Dear Fellow Neuroethologists,

Greetings to all of you during this very busy time of year. As part of an international community, I am reminded that those of us living in the Southern Hemisphere will soon be seeing Santa Claus sitting on
a beach chair, while we in the Northern Hemisphere will be preparing for the shortest day of the year. The smell of fresh-cut pine boughs and the glow of lighted evergreens offer some of us “northerners” a way to brighten our spirits as we approach the chilly, winter solstice.

The waning days of 2023 offer us an opportunity for reflection on both the good and bad of the past year. It may sound trite, but on days when the bad news can feel overwhelming, I take comfort in the support of being part of a community of neuroethologists who value diversity, equity, and inclusion. As the New Year approaches, one aspiration we can share is to resolve to be gentler and kinder to all those we encounter, and to be as generous as possible if we are able to help others who are less fortunate.

Well, with a new year approaching and in a blink of an eye, it will be time for us to meet in Berlin for the 15th International Congress of Neuroethology (ICN). This conference will begin on Sunday July 28th 2024 and will end on Friday evening, August 2nd 2024. The main conference venue will be held at the Henry Ford Bau, which belongs to the Freie Universität Berlin. The ICN webpage, with meeting content and registration-related information, should be live by the time this column is posted. As someone who has attended all but one of our Congresses (held every 3 years before 2010), I can assure you that once you attend one of these meetings, you will find your scientific home for life!

I will spare you the details of our upcoming Congress, as they will be included in the new ICN webpage, but I would like to heartily thank the following: the Local Organizing Committee (Mathias F. Wernet, Chair, Freie Universität Berlin; Rüdiger Krahe, Co-Chair, Humboldt-Universität zu Berlin; Constance Scharff, Co-Chair, Freie Universität Berlin) and the Co-Chairs of the Program Committee (Elke K. Buschbeck, University of Cincinnati, USA and Coen P. H. Elemans, University of Southern Denmark). These individuals and their sub-committee members have not only been busily assembling a fantastic scientific program, but have been applying for funding for our Congress so that we can offer financial assistance to a number of our speakers and attendees, especially our early-career scientists and those with limited financial support. External funding from various agencies like the U.S. National Science Foundation (NSF) and the German Research Foundation (DFG) are vitally needed for extending the number of travel-related awards that the ISN can afford to support. On this note, the deadline for the Heiligenberg Student Travel Awards (HSTAs) is April 15, 2024. The deadlines for other ISN Awards and assistance will be announced soon.

On another note, I would like to congratulate Eve Marder (an ISN Fellow) for receiving the National Medal of Science. Our ISN Treasurer, Susan Fahrbach, has written (in this newsletter) about the importance of Eve’s research and the details of this high honor. A second congratulation goes out to our ISN members, Wolfgang Stein (Illinois State University) and Steffan Harzsch (University of Greifswald), for receiving the Kavli Exploration Award (in Neurobiology and Changing Ecosystems). They “aim to understand how different species of crustaceans adapt and respond to changing temperatures throughout their lives, from larval development to adulthood.” For both of these awards’ recipients, the subject of research has been the crustacean stomatogastric nervous system, a testament to the value of a numerically-small neural systems approach.

Lastly, I want to mention how truly impressed I have been with the “Future of Neuroethology” webinar series thus far. The quality of talks from our (Sept 20th and November 8th) early-career speakers has been nothing shy of phenomenal. I am looking forward to the next series of speakers scheduled for February 21st 2024. I urge you all to attend the rest of this webinar series to see first-hand how talented and creative our future stewards of Neuroethology are; clearly, the future looks bright!

I wish all of you a joyous and peaceful holiday season, and a Happy New Year,

Karen Mesce
ISN President

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**EVE MARDER AWARDED U.S. NATIONAL MEDAL OF SCIENCE**

**Susan E. Fahrbach** reflects on Eve’s contributions to neuroethology following her prestigious recognition.

ISN Fellow Eve Marder of Brandeis University was honored in October 2023 with the National Medal of Science, the highest award given by the United States to
I suspect that other members of the ISN Executive Committee were surprised when I volunteered to write this article because they know I have no direct connection with Marder and have never worked on crustaceans. Nevertheless, despite a definite lack of anecdotes, I feel I have been mentored for several decades – at a distance and unbeknownst to her - by Marder’s writing. At each stage of my career, I drew upon Marder’s papers to become a better neuroscientist. As a postdoctoral researcher new to arthropod nervous systems, Marder’s work on the modulation of the pyloric rhythm in the lobster stomatogastric ganglion helped me understand the power of identified neurons (3); as an assistant professor, her writing encouraged me to think of identified neurons as potentially part of multiple pattern-generating networks (4); deeper into my studies of the honey bee mushroom bodies, her research led me to consider how individual differences in nervous system structure can be compatible with stable and reliable function (5). Marder’s publications on the stomatogastric ganglion are the foundation of my understanding of neuromodulation.

Marder’s skill as a writer has also been showcased in many News and Views articles from which I learned about topics as diverse as Heinzel and Selverston’s endoscopic studies of the lobster gastric mill (6) and the negative impact of gender bias in citations. Her Living Science essays for the journal eLife constitute a third category of Marder’s writing (8) that has enlivened many lab discussions and inspired much reflection. (Marder served as an editor of eLife from 2012-2019.) Particularly meaningful to me is her Living Science essay titled “Lost voices,” in which she notes the pain experienced by scientists when colleagues die too early, using the examples of Peter Getting, Walter Heiligenberg, and Allison Doupe (9). Despite its topic, this essay is not mournful. Marder deftly equates scientists and songwriters such as Janis Joplin, John Lennon, and Amy Winehouse to make her point that it is a “privilege to know our colleagues through their scientific voices as they compose their songs of science.”

Why not celebrate Eve Marder’s National Medal of Science and extraordinary career by reading as much of her writing as you possibly can?

2. https://youtu.be/w8vc1s5-3dg?si=CGsocRsdsKQAA_Hp

ICN 2024: WHAT YOU NEED TO KNOW

As you’re looking ahead to the 16th International Congress of Neuroethology in Berlin, here are the details that will help you plan to attend!

- **When:** July 28 - August 2, 2024
- **Website:** [https://icn2024-berlin.org](https://icn2024-berlin.org)
- **Registration begins February 1, 2024**
- **Deadline for abstract submission and Early-Bird registration is April 1, 2024**
- **Venue:** The Henry Ford Building at the Freie Universität Berlin

This world-class venue has meeting rooms that hold 250 to 1200 participants. The building is fully handicapped accessible, with no physical barriers to impede the attendance of members with physical disabilities. All posters will be displayed for two days in two separate sessions within the Henry Ford Building, adjacent to the auditoria and meeting rooms. Numerous seating areas of different sizes and configurations, both inside and outside the building, will be available throughout the meeting for student mentoring meetings, lunches, and other informal gatherings.
interactions. Culturally sensitive menu choices will be available for lunches, coffee breaks, and the banquet dinner (included as part of the registration fee). The Henry Ford Building, located in south-western Berlin, is easily reached by road and public transportation, including subway, rail, and bus, providing delegates with easy access to nearby hotels and facilitating exploration of Berlin. The Berlin Brandenburg Airport is only 30 minutes from the Henry Ford Building and nearby accommodation.

Founders and Plenary Lectures

- **Ofer Feinerman** (Weizmann Institute, Israel) “Collective problem solving by ant colonies”
- **Paloma Gonzalez-Bellido** (University of Minnesota, USA) “Neuroethology of aerial predation with compound eyes”
- **Daniel Kronauer** (Rockefeller University, USA) “Ants: How simple brains generate complex social behavior”
- **Gilles Laurent - Franz Huber Lecture** (Max Planck Institute for Brain Research, Germany) “Sleep, camouflage, and brain evolution”
- **Poramate Manoonpong** (University of Southern Denmark, Denmark) “Machine intelligence inspired by nature: From locomotion to manipulation and navigation”
- **Mackenzie Mathis – Walter Heiligenberg Lecture** (Swiss Federal Institute of Technology, Switzerland) “Merging machine learning and neuroscience”
- **Sanja Bauer Mikulovic** (Leibniz Institute for Neurobiology, Germany) “Behavioral variables and neural mechanisms underlying helping behavior in mice”
- **Yifat Prut** (Hebrew University, Jerusalem, Israel) “Locomotory systems in primates”
- **Rui Oliviera** (Instituto Universitario, Lisbon, Portugal) “Of fish and flies: testing the social brain hypothesis in model organisms”
- **Kristin Tessmar-Raible** (Max Perutz Labs, Vienna, Austria) “Biological timers set by sun and moon”
- **Yoko Yazaki-Sugiyama** (OIST Graduate University, University of Tokyo, Japan) “Learning to communicate by listening to others”

Presidential Symposium

- **Zoe Donaldson** (University of Colorado, USA): Voles, social behavior, and neuropeptides
- **Matt Fuxjager** (Brown University, USA): Birds, frogs, neuroendocrinology, and motor systems
- **Brian Smith** (University of Arizona, USA): Honey bees and learning/memory
- **Abdel El Manira** (Karolinska Institute, Sweden): Lamprey, zebra fish, and locomotor circuits
- **Gwyneth Card** (Columbia’s Zuckerman Institute, USA): *Drosophila* visual guidance, motor circuits, and decision making
- **May Zhen** (U Toronto): Neural circuits in *C. elegans*.

Invited Symposia

1. **The interplay of social behaviors and biological clocks**
   Organizers: **María P. Fernández** (Barnard College of Columbia University, USA) and **Ana Silva** (Universidad de la República, Uruguay)

2. **Finding food, home, and friends: Neuroethology of navigation across species and behaviors**
   Organizer: **Angelo Forli** (University of California, Berkeley, USA)

3. **Polarization vision: From eyes to action**
   Organizers: **James Foster** (Konstanz University, Germany) and **Gregor Belušič** (University of Ljubljana, Slovenia)

4. **Common and divergent evolution of neural modules for memory, action selection, premotor translation, and motor patterning**
   Organizer: **Rhanor Gillette** (University of Illinois at Urbana-Champaign, USA)

5. **Rebalancing diversity of animal models in neurophysiology and sensory biology: Using modern molecular tools to study neurophysiology and sensory biology of nonstandard animal models**
   Organizer: **Elena O. Gracheva** (Yale University, USA)

6. **Neural & behavioral principles structuring vocal interactions**
Organizers: **Ava Kiai** (Goethe University Frankfurt, Germany) and **Jonathan Benichov** (Max Planck Institute for Biological Intelligence, Germany)

7. Sound and vibration communication in arthropods
Organizers: **Hannah ter Hofsteede** (University of Windsor, Canada) and **Manuela Nowotny** (Friedrich-Schiller-University Jena, Germany)

8. Neural basis of flexible innate behaviors
Organizers: **Katja Reinhard** (Scuola Internazionale Superiore di Studi Avanzati, Italy) and **Karl Farrow** (KU Leuven, Belgium)

9. The brain in motion
Organizer: **Floris van Breugel** (University of Nevada, Reno, USA)

10. Unexpected mental time travel
Organizers: **Auguste M. P. von Bayern** (Max Planck Institute for Biological Intelligence, Germany) and **Nicola S. Clayton** (University of Cambridge, UK)

11. Mechanisms of color vision: Genes, eyes, neuronal circuits, and behavior
Organizers: **Ayse Yilmaz-Heusinger** (Lund University, Sweden), **Natalie Hempel de Ibarra** (Exeter University, UK), and **Almut Kelber** (Lund University, Sweden)

12. Neuroethological responses to anthropogenic change
Organizers: **Sue Anne Zollinger** (Manchester Metropolitan University, UK) and **Jinhong Luo** (Central China Normal University, China)

The meeting is shaping up to be the biggest, most comprehensive, and most inclusive meeting yet! Check the website regularly and start planning your travel to Berlin.

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**EXPLORING THE FUTURE OF NEUROETHOLOGY**

Early Career Representative **Claire Rusch** recaps the highlights of first two webinars in the “Future of Neuroethology” series.

This year, the society launched a new initiative, aiming to bring together our community and promote sustainable and inclusive academic activity during the off-meeting year. With two webinars successfully completed and two more on the horizon, now is a good time to reflect on this initiative.

The organizing committee, a collaboration between the Inclusion and Diversity Committee (**Ana Silva, Vivek Nityananda, Ayelén Nally, Angeles Salles, Lukas Weiss, Lauren O'Connell** and **Josh Martin**), and the early career representatives (**Saumya Gupta** and myself), made a deliberate choice to spotlight the work of early career scientists. Recognizing them as the future torchbearers of our field, we acknowledged their potential lack of opportunities compared to senior researchers in presenting their work to an international audience. The selection of speakers was a careful process, emphasizing diversity not only in topics but also in geographical representation. We included a career panel including both academic and non-academic researchers, and further insights into our non-academic panelists can be found in Saumya's interviews. Finally, we decided to hold the webinars at different times to cater to different continents.

Another crucial aspect we deliberated extensively on was the financial aspect of the seminar. Our objective was to make the webinars accessible to the widest audience while sustaining the initiative. Consequently, we decided to request a nominal financial contribution from Principal Investigators and junior scientists who are not members of our society. The funds collected will be dedicated to supporting diversity and inclusion initiatives within our society, reflecting our commitment to fostering an inclusive scientific community. Stay tuned to hear more about this in the near future!

We were immensely pleased by the overwhelming support from our community, with over a hundred scientists registering for the webinars (see figure). Notably, the webinars are a hit for trainees who account for more than 75% of the registration, around 30% of which were non-members of the ISN. This accessibility likely provided a platform for early career scientists who might face barriers to attending international conferences or affording membership.
fees, offering them an opportunity to engage with the latest advances in neuroethology and become part of our community. We were also delighted to see registration from all over the world, with representation of all continents.

We kicked off our series with a first webinar that was an example of how diverse neuroethology can be. We started by hearing how hormone levels in the blood relate to aggressive behavior and are dependent on seasonal change and environmental cues with Dr. Cecilia Jalabert (IIBCE, Uruguay). Dr. Kristina Smiley (UMASS, USA) shed light on hormone modulation of sensory processing between parents and offspring. We were convinced of the value of using planktonic animals to functionally dissect novel sensory systems with Dr. Luis Alberto Bezares Calderon (University of Exeter, UK). Manal Shakeel (NCBS, India) concluded our talks with insights into solitary sugar-elicited behavior and social dance communication in honeybees.

For our second webinar, we delved into natural vocal behaviors in lab-housed deer mice and free-living lab mice with Dr. Nicholas Jourjine (Harvard University, USA; University of Zurich, Switzerland). We were reminded that there are more than one Drosophila species with Marta Rimmeceau’s (UCLA, USA) work on the comparative ecological adaptation for visual navigation in different drosophilid species. We ended our session with Leandro A Scholz (QBI, Australia) who studies visual looming responses in larval Zebrfish, dissecting the difference in behavior and neural activity that relates to threat level. Once again, the richness of these presentations underscores the promising trajectory of neuroethology.

As I reflect on these two webinars, it is evident that the future of neuroethology holds immense promise. But perhaps more importantly, for me, each webinar demonstrated that our community is a supportive space where sharing work is met with minimal fear of judgment, and attendees rally to support our talented early career scientists, providing crucial and inspiring feedback. I am immensely proud to be part of such a community.

Finally, our heartfelt thanks go out to the speakers, participants, and everyone involved in making these webinars a success. We look forward to our next webinars as we journey into the fascinating frontier of the future of neuroethology.

Don’t forget you can apply or nominate a colleague to be a speaker for the next two webinars. It’s also not too late to register:

HIGHLIGHTS OF THE 2023 GORDON RESEARCH CONFERENCE ON NEUROETHOLOGY


What fantastic memories we all still have from this year's GRC! As chairs we are extremely grateful to all who helped create a truly remarkable atmosphere that was friendly and inclusive to promote discussions about cutting edge science without boundaries defined by status or scientific background.

As with the 2020 International Congress of Neuroethology, we had everything ready for a 2021 conference when the Gordon Research Conferences
postponed the meeting to 2023 due to the COVID-19 pandemic. So, when the meeting could finally take place in August 2023 following a four-year break, enthusiasm was extra high. All speakers and discussion leaders we contacted were excited and committed to contributing unpublished cutting-edge science but also to create an open and friendly atmosphere that would welcome scientists who had never before have been at a Neuroethology conference. The number of applicants was phenomenal and we had a record 163 scientists join the meeting. A total of 110 posters were presented in two sessions.

Many students and postdocs had attended the Gordon Research Seminar held the day before and wonderfully chaired by Sweta Agrawal and Duncan Mearns. So, lively discussions and very open interactions were already going on when the GRC officially started! Introduced by Harold Zakon, the chair of the second GRC Neuroethology, two brilliant talks selected from abstracts started the meeting. We all then heard a fantastic keynote talk by Vanessa Ruta. Right from start students asked many and intriguing questions so that the discussions were lively and not dominated by the more established researchers – and this set the tone for all discussion sessions throughout the meeting.

As chairs we wanted our program to address conceptional issues such as 'What is a cell type and how can we track its evolution?', 'How do energetic costs constrain behaviors and information processing?', 'Why do animals need to sleep?', and 'How is neural circuit function and behavior stabilized against perturbation?'. We invited speakers and discussion leaders that brought in a diverse take on each subject, and, in the tradition of the GRC conferences, would talk about unpublished work and include speculations. But the reality was far better than anything we had dreamt of: All speakers and discussion leaders did such a fantastic job. The talks were stimulating, full of surprises, and provoked the audience to think deeply. Also, the discussion leaders were wonderful in setting the stage for the talks of each session, creating interest in the major themes of their session and setting the stage for the talks to come.

This GRCs 'power hour', managed by Nicole Baran and Jeremy Spool, attracted a large number of attendees with a program on the role of power and how it affects communication. Their thought-provoking questions led to many interesting discussions that could afterwards be continued at themed tables during meals, and both participants and the GRC staff rated this session as one of the best of its kind. One of the social highlights of the meeting was a 'power point karaoke' with randomly assembled slides and topics just before the talks. The social program also involved any time that people bumped into each other, enjoyed the meals together in the dinner hall. Formal and informal evaluations described the atmosphere as friendly and encouraging, with natural interactions between people of various career stages and backgrounds. We won over several newcomers who are now putting the Neuroethology meetings high on their lists!

Clearly, we chairs were particularly happy with how the conference was going, but when it was time to say goodbye the positive feedback we got was really overwhelming. The top two points that attendees thought did characterize the 2023 conference were: 'Ample opportunities for networking between junior and senior scientists, creating a welcoming environment' and that the 'scientific content was cutting edge'.

The conference's business hour, chaired by Julie Simpson and Miriam Liedvogel, the chairs of the upcoming 2025 Neuroethology GRC, showed an overwhelming preference to alternate between European
and US sites and attendees voted for the new chairs to suggest to the GRC the site in Tuscany as the preferred venue for 2025. Eva Fischer and David Schulz were elected as the new vice-chairs and will be the chairs of the 2027 GRC. The conference evaluations were stellar and so we think that a bright future is ahead for the upcoming Neuroethology GRCs. The chairs want to highlight that the GRC includes an application process, but it’s not an exclusive meeting restricted to famous senior scientists – everyone is welcome! We wish Julie, Miriam, Eva and David joy in composing the program for 2025 and look very much forward to meeting many new and old faces in Tuscany!

NAVIGATING NEW HORIZONS IN SCIENCE: INSIGHTS FROM A FORMER NEUROETHOLOGIST

Early Career Representative Saumya Gupta interviews Melanie Basnak, a neuroethologist who has transitioned from academia to a scientific role in the private sector. As part of our first ‘Future of Neuroethology’ webinar series, she shared her unique insights into conducting science in innovative, non-academic settings.

Through this interview, we explore her journey from academia to a new scientific role, offering a glimpse into the diverse career opportunities available for neuroethologists. Her experiences provide valuable insights for anyone considering a similar transition, illustrating the broad potential and impact of a neuroethological background in the broader scientific domain.

Could you give us a broad overview of your organization and describe your specific role in the organization, including your primary responsibilities?

I work for a research nonprofit called Rethink Priorities. We primarily conduct desk research, which includes activities like summarizing existing evidence, developing quantitative models, and conducting expert interviews on a variety of topics. At the end of the research on a topic, we compile a comprehensive report. The ultimate goal of our research is to inform the decision-making of relevant stakeholders, such as philanthropic organizations.

We have multiple research groups within the organization, and my group specifically focuses on global health and development. I am one of the two managers that oversees the research team.

Has your background in neuroscience, particularly your PhD, been valuable in your current role as a research manager?

For my PhD, I studied navigational circuits in fruit flies. Although I do not use any of my experimental skills in my current job, I acquired many transferable skills during my PhD. For instance, as a research manager, I write grant proposals, review my team’s research and propose the next steps. Managing these tasks requires me to be super organized, which is a skill I honed during my PhD. Additionally, a significant part of my team’s work involves analyzing and interpreting academic literature; my rigorous training during my PhD enables me to critically evaluate academic papers from different fields.

Could you walk us through your transition journey into the private sector? What were the most challenging aspects of this transition and what resources you found particularly useful?

I would say that the hardest part of my transition out of academia was the decision to leave academia since it was such a big part of my identity. However, once that decision was made, the subsequent steps were easier.

I began considering leaving academia halfway through my PhD when the pandemic hit. Unsure of what I wanted to do, I took some time to explore my options. I consulted with my university’s Office of Career Services, which provided some useful resources. Additionally, I reached out to individuals on LinkedIn who I found to have interesting positions, including former neuroscientists who had transitioned to the private sector. To my surprise, there were a lot of people whom I connected with by just cold outreach. Talking with these people helped me feel optimistic about making the big transition and understanding what I wanted to do. Eventually, I decided to enter the field of global health but was unsure of the requirements. So, I enrolled in a short degree in development economics (an online 5 course ‘micromasters’) to move towards the global health space, which I found helpful.

According to you, which skills should PhD students try to acquire if they are interested in transitioning to the private sector?

In general, having critical thinking and good communication skills, both verbal and oral, makes you a
valuable candidate for many roles in the private sector and opens numerous doors. I think PhD students naturally acquire these skills during the course of their degree. Therefore, they do not need to be overly intentional about acquiring a specific skill set for the private sector. The real challenge lies in translating your academic experiences and presenting yourself as a suitable candidate for a specific role.

What advice would you offer to neuroethologists who are contemplating a move into a scientific role in the private sector?

I would advise setting a low bar to reaching out to people for information, even if they are strangers. In the worst-case scenario, they just won’t respond to you.

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**ISN AWARDS**

The following honors and funding opportunities will be awarded in 2024:

- Heiligenberg Student Travel Awards
- The Capranica Neuroethology Prize
- The Developing Neuroethology Award
- The Young Investigator Awards
- Fellow of the International Society for Neuroethology
- The Konishi Neuroethology Research Awards
- The Diversity Award

All award applications are due April 15, 2024.

Gabriella Wolff
Secretary, ISN