

## Subduction Interface Processes (SIP)



### An international conference zooming on subduction zones

*On the nature and complex interplay  
between mechanical and chemical processes acting  
along/across subduction plate interfaces*

**April 18-21, 2017**

A conference organized in Castelldefells, Barcelona

Half the world population lives near one of the many subduction zones straddling the planet, in areas repeatedly devastated by large earthquakes, tsunamis or volcanic eruptions — among some of the deadliest natural hazards. On the longer run, subduction zones are also areas of massive material transfer between the Earth's surface and the deep mantle. Both risk assessment and lithosphere dynamics call for a better understanding of the still rather ill-constrained mechanical and chemical transformations taking place at and across subduction zone inter-plate boundaries.

### Conference milestones

Early Registration Deadline: **January 15th, 2017**  
Late Registration Deadline: **March 15th, 2017**  
Abstract Submission Deadline: **February 15th, 2017**

### Conference webpage

<http://www.iplusdinnova.com/es/zip2017>

### Scope

Building on the recent wealth of data and models dealing with plate-slab interface processes, we welcome in this conference contributions at the crossroads between all different disciplines, including surface processes, structural geology and geodynamics, petrology, rheology, geochemistry, geophysics and all types of numerical modeling. One of the overarching goals is also to bridge the gap between the various Earth Science communities and foster future collaborations.

Special emphasis will be placed on recent advances that provide novel information on the nature and properties of the subduction plate interface. This **Subduction Interface Processes (SIP)** conference aims at promoting thorough discussions by addressing some following fundamental questions such as:

- What controls the size, location, physical limits, frequency and behaviour of earthquake ruptures along the inter-plate boundary?
- How are stresses and energy release, via earthquakes and fluid-mediated mass transfer, focused on the plate interface?
- What is the nature and structure of the subduction interface (which lithologies, heterogeneities, rheologies, fluids,...) and what is their bearing on earthquake ruptures and long-lived deformation?
- How can we bridge the gap between observations made at rock and plate scale, or between signals lasting from seconds to millions of years?
- Are we able to image and understand physical conditions and processes at work along the subduction interface at relevant scales, such as years and meters?

After topical sessions organised at EGU (2011-2014), AGU (2015-2016), this **Subduction interface Processes (SIP)** conference is conveniently organized right before the EGU 2017 meeting!

SIP is an initiative from the European-funded Initial Training project "ZIP" ([Zooming in between plates](#)). It is also closely tied to the EFIRE NSF-PIRE project<sup>a</sup>, the 'Subduction across scales' International Lithosphere Programme task force<sup>b</sup> and the Subduction Top to Bottom 2 publishing initiative<sup>c</sup>.

### Programme

There will be a single session for oral presentations (no parallel sessions). **The key objective of this conference is to encourage discussions: authors should be as provocative and stimulating as one can be!**

Poster presentations are considered a very important component of the meeting and posters will be on display for the whole duration of the Conference (we recommend oral presentations be prepared as posters to ensure maximum discussion and dissemination of the results).

**Anticipated topics (tentative programme):**

#### Nature/Characterization of the plate boundary zone

- High-resolution imaging of the plate interface, petrophysical properties
- Parameters controlling earthquake nucleation, rupture propagation and arrest.
- Transients and microseismicity
- Rock diversity on the subduction interface (at all relevant scales)
- Fluid/mass transfer and source/time contributions

#### Plate interface rheology: processes and feedbacks through space & time

- Distribution of deformation along and across the plate boundary
- Linking geodetic/geophysical with petrological/petrophysical data
- Linking post-seismic deformation with hazard after large earthquakes, and long-lived deformation to the earthquake cycle.
- Feedbacks between surface processes and subduction zone dynamics

#### High-end numerical models:

- From the seismic cycle to long-lived deformation
- From earthquakes to fluid/melt transport
- From mineral/rock mixing to geodynamic modeling

-----  
Keynote presentations: 30' long (25' + 5' for questions).  
Other oral presentations will be 15' long (12' + 3').

## Venue

Within the frame of the **European Initial Training Project "ZIP"** (Zooming in between plates<sup>2</sup>), the **Spanish National Research Council (CSIC)**, through the **Barcelona Center for Subsurface Imaging (Barcelona-CSI)** of the **Institute of Marine Sciences (ICM)**, together with its partners and associated partners from the European ZIP Project cordially invite you to participate in this international conference.

<sup>2</sup>Grant Agreement N° 604713, FP7-PEOPLE-2013-ITN

The Subduction Interface Processes (SIP) conference will be held in the [Congress Center](#) of the [Hotel Rey Don Jaime, Castelldefels](#) (see [Location Map](#)), conveniently located 15 minutes away from the Barcelona international airport (25-30€ taxi ride). It provides easy access to Barcelona by taxi or public transportation. Be prepared for a pleasant, mild climate at this time of the year too!



See registration options below for information on accommodation. All meals will be provided in the Hotel and are included in the registration fee. All meals are based on local products whenever possible.



## Conference Registration\*

Registration is made online (visit [conference webpage](#)). Payment can be done either by bank transfer or credit card. Four options have been designed for the registration:

**OPTION 1:** Includes conference fee, hotel accommodation in an **individual room**, lunch and dinner for the conference days and one social dinner. The cost is 660 € for early registration and 760 € for late registration.

**OPTION 2:** Includes conference fee, hotel accommodation in **shared room**, lunch and dinner for the conference days, and one social dinner. The cost is 540 € for early registration and 640 € for late registration.

**OPTION 3:** Only conference and lunch for the conference days. it **does not include hotel accommodation**. The cost is 395€ for early registration (490€ for late registration).

**OPTION 4:** This is only for room partners not attending the conference. Includes hotel accommodation in **shared room**, lunch and dinner for the conference days. The cost is 385€.

**IMPORTANT!!** : If you want to stay longer (in particular on the night of friday 21st) or arrive earlier in the hotel, you must contact directly GRAN HOTEL REY DON JAIME and let them know that you will be at this meeting first.

(\*) The organization has limited funding to cover part of the registration expenses for young students. This will be treated on a case-by-case basis. If you are interested, please contact organizers at [zip2017@icm.csic.es](mailto:zip2017@icm.csic.es)

## Conference Proceedings

A selection of contributions from the Subduction Interface Processes conference will be submitted for publication as a special issue of [Lithos](#). The expected deadline of manuscript submission will be October 1st, 2017. We would appreciate your early expression of interest to contribute to this publication. We will compile a preliminary list of contributions for the publisher during the conference.

## Organizing Committee

- Philippe Agard - UPMC, Inst. Sciences de la Terre à Paris
- Cesar R. Ranero - Barcelona-CSI, ICREA at CSIC, Institute of Marine Sciences
- Valenti Sallares - Barcelona-CSI, Institute of Marine Sciences, CSIC
- Alexia Carrillo - UPMC, Inst. Sciences de la Terre à Paris

## Scientific Committee

- Philippe Agard - UPMC, Paris
- Gray Bebout - Lehigh University, Bethlehem
- Michael Bostock - Univ. British Columbia, Vancouver
- Jun Gao - Chinese Academy of Sciences, Beijing
- Carlos Garrido - CSIC, Granada
- Taras Gerya - ETH, Zurich
- Timm John - Freie Universitaet, Berlin
- Laetitia Le Pourhiet - UPMC, Paris
- Horst Marschall - Goethe Universitaet Frankfurt
- Thomas Meier - Christian-Albrechts-Universitaet, Kiel
- Onno Oncken - GeoforschungsZentrum, Potsdam
- Gerassimos Papadopoulos - National Observatory, Athens
- Sarah Penniston-Dorland, Univ. Maryland
- Thomas Pettke - Universitaet Bern
- César Ranero - ICREA, Barcelona
- François Roure - IFP-EN, Paris
- Valenti Sallares - CSIC, Barcelona
- Marco Scambelluri - Università degli Studi, Genova
- Holger Stunitz - The University of Tromsø
- Peter van Keken - Carnegie Inst. for Science, Washington D.C.
- Paola Vannucchi - Royal Holloway, London
- Christophe Vigny - CNRS, Paris

## Organizing Institutions

