

Labex UnivEarthS

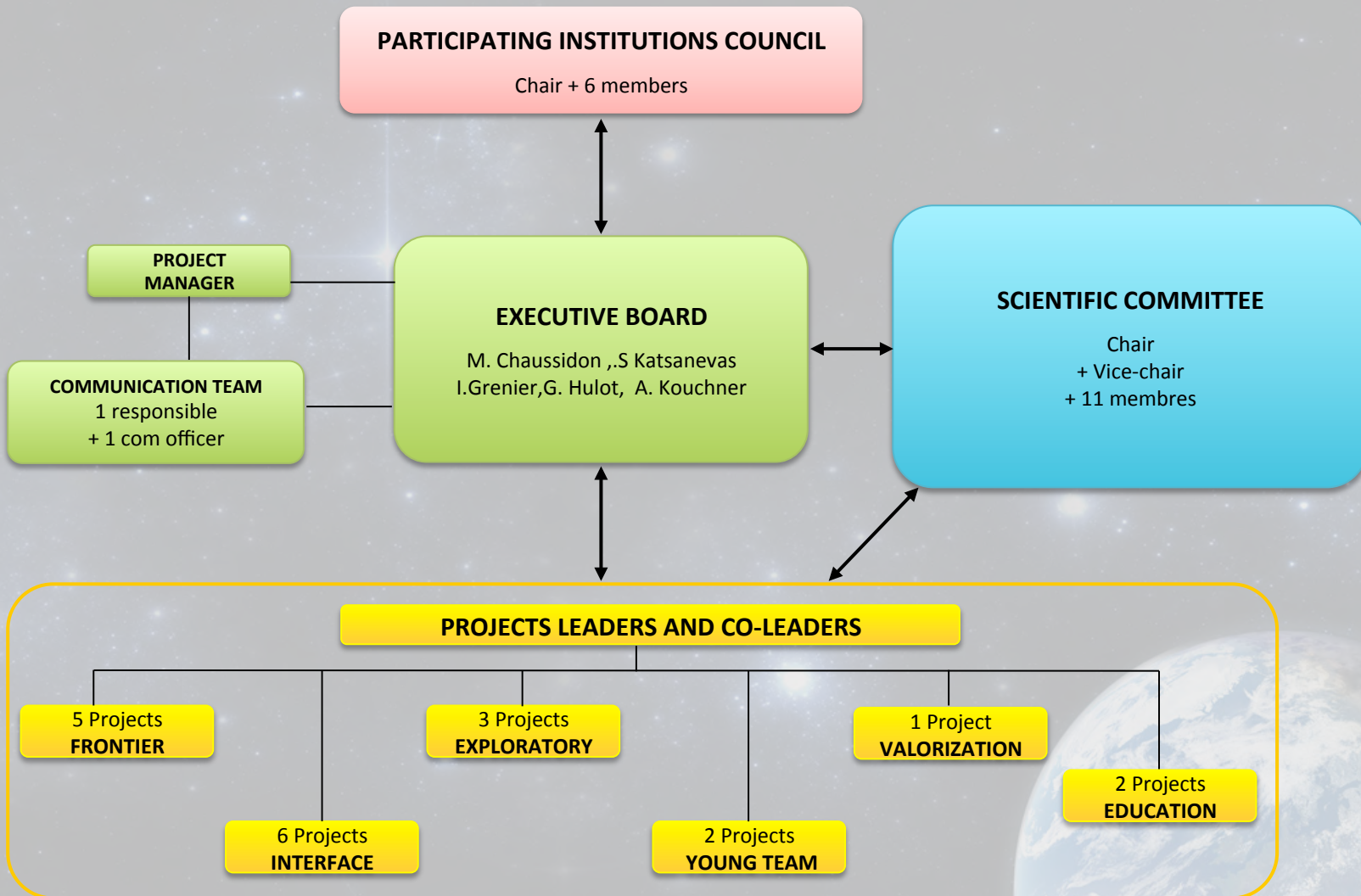
Scientific Committee

28, 29 November 2016

IPGP, Paris

- ✓ Title: Earth, Planets, Universe
 observation – modeling – transfer
- ✓ Project directors: Marc CHAUSSIDON and Stavros KATSANEVAS
Coordination: Université Sorbonne Paris Cité
Administration: University Paris Diderot
- ✓ First call for Labex proposals: april 2011 – december 2019
- ✓ Global budget: 9 M €
- ✓ Participants: 200 FTE, including 30 post-doc, 26 PhD and 120 researchers

Management structure



Astro/planet sciences:

George F. SMOOT, LBNL and PCCP (**Chair**)

Piercarlo BONIFACIO, Gepi

Neil GEHRELS, NASA/GSFC

Pierre-Olivier LAGAGE, AIM (*excused. connection for closed session*)

Stéphane MAZEVET, LUTH

 Alessandro MORBIDELLI, OCA

Eric PLAGNOL, APC

Pierre TOUBOUL, ONERA

Peter Von BALLMOOS, IRAP

Geosciences:

 Édouard KAMINSKI, IPGP (**Vice chair**)

Bernard MARTY, CRPG Nancy




 Donald DINGWELL, LMU Munich

Edward STOLPER, GPS Caltech

✓ Frontier projects

- **F1a: IPGP** Earth as a living planet : from early ages to present dynamics (Pascal PHILIPPOT)
- **F1b: IPGP** Subduction today and in the past (Nikolai SHAPIRO)
- **F2: APC** From Big Bang to the future of the Universe (Yannick GIRAUD-HÉRAUD)
- **F2a: APC** Support to PCCP (Pierre BINÉTRUY)
- **F3: AIM** The transient catastrophic Universe (Stéphane CORBEL)

✓ Interface projects

- **I2: APC/IPGP** Geoparticles (Alessandra TONAZZO)
- **I3: APC/IPGP** Fundamental physics and Geophysics in space (Hubert HALLOIN)
- **I6: AIM/IPGP** From dust to planets (Sébastien CHARNOZ)
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 ▪ **I7: AIM/APC** Gamma-Ray Bursts: a unique laboratory for modern astrophysics (Diego GÖTZ)
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 ▪ **I8: APC/IPGP** Astroparticle research, geology and oceanography studies (Véronique VAN ELEWYCK)
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 ▪ **I9: IPGP/AIM** Improving Solar and Geo-dynamo predictability: towards advanced integrated data assimilation techniques (Alexandre FOURNIER)

✓ Exploratory projects

- **E3:** *APC/IPGP* Geophysics and gravitational wave interferometric detectors (Matteo BARSUGLIA)
- **E5:** *APC/AIM/LUTH* A Numerical Observatory of Violent Accreting systems (NOVAs): strong gravity and beyond (Fabien CASSE)
- **E8:** *ONERA/AIM* Modified Gravity from the Earth's outskirts to the cosmos (Joël BERGÉ)

new
2016

✓ Young team projects

- **JE2 :** *APC* Direct Searches for Dark Matter with Liquid Argon detectors (Davide FRANCO)
- **JE3 :** *AIM* Advanced Gamma-Ray Science Methods and Tools (Karl KOSACK)

✓ Education project

- **K2:** *APC/IPGP* UnivEarthS nanosatellite student IGOsat project (Hubert HALLOIN)

✓ Transfer project

- **V1:** *APC/IPGP* Data distribution, visualization and cloud computing (Volker BECKMANN)

2016 proposal call

- **October, 17:** deadline for proposal call (interface, exploratory or valorization projects)

10 applications

- **November, 4:** proposals were examined by the Executive Board

7 projects were selected for evaluation by the Scientific Committee

- Interface project proposals

1. From evolving binaries to the merging of compact objects (Sylvain CHATY)
2. From pre-stellar cores to protoplanetary discs (Patrick HENNEBELLE)
3. Multi-wavelength & Multi-Physics Planetary Peeling (Antoine LUCAS)

- Exploratory project proposal

1. *Low Energy Astrophysics with KM3NeT* (Alexis COLEIRO)

- Valorization project proposals

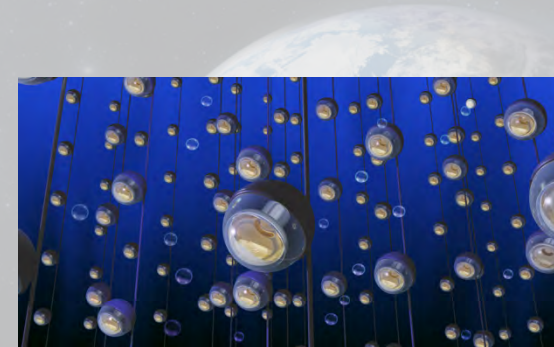
1. Detectors for the Future (Pierre BINÉTRUY)
2. Virtual Reality : Mars telepresence with InSight and interactive seismology on Mars, Earth, and Stars (Philippe LABROT)
3. In Situ Cosmogenic dating of extraterrestrial surfaces (Manuel MOREIRA)

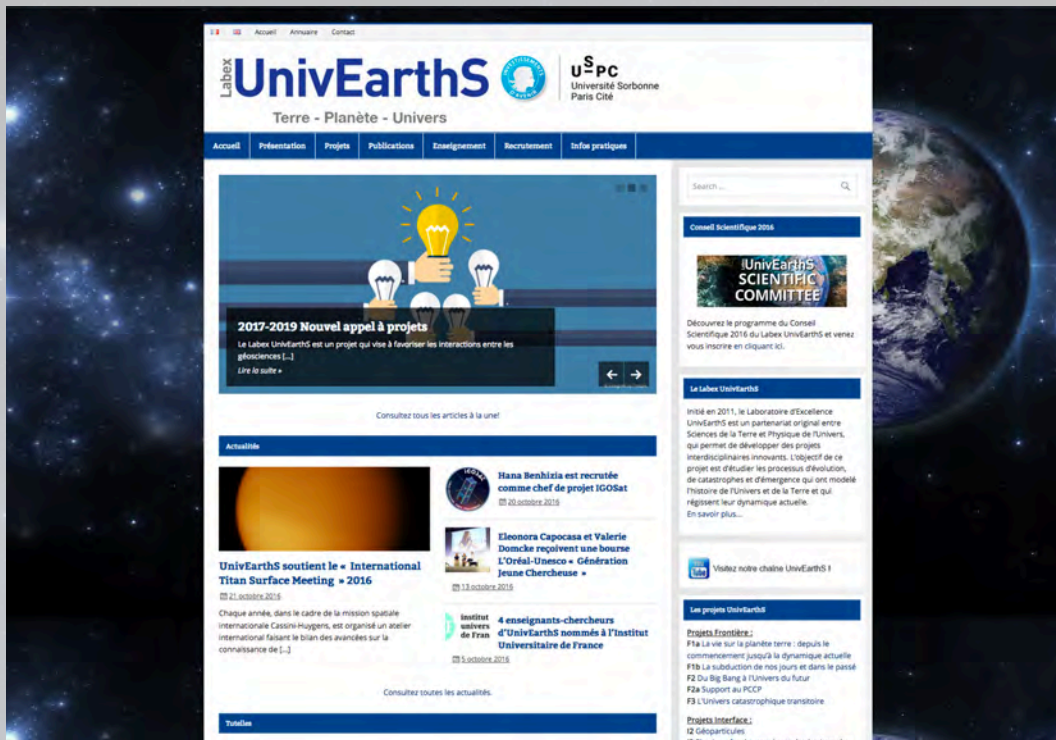
- **November, 28 & 29 :** evaluation of the 7 new proposals by the Scientific Committee.



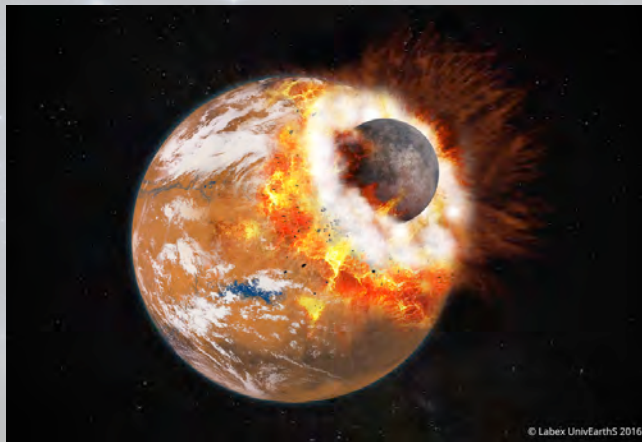
Fall School, Aci Trezza (Sicily), October 20 > 26

- Third edition since 2014
- Scientific responsible: Edouard Kaminski
- 23 participants: master, PhD, post-doc, engineer and high school sciences teachers
- 3 main courses to give an overview from the basics of the discipline until the opening to the research
 - Earth Living Planet: internal dynamics (Claude Jaupart)
 - Life in the Universe: exobiology (Sylvain Chaty)
 - Life of astroparticles (Etienne Parizot)
- Varied program with courses, conferences and poster sessions
- Excursions
 - Etna volcano
 - Laboratori Nazionali del Sud of INFN (Istituto Nazionale di Fisica Nucleare)
- Extremely positive feedback from participants





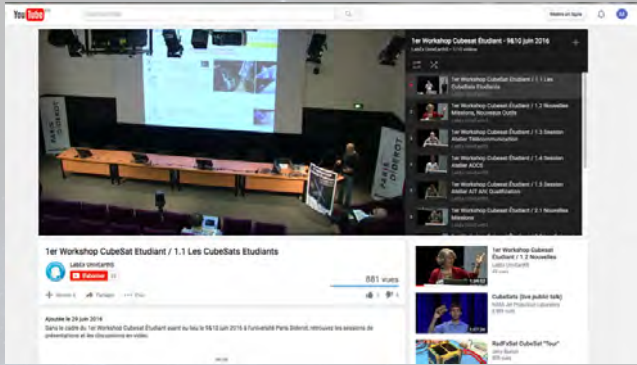
- Website redesign
- News and publications
- Dissemination of information to partners



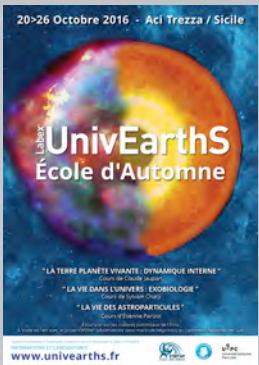
- ✓ Press release
 - Help with writing and layout
- ✓ Illustration
 - Creation of visuals
- ✓ Posters
- ✓ Program booklet



- Registration management
- Room & catering management
- Poster, program, booklet
- Overall support



- ✓ Complete workshop filmed and broadcasted on UnivEarthS Youtube channel



- ✓ Provision on the website of all the teaching resources of UnivEarthS Fall School
 - Courses & presentations files
 - Posters of the participants
 - Audio & video recordings



- ✓ Fête de la science: a week of scientific events for college & high school students, and the general public
 - 3 animated workshops around gravitationnal waves, muon tomography and nanosatellite IGOSAT project
 - Exhibition of ancient scientific instruments
 - Conferences



Strong points, assets

- UnivEarthS strategic choice of partner laboratories
- Uniqueness and excellence acknowledged by mid-term evaluation
- Associated with a doctoral school project STEP'UP and very successful MOOC's or "citizen's science (Nanosat)
- Unique experience in Europe (world?)

Opportunities

- Controlled thematic diversification
- Increase the accompanying educational activity
 - Graduate School in the context of forthcoming ministerial call (PIA3)
 - New technologies in education (also in the context of PIA3)
- Increase R&D and technological activity (sensors, networks of sensors, smart-city/earth/ Universe, algorithmics, big data, virtualisation...) and valorisation
- Develop common platform policies, mutualisation (computing centres, clean rooms)
- Develop stronger common policy in space science (strengthen the links with space campus)
 - Example, capitalize on INSIGHT's experience (launch 2018) to launch future planetary missions
- Strengthen links with societal and policy issues (risks, "earth" policy, science for presidents, gender : GENERA)
- Strengthen links with Europe and the world (A European meeting including relevant national agencies in preparation)