

**10th INTERNATIONAL SYMPOSIUM
“CEPHALOPODS –
PRESENT AND PAST”
Fes, Morocco**

SYMPOSIUM PROGRAM

Sunday -25.3.2018

19:00 to 21:30 **Icebreaker Party** in the Hotel Palais Medina & Spa

Monday – 26.3.2018

09.00 to 09.30 **Welcome addresses**

Prof. Dr. **Omar Assobhei**, President of the University Sidi Mohammed Ben Abdellah, Fes

Prof. **Dr Mohammed Benlemlih**, *Dean of the Faculty of Sciences Dhar El Mahraz, Fez, Morocco*

Prof. Dr. **R. Thomas Becker**, WWU Münster

Prof. Dr. **Ahmed El Hassani**, Mohammed V University of Rabat, Scientific Institute

09.30 to 10.00 **Palaeozoic to Recent Nautiloids** [Posters 1, 3, 5, 6, 7, 16]

10.00 to 10.20 **Keynote:** P. WARD: Title to be finalized.

10.20 to 10.40 Andrew KING & David EVANS: High-level classification of the nautiloid cephalopods – *quo vadimus?*

10.40 to 11.10 Vojtěch TUREK & Štěpán MANDA: Early ontogenetic strategies and hatching size in early Palaeozoic nautiloids.

11.10 to 11.30 **Coffee Break**

11.30 to 11.50 Kathleen HISTON: Llandovery nautiloid faunas from the Cellon Section (Carnic Alps, Austria) and the wander path of the Carnic Alps.

11.50 to 12.10 Alexander POHLE & Christian KLUG: Conch size of Siluro-Devonian orthoconic nautiloids from the Anti-Atlas (Morocco) – food availability as a limiting factor?

12.10 to 12.40 Larisa A. DOGUZHAEVA: A Middle Frasnian (Late Devonian) longicone from Timan Ridge, NW Russia, shows a belemnite type, tongue-like pro-ostracum.

12.40 to 14.00 **Discussion round**

Andrew KING & David EVANS: The future “Nautiloid Treatise” (Part K)

12.40 to 14.00 **Lunch Break** (included in the fees)

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| 14.00 to 14.20 | Stijn GOOLAERTS: Nautiloid turnover across the Cretaceous/Paleogene Boundary: Chicxulub impact, Deccan volcanism and Europe as key ? |
| 14.20 to 14.40 | Christian KLUG, Linda FREY, Alexander POHLE, Kenneth DE BAETS & Dieter KORN: Palaeozoic evolution of cephalopod mouthparts. |
| | Devonian / Carboniferous ammonoids [Poster 10, 17] |
| 14.40 to 15.00 | Kenneth DE BAETS, Christian KLUG, Markus POSCHMANN, Trisha SMRECAK & Julia STILKERICH: Revelations by hard parts: paleoecology and taphonomy of ammonoids from the Hunsrück Slate Konservat-Lagerstätte. |
| 15.00 to 15.20 | Till SÖTE & Ralph Thomas BECKER: The early radiation of ammonoids after the global Kellwasser Event in the Canning Basin (Frasnian-Famennian boundary, Western Australia). |
| 15.20 to 15.40 | Dieter KORN, Jürgen BOCKWINKEL & Volker EBBIGHAUSEN: Stratigraphy and biogeography of middle and late Famennian ammonoids from the Anti-Atlas of Morocco and the Saoura Valley of Algeria. |
| 15.40 to 16.10 | Coffee Break |
| 16.10 to 16.30 | Stijn GOOLAERTS, Sofie GOUWY, Kevin HOUBEN, Marc-Aurèle WYNANTS, Xavier DEVLEESCHOUWER: Frasnian cephalopods from the newly discovered Carrière de Lompret section, Lompret, Belgium. |
| 16.30 to 16.50 | Sven HARTENFELS & Ralph Thomas BECKER: Upper/uppermost Famennian transgressive events in the Tafilalt (Anti-Atlas, Morocco) and their ammonoid faunas. |
| 16.50 to 17.10 | Svetlana V. NIKOLAEVA & Vera A. KONOVALOVA: Ammonoids in the Carboniferous reefs and mounds of the Urals. |
| 17.10 to 17.30 | Royal H. MAPES, Neil H. LANDMAN & Christian KLUG: Caught in the act? |
| 17.30 – 18.30 | Poster Session (participants go to dinner on their own) |

Tuesday – 27.3.2018

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| | Coleoid evolution [Posters 9, 13] |
| 09.00 to 09.30 | Keynote: Larisa A. DOGUZHAEVA: Two-fold origin of the Late Paleozoic-Early Cenozoic endocochleate cephalopods: subclasses Coleoidea BATTEN 1888 and Paracoleoidea DOGUZHAEVA, 2017. |

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| 09.30 to 09.50 | Christian KLUG, Dirk FUCHS, Neil H. LANDMAN, Pierre GUÉRIAU, Solenn REGUER, Royal H. MAPES & RENÉ HOFFMANN: Anatomy and evolution of early Coleoidea. |
| 09.50 to 10.10 | Dirk FUCHS, Alexander HEYNG, Masaya IJIMA, Christian KLUG & Günther SCHWEIGERT: How to become vestigial – new details on the evolution of the octopod gladius vestige. |
| 10.10 to 10.30 | Martin KOŠŤÁK, Dirk FUCHS, John W.M. JAGT & Ján SCHLÖGL: Ancestral sepiids in space and time. |
| 10.30 to 10.50 | Zoe E. HUGHES & Malcolm, B. HART, M. B.: Delving into the matrix: Utilising CT scanning to explore the internal anatomy of Christian Malford coleoids. |
| 10.50 to 11.20 | Coffee Break |
| | Belemnites |
| 11.20 to 11.40 | Patrícia RITA, Kenneth DE BAETS & Luís Vítor DUARTE: The effect of the Pliensbachian-Toarcian crisis on body size: the case of Peniche section belemnites (Lusitanian Basin, Portugal). |
| 11.40 to 12.00 | IPPOLITOV A. P. & GULYAEV D. B.: Palaeogeography and marine connections of the Middle Russian Sea across the Middle Jurassic: cephalopod-based model. |
| 12.00 to 12.20 | Lucie VAŇKOVÁ, Martin KOŠŤÁK, Martin MAZUCH: Belemnite diversity of the J/K boundary interval in the NE Tethys (Outer Western Carpathians, Czech Republic) and their implication for palaeoecology and stratigraphy. |
| 12.20 to 12.40 | René HOFFMANN, Adrian IMMENHAUSER, Detlev K. RICHTER, Rolf D. NEUSER, Niels JÖNS, Benjamin J. LINZMEIER, Gernot NEHRKE, Kouki KITAJIMA & John W. VALLEY: What is recorded in your belemnite? |
| 12.40 to 14.00 | Lunch Break (included in the fees) |
| | New research directions: from geochemistry to modelling and diving |
| | [Posters 8, 11, 13, 14] |
| 14.00 to 14.20 | Kenneth DE BAETS & Axel MUNNECKE: Preferential origin of calcitic cephalopod structures during calcite seas? |
| 14.20 to 14.40 | A. P. IPPOLITOV, I. S. BARSKOV, V. L. KOSORUKOV & B.G. DESAI: Aragonite in belemnite rostra: new observations from the Lower Bathonian megateuthidids of Central Russia. |
| 14.40 to 15.00 | Neil H. LANDMAN, J. Kirk COCHRAN, Neil L. LARSON, Matthew P. GARB, Jamie BREZINA & Jamesa D. WITTS: Methane cold seeps: Clues to ammonite mode of life. |
| 15.00 to 15.20 | Benjamin J. LINZMEIER, Peter D. WARD, Neil H. LANDMAN, Shanan E. PETERS, Jocelyn A. SESSA, Ian J. ORLAND, Kouki KITAJIMA, Reinhard |

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| 15.20 to 15.40 | KOZDON, Thomas S. TOBIN & John W. VALLEY: Preservation of daily depth migration behavior in $\delta^{18}\text{O}$ of cephalopods. Robert LEMANIS: Exploring the Mechanical Function of Folded Septa. |
| 15.40 to 16.10 | Coffee Break |
| 16.10 to 16.30 | Nicholas HEBDON, Kathleen RITTERBUSH & Olivia JENKINS: Understanding Ammonoid hydrodynamics through 3D modeling and simulation. |
| 16.30 to 16.50 | Gregory J. BARORD & Peter D. WARD: The use of baited remote underwater video Systems (BRUVS) to save Nautiluses and investigate their natural behaviors and ecology. |
| 16.50 to 17.10 | Research history: Walter ETTER: Later ideas about cephalopods. [Poster 7] |
| 17.10 – 18.10 | Poster Session |
| 19.30 to 22.30 | Conference Dinner at the Palais Ommeyad (in the Medina of Fes) (included in the symposium fees), Departure in front of the <i>Hotel Palais Medina & Spa, Fes</i> (at 19.00) |

Wednesday – 28.3.2018

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| | Permian to Cretaceous ammonoids [Posters 2, 4, 12, 15, 18, 19, 20] |
| 09.00 to 09.30 | Keynote: Wolfgang KIESSLING, Martin SCHOBEN, Abbas GHADERI, Vachik HAIRAPETIAN, Lucyna LEDA & Dieter KORN: Pre-mass extinction decline of latest Permian ammonoids. |
| 09.30 to 09.50 | Lance L. LAMBERT, Janet Jordan VOTE, Matthew ALLAN & Donovan LEWIS: Old localities and new specimens—Family Cyclolobidae (Middle and Late Permian) are more complex and diverse than thought. |
| 09.50 to 10.10 | Kathleen RITTERBUSH & Nicholas HEBDON: New hydrodynamic data suggest low metabolisms for post-extinction serpenticones of the Early Jurassic. |
| 10.10 to 10.30 | Carina KLEIN & Neil LANDMAN: Ammonoid intraspecific variability throughout ontogeny. |
| 10.30 to 10.50 | Mikhail ROGOW: Pseudoinversion of septal sutures in Middle Jurassic - Lower Cretaceous non-heteromorph ammonites and its significance for ammonoid palaeobiology. |
| 10.50 to 11.20 | Coffee Break |

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| 11.20 to 11.40 | René HOFFMANN, Kenneth DE BAETS, Kurt WIEDENROTH, Manuel F. G. WEINKAUF: Morphospace analyses of the endemic heteromorph ammonite genus <i>Aegocrioceras</i> (Lower Cretaceous, Hauterivian, NW-Germany). |
| 11.40 to 12.00 | Christina IFRIM & Wolfgang STINNESBECK: The giant <i>Parapuzosia</i> of north-eastern Mexico – first results. |
| 12.00 to 12.20 | A. MIRONENKO, D. B. GULYAEV, M. A. ROGOV & O. K. KHAPISOV: New data on ammonoid jaws of the <i>Rhynchaptychus</i> type. |
| 12.20 to 12.40 | Margaret M. YACOBUCCI: Geographic range size of cephalopod species predicts survivorship during the Cenomanian-Turonian interval of the early Late Cretaceous. |
| 12.40 to 14.00 | Lunch Break (included in the fees) |
| 14.00 to 14.20 | Amane TAJIKA, Alexander NÜTZEL & Christian KLUG: The old and the new plankton: ecological replacement of associations of cephalopod plankton by holoplanktonic gastropods after the Cretaceous? |
| 14.20 to 14.40 | Neil H. LANDMAN, J. Kirk COCHRAN, Neil L. LARSON, Matthew P. GARB, Jamie BREZINA & Jamesa D. WITTS: Methane cold seeps: Clues to ammonite mode of life. |
| 14.40 to 15.00 | Jamed D. WITTS, Neil H. LANDMAN, Matthew W. GARB, Ekaterina LARINA, Remy ROVELLI, Layla M IRIZARRY, Nicolas THIBAUT, Mohammad Javad RAZMJOOEI, Lucy EDWARDS & Thomas E. YANCEY: Ammonite diversity, abundance, and ecology in the late Maastrichtian of the Gulf Coastal Plain, USA. Implications for the Cretaceous–Paleogene (K–Pg) mass extinction event. |
| 15.00 to 15.20 | Christina IFRIM: Determining factors in the terminal extinction of Cretaceous ammonoids. |
| 15.20 to 15.50 | Discussion round: R. HOFFMANN: Cretaceous ammonoid research. |
| 15.50 to 16.20 | Coffee Break |
| 16.20 to 16.40 | Ahmed EL HASSANI & Bouaza FEDAN: A brief introduction to the geology of Morocco, with a focus on the Middle and High Atlas. |
| 16.40 to 17.00 | R. Thomas BECKER: A brief introduction to the “cephalopod wonders” of the Middle Palaeozoic of the Anti-Atlas. |
| 17.00 to 17.30 | Discussion round: The future of cephalopod research (and symposia) |
| 17.30 to 18.00 | Final Poster Session (with award nomination) |

(participants go to dinner on their own)

Posters (in alphabetical order)

1. Lukas AFHÜPPE, R. Thomas BECKER & Sven HARTENFELS: New cyrto- and gyroconic nautiloids from the Devonian of the eastern Anti-Atlas.
2. Amine CHERIF, Bert DIDIER, Madani BENYOUCEF & Benhamou MILOUD: The Oxfordian of the Frenda area (northwestern Algeria) and its ammonite palaeoenvironments.
3. CICHOWOLSKI, M., RUSTÁN, J. J. & URIZ, N. J.: Middle Palaeozoic cephalopods from southwestern Gondwana and their palaeobiogeographic meaning.
4. Fatima EL HAMMACHI, Khadija BENSILI, Hassan EL ARABI, Hassan TABYAOUI & André CHARRIERE: The Toarcian “ammonitico rosso” of Oued Zraa (NW Middle Atlas, Morocco).
5. Stijn GOOLAERTS & Etienne STEURBAUT: Well-preserved Eocene *Aturia*'s from Boujdour, SW Morocco.
6. Kathleen HISTON: Migrational seaways of Silurian nautiloid faunas.
7. Kathleen HISTON & Ezio VACCARI: Arthur Humphreys FOORD (1844-1933): the story of an eminent palaeontologist without biography.
8. René HOFFMANN, Peter GOEDDERTZ & Manuel F.G. WEINKAUF: CONCH – a new software for quantitative morphological analyses of ammonoid shells.
9. René HOFFMANN, Robert E. LEMANIS, Helmut KEUPP, Lena WULFF, Kenneth DE BAETS & Christian KLUG: Blister pearl-formation in *Spirula spirula*.
10. Lara HOLDERIED, Ralph Thomas BECKER & Sven HARTENFELS: Ontogenetic morphometry, taxonomy and phylogeny of Paratornoceratinae (Goniatitida) from the lower Famennian of NW Australia.
11. Christina IFRIM: Grinding tomography in ammonoids – a rehabilitation.
12. Kayla M. IRIZARRY, Matthew P. GARB, James D. WITTS, Anastasia DANILOVA & Neil H. LANDMAN: Faunal Analysis at the Cretaceous – Paleogene (K-Pg) Mass Extinction Boundary, Brazos River, Texas.
13. Martin KOŠŤÁK, Ján SCHLÖGL, Adam CULKA, Adam TOMAŠOVÝCH, Martin MAZUCH & Natália HUDÁČKOVÁ: **Miocene Sepia melanin preservation and** implications for the origin of microbodies in the fossil record.
14. Benjamin J. LINZMEIER, Sungyoon HONG & Andrew ZAFFOS: The role of morphology in the development of the geographic range sizes of ammonoids.
15. Marcin MACHALSKI & Oksana MALCHYK: Durophagous predation on late Maastrichtian (Cretaceous) scaphitid ammonites from Poland.
16. Oksana MALCHYK: Late Cretaceous and early Paleogene nautilids from Poland and western Ukraine.
17. Svetlana V. NIKOLAEVA, G. A. MIZENS, T. I. STEPANOVA, S. A. DUB, N. A. KUCHEVA & A. B. Kuznetsov: Uppermost Mississippian (Serpukhovian) ammonoid occurrences in U-Pb dated deposits of the Middle Urals (Iset River).
18. Alison J. ROWE, Neil H. LANDMAN, Matthew P. GARB & James D. WITTS: Habitat of juvenile ammonites at methane seeps in the Late Cretaceous Western Interior Seaway.
19. Ján SCHLÖGL, Christian MEISTER, Alexei IPPOLITOV & Adam TOMAŠOVÝCH: Ammonite and belemnite biostratigraphy of the Sinemurian-Pliensbachian boundary in the Pieniny Klippen Belt (Priborzhavskoe section, Western Ukraine).
20. Christopher SMITH, Isabelle KRUTA & Neil H. LANDMAN: In the body chamber of

Rhaeboceras halli: hooks and teeth.

Post-Conference Excursion

Fees include the accommodation in double rooms (single rooms with extra fee), all meals (but not the drinks at dinner), water and refreshments during the day, and the transport in 4WD cars with drivers (five participants per car).

Thursday - 29.3.2018

08.00 Departure in front of the *Hotel Palais Medina & Spa, Fes*.
Morning The Toarcian Ammonitico Rosso of Oued Zraa (Middle Atlas, Morocco)
Afternoon The Iwansitn outcrop: The Lias and Dogger of the peri-anticline, southwestern end of the Amrar Ridge (Middle Atlas, Morocco).
Scenic drive through the Mesozoic Middle and High Atlas to the sub-Saharan region.
Night in the *Palais du Desert Hotel & Spa, Erfoud*.

Friday – 30.3.2018

Morning Bou Tchrafine – central Tafilalt reference section for Devonian stratigraphy and cephalopod successions.
Afternoon The world-famous Devonian mudmounds at Hamar Laghdad and its cephalopod-rich strata.
Night in the *Palais du Desert Hotel & Spa, Erfoud*.

Saturday – 31.3.2018

Morning Jebel Mech Irdane – the Eifelian/Givetian boundary GSSP and an important cephalopod locality.
Afternoon Emsian events, Frasnian-Famennian boundary, and *Gonioclymenia* Limestone at Jebel Ihers (western Tafilalt Platform).
Emsian to middle Famennian bioevents and cephalopod faunas at Mdoura (western Tafilalt Platform).
Visit to a “Fossil Museum” (with options for fossil shopping) between Rissani and Erfoud.
Night in the *Palais du Desert Hotel & Spa, Erfoud*.

Sunday – 1.4.2018

Morning The eastern Amessoui Syncline – a hotspot for Silurian to Carboniferous cephalopod research (southern Tafilalt).
Afternoon Upper Famennian Dasberg Crisis and *Gonioclymenia* Limestone at Oum el Jerane (western Amessoui Syncline).
Hangenberg and Lower Alum Shale Events and its cephalopod faunas at El Atrous (Amessoui Syncline).
The famous sand dunes of Merzouga (with group photo).
Night in the *Palais du Desert Hotel & Spa, Erfoud*.

Monday – 2.4.2018

Morning The cephalopod-rich Famennian of Madène el Mrakib (Maïder Basin).
Afternoon Cephalopod faunas at the Devonian-Carboniferous transition of the western Aguelmous Syncline (Bou Tlidat and/or Tazuoult).
Night in the *Palais du Desert Hotel & Spa, Erfoud*.

Tuesday – 3.4.2018

Morning The Jurassic and its ammonites at Ait Athmane section (southern High Atlas): The Lias and Dogger carbonate entablatures of the southern Central High Atlas.
Afternoon The passage zone of the North High Atlas fault: the Tizi n'Talghemt area (Middle Lias and Toarcian marls).
Return drive through the Middle Atlas to Fes.
Night in *Hotel Palais Medina & Spa, Fes* (included in excursion fees).