Institute of Molecular and Clinical Ophthalmology Basel

Media Release

Major European grant boosts vision restoration research in Basel

Basel, 12 November 2026 – Prof. Botond Roska, Scientific Director at the Institute of Molecular and Clinical Ophthalmology Basel (IOB) and Professor at the University of Basel, has received a prestigious European Research Council (ERC) Synergy Grant, together with Prof. Valentina Emiliani (Institut de la Vision, Paris) and Prof. José-Alain Sahel (University of Pittsburgh School of Medicine). The project builds on earlier clinical successes with optogenetics, whose scientific foundations were recognised with this year's Nobel Prize in Physiology or Medicine. The international team now aims to develop a more precise and sensitive approach, with the long-term goal of restoring high-resolution vision.

Key messages:

- Roska and his collaborators secured an ERC Synergy Grant in a highly competitive call that attracted 957 proposals from across Europe. Their project brings together international expertise in physics, neuroscience, molecular biology and clinical medicine.
- The ERC Synergy Grant, one of Europe's most prestigious research awards, provides around EUR 10 million over six years to develop more precise and sensitive optogenetic technologies, building on earlier clinical successes in restoring partial vision in blind patients.

Vision loss affects millions of people worldwide, and restoring sight remains one of the greatest challenges in medicine. One promising approach is optogenetics, a technology that makes surviving retinal cells sensitive to light. Its potential was demonstrated in a clinical study by the teams of Roska and Sahel, recently published in *The New England Journal of Medicine (DOI is 10.1056/NEJMoa2602215)*. The treatment improved patients' light sensitivity and their ability to detect objects, marking an important step towards restoring vision. Recovering the ability to see fine detail, however, remains a major challenge.

Roska, Emiliani and Sahel will now take this work further. By combining their expertise, the researchers aim to overcome current limitations and bring new therapies closer to people affected by blindness. With the ERC Synergy Grant, they will develop next-generation light-stimulation systems and new molecular tools to make optogenetic treatments more precise and sensitive. The team also plans to test these new technologies in patients who took part in the earlier clinical trial.

The ERC Synergy Grant is a major vote of confidence in the work of Roska and his collaborators, and in the research carried out at IOB. The award also strengthens Basel's position as an international centre for vision research, where scientists and clinicians work together to translate discoveries into new treatments for blindness.

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About IOB

At the Institute of Molecular and Clinical Ophthalmology Basel (IOB), basic researchers and clinicians work hand in hand to advance the understanding of vision and its diseases, and to develop new therapies for vision loss. IOB started its operations in 2018. The institute is constituted as a foundation, granting academic freedom to its scientists. Founding partners are the University Hospital Basel, the University of Basel and Novartis. The Canton of Basel-Stadt has granted the institute substantial financial support.

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