

OVER 600 SECONDARY SCHOOL PUPILS AND UNIVERSITY STUDENTS MEET NOBEL LAUREATE IN SZEGED

The XXII Meeting of Nobel Laureates and Talented Students was held in mid April this year with the participation of 450 pupils from various Hungarian secondary schools as well as 180 university students majoring in life sciences. Along with Nobel Prize winning chemist Brian Kobilka, several renowned scientists were also in attendance. Secondary school pupils associated with the Hungarian National Academy of Scientist Education (NASE) had a chance to talk to the eminent scientists not only at the conference, but also at their own schools' laboratories.

The meeting featured four prominent guests of honour. Besides Nobel Prize-winning Brian Kobilka, David Alfred Eisner, Martin Morad and John Eu-Li Wong appeared as keynote speakers of the conference. **Brian Kent Kobilka** is a professor in the department of Molecular and Cellular Physiology at Stanford University School of Medicine. He received the 2012 Nobel Prize in Chemistry with Robert Lefkowitz for his work on G protein-coupled receptors. In the 1980s the two researchers were able to identify the gene that encodes the β -adrenergic receptor. Subsequently, they realized that it was very similar to that of another, seemingly unrelated receptor that detects light in the retina of the eye. Following this, they discovered that such receptors form a large family whose members look and act very similarly. These GPCRs are now important targets for drugs. Their discovery proved to be an important milestone in medicine since half of today's drugs act on the very same principle. Kobilka delivered his lecture during the plenary session of the conference. Even though he briefly discussed his scientific achievements, he mainly focussed on his life story, starting with his childhood adventures. The Nobel Laureate was born and bred in Little Falls, Minnesota, where he worked in the family-run bakery. His interest in medicine was aroused by his best friend's father, who worked as a pediatrician. He commenced his studies as a scientist at the University of Minnesota, where he also met his future wife. Originally, he had planned to become a cardiologist, but he never completed his specialist training. It was in 1990 that Kobilka started his research at Stanford University spending part of his time as a physician. The Nobel Laureate was accompanied to the conference in Szeged by his wife, Tong Sun Kobilka, who is also a professor at Stanford University.



Brian Kobilka in the laboratory of the Calvinist Grammar School of Kecskemét.



Nobel Prize-winning physiologist Brian Kobilka with Academy leaders.

Alongside Brian Kobilka, another internationally acclaimed researcher, **David Alfred Eisner** also made his appearance at the conference. He is a British Heart Foundation Professor of Cardiac Physiology at the University of Manchester and Founder Fellow of the International Society for Heart Research. Among other things, the professor has conducted extensive research into the control of intracellular calcium concentration and its role in the production of arrhythmias, which his presentation revolved around.

Among the presenters was **Martin Morad**, who is a Professor of Regenerative Medicine and Cell Biology at the Medical University of South Carolina (MUSC) and the University of South Carolina (USC) and Professor of Bioengineering at Clemson University. The attendees of the conference had an opportunity to listen to professor **John Eu-Li Wong**'s highly engaging talk, too. He is Senior Consultant at the Department of Haematology-Oncology of the National University Cancer Institute in Singapore as well as Senior Vice President for Health Innovation and Translation at the National University of Singapore (NUS). The scientist did not come to the Meeting of Nobel Laureates and Talented Students all by himself, but together with a delegation of professors. During the course of the conference, researchers from the highest ranking universities of this Asian country were granted an insight into the professional, intellectual and infrastructural background of the training scheme of the National Academy of Scientist Education. They also negotiated with senior officials from Semmelweis University, Szeged University, the University of Pécs as well as the HUN-REN Hungarian Research Network about the possibility of establishing a closer liaison in the future. Pupils attending the conference got to take in brief presentations by representatives from Hungarian universities before the plenary session. Those taking the floor this time included **Béla Merkely**, Rector of Semmelweis University; **Márta Széll**, Vice-Rector of Szeged University; **Miklós Nyitrai**, Dean of the University of Pécs Medical School; **László Mátyus**, Dean of the Faculty of Medicine of the University of Debrecen. **Balázs Gulyás**, President of the Hungarian Research Network (HUN-REN) also welcomed the participants. As part of the plenary session, Péter Hegyi, Programme Director of the National Academy of Scientist Education introduced the educational programme of the Academy to the audience.

LABORATORY VISITS

It is not only at the campus-based event venues of the conference that the secondary school pupils had the opportunity to meet the international guests of the meeting featuring Nobel Laureates, but also at the laboratories of their respective secondary schools. On their way to Szeged, Brian Kobilka and Martin Morad made a stopover at the student lab of the Reformed Secondary Grammar School in Kecskemét. The young would-be scientists had the opportunity to pose their questions to the guests in the assembly hall of the school.



David Eisner (right) at the laboratory exercise of Radnóti Miklós Experimental High School in Szeged.



Martin Morad at the round table of Szent-Györgyi Students and Pupils.



John Eu-Li Wong at the laboratory exercise of Radnóti Miklós Experimental High School in Szeged.

Following this school visitation, the guests were welcomed by the Mayor of Kecskemét as well as the Deputy Mayor for Education at the city hall. The highest dignitary of the city then went on to announce her express support for the educational programme of the National Academy of Scientist Education and her intention to establish a grant scheme aimed at medical students in the near future.

After their visit to Kecskemét, the guests continued their journey to Szeged only to pay yet another visit the next day right before the plenary sessions of the conference. They went to the 'Thermos' Laboratory of Radnóti Miklós Experimental High School as well as to the 'SzeReTeD' laboratory at the University of Szeged Teacher Training Secondary and Primary School. The organisers made sure that there was time set aside for a Q&A session, where the students were able to pick the scientists' brains.

Both the secondary school pupils and the university students had an extra opportunity to query the honorary guests during the round-table sessions on Monday, as well. The same day the new recipients of the Academy's Talent Award gave talks to the participants of the conference. Researchers László Acsády, Csaba Matta, Bálint Kintses and András Garami had received their awards from the National Academy of Scientist Education during a gala event held at the Szeged National Theatre the previous night.

László Acsády, research professor at the HUN-REN Institute of Experimental Medicine received the award for discovering a fundamental regional difference in the long range cortical communication. His findings may help to understand the regional heterogeneity of normal and pathological brain activity.

Csaba Matta, associate professor at the Department of Anatomy, Histology and Embryology of the University of Debrecen had achieved remarkable feats in deciphering the transcriptomic landscape of chondrogenic cells during cartilage formation to improve cartilage tissue engineering.

Bálint Kintses, senior research associate at the Institute of Biochemistry of the HUN-REN Biological Research Centre was commended for the award for predicting antibiotic resistance by using reprogrammed bacteriophages.

András Garami, Associate Professor at the Institute for Translational Medicine of the University of Pécs received the award for his research into the correlation between the regular consumption of hot pepper and reduced blood cholesterol levels.

Besides researchers receiving the Talent Award, **Olivér Dinnyés**, senior year pupil at ELTE Bolyai János Practice Primary and Secondary Grammar School in Szombathely and winner of the Excellent Student Award of 2024 walked the audience through the changes that occur in retinal glial cells with ageing. His teacher, **József Baranyai** greatly contributed to his success and thus also received a certificate of appreciation from the National Academy of Scientist Education.



Student of the Year is Olivér Dinnyés and his teacher is József Baranyai.



Brian Kobilka, Nobel Prize-winning physiologist, András Varró, Chairman of the Board of Trustees and the 2024 Talentum Awards András Garami, Bálint Kintses, Csaba Matta and László Acsády.