

IODP EXPEDITION 385 – GUAYMAS BASIN TECTONICS AND BIOSPHERE SCIENCE POSTCRUISE MEETING

CGT, University of Siena, San Giovanni Valdarno, Italy, 17–19 October 2022

PROGRAM

Times in UTC+2

17 October 2022

1000–1100 WELCOME SPEECH – Mayor, CGT, University of Siena

1100–1120 Meeting introduction & logistics (Ivano, Tobias)

1120–1140 Carbon release due to sill intrusion into sediments at Site U1546 (Dan)

1140–1155 Organic matter in the sediments of the Guaymas Basin (Armelle)

1155–1215 Geochemistry of dissolved organic matter in Guaymas Basin sediments (Melina)

1215–1230 COFFEE/TEA BREAK (15 min)

1230–1250 Geology of a steady-state low-T hydrothermal system at the seafloor (Ringvent) (Christophe)

1250–1305 Microstructural and chemical investigation of magma-sediment mingling in laboratory and natural samples (Christin)

1305–1315 Dating pyrite from vein filling in igneous rocks? (Joann)

1315–1445 LUNCH BREAK (90 min)

1445–1505 The distribution of microbes in the Guaymas Basin seafloor, and the progress of high-pressure and temperature incubation (Yuki)

1505–1520 A single-cell view of microbial anabolic activity in the hydrothermally influenced deep subsurface of the Guaymas Basin (Nicolette, online)

1520–1535 Analyses of expressed genes by depth and site (Vivian)

1535–1550 COFFEE/TEA BREAK (15 min)

- 1550–1605 Magnetic mineral diagenesis and associated biogeochemical processes in the Central Guaymas Basin (Myriam, online)
- 1605–1620 Sulfur and iron geochemistry in the sedimentary phase (Lucie, online)
- 1620–1640 Contact metamorphic reactions related to magmatic sill intrusion in the Guaymas Basin (Alban)
- 1640–1800 Informal Discussion & Poster Session

18 October 2022

- 0900–0920 New stratigraphic summary columns and facies implications (Liselle, online; or Kathie)
- 0920–0940 Analysis of volcanoclastic intervals at the IODP Expedition 385 sites (Priscilla, online; or Kathie)
- 0940–1000 Which one came first – the intrusion or silica diagenesis? Silica paleothermometry towards a solution of the Guaymas Basin “chicken-and-egg” conundrum (Ivano)
- 1000–1015 Diagenetic carbonates from deep seafloor organic-rich sediments influenced by magmatic sill intrusions, Guaymas Basin, Gulf of California (Swanne)
- 1015–1040 COFFEE/TEA BREAK (25 min)**
- 1040–1100 Microbial gradients and key genes (Andreas)
- 1100–1120 Well hidden methanogenesis in deep Guaymas sediments (Didi)
- 1120–1140 Microbial biosignatures vis a vis physico-chemical parameters (Ginny)
- 1140–1150 COFFEE/TEA BREAK (10 min)**
- 1150–1205 Carbon isotopic composition of methane in sediments and igneous rocks at Sites U1545-U1549 (Verena, online)
- 1205–1220 Patterns and mechanisms of methane production in sediments from the Guaymas Basin deep subsurface (Zac, online)
- 1220–1230 Methanogens in microcosms of Guaymas Basin sediment (Cas)

1230–1400 LUNCH BREAK (90 min)

1400–1415 The high pressure temperature gradient block (Florian S.)

1415–1435 Sulfate-reducing microorganisms (Toshiki)

1435–1700 Informal Discussion & Poster Session [incl. coffee/tea break]

19 October 2022

0900–0920 Thermal effects of petrophysical and elastic parameters in the Guaymas Basin: case study of Ringvent (Karina)

0920–0940 Chemical stratigraphy of on- and off-axis sills in the Guaymas Basin (Jesse)

0940–1000 Mineral chemistry of pyroxene and plagioclase and its implications for the Guaymas Basin mid-ocean ridge melting dynamics (Wei)

1000–1015 COFFEE/TEA BREAK (15 min)

1015–1045 Carbon cycle in sedimentary basins intruded by sills: differing responses and implications from depth to the seafloor (Christophe)

1045–1200 Open Mic Session

1200–1330 LUNCH BREAK (90 min)

1330–1630 Breakout Group Discussion (TBD) [incl. coffee/tea break]

1630–1715 Joint Breakout Debriefing & General Discussion

1715–1740 Post-expedition obligations and plans (Tobias)

1740–1800 Field trip logistics (Ivano)

1800 End

POSTERS (70x100 cm, portrait)

- Adriana – Mass transport deposit in the SE Guaymas Basin
- Alban – Phyllosilicate precipitation in sediment and sill from the Guaymas basin: proxies for post-magmatic and hydrothermal fluid circulation
- Florian N. – Heat flow and thermal regime in the Guaymas Basin, Gulf of California: estimates of conductive and advective heat transport
- Leland – Isotopic characterization of organic carbon sources in Guaymas Basin sediment
- Louise – Rock/Paleomagnetic comparison between Sites U1545 and U1546
- Sam – What energy sources support microbial life in the deep, hot biosphere?
- Toshiro – Distribution and behavior of ammonium-nitrogen isotopes in IW