# Newsletter #20
# CRC 1461 – Neurotronics: Bio-inspired Information Pathways

## Dear members and friends of the CRC 1461,

The first newsletter of CRC 1461 was issued in November 2021. It reported of the first in-presence CRC retreat in Kiel as well as of the first CRC Summer School. It was followed by 19 more issues over the past years. **We would like to say thank you to everyone who contributed to the CRC newsletter as well as to all readers!**

Now this is the final newsletter of CRC 1461 with a retrospect of the past year since the 19th newsletter in April 2025.

### April – June 2025

**Sebastian Jenderny** (A1) successfully defended his thesis entitled "Electrical Modeling of Nerve Net Growth and Energy-Efficient Information Processing in *C. elegans* and *Hydra vulgaris*" on April 25.
He was followed in June by **Christopher Noack** (A1) with his thesis “Nerve net formation in *Hydra* embryos - novel approaches and insights”.

In May, the CRC Office lost Leonie to the Travel Management Office. **@Leonie: Thank you for an amazing job and a great time!**

The PI General Assembly met in Kiel Mettenhof on June 17 – 18 to reflect on the scientific highlights, discuss pending publications and receive information on the administrative closing of CRC 1461.

### July

On July 15 – 17, the iRTG members got together for their Farewell Summer School at Kollhorst in Kiel.
The highlight of the Summer School was the workshop “Creative Corner” aiming to unlock creativity in science by one of own, Rosh Madurawala. It was her first workshop and she did an amazing job!

©Christina Anders (KiNSIS)

Group photo of the participants of the Farewell Summer School of CRC 1461 at Kollhorst, Kiel.

### August – October 2025

On August 21, **Tim Tjardts** (C3) successfully defended his thesis “Intrinsic and Extrinsic Modifications of Titanium Dioxide Based Photocatalytic Nanomaterials”.
**Vishal Vishnupant Gubbi** (C7) followed on October 15 with his thesis “Intrinsic and Extrinsic Modifications of Titanium Dioxide Based Photocatalytic Nanomaterials”.

Karlheinz Ochs received the extraordinary professorship at Ruhr Univerity Bochum on October 29.

### November – December 2025

The members of CRC 1461 got together for their Farewell-Retreat to wrap up their scientific projects on November 13 at Kollhorst in Kiel.

On November 27, the final colloquium of CRC 1461 entitled “Analysis and 3D Modelling of Percolated Conductive Networks in Nanoparticle-based Thin Films” was held by Stanislav Havier and Tomáš Kozák from the University of West Bohemia in Pilsen, Czechia.
Overall, 39 colloquia were organized and attended by CRC members.

On the same date, the iRTG-board of CRC 1461 got together for the 37th and final time. Whereas, the iRTG General Assembly had their final online get-together on Dec 01, 2025. Their most important decision: To stay in touch! On Dec 5 and 8, the iRTG workshop “Defending your thesis with confidence” took place at the Faculty of Engineering, Kiel University.

### January – March 2026

The year 2026 started well with **Jannes Freiberg** (A3) kicking of a bunch of successful theses defences on Jan 09 with his thesis “Cell psychology: The aneural slime mold *Physarum polycephalum* as a model for cognition beyond the brain”.
**Anna Linkenheil** (C1) followed on Feb 6 with her thesis “Development of Transition Metal Dichalcogenide Memristive Materials and Devices for Neuromorphic Systems”.
Not long after, **Folke Rolf** (B3) defended his thesis “Nonlinear Control Design for Neuromorphic Smart Sensing Systems for Sound Perception” on Feb 11.
Next in line was **Roshani Madurawali** (C2) with her thesis “Adaptable Network Systems: Harnessing Nature's Architectures for Artificial Network Systems” on Feb 20.
The first quarter of the year streak was completed by **Blessing Adejube** (C3) on March 26 with her thesis “Engineering the Resistive Switching Dynamics and Structural Stability of Silver-based Nanoparticle Networksfor Neuromorphic and Unconventional Computing”.

**The CRC congratulates all of you to your amazing work in the past years and wishes you all the best for your future!**

**April 2026**
The final financial report of CRC 1461 was submitted by Sonja on April 09. DFG approved it already on April 13. Furthermore, Hermann and Sonja completed the final scientific report of CRC 1461. It got submitted on April 13.

## More Science News

We are happy to announce that **the research of CRC 1461 lives on**! Not only in your publications that keep coming in, but also in new research projects funded by DFG:

Succeeding the first funding period, researchers of CRC 1461 – Neurotronics secured several individual research grants that carry on the research topics of CRC 1461:

**A bio-inspired electrical engineering approach to circuit development – Insights from modeling growth of a *Drosophila* neural network**, P. Robin Hiesinger & Karlheinz Ochs (project ID: 564716375, since 2025)

**Bioinspired soft synthetic neurons for visual sensing**, Robert Rieger & Jan Steinkühler (project ID: 566666396, since 2025)

**Multiscale analyses of structural, electronic and chemical aspects in dynamic memristive networks**, Lorenz Kienle & Alexander Vahl (project ID: 568550697, since 2025)

**3D composite resistive switching nanoparticle networks enabled by complex plasmas**, Jan Benedikt & Jan Trieschmann (project ID: 568560111, since 2025)

**Functional plasticity in neural circuits: from Cnidaria to excitable and Boolean models**, Jan Bielecki, Claus Hilgetag & Heike Siebert (project number: 567357102, since 2026)

**Self-organized network development: Control of complex nonlinear dynamic**, Thomas Meurer & Martin Ziegler (project ID: 567385006, since 2026)

| CRC 1461 - Publication Performance | |
|---|---|
| Journal papers (peer-reviewed) | 143 |
| Conference papers (peer-reviewed) | 37 |
| Books 😊 | 1 |
| **Total** | **181** |

Want some more photos of CRC 1461? A lot of photos and other materials are available in the CRC 1461 Neurotronics Cloud.


**The CRC 1461 mug is still available! Contact Sonja if you would like one 😊**

## CRC 1461 Neurotronics says Goodbye

Sonja and Hermann

SFB 1461