ECORD
EUROPEAN CONSORTIUM FOR
OCEAN RESEARCH DRILLING

#33 November 2019
ISSN 2264-1556

NEWSLETTER

PROCEED Workshop:
Expanding Frontiers of Scientific Ocean Drilling

PROCEED

ECORD/IODP Day in Greece

ECORD and IODP beyond 2023 - new goals for scientific ocean drilling

Preparing for **Expedition 386** 'Japan Trench Paleoseismology'

IODP
INTERNATIONAL OCEAN
DISCOVERY PROGRAM

Contents

The International Ocean Discovery Program (**IODP**) - *ww.iodp.org* - is an international research programme dedicated to advancing the scientific understanding of the Earth through drilling, coring, and monitoring the sub-seafloor. The European Consortium for Ocean Research Drilling (**ECORD**) supports the participation of European and Canadian scientific communities in IODP and provides funding for the implementation of mission-specific platform expeditions. ECORD is funded by 15 countries (*back page*).

IODP is funded by the US National Science Foundation (NSF), Japan's Ministry of Education, Culture, Sports, Science, and Technology (MEXT); ECORD; the Australian-New Zealand IODP Consortium (ANZIC); India's Ministry of Earth Sciences; China's Ministry of Science and Technology; the Korea Institute of Geoscience and Mineral Resources (KIGAM); and Brazil's Ministry of Education (CAPES).

The ECORD Newsletter is produced twice a year by the ECORD Outreach Task Force and is published by the ECORD Managing Agency, CNRS/CEREGE, Aix-en-Provence, France. Contact/Subscribe: *ema@cerege.fr*
Electronic copy of the ECORD Newsletter is available online at *www.ecord.org/resources/ecord-newsletter*
Dépôt légal avril 2019 - ISSN 2264-1556

Thanks to all authors who contributed to this issue.

Cover: Participants of PROCEED Workshop (6-7 April 2019, Austrian Academy of Sciences, Vienna, Austria).
Credits: H. Kinkel.

ECORD News


Gilbert Camoin


Nadine Hallmann


Eric Humler

The ECORD's entry into the second phase (2019-2023) of IODP has been formalized by the signature of the ECORD Memorandum of Understanding (MoU) by its current 15 members. In parallel, ECORD has developed concrete operational plans for the next mission-specific platform (MSP) expeditions and started to plan efforts designed to consider the future of scientific ocean drilling beyond 2023.


ECORD-IODP Day in Greece (*see page. 29*)

Over the last months, ECORD has made recently significant efforts to attract new members through regular exchanges with countries that are interested in joining the Consortium. An 'ECORD-IODP Day' has been organized on October 3rd, 2019 in Athens, Greece (*see page 29*).

In parallel, the ECORD Managing Agency (EMA) has been recently contacted by geoscientists from Croatia to provide information regarding our consortium with the aim of becoming member of ECORD. Furthermore, EMA contacted three former ECORD members – Belgium, Israel and Poland - to explore the opportunity for them to rejoin the Consortium.

The ECORD science community is very healthy, as demonstrated by its leading role in the submission of drilling proposals (519 proponents out of 1257 unique proponents), its sustained participation to IODP expeditions and in the valorization of cutting-edge results related to the successive ocean drilling programmes (11,310 contributions out of 26,588 since 1969; *Scientific Ocean Drilling Bibliographic Database and Publication Impact Report*, Sept. 2019).

continued →

ECORD Awards in recognition of outstanding contribution to ECORD

Gerold Wefer

received the
2nd ECORD Award
at the occasion of the *Symposium 25 years of the IODP Bremen Core Repository*
12 March 2019

"Ocean drilling played an important role in my scientific career.

I sailed as a sedimentologist on Leg 112 (Peru) and was a co-chief scientist on Leg 175 (Namibia).

In the 90ies I was a member of the Ocean History Panel of ODP and between 2006-2010 member of the Science Advisory Structure Executive Committee (SASEX) of IODP-MI.

About 25 years ago, I proposed to host a repository in Bremen for cores drilled in the Atlantic Ocean. Today we are storing about 150 km of deep-sea cores and provide this scientific treasure for investigations of the international community.

ECORD for me is tremendous important and instrumental in strengthening geoscientific cooperation in Europe, an excellent example how Europe should work together. "

Robert Gatliff

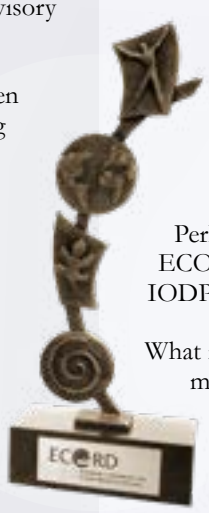
received the
3rd ECORD Award on
21 March 2019

"I was appointed Head of the BGS Marine Group in 2003 just as ECORD was beginning and planning for Acex was underway. What a team effort to complete this tremendously challenging project without mishap or overspend!

Since then, ECORD has thrived with a series of successful missions. Each MSP presented new challenges and tested new technologies and all have resulted in excellent scientific results. It has been a pleasure to work with our partners in ESO, our colleagues in EMA, ECORD Council and ESSAC. But what I remember most is the collaboration across the World with our IODP colleagues in the USA, Japan, China, Brazil, India and Australasia. A truly global project that has left me with friends across the globe.

Perhaps my biggest regrets are not getting Russia to join ECORD and for African scientists to gain more benefits from IODP.

What next for ECORD? Perhaps the future of the programme may be based much more around MSP projects, with ECORD joined by other MSP operators."



Mission-specific platform expeditions

Expedition 386 'Japan Trench Paleoseismology'

Expedition 386 (Co-chief Scientists: M. Strasser, ECORD-Austria and K. Ikehara, Japan) will be jointly implemented by the ECORD Science Operator (ESO), and the Institute for Marine-Earth Exploration and Engineering (MarE3) within the Japan Agency for Marine-Earth Science and Technology (JAMSTEC). This expedition aims at reconstructing a long history of giant earthquakes off NE Japan. The offshore coring phase is scheduled in Spring 2020 and will involve, for the first time in IODP, shallow-subsurface giant piston coring from the R/V *Kaimei*; the onshore phase will be organized in Fall 2020 onboard the IODP drillship *Chikyu*, moored in Shimizu Port. Both facilities are provided partly as in-kind contributions (IKC) following negotiations between by MarE3-JAMSTEC, the ECORD Managing Agency (EMA) and ESO.

Expedition 377 'Central Arctic Paleoceanography (ArcOP)'

At its last meeting that was held in Bremen on 21-22 March, 2019, the ECORD Facility Board (EFB) has reaffirmed its support to the scheduling of Expedition 377 'Central Arctic Paleoceanography (ArcOP)' (Co-chief Scientists: R. Stein, ECORD-Germany and K. St. John, USA) if budget allows. Since then, EMA and ESO have successfully negotiated IKC with German and Swedish institutes/entities. A final decision concerning the implementation of this expedition in FY21 will be taken at the upcoming Council-ESSAC meeting that will be held in Dublin, Ireland, on 5-6 November, 2019.

Expedition 386, involving direct collaboration between two IODP platform providers and in-kind contributions may serve as a model for the implementation of future IODP expeditions, especially MSP expeditions.

More info *https://www.ecord.org/expeditions/msp/2013-2023/*

ECORD partnership: *JOIDES Resolution* and *Chikyu* expeditions

ECORD's participation to expeditions implemented by the *JOIDES Resolution* (JR) and *Chikyu* is based on MoUs with our partners. The MoU linking ECORD and JAMSTEC involves the two partners for the whole duration of IODP. The revision of the MoU between ECORD and the US National Science Foundation (NSF) for the second phase of IODP involves several changes affecting ECORD's participation:

The number of **ECORD berths on each JR** expedition has been lowered to seven and the Co-chief scientists and sailing education or outreach officers now counts towards quotas.

While writing these lines, the JR is implementing Expedition 385 'Guaymas Basin Tectonics and Biosphere' (16 Sept. – 16 Nov., 2019), which will be the last 2019 expedition after expeditions 379 'Amundsen Sea West Antarctic Ice Sheet History' (18 Jan. – 20 Mar., 2019), 382 'Iceberg Alley and Subantarctic Ice and Ocean Dynamics' (20 Mar. – 20 May, 2019) and 383 'Dynamics of Pacific Antarctic Circumpolar Current' (20 May – 20 Jul., 2019). **Thirty-nine ECORD scientists, including three Co-chief scientists were invited to these expeditions.**

The JR Facility Board (JRFB) has scheduled eight additional JR expeditions in 2020 and 2021, including one in the Pacific (Expedition 378 'South Pacific Paleogene Climate') before the ship will operate in the Southern Atlantic (see *www.iodp.org*). Four out of these eight scheduled expeditions in FY20 and FY21 are based on proposals led by ECORD scientists. The JR is expected to operate in the Northern Atlantic and neighboring seas in 2022 and 2023 and complete its global circumnavigation in the Indo-Pacific region near the end of the programme.

No *Chikyu* expedition is scheduled so far. At its last meeting that was held in Kobe, Japan, on 11-12 June, 2019, the *Chikyu* IODP Board (CIB) have considered future deep riser drilling at NanTroSEIZE, based on Expedition 358 experiences. The CIB has also stated that no new *Chikyu* riser projects can be scheduled for the current phase of IODP.

Incoming ECORD members

Simon Draper

EPC Project Manager
(since late 2018)

Simon Draper has been appointed to the role of EPC Project Manager for the Leicester based group.

Simon has worked for the programme for 10 years as the group administrator and brings these years of involvement combined with previous experience within both the private and public sector. Simon is responsible for the day to day running of EPC and ensuring the group's responsibilities are met.

ECORD beyond 2023

Following the holding of successive workshops at the national or consortia levels (ECORD, USA, Japan, ANZIC, China), the IODP Forum has recently endorsed the development of a new Science Framework to express community's long-range vision for taking scientific ocean drilling into the mid-21st century (*see IODP Forum section page 7*). The concept and design of the current IODP structure has been recognized highly successful and appropriate to take forward into the next phase of scientific ocean drilling post-2023. However, this structure will require adjustments in implementation to facilitate future developments such as the inclusion of additional platform providers (e.g. China). In addition, the technologies and the envisioned mix of drilling platform capabilities needed to reach its full potential will have to be assessed.

The ECORD 'PROCEED'

The ECORD 'PROCEED' ('Expanding Frontiers of Scientific Ocean Drilling') workshop that has been held at the Austrian Academy of Sciences, Vienna, Austria, on 6 – 7 April, 2019, has provided an outstanding contribution to these planning efforts (*see PROCEED workshop on page 6 and IODP Forum section page 7*).

Emerging and new scientific topics have been identified and the need for land to sea transects and hence a closer link to the International Continental Scientific Drilling Program (ICDP) have been emphasized. Regarding the future roles of ECORD in IODP, the ECORD support to all facilities as well as its role as platform provider have been reaffirmed. In addition, a better use of the versatility of MSPs will have to be pursued.

A **higher MSP proposal pressure** including different science themes and involving various potential drilling/coring systems in diverse environments will be necessary to provide additional scientific, operational and funding opportunities **in the programme to be developed beyond 2023.**

The strategy that ECORD will define in the near future will be based on the legacy of its achievements, success and innovations, which have systematically pushed the boundaries of IODP by providing access to new drilling environments, introducing new technologies in IODP and by opening up IODP to new scientific topics and communities.

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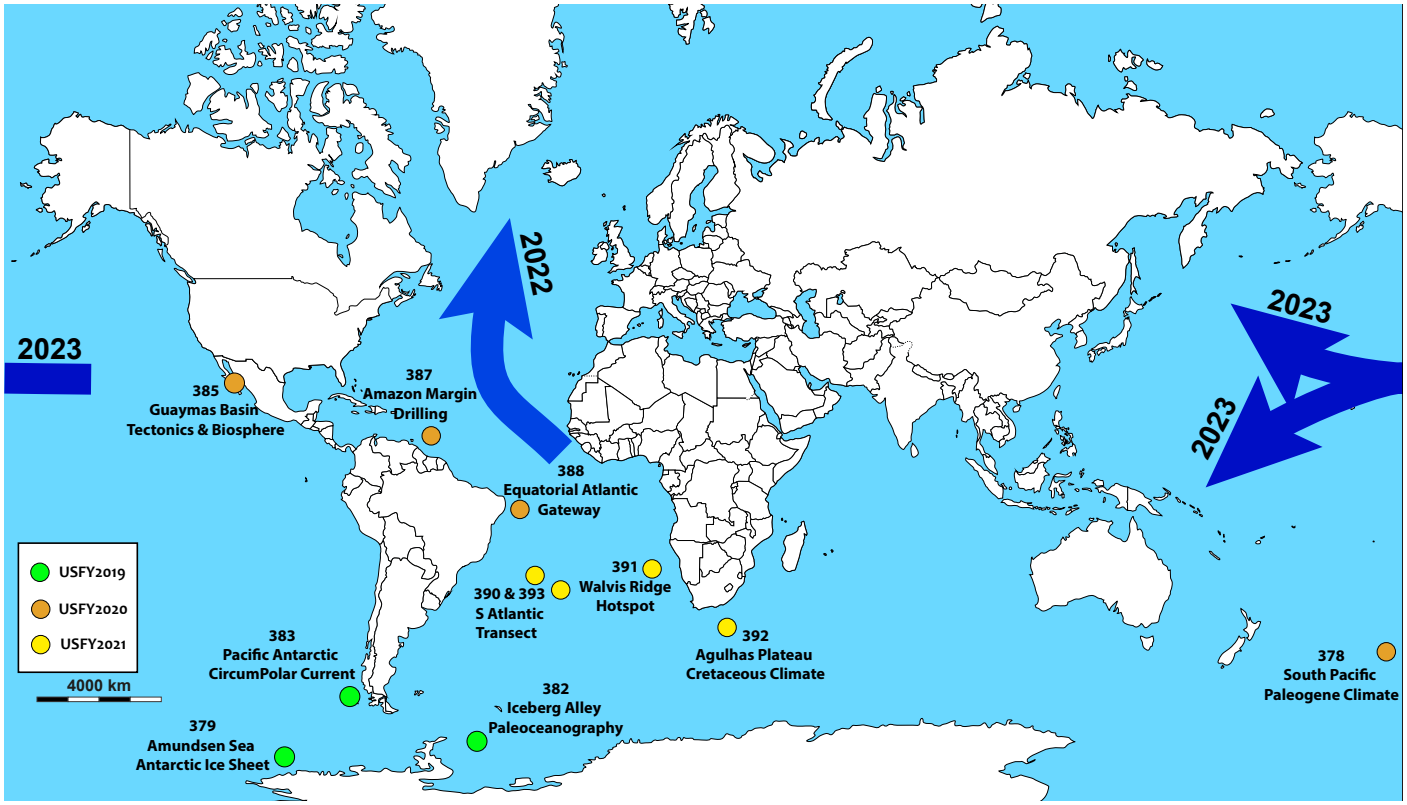
Director of the ECORD Managing Agency

Nadine Hallmann - *hallmann@cerege.fr*
Assistant Director of the ECORD Managing Agency

Eric Humler - *eric.humler@cnrs-dir.fr*
Chair of the ECORD Council

More info: *https://www.ecord.org*



IODP beyond 2023

PROCEED workshop


Michi Strasser


Roz Coggonn

PROCEED
EXPANDING FRONTIERS OF SCIENTIFIC OCEAN DRILLING

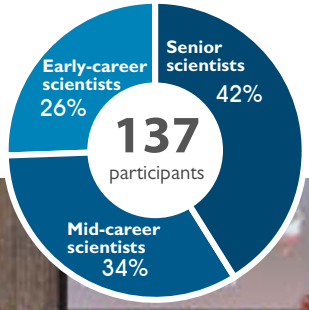
PROCEED Workshop: Expanding Frontiers of Scientific Ocean Drilling
6-7 April 2019, Austrian Academy of Sciences, Vienna (Austria)

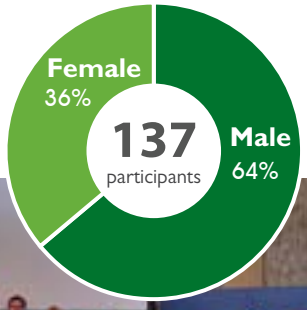
To respond to the significant challenges of building a successor programme to IODP, ECORD decided to organise a workshop aimed at defining the new goals for a future international scientific ocean drilling programme beyond 2023.

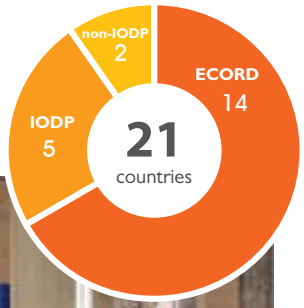
Special emphasis

1. New science frontiers
2. Technological developments in a multiple drilling platform pproach

137 participants attended the PROCEED workshop in Vienna (*statistics on the right*). Ideas from the broader community was also gathered through a pre-meeting online survey.







The workshop programme comprised a combination of invited keynote presentations, panel sessions, breakout and plenary discussions. Throughout the meeting feedback was collected via Pigeonhole, an online 'real time' platform, through which the audience was able to participate in polls, ask questions and submit comments.

Day 1 focused on assessing our progress towards the challenges of the current science plan and establishing what new scientific ideas IODP should address beyond 2023. The focus of day 2 was the technological needs and programmatic issues associated with building a new scientific drilling programme. The final sessions focused on the architecture of the new science plan, and the definition of the future role of ECORD in IODP.

Michael Strasser - *Michael.Strasser@uibk.ac.at*
PROCEED Co-chair, University of Innsbruck, Austria

Rosalind Coggon - *R.M.Coggon@soton.ac.uk*
PROCEED Co-chair, University of Southampton

and the PROCEED Scientific & Organising Committees**

PROCEED discussions lead to the consensus that the content of the current Science Plan is still relevant, but a new architecture is required to better reflect the interdisciplinary nature of our science AND to excite funding agencies.

The meeting identified many exciting new/emerging topics, some of which can ONLY be addressed with land to sea transects. A closer link with ICDP (and other entities) should thus be explored.

PROCEED testified that the ECORD science community is very healthy, and must continue to be an IODP partner, participating in all aspects of IODP globally, using and supporting all IODP facilities, while continuing to be a platform provider. Furthermore, the ECORD community should explore and advertise the versatility of mission-specific platforms (MSPs) and continue to explore ways to leverage more funding in order to meet the challenges of the new programme.

*Full list of committee members:
https://www.ecord.org/?ddownload=11808

The full workshop report:
http://www.ecord.org/science/proceed/

View from **IODP Forum**

Dick Kroon

The International Ocean Discovery Program (IODP) has successfully entered its **second phase of drilling,** with the current IODP Science Plan scheduled **to conclude in 2023**.

Central to the IODP endeavours in this phase is the multi-drilling platform approach to be able to drill in a wide range of environments. Many geoscientists from IODP member nations will have the unique opportunity to experience the sense of scientific discovery through sailing on one of the drilling platforms.

How about IODP beyond 2023?

One of the IODP Forum consensus Items (September 2018; Chair Jamie Austin) was visionary:

'Multiple planning efforts underway to continue scientific ocean drilling beyond 2023 will eventually require coordination, both to reconsider the extant decadal Science Plan and to evaluate the envisioned mix of drilling platform capabilities, that will be necessary to respond to the expected continued flow of high-quality proposals. The Forum, or its successor, should play an important role in this.'

A new IODP 'Science Framework'

The above Forum consensus has inspired the international scientific community to work on the first step of a post-2023 program: the whirlwind of writing a new Science Plan.

Several international workshops were organized this year - in Yokohama, Vienna, Canberra, Denver, and Shanghai - to discuss scientific priorities and possibilities for post-2023.

Early- and mid-career scientists played prominent roles during all of these workshops, with the Canberra workshop setting aside a special session for early-career researchers alone. An international working group of IODP scientists, representing all IODP nations and consortia, then met in New York in July to summarize and integrate results of the workshops and to form the skeleton of a very ambitious Science Plan for post-2023, with a timeframe of having the final product available by June 2020.

In September 2019, the Forum delegates had the opportunity to discuss, scrutinize and alter where necessary the proposed skeleton of the new Science Plan during a very well-attended meeting in Osaka, Japan. The Forum delegates were very impressed with the Plan's progress and enthusiastically endorsed its development while suggesting it be renamed a "Science Framework," which better expresses the IODP community's long-range vision for taking scientific ocean drilling into the mid-21st century.

The Forum delegates thank the leaders and members of the New York working group for their hard work in developing this Science Framework for post-2023, and applaud the speedy formation of the writing and editing teams.

'Science Framework'
expresses the IODP community's long-range vision for taking scientific ocean drilling into the mid-21st century.

We are looking forward to the final product in mid-2020, as it is necessary for long-range deliberation on the structure of a **post-2023 scientific ocean drilling programme**.

The Forum delegates also recognize that the concept and design of the current IODP structure has proved highly successful and provides a powerful possible model to take forward into the next phase of scientific ocean drilling post-2023. There will be challenges, but these can and will be overcome through international collaboration among all member countries.

Finally, on behalf of the Forum delegates, I would like to thank the organizers and participants in the many planning workshops that were held earlier this year. Their hard work has positioned scientific ocean drilling to flourish for many years to come.

Dick Kroon - *dick.kroon@ed.ac.uk*
IODP Forum Chair, Regius Professor of Geology, University of Edinburgh UK

More info: *http://iodp.org/planning-for-a-post-2023-science-framework*
IODP Forum webpage: *http://iodp.org/program-organization/iodp-forum*
Workshop Outcomes and Road Map: *http://iodp.org/workshop-outcomes-and-comments*

International Workshops

Scientific Drilling Beyond 2023 (J-DESC) 2-3 April, Yokohama, Japan
http://iodp.org/iodp-science-plan/623-scientific-drilling-beyond-2023-j-desc/file

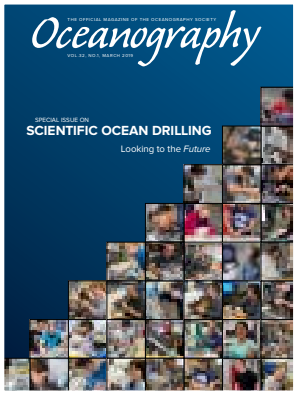
Ocean Planet Workshop (ANZIC) 14-16 April 2019, Canberra, Australia
http://iodp.org/iodp-science-plan/622-ocean-planet-workshop-anzic/file

NEXT: Scientific Ocean Drilling Beyond 2023 (USSSP) 6-7 May, 2019, Denver, Colorado, USA
http://iodp.org/iodp-science-plan/646-scientific-ocean-drilling-beyond-2023/file

IODP in press and media

SCIENTIFIC OCEAN DRILLING: Looking to the Future

Special Issue of ***Oceanography*** Volume 32 | Number 1 | March 2019



This special issue of *Oceanography* celebrates the more than 50 years of exploring and investigating the subseafloor of the world's ocean that was initiated in 1968. Since then, scientific ocean drilling has transformed into an international programme uniting more than 26 countries under a common scientific banner.

Through the last 50 years, the programme has evolved from DSDP (Deep Sea Drilling Project, 1968–1983), through Ocean Drilling Program (ODP, 1985–2003), the Integrated Ocean Drilling Program (IODP, 2003–2013) and finally into the current International Ocean Discovery Program (IODP, 2013–2023). To date, the four programmes have recovered more than 490 km of core and engaged more than 5,000 scientists from around the world.

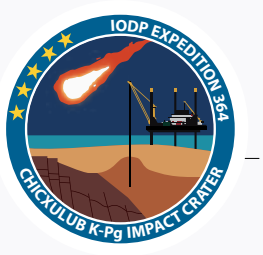
Scientific results from the analysis of the cores and geophysical data provided by scientific ocean drilling gave rise to more than 11,000 peer-reviewed publications, including more than 500 in the leading *Nature* and *Science* journals.

Open access volume. Download the full issue: https://tos.org/oceanography/issue/volume-32-issue-01

THE FIRST DAY OF THE CENOZOIC - New publication on Expediton 364

The Proceedings of the National Academy of Sciences Volume 116 | Issue 39 | September 2019

Sean P. S. Gulick et al., The first day of the Cenozoic, *The Proceedings of the National Academy of Sciences* (PNAS) - September 2019 116 (39) 19342-19351; *https://doi.org/10.1073/pnas.1909479116*



See also:
'What Happened the Day a Giant, Dinosaur-Killing Asteroid Hit the Earth' at Smithsonian.com (*link*)
'Last day of the dinosaurs' reign captured in stunning detail' in National Geographic (*link*)

Table: upcoming expeditions by the *JOIDES Resolution*, the *Chikyu* and MSPs during **2020**

Expedition name	Exp #	Dates	Ports	Operator
Guaymas Basin Tectonics and Biosphere	385	16 Sept - 16 Nov 2019	San Diego / San Diego	JRSO
South Pacific Paleogene Climate	378	3 Jan - 4 Mar 2020	Fiji / Papeete	JRSO
(*JOIDES Resolution* Engineering Testing)	384	4 Mar - 26 Apr 2020	Papeete / Barbados	JRSO
Amazon Continental Margin	387	26 Apr - 26 June 2020	Barbados / Recife	JRSO
Equatorial Atlantic Gateway	388	26 June - 26 Aug 2020	Recife / Recife	JRSO
South Atlantic Transect #1	390	5 Oct - 5 Dec 2020	Rio de Janeiro / Cape Town	JRSO
'Japan Trench Paleoseismology'	386	2020	TBD	ESO
Walvis Ridge Hotspot	391	5 Dec 2020 - 4 Feb 2021	Cape Town / Cape Town	JRSO
Agulhas Plateau Cretaceous Climate	392	4 Feb - 6 Apr 2021	Cape Town / Cape Town	JRSO
South Atlantic Transect #2	393	6 Apr - 6 June 2021	Cape Town / Rio de Janeiro	JRSO
Rio Grande Cone Methane and Carbon Cycling	394	2 Oct - 2 Dec 2021	TBD / TBD	JRSO
Arctic Ocean Paleoceanography	377	TBD	TBD	ESO
Antarctic Cenozoic Paleoclimate	373	TBD	TBD	ESO
Hawaiian Drowned Reefs	389	TBD	TBD	ESO

ECORD MSP expeditions

ECORD Facility Board News

Gabriele Uenzelmann-Neben

ECORD Facility Board

At the end of 2018 EFB members **Stephen Gallagher** (Australia) and **Fumio Inagaki** (Japan) rotated off the board. The EFB thanks them for their remarkable services and commitments during their EFB term. Two new members have joined the EFB, **Fengping Wang** (China) and **Yasuhiro Yamada** (Japan), and the EFB welcomes both of them to the board.

Unfortunately, only few MSP proposals are in the waiting room and none was forwarded by thelast Science Evaluation Panel during its last meeting in June 2019. To increase the visibility of MSPs and their contributions to scientific knowledge a presentation is presently being developed pointing out under which circumstances (target and/or water depth, environmentally sensitive areas, off the JR's ship track, enclosed areas) the implementation of an MSP may be preferred over a more conventional JR expedition. This presentation shall be available to be shown at national IODP meetings and Magellan-Plus workshops.

During the March 2019 EFB meeting held in Bremen, Germany it was decided to recommend scheduling of **Expedition 386** in 2020. ESO is collaborating closely on this with CDEX/JAMSTEC, and thus progress is excellent with Co-chiefs having been chosen and the call for participant's applications having been sent out. While this is on-going we are investigating ways to implement further MSP proposals until the end of the programme, which for the time being are in the EFB waiting room.

Gabriele Uenzelmann-Neben - *gabriele.uenzelmann-neben@awi.de*
Chair of ECORD Facility Board

MSP 2019-2020 operational plan

2013 - 2014	2015	2017	2017	2018		2019	2020
347 Baltic Sea Paleoenvironment	**357** Atlantis Massif Serpentinization and Life	**364** Chicxulub K-Pg Impact Crater	**381** Corinth Active Rift Development	No expedition	ECORD renewal	No expedition	**386** Japan Trench Paleoseismology
Drillship *Greatship Maya*	RRS *James Cook* & Seabed drills (*MeBo* & *RD2*)	Liftboat *Myrtle*	Drillship *Fugro Synergy*				*Kaimei* & *Chikyu*

EFB waiting room

#637	#716	#813	#708	#730
New England Shelf Hydrogeology	Hawaiian Drowned Reefs	Antarctic Cenozoic Paleoclimate	ArcOP Arctic Ocean Paleoceanography	Sabine Bank Sea Level

- Completed MSP expeditions
- Scheduled MSP expeditions
- MSP proposals in the EFB waiting room

ECORD Science Operator News


David McInroy


Sarah Davies


Ursula Röhl


Dave Smith

In the previous ECORD Newsletter (#32 April 2019), we reported on the latest planning for Expeditions scheduled by ECORD Council at its two meetings in 2018 - Expedition 386: 'Japan Trench Paleoseismology' and Expedition 377: Arctic Ocean Paleoceanography. Over the summer, that planning has continued and we are on track to implement Expedition 386 next year. Additionally, the latest developments in planning for Expedition 377 will be reported and discussed at the ECORD Council meeting in November 2019, when a final decision on implementation in 2021 will be made.

In addition to preparing for scheduled and potential future expeditions, ESO staff organised and participated in other IODP-related meetings, workshops and conferences, and contributed to proponent consultation, training and programme outreach (*see General ESO News, next page*).

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Sarah Davies - *sjd27@leicester.ac.uk*
EPC Manager

Ursula Röhl - *uroehl@marum.de*
ESO Curation and Laboratory Manager

Dave Smith - *djsm@bgs.ac.uk*
ESO Operations Manager

ECORD Science Operator

Expedition 381: Corinth Active Rift Development

The Science Party and their collaborators have been continuing their post-expedition research, and the majority of peer-reviewed papers from this expedition are expected to be submitted to journals before October 2020. Please keep an eye on the Expedition 381-related bibliography (link below) for details of published papers associated with this expedition.

Co-chief Scientists:	**Lisa McNeill** **Donna Shillington**

Preparations continue for the Expedition 381 2nd Post-expedition Meeting, which will be held in Greece in spring 2020. At this meeting, the Science Party will present the first results from their individual post-expedition research projects, and will coordinate their publication strategies.

Expedition 381-related bibliography: *http://publications.iodp.org/proceedings/381/381title.html#pgfId-633460*
Expedition 381webpage: *https://www.ecord.org/expedition381/*

Expedition 377: Arctic Ocean Paleoceanography

The overall goal of this expedition is to recover of a complete stratigraphic sedimentary record on the southern Lomonosov Ridge to study the continuous, long-term Cenozoic climate history of the central Arctic Ocean. Sedimentation rates two to four times higher than those at the Expedition 302 (ACEX) sites permit higher-resolution studies of Arctic climate change in the Pleistocene and Neogene.

We presented our latest scoping of this expedition to the ECORD Facility Board (EFB) at its meeting in March 2019, and efforts to address the affordability of this expedition have continued.

Co-chief Scientists:	**Rüdiger Stein** **Kristen St. John**

Throughout the summer, we continued to explore in-kind contribution opportunities with EMA and the Co-chief Scientists, while the proponents re-evaluated their coring strategy in light of newly acquired seismic data over the proposed sites.

We continued to scope platform options with potential drilling contractors and vessel providers, as well as logging tool/logging contractor options. We will continue planning for this expedition up until ECORD Council's November 2019 meeting, and we will be ready to issue a contract notice for ice management and lead icebreaker services when required.

Expedition 377 webpage: *https://www.ecord.org/expedition377/*

Expedition 386: Japan Trench Paleoseismology

This expedition aims to use multiple Giant Piston Coring (GPC) to test and develop submarine palaeoseismology in the Japan Trench. Eighteen primary sites are proposed with GPC to 40 mbsf at each site, in water depths between 7250 and 8030 m.

Co-chief Scientists:	**Michael Strasser** **Ken Ikehara**
Offshore dates:	**21 April - 9 June 2020** on board *R/V Kaimei* from/to Yokosuka
Onshore Science Party dates:	**14 October - 13 November, 2020** on board *D/V Chikyu* docked in Shimizu
All dates are provisional	

Planning for this expedition continued through the summer of 2019, and we are looking forward to our first jointly implemented expedition with MarE3 (*see IODP Exp. 386 - When science and mythology collide, page 12*).

From 20-22 May, we met with MarE3 at JAMSTEC in Yokosuka, Japan, to begin detailed planning for X386, and to visit the mission-specific platform for the offshore phase (*R/V Kaimei*) and the location of the Onshore Science Party (*D/V Chikyu*).

Immediately after the meetings, one of the ESO Drilling Coordinators (G. Tulloch) took part in giant piston coring trials onboard the *R/V Kaimei* from 23-31 May, to view the coring system in action, and to begin work on interfacing the giant piston coring operation with IODP practices.

Later in the summer, ESO, EMA and MarE3 met on 24 June in Edinburgh, UK, to discuss the operational details that directly influence the anticipated ECORD-JAMSTEC Memorandum of Understanding that will underpin this jointly implemented expedition.

An expedition information webinar for prospective applicants was held online on 20 June. A link to the recording of the webinar can be found on the Expedition 386 webpage (*https://www.ecord.org/expedition386/*).

The Call for Scientists closed on 5 July, and the Program Member Offices supplied their shortlisted Science Party nominations to ESO. We met with MarE3 and the Co-chief Scientists in Osaka, Japan, on 9 September to continue science planning and to select the Science Party. Science Party invitations were issued in October 2019.

The Scientific Prospectus has been published (*see links below*) in cooperation with the JRSO Publication Services.

Expedition 386 - Scientific Prospectus:
http://publications.iodp.org/scientific_prospectus/386/
Expedition 386 webpage: *https://www.ecord.org/expedition386/*

General ESO News

In addition to preparing for the scheduled and potential future expeditions above, ESO staff organised and participated in other IODP-related activities, including:

- **Participation at the Expanding Frontiers Of Scientific Ocean Drilling (PROCEED) Workshop**, 6-7 April 2019, Vienna, Austria. ESO staff participated in the various break-out sessions, and gave a presentation entitled "MSP Opportunities Beyond 2023".

- **Participation at the ESO General Workshop**, 24-25 April 2019, Edinburgh, UK. This is the annual ESO workshop for ESO staff only, where we discuss past and future expeditions, and how we might change and improve our systems and approaches.

- **Hosting of the 4th Annual Petrophysics Summer School by ESO partner the European Petrophysics Consortium**, 30 June - 5 July 2019, Leicester, UK. This workshop brought 27 early career scientists together from across the IODP international community, to take part in a 36-hour Continuing Professional Development-accredited course in petrophysics.

- **Hosting of the 2019 ECORD Summer School by ESO partner MARUM**, 16-27 September 2019, Bremen, Germany. This year's workshop theme was "Subduction Zone Processes: Magma, Volcanoes, Ore Deposits, Geohazards". The goal of ECORD Summer Schools is to bring PhD students and young Postdocs in touch with IODP at an early stage of their career, to inform them about the exciting research being carried out, and to prepare them for future expedition participation. Our staff gave various presentations and practicals on the history of drilling ocean crust, core curation and logging, downhole logging and reaching the public.

- **Participation at the ECORD-IODP Day at the University of Athens**, 3 October 2019, Athens, Greece (*see also page 29*). We provided a presentation entitled "IODP Mission-Specific Platforms Expeditions", to complement other presentations by EMA and ESSAC. The ECORD presentations supported leading scientists in Greece in making a case to their funding agencies for ECORD membership.

- **Refurbishment of ESO Containerised Laboratories.** We are replacing or upgrading our suite of containerised laboratories to meet new standards and regulations provided by the American Bureau of Shipping and enforced by the US Coast Guard, which will offer improvements in safety, reliability and comfort. Throughout the summer, we have been liaising with suppliers on container specifications, interiors and connections.

IODP Exp 386 'Japan Trench Paleoseismology'


Carol Cotterill


David McInroy

When science and mythology collide - Exp. 386

In Japanese mythology the **Namazu** is a giant catfish who lives in the mud underneath the Japanese islands. When he thrashes about, the earth shakes……but how often has the Namazu wriggled enough that **Japan has experienced a giant earthquake (>Mw9)**?

Expedition 386 'Japan Trench Paleoseismology' plans to track the **evidence of these giant earthquakes** by using sediment deposits from isolated deep-sea (hadal) basins.


DV Chikyu
Photo credit: JAMSTEC/IODP


RV Kaimei
Photo credit: JAMSTEC/IODP

Using a **Giant Piston Corer** to access these remote sediment deposits, operating in water depths ranging from 7 – 8 km, the team aims to fill the gap in long-term records of giant earthquakes, by testing and developing submarine palaeoseismology in axis-parallel trench-fill basins of the Japan Trench. The targets for this palaeoseismological investigation will potentially unravel an earthquake history that is 10 to 100 times longer than is currently available.

Expedition 386 is going to be **another first** for ECORD and IODP on a number of fronts:

- **the first collaborative operation between IODP operators, with ESO and MarE3 / JAMSTEC** jointly working together to make the expedition a success;
- **the first use of a Giant Piston Core for an IODP expedition**, with all the modifications to core storage, MSCL loops and handling operations a larger core diameter entails;
- we are also aiming for **the deepest water site drilled or cored in ODP / IODP** (at 8030 m water depth) and **the deepest subsealevel sample** (at 8070 m). To put this into a local context, we will be paying out more cable than the height of two Mt Fujis stacked on top of each other!

The Expedition has been made possible due to our partners in JAMSTEC providing the *R/V Kaimei* and its Giant Piston Corer (GPC) for the offshore phase and the lab facilities of the *D/V Chikyu* for the core splitting and measurements phase.

Over the past year, numerous people from ESO, EMA and JAMSTEC have been negotiating, collating, discussing and planning Expedition 386. With fortnightly video conferences between ESO and JAMSTEC, ship visits in May, and Co-chief and Operator meetings in September, we have managed to align working methodologies for many aspects of planning and implementing an operation ranging from Health and Safety to consumables ordering.

The offshore coring phase will last up to 50 days, with the *R/V Kaimei* sailing in mid-April and returning in early June. There will be a port call in mid May to offload two reefers of cores, and bring on empty reefers and new core liner. This will be followed by core splitting, measurements and sampling, that will happen onboard the *D/V Chikyu* in October / November 2020.

We hope that the Namazu stays quiet while we investigate its previous antics!

ECORD Science Operator

JAMSTEC 国立研究開発法人 海洋研究開発機構 Japan Agency for Marine-Earth Science and Technology

Carol Cotterill - *cjcott@bgs.ac.uk*
ESO Outreach Manager

David McInroy - *dbm@bgs.ac.uk*
ESO Science Manager

Exp. 386 logo design: Jez Everest - jdev@bgs.ac.uk

Expedition 386 webpage: *https://www.ecord.org/expedition386/*

Photo credits: JAMSTEC/IODP

ECORD
EUROPEAN CONSORTIUM FOR OCEAN RESEARCH DRILLING

icdp

Deadline for applications: **15 January 2020**

ECORD/ICDP MagellanPlus
Workshop Series Programme
CALL FOR PROPOSALS

The ECORD/ICDP MagellanPlus Workshop Series Programme invites proposals to organise workshops **to support the development of IODP/ICDP proposals.**

MagellanPlus particularly welcome proposals for workshops that integrate scientific marine and continental coring with scientific topics such as Earth's Surface Environmental Change, Processes and Effects; the Deep Biosphere & Sub-Seafloor Ocean, as well as Solid Earth Cycles & Geodynamics, as outlined in the science plans of IODP and ICDP.

The contribution of the MagellanPlus Workshop Series will not exceed **15,000 €** per workshop. Proponents are encouraged to seek co-funding from other sources.

Workshops will be held no later than12 months after approval by the MagellanPlus Science Steering Committee.

Proposals must include:
1) short summary (max. 500 characters) stating the purpose of the proposed workshop, its location and expected impact;
2) full description (max. 2 pages) of the proposed workshop outlining the purpose, rationale, expected impact and number of participants;
3) preliminary workshop programme;
4) list of keynote speakers;
5) flyer of the workshop;
6) full budget for the workshop;
7) CV (max. 1 page) plus a list of international, peer-reviewed publications for the last five years, of main applicant.

The deadline for applications: **15 January 2020**

Proposals must be submitted as a single, combined pdf-document and email attachment to *magellan.plus@uu.nl* and to *ema@cerege.fr*

For further information, please contact MagellanPlus via *magellan.plus@uu.nl*.

http://www.ecord.org/science/magellanplus

ECORD Science Committee News


Antony Morris


Hanno Kinkel

Scientific ocean drilling program for post-2023

This has been a very busy year for the IODP.

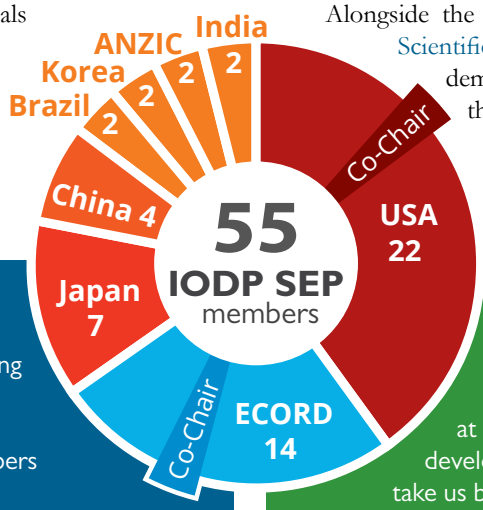
A major milestone in 2019 has been the start of the process to develop a **scientific ocean drilling programme for post-2023**.

A series of community workshops were held earlier in the year, involving more than 650 scientists from around the world. The ECORD event in this series was the "PROCEED" meeting held in Vienna in April, attended by around 140 people (*see page 6*).

A remarkable consensus on the priorities for a future drilling program emerged from these international workshops, as summarised by Dick Kroon (IODP Forum Chair) elsewhere in this Newsletter (*see page 7*). As a result of these wide-ranging community discussions, a team of writers and reviewers has now been assembled to produce a "Framework for Scientific Ocean Drilling through 2050" (*see page 7*). The intention is to finalise this ambitious forward-looking and visionary document early in 2020, and ECORD scientists will have several opportunities to provide inputs to the development of the Framework in coming months… please take these opportunities to make your voice heard!

ECORD in IODP Science Evaluation Panel (SEP) - development of drilling proposals

The development of drilling proposals within IODP is overseen by the Science Evaluation Panel (SEP) that meets twice a year to review proposals, encourage and monitor their progress and eventually identify the strongest proposals to pass to the facility boards for scheduling.



In 2019, **Lisa McNeill (Southampton, UK) took on the position of SEP Co-Chair**, highlighting again the important role that ECORD scientists play in the leadership of the programme. ECORD has 14 SEP members (*table below*).

Alongside the development of the new "Framework for Scientific Ocean Drilling through 2050", we need to demonstrate to national funding agencies that there is continued proposal pressure from the international scientific ocean drilling community if we are to succeed in securing the future of IODP and of ECORD.

There is a **pressing need for the community to continue to develop new drilling proposals** – now is the time for ECORD scientists at all career stages to push forward with developing exciting, innovative proposals to take us beyond 2023.

The progress of proposals through the evaluation system in recent years has been streamlined and optimised, so this is an ideal opportunity for ECORD scientists to lead new expeditions, and we should not be taking our eye off the ball as we approach the end of the current IODP phase.

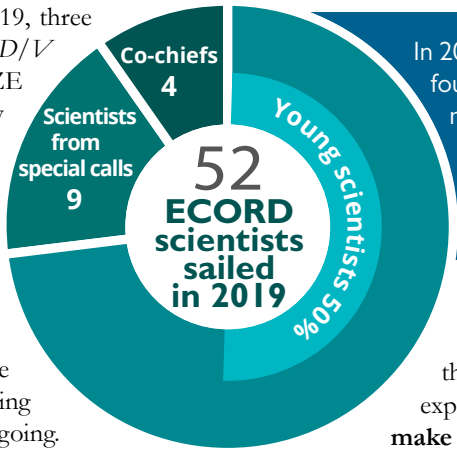
Table: **ECORD** has nine members in the **SEP Science sub-group** and five members in the **SEP Site sub-group**

Aria Angela Bassetti	CEFREM, Université de Perpignan	Stratigraphy, sedimentology, micropaleontology, palaeoclimate	ECORD	sci
Thorsten Bauersachs	Kiel University	Geomicrobiology, organic geochemistry, palaeoceanography	ECORD	sci
Adélie Delacour	Université Jean Monnet	Petrology, geochemistry, oceanic crust	ECORD	sci
Karsten Gohl	Alfred Wegener Institute	Geophysics, oceanic crustal structure, tectonic-magmatic evolution and sedimentation, ice-sheet processes of polar continental margins	ECORD	sci
Lisa McNeill, Co-Chair	University of Southampton	Active tectonics, marine geophysics, earthquakes	ECORD	sci
Kevin Pickering	University College London	Marine geology, sedimentology	ECORD	sci
Julie Prytulak	University of Durham	Geochemistry, magma generation and evolution	ECORD	sci
Kazuyo Tachikawa	CEREGE, Aix-en-Provence	Inorganic geochemistry, palaeoceanography	ECORD	sci
Paola Vannucchi	Royal Holloway, University of London	Structural geology, tectonics of subduction zones and transform fault/fracture zone systems	ECORD	sci
Rebecca Bell	Imperial College London	Geology and geophysics	ECORD	site
Silvia Ceramicola	Istituto Nazionale di Oceanografia e Geofisica Sperimentale	Seabed mapping, sedimentology, tectonics	ECORD	site
Christian Hübscher	University of Hamburg	Marine geophysics	ECORD	site
Michele Rebesco	Istituto Nazionale di Oceanografia e Geofisica Sperimentale	Marine geology, geophysics	ECORD	site
Tilmann Schwenk	University of Bremen	Submarine fans and channel-levee systems, contourites, mass wasting	ECORD	site

IODP expeditions

Four IODP expeditions were completed in 2019, three using the *JOIDES Resolution* and one using the *D/V Chikyu* (IODP Expedition 358 "NanTroSEIZE Deep Riser Drilling: Nankai Seismogenic/Slow Slip Megathrust", that at six months duration is the longest in IODP history). Expedition 385 is now underway in the Guaymas Basin, and is currently making extraordinary progress in recovering mafic sills intruding marine sediments in an active marginal rift basin.

Staffing for upcoming expeditions by the *JOIDES Resolution*, the *Chikyu* and MSPs during 2020 (*table on page 8*) has been completed or is ongoing.



In 2019, a total of 52 scientists (including four Co-chief Scientists) from ECORD member countries participated in IODP expeditions. Nine of these scientists were selected following special calls for participation.

We are pleased to be able to provide many students and early-career researchers with the opportunity to participate in IODP expeditions. **Young scientists continue to make up approximately 50% of the ECORD participants.**

ECORD Summer Schools, Grants and Scholarships

ESSAC also continues to support initiatives to train the next generation of ocean drilling scientists through the three ECORD Summer Schools. In 2019, ESSAC awarded ECORD Scholarships to 15 early-career researchers attending these events. We also awarded seven ECORD Research Grants to outstanding early-career scientists for IODP-related research projects (*see page 21*). These short-term, merit-based awards contribute to travel and laboratory expenses, and are particularly intended to support studies that promote new collaborations and/or the acquisition of new scientific expertise through mobility.

15 SCHOLARSHIPS awarded

7 GRANTS awarded

More info about ECORD research grants:
http://www.ecord.org/education/research-grant

Other ESSAC activities

Other ESSAC activities this year included a session entitled "Achievements and Perspectives in Scientific Ocean and Continental Drilling" at the EGU General Assembly in Vienna, Austria, that was jointly organized with our partners in the International Continental Scientific Drilling Program (ICDP) (*page 24 and 31*). This session has now become a regular event at EGU and continues to attract a large number of oral and poster contributions. Further information about ECORD, IODP and ICDP activities will also be available at the ECORD-IODP-ICDP booth and the IODP-ICDP Town Hall Meeting at the **AGU Fall Meeting in San Francisco in December 2019**… we hope to see you there!

Finally, please note that the **ESSAC Office** will be remaining at the University of Plymouth for a second two-year term (until the end of 2021), following approval by the ECORD Council.

There will be a **call for applications for the next ESSAC Chair** in early 2020, with the new appointee serving as incoming Vice-Chair in 2021.

ECORD scientists interested in applying can get more information about this role by contacting: **Tony Morris** (*amorris@plymouth.ac.uk*).

Antony Morris - *ESSAC Chair*
Hanno Kinkel - *ESSAC Science Coordinator*
essac@plymouth.ac.uk

More info: *https://www.ecord.org/about-ecord/management-structure/essac/*

APPLY FOR ECORD RESEARCH GRANT

Deadline: 31 January 2020

https://www.ecord.org/education/research-grant/

EGU General Assembly 2020

CALL FOR ABSTRACTS
VIENNA | AUSTRIA | 3–8 MAY 2020

Deadline: 15 January 2020

https://meetingorganizer.copernicus.org/EGU2020/onprogramme

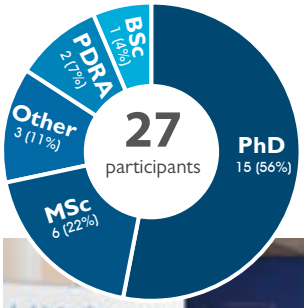
ECORD Summer Schools 2019

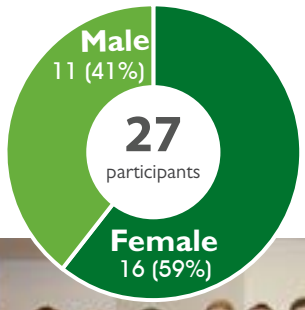
4th Petrophysics Summer School (30 June - 5 July 2019)

The fourth annual Petrophysics Summer School (PSS) was hosted by the University of Leicester this summer, with the 6-day CPD-accredited course running through the first week of July. Organised and implemented by the resident International Ocean Discovery Program (IODP) research group, teaching was delivered alongside industry professionals and international IODP partners from the US and Japan - providing diverse global coverage and extensive logging experience.


Photo credit: E. Le Ber, ECORD/IODP

As in previous years, the course accommodated a varied participant demographic representing 11 nationalities within the 27 participants and with female participants forming a majority.





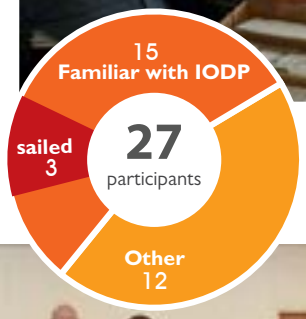


Photo credit: E. Le Ber, ECORD/IODP

Attendees also represented a range of geoscience backgrounds and career stages. Fifteen participants were familiar with IODP (data, research, sailed, training), and three of those sailed on IODP expeditions before the Summer School (*see statistic above*).

Summer School participants were familiarised with petrophysics fundamentals through a 2-day 101 course; before visiting real life logging tools at Weatherford; getting hands-on with sediment cores at the British Geological Survey (BGS) Core Store; and finally implementing their fundamentals training on real IODP expedition data through two days of training in Schlumberger's Techlog software package. Scattered throughout the week were additional sessions on technically advanced subjects and applications; providing opportunities to look at acoustic data processing, petrophysics applied in the kitchen, and a variety of physical properties measurement apparatus. The Summer School also included short "elevator pitches" and a mini conference with posters to encourage attendees to join a growing network of research petrophysicists within IODP.

Alongside a week of teaching ran variety of evening social events – with a talk and reception at the New Walk Museum, a picnic in the Botanical Gardens, and local delights at an award-winning restaurant.

The PSS was made possible through funding from ECORD and the UK IODP. Additional significant in-kind contributions came from the European Petrophysics Consortium (EPC), Weatherford and the BGS Core Store. Fifteen attendees were funded through the IODP via scholarships/bursaries/grants from the United States Science Support Program (USSSP) and ECORD.

Laurence Phillpot - *ljp40@leicester.ac.uk*
EPC Technician, University of Leicester

Geoblog: *https://www2.le.ac.uk/departments/geology/geoblog/petrophysics-summer-school-2019*
More info: *https://www2.le.ac.uk/departments/geology/research/gbrg/projects/iodp/petrophysics-summer-school-2019*

16th Urbino Summer School 2019 in Paleoclimatology (10 - 26 July 2019)

1506 UNIVERSITÀ DEGLI STUDI DI URBINO CARLO BO

Integrating field data and modelling results in the next generation of palaeoclimatologists

To promote the integration of field data and modelling results in the next generation of palaeoclimatologists, the USSP Consortium and teacher pool organized the 16th annual IODP-ECORD Urbino Summer School in Paleoclimatology (USSP) on 10 – 26 July in Urbino, Italy.

32 teachers — **63** participants — **20** **Nationalities**

The Urbino Summer School in Paleoclimatology 2019 brought together **32 world experts** in palaeontology, palaeoceanography, palaeoclimatology, and geochemistry, including many past and future ODP/IODP participants, to lecture and mentor **63 typically first-year graduate students** from about 20 nations.

Integrated student-centered programme

The USSP 2019 provided an integrated student-centered programme comprised of:

- topical lectures by internationally recognized scientists;
- student-centered data-rich exercises, investigations, and presentations using field data;
- parallel sessions providing groups of participants with a more focused coverage of selected topics within palaeoclimatology;
- a regional field excursion to classic Cretaceous and Cenozoic sections;
- students' poster presentation, and
- evening lectures/discussions on professional development.

The 2019 programme structure included, as usual, a first week centered on IODP elements and comparison of oceanic sequences with the local succession counterparts through student-centered investigations. In addition, the USSP 2019 programme included a 1-day workshop (20 July 2019) where many instructors gave informal presentations on their latest, often unpublished, field and modelling results, providing students with an excellent opportunity to experience the cutting edge of scientific progress. Student course evaluations assessed USSP 2019 as extremely positive.

As in past years, the Faculty of Economics of the University of Urbino hosted the programme, providing a large hall for lectures, smaller rooms for student working groups and parallel sessions.

USSP received generous support by ECORD, the University of Urbino, and the Netherlands Earth System Science Centre (NESSC). Additional generous support by ECORD and the US National Science Foundation allowed USSP to offer more than 20 student scholarships. The collective support of these institutions is gratefully acknowledged.

Simone Galeotti - *simone.galeotti@uniurb.it*
Associate Professor, Università degli Studi di Urbino

USSP website: *https://www.urbinossp.it*

Photo credit: N. Lourens

13th ECORD Bremen Summer School (16-20 September 2019)

Subduction Zone Processes: Magma, Volcanoes, Ore Deposits, Geohazards

On the afternoon of Sunday 15 September, 25 young scientists (Master / PhD students and Postdocs) from 13 different countries arrived in Bremen. They came together to learn about the numerous processes relating sub-seafloor fluid transport and gas hydrate dynamics during the thirteen´s ECORD Summer School, which took place at the MARUM – Center for Marine Environmental Sciences and the IODP Bremen Core Repository (BCR) at the University of Bremen in Germany.

The school combined lectures with practicals and laboratory exercises on state-of-the-art IODP-style shipboard methodologies.

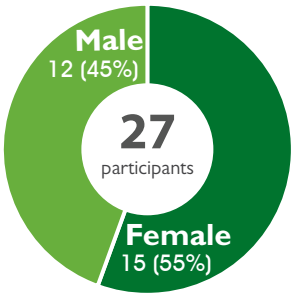



Photo credits: V. Diekamp, MARUM/University of Bremen

By the "virtual ship experience" at MARUM, the participants gained insights into how the samples and measurements in publications or use for own research are actually acquired. Moreover, the participants had the opportunity of presenting their own research projects to exchange their most recent findings and ideas regarding sub-seafloor fluid transport and gas hydrate dynamics.

The lectures addressed "Subduction Zone Processes: Magma, Volcanoes, Ore Deposits, Geohazards", the general topics of the summer school, from various disciplines. Topics ranged from volcanic hazards and arc magmatic and hydrothermal systems to rock geochemistry and element cycling as well as evolution from oceanic crust to continental crust, and fluid flow and seafloor fluxes to hazards in convergent margins and deep life.

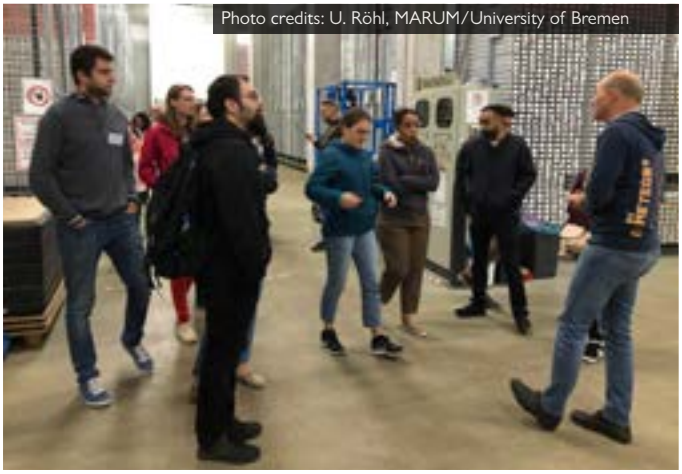


Photo credits: U. Röhl, MARUM/University of Bremen

Certainly, the participants got to know about IODP in general, its organizational structure and world of acronyms, application processes, importance and procedures of outreach, proposal writing, current planning and future trends that all might pave the way toward involvement in future IODP expeditions.

The Bremen Core Repository reefer and labs tour and MARUM workshop was crucial part in the beginning (*photo on the left*). Many aspects of a typical core workflow during an IODP expedition were addressed in practicals: the fun of recognizing composition and structures in a core section, thin section or a smear slide, the measurement of physical properties or considerations of temperature and heat flow for example. Coffee, tea, and lunch breaks as well as socializing "after shift" in the evenings or the organized weekend tours provided numerous opportunities for discussions and networking with a number of new colleagues and potential future collaborators.

Ursula Röhl - *uroehl@marum.de*
ESO Curation and Laboratory Manager

ECORD Bremen Summer School webpage: *http://www.marum.de/en/ECORD_Summer_Schools.html*

View from an ECORD Summer School participant

During the morning of 16th of September, 27 early-career scientists from 13 countries met at MARUM - Center of Marine Environmental Sciences of the University of Bremen, Bremen, Germany, to participate in the ECORD Summer School 2019 on Subduction Zone Processes.

For two weeks the participants had the opportunity to attend interactive lectures from distinguished and highly qualified scientists in the field of subduction zone processes, at this occasion lecturers and participants actively discussed the presented themes.

Photo credits: V. Diekamp, MARUM/University of Bremen

Another aim of this summer school was to encourage the participants to engage in IODP. For that matter, the first day was dedicated to the history and the aims of this programme followed by a guided tour of the IODP Bremen Core Repository reefer as well as MARUM laboratories and facilities. Also, the afternoons of the following days were filled with practical and laboratory exercises of the so-called Virtual Ship to acquaint the group of masters and PhD students as well as Postdoc researchers into the IODP-style shipboard methodologies and prepare them for future IODP expeditions. These activities included for example physical properties measurements on IODP cores and samples; the observation of thin section of tuffs, lapilli, andesitic and boninitic samples in polarized light microscopy; preparation of smear slides, core description at selected cores from subduction zones; processing and interpretation of geochemistry data of pore fluid samples; temperature and heat flow measurements; and downhole logging measurements and data interpretation.

During the first week lectures were focused on volcanic events and hazards at volcanic arcs; subduction processes and related tectonics; elemental mobility and melt differentiation; oceanic and continental crusts and mantle alteration; metamorphic reactions; hydrothermal systems on magmatic arcs, and also the implication of all these mechanisms on the geochemical cycles in subduction zones.

The lectures of the second week approached topics, such as fluid flows, mud volcanos and landslides, the importance of geophysical methods to study and characterize the seafloor, as well as the deep-sea life and related geochemical processes.

In addition to all the learning experience through the two weeks period, the participants also had the opportunity to share their individual research projects in short oral presentations, which deepened the discussion between attendees with different backgrounds and various expertise fields.

During the last two days the participants were taught how to reach the public on scientific matters, and how to write an IODP proposal in groups of five to seven participants, where they should consider, among others, the costs of an IODP expedition, the importance of studying the proposed region and the related impact on the local and non-scientific community.

This summer school had a strong social component enhanced with events like the icebreaker party, the guided tour and lunch in the city centre and the farewell dinner, amplified with the Virtual Ship and the IODP proposal activities that promoted dialogue and encouraged teamwork spirit.

I want to thank for the entire group of Dierk Hebbeln, Wolfgang Bach, Achim Kopf, Ursula Röhl, and Sinah Teumer for the organization of this summer school, for the amazing opportunity to attend lectures and activities led by internationally renowned scientists, and for having the chance to meet and work with such amazing group of early-career scientists.

Mafalda Freitas - *mafalda.freitas@ipma.pt*
Participant of the 13th ECORD Bremen Summer School
Master student at IPMA - Instituto Português do Mar e da Atmosfera

Photo credits: V. Diekamp, MARUM/University of Bremen

Photo credits: V. Diekamp, MARUM/University of Bremen

ECORD Training Courses 2019

5th ECORD Training Course 2019 (25-29 March 2019)

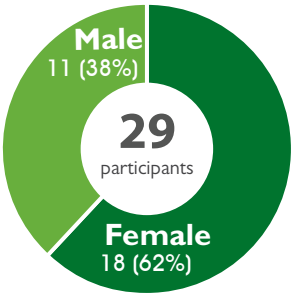
marum
Center for Marine Environmental Sciences
University of Bremen

"Virtual Ship Experience"

For the next generation of IODP scientists the MARUM (Center for Marine Environmental Sciences, University of Bremen) is an important hub. The Bremen Core Repository (BCR) located at MARUM, is one of three IODP repositories in the world, here scientists can access cores for description, analyses and sampling, as well as being trained at an early stage in their career.

From 25 to 29 March 2019, the fifth ECORD Training Course building on the success of previous years was held at the BCR with 29 participants from ten different countries including non-ECORD and non-IODP member countries. This five-day course started with an introductory session on the structure and objectives of ECORD and IODP, and a general tour of the MARUM and BCR, before focusing on the IODP core-flow and typical expedition laboratory procedure practicals in smaller groups. These IODP-style lab exercises formed the foundation of the course, following the pattern of the unique "Virtual Ship" approach developed for the popular Bremen ECORD Summer Schools (*page 18*).

The course was customized to prepare the participants for sailing on an IODP expedition, and to give them an appreciation of the high standards required for all kinds of coring projects.
(*see link to detailed programme below*).



The course concluded with an IODP proposal writing exercise on the last day. The brainstorming in breakout groups was great fun and has already resulted in several promising new ideas that may evolve into pre-proposals in the future. The participants were exceptionally lively, taking part in practical exercises and contributing to discussions, gaining first-hand insights into the multidisciplinary team effort that is a crucial part of the success of any ocean drilling programme.

Ursula Röhl - *uroehl@marum.de*
ESO Curation and Laboratory Manager

More info: *https://www.marum.de/en/education-career/ECORD-training/ECORD-Training-Courses.html*
Detailed program: *https://www.marum.de/en/education-career/ECORD-training/ECORD-Training-Course-2019.html*


Photo credits: V. Diekamp, MARUM/University of Bremen


Photo credits: V. Diekamp, MARUM/University of Bremen

Apply for ECORD Training Course 2020
Deadline: 17 January 2020
More info:
https://www.marum.de/en/education-career/ECORD-training/ECORD-Training-Course-2020.html

Apply for ECORD Research Grant
Deadline: 31 January 2020
ECORD is sponsoring awards for young scientists to conduct innovative research related to the IODP.
https://www.ecord.org/education/research-grant/

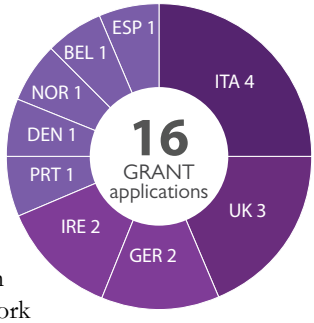
ECORD Grants and Scholarships Awardees 2019

ECORD Grants

7 GRANTS awarded

Every year ESSAC opens a call for ECORD Research Grants, addressed to early-career scientist, to conduct innovative research related to the International Ocean Discovery Program.

In 2019 ESSAC received sixteen applications from nine ECORD member countries (*circle diagram on the right*).



The Education and Outreach Subcommittee **selected seven proposals** (*table below*) and awarded up to 3,000 € for research that will be carried out in cooperation with a host institution abroad in order to promote mobility and network building among early-career researchers.

Table: Proposals selected for ECORD Grant awards

Name	Country	Project	Host Institution	Awarded
Rudy Conte	ITA	Integrated analysis of Contourite Depositional System (Ross Sea, Antarctica): linking sedimentary record and past ocean dynamics.	Plymouth University	1,800 €
Dimitrios Evangelinos	ESP	The evolution of the Antarctic Circumpolar Current during the last 28 million years	Imperial College London	3,000 €
Natacha Fabregas	NOR	Sedimentology of the axis of the Corinth Rift during Marine Isotopes Stages (MIS) 5 to 7	MARUM, Bremen	2,035 €
Valerio Funari	ITA	Geochemical characterization of metalliferous mud and dolostone at the top of the "Basement Unit 1" from the Tyrrhenian Sea, ODP Leg 107.	Leoben University	2,600 €
Dakota Holmes	IRE	A multiproxy approach to assess boundary conditions leading to abrupt high- magnitude climate events	University of Bremen	2,600 €
Kasia Śliwińska	DEN	mid-Cretaceous climate in the High Arctic region	Bristol University	3,000 €
Tim van Peer	UK	Reconstructing northwest Atlantic Ocean oceanography across the Oligocene-Miocene Transition using environmental magnetic techniques	Utah Paleomagnetic Center	2,775 €

ECORD Scholarships

In addition to the direct support to the organisers of the ECORD Summer Schools, ESSAC provided 15 merit-based scholarships to support early-career scientists in their participation in these events.

In 2019 we have received fifty-five valid applications (*circle diagram below*) and **selected 15 applicants:** nine from the Urbino Summer School in Paleoclimatology (USSP), four from the Petrophysics Summer School in Leicester (PSS) and two from the Bremen ECORD Summer School (ESS) (*table on the right*).

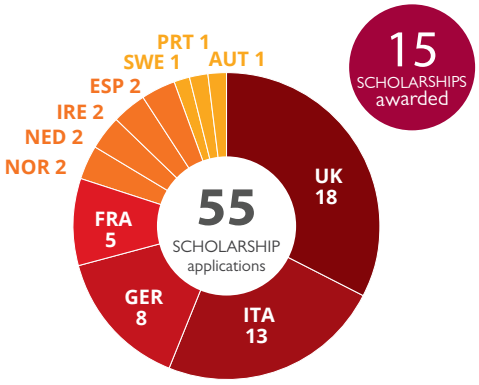


Table: Aplications selected for ECORD Scholarships

Name	Country	Institute	Summer School
Mafalda Freitas	PRT	IPMA	Bremen (ESS)
Cheng Cheng Wang	NOR	University of Bergen	Bremen (ESS)
Maxine Valentina King	UK	Plymouth University	Leicester (PSS)
Claudio Robustelli Test	ITA	University Torino	Leicester (PSS)
Duncan Stevens	UK	University of Southampton	Leicester (PSS)
Leonardo Tamborrino	GER	MARUM, Bremen	Leicester (PSS)
Sophie Alexander	UK	Open University	Urbino (USSP)
Anna Hauge Braaten	NOR	University Bergen	Urbino (USSP)
Adriana-Geanina Butiseaca	GER	Senckenberg Institute, Frankfurt	Urbino (USSP)
Alicia Meng Xiao Hou	GER	Heidelberg University	Urbino (USSP)
Boris Theofanis Karatsolis	SWE	Uppsala University	Urbino (USSP)
Nicola Kirby	UK	University of Birmingham	Urbino (USSP)
Claire Martinot	FRA	CEREGE, Aix-en-Provence	Urbino (USSP)
Rebecca Parker	UK	University of Exeter	Urbino (USSP)
Claire Marie Routledge	UK	University College London	Urbino (USSP)

Antony Morris - *ESSAC Chair*

Hanno Kinkel - *ESSAC Science Coordinator*

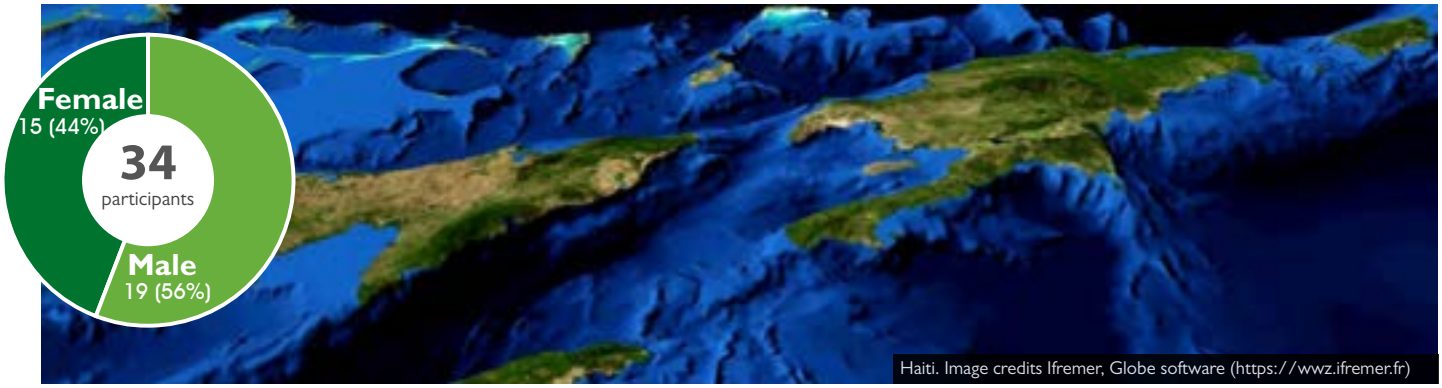
essac@plymouth.ac.uk


Antony Morris


Hanno Kinkel

http://www.ecord.org/education/research-grant/
https://www.ecord.org/education/scholarship/

MagellanPlus: **Haiti-DRILL Workshop** (20-22 May 2019, Plouzané, France)

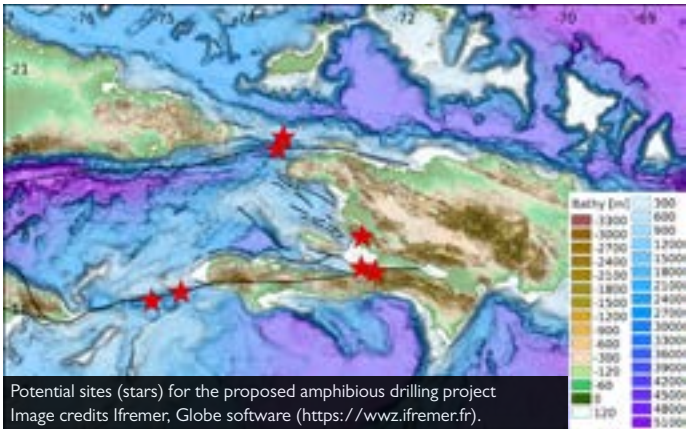


Haiti. Image credits Ifremer, Globe software (https://wwz.ifremer.fr)

The Haiti-Drill amphibious drilling project workshop

The Haiti-Drill amphibious drilling project workshop was held 20-22 May 2019 in Plouzané, France. It was the second workshop held for developing a drilling project targeting the **dual transform fault system along the northern boundary of the Caribbean plate in the Haiti region**.

The first workshop was held in 2015 after pre-proposals were submitted earlier that year. Preproposal reviews recommended making a stronger scientific link between the objectives and the drilling sites of the onshore and offshore targets, as well as identify scientific questions of both global and local significance.


Potential sites (stars) for the proposed amphibious drilling project
Image credits Ifremer, Globe software (https://wwz.ifremer.fr).


Talk during the Haiti-Drill Workshop

During the workshop, results since the 2015 workshop were discussed and two scientific questions were posed as potential overarching goals for the project:

- What are the relative ages and slip rates of the faults and are they examples of young transform fault zones?

- How do the rheological properties of the fault zones compare to other transform fault zones in the world?

Overall, workshop participants were in agreement that more research and surveys need to be done to gain a deeper understanding of the dual transform fault system before developing a full amphibious drilling proposal. In particular, high-resolution wide-angle seismic reflection, geological mapping, and additional coring need to be conducted to enhance our understanding of the architecture and palaeo-record of the region prior to deeper drilling.

Due to certain difficulties (e.g. surveys needed, ship time scheduling), future small projects - either onshore or offshore - conducted in support of drilling will be worked separately on their own timescales for the moment. As a first step, Haiti-TWiST, a deep crustal oceanographic survey, will be submitted for funding in 2019.

Anyone interested in collaborative efforts to analyse existing data (cores and seismic) and/or in participating in the long-term development of the amphibious drilling project should contact **Chastity Aiken** by email (*chastity.aiken@ifremer.fr*) or on Twitter (@seismo_chas).

Chastity Aiken - *chastity.aiken@ifremer.fr*
Seismologist at Ifremer

More info: *https://wwz.ifremer.fr/gm/Activites/Colloques/Haiti-DRILL-Magellan-Plus-Workshop-May-20-22-2019*

MagellanPlus: **RELICT Workshop** (12-13 September 2019, Lisbon, Portugal)

The **Rol**E of **LI**thospheri**C** Inheri**T**ance on Subduction Initiation on a Passive Margin

The RELICT Magellan workshop was successfully held at the Instituto Português do Mar e da Atmosfera (IPMA, I.P.) headquarters in Lisbon, 12th - 13th September 2019.

The aim of RELICT was to discuss the rationale to submit an IODP multiple drill proposal to retrieve cores across the continental Moho in the SW Iberia rifted Margin, the Ocean-Continent Transition (OCT) and the Africa-Eurasia transform-subduction plate boundary in the Atlantic.

RELICT Organizing Board:
Pedro Terrinha - *pedro.terrinha@ipma.pt*
Marta Neres - *marta.neres@ipma.pt*
Vitor Magalhães - *vitor.magalhaes@ipma.pt*

More info and detailed programme:
http://relict-magellanplus.ipma.pt

The workshop was a timely fit with the *JOIDES Resolution's* timeline (drilling in 2023-2024 in the North Atlantic), and offered the possibility to tackle fundamental questions such as the nature of the lithospheric mantle in hyper-extended continental margins and OCT, and subduction initiation at transform faults.

The main outcome of the discussions was that the central addressed topic: subduction initiation in a passive margin, should be the core topic of a proposal to be submitted to the IODP Science Support Office, to the present proposal submission call that have the deadline on the 1st October, 2019.

Upcoming MagellanPlus Workshops

EFRAM-ARC Workshop (21-24 January 2020, Trieste, Italy)

Eastern Fram Strait Paleo Archive - The drill of a high-resolution Early Pleistocene Arctic palaeo-climatic record

COSNICA Workshop (19-20 June 2020, Graz, Austria)

The life cycle of a microplate at a convergent margin

More info: *http://cosnica.uni-graz.at/*

MagellanPlus Workshop Series Programme

The programme is co-funded by ECORD and ICDP and designed to support scientists in developing new and innovative science proposals to meet future challenges in Earth, life and environmental sciences. For this purpose the MagellanPlus Workshop Series Programme funds workshops and/or scientists that are expected to lead to or foster high-quality and innovative scientific drilling proposals for submission to IODP and ICDP.

More info: *https://www.ecord.org/science/magellanplus/*

Call for Proposals - *see page 13*

ECORD Outreach Task Force News

EOTF News and activities


Malgo Bednarz


Carol Cotterill


Nadine Hallmann


Hanno Kinkel


Ulrike Prange

Since April 2019, the ECORD Outreach Task Force (EOTF) has promoted ECORD and IODP at the multiple conferences and events (*page 31 and below*) and continues the production of resources for various audiences.

Updated ECORD logo

ECORD updated its logo in the middle of 2019.
The updated version of the logo is available to download in raster and vector versions from:
https://www.ecord.org/resources/logos-and-maps/

Malgo Bednarz - *bednarz@cerege.fr, ESO Outreach Manager*

Carol Cotterill - *cjcott@bgs.ac.uk, ESO Outreach Manager*

Nadine Hallmann - *hallmann@cerege.fr, Assistant Director of the ECORD Managing Agency*

Hanno Kinkel - *hanno.kinkel@plymouth.ac.uk, ESSAC Science Coordinator*

Ulrike Prange - *uprange@marum.de, Science Communication, MARUM*

Activities

Conferences and meetings

ECORD was promoted during multiple international conferences and co-organised/joined exhibition booths and meetings at:

- **EGU 2019** (7–12 April 2019, Vienna, Austria)

Joint ECORD/IODP-ICDP exhibition booth was co-organized at EGU 2019 (*photos below and page 31*).

Outreach team wished a farewell to **Patricia Maruéjol** who attended the EGU 2019 for the last time as a member of ECORD booth staff after 16 years. We hope you have a great retirement

ECORD/IODP-ICDP booth at EGU 2019. From left: Hanno Kinkel holding ECORD banner; overview of the booth, T. Wiersberg and P. Maruéjol with her farewell gift; E. Le Ber and C. Cotterill building JR paper model. Image credits: M. Bednarz, ECORD/IODP

Patricia! Use the shovel to dig deep in your garden!


C. Cotterill and L. Armand ANZIC-IODP booth at the ICP 2019. Image credits L. Medenis, IODP/ANZIC

- **13th ICP 2019** (2- 6 September 2019, Sydney, Australia)

Carol Cotterill joined ANZIC-IODP booth in Sydney (photo on the right and *page 31*).

- **French Geological Society Scientific Drilling Day** (16-17 October, Paris, France)

IODP-France and EMA co-organized an event for the French IODP-ICDP community (*page 38*).

See more about events on *page 29*

Onboard Outreach Officer

Vivien Cumming (UK) returned from **Expedition 379** Amundsen Sea W Antarctic Ice Sheet History (*https://joidesresolution.org/expedition/379/*), during which she was appointed as onboard Outreach Officer.

Vivien produced multiple outreach resources promoting ECORD and IODP including: 5 live broadcasts, 26 blogs on *JOIDES Resolution* website, video materials (trailer and final video, CAPES (Brazilian IODP) promotional video, BBC Global News film, video for German and French TV), news articles, photos and a post on BBC Earth Instagram, and Social media posts.

Expedition Trailer: *https://www.youtube.com/watch?v=QXe4DJp_Yh0*
Final Video: *https://www.youtube.com/watch?v=V0d7DcPsuZU&t=1s*
CAPES Film: *https://youtu.be/pboeKd0w7W4*
BBC Global News Film: *https://www.bbc.com/reel/video/p07bvx51/the-time-machines-unlocking-antarctica-s-past*

Due to BBC Earth social media sharing and publicity on BBC Global News we estimate direct audience sizes of over 2 million. BBC Global News have a weekly audience size of 394 million people globally.

Audiences reached through broadcasts: 680. Audiences reached through *JOIDES Resolution* website and social media estimated at over 400k.

Resources

Core replicas

Six replicas of ODP and IODP drilled cores are available for classroom activities and display at temporary exhibitions and conferences in Europe and Canada (*see also "Core replicas' travels" on page 27*).

The new core replicas from **Expedition 364 Chicxulub K-Pg Impact Crater** are still under preparation and will be delivered next year.

More info: *https://www.ecord.org/resources/core-replicas*

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Printed media and goodies

ECORD/IODP information materials (ECORD Newsletter, flyers and brochures) were distributed to the ECORD community. The special issue of *Oceanography* was also distributed to ECORD scientific community *(see box on page 8)*.

- **A Brochure for the general public** was produced by Alex Ingle (*picture 1 below*). *[completed]*
- **An IODP-ICDP brochure** was produced by ICDP outreach team (*picture 2 above*). *[completed]*
- EOTF keeps working on a new **brochure for stakeholders** (*picture 3 above*). *[ongoing project]*
- **A pre-expedition flyer for Exp. 386** (*page 12*) was produced. Its digital version is available on the Exp. 386 webpage (*https://www.ecord.org/expedition386/*) (*picture 4 above*). *[completed]*
- **Expedition stickers** were printed for every MSP expedition (including soon to be operated Exp. 386) and will be distributed during events and conferences (*picture 5 above*). *[completed]*
- **New goodies** were produced and are going to be distributed at conferences/events. EOTF keeps working on new ideas for ECORD goodies and exhibition resources which will be discussed at EOTF meeting in Dublin (7 November 2019).

See more ECORD brochures and flyers: *https://www.ecord.org/resources/brochures/*

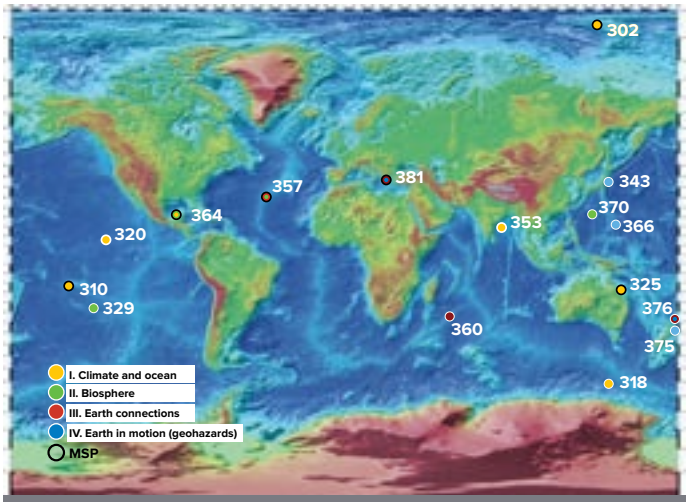
Video and multimedia resources

■ **Video targeting funders and stakeholders** is in its final stage of production by Alex Ingle - *https:// www.alexingle.com [ongoing project]*.

■ **ECORD Puffersphere project** *[ongoing project]*

The EOTF started working on a project that aims to present ECORD and its MSP concept on an interactive spherical display which will be in future loaned to museums across Europe and displayed at meetings and conferences.

The content of the spherical, interactive display will be targeted to the general public. The ECORD Puffersphere project is now in the stage of content production based on agreed information architecture and graphical structure. The scientific content focuses mostly on an introduction to the four IODP Themes, IODP/ECORD drilling vessels, IODP/ECORD expeditions covering all IODP themes (*table below*), and the IODP core repositories.



Map showing selected expeditions for the Puffersphere project.
Base map by https://www.noaa.gov/

More info about the Puffersphere display:
https://pufferfishdisplays.com/displays/

	Theme	Expedition		
1	I. Climate and Ocean Change	**302**	**MSP**	**ACEX**
2		**310**	**MSP**	**Tahiti Sea Level**
3		318	JR	Wilkes Land Glacial History
4		**325**	**MSP**	**Great Barrier Reef Environmental Changes**
5		353	JR	Indian Monsoon Rainfall
6		320-321	JR	Pacific Equatorial Age Transect
7	II. Biosphere	329	JR	South Pacific Gyre Subseafloor Life
8		**364**	**MSP**	**Chicxulub K-Pg Impact Crater**
9		370	*Chikyu*	T-Limit of the deep biosphere off Muroto
10	III. Earth Connections	**357**	**MSP**	**Atlantis Massif Serpentinization and Life**
11		360	JR	SW Indian Ridge Lower Crust and Moho
12		376	JR	Brothers Arc Flux
13		**381**	**MSP**	**Corinth Active Rift Development**
14	IV. Earth in Motion	343	*Chikyu*	Japan Trench fast drilling project J-FAST
15		366	JR	Mariana Convergent Margin & South Chamorro Seamount
16		375	JR	Hikurangi Subduction Margin (corresponding to 372 Creeping Gas Hydrate Slides and Hikurangi LWD)

Table: List of selected IODP expeditions for the ECORD Puffersphe project

ECORD online

The EOTF keeps working on the active presence of ECORD in the Internet through social media (facebook, twitter, Instagram and youtube – see back page) and through ECORD website improvements and additional applications.

ECORD Information Database *[completed]*

The database renewal is now completed and the new improved ECORD database was launched in September 2019 (*image on the right*). The database is ready for new data to be added and for existing data to be updated. New features were included into the ECORD database, such as improved search, mobile-friendly design and the latest security standards.

ECORD Information Database: *https://ecordbase.ecord.org*

Hosting, server-side maintenance and website management

- **New calendar** *[completed]*

A new calendar was installed on the website allowing for export of meetings and events into other calendar systems (such as Google or Outlook calendar). The ECORD website engine was updated recently to the latest version.

- **Website migration** *[completed]*

Website migration took place in November 2019. The folder containing website files was migrated from the root folder into the dedicated one. This action was crucial for other future functionalities to work properly (dedicated FTP access for ECORD members) and for other future applications to be developed and installed, such as a photo gallery.

- **ECORD photogallery** *[ongoing project]*

A new platform for photo and video sharing has been proposed and is being developed. Current "work-in-progress" version of application showcases the functionalities including free of charge high-resolution photo sharing. The development of the new platform was discussed during the EOTF meeting in Dublin (7 November). The ECORD photo sharing platform is a highly desirable on-line resource and its concept followed a high demand from press representatives from around the world.

Upcoming events / activities

- **EOTF fall meeting** (7 November 2019, Dublin, Ireland)

The fall EOTF meeting will be held on 7 November 2019 in Dublin, Ireland, in collaboration with our outreach colleagues from USSSP, CDEX/JAMSTEC and ICDP.

- **"Travel exhibit"** (13 November 2019, Vienna, Austria)

The EOTF, together with outreach teams of ICDP and Natural History Museum Vienna will meet on the 13 November 2019 to discuss the idea of a "Travel exhibit". This joint project will potentially deliver mobile exhibit under a common banner and would be displayed in museums and research centres around Europe. The initial concept of the "Travel exhibit" will be discussed during EOTF meeting in Dublin with our colleagues from ICDP.

- **AGU 2019** (9-13 December 2019, San Francisco, USA)

ECORD / IODP - ICDP exhibition booths will be co- organised at the AGU 2019 in conjunction with outreach and science sessions (*see page 28*). The event is the largest earth-sciences conference and brings together more than 23,000 participants from all over the world.

- **EGU 2020** (3-8 May 2020, Vienna, Austria)

An exhibition booth presenting ICDP and IODP under a "Scientific Drilling" banner will be co-organised at in collaboration with colleagues from ICDP, USSSP and CDEX/JAMSTEC. In 2020 the EGU Townhall meeting will be held at the Natural History Museum Vienna.

Core replicas' travels

IODP/ ODP core replicas were loaned to university courses, exhibitions and displays around Europe. Since the last issue of ECORD Newsletter in April, ECORD core replicas were displayed in various events as an educational resource and used for teaching and outreach purposes.

How to loan a core replica?

To order a core replica loan, contact **Malgo Bednarz** at *bednarz@cerege.fr* with inquiry about the availability of any particular core replica. ECORD shares the core replicas on a temporary basis to scientists and teacher under the conditions described in the loan document.

Core replica	Univeristy/Museum/Event
K/Pg	Plymouth University, UK (Dec 2018-mid April 2019) IODP-Italy, Genova, Italy (16-18 May 2019): Festival de Mare (*page 30*) University of Urbino, Italy (10-26 July 2019): Urbino Summer School 2019 (*page 17*) Universita' Ca' Foscari Venezia, Venice, Italy (30 October 2019): Female scientists by profession.
PETM	Plymouth University, UK (Dec 2018-mid April 2019) Imperial College, London, UK (03-30 June 2019): Great Exhibition Festival 2019 (*page 30*) University of Urbino, Italy (10-26 July 2019): Urbino Summer School 2019 (*page 17*) University College London, UK (15 Nov - 5 Dec 2019)
Oceanic Crust	Lapworth Museum, Birmingham, UK, (1 March - 18 June 2019, see also #32 issue of Newsletter) Plymouth University, UK (26 June - 2 July 2019): Girls in Geoscience
Tahiti	Universita' Ca' Foscari Venezia, Venice, Italy (30 October 2019): Female scientists by profession
ACEX	Lapworth Museum, Birmingham, UK, (1 March - 18 June 2019, see also #32 issue of Newsletter)
J-FAST	Imperial College, London, UK (3-30 June 2019): Great Exhibition Festival 2019 (*page 30*)

Table: Destinations of ECORD core replicas (April - November 2019)

More info: *https://www.ecord.org/resources/core-replicas*

ECORD at meetings, conferences and events

Calendar of meetings, workshops and conferences

2019	2020	
4 November **ESSAC Fall Meeting #13** Dublin, Ireland	7 - 9 January **SEP** La Jolla, CA, USA	June | *TBD* **ECORD Council Spring Meeting #6**
5 - 6 November **ECORD Council-ESSAC Meeting #7** Dublin, Ireland	21- 24 January **MagellanPlus Workshop:** EFRAM-ARC Trieste, Italy	16 - 18 June **SEP** Trieste, Italy
7 November **ECORD Outreach TF Meeting #16** Dublin, Ireland	March | *TBD* **ECORD Outreach TF Meeting #17** Plymouth, UK	19 - 20 June **MagellanPlus Workshop:** COSNICA Graz, Austria
13 November **Outreach meeting: Traveling exhibit** Vienna, Austria	24-25 March **ECORD Facility Board Meeting #8** Aix-en-Provence, France	November | *TBD* **ESSAC Fall Meeting #15**
9 - 13 December **AGU 2019** San Francisco, USA	3 - 8 May **EGU 2020** Vienna, Austria	November | *TBD* **ECORD Council-ESSAC Meeting #8**
	12 - 14 May **JR Facility Board** La Jolla, CA, USA	November | *TBD* **ECORD Outreach TF Meeting #18**
	May | *TBD* **ESSAC Spring Meeting #14**	7 - 11 December **AGU 2020** San Francisco, USA

Check for updates: *https://www.ecord.org/calendar/*

ECORD/IODP at AGU **2019** *(chosen oral sessions)*

PP24A-05 The response of coral reef systems to sea level change: lessons from the drowned reefs.
J. Webster et al.
10 December 2019 | 17:00 - 17:15 | Moscone West - 2006, L2

T42B-03 High resolution analysis of rates of early rifting, fault development, sedimentation and climate-basin environment interaction from IODP drilling of the Corinth active rift, Greece.
Lisa C. McNeill et al.
12 December 2019 | 10:50 - 11:05 | Moscone South - 154, Upper Mezz.

T42B-03 Distribution and Sources of Carbon in Serpentinized Mantle Peridotites at the Atlantis Massif (IODP Expedition 357).
Gretchen L. Frueh-Green et al.
12 December 2019 | 08:00 - 10:00 | Moscone South - 151, Upper Mezz.

MR42A-08 Insights into rock deformation from observations of the Chicxulub impact crater: Impact bulking, role of cohesion, and contrasts with tectonic plate boundary faults.
S. P. S. Gulick et al.
12 December 2019 | 12:05 - 12:20 | Moscone South - 152, Upper Mezz.

More: *https://www.agu.org/fall-meeting*

IODP-ECORD Day in Greece (3 October 2019, Athens, Greece)

An ECORD-IODP Day was initiated by EMA and organized by Paraskevi Nomikou and Dimitris Sakellariou (University of Athens) on 3 October 2019 at the University of Athens, Greece, involving **representatives from Greek authorities and institutes/universities and about 150 attendees**.

Gilbert Camoin (EMA), Tony Morris (ESSAC), Dave McInroy (ESO) and Katerina Petronotis (JRSO) presented ECORD and IODP and discussed with Greek scientists about a **potential ECORD membership of Greece.**

Two ECORD scientists presented initiatives, which involve Greek scientists. Lisa McNeill presented IODP Expedition 381 'Corinth Active Rift Development' that was implemented in 2017 and addressing the fault and rift structural evolution in an active continental rift. Tim Druitt talked about proposal 932-full 'Hellenic Arc Volcanic Field', a potential IODP Expedition with the target to drill the Christiana-Santorini-Kolumbo volcanic field, which poses an important threat to the Eastern Mediterranean region.

Greek scientists from various institutes/universities and disciplines, such as microbiology, seismology, climatology, geohazards and resources research, have shown the potential mutual benefits for Greece and ECORD-IODP that a Greek membership would provide.

ECORD is grateful to the conveners for their hospitality and the perfect organisation of this ECORD-IODP Day. ECORD is looking forward to welcome the enthusiastic, diverse and very active Greek science community.

More info (in Greek): *https://edcm.edu.gr/en/epikairotita/diethnis-imerida-ecord-iodp-day?fbclid=IwAR1a2InMj0zrRGCu45YYep6bxA9TkHJYEU0pFIV402Bu6nxMz_iOzKrPCmE*

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Assistant Director of the ECORD Managing Agency

Festival del Mare (16-18 May 2019, Genoa, Italy)

Interactive lessons to primary school classes during "Festival del Mare". Image credits IODP/ECORD.

IODP-Italy participated in the "Festival del Mare", a public event on the world of the sea with interactive conferences, labs and exhibits.

CNR – IODP-Italia (National Research Council), Univ. of Genova – DISTAV (Department of Earth Sciences, Environment and Life) and OGS (National Institute of Oceanography and Experimental Geophysics) set up the **exhibition booth "Geologic exploration under the sea – IODP"**, with a one-day composite lab to unravel how IODP and its ocean-going research platforms investigate the history of the Planet.

In the morning, primary school classes have been introduced to scientific drilling, the programme research vessels and rock sampling through an interactive lesson with the help of videos and the **ECORD K-Pg core replica**. The activities for the schools included practicals on the use of geology hand lens and microscope to analyse rocks and fossils. In the afternoon, the widest audience has been attracted by a virtual tour through the *Joides Resolution* using 360deg-viewers.

Customized postcards, 360deg- paper viewers with ECORD-IODP-Italia logos, together with ECORD and IODP-Italy leaflets and brochures, including research vessels paper models and copies of the comic "Mysteries of the deep" have been distributed to the visitors.

The staff at Festival del Mare included L. Crispini and R. Tolotti (Univ. of Genova); G. Massolino (OGS); A. Iadanza, F. Mattei and A. Civica (CNR); C. Trabella (Univ. of Pavia).

http://www.iodp-italia.cnr.it
http://festivaldelmare.unige.it/

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IODP-Italia Scientific Secretariat and the national IODP-Italia Committee,
and the IODP-Italy Staff at Festival del Mare

Great Exhibition Festival 2019 (29-30 June 2019, London, UK)


IODP booth at Great Exhibition Festival. Image credits V. Fernandes, D. Bastidas.

In 1851 The Great Exhibition was held in Hyde Park, London and showcased ground-breaking new technology of the day. In 2019 twenty institutions around Exhibition Road in South Kensington, including Imperial College, the Royal Albert Hall and Natural History Museum initiated the "Great Exhibition Rd Festival" in the same spirit to allow the public to have access to recent developments in science, technology and the arts. This festival brought together scientists and artists from a range of disciplines in 11 interactive themed zones packed full of creative activities and live experiments.

Rebecca Bell, Jo Morgan and Tina van De Flierdt from Imperial College London organised an exhibit as part of the **"Nature Zone"** on the use of IODP drilling to tackle important issues like earthquake hazards, meteorite impacts and climate change, directly related to expeditions that they have recently been involved in.
The exhibit involved the display of the **JFAST and PETM core replicas** from ECORD, the mini-inflatable *JOIDES Resolution* loaned from IODP JRSO and floor mats showing the location of IODP drill sites produced by Tom Dunkley-Jones following an exhibit on IODP at the Lapworth museum, University of Birmingham. We were supported by 25 volunteers from the wider ECORD and IODP community from 6 different institutions.

The event was attended by **60,000 people** across the weekend and despite the temperature rising to over 35 degrees some brave members of the public even dressed up in offshore survival suits! The event attracted a very diverse audience and was an excellent opportunity to spread the word about the excellent science done by ECORD/IODP.

https://www.greatexhibitionroadfestival.co.uk/event/nature-zone/

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Imperial College London
ECORD Member of IODP Science Evaluation Panel

13th ICP - International Conference on Paleoceanography (2- 6 September 2019, Sydney, Australia)

In early September I (Carol) joined Leanne Armand and Larisa Medenis on the **ANZIC-IODP** booth at the International Conference on Paleoceanography. As well as catching up with past participants in IODP expeditions, we spoke to a number of students interested in the programme. MSP expeditions 310 and 325 revealed new results in presentations by Thomas Felis and Jody Webster.

With over 400 attendees it was a truly enlightening conference!

http://icp13.com.au/
https://iodp.org.au/

Carol Cotterill - *cjcott@bgs.ac.uk*
ESO Outreach Manager

ANZIC-IODP booth at the ICP 2019. Image credits L. Medenis.

EGU 2019 (7-12 April 2019, Vienna, Austria)

A joint ECORD/IODP-ICDP exhibition booth was co-organized at the EGU 2019 in Vienna, Austria, in conjunction with several and science sessions (*see below the link to EGU2019 programme).*

ECORD/IODP-ICDP booth

An exhibition booth presenting "Scientific Drilling" was organised in collaboration with colleagues from ICDP, USSSP and CDEX/JAMSTEC. Our booth at the EGU 2019 was equipped withcolor-coded banners which were directly informing about the IODP-ICDP themes, an iPad with IODP-related sessions, goodies with the ECORD logo and scientific materials informing about ocean drilling. We engaged our booth visitors with building paper models of the JR and *Chikyu*, and 3D model of a coccolith.

The booth was visited by a wide range of people from students and early-careers scientists to senior scientists, and also business representatives.

Lunch & Learn event

A Lunch & Learn event on **"How to get involved in scientific ocean drilling?"** was held at ECORD booth on the 9th of April. Michi Strasser presented a slide show and explained how to start an adventure with ECORD/IODP scientific ocean drilling, how to apply to sail on a drilling ship, and how life looks like on a boat. There were many questions from early-career scientists who attended the event. The success of the Lunch&Learn at the EGU 2019 motivated the ECORD outreach team to organize similar sessions at future booths.

Several ECORD members were working at the booth to share the information about ECORD and IODP expeditions (ECORD staff: Patricia Maruéjol, Carol Cotterill, Erwan Le Ber, Tony Morris, Hanno Kinkel and Malgo Bednarz).

https://meetingorganizer.copernicus.org/EGU2019/sessionprogramme

Malgo Bednarz - *bednarz@cerege.fr*
Outreach Officer, ECORD Managing Agency

Thomas Wiersberg

GRIND-ing through the Ediacaran boundary with ICDP's innovative **mobile Drilling Information System (mDIS)**

Tony Prace in front of the drill rig (site 1A, Tierkloof, Namibia). Image credits M. Mesli, ICDP.

In September the ongoing ICDP-Drilling Project *Geological Research through Integrated Neoproterozoic Drilling – The Ediacaran-Cambrian Transition (GRIND-ECT)* started drilling in Namibia. It is the first ICDP drilling project to drill on three different continents: Africa (Namibia), South America (Brazil) and Asia (south China). The drilling is designed to obtain a core archive of sedimentary rocks that were deposited mostly in marine settings along continental shelves that constituted the margins of ancient continents.

The Neoproterozoic Era (1000 - 541 Ma) is one of the most dramatic in Earth history: metazoans evolved, the supercontinent Rodinia formed and broke apart, the global carbon cycle underwent high-amplitude fluctuations, oxygen concentrations rose and climate experienced at least two episodes of worldwide glaciation. However, the discontinuous and fragmented nature of outcrop-based studies has hindered developing quantitative models of Earth system functioning during that Era. Our objective is to create a core network of correlative ECT strata that will enable constructing a highly resolved, temporally constrained, geobiological, stratigraphic and geochemical database, as well as provide a legacy archive for future research. To achieve this objective and understand the drivers of the Neoproterozoic Earth system revolution, the project will integrate data between the three regions.

GRIND-ECT is steered by a Central Science Team and involves scientists from over 14 nations.

Knut Behrends, Tanja Hoerner and Catherine Rose work on the core inventory. Information is collected with the mDIS on mobile devices serving as clients (site 1A, Tiekloof, Namibia). Image credits M. Mesli, ICDP.

On 24 September 2019, the drilling began at Tierkloof in the southern Namibian desert by Günzel Drilling company and a team of three scientists, two ICDP staff and two Geological Survey of Namibia staff. Drilling has proceeded smoothly and the upper half of the hole recovered ~300 m of interbedded carbonates, shales and sandstones. According to the projected plan, the target depth is ~ 400 m that will be reached during the first week of October 2019. This is the first of five planned drill holes.

All retrieved sample material will be documented with the legacy Drilling Information System (DIS), the tool for capturing essential drilling data and related data sets. This DIS is routinely in use for sample curation at the ECORD/IODP core repository at MARUM in Bremen, Germany, for many years. Since 2014, DIS supports the widely used International Geo Sample Number (IGSN), a digital identifier for a unique and permanent allocation of sample material. As the legacy system is tied to licensed Windows and Office versions that are no longer supported by Microsoft, ICDP has developed a new edition of DIS during the past year: the highly flexible and web-based version inaugurated as "mobile DIS" (mDIS). mDIS was created in close collaboration between ICDP, the Uppsala University (Sweden), the ECORD/IODP core repository in Bremen, the CSDCO/LacCore at the University of Minneapolis (USA) and ICDP-commissioned IT-experts from the *InformationsGesellschaft mbH*, Bremen. Further, new techniques available today allow user-friendly handling and facilitate the development of innovative extensions. With the aim to develop a mobile and platform-independent DIS, mDIS has been applied for the first time in the field parallel to the legacy DIS (see images). Client-Server configurations with smartphones and tablets along with the intuitive design facilitates the working processes in the field and will be offered for all future ICDP projects.

Throughout October and November 2019, GRIND-ECT will continue drilling four additional holes in southern Namibia around the Swartpunt and Orange River areas. The cores will be shipped to the Federal Institute for Geosciences and Resources (BGR) core repository in Berlin, Germany, for detailed core characterization. One split-half will stay at the BGR, the other half will be shipped back to Namibia for long-term storage. The data generated will be shared within the GRIND-Science Team and published after the 3-year moratorium period. For further updates and information about how to get involved, visit *grind-icdp.org*; *grind-ect.icdp-online.org*; @GRINDicdp, @icdpDrilling.

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More information about ICDP: *https://www.icdp-online.org* and GRIND-ECT: *https://grind-icdp.org*

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News from ECORD member countries

Canada

The Canadian Consortium for Ocean Drilling is pleased to announce that, as a result of ongoing discussions with Government funding agencies, we are optimistic that Canada's membership in ECORD will continue until the end of the current programme at an increased level of funding.

In the meantime, Canadian scientists continue to be active in ECORD and IODP related activities. Dominique Weis (University of British Columbia) is a Co-PI on **Expedition 391** 'Walvis Ridge Hotspot', scheduled for December 2020.

Planning and preparation also continues for a proposed drilling leg (**IODP 655pre - Cascadia Subduction Zone Drilling - North Transect**) that would take place within Canadian waters and include close integration and coordination with Ocean Networks Canada (ONC) offshore cabled observatory and include scientists from Natural Resources Canada, ONC, and several Canadian Universities.

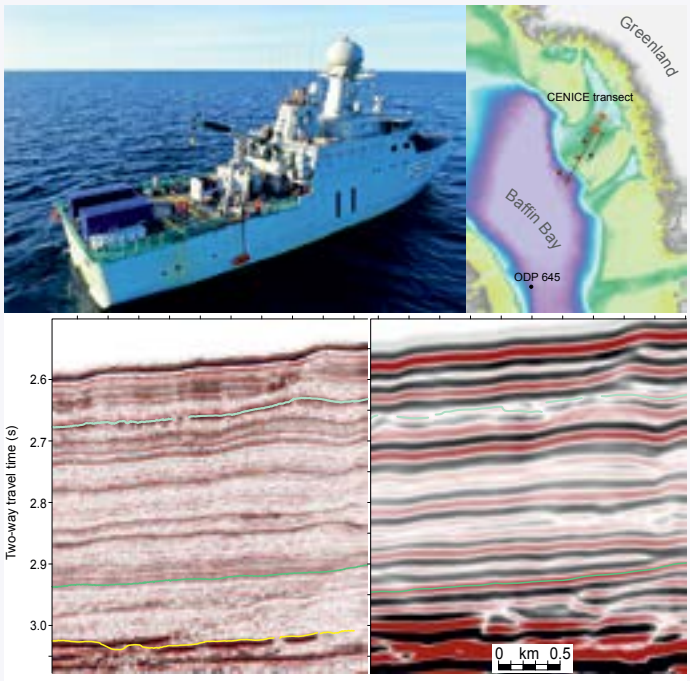
John William Jamieson - *jjamieson@mun.ca*
Chair, Canadian Consortium for Ocean Drilling

Denmark

High-resolution seismic data supporting IODP proposal 909Full-2 (CENICE)

Climate models show that sea-level rise due to ice melt caused by global warming is a major societal risk for the 21st century. The Greenland ice sheet is a key factor in this undesirable outlook. With recent observations of enhanced ablation of Greenland glaciers and a reduction of Arctic Ocean sea-ice, there is an urgent need to understand the past dynamics and instability thresholds of the Greenland ice sheet. The scope of CENICE is to generate a composite, late Cenozoic record that can unravel the evolution of the northern Greenland ice sheet and its response to warm climates in the past. Sites have been selected along a margin transect in northeast Baffin Bay (see figure) aimed at recovering high-resolution records spanning the Quaternary–Oligocene.

CENICE received favourable external reviews, but required more alternate sites that would allow for iceberg contingency and drilling obstructions. Although the existing seismic database from commercial 2D and 3D surveys is of very high quality, it was clear that acquiring high-resolution shallow seismic data would be highly beneficial for refining the drilling targets. Grants from the Danish Centre for Marine Research, Geocenter Danmark and the Carlsberg Foundation made it possible to acquire new site survey data using the Danish naval vessel RDMS *Lauge Koch*. In August 2019 we collected 861 km of high-resolution reflection seismic data, along the proposed drilling transect using the multichannel seismic equipment co-owned by GEUS and Aarhus University.
The new high-resolution data has been implemented in an addendum to the CENICE drilling proposal submitted this fall.



Top left: RDMS *Lauge Koch* coring in Baffin Bay. Top right: Proposed sites of the CENICE drilling proposal and new seismic coverage. Bottom: High-resolution seismic profile across one of the deep-water locations compared with the corresponding industry profile (courtesy of TGS).

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Geological Survey of Denmark and Greenland

Italy

Early-career researchers and students

IODP-Italy and CNR-DSSTTA (National Research Council - Department of Earth System Science and Environmental Technologies) have recently awarded three two-years research proposals related to the following themes of the IODP Science Plan 2013-2023: Climate and Ocean Change (submitted by M. Limonta and M. Bordiga) and Earth Connections (submitted by C. Ferrando). A mini-proposal on ODP Leg 107 presented by V. Funari has been awarded with an ECORD Research Grant. R. Conte and M. Limonta participated in the ECORD Summer Schools 2019, while L. Zurli took part in the IODP-PAIS (Past Antarctic Ice Sheet Dynamics) Antarctic School as an international student.

E. Malinverno (Nannofossil micropalaeontologist, Univ. of Milano-Bicocca) at work in the palaeontology lab of the JR during Expedition 383.
Photo credits E. Malinverno.

Shipboard scientists

E. Malinverno recently sailed on Exp. 383, while the shipboard scientists M.R. Petrizzo (Exp. 369), S. Satolli and C. Lupi (Exps 367-368) joined the scheduled 2nd post-cruise meetings.

Italian representatives in IODP

S. Ceramicola is a new ECORD-based member of the SEP-Site Subgroup (*see page 14*).

Communication and outreach

A one-day interactive exhibit "**Geologic exploration under the sea – IODP" at Festival del Mare** (Genoa, 18 May 2019) aimed at bringing IODP knowledge to the general public (*see page 30*). Outreach activities and communication with scientists were also carried out at the annual geoscience national conference (**SIMP-SGI-SoGeI, Parma**, 16-19 Sept 2019, *http://parma2019.socminpet.it*), with informative materials - on display and for distribution - and a plenary talk about the Italian participation in ECORD-IODP and ICDP, the funding schemes, and the research outcomes. In both the events, a large audience has been engaged with a virtual tour through the *JOIDES Resolution* using 360deg-OculusGo viewers.

IODP-Italia booth at the annual geoscience national conference (SIMP-SGI-SoGeI, Parma, 16-19 September 2019). The visitors experienced a virtual tour of the JR with the 360deg-OculusGo viewers. Photo credits E. Selmo, University of Parma.

The booth visitors were also provided with giveaways customized with ECORD-IODP-Italia logos, including 360deg paper viewers for mobile phones. Outreach material has been further distributed in many Italian locations during the **European Researchers' Night 2019**.

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(CNR) IODP-Italy Scientific Secretariat and the national IODP-Italia Committee

Switzerland

The Swiss-based scientific ocean drilling community come together in October for the **4th edition of our SwissDrilling Day**. The programme covered an impressive diversity of topics, places and persons presenting on-going and future IODP and ICDP projects. Gretchen Früh-Green gave us an update on ECORD and IODP, upcoming expeditions and a glimpse at the what is in the pipeline for the next coming years. Between talks and presentations, there was enough time for discussion, dialog, networking and especially for welcoming new colleagues to the community. We are pleased that Switzerland continues to have an engaged, active and enthusiastic scientific drilling community.

Iván Hernández Almeida from the ETH Zurich who had just returned from **IODP Expedition 382**, 'Iceberg Alley', reported on his impressions and initial results of being onboard the *JOIDES Resolution* in deep Antarctic waters. Pictures of the beautifully colored drop stones reminded us of the active contribution of icebergs to the geologic record.

SwissDrilling: *http://www.swissdrilling.ch*

Onboard JR during Expedition 382. Photo credits: I. Hernández, IODP/ECORD.

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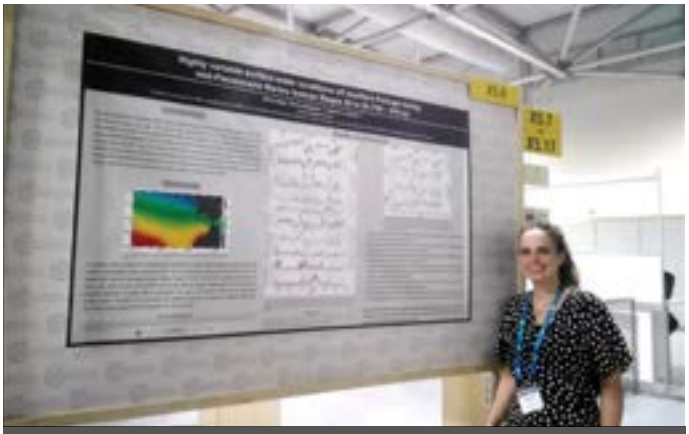
SwissDrilling Coordination Office

Gretchen Früh-Green - *frueh-green@erdw.ethz.ch*
Swiss ESSAC delegate and EFB Science Board member

Portugal

PhD student Aline Mega (*photo below*), who is hosted by the Marine Geology Division at the Instituto Português do Mar e da Atmosfera (IPMA), **received a prestigious Outstanding Student Poster and PICO (OSPP) Award** for her poster presentation "Highly variable surface-water conditions off southern Portugal during mid-Pleistocene Marine Isotope Stages 20 to 26 (790 – 970 ky)" on data from IODP Site U1387 at the EGU General Assembly 2019. She and several other IPMA scientists presented and discussed



Aline Mega in front of her award-winning EGU poster on planktonic foraminifera and sea-surface temperature changes at IODP Site U1387. Photo credits ECORD/IODP.

their results obtained for IODP Sites recovered during IODP Exp. 339 – Mediterranean Outflow at various conferences, such as the INQUA 2019 congress in Ireland (July), the 13th International Conference on Paleoceanography in Australia (September) or the 42nd congress of CIESM (The Mediterranean Science Commission) in Portugal (October). During the National Science and Technology Summit in Portugal (Ciência 2019), an annual meeting of Portuguese researchers, which was held in early July in Lisbon, FCT´s Ocean Office promoted IODP and ECORD and informed the scientific community and the young students that attended the event of the programme and its activities.

During September, the IODP Portugal community was engaged in several IODP related activities.

The MagellanPlus workshop RELICT (*see page 23*) took place at IPMA and resulted in the submission of a pre-proposal by the 1 October 2019 deadline.

ECORD distinguished lecturer Rebecca Bell gave her lecture "Unlocking the secrets of slow slip using next-generation seismic experiments and IODP grilling at the north Hikurangi subduction zone, New Zealand" at the Instituto Dom Luiz of the University Lisbon in late September. Her presentation was well attended by the academic community, including many graduate students, and streamed live for the broader international community. During

Scientists at the Instituto Dom Luiz (University of Lisbon) listening to ECORD distinguished lecturer Rebecca Bell (UK). Photo credits ECORD/IODP.

her visit, Rebecca also interacted with several researchers and post-graduate students, discussing exciting science and developing future collaborations within the scope of the ECORD/IODP activities. These included discussions on the development of new seismic processing methods and new strategies for tackling complex marine geology and geodynamic processes such as slow slip events and subduction initiation.

In October, **Ana Amorin** from FCT's Ocean Office became the new **ECORD Council Alternate**.

Antje Voelker - *antje.voelker@ ipma.pt*
ESSAC Delegate

United Kingdom

After providing the service for many years, as of 1 October 2019, the British Geological Survey (BGS) no longer provides science coordination for UK-IODP.

New Knowledge Exchange Coordinator for UK-IODP

Following the renewal of the UK subscription to IODP in Spring 2019, UK-IODP is appointing a Knowledge Exchange Coordinator. Full details of the new post holder will be announced shortly.

The role will assume many of the responsibilities previously carried out by BGS, including:

- facilitating the participation of UK scientists in IODP expeditions and research;
- organising science meetings and regular IODP early career training events;
- engaging with the wider environmental science and industrial communities, policy makers and other stakeholders to raise awareness of and promote the opportunities, capabilities, results and successes arising from IODP-related research;
- distributing monthly e-newsletters highlighting recent achievements from the UK-IODP community;
- maintaining strong links with the Office of the ECORD Science Support & Advisory Committee.

UK-ODP webpage:
https://nerc.ukri.org/research/funded/programmes/ukiodp/

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Natural Environment Research Council, Programme Manager (Research)

Austria

In 2019, the Austrian IODP community has been highly active. In January and March 2019, Michi Strasser and Dominik Jäger (both University of Innsbruck) sailed as sedimentologists onboard *D/V Chikyu* during **IODP Expedition 358** to drill, log and sample the deep interior of the Nankai Accretionary prism to study the megathrust plate boundary system at seismogenic depth.

The "Austrian IODP 2019" highlight, however, then certainly was in early April, when the Austrian Academy of Sciences (ÖAW) hosted the **PROCEED Workshop in Vienna** on the future of international scientific ocean drilling. With Bernhard Plunger (ÖAW) and Werner Piller (University of Graz) as PROCEED organizing committee members, Walter Kurz (University of Graz) and Michi Strasser as members of the PROCEED scientific committee, and several other active Austrian IODP and ICDP scientists from different institutions (including the University of Vienna and the Natural History Museum Vienna) attending the workshop, we contributed to the international efforts defining the new goals for a future international scientific ocean drilling programme beyond 2023.

PROCEED Workshop at the Austrian Academy of Sciences (ÖAW) in Vienna. Photo credits ÖAW.

There is growing interest of the Austrian science community to actively participate in IODP as shown by the highest number per year ever of Austrian's to apply to sail on IODP expeditions: In 2019 already five scientists (3 PhD students, 1 postdoc, 1 senior scientist) applied, representing four different institutes, at which Austrian research groups are actively conducting IODP-related research and continue throughout 2019 to publish exciting results on data and samples collected during previous ocean drilling expeditions.

Furthermore, Austrian scientists are involved as proponents in active IODP proposals and are leading efforts to develop new proposals in the near future (Walter Kurz is organizing the **MagellanPlus Workshop COSNICA in 2020** in Graz to develop IODP proposals targeting the Cocos Plate and Nicaraguan fore arc region to study the life cycle of a microplate at a convergent margin).

Moreover, **Michi Strasser has been selected as first-ever Austrian Co-chief Scientists** and will co-lead upcoming IODP Expedition 386 to study sedimentary event-deposits and submarine palaeoseismolgy in the 7-8 km deep hadal trench of the Japan Trench plate boundary.

Last but not least, we here also express our highest gratitude to **Werner Piller**, who has been the great driving force for IODP in Austria over the last decades. His leadership and mentorship has founded and educated the current IODP Austria as a very healthy and growing science community that can proudly be looking forward to very exciting science perspectives in 2020 and several years beyond. Werner just retired from his professorship in palaeontology at the University of Graz and also stepped back as ESSAC delegate for Austria, but will remain actively involved in IODP research also in the future. **The new Austrian representation in ESSAC is Michi Strasser (delegate) and Walter Kurz (alternate).**

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ESSAC Delegate

Walter Kurz - *walter.kurz@uni-graz.at*
ESSAC Alternate

Bernhard Plunger - *bernhard.plunger@oeaw.ac.at*
ECORD Council Delegate

Finland

The Finnish IODP community has been discussing new possibilities that may open with the launch of the next scientific programme in 2024. One possibility is to continue developing a potentially amphibious drilling project, targeted at Precambrian sandstone units in the Baltic Sea Basin, with an attempt to quantify the history and rates of uplift in Fennoscandia.

Participants of the **Expedition 347** 'Baltic Sea Paleoenvironment', Outi Hyttinen and Aarno Kotilainen, continued their work to publish the expedition material.

Joonas Virtasalo - *joonas.virtasalo@gtk.fi*
ESSAC Alternate

Sweden

Several delegates from the Swedish research community participated in the **PROCEED workshop** in Vienna. **Matt O'Regan** (Stockholm University) served as one of the PROCEED Scientific Committee members and remains a core member of the Science Framework Plan Writing Team.

In October, **Martin Jakobsson** and **Matt O'Regan** organized and hosted a **2-day workshop on Arctic Ocean Drilling** to help define and plan cross-disciplinary opportunities on future research missions in the Arctic region. A total of 25 representatives from the Swedish research community, Swedish Research Council (Vetenskapsrådet) and Swedish Polar Research Secretariat (*https://polar.se*) contributed to constructive discussions. An overarching research theme was proposed that could be implemented as multi-disciplinary packages optimizing the use of research and supporting vessels during the Arctic expeditions.

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ESSAC delegate for Sweden

Matt O'Regan (left) and Martin Jakobsson (right) at Stockholm University during Arctic Ocean Drilling workshop. Photo credits: J. Henderiks.

Netherlands

In an interview that appeared on the website of the University of Utrecht, three Utrecht scientists report about their recent experiences on board the *JOIDES Resolution.*

Their shared expertise in palynology, has been an attractive skillset in finding the stratigraphic ages and paleoclimatic settings (ocean and land) of the sediments collected by the drilling ship. **Margot Cramwinckel** sailed on Exp. 371, 'Tasman Frontier Expedition', both as a palynologist and organic geochemist. The hectic time running between labs and busy tasks was rewarded by **discovering the lost continent of Zelandia**.

Francesca Sangiorgi (Exp. 374) and PhD student **Frida Hoem** (Exp. 382) sailed to opposite sides of Antarctica; the Ross Sea and the Iceberg Alley/Scotia Sea. The two expeditions battled icebergs, rough weather and technical difficulties, in order to investigate the climate history of Antarctica, seeking to understand how the Antarctic ice sheets responded to changes in insolation and atmospheric CO_2 in the past and how its evolution influenced global sea level and vice versa. The kilometres of cores retrieved from these three successful expeditions will keep the community busy for the next decade(s) and help resolve some of the major questions regarding our dynamic climate systems.

From left to right: Frida Hoem, Margot Cramwinckel, Francesca Sangiorgi. Photo credits: University of Utrecht, *https://www.uu.nl/en/background/international-co-operation-at-its-best.*

The full article can be found here:
https://www.uu.nl/en/background/international-co-operation-at-its-best

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ESSAC Delegate

France

French Geological Society Scientific Drilling Day

The IODP-France office with the help of the EMA office was pleased to co-organize the French Geological Society Scientific Drilling Days 16-17 October. 2019 This major event for the IODP-ICDP French community took place in the prestigious amphitheatere of the Museum of Natural History in Paris.

French Geological Society Scientific Drilling Days (16-17 October 2019) - the first opportunity for both IODP and ICDP French communities to exchange on their science topics and to share their most recent results.

The high scientific quality of the presentations was much appreciated. Among others, six keynote speakers from the UK, Austria, Canada and France have literally captivated the audience: Katryn Goodenough (British Geological Survey, Edinburgh, UK) discussed the needs of Georesources in the perspective of a low carbon future, Pierre Francus (National Institute of Scientific Research, Quebeck, Canada) exposed the challenges of ICDP drillings related to climate change, Christopher MacLeod (Cardiff University, UK) presented the recent results on the Dynamic Planetary theme and seafloor spreading, Ludovic Ferrière (Natural Museum History, Vienna, Austria) exposed the advances on meteorite impacts craters, especially the latest results of the Chicxulub Expedition, Marianne Conin (GéoRessources, Nancy, France) summarized the last ten years of the IODP NanTroSEIZE expeditions devoted to the Geohazards theme, Olivier Rouxel (Ifremer, Brest, France) presented the latest achievements in Deep Life theme, and Mathieu Schuster (Institute for Earth Physics, Strasbourg, France) presented the CHADRILL ICDP project on the paleoenvironmental context of hominid's evolution. All IODP/ICDP themes were addressed and contributed to the high diversity of scientific and geographic targets and to the multidisciplinary of this meeting. Young researchers, including those who did benefit from the IODP-France Postdoc funding, contributed also to the success of these scientific days.

The first joint meeting of the IODP and ICDP French communities at the Museum of Natural History in Paris. Photo credits ECORD/IODP.

Photo: The first joint meeting of the IODP and ICDP French communities at the Museum of Natural History in Paris was a great event. The large multidisciplinary of the presentations and the contributions of speakers from ECORD guaranteed this success. From left to right at the top: Olivier Rouxel (Ifremer, France), Christopher MacLeod (Cardiff University, UK), Pierre Francus (INRS, Canada), Katryn Goodenough (British Geological Survey, UK), Ludovic Ferrière (Natural Museum History, Austria). From left to right at the bottom: Marianne Conin (GéoRessources, France) and the amphitheatere of the Museum of Natural History in Paris

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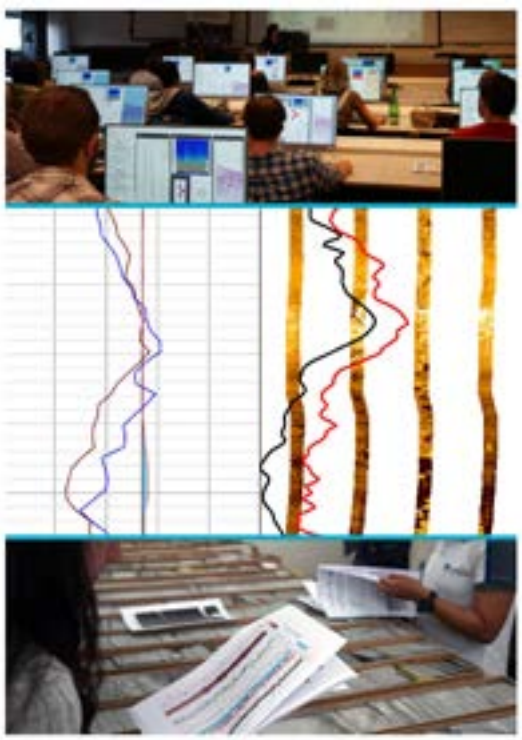

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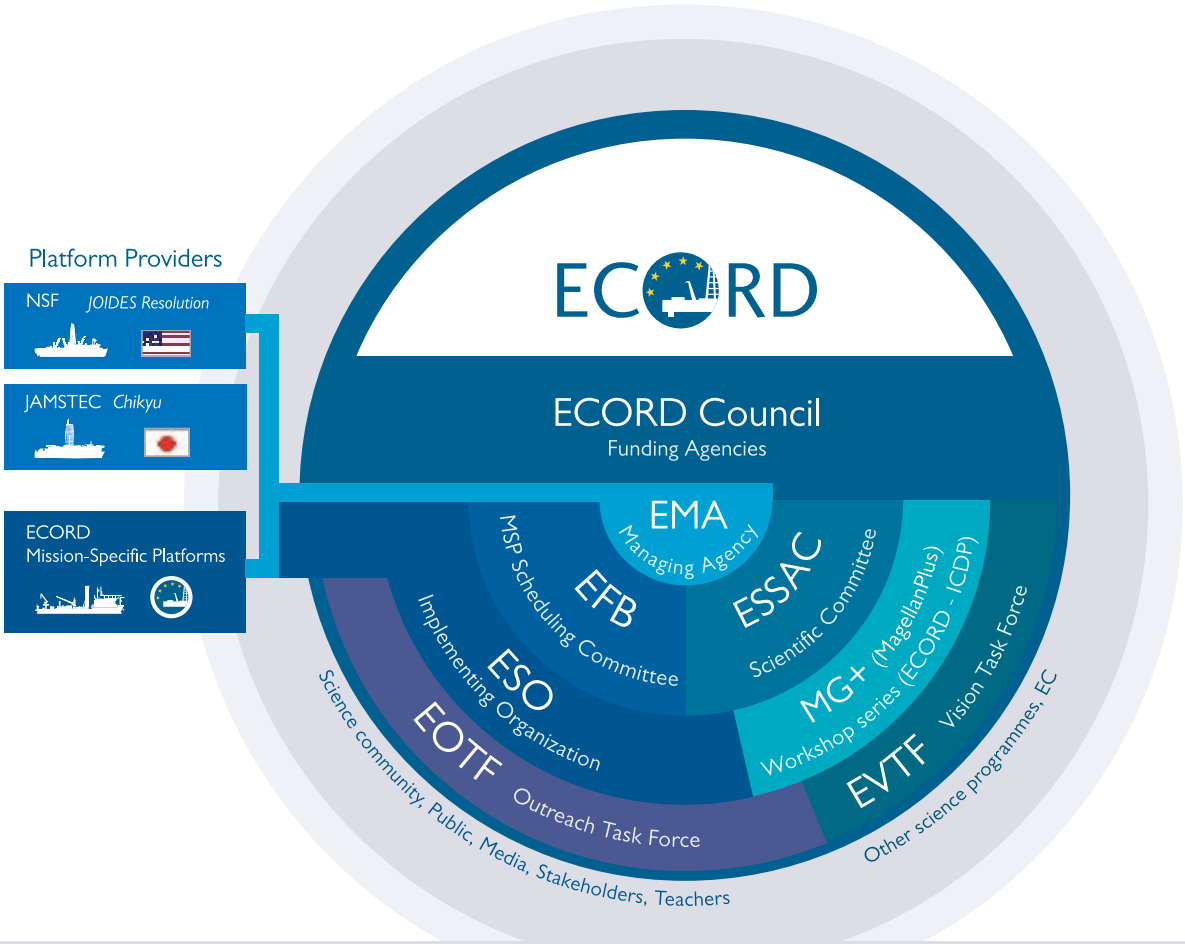

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