

ECORD/ICDP – MagellanPlus Workshop Series Program

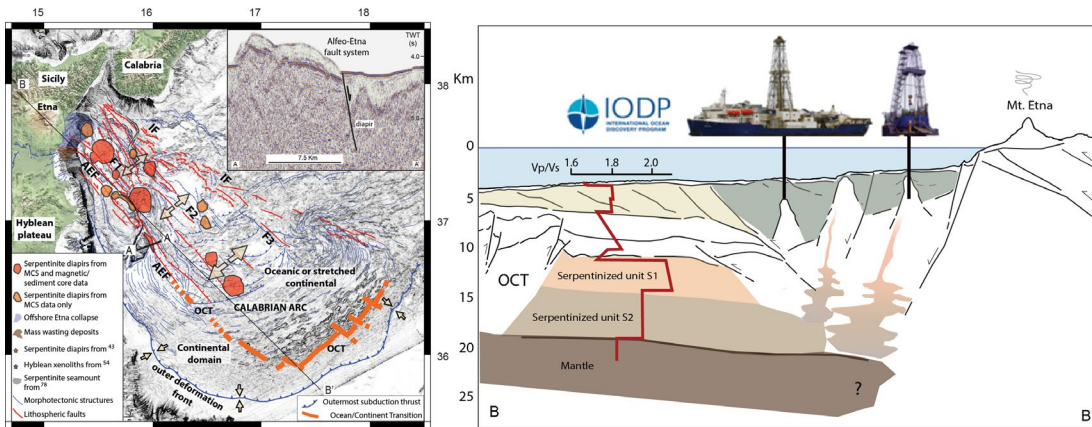
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SCYLLA



**Serpentinite diapirs in the Calabrian Subduction sYstem
return Lower plate mantLe from EARth's oldest ocean**



The SCYLLA workshop aims to discuss the rationale to submit an IODP proposal to drill and core underplated serpentinite diapirs in the Calabrian Arc subduction system (central Mediterranean Sea) derived directly from the oldest *in situ* ocean in the world. It tackles fundamental questions on the structure and nature of subducting slabs and their implications for material recycling, mantle evolution and seismogenesis in subduction zones. This workshop aims to involve a broad scientific community, ranging from sedimentologists, geophysicists, geochemists, volcanologists, and seismologists to microbiologists.

WORKSHOP PROGRAM

Day 1- Wednesday, September 21, 2022 - (*remotely connected)

12:00-14:00 Icebreaker and lunch

14:00-14:30 **Gasparini L.** [Welcome, introduction, IODP Pre-proposal P968 and workshop goals](#)

Session 1 **The Ionian subduction system: geodynamic and tectonic background to address SEP criticism on the SCYLLA pre-proposal**

14:30-14:50 **Polonia A.** [Do Calabrian Arc diapirs return lower plate mantle from the oldest ocean on Earth?](#)

14:50-15:10 **Ranero C.** [The Tectonic structure of the Calabria Arc system](#)

15:10-15:30 **Dannowski A.** [Deep structure of the Calabrian Arc from wide-angle seismic data and gravity](#)

15:30-16:00 *DISCUSSION*

16.00-16:30 Coffee break

Session 2 **Geodynamic context and Mesozoic paleoceanography: implications of serpentine occurrence in the Mediterranean region and how these can be incorporated in the new pre-proposal**

16:30-16:50 **Vannucchi P.** [How serpentine peridotites can leak through subduction channels](#)

16:50-17:10 **Muttoni G.** [Adria in Mediterranean paleogeography, the origin of the Ionian Sea, and Permo-Triassic configurations of Pangea](#)

17:10-17:30 **Govers R.** [A Probabilistic Assessment of the Causes of Active Deformation in the East Central Mediterranean Using Spherical Finite Element Models](#)

17:30-17:50 **Chiarabba C.** [Fluids in geodynamics and seismogenic processes defined by tomograms](#)

17:50 -18:30 *DISCUSSION*

20:00 Dinner at restaurant 2 CUOCHI, Via Giovanni Francesco Barbieri, n.56

Day-2 Thursday, September 22, 2022

Session 3 **Mantle peridotites from continental rifts to ocean basins to subduction. What the Ionian Sea serpentinites can tell us about the oldest in situ ocean on Earth?**

09:00-09:20 **Bonatti E.** [Mantle ultramafics in the oceanic lithosphere](#)

09:20-09:40 **Menapace W.** [Origin and implications of serpentinite mud volcanism in the Mariana subduction zone](#)

09:40-10:00 **Zitellini N.** [IODP Expedition 402: The Tyrrhenian Magmatism & Mantle Exhumation \(TIME\)](#)

10:00-10:20 **Favali P.** [Long-term monitoring by fixed-point seafloor observatory contribution to the knowledge of the Ionian Sea geodynamics](#)

10:20 -10:40 *DISCUSSION*

10:40-11:00 – Coffee break

Session 4 **The proxies we need: stratigraphic, geochemical and microbial signature of serpentinite/mud diapirism.**

11:00-11:20 **Ruffine L.** [Fluid geochemistry and seismicity: What can we learn from our investigations along the North Anatolian Fault and the North Alfeo Fault?](#)

11:20-11:40 **Hensen C. *** [Fluid geochemistry in marine sedimentary environments](#)

11:40-12:00 **Bastianoni A.** [Subsurface microbial life and serpentinization: opportunities and open questions](#)

12:00-12:20 **Erba E.** Preliminary results of calcareous nannofossil investigation of sediment cores from the Calabrian Arc diapiric field.

12:20 -13:00 *DISCUSSION*

13:00-14:30 Lunch

Session 5	Sampling the diapirs: testing the different hypothesis through drilling/coring. Drilling strategies under the present-day Scientific Ocean Drilling project
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14:30-14:50 Polonia A.	IODP Pre-proposal P968 – description and review results
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14:50-15:10 Camerlenghi A.	Future perspectives of Scientific Ocean Drilling
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15:10 -16:30	<i>DISCUSSION</i>
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16.30-17:00 Coffee break

Session 6	Scientific questions and aims/objectives for drilling; what drill sites are necessary to achieve proposal goals
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17:00-18:30	Working group breakout
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Group-1: Geodynamics, tectonics, seismology

Group-2: Stratigraphy, geochemistry and microbiology

Draft writing of Proposal

20:00 Dinner at restaurant NINO, Via Volturno, 9c

Day-3 Friday, September 23, 2022

09:00-09:20 **Vitale Brovarone A.** [DeepSeep: an ERC-funded project to assess deep energy formation in subduction zone serpentinites](#)

Session 7 **What is needed for writing a new drilling proposal? Site selection, site survey, drilling/coring.**

09:20-10:40 **Working group breakout**

Group-1: Geodynamics, tectonics, seismology

Group-2: Stratigraphy, geochemistry and microbiology

Draft writing of Proposal

10:40-11:00 Coffee break

Session 8 **Workshop report: presentation of contributions, synthesis of open questions, distribution of tasks for proposal writing and definition of deadlines for proposal submission.**

11:00-11:20 **Gasperini L.** Summary of Group-1

11:20-11:40 **Ruffine L.** Summary of Group-2

11:00-13:30 *FINAL DISCUSSION*

13:30-14:30 Lunch and participants departure