



The Newsletter of the International Association of Meiobenthologists

PSAMMONALIA

Compiled at the
National Institute of Water and Atmospheric Research (NIWA)
Wellington, New Zealand

Meiobenthologists in action!



DONT FORGET TO RENEW YOUR IAM MEMBERSHIP!
APPLICATION FORM CAN BE FOUND ON THE LAST PAGE.

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- ◆ 1970-71 John Gray
- ◆ 1972-73 Wilfried Westheide
- ◆ 1974-75 Bruce Coull
- ◆ 1976-77 Jeanne Renaud-Mornant
- ◆ 1978-79 William Hummon
- ◆ 1980-81 Robert Higgins
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EDITORIAL

Kia ora dear colleagues!

I hope you have all had a good start to 2023.

First of all I would like to welcome Maria Herranz, Ellen Pape and Punyasloke Bhadury to the International Association of Meiobenthologists (IAM) Council, and Hong Zhou, Katarzyna Grzelak, Anna-Maria Vafeiadou, Alexander Kieneke and Tiago Pereira as new members of IAM's Board of Correspondents. We are excited to have you on board!

Secondly, I hope that the meiobenthologists depicted on the cover will forgive me for using their images, which they provided during 18IMCO to show the range of work we do ("meiobenthologists

in action"). Truly inspiring! Guess which one is my favourite? Hint: the musdniest one...

Thirdly, in case you did not know, I am happy to share the news that the next International Meiofauna Conference (19thIMCO) will take place in Kolkata, India, and will be hosted by our esteemed colleague Punyasloke Bhadury and his team. We can also look forward to the next Meioscool taking place in June this year in Portugal (see page 12).

18IMCO has been and gone (page 5). This was our first online conference, and hopefully the last. Despite the online format, many felt invigorated by their experience and it was trully inspiring to see the broad array of topics. If you haven't received the book of abstract, email us for a copy (psammonalia@gmail.com). If you participated to 18IMCO or Meioscool , remember to submit your manuscript to the PeerJ special issue on meiofauna, you have until May.

At the latest IAM Council meeting in December 2022, it was decided to make some important changes to the IAM website, with help from Matt Lee, Jeffrey Baguley and Tiago Pereira. All going well, we can look forward to a new look and updated website by this (northern hemisphere) summer. Our new treasurer Ellen Pape is also working on a new way to pay IAM membership fees, which should make life easier for all of us!

I hope you enjoy this issue of Psammonalia. As always, please get in touch with any material you would like to contribute to the next issue.

Daniel Leduc

Robert Higgins obituary

Robert Price Higgins, In Memoriam (1932-2022)



Photo: Bob Higgins at the Baruch Marine Field Laboratory, University of South Carolina, on a collecting trip in 1975. Bob is shown leaning on the “meiobenthic sled” a remote sampling device he fabricated to collect meiofauna. The design is based on such devices fitted with a 0.5-mm mesh net and used to collect larger epifauna, but, of course, Bob equipped it with a 63- μ m mesh net.

We are saddened to report that Dr. Robert P. Higgins died at the age of 90 on December 18, 2022 (ironically, a few days after 18th International Conference on Meiofauna concluded) in Asheville, North Carolina. Bob was a founding member of the International Association of Meiobenthologists (IAM) and was instrumental to the development of the society. During his long scientific career, he performed foundational research on many taxa of meiofauna, notably kinorhynchs, tardigrades, priapulids and loriciferans.

Bob was born on October 8, 1932, in Denver, Colorado to Jay and Amy (Gates) Higgins. Bob grew up in Denver where he met Gwen Litherland in high school; they married in 1954. Bob served in the U.S. Marine Corps Reserve between 1949 and 1959 where he rose to the rank of gunnery sergeant. During this time, Bob attended the University of Colorado where he studied in the laboratory of the noted invertebrate zoologist Robert Pennak, receiving B.A. in 1956 and M.A. degrees in 1958. Bob then pursued doctoral research at Duke University as a James W. Duke Fellow, earning his Ph.D. in 1961.

Bob began his career in academia as a faculty member in the Biology Department at Wake Forest University in North Carolina in 1961. In 1968, Bob moved to the Marine Biology Laboratory in Woods Hole, Massachusetts after accepting a senior post-doctoral appointment as a Resident Systematist. In 1969, Bob joined the Smithsonian Institution as a Biological Oceanographer. There he served as Director of the Mediterranean Sorting Center in Carthage, Tunisia and as a "science attaché" at the U.S. Embassy for two years. Bob then transitioned into the role as the Director of the Oceanography and Limnology program. He became a Research Scientist/Curator of Invertebrate Zoology with the National Museum of Natural History in 1978. Bob retired from the Smithsonian Institution in 1996. Bob was predeceased by his wife Gwen and his son Scott, and his brother William Jacques Higgins. He is survived by his son Kent Higgins, daughter Kim Higgins and two grandchildren (<https://www.legacy.com/us/obituaries/name/robert-higgins-obituary?id=38446828>).

Robert Higgins obituary (continued)

Bob conducted research in some 50 different countries and received many distinctions and honors for his scientific achievements. He participated in oceanographic expeditions near India and Peru, as well as in the Persian Gulf and the Faroe Islands. Bob was a visiting research scientist at the Danish Arctic Station in Greenland, and he served as a research associate with the Baruch Institute for Marine Biology and Coastal Research at the University of South Carolina. He served as president of the North Carolina Academy of Science. Bob was elected as a Fellow of the American Association for the Advancement of Science and of the scientific research honor society Sigma Xi and as a National Fellow in the prestigious Explorers Club. He was presented with a Lifetime Achievement Award by Marquis Who's Who in Science. Bob received an honorary D.Sc. from Copenhagen University in 1993.

Bob was a central figure during the founding of and during the early days of the IAM. Bob was the first Chairperson of the IAM and was instrumental in composing the constitution as well as setting many of the practices and standards for the new society. He was the founding editor of the Psammonalia newsletter (the first issue was published in 1966 and was 2 pages long). He was instrumental to the organization, funding, and logistics of the First International Conference on Meiofauna held in Tunis, Tunisia. Bob attended the conference and published "A Historical Overview of Kinorhynch Research" in the conference proceedings (Higgins, 1971). Bob is the only person to have served as Chairperson of the IAM and editor of Psammonalia on two separate occasions (from 1966-68 and again 1980-81).

Bob conducted foundational research on 4 meiofaunal phyla: Kinorhyncha, Tardigrada, Priapulida and Loricifera. A search of Google Scholar for papers by "R.P. Higgins" yielded 46 publications in which "kinorhynch" appeared in the title. Similarly, 11 publications on priapulids, 11 on tardigrades and 4 on loriciferans were retrieved. Over his long career,

he described over 90 new taxa, and 9 taxa were described in his honor (https://en.m.wikipedia.org/wiki/Robert_P._Higgins—note that this wiki page is a work in progress, please contribute if you can). The principal loriciferan larval stage was given the name "Higgins larva" in response to the role Bob played in the discovery and early study of one of the most recently described phyla (Kristensen, 1983). He also served as editor of an international symposium on Tardigrada. Significantly Bob was the lead editor (and a contributing author) of the book entitled "Introduction to the Study of Meiofauna" (Higgins and Thiel, 1988). This seminal work on "all things meiofauna" has been cited 1193 times (based on a search in Google Scholar).

Finally, the last publication to honor Bob was the description of a new tardigrade genus, "A new genus *Higginsarctus* and five new species" (see Hansen and Kristensen, 2021). He was so proud of this paper because he had collected the first specimens of this new genus in the deep sea many years ago!

John Fleegeer, Reinhardt M. Kristensen, Bruce Coull

References:

- Hansen, J.G., and R.M. Kristensen. 2021. A new genus and five new species of the subfamily Florarctinae (Tardigrada, Arthrotardigrada). *European Journal of Taxonomy* 762: 149-184.
- Higgins, R.P. 1971. A historical overview of kinorhynch research. *Proceedings of the First International Conference on Meiofauna*, N.C. Hulings, Ed., *Smithsonian Contributions to Zoology*, 76: 25-31.
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- Kristensen, R.M. 1983. Loricifera, a new phylum with Aschelminthes characters from the meiobenthos. *Zeitschrift für zoologische Systematik und Evolutionsforschung* 21: 163-180.

Reflections on 18IMCO

It seems like such a long time already since the 18th International Meiofauna Conference (IMCO) and Meiocool took place. Being the first IMCO held online, I was not sure what to expect. I had only come back from a month-long voyage a few days before Meioscool began, which was then immediately followed by the conference, therefore I had no time to think about anything else but logistics and ensuring that everything would go as smoothly as possible. Thankfully, things did go pretty smoothly, and since it all ended I have had time to think a bit more about the whole experience.

I think we all agree we all prefer to meet in person rather than online. But, I think we also agree that it is better to meet online than not at all. Personally, I did begin to feel the 'conference buzz' once things got under way. By that I mean the buzz one gets from hearing about new ideas, new ways of thinking, new opportunities, new geeky tools, new organisms, and of course meeting old friends, new friends, and seeing the energy and enthusiasms of young re-

searchers who have just joined the ranks of meio-benthologists. I did not expect to get this buzz, but I did, and I hope some of you also did.

I was pleased to see the variety of topics covered in the talks (50 in total) and posters (41) by the 100 or so participants joining from over 60 institutions. By comparison, 17IMCO had 74 talks, 78 posters and about 125 presenters. So, a smaller conference overall, but not less diverse.

On the whole, I think the conference fulfilled its function, which was to hold the community together until we can again meet in person. Thanks to all of you who participated and made it the successful event that it was. And also a huge thank you to all of you who helped me and the local organizing committee with the conference and IAM matters—you know who you are! And, finally, to Niketi: ehara koe i a ia!

Ngā mihi

Daniel Leduc



A group photo with some of the attendees of the International Association of Meibenthologists General meeting on zoom, December 2022. Spot the first canine to attend!

Limericks: a tradition to continue

The International Meiofauna Association has a long tradition of presenting limericks at the International Meiofauna Association meetings at the evening dinner. The limericks tradition began at the '1st International Meeting of Meiofauna Physiological Ecology' held at Arcachon, by Pat Boaden.

Limericks are short, humorous, five line poems often addressed to colleagues, with the rhyme scheme AABBA, meaning that the first two lines rhyme with each other, and then the next (usually shorter) two lines rhyme with each other, and the last line rhymes with the first two lines.

Pat Boaden was an excellent scientist and a polymath who wrote one of the few scientific papers composed in rhyme (see: <https://onlinelibrary.wiley.com/doi/epdf/10.1111/j.1439-0485.1996.tb00490.x>). The two limericks below by Pat Boaden were published in Psammonalia 27 are dedicated to Jeanne Renaut Mornant and Pierre Lasserre, respectively:

*There was a young lady who carried
Research out, on sands dry and arid
From Europe to Asia
She studied Crustacea
They called her Mis Ta Cocarid*
-Pat Boaden

*Said Pierre, one drunk evening in winter
We'll form a groupe écophysologique splinter
Like Columbus before
We'll discover a shore
With Santa Maria Nina and Pinta*
-Pat Boaden

Of course, there were limericks to honor Pat Boaden also in Psammonalia 29:

*Whilst weakened by Arcachon ale,
Some muses on Pat did prevail,
With surprise and delight,
He found that he could write,
Now he's planning to answer his mail.*
-Derek Murison

*Our good friend and colleague Pat Boaden,
With words is cleverly embolden'd*

*He decided to try us,
With the word 'thiobios',
And to this reduced all Benthos, we're tolde'n*
-Bill Hummon and the Arcachon committee

Here are a few recent limericks inspired by the 18thIMCO:

*A learned Belgian in Florida once told me,
Some crazy stuff about the deep sea,
Using robots to sample a wall,
I said it's not possible at all,
Which way is up when coring horizontally?*
-Daniel Leduc

*It all started in two thousand nineteen
We're off to Wellington and we're keen
But Covid came up
And all went tits up
So now we're all stuck in front of our screen*
-Jeroen Ingels

*Under my microscope, a glorious one is the Coastal Nematode,
only his elegance is matched by the Deep-Sea Copepod,
But too much of these mainstream beauties make me sick,
Isn't it time to move forward and finish my Limerick,
by claiming: other wonders from other places I shall seek.*
-Nabil Majdi

*You certainly heard that Jeroun
For reasons not really known
With nemas is finished,
His interest diminished.
But now he is sea-turtle-prone!*
-Olav Giere

*There once was a meiobenthologist,
They studied fauna that are usually missed,
These are important species,
That deserve complex theses,
So we know just how many of them exist!*
-Rachel Hale

We hope that these limericks have inspired you that the art of meiobenthology extends into the realms of poetry and prose as well. If while peering through a microscope or analyzing data, you are inspired to create rhyme please submit your compositions to the editor for future Psammonalia issues!

Jyotsna Sharma

The future of IAM and IMCO

The problem

Last year, our colleague Martin V. Sørensen from the Natural History Museum of Denmark expressed concerns about the diminishing numbers of taxonomists, phylogenists and morphologists (among other disciplines) at the International Meiofauna Conferences (IMCO). Martin later articulated his concerns in a piece published in a special issue of *Psammalia* in July 2022. As a follow up, a dedicated discussion session on this topic was held among the attendees of the 18th IMCO in December (online). The following provides a summary of the issues and ideas that were discussed, as well as ways to move forward and ensure that future IMCOs remain enjoyable and informative.

At some point since the first IMCO took place in 1969, the number of taxonomists, phylogenists and morphologists has decreased, largely at the expense of ecologists (and nematode ecologists in particular). This trend is pretty clear, but the causes behind it are less clear and likely to be complex. As in other scientific disciplines, meiobenthologists constantly have to develop new ways of thinking and new technologies in order to address emerging questions and to obtain research grants. Over the decades, this has led to an evolution and diversification in the type of research that is conducted by meiobenthologists, which most of us will agree is a good thing. The field of ecology in particular has grown immensely, driven by a need to understand basic ecological processes but also to help address the impacts that humans have on the environment. Having said this, taxonomists and morphologists are very much still around and conducting great research, but are choosing not to attend the IMCOs due to a perceived lack of relevance. Why is this?

Martin pointed out that, at times, the IMCO themes are phrased in a way which seem to exclude disciplines such as taxonomy, even though this was not the intention of the organisers. In addition, IMCO special issues sometimes target journals which do not accept contributions from outside ecological disciplines.

It should be pointed out that the imbalance of disciplines represented at the IMCOs also exist in relation to marine versus freshwater environments. Most presentations are about the marine environment, and very few are about other habitats (the latter, however, tend to be very well attended and appreciated!).

A way forward

Since the beginning, IMCOs have always been small, reflecting the small size of the meiobenthology community, and resulting in gatherings where there are ample opportunities to connect with other scientists. At the same time, we have all come to expect a diversity of topics which is seldom seen in other, often larger conferences. These two things are what most of us enjoy about the IMCOs: a conference where it is possible to know a good proportion of the participants, yet where our own ideas are constantly being challenged by others working in different disciplines. We would lose this if the IMCOs were to become all about marine nematode ecology. We can avoid this by more actively encouraging a diversity of disciplines. To achieve this, we suggest that:

1. Future IMCOs engage with other societies (e.g., International Society of Invertebrate Morphology, the European Federation for Freshwater Sciences) by organizing joint thematic meetings. This could attract for example researchers working on freshwater systems and encourage a greater representation of common freshwater taxa such as rotifers, ostracods and cladocerans.
2. Future IMCO organisers invite keynote speakers from disciplines outside marine meiofaunal ecology. These speakers should be strong leaders who will inspire people from within and outside their groups to attend.
3. Future IMCOs actively include all disciplines when developing their thematic sessions. A special focus could, for example, be set on 'neglected' systematic groups such as the rotifers, flatworms, gastrotrichs, or 'non-copepod arthropods'. Proven taxonomic experts could be specifically invited to organize these

The future of IAM and IMCO (continued)

thematic sessions. An overall IMCO ‘theme’ is not necessary and may discourage researchers from submitting abstracts.

4. IMCO proceedings should be published in journals which welcome research on all meiofauna-related disciplines, including for example taxonomy. Student prizes at IMCOs could target particular disciplines or environments not well represented in previous IMCOs.

5. Encourage involvement of students and early career scientists in IAM by setting up a dedicated position(s) on the IAM board, such as a student representative. A new generation will bring new ideas and energy, and a willingness to try new things.

These six suggestions are ideas that were brought up during a discussion session on the future of the IAM at the 18IMCO in December 2022. During this discussion, many more questions were raised as well as insights from a diverse group of people on how they experience an IMCO and being part of a truly global community. Promoting global connectivity among researchers within and beyond the field of meiobenthology, and broadening communication (predominantly online) will benefit the society as it increases the likelihood of a greater diversity of disciplines being represented. Scientists new to the field are often not aware of the IAM until they see a ‘serendipitous’ message somewhere online. The IAM must make efforts to increase efficient and broad-reaching communication with existing and potentially new members, whether it is through the website, social media, even the spread of Psammonalia and initiatives such as Meioscool and Meiolive.

While we all may have differing views on what IAM may or should look like in the future, we must be grateful for the scientists who thought starting an association focused on interstitial organisms in the 1960s was a good idea; and acknowledge all the aca-

demic shoulders that have since carried the Association to where it is today. We could therefore take it as a kind of duty to maintain and constantly develop this so incredibly diverse, networking and stimulating scientific society for the present and for future generations of meiobenthologists. Bringing all our networks and knowledge together and benefiting from the younger generations of scientists (and their energy!) that find their way into Meiobenthology, it is impossible not to see an exciting future ahead!

Daniel Leduc, Jeroen Ingels, Alex Kieneke,
Nabil Majdi, Martin V. Sørensen

Networking for early career meiobenthologists

Notes from our online discussions at 18IMCO

Scientific associations and federations of associations (e.g. EFFS, ASLO) increasingly propose workshops, social events and networking opportunities for Early-Career Researchers (MSc, PhD, Postdocs, further referred to as ECRs). The aim is to encourage ECRs to take responsibility in the functioning of the association and benefit from an increased collaboration network that will help them progress through the various steps of their scientific career. Those initiatives supported by senior scientists and executive boards of associations have also allowed ECRs to organize topical congresses (e.g. "Fresh Blood for Fresh Water"), collaborative experiments (e.g. Attermeyer et al., 2021) and conduct surveys revealing the difficulties that ECRs commonly encounter in conferences, laboratories and academia in general (Lupon et al., 2021) which highlight some solutions to alleviate those issues (Bodmer et al., 2019).

During our online discussion at 18IMCO, we came to the conclusion that MeioSchool was a successful approach supported by IAM to foster inclusion of ECRs in Meiobenthology. Other tools recently implemented by IAM (MeioLive, Social media activity, Networking platforms like Slack) also have the potential to stimulate the emergence of a vibrant community of Early-Career Meiobenthologists. IAM can propose a platform, but of course the involvement of ECRs would be key to create a strong networking group within the IAM, and thus we hope that this first discussion could be a spark for this venture. Through our discussion some points are worth mentioning and could be considered by IAM and the organizers of the next IMCO to increase the inclusion and participation of ECRs in the life of our association:

- Create an official IAM-Instagram (photos/videos of organisms and expeditions) and IAM-Discord (Forum), and increase visibility of those pages and other networking resources on the official IAM-website.

- We need more involvement to curate all these platforms, because currently networking tools at IAM are poorly used, and involvement will significantly help community growth and the performance of broader collaborative work. There was a suggestion to modify IAM's bylaws to include an ECR representative on the IAM council, and to make sure that ECRs are well represented in the board of correspondents to help manage social networking pages and online visibility of the IAM.

- We need to develop more "get-together activities" at IMCOs (e.g. social events, sports, music, etc.). We need to develop open spaces or workshops after IMCO sessions filled with creative collaborative activities and forums to get-together and build stronger connections around some key topics in Meiobenthology. We should also strive to get ECRs more involved in preparing these activities. In particular we believe that students at the IMCO's host institution could proactively prepare such a program in collaboration with IAM council. After Covid-restrictions it sadly appears that students had a very limited experience of networking activities at conferences (but also in labs and academia), and it is vital that the next IMCO bridges the gap to offer positive perspectives to the new generation of Meiobenthologists.

Nabil Majdi & Katie Bigham

Attermeyer, K., et al. 2021. Carbon dioxide fluxes increase from day to night across European streams. *Communications Earth & Environment* 2: 118.

Bodmer, P., et al. 2019. Collaborative Projects: Unleashing Early Career Scientists' Power. *Trends in Ecology & Evolution* 34: 871–874.

Lupon, A., et al. 2021. Towards women-inclusive ecology: Representation, behavior, and perception of women at an international conference. *Plos ONE* 16: e0260163.

Proceedings of Workshop “Follow the food! Using food webs as indicators of ecosystem functioning”



On the 17th and 18th of January 2023, the University of Évora hosted the Workshop “Follow the food! Using food webs as indicators of ecosystem functioning”. The event brought together scientists who study different aspects of food webs in freshwater and marine ecosystems. The objective of the workshop was to discuss the current and future state of food webs in the context of the indicators of Good Environmental Status (GES) and especially regarding Descriptor 4 – Food Webs under the Marine Strategy Framework Directive. The workshop also aimed to strengthen the cooperation between scientists from different areas (modeling vs empirical approach vs ecosystem perspective) to produce more integrative data that would eventually assist in delivering process-based indicators, capable of capturing multiple anthropogenic pressures.

During the workshop, the role of meiofauna in food webs was strengthened, as well as the importance of including meiofauna in food web models for more accurate “image” of the state of ecosystems’ health.

The first day of the workshop was dedicated to the presentation and discussions of different state-of-art methodologies for food web analysis including stable isotopes and ecological modelling given by three prestigious international guest researchers: Dr. Tom Moens (picture above), University of Ghent; Dr. Michelle Jackson, University of Oxford and Dr. Ferenc Jordán of the University of Parma. The second day of the workshop was dedicated to the link between fundamental scientific knowledge and research methodologies and their application to assess the ecosystem conditions under the “European Directives”. This discussion was coordinated by Susana Nunes, from the Portuguese Environmental State Agency and representative of ECOSTAT (Water Framework Directive Common Implementation Strategy Working Group on Ecological Status).

The Workshop had a strong discussion component, with several “Roundtable Discussions” sessions, in order to strengthen the cooperation between researchers from different food web areas (modeling, empirical approaches and ecosystem approach) and decision and policymakers.

Proceedings of Workshop “Follow the food! Using food webs as indicators of ecosystem functioning” (continued)

Principal conclusions of the workshop emphasized the need for the complementary use of different tools such as stable isotope analysis and ecological network models to obtain a more realistic picture of the state of food webs under anthropogenic stress. Furthermore, each tool or combination of tools must be suited to each specific problem and its spatial and temporal scale. It was also reinforced that the cooperation between stakeholders and policy makers should be established at an early stage of the scientific project proposal for better use of scientific knowledge for the purposes of bioassessment and application of European Directives.

The workshop was coordinated by Kasia Sroczynska and Helena Adão, researchers of MARE – University of Évora, as well as Sofia Henriques, MARE-University of Lisbon, as part of the projects: D4Ss - “Food-web approaches to assess the functional benthic ecosystem interactions for Marine and Coastal management under the Marine Strategy Framework Directive” and MARE MiniGrants 2021.



Kasia Sroczynska, MARE- University of Évora

MeioScool 2023 Announcement



Since 2013 MeioScool's objective is to bring together several meiofaunal experts during regular workshops and summer schools in order to:

- 1) Increase awareness of researchers, students and the general public to the fundamental role of meiofauna in marine ecosystems from the coastal zone to abyssal depths;
- 2) Train students and researchers to the identification and description of meiofauna through several complementary disciplines (taxonomy, ecology, molecular biology, microscopy, imaging, AI) and stimulate a new generation of meiobenthologists.

The MeioScool summer school 2023 will last 5 days with conferences and sessions devoted to field and laboratory work (sampling, extraction, imaging, microscopy, identification of major meiofaunal taxonomic groups such as Nematoda, Copepoda, Foraminifera, Kinorhyncha, Loricifera, Polychaeta, etc..).

The MeioScool Summer School 2023 will be held at Aula de La Mar, Palma de Mallorca, Spain, from 26 to 30 of June 2023. This MeioScool edition is co-organized by Bluerevolution (Ifremer / ENIB) and Universidad Complutense de Madrid.

Confirmed invited speakers/tutors: Daniel Leduc (NIWA, New Zealand), Pedro Martinez (Senckenberg, Germany), Daniela Zeppilli (Ifremer, France), Valentin Foulon (ENIB, France), Pierre-Antoine Dessandier (Ifremer, France), Catherine Borremans (Ifremer, France), Nuria Sánchez (Complutense University of Madrid, Spain), Diego Cepeda (Complutense University of Madrid, Spain), Alberto González Casarrubios (Complutense University of Madrid, Spain), Ranju Radhakrishnan (Ifremer, France), Sandra Fuchs (Ifremer, France),

Application open for Student and Young Researcher Grants, Deadline 15 March 2023

<https://bluerevolution.ifremer.fr/MeioScool-2023/Welcome-to-MeioScool-2023>

Daniela Zeppilli

New students



Jannik Schnier

Jannik gathered his first experiences with meiofauna organisms during his Bachelor and Master studies at the University of Oldenburg, Germany. For his theses, he worked at the German Centre for Marine Biodiversity Research (DZMB) of the Senckenberg Institute in Wilhelmshaven on marine gastrotrichs of the North Sea and the High-Arctic Karasik seamount. Currently Jannik is a PhD candidate at the Alfred-Wegener-Institute Helmholtz centre for Polar and Marine research in Bremerhaven, analysing spatial and temporal nematode diversity data from 20 years of meiofauna research at the Arctic long-term deep-sea observatory LTER-HAUSGARTEN.



Roman Trokhymchuk

Roman is PhD student of the V. N. Karazin Kharkiv National University in Kharkiv, Ukraine, his PhD supervisor is Prof. Serge Utevsy. Roman is working since June 2022 at the department "Deutsches Zentrum für marine Biodiversitätsforschung" of the institute "Senckenberg am Meer" in Wilhelmshaven, Germany. Dr Alex Kieneke is his co-supervisor for his PhD project. Roman investigates the diversity and distribution patterns of marine Tardigrada from the whole Atlantic Ocean basin spanning the Antarctic to the Arctic regions including also areas of the temperate zone. The focus is on deep sea habitats and shelf sediments of oceanic islands and seamounts. Roman wants to find out if there are latitudinal or depth-related patterns of the tardigrade diversity and if there are distinct tardigrade communities in the different Atlantic ecoregions. Further biological interests of Roman are freshwater Gastrotricha and, a little more distant from meiobenthology, population biology and conservation of herpetofauna. For the latter task, Roman will travel to Uzbekistan in April 2023 for a conservation project focussing the steppe tortoise *Testudo horsfieldii*.

New students



Anna Timchenko

Research interests: Sympagic fauna, Ice nematodes, Integrative taxonomy

I am a PhD student at the Shirshov Institute of Oceanology of the Russian Academy of Sciences, under supervision of Dr. Daria Portnova. I am interested in the diversity of sympagic fauna in the seasonal Arctic sea ice, with a focus on ice nematodes. This includes studying the seasonal variability in community composition of sympagic fauna in different types of sea ice (from initial type of ice to first-year ice). Particular attention is drawn to study of the ice-associated nematodes using molecular genetic tools. Specifically, I perform single-specimen barcoding with prior morphological identification to delve deeply into the evolutionary history and relationship of ice nematodes from different sea ice Arctic localities.

Meiobenthologists in action



Photos: Alexander Kieneke (Senckenber Research Institute) and João Manuel Medeiros Rodeia (Departamento de Oceanografia e Pescas of the Universidade dos Açores in Horta) on the island of Faial (Azores). They are deploying an Ekman-Birge grab sampler from aboard a speed boat at Praia da Fajã (Faial) and recovering the sampled sediment. Alexander was working in Horta and sampling marine and freshwater gastrotrichs around the island of Faial in June and July last year (2022) for a project focussing the diversity and genetic properties of gastrotrichs from remote, oceanic habitats. Alexander's research stay was funded by the ASSEMBLE Plus program of the EU.

Book announcement: New horizons in Meiobenthos research



Olav Giere
Michaela Schratzberger *Editors*

New Horizons in Meiobenthos Research

Profiles, Patterns and Potentials



On a very fruitful, yet informal dinner meeting during our last Conference in Portugal (17IMCO, 2019) a plan took shape that I had in mind since quite some time, and that should hopefully reach out beyond the time I can overlook. The thematic frame that I was pondering over since long was: Where will future meiofauna research go to, where should we set accents in the future? About which central points should various experts compile their knowledge and thoughts?

So at that meeting we agreed to write a compendium covering the divergent fields and aspects of future meiobenthology. Now I can announce here that this demanding task could be realized: A comprehensive multi-author work, dedicated to Helena Adao, our host of the Portugal Conference, has now been completed. Here I would like to draw your attention to this volume in print:

"NEW HORIZONS IN MEIOBENTHOS RESEARCH – PROFILES, PATTERNS AND POTENTIALS", a volume edited by Olav Giere and Michaela Schratzberger is currently in print at 'Springer Nature'. The book is not another textbook or a review, but instead addresses and summarises recent progress in various fields of forthcoming importance, thereby emphasising the role of meiofauna in the world of benthos. A glance in its structure:

We hope this new book will inspire meiobenthologists in their discussions and stimulate to pursue novel lines of evidence, offer new interpretations of existing data, ask new questions and find alternate explanations, all of which will help research on meiobenthos to move forward towards new horizons.

We expect the book to be officially published in March 2023. It can be pre-ordered online now.

Olav Giere and Michaela Schratzberger

Introduction: Olav Giere, Michaela Schratzberger

Chapter 1: Bilaterian Evolution from a Meiofauna Perspective: Miniaturization in the Focus—Katrine Worsaae, Jakob Vinther, Martin Vinther Sørensen

Chapter 2: Meiofauna Shaping Biogeochemical Processes—Stefano Bonaglia, Francisco Nascimento

Chapter 3: Meiofauna and Biofilms – the Slimy Universe—Nabil Majdi, Cédric Hubas, Tom Moens, Daniela Zeppilli

Chapter 4: Meiofauna Meets Microbes: Chemosynthetic Symbioses—Jörg Ott, Silvia Bulgheresi, Harald Gruber-Vodicka, Alexander Gruhl, Lena König, Nikolaus Leisch

Chapter 5: Meiofauna Diversity and Biogeography: Paradigms, Contrasts, Problems—Ann Vanreusel, Pedro Martinez Arbizu, Moriaki Yasuhara

Chapter 6: Freshwater Meiofauna: a Biota with Different Rules? - Ignacio Peralta-Maraver, Walter Traunspurger, Anne Robertson, Olav Giere, Nabil Majdi

Chapter 7: Hidden players: Meiofauna Mediates Ecosystem Effects of Anthropogenic Disturbances in the Oceans—Michaela Schratzberger, Roberto Danovaro, Jeroen Ingels, Paul Montagna, Melissa Rohal Lupher, Federica Semprucci, Paul Somerfield

Chapter 8: Deep-Sea Meiofauna: a World of its Own or Deeply Connected? - Jeroen Ingels, Daniel Leduc, Daniela Zeppilli, Ann Vanreusel

Chapter 9: Polar Meiofauna: Antipoles or Parallels? Jeroen Ingels, Christiane Hasemann, Thomas Soltwedel, Ann Vanreusel

Chapter 10: Cave Meiofauna as Models for Ecology and Evolution—Alejandro Martínez

Chapter 11: Meiofauna: Adapted to life at the Limits—Jeroen Ingels, Daniela Zeppilli, Olav Giere

Concluding Remarks—Olav Giere, Michaela Schratzberger

INTERNATIONAL ASSOCIATION OF MEIOBENTHOLOGISTS

APPLICATION FOR MEMBERSHIP OR RENEWAL

The International Association of Meibenthologists is a non-profit scientific society representing meibenthologists in all aquatic disciplines. The Association is dedicated to the dissemination of information by publishing a quarterly newsletter and sponsoring a triennial International Conference. The newsletter, Psammonalia, is published mid-month in OCTOBER and August. Membership is open to any person who actively is interested in the study of meiofauna. Annual membership dues are EU\$10 (US\$10) and payment for up to 3 years in advance is possible. New members will receive Psammonalia beginning with the January issue of the year after joining. Additional contributions to the **Bertil Swedmark Fund**, used to support student attendance at the triennial conferences, is encouraged.

Please check the appropriate boxes:

- New member* Renewing member Change of address
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Research interests: _____

(*) New members are encouraged to introduce yourself to members in a short bio (ca. 10 lines).