Harold Clenet

33 ans
French

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PhD in planetary remote sensing

Image Processing

Hyperspectral
- *orbital, airborne, drone, field*
- *VIS-NIR reflectance spectroscopy*
- *non-linear algorithms, innovative techniques*
- *ENVI/IDL and MatLab coding*

GIS
- *ArcGIS and extensions, QGIS*
- *integration of multi-imagery datasets*
- *3D visualization*

High-resolution
- *Calibration / geoprocessing, ISIS3*
- *DEM (ASP stereogrammetry tool)*

Computer

OS : *Windows, Linux*
Office : *Microsoft, OpenOffice*
LaTeX, LyX
Image : *Gimp, Illustrator*
Project: *GIT, Redmine*
Web : *Wordpress*

Communication

Community manager *web, twitter*
Public outreach

Other professional skills

Project management
International collaboration
Reviewer for 6 journals

Languages

English
fluent
German
beginner

Other

Car, Motorbike

Sport

Sci-Fi litterature, swimming, hiking

Work experience

2012 - 2015 : Scientist at Ecole Polytechnique Fédérale de Lausanne (EPFL), Lausanne, Suisse.

Remote sensing of planetary surfaces (Earth, asteroid Vesta, Moon)

- Study of asteroid Vesta's geological history combining hyperspectral imagery and 3D numerical simulations of impacts
- Development of a non-linear unmixing algorithm combined to the detection of anomalies
- Science leader for the feasibility study of a constellation of small hyperspectral satellites to observe water and vegetation (SOLVE project)
- Lecturer in units *Introduction to Planetary Sciences* and *Living on Mars*
- Publication of 2 papers (including 1 in *Nature)*, 2 papers in preparation, and presentations in 5 international conferences

2009 - 2012 : Scientist at Ecole Normale Supérieure de Lyon and Université Claude Bernard Lyon 1, Lyon, France.

Geology of planetary surfaces using spectral analysis of magmatic rocks (Mars and Moon) and of their alteration products (Mars).

- Processing of hyperspectral images (non-linear inversion, neural networks), high-resolution morphological analyses and GIS integration
- Lecturer (~300h) at Licence and Master levels, mostly in remote sensing, GIS and geophysics
- Students advising including a Licence 2 (1 month) and a Master 2 (6 months, co-advising)
- Publication of 4 papers in international reviewed journals, 1 paper in preparation, and presentations in 9 international conferences

2005-2009 : PhD in Planetary Sciences, Institut de Recherche en Astrophysique et Planétologie, Toulouse, France

Composition of planetary surfaces (Earth and Mars) using orbital and airborne reflectance spectroscopy.

- Development and implementation of an non-linear inversion algorithm (Modified Gaussian Model) for automatic processing of visible-near inrared hyperspectral data
- Acquisition of field data and sample analyses
- Publication of 5 papers in international reviewed journals and presentations in 5 international conferences

Education

09/2005- 06/2009 : PhD in Planetary Sciences, Toulouse, France

Hyperspectral remote sensing for the study of Earth and Mars geology

2003 - 2005 : Research Master in Planetary Sciences, Nantes, France

Hyperspectral remote sensing of planetary surfaces

2000- 2003 : Licence in Earth Sciences, Clermont - Ferrand, France

Remote sensing and physic applied to Earth sciences