SCIENCE DAY

IN HONOUR OF JÁNOS SZENTÁGOTHAI'S INSPIRING AND IMAGINATIVE MODELS OF NEURONAL CIRCUITRY

Pécs

23 March, 2018

SZTE
UNIVERSITY OF SZEGED

PÉCSI TUDOMÁNYEGYETEM
UNIVERSITY OF PÉCS

SZEGEDI TUDÓS AKADÉMIA
SZEGED SCIENTISTS ACADEMY

BERT SAKMANN

12 June 1942 –

Bert Sakmann was born in Stuttgart on June 12, 1942. He studied medicine in Tubingen, Freiburg, Berlin, Paris and Munich. After his taking the state examination in Munich, he joined the Max Planck Institute of Psychiatry there in 1967 and worked in the Department of Neurophysiology with Prof. Otto Creutzfeldt. From 1971 to 1973 he was a "postdoctoral fellow" and worked with Prof. Sir Bernard Katz (Nobel Prize in 1970) in London. In 1974 he graduated as Dr. Med. with a thesis topic titled "Electrophysiology of neural Light Adaptation in the Retina of a Cat."

It was at this time that he started his co-operation with Erwin Neher in the Department for Neurobiology (headed by O. D. Creutzfeldt) of the Max Planck Institute for Biophysical Chemistry. Both of them were members in a team working on membrane physiology. They developed new methods for recording minute membrane currents by means of which they were able to observe exactly how electrical signals are conveyed from cell to cell. In 1982 Sakmann qualified as a professor at Göttingen with his paper entitled "Observation of the Interaction of Transmitter and Receptor on a Molecular Level: High-Resolution Current Measurements on small Membrane Areas of Protozoans and Cell-free Membrane Fragments".

In 1983 he became a scientific member of the Max Planck Institute and, together with Neher, was in charge of the new team for "membrane biophysics". In 1985 he became the director of the department for cellular physiology at the Max Planck Institute which mainly dealt with the study of the molecular foundations of signal transmission in the central and peripheral nervous system. In 1989 Sakmann went to the MPI for Medical Research in Heidelberg as director of the department for cellular physiology where he was appointed professor in theoretical medicine shortly afterwards. Together with Erwin Neher, he received the ***Nobel Prize in Physiology and Medicine 1991*** "for their discoveries concerning the function of single ion channels in cells".

Currently he is an emeritus scientific member of the Max Planck Institute of Neurobiology.

The focus of his research is to elucidate the functional anatomy of circuits in the cerebral cortex that form the basis of simple behavior (e.g. decision making). The group's aim is the reconstruction of a cortical column in silico. This involves the use of light- and electron-microscopic techniques to reconstruct the wiring of different cell types in the

layers of a column. Electrophysiological reactions of individual cell types to sub-threshold and above-threshold levels and the results of in-vitro-pair-registration will be used to stimulate the reconstructed network realistically.

In addition, he is the Director of Education of the Szeged Scientists Academy, which aims to provide a professional mentoring program for those devoted university students who wish to pursue a scientific researcher career.

JÁNOS SZENTÁGOTHAI

31 October 1912 – 8 September 1994

He was born as János Schimert, in Budapest in 1912, in a family of doctors. He started his medical studies at the Budapest University Medical School in 1930, and in his the first year he was accepted by Professor Mihály Lenhossék as a research student in the Department of Anatomy. He received his MD in 1936 and continued to teach at Budapest, becoming Associate Professor in 1942. During the Second World War he was a physician, airman, and was taken prisoner of war, from which he returned in 1946. In the same year he was appointed Head of Department anatomy at Pécs University Medical School. The Department focused on the vestibular system and dealt with the topic of neuroendocrinology. During his work in Pécs he introduced his creative work in the field of neuroanatomy, making his Department one of the most important institutes in Hungary. In 1948 he was elected a corresponding member of the Hungarian Academy of Sciences. In 1950 he received the prestigious Kossuth Price for his scientific work.

In 1963, he returned to Budapest and took over the Anatomy Department's leadership at the Semmelweis University School of Medicine. His main field of research was the functioning of the cerebellum and cerebral cortex. In addition, he performed experimental research on the spinal cord and brainstem reflex mechanisms. In 1967 he was elected a full member of the Hungarian Academy of Sciences. He headed his department until 1977, and in 1986 officially retired from teaching. His textbook, which was translated into thirteen languages and more than a hundred editions. Due to his work several scientific associations elected him as their honorary member, he even received an honorary doctorate degree from the Oxford University.

01.30 – 02.45 PM **LUNCH** – the leaders of Szeged Scientists Academy and the University of Pécs

03.00 – 03.30 PM **VISITING THE LABORATORY OF NAGY LAJOS GRAMMAR SCHOOL OF THE CISTERCIAN ORDER PÉCS**
(Organized by the Szeged Scientists Academy)

03.30 – 03.45 PM **PRESS CONFERENCE, OFFICIAL SIGNING CEREMONY AT THE NAGY LAJOS GRAMMAR SCHOOL OF THE CISTERCIAN ORDER**
Awarding the school the 'Regional Centre of the Szeged Scientists Academy Program' title

04.00 – 04.30 PM **VISITING THE CENTRE FOR TRANSLATIONAL MEDICINE AT THE UNIVERSITY OF PÉCS**
(Organized by the University of Pécs)

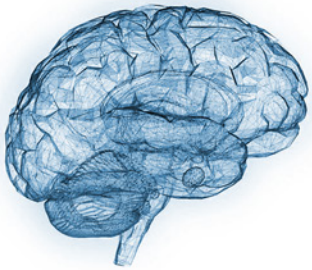
04.30 – 05.30 PM **PLENARY SESSION AT THE SZENTÁGOTHAI RESEARCH CENTRE**
Attila Miseta *(Dean of the Faculty of Medicine)*,
Péter Hegyi *(Director of the centre)*

OPEN FOR PUBLIC

04.30 – 04.40 SZENTÁGOTHAI AS AN INSPIRING CHARACTER
Presentation by Gyula Lázár, Szentagothai's student

04.40 – 05.45 SUPERRESPONDERS IN SOMATOSENSORY CORTEX
Presentation by Bert Sakmann Nobel-laureate

05.45 PM **VISITING THE LABORATORIES OF SZENTÁGOTHAI RESEARCH CENTRE**



The presentation at the Szentágothai Research Centre is open for public, the rest of the program elements are by invitation only!

Organized by: UNIVERSITY OF PÉCS & SZEGED SCIENTISTS ACADEMY
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