EKFZ Optogenetic Therapies

October 2026

NEWSLETTER



Dear readers,

With this newsletter, we would like to inform you about the latest news from the Else Kröner Fresenius Center for Optogenetic Therapies. We also welcome suggestions and contributions, which can be distributed among our members and associated partners.

Your
Else Kröner Fresenius Center for Optogenetic Therapies
Represented by Tobias Moser, Emilie Macé, Maria-Patapia Zafeiriou and Kathrin Kusch



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NEW BUILDING: GROUNDBREAKING CEREMONY

The Groundbreaking Ceremony for the Institute for Auditory Neuroscience took place on October 26th, 2026.

The cornerstone for the new research building for the Institute for Auditory Neuroscience at the University Medical Center Göttingen, was laid on Wednesday, October 28th, 2026, at Robert-Koch-Straße 8 in Göttingen, in the presence of Falko Mohrs, Lower Saxony's Minister of Science and Culture. In the future, around 100 researchers will unravel the fundamentals of hearing and develop future gene therapy procedures and medical devices to restore hearing. Closely linked to the IAN's research is the Else Kröner Fresenius Center for Optogenetic Therapies, which aims is to translate optogenetic methods from basic research into therapeutic applications.

Read more →



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THE NOBEL PRIZE IN PHYSIOLOGY OR MEDICINE 2026

The Nobel Assembly at Karolinska Institutet has decided to award the 2026 Nobel Prize in Physiology or Medicine to Karl Deisseroth, Peter Hegemann and Georg Nagel "for their discoveries concerning light-gated ion channels and optogenetics." **Congratulations from us!**

The Nobel Prize →



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TV STATION "NDR" AT EKFZ OT

The Nobel Prize in Physiology or Medicine for the development of Optogenetics was a reason to visit Göttingen: NDR filmed at the Else Kröner Fresenius Center for Optogenetic Therapies.

Prof. Tobias Moser, Timo Längrich, and Prof. Christian van Oterendorp explain to the NDR HALLO NIEDERSACHSEN team how optogenetics can be used to restore hearing. Also visited was the ultra-modern state of research is at the Göttingen Campus. The report was published on HALLO Niedersachen and can be viewed at the media library.

NDR media library →



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LARS KLINGBEIL VISITED UMG AND EKFZ OT

As part of his "Zukunftstour" (Future Tour), Federal Minister of Finance and Vice Chancellor Lars Klingbeil visited the University Medical Center that is funded by the special infrastructure fund.

At UMG, he was briefed on construction projects, IT infrastructure, and technology transfer. His visit began at the construction site of the new Institute for Auditory Neuroscience.

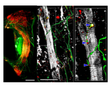
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MEETING OF THE BOARD OF TRUSTEES

The Board of Trustees of the EKFZ OT convened on September 23rd, 2026, for its inaugural meeting at the German Primate Center in Göttingen. Members were briefed on the center's research and future growth prospects. They were also able to get a firsthand look at the technical developments in the laboratories. We would like to thank all participants for the constructive and valuable exchange.



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WHEN NERVE CELLS DISRUPT THE HEART'S RHYTHM

A research team led by Prof. Dr. Maria-Patapia Zafeiriou has shown that in Long QT Syndrome type 2 (LQT2), the heart muscle cells are not the only cells with altered electrical activity.

Sympathetic nerve cells, which speed up the heartbeat during physical or emotional stress, can also be overexcited. Their activity may further raise the heart's susceptibility to arrhythmias.

In this study, we introduce innervated human cardiac microtissues (iHM), a 3D three-dimensional tissue model combining stem-cell-derived sympathetic neuronal organoids with engineered human heart muscle, and employ it to investigate neuronal contributions to cardiac arrhythmias. Using optogenetics, we selectively activated sympathetic neurons with light and demonstrated an increase in the tissue's beating rate, establishing functional connectivity between neurons and cardiac cells in iEHM.

Publication →

Press Release UMG →



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DAY OF THE SENSES

The EKFZ OT took part in the "Day of the Senses" on September 27th, 2026.

Around 100 children and their parents attended the Day of the Senses, organized by the CRC 1690 and the EKFZ OT at the MPI-NAT in Göttingen. A sensory course offered the children, mainly aged between 3 and 14, the opportunity to experiment with images, sound, scents, and flavors, and to learn how the brain processes and integrates their senses using touch boxes. Afterwards, the children could choose between a caleidoscope and a foldscope as a keepsake and received a so called "Sinnesforscherpass" (sensory researcher passport).



ENT CONGRESS MANNHEIM

Göttingen Art Project "KLANGLICHT – sound of light" at ENT Congress in Mannheim.

On October 30th, 2026, Jenny Blum will present the Göttingen art project "KLANGLICHT – sound of light" at the ENT Congress in Mannheim.

View program →



LATEST PUBLICATIONS

Muecher, et al. (2026) Improving optogenetic control over Gio-coupled receptor signaling by optimized GIRK channel expression. *Sci Signal* 19, eadw4374.

Alyahyaiu, et al. (2026) Mechanisms of premotor-motor cortex interactions during movement initiation. *Cell Rep*

Khurana, et al. (2026) *In silico* framework for benchmarking optogenetic hearing restoration. *J Neural Eng* 23, 056033

Dorst, et al. (2026) Advances and applications in population voltage imaging. *Eur J of Neurosci* 64, e70697

Ohnemus, et al. (2026) Channelrhodopsin ion selectivity determines mechanisms and efficacy of optogenetic defibrillation in human atria and ventricles. *J Physiol*

Read more →



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QUALITY MANAGEMENT TRAINING

Fenja Hanneken (Quality Manager) and Sabine Hauck (Consultant) conducted another training session on October 14th, 2026, for employees who are new to quality management tasks. The aim is to train the quality management team in the future by taking on quality management responsibilities for the first time.

EKFZ Optogenetic Therapies



EKFZ LECTURES

November 4th, 2026, 4:00 pm

Prof. Dr. Frank Holz

Universitätsklinikum Bonn

Subretinal Photovoltaic Implant to Restore Vision in Geographic Atrophy Due to AMD

Read more →



JOB ADVERTISEMENTS

PhD student (m/f/d) - New Opsins for Optogenetic Therapies

Postdoc-Position (w/m/d)

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Previous newsletters can be found on the EKFZ website under Downloads.

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