

Neurobiology Commission

Marco de Curtis, Chair

The Neurobiology Commission (NBC) focuses on the development of research strategies that address clinically relevant issues in the field of epilepsy. The Commission organizes and promotes international and regional educational and public outreach initiatives to enhance the interaction between neuroscience and the clinic.

The Commission strategic plan has five main initiatives implemented by **ad-hoc** Task Forces. The Commission reports and new documents generated by Commission activities are updated on the ILAE web-site every three months by Katja Kobow. A website section dedicated to advertise jobs, and postdoctoral positions will be soon implemented and highlighted on the NBC web page.

To strengthen the interaction between the clinical and laboratory world, the NBC regularly organizes symposia for the League's congresses. In Istanbul, the symposium "The Best of Two Worlds: Translational Epileptology" was well-attended. Other sessions looked into the future, such as the "Neurobiology Symposium on Optogenetic to Cure Epilepsy: Facts and Feasibility" and the summary session from the "Workshop on the Neurobiology of Epilepsy," which emphasized the highlights of the meeting held just before the Congress. In Istanbul, the inaugural Young Neuroscientist Award, supported by a generous donation from the Harinarayan family, was awarded to Cristina Ruedell of Dublin and Ping Zheng of Melbourne for the best neuroscience contribution to the Congress. For future ILAE meetings, the applications for this Award will be advertised on the Congress registration form. At the 12th European Congress on Epilepsy in Prague, the NBC is sponsoring the Neurobiology Symposium on **Learning about focal ictogenesis from patients (and animal models)**. The Commission also keeps epilepsy visible to the neuroscience community by offering the translational course on San Servolo and supports the Gordon Conference on Epilepsy. The Commission wants to enhance the participation of basic scientists at the Congresses because the more that they are part of the epilepsy community, there will be faster progress in developing new treatments for the disease. Participation rates have ranged from 1 to 7.5%, and ideally it should be at 10% or greater.

The Commission was active in opposing the initiative from the European Citizen's Initiative, "Stop Vivisection." A letter by Aristed Galanopoulou on behalf of the ILAE-AES Translational TF and the NBC was sent to the President, Martin Schulz, and to all members of the European Parliament. Multiple academic institutions were mobilized against this initiative. The ILAE letter, co-signed by ILAE and IBE Presidents, supported the existing directive to provide for the ethical and justified use of animals for biomedical research, that has significantly benefited human and veterinarian care. The EU Parliament supported the research community's opposition to the proposal. However, a debate and conference by the end of 2016 to



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emphasize the importance to address and discuss animal experiments in scientific meetings and on publications was mandated by the Parliament.

The Commission wants to encourage the development of translational programs in all of the League's regions. As a first step, the NBC Chair met with the European Commission CEA, following the initiative of CEA member Annamaria Vezzani, to evaluate potential interactions between the two Commissions on the issues of supporting translational neurobiology topics at regional meetings and to assist young scientists to participate at WONOEP, and on encouraging the participation of neurobiologists at the Congresses. In light of the positive response, the NBC will start to work with all regions to develop regionally appropriate neurobiology programs.

One of the major goals of the Commission is to create conditions that enhance the discovery process for new therapies. One of the important steps will be to develop research consortia that can generate reproducible data that are predictive of clinical efficacy. The Translational Task Force and the Multicenter Preclinical Animal Research Team are working to facilitate opportunities for preclinical multicenter studies in epilepsy. To improve the meta-analysis of existing data, the Task Force is working with a group led by Dr. David Howell with broad experience in the field, to develop a teaching platform to instruct the group on the theory and practice of systematic reviews and meta-analyses.

To make the interpretation of results across laboratories and models easier, the Task Force is working with the NINDS for the effort to generate preclinical common data elements (CDEs). In addition, the group started discussions with the European veterinarian consortium to create consistent classification systems for seizures in both rodents and companion animals. The Translational TF has been in contact with the NC3R group and has provided feedback on the recent NC3R report on "Outlining opportunities for improving animal welfare in rodent models of epilepsy and seizures" (Lidster

K et al, J Neurosci Methods, 2015).

The first set of reports from the Translational TF are currently in preparation and are planned for submission for an Epilepsia Supplement (2016). These will discuss methodological, technical, and interpretation standards of video-EEG recordings in adult and immature rodents used as experimental controls, using surface or depth electrodes; methodological standards for in vitro electrophysiological studies; and standards involved in the signal analysis of electrophysiological recordings using computerized methods and specific software. This will be a first step before addressing the classification of seizures in rodents and interpretation of controversial or abnormal patterns.

WONOEP Task Force activities update

A new WONOEP logo was created by Bryony Reed (shown with Dr. Raman Sankar) and was utilized for the first time at XIII WONOEP.

Commission activities, updated by Katja Kobow, can be viewed at the ILAE NBC website, <http://www.ilae.org/Commission/neurobio/index.cfm>



Raman Sankar and Bryony Reed



Group photograph at the 2015 WONOEP XIII