



FLUID-ROCK INTERACTIONS IN **THE SOLAR SYSTEM**

12TH-16TH NOVEMBER 2018

NANTES

2ND GEOPLANET THEMATIC SCHOOL
LECTURES & PRACTICALS IN PLANETARY GEOSCIENCES (INTERIOR AND SURFACE)

[HTTPS://LPG-UMR6112.FR/TS-GEOPLANET](https://lpg-umr6112.fr/ts-geoplanet)



PROGRAM

Lectures

Detection and exploration of water reservoirs in the Solar System

Christophe Sotin – NASA Jet Propulsion Laboratory

Role of water and other volatiles on planetary geodynamical evolution

Doris Breuer – Deutsches Zentrum für Luft- und Raumfahrt (German Aerospace Center)

Consequences of fluid overpressure on deformation and fracturing of sediments: terrestrial and planetary examples

Edouard Ravier - Géosciences Le Mans

JUICE - Exploration du système de Jupiter

Olivier Grasset – Laboratoire de Planétologie et Géodynamique

Fluid-rock interactions in planetology: from the Earth crust to exoplanets deep interiors

François Guyot - Muséum National d'Histoire Naturelle

Fluid-rock interactions: an experimental perspective

Yann Morizet – Laboratoire de Planétologie et Géodynamique

Morphological expression of fluid-rock interactions on planetary bodies

Susan Conway – Laboratoire de Planétologie et Géodynamique

Earth and planetary hydrothermal systems

Susanne Schwenzer - Open University

Water-rock interactions in icy moons: New insights after Cassini-Huygens

Gabriel Tobie and Gaël Choblet – Laboratoire de Planétologie et Géodynamique

Alteration at the surface of Mars

Laetitia Le Deit - Laboratoire de Planétologie et Géodynamique

Practicals

Upon registration, participants will have to choose one series of practicals (approx. 12 h) out of three sets:

- **Planetary surfaces:**

- **Field excursion at a Brittany coastal cliff: reading weathering and sedimentation in the landscape**

Benjamin Rondeau, Stéphane Pochat, Anne Gaudin, Véronique Carrère and Marion Massé (LPG)

- **Petrological and mineralogical studies of two weathering profiles developed from a mica schiste and a granite** - Anne Gaudin and Véronique Ansan (LPG)

- **Parameters controlling hydrofracturing processes: an experimental modelling approach**

Edouard Ravier, Alain Zanella, David Peigné (Géosciences Le Mans) and Olivier Bourgeois (LPG)

- **Mineral identification and mapping using laboratory/field and imaging spectroscopy**

Véronique Carrère, Marion Massé and Manuel Giraud (LPG)

- **Planetary interiors - Experimentation:**

- **High pressure high temperature peridotite partial melting experiments in presence of a fluid phase**

Yann Morizet (LPG)

- **Laser Ablation Inductively Coupled Plasma Mass Spectrometry (LA-ICP-MS) analyses of partial melting experiments** - Antoine Bezos and Christèle Guivel (LPG)

- **Raman spectroscopy analyses of partial melting experiments** - Yann Morizet and Erwan Le Menn (LPG)

- **Planetary interiors – Numerical modelling:**

Modelling of internal dynamics - Gabriel Tobie (LPG) and Marine Lasbleis (ELSI/LPG)

+ open to all: Demonstration of Virtual Reality Systems

More information: <https://lpg-umr6112.fr/TS-GeoPlaNet>