

## 2<sup>nd</sup> CIRCULAR

# 3<sup>rd</sup> International Workshop and Fieldtrip of IGCP 655 Toarcian Oceanic Anoxic Event: Impact on marine carbon cycle and ecosystems

September 2<sup>nd</sup> – 5<sup>th</sup>, 2019, Erlangen (Germany)



### PRESENTATION

The IGCP project 655 -Toarcian Oceanic Anoxic Event: Impact on marine fauna and ecosystems (International Geoscience Program supported by the IUGS and UNESCO) and the Friedrich-Alexander Universität are pleased to announce the 3<sup>rd</sup> International Workshop on the Toarcian Oceanic Anoxic Event (3<sup>rd</sup> IW-TOAE).

### SCIENTIFIC PROGRAM

The meeting will be hosted by the Geozentrum Nordbayern. The first day will be dedicated to a training course which will be focused on 3D-imaging techniques and analytical tools for the analysis of the fossil record during mass-extinctions. After the course, a one-day scientific session will take place, followed by a two-day field excursion.

- Day 1 (2<sup>nd</sup> of September): **Training course**

8h45 – Meeting at the Paleontology Institute (Loewenichstrasse 28, Erlangen)

The first part will be split into two parallel sessions, according to the preferences of the participants:

- a) 9:00 – 12:00: 3D imaging techniques, from CT-scanning acquisition to Drishti 3D-imaging software, and biometric analysis taught by Dr. Kenneth de Baets, Paulina Nätscher and Patrícia Rita – Venue: Loewenichstrasse 28
- b) 9:00 – 12:00: biomolecules and molecular fossils taught by Dr. Wolfgang Ruebsam from the department of Organic and Isotope Geochemistry of the Kiel University – Venue: Henkestraße 91

The second part will consist of:

13h00-16h00: an R short course on size/extinction/ diversity patterns through time thought by Prof. Dr. Manuel Steinbauer, an expert in quantitative analysis applied to ecology and evolutionary processes – Venue: Henkestraße 91

16:00-18:00: individual questions – Venue: Henkestraße 91

Material: The participants must bring their own laptop. Details will be sent soon regarding the software required.

- Day 2 (3<sup>rd</sup> of September): **Scientific session and conference dinner**

Venue: (Schloßgarten 5, Erlangen)

Detailed program (presenting authors in bold, early career scientist underlined)

8h00 – Start of Registration

8h45 – Welcome Address

Session I: Ecology and Biostratigraphy (9h00-10h00)

1. **Mohamed Benzaggagh** - *Stratigraphy and Toarcian marine fauna (ammonites and brachiopods) of the South Rifian Ridges; northern Morocco*
2. **Driss Sadki** - *Ammonites from upper Pliensbachian-Toarcian (Lower Jurassic) of Morocco and their witness to juxtaposition of mediterranean; euro-boreal and arabian-madagascan faunas during the Early Jurassic*
3. **Walter Etter** - *Jurassic “normal” shales – A comparison of the Posidonia Shale with the Schambelen member and the Opalinum Clay of northern Switzerland*
4. **Stefano Visentin**; Elisabetta Erba; Jörg Mutterlose - *Calcareous nannofossil biostratigraphy as a tool to better constrain the Toarcian Oceanic Anoxic Event: a comparison of Tethyan and Boreal sections.*

Coffee/Poster (10h00-10h30)

Session 2: Diversity dynamics and ecological responses (10h30-11h30)

1. Jed W. Atkinson; **Crispin T. S. Little**; Alexander M. Dunhill - *Long duration of ecological recovery from the early Toarcian extinction event in the Cleveland Basin; North Yorkshire; UK*
2. **Patrícia Rita**; José García Ramos; Pascal Neige; Laura Piñuela; Robert Weis; Luís V. Duarte; Christof Übelacker; Kenneth De Baets - *Biogeographic patterns of belemnite body size responses to episodes of environmental crisis*
3. **Choukri Soulimane**; Abbas Marok; Matías Reolid - *Turnover of Ostracoda (Healdiidae and Protocytheridae) during the Late Pliensbachian-Early Toarcian transition (Traras Basin; NW Algeria)*

4. **Ian Boomer**; Paul Bown; Philip Copestake; John Huxtable; Tony Loy; Kevin Page; Lorenz Schwark - *New insights on the micropalaeontology and geochemistry of the T-OAE interval at Hurcott; Somerset; U.K.*

11h30 – 13h00 - Lunch break

13h00 – 14h00 - Keynote: **Bryony A. Caswell** - *The Toarcian oceanic anoxic event: Marine ecosystem response across time and space*

Session 3: Facies and Sedimentological Development (14h00-15h15)

1. **Asad Abdi**; Beatriz Bádenas; Špela Goričan - *Sedimentary evolution of eastern edge of Gondwana during Pliensbachian-early Toarcian (Kermanshah basin; west of Iran)*
2. **Fatima-Zahra Ait-Itto**; Gregory D. Price; Mathieu Martinez - *New evidence of the sedimentological record of the Pliensbachian-Toarcian boundary in the Northern Middle Atlas*
3. **Carolina Fonseca**; João Graciano Mendonça Filho; Carine Lézin; Luís V. Duarte; Philippe Fauré - *Organic facies variability and paleoenvironmental interpretation of the Early Toarcian of the Pyrenean Basin: the Bizanet and the Pont de Suert sections*
4. **Mengjie Jiang**; Stephen P. Hesselbo; Clemens V. Ullmann - *Integrated sediment transport and provenance in Mesozoic environments: evidence from the Lower Jurassic; UK*
5. **Soussi Mohamed**; Reolid Matías; Saidi Moncef - *The Early Toarcian Oceanic Anoxic Event of the Tunisian Atlas Revisited*

Coffee/Posters (15h15-15h45)

Session 4: Integrated approaches (15h45-16h45)

1. **Clemens Vinzenz Ullmann**; Richard Boyle; Luís V. Duarte; Stephen P. Hesselbo; Simone Kasemann; Tina Klein; Timothy M. Lenton; Veronica Piazza; Martin Aberhan - *The Toarcian hyperthermal recorded by macroinvertebrates from Iberia*
2. **Connor S. O'Keeffe**; Crispin T.S. Little; Christian März; Simon W. Poulton; Fiona Gill - *Oceanic Anoxic Event conundrums: reconciling palaeontology and geochemistry*
3. Autumn Pugh; **Crispin T.S. Little**; Ivan P. Savov; Lubomir Metodiev; Paul B. Wignall; Robert J. Newton; James Riding - *The early Toarcian extinction event and associated Pliensbachian-Toarcian palaeoenvironmental perturbations in Bulgaria*

4. Jesús Reolid; **Matías Reolid** - *Geochemical compositional mapping of trace fossils from the Pliensbachian-Toarcian: palaeoenvironmental significance and methodological implications*

Coffee/Posters (16h45 – 17h15)

Session 5: Advances in geochemical approaches (17h15-18h45)

1. **Yadong Sun** - *The Ammonium Ocean hypothesis for the time of ocean anoxia*
2. **Wolfgang Ruebsam**; Matías Reolid; Abbas Marok; Lorenz Schwark - *Hostile porewaters as driver of benthic extinction during the early Toarcian at the northern Gondwana paleomargin*
3. **Caroline Fonseca**; João Graciano Mendonça Filho; Carine Lézin; Luís V. Duarte - *The organic record of Oceanic Anoxic Events: Toarcian vs Cenomanian-Turonian*
4. **David B. Kemp**; Viktória Baranyi; Kentaro Izumi; Roger D. Burgess - *Local responses to climate change during the early Toarcian Oceanic Anoxic Event in southwest Japan*
5. Tamás Müller; **József Pálffy**; Szabina Karancz; Emanuela Mattioli; Ján Schlögl; Vladimír Šimo; Adam Tomašových - *Effect of the Toarcian Oceanic Anoxic Event on a hemipelagic carbonate system: new results from the Western Carpathians*
6. **Bruno Rodrigues**; Ricardo L. Silva; João G. Mendonça Filho; Luís V. Duarte; Matías Reolid; Driss Sadki - *Variation of kerogen assemblages and  $\delta^{13}C_{TOC}$  in Lower Toarcian successions of the southern Tethyan margin*

Coffee/Posters (18h45-19h15)

Conference dinner (20:00) – Ipiros - Greek restaurant. Venue: Loewenichstrasse 37

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Posters

1. **Asad Abdi**; Beatriz Bádenas; Saram Amini - *Geochemical evidences for mantle exhumation along the eastern edge of Gondwana during Pliensbachian-early Toarcian (Kermashah; west of Iran)*
2. **Carl J Reddin**; Ádám T Kocsis; Wolfgang Kiessling - *Down-scaling from Phanerozoic time series to the Pliensbachian and Toarcian climatic oscillations*

3. **Dominika Szúcs**; Kevin N. Page; V. Clemens Ullmann; Stephen P. Hesselbo - *Diagenesis of aragonite from Early Jurassic ammonites: shell microstructure and geochemical case-study from the Llanbedr (Mochras Farm) drill core; Cardigan Bay Basin; UK.*
  4. **Iben W. Hougaard**; Alexander J. Dickson; Nicolas Thibault; Christoph Korte - *Mo- and Zn-isotope chemostratigraphy across the Toarcian Oceanic Anoxic Event (T-OAE) in the Aubach section; SW Germany and Sogno Core; N Italy*
  5. **Jack Thomas Rhodes Wilkin**; Stephen Peter Hesselbo; Clemens Vinzenz Ullmann; Christoph Korte - *Belemnite Geochemistry from Albstadt-Pfeffingen (Middle Jurassic; Baden-Württemberg; Germany)*
  6. **José Miguel Molina**; Luis M. Nieto - *Facies analysis of the Lower-Middle Toarcian in the External Subbetic (provinces of Murcia and Granada; Southern Spain): palaeoenvironmental conditions*
  7. **Louisa Samar**; Abbas Marok - *Palynological study of the Pliensbachian-Toarcian transition of the Nador Mountains (Tiaret; NW Algeria): Preliminary Data*
  8. Mariel Ferrari; **Crispin T.S. Little**; Jed W. Atkinson - *Late Toarcian marine gastropods from the Cleveland Basin; UK: systematics; palaeobiogeography and contribution to biotic recovery from the early Toarcian extinction event*
  9. **Matías Reolid**; Mohamed Soussi; Moncef Saidi; Jesús Reolid - *The debut of the Early Toarcian flooding over the Pliensbachian shallow carbonate platform in the North-South Axis (Tunisia): interpretation from trace fossil analysis*
  10. **Sebastian Stumpf**; Faviel A. López-Romero, Jürgen Kriwet - *On the diversity of Early Jurassic cartilaginous fishes across the Toarcian Oceanic Anoxic Event*
  11. **Teuntje P. Hollaar**; Sarah J. Baker; Jean-Francois Deconinck; Luke Mander; Micha Ruhl; Stephen P. Hesselbo and Claire M. Belcher - *Milankovitch forcing of Early Jurassic wildfires*
  12. **Thomas Gibson**; Sev Kender; Stephen Hesselbo - *Biostratigraphic and Geochemical Investigation of the Lower Jurassic: A new study on the Norwegian continental shelf*
  13. Vânia F. Correia; James B. Riding; **Luís V. Duarte**; Paulo Fernandes; Zélia Pereira - *The impact of the Toarcian Oceanic Anoxic Event (T-OAE) on the radiation of Early Jurassic dinoflagellate cysts in the Lusitanian Basin; Portugal*
  14. **Yunfeng Wang**; Frantz Ossa Ossa; Simon Schurr; Martin Wille; Ronny Schoenberg - *Evidence for local carbon-cycle perturbations superimposed on Toarcian carbon isotope excursion*
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Days 3 and 4: Field trip

- **4<sup>th</sup> of September**

08h00 - Departure from Erlangen (Meeting point: Paleontology institute parking lot, Fichtestrasse, 12, Erlangen)

11h30 - Arriving at Dotternhausen quarry and “Werkforum and Fossil Museum”

17h30 - Arriving at A&O Stuttgart City Hotel (Rosensteinstraße 14/16, 70191 Stuttgart)

More information:

<https://www.holcim-sued.de/werkforum-und-fossilienmuseum>

<https://www.aohostels.com/de/stuttgart/stuttgart-city/>

- **5<sup>th</sup> of September**

07h00 - Breakfast at A&O Stuttgart City Hotel

08h00 - Leaving the hotel

11h00 - Arriving at Bittenheim clay pit

13h00 - Lunch

15h00 - Arriving at Teufelsgraben outcrop

19h00 - Arriving in Erlangen

Note: Lunch bags will be provided for both excursion days. The dinner on the excursion days are responsibility of the participants but some restaurants are available close to the hotel and even a supermarket. The participants who registered as students will stay in shared rooms and the ones who registered as non-students have single rooms at the a&o hotel.

#### [Peer J preprints](#)

The participants who previously agreed on publishing the abstract on a preprint collection of PeerJ will have to make the submission of the file on the website of the journal. Additional information will be provided by email later on.

#### [Peer J Award](#)

Early career scientists are eligible for an award sponsored by the PeerJ journal. The “Best Poster/ Presentation” winner will get a free *PeerJ* paper (normally \$1095.00, upon submission and acceptance through our normal peer-review platform) and an interview about their current research posted on the PeerJ blog. Announcements of conferences and award winners are tweeted and included in our newsletter as well. We consider early career scientists those who can be an undergraduate or postgraduate (Masters/PhD) students or who has received his or her highest degree (e.g., BSc, MSc, PhD) within the past seven years. According to our data, the presenting participants underlined in conference program would be eligible for this award.

Please contact us if you might also qualify or if you do not wish to be considered for the prize. The participants will vote and the members of scientific committee votes count as two votes. We kindly ask the advisors not to vote for their students.

## Scientific committee

Dr. Kenneth de Baets

Prof. Dr. Wolfgang Kiessling

Dr. Martin Aberhan

Dr. Annette Schmid-Röhl

Dr. Bryony Caswell

Prof. Dr. Axel Munnecke

Dr. Luís Vítor Duarte

Dr. Matías Reolid

Dr. Wolfgang Ruebsam

Prof. Dr. Lorenz Schwark

Dr. Emanuela Mattioli

Dr. Vânia Correia

## ORGANIZERS

FAU

Geozentrum Nordbayern

Museum für Naturkunde Berlin

## CONTACTS

Dr. Kenneth de Baets: [3wtoae@gmail.com](mailto:3wtoae@gmail.com)

Patrícia Rita: [patricia.rita@fau.de](mailto:patricia.rita@fau.de)

## VENUE

Each of the activities planned has a specific venue, please check the program above.

## Where to stay?

It is highly recommended to book a hotel well in advance since there are not so many cheap accommodation options in Erlangen.

<https://www.abhotel.de/>

<https://www.stadthaus-erlangen.de/>

<https://www.zeitwohnhaus.de/>

<https://www.hotel-luise.de/>

<https://grauer-wolf.de/>

### **How to reach Erlangen?**

Erlangen can be easily reached directly by bus (number 30) from the Nuremberg airport (<https://www.airport-nuernberg.de/english>).

Other options are available in the following websites:

<https://www.bahn.de/p/view/index.shtml>

<https://www.vgn.de/>