



Organization For
Computational Neurosciences

Member Newsletter | October 2024 | Volume 8 No 2



Message from the President

Thomas Nowotny, Professor of Informatics, University of Sussex, UK



Welcome to this latest edition of our OCNS newsletter. This year the annual CNS conference was held in Natal, Brazil—for the first time in South America. It was a great experience and we are deeply grateful to the local organizers, especially Dr Renno-Costa for the stellar job they did. But it was also a reminder for me why I have been attending CNS regularly for over 20 years. The general excitement to freely share scientific work and the absence of any elitism was tangible. You can find photos at the link below, and quotes from travel awardees and stats about the conference in this newsletter.

Another first at this year's conference was the introduction of substantially reduced registration fees for participants from low and middle income countries. These will continue going forward and we hope help in OCNS' goal to be as inclusive as possible. We are also introducing a mentoring scheme to further our mission of supporting the computational neuroscience community worldwide. You can find more details below.

I would also like to take this opportunity to thank our outgoing directors Cengiz Gunay, Christoph Metzner, Maurizio de Pitta and Srikanth Ramaswamy for their service. If you are interested in getting involved more deeply with CNS, please consider nominating yourself for election as a board member. Nominations will close very soon.

Finally, next year's annual conference CNS*2025 will be in Florence, Italy from July 5–9. Please mark your calendars, it is shaping up to be another excellent rendition. I am looking forward to meeting many of you there in the Cradle of the Renaissance.

In this issue

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- OCNS Elections: nominations are open
- Updates from CNS*2024 Natal
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- Updates from OCNS Members

See pictures from CNS*2024 Natal here: <https://www.cnsorg.org/cns-2024-photo-album>.

CNS*2025: Firenze (Florence), Italy: July 5–9, 2025

Local Organizers: Michele Migliore, Institute of Biophysics, Palermo, Italy
Sergio Solinas, University of Sassari, Sassari, Italy



Florence: the cradle of the Renaissance

OCNS is excited to invite you to the
34th Annual Computational Neuroscience meeting
CNS*2025
in
Firenze (Florence), Italy from July 5–9, 2025.

Please mark your calendars!

OCNS Board: Elections: Nominations are open!

2024 Nomination Committee: Shailesh Appukuttan, Aix-Marseille University, France (Chair)
Christopher French, University Of Melbourne, Australia
Robert McDougal, Yale University, USA
Eirini Mavritsaki, Birmingham City University, UK

The nomination period for self-nominations for the election of new members of the **OCNS Board of Directors** is now open. New Directors will serve a three-year term from January 2025 through December 2027 and will initially fill the following roles:

- Registration Chair
- Sponsorship Chair

New Directors will act as Deputy Chairs in their roles by shadowing the current Chairs for a year, and then will take over when the current Chairs finish their terms. Candidates need to be current OCNS members and are required to have been OCNS members for at least a year or to attend an on-site CNS conference in the past. More information about the new Directors' election can be found at:

<https://www.cnsorg.org/election-procedures>

We encourage OCNS members to consider self-nomination for these elections.

OCNS is committed to have a wide diversity among its Directors—across research areas, gender, abilities, career experiences, geographic locations, and personal backgrounds. OCNS strives to be a diverse group and encourages a balanced and inclusive representation of women in leadership positions within the organization. This is possible only if a broad range of members apply.

We strongly encourage members from under-represented groups to apply, to help OCNS achieve a better representation of the diversity within our scientific community.

Please contact our EDI Chair Eirini Mavritsaki (eirini.mavritsaki@bcu.ac.uk) if you wish to have a short informational meeting about joining the board.

To apply, please use the form:

<https://www.cnsorg.org/board-nomination-2024>

The extended deadline for application is October 21, 2024.

OCNS Board: New arrivals and members rotating off

The current **Board of Directors** consists of 26 elected and ex officio members. According to the **OCNS Bylaws**, **elections** are held to replace three or four outgoing directors each year. The board elects its officers. The duties carried out by members of the board can be seen [here](#).

Terms for a number of Board members were renewed this year:

- Thomas Nowotny (President)
- Leonid Rubchinsky (Vice president)
- Gennady Cymbalyuk (Treasurer)



Row 1: Thomas Nowotny, Leonid Rubchinsky, Volker Steuber, Gennady Cymbalyuk, Julie Haas.

Row 2: Christopher French, Shailesh Appukuttan*, Ingo Bojak, Max Garagnani, Cengiz Gunay.

Row 3: Tatiana Kameneva, Thomas Knösche, Kerstin Lenk, Eirini Mavritsaki, Albert Mazzoni, Robert McDougal.

Row 4: Christoph Metzner*, Claudio Mirasso, Michelle Moerel, Rodrigo de Oliveira Pena, Athanasia Papoutsi.

Row 5: Dimitrios Pinotsis, Maurizio de Pitta, Srikanth Ramaswamy, Ankur Sinha*.

(*Student/post-doc members)

The following members have completed their terms and will rotate off at the end of 2024. OCNS thanks them for their service:

- Cengiz Gunay (Newsletter chair)
- Maurizio de Pitta (Tutorials chair)
- Christoph Metzner (Membership chair)
- Srikanth Ramaswamy (Workshops chair)

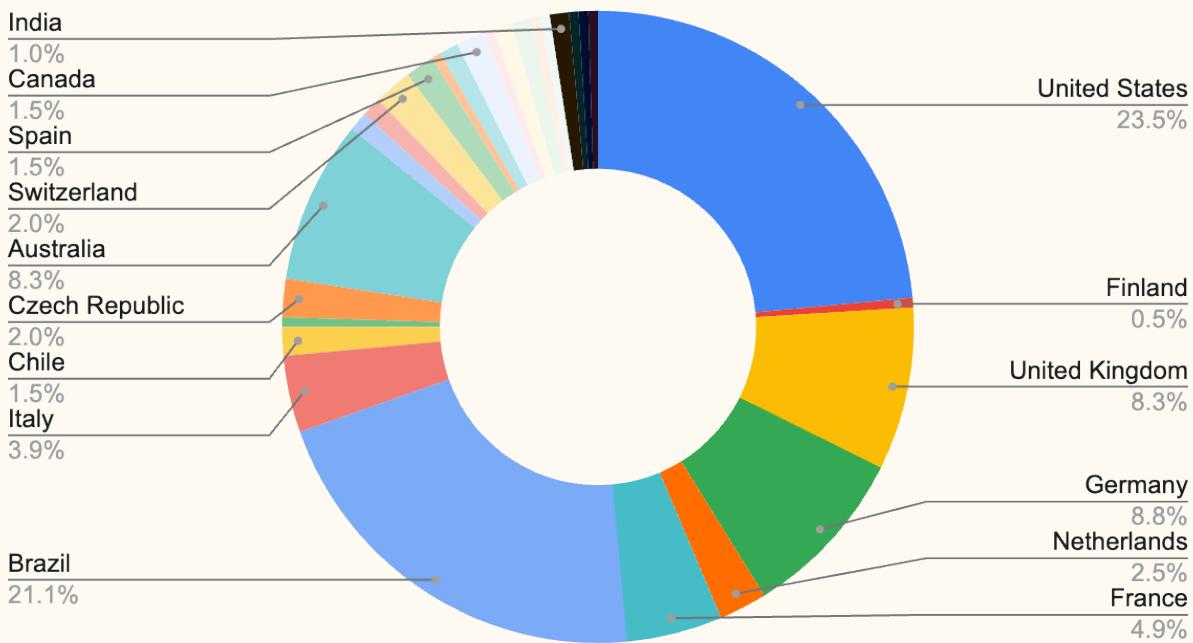
A number of new Board members were elected in the 2023 Elections, or have moved to new roles within the Board from 2024:

- Shailesh Appukuttan (Publications chair)
- Michelle Moerel (Travel awards chair)
- Ankur Sinha (Newsletter chair)
- Robert McDougal (Infrastructure chair)
- Rodrigo de Oliveira Pena (Membership chair)
- Athanasia “Nassi” Papoutsi (Workshops chair)
- Kerstin Lenk (Social media chair)
- Eirini Mavritsaki (EDI chair: new position)

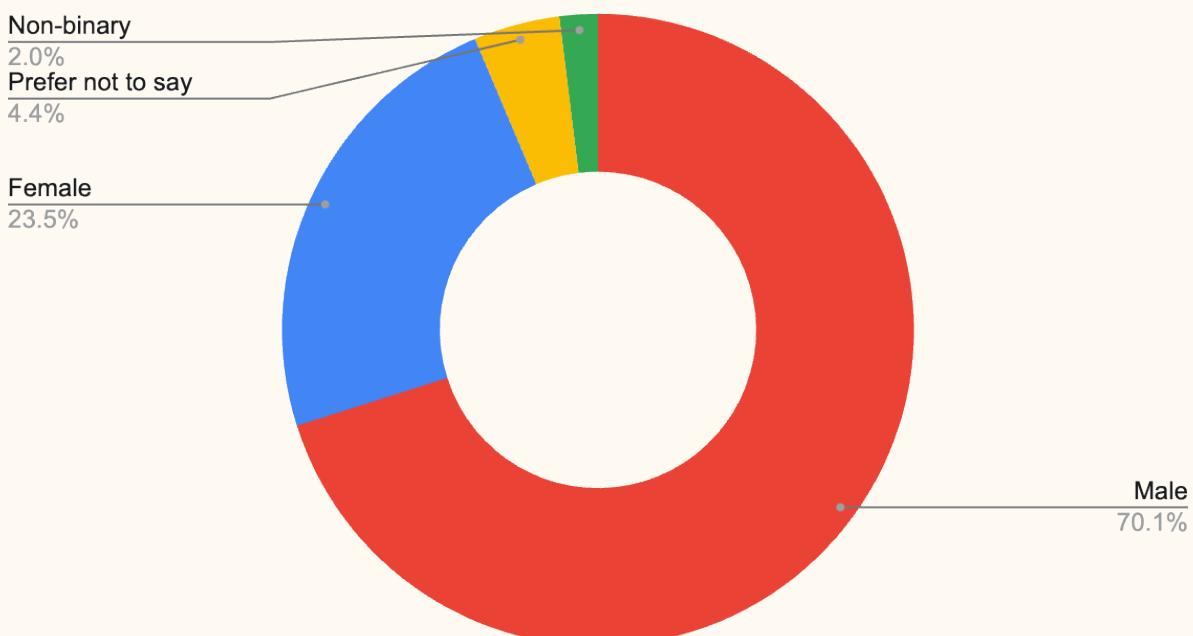
CNS*2024 Natal: in charts

Local Organizers: César Rennó-Costa, Federal University of Rio Grande do Norte, Brazil
Renan Moioli, Federal University of Rio Grande do Norte, Brazil
Antônio Roque, University of São Paulo, Brazil

CNS 2024 - Distribution By Country



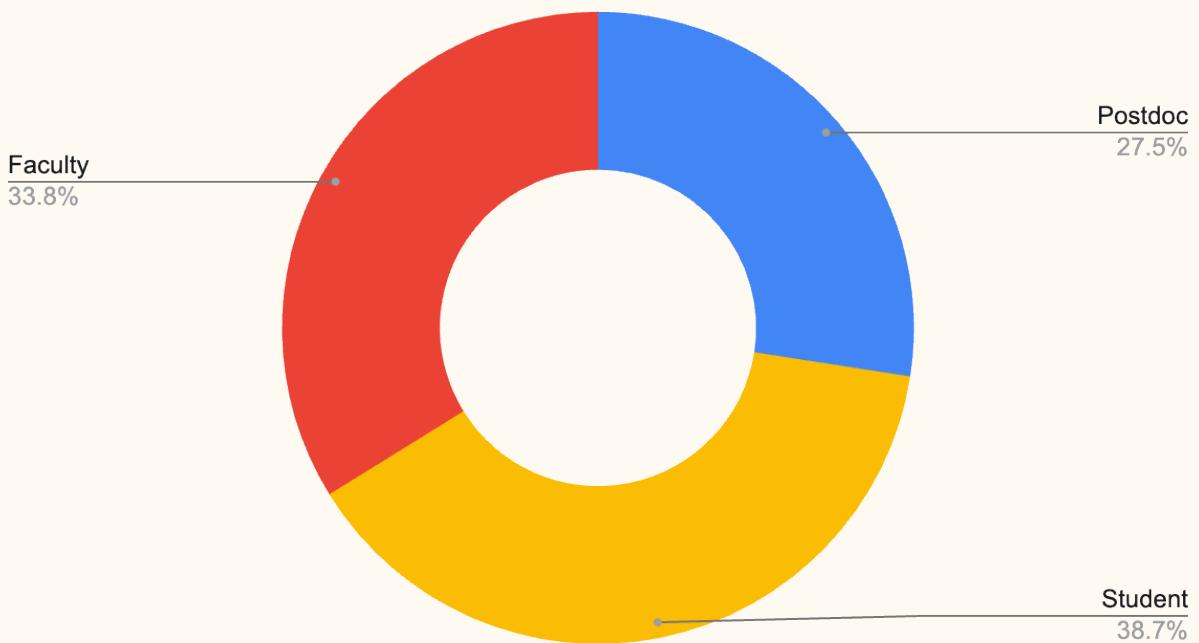
CNS 2024 - Distribution By Gender



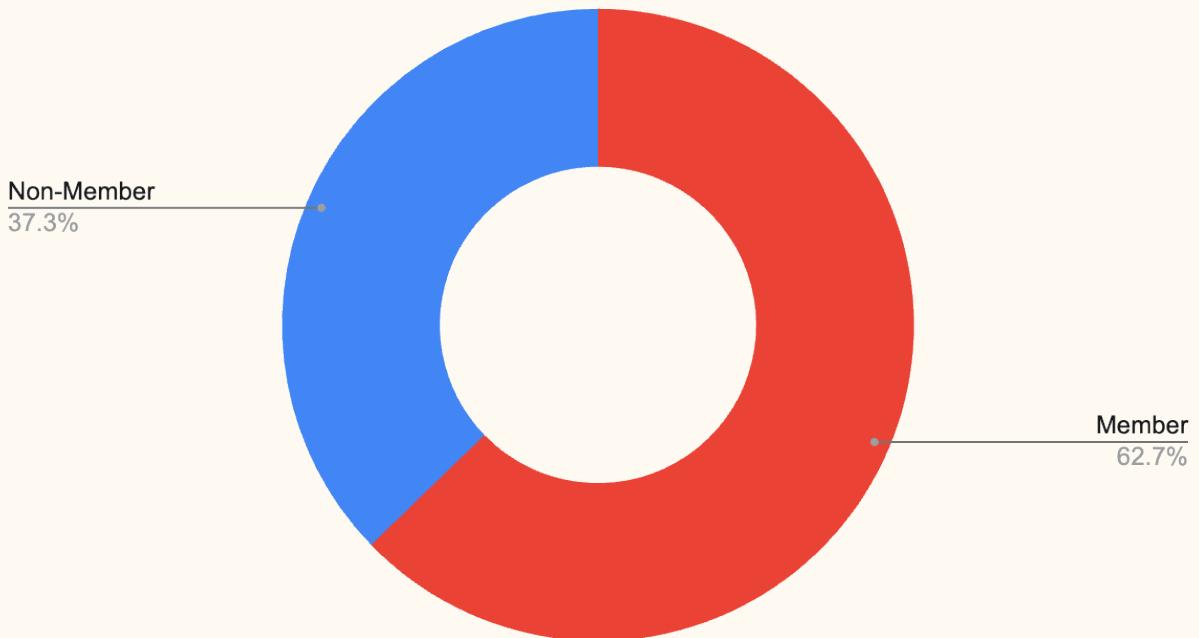
CNS*2024 Natal: in charts

Vice President/Secretary:	Leonid Rubchinsky, Indiana University Indianapolis, USA
Tutorials Chair:	Maurizio de Pitta, Krembil Research Institute, Toronto, Canada
Workshops Chair:	Srikanth Ramaswamy, Newcastle University, UK
Infrastructure chair:	Christopher French, University of Melbourne, Australia
Treasurer:	Gennady Cymbalyuk, Georgia State University, USA
Social Media Chair:	Claudio Mirasso, Universitat De Les Illes Balears, Spain

CNS 2024 - Distribution By Category



CNS 2024 - Distribution By OCNS Membership



CNS*2024 Natal: From the Program Chair

Program Chair: Julie Haas, Lehigh University, USA



Many thanks to Axel Hutt (Deputy Chair), Sang Wan Lee, Ian Stevenson and Nassi Papoutsis for their service on the Program Committee, and extend a warm welcome to Andre Peterson, Masanori Shimono, Yunliang Zang and Arezoo Alizadeh. We're currently working on selecting keynotes for CNS*2025 Florence, and look forward to a robust round of abstract reviewing in spring.

CNS*2024 Natal: Travel Awards

Travel Awards Chair: Michelle Moerel, Maastricht Centre for Systems Biology, Netherlands

A limited number of merit based travel awards, given based on review of summaries by the program committee, are available to presenting students and postdocs who are OCNS members. Women and members of other historically marginalized communities in Science, Technology, Engineering, and Mathematics are particularly encouraged to apply. Applications for travel grants are to be submitted during the abstract submission process at the annual OCNS conference.



This year's travel awards were competitive, with many more excellent applicants than available funds. We were pleased to award 19 travel grants to participants from all over the world:

- Flavio Rusch (Brazil)
- Cecilia Jarne (Argentina)
- Paolo Protachevicz (Brazil)
- Fernando Fagundes Ferreira (Brazil)
- Pamela Alejandra Illescas Maldonado (Chile)
- Lavinia Mitiko Takarabe (Brazil)
- Forough Habibollahi Saatlou (Australia)
- Fabio Pioggio (Italy)
- Richard Gast (USA)
- Alexandra Chatzikalymniou (USA)
- Ankur Sinha (UK)
- Christopher Earl (USA)
- Anaelle De Worm (Belgium)
- Ferdinand Tixidre (France)
- Camille Mazzara (Italy)
- Lindsay Stolting (USA)
- Elnaz Nemati (Australia)
- Dirk Goldschmitt (UK)
- Eleonora Bernasconi (UK)

CNS*2024 Natal: Quotes from a few travel awardees

Flavio Rusch (Brazil)

Attending CNS*2024 was an invaluable experience in my career as a physicist working in computational neuroscience. It provided me the opportunity to present my research to leading figures in the field, engage in discussions, and expand my network of collaborations. I am deeply grateful to OCNS for the travel award, as it made this opportunity possible.

Fabio Poggio (Italy)

Receiving the travel award to attend CNS 2024 was a significant opportunity to engage with the latest advances in computational neuroscience and to exchange ideas with leading experts in the field. This experience has significantly enriched my research and professional growth, and I highly recommend it to anyone passionate about computational neuroscience.

Pamela Illescas (Chile)

CNS 2024 in Natal was a wonderful experience to learn and share my doctoral thesis on networks with neuron-astrocyte interactions, which allowed me to receive feedback from other researchers and opportunities for collaboration. This meeting was my first international computational neuroscience conference, and it was possible thanks to the CNS travel award. I am very grateful for this opportunity because it allows me to contribute to computational neuroscience in my country and internationally.

Cecilia Jarne, (Argentina)

Attending CNS 2024 was an invaluable experience that allowed me to share our work on Hidden Markov Models (HMMs) software through the tutorial sessions offered at the conference. It also allowed me to present a poster on my ongoing research in predicting brain age, fostering meaningful discussions. I am very grateful for the travel award, which made this enriching experience possible.

CNS*2024 Natal: Feedback form Summary

Registrations Chair: Tatiana Kameneva, Swinburne University of Technology, Australia



We received 42 responses on the Participant Feedback Survey distributed at the end of CNS*2024. Overall, the feedback has been positive. The data is presented in Figure 1 above, with 5 being the highest rating.

Most people have enjoyed the venue: 71% gave 4 or 5 rating in this category (Figure 1 A). Attendees commented highly on the quality of the keynote speakers: 55% gave the highest (5) rating in this category (Figure 1 B). The common theme was a commendation to the local organizers for catering, efficiency, and airport pickup; while the AV, staff English proficiency, and the small space allocated for posters received mostly negative comments.

Tutorials had mixed reviews: 10% of the attendees submitted the rating less than average satisfaction (1 or 2), while most people, 42%, gave the rating 4 (Figure 1 C). No comments were provided.

The attendance at the workshops varied. Some workshops received very high praise; 80% of people gave ratings 4 or 5, with comments such as “very interesting topics”, “amazing”, “excellent session” (Figure 1 D). While other workshops left attendees dissatisfied, with suggestions to reduce the number of parallel sessions to boost the attendance.

Overall, 79% attendees enjoyed oral presentations and gave the ratings 4 or 5, while 21% rated the presentation as satisfactory (3) or below (2), Figure 1 E. Positive comments included “OCNS is superb in supporting young scientist’s careers”. Suggestions for improvements included more talks on data-driven, deep learning-based approaches. We thank everybody for their feedback that will be taken into account when organizing CNS*2025.

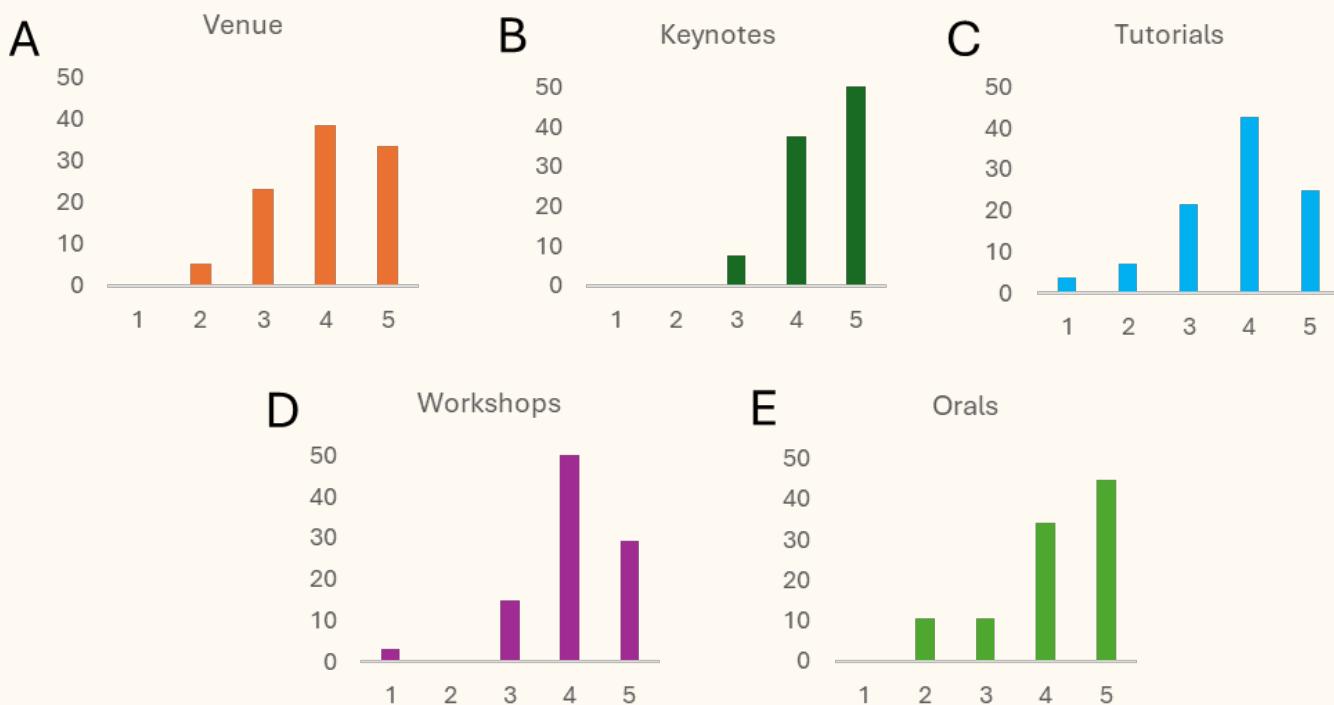


Figure 1: Summary of participant feedback, CNS*2024

OCNS conference proceedings

Publications Chair: Ingo Bojak, University of Reading, UK



Proceedings from the annual CNS conferences are published by the end of the year annually. Links to proceedings from previous conferences are below:

- **CNS 2023 Leipzig**
[\(Introduction\)](#)
- **CNS*2022 Melbourne**
[\(Introduction\)](#)

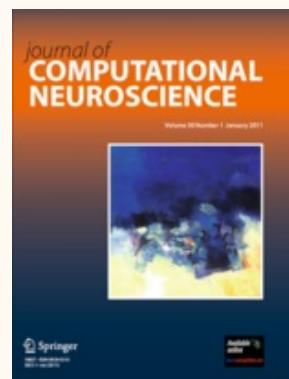
Proceedings from previous conferences are archived on the website here:

<https://www.cnsorg.org/annual-meeting-publications>.

Note from the Publisher

Springer Nature

Each year, Journal of Computational Neuroscience publishes a supplement including abstracts from the CNS annual meeting. In 2023, the CNS*2022 abstracts supplement was published in January. Changes in the supplement publishing process and our oversight in timely communicating the same to OCNS have regrettably delayed publication of the abstracts from CNS*2023. Proofs of this 2024 supplement are now being finalized. Please accept our sincere apologies for the delay. Springer Nature values the relationship between the Organization for Computational Neurosciences and Journal of Computational Neuroscience. We look forward to the timely publication of future CNS supplements.



OCNS Membership

Membership Chair: Christoph Metzner, Technische Universität Berlin, Germany

The OCNS membership consists of:

Member type	2024	2023	2022	2021	2020
Student	139	185	182	212	266
Post-doc/not-for-profit employee	93	135	118	141	155
Faculty/for-profit employee	179	215	209	217	189
Total	401	535	509	570	610

Membership Benefits

OCNS members enjoy a number of rights and **benefits**:

- Reduced conference registration fees
- Eligibility for travel awards
- Nomination and voting rights for OCNS director elections
- Special Interest Groups (SIGs)
- Computational neuroscience schools
- Submission of extra abstract to the conference
- Free access to Springer encyclopedia
- Reduced journal subscription fees
- Book discounts

Membership Renewal

To **renew** your OCNS membership, please login at www.cnsorg.org to pay your OCNS dues. Please note that renewing with a multiple year membership will reduce your costs:

Member type	One year	Two years	Three years
Student	10 USD	15 USD	20 USD
Post-doc/not-for-profit employee	20 USD	30 USD	40 USD
Faculty/for-profit employee	50 USD	75 USD	100 USD

Please contact the Membership Chair at membership@cnsorg.org before you pay your dues if:

- You are uncertain which category is appropriate for you.
- Your employment status has changed.
- *If you believe that special circumstances prohibit you from paying the full dues.*

Membership type definitions:

- **Student:** Anybody studying toward an undergraduate or graduate degree.
- **Postdoc/not-for-profit employee:** Anybody who is employed as a postdoctoral scholar or postdoctoral fellow, and anybody who is employed in a university lab or non-industry research institute as a technician or research assistant not seeking a degree.
- **Faculty/for-profit employee:** Anybody who is employed as faculty, laboratory head, independent researcher, or in an equivalent position, and anybody who is employed in industry or for-profit institutions
- Retired persons should apply for or remain in their pre-retirement category.

Initiatives: Software Working Group

Co-chairs: Marcel Stimberg, Sorbonne Universite, Paris, France
Ankur Sinha, University College London, UK



The Software Working Group aims to increase awareness and knowledge of the various software tools that we use to carry out our research. The group is an open community group that everyone is welcome to join. It is shared between the OCNS and the **International Neuroinformatics Co-ordinating Facility (INCF)**, of which OCNS is a member organization.



In the past year, the group has continued to host sessions on different neuroscience software. Recordings from these sessions can be found on the **INCF YouTube channel**, and also on the **INCF Training Space**. Working group announcements are published on our **website**.

If there are software tools/standards that you think are useful for the community to know and learn about, please contact either of the working group co-chairs to let us know (marcel.stimberg@sorbonne-universite.fr, ankur.sinha@ucl.ac.uk). We will reach out to the developers of the software to organize a session on it.

The working group also sets up task forces to work on specific projects. Currently, a task force is working on developing a simple web based tool to help community members decide what simulation tool they should use. A working title for this tool is **Simselect**. If you would like to get involved in this task force, please let us know.

Initiatives: Mentoring Scheme

EDI Chair: Eirini Mavristaki, Birmingham City University, UK

OCNS is currently working on a mentorship scheme for members. The scheme aims to provide support to members to develop their research careers further to move to the next level of their professional development. It aims to provide the space for our researchers to be supported and through this to identify areas that we could develop to be able to support our community more.

More details on the OCNS mentoring scheme will be announced shortly. Please do keep an eye out for related communications and please do get in touch (eirini.mavritsaki@bcu.ac.uk) if you would like to help in its organization.



Initiatives: OCNS Job Board

A new OCNS Job Board is now live at <https://www.cnsorg.org/job-board>. Please use the form provided to submit jobs openings and bookmark the page for updates.

International Neuroinformatics Co-ordinating Facility (INCF)

A collaborative network for open, FAIR, and citable neuroscience



enabling open and
FAIR neuroscience

The mission of INCF network is to promote the uptake of FAIR data management practices in neuroscience through the development of standards and best practices that support open, FAIR, and citable neuroscience. Specifically, the network aims to:

- Provide coordination of global neuroscience infrastructure through the development and endorsement of standards and best practices in support of open and FAIR (Findable, Accessible, Interoperable, Reusable) neuroscience
- Support neuroscience as discipline to move towards FORCE (FAIR, Open, Research-object based, and Citable Ecosystem) through the development of community resources and the provision of training opportunities
- Encourage neuroscience as discipline to move towards FORCE
- Promote the advancement and continued development of neuroinformatics

INCF provides a community environment which has developed over the past decade with the engagement of neuroscience, neuroinformatics, and data science researchers, tool developers, and infrastructure developers from academic groups across the globe. This environment has proven conducive to initiating standardization efforts between not just the large brain projects but within the global neuroscience community as a whole.

Connect with INCF



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[Subscribe to the INCF newsletter](#)

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Why should you support INCF?

There is a very real need for coordination of global neuroscience data, which is satisfied by the activities of the INCF network. Standardizing global neuroscience can be done in a cost-effective manner but it cannot be done without support. Support for infrastructures such as INCF is crucial, and granting agencies must allow and encourage grantees to participate in activities such as the INCF network in order to develop and implement data management and data sharing workflows. The responsibility lies not only on funders: we, the neuroscience community, have as much responsibility for collecting and curating data as we do to ensure data can be effectively shared. Participating in the INCF network is an opportunity to build the capacity that will enable neuroscience teams to take on this data sharing responsibility.

OCNS is a proud institutional member of the INCF.

OCNS: Member Updates: Scientific Items

Updates of scientific interest from OCNS members

The name of the OCNS member that submitted the entry is highlighted in **bold**.

- [1] **Skirmantas Janušonis**, Justin H. Haiman, Ralf Metzler, and Thomas Vojta. "Predicting the distribution of serotonergic axons: a supercomputing simulation of reflected fractional Brownian motion in a 3D-mouse brain model". In: *Frontiers in Computational Neuroscience* 17 (2023). ISSN: 1662-5188. doi: [10.3389/fncom.2023.1189853](https://doi.org/10.3389/fncom.2023.1189853). URL: <https://www.frontiersin.org/journals/computational-neuroscience/articles/10.3389/fncom.2023.1189853>.
- [2] **Thanos Manos**, Sandra Diaz-Pier, Igor Fortel, Ira Driscoll, Liang Zhan, and Alex Leow. "Enhanced simulations of whole-brain dynamics using hybrid resting-state structural connectomes". In: *Frontiers in Computational Neuroscience* 17 (2023). ISSN: 1662-5188. doi: [10.3389/fncom.2023.1295395](https://doi.org/10.3389/fncom.2023.1295395). URL: <https://www.frontiersin.org/journals/computational-neuroscience/articles/10.3389/fncom.2023.1295395>.
- [3] Kasie C. Mays, Justin H. Haiman, and **Skirmantas Janušonis**. "An experimental platform for stochastic analyses of single serotonergic fibers in the mouse brain". In: *Frontiers in Neuroscience* 17 (2023). ISSN: 1662-453X. doi: [10.3389/fnins.2023.1241919](https://doi.org/10.3389/fnins.2023.1241919). URL: <https://www.frontiersin.org/journals/neuroscience/articles/10.3389/fnins.2023.1241919>.
- [4] Pake Melland and **Rodica Curtu**. "Attractor-Like Dynamics Extracted from Human Electrocorticographic Recordings Underlie Computational Principles of Auditory Bistable Perception". In: *Journal of Neuroscience* 43.18 (2023), pp. 3294–3311. ISSN: 0270-6474. doi: [10.1523/JNEUROSCI.1531-22.2023](https://doi.org/10.1523/JNEUROSCI.1531-22.2023). eprint: <https://www.jneurosci.org/content/43/18/3294.full.pdf>. URL: <https://www.jneurosci.org/content/43/18/3294>.
- [5] Ranjeeta Bhattacharya and **Mario Antoine Aoun**. "Using Generative AI in Finance, and the Lack of Emergent Behavior in LLMs". In: *Commun. ACM* 67.8 (Aug. 2024), pp. 6–7. ISSN: 0001-0782. doi: [10.1145/3674118](https://doi.org/10.1145/3674118). URL: <https://doi.org/10.1145/3674118>.
- [6] Juliette Courson, Mathias Quoy, Yulia Timofeeva, and **Thanos Manos**. "An exploratory computational analysis in mice brain networks of widespread epileptic seizure onset locations along with potential strategies for effective intervention and propagation control". In: *Frontiers in Computational Neuroscience* 18 (2024). ISSN: 1662-5188. doi: [10.3389/fncom.2024.1360009](https://doi.org/10.3389/fncom.2024.1360009). URL: <https://www.frontiersin.org/journals/computational-neuroscience/articles/10.3389/fncom.2024.1360009>.
- [7] Benjamin Ellenberger, Paul Haider, Jakob Jordan, Kevin Max, Ismael Jaras, Laura Kriener, Federico Benítez, and **Mihai A. Petrovici**. "Backpropagation through space, time, and the brain". In: *arXiv preprint arXiv:2403.16933* (2024). URL: <https://doi.org/10.48550/arXiv.2403.16933>.
- [8] **Max Garagnani**. "On the ability of standard and brain-constrained deep neural networks to support cognitive superposition: a position paper". In: *Cognitive Neurodynamics* (2024). ISSN: 1871-4099. doi: [10.1007/s11571-023-10061-1](https://doi.org/10.1007/s11571-023-10061-1). URL: <https://doi.org/10.1007/s11571-023-10061-1>.
- [9] Frank Gelens, Juho Äijälä, Louis Roberts, Misako Komatsu, Cem Uran, Michael A. Jensen, Kai J. Miller, Robin A. A. Ince, **Max Garagnani**, Martin Vinck, and Andres Canales-Johnson. "Distributed representations of prediction error signals across the cortical hierarchy are synergistic". In: *Nature Communications* 15.1 (2024), p. 3941. ISSN: 2041-1723. doi: [10.1038/s41467-024-48329-7](https://doi.org/10.1038/s41467-024-48329-7). URL: <https://doi.org/10.1038/s41467-024-48329-7>.
- [10] Kevin Max, Laura Kriener, Garibaldi Pineda García, Thomas Nowotny, Ismael Jaras, Walter Senn, and **Mihai A. Petrovici**. "Learning efficient backprojections across cortical hierarchies in real time". In: *Nature Machine Intelligence* (2024), pp. 1–12. URL: <https://doi.org/10.1038/s42256-024-00845-3>.
- [11] **Aitor Morales-Gregorio**, Anno C. Kurth, Junji Ito, Alexander Kleinjohann, Frédéric V. Barthélémy, Thomas Brochier, Sonja Grün, and Sacha J. van Albada. "Neural manifolds in V1 change with top-down signals from V4 targeting the foveal region". In: *Cell Reports* 43.7 (2024), p. 114371. ISSN: 2211-1247. doi: <https://doi.org/10.1016/j.celrep.2024.114371>. URL: <https://www.sciencedirect.com/science/article/pii/S2211124724006995>.

- [12] Coleman E. Olenick, Heather Jordan, and **Mazyar Fallah**. "Identifying a distractor produces object-based inhibition in an allocentric reference frame for saccade planning". en. In: *Scientific Reports* 14.1 (July 2024). Publisher: Nature Publishing Group, p. 17534. ISSN: 2045-2322. doi: [10.1038/s41598-024-68734-8](https://doi.org/10.1038/s41598-024-68734-8). URL: <https://www.nature.com/articles/s41598-024-68734-8> (visited on 09/26/2024).
- [13] Alexander Rast, **Mario Antoine Aoun**, Eleni G. Elia, and Nigel Crook. "Efficient learning in spiking neural networks". In: *Neurocomputing* 597 (2024), p. 127962. ISSN: 0925-2312. doi: <https://doi.org/10.1016/j.neucom.2024.127962>. URL: <https://www.sciencedirect.com/science/article/pii/S0925231224007331>.
- [14] Sue L. Rhamidda, **Mauricio Girardi-Schappo**, and Osame Kinouchi. "Optimal input reverberation and homeostatic self-organization toward the edge of synchronization". In: *Chaos: An Interdisciplinary Journal of Nonlinear Science* 34.5 (May 2024). ISSN: 1089-7682. doi: [10.1063/5.0202743](https://doi.org/10.1063/5.0202743).
- [15] Ankur Sinha, Padraig Gleeson, Bóris Marin, Salvador Dura-Bernal, Sotirios Panagiotou, Sharon Crook, Matteo Cantarelli, Robert C. Cannon, Andrew P. Davison, Harsha Gurnani, and R. Angus Silver. "The NeuroML ecosystem for standardized multi-scale modeling in neuroscience". In: *eLife* (May 2024). doi: [10.7554/elife.95135.1](https://doi.org/10.7554/elife.95135.1). URL: <http://dx.doi.org/10.7554/elife.95135.1>.
- [16] Jiayun Xu, **Mauricio Girardi-Schappo**, Jean-Claude Béïque, André Longtin, and Leonard Maler. "Shortcutting from self-motion signals: quantifying trajectories and active sensing in an open maze". In: (2024). doi: [10.7554/elife.95764.2](https://doi.org/10.7554/elife.95764.2). URL: <http://dx.doi.org/10.7554/elife.95764.2>.

OCNS: Member Updates: Community Development

Updates related to community development from OCNS members

- **The Capo Caccia Workshops toward Neuromorphic Intelligence**

Submitted by: Mihai A Petrovici

<https://capocaccia.cc/en/event/ccnw24/landing-page/>

The goal of the CCNW workshops is to promote the neuromorphic approach to designing technologies, establish an international community, and to encourage collaboration amongst small groups, in order to achieve the kind of technical advances which could only otherwise happen in well-funded industrial labs.

The CCNW has an open format, whose intention is to encourage creativity and exploration of ideas and projects in a relaxed and intellectually open environment. Although there is a skeleton program that sets a default route through the two weeks, ad hoc deviations from or elaborations of this basic program are encouraged. Discussion groups and projects arise dynamically. There are no formal lectures. Instead, the morning consist of two 1.5 hr discussion sessions in which a few discussants will make short contributions to the topics in order to ignite more general interaction. Although the sessions of the skeleton program have assigned moderators and discussants, these persons should also be seen as defaults. Whiteboards and overhead tablets are available for drawings. Formal presentations with prepared media (such as Powerpoint slides) are strictly forbidden. The daily program includes a late afternoon sports break, and happy hour.

- **The Lu.i educational neurons**

Submitted by: Mihai A Petrovici

<https://physiologie.unibe.ch/~petrovici/group/lui.aspx>

With an increasing presence of science throughout all parts of society, there is a rising expectation for researchers to effectively communicate their work and, equally, for teachers to discuss contemporary findings in their classrooms. While the community can resort to an established set of teaching aids for the fundamental concepts of most natural sciences, there is a need for similarly illustrative experiments and demonstrators in neuroscience. We therefore introduce Lu.i: a parametrizable electronic implementation of the leaky-integrate-and-fire neuron model in an engaging form factor. These palm-sized neurons can be used to visualize and experience the dynamics of individual cells and small spiking

neural networks. When stimulated with real or simulated sensory input, Lu.i demonstrates brain-inspired information processing in the hands of a student. As such, it is actively used at workshops, in classrooms, and for science communication. As a versatile tool for teaching and outreach, Lu.i nurtures the comprehension of neuroscience research and neuromorphic engineering among future generations of scientists and in the general public.

- **Neuroscience Gateway (NSG)**

Submitted by: Amitava Majumdar

<https://www.nsgportal.org>

NSG project provides free and open access to supercomputing resources. NSG enables modeling, simulation and data processing (e.g. EEG, MEG, fMRI etc.) research in neuroscience by lowering the administrative and technical barriers that currently make it difficult for investigators to use large scale computing resources. It provides access to popular neuroscience tools, pipelines, data processing software and libraries.

- **Advanced Scientific Programming in Python Summer School**

Submitted by: Athanasia "Nassi" Papoutsi

<https://aspp.school>

The Institute of Molecular Biology and Biotechnology of the Foundation for Research and Technology Hellas (IMBB-FORTH) at Heraklion, Crete, Greece hosted the 16th Advanced Scientific Programming in Python Summer School from August 26th to August 31st, 2024. The Summer School, kindly funded by Tübingen AI Center, was attended by 30 participants from all over the world. The interactive lectures, pair programming sessions, and coding tournaments made for an unforgettable experience. A huge thanks to our amazing participants, faculty, and organizers for bringing so much energy and enthusiasm!

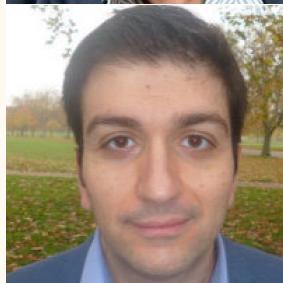
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METACELL

Thank you to OCNS for hosting an excellent annual meeting, and to everyone who connected with MetaCell, attended our presentation and joined our event. It was great catching up with friends and partners in Natal, and we were proud sponsors of the meeting!

If you're interested in new ways to standardize, visualize, share, and build your computational models, please visit metacell.us and get in touch with our team.

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