

# The TMS-Cushman monthly seminars on foraminiferal research

We are pleased to announce that we are launching a seminar series on foraminiferal research as a joint initiative between The Micropalaeontological Society and the Cushman Foundation for Foraminiferal Research. Our first speaker for this spring term is:

**Julie Meilland, postdoctoral researcher at MARUM, Germany**

On 30/05 14:00 CET Julie will speak about:

## Reproduction strategies and habitat of planktonic foraminifera in the upper ocean

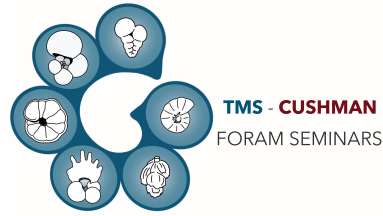


**Abstract:** *Planktonic foraminifera play a major role in the production, export and storage of carbonate to the ocean floor. Their shells also serve as a key substrate for chemical proxies used to reconstruct past-ocean conditions. Planktonic foraminifera species appear to live, reproduce and calcify across a range of depths, but the stability of their depth habitats (and hence calcification depth) and the mechanisms controlling their population dynamic are not satisfyingly constrained. A better understanding of their reproductive mode and vertical life trajectories would directly improve foraminifera-based proxies and also lead to a better understanding and quantification of their role in the biological carbon pump. With this presentation, combining observations of plankton tows samples from the tropical Atlantic Ocean to culture of *N. pachyderma* from the Arctic and Antarctic region, I provide direct observations on the evolution of planktonic foraminifera depth habitat and on their potential reproductive pathways. I show that more than half of planktonic foraminifera population do not contribute to synchronized reproduction associated with ontogenic vertical migration. I provide potential explanations to this observation with a quantitatively constrained model of reproduction.*

To receive a Zoom link to the seminar, please register by filling in this Google form: <https://forms.gle/wPqHnFCgSTHypDWO7>

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**Do you have ideas for possible speakers for these seminars? If so, please contact :** Chloe Todd at [c.l.c.todd@soton.ac.uk](mailto:c.l.c.todd@soton.ac.uk)



# The TMS-Cushman monthly seminars on foraminiferal research

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**Simon F. Mitchell, professor at the University of the West Indies Mona, Jamaica**

On 13/06 15:00 CET Simon will speak about:

## The basis for a large benthic foraminifera zonation of the Eocene of the Americas



**Abstract:** *The Eocene of the tropical Americas saw a major radiation of the Asterigerinoidea that later migrated around the Tethys, yet there has been little work calibrating this American radiation to chronostratigraphy. Using sections, largely in Jamaica (at the centre of the province), the large benthic foraminifera (LBF) succession has been calibrated using calcareous nannofossils, and for the first time we can see how this radiation occurred. Previous suggestions of a phylogenetic sequence from Amphistegina through Heterostegina, Eulinderina and Polyilepidina to Lepidocyclina can no longer be accepted. Five distinct radiations took place and based on LBF test morphology these are placed within four families and two subfamilies. This forms the basis for a new zonation for the Eocene of the Americas. In contrast, the nummulitids have a discontinuous record in the Americas, with short-term migration events occurring in the mid-late Paleocene (Ranikothaia), late Ypresian (Nephronummulites), late Eocene (Heterostegina ocalana) and mid Oligocene-early Miocene (H. antillea). The widespread appearance of small Nummulites/Operculinoides/Palaeonummulites in the early mid Lutetian also forms an important marker. The zonation is applicable to platform margin successions, but correlations with inner platform taxa (conical agglutinates, Fabularia and Yaberinella) allow the zonation to be expanded into platform interiors.*

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