluvial rivers](#) | **Highlight**

Eric Lajeunesse, Anais Abramian, and Olivier Devauchelle

EGU2020-21783

[Response of a coastal lagoon sediment budget to extreme events and climate change implications: The case of the Bay of Cadiz](#) | **Highlight**

Madeline LeBlanc, Theocharis Plomaritis, and Alejandro Lopez-Ruiz

EGU2020-13595

[Morphodynamic processes of blowout on the fixed dune, China](#)

Yanguang Zhou and Eerdun Hasi

EGU2020-5289

[Suspended load transport in a small tropical catchment: data analysis and modeling](#)

Amande Roque-Bernard, Antoine Lucas, Eric Gayer, Pascal Allemand, and Eric Lajeunesse

Session 2 - Thursday, 07 May 10:45–12:30

3. Sediment transport and turbulence

Conveners: Rui Ferreira, Manousos Valyrakis and Eric Lajeunesse

EGU2020-14748

[On the physical origin of enhanced turbulent-dispersion of 'heavy particles' in suspended-load](#) | [Highlight](#)

Julien chauchat, Thibaud Revil-Baudard, Zhen Cheng, David Hurther, and Tian-Jian Hsu

EGU2020-21982

[Observing and modeling bedload sediment transport at the grain-scale](#) | [Highlight](#)

Eric Deal, Taylor Perron, Jeremy Venditti, Qiong Zhang, Santiago Benavides, and Ken Kamrin

EGU2020-20944

[Controls of boundary conditions on accelerating turbidity currents in a reservoir: Case study of Xiaolangdi Reservoir on the Yellow River, China](#) | [Highlight](#)

Hongbo Ma, Gary Parker, Jeffrey Nittrouer, Brandon McElory, Yuanjian Wang, Xingyu Chen, and Xudong Fu

EGU2020-21416

[Beyond Normality: Estimation of Near-Bed Sediment Concentrations Accounting for Asymmetric Distribution and Spatial Influence of Turbulence Coherent Structures](#)

Christina Tsai and Kuan-Ting Wu

EGU2020-11785

[Addition of fine material is expected to strengthen fluvial dikes ... does it really?](#)

Benjamin Dewals, Ismail Rifai, Kamal El kadi Abderrezzak, Vincent Schmitz, Willi Hager, Damien Violeau, Pierre Archambeau, Michel Piroton, and Sébastien Epicum

EGU2020-9217

[Impulse concept in formulating a unified approach to bedload transport](#)

Panayiotis Diplas and WuRong Shih

EGU2020-10186

[Numerical modelling of particle-fluid interaction in fluvial sediment transport](#)

Gaston Latessa, Dong Xu, Chunling Ji, and Manousos Valyrakis

EGU2020-11570

[Turbulent open-channel flows over mobile granular low-tortuosity beds: velocity distribution and friction factor](#)

Rui M L Ferreira, Rigden Y Tenzin, and Ana M Ricardo

EGU2020-11441

[Turbulence in open-channel flows over granular low-tortuosity beds](#)

Daniela Santos, Rui Aleixo, Ana M. Ricardo, and Rui M. L. Ferreira

4. Sediment transport monitoring and modelling

Conveners: Manousos Valyrakis, Eric Lajeunesse and Rui Ferreira

EGU2020-7333

[Recognition and Occurrence of Different Sediment-Water Flows Triggered by High-Magnitude Hydrological Events in Mountain Catchments](#)

Andrea Brenna, Nicola Surian, Marco Borga, Massimiliano Ghinassi, and Lorenzo Marchi

EGU2020-20770

[Geomorphological hazards assessment using machine learning and data fusion](#)

Mohammad Ahmed, Hamed Farhadi, Panagiotis Michalis, and Manousos Valyrakis

EGU2020-1502

[Assessing energetic flow structures responsible for bridge pier scour](#)

Yi Xu, Manousos Valyrakis, and Panagiotis Michalis

EGU2020-10535

[Development, calibration and testing of a miniaturized instrumented particle for the study of entrainment of solids in turbulent flows](#)

Khaldoon AlObaidi and Manousos Valyrakis

EGU2020-21727

[Assessing sediment transport energetics with instrumented particles for above threshold of motion turbulent flows](#)

Zaid Al-Husban and Manousos Valyrakis

EGU2020-21592

[Scour-resilient bio-inspired geomorphic designs: The Male Japanese Puffer Fish Nest | **Highlight**](#)

Laurence Clement, Callum Campbell, Arezoo Hasibi, Hossein Zare-Behtash, and Manousos Valyrakis

EGU2020-8341

[Bridge pier scour hazards assessment using smart-spheres](#)

Alex Corrigan, Hassan Elmubarak, Yi Xu, Panagiotis Michalis, and Manousos Valyrakis

EGU2020-22209

[A Case Study for Infrastructure Scour Management](#)

Eftychia Koursari, Stuart Wallace, Panagiotis Michalis, Yi Xu, and Manousos Valyrakis

EGU2020-1933

[Remote Real-time Riprap Protection Erosion Assessment on large rivers](#)

Gordon Gilja, Antonija Cikojević, Kristina Potočki, Matej Varga, and Nikola Adžaga

EGU2020-10526

[Monitoring systems for the assessment of water infrastructure hazards due to extreme climatic conditions](#)

Manousos Valyrakis, Panagiotis Michalis, Yi Xu, and Pablo Gaston Latessa

EGU2020-10218

[Innovative geo-monitoring system to assess hydro-hazards at road embankments](#)

Panagiotis Michalis, Yi Xu, Eftychia Koursari, Stuart Wallace, and Manousos Valyrakis

EGU2020-1505

[A regression analysis framework for the prediction of runout distance of landslides: a case study for Sichuan](#)

Peng Gu and Manousos Valyrakis

EGU2020-5866

[Additive Manufacturing of electrical strain gauges for the monitoring of embankment failures](#)

Hao Chen, Panagiotis Michalis, and Manousos Valyrakis