

ERA-NET NEURON: a network with emergent properties

A call for research proposals on spinal cord and traumatic brain injury on Jan 11, 2016, is the latest initiative of ERA-NET NEURON, an international organisation of funders. That ERA-NET NEURON places acute CNS injury at the top of its funding priorities bodes well for this field, as the organisation has proven remarkably successful in encouraging research alliances. By promoting a collaborative spirit and with a genuine emphasis in translational research, ERA-NET NEURON has become more than the sum of its parts.

When ERA-NET NEURON was launched in 2003 under the auspices of the European Commission, four sponsoring organisations from Germany, Israel, Luxembourg, and Poland became the funders of a network aiming to advance basic and clinical neuroscience. After several years of preparatory work to establish the logistics needed by an international organisation and to accommodate legal requirements in all member countries, the first joint call for research proposals (on neurodegenerative diseases of the CNS) was launched in 2008. Since then, nine new calls for research proposals followed. Now, ERA-NET NEURON coordinates 25 funding institutions from 18 member countries, and regularly launches joint calls for research proposals within a common strategic framework. International consortia of up to five research teams from at least three member countries are given precedence and, to strengthen translational multidisciplinary research, these consortia are encouraged to include both basic scientists and clinicians. Over the years, this system has supported more than 80 consortia, whose work is generating substantial advances. For example, the MIPROTRAN consortium has investigated the properties of misfolded proteins involved in neurodegeneration and contributed to the characterisation of their prion-like features; the REVIS consortium for restoration of vision is addressing visual deficits in patients after stroke by use of non-invasive neurostimulation; in the LIGHTPAIN project, research partners are deciphering mechanisms of pain and have come up with the first photo-switchable modulator of a G protein-coupled receptor, an approach that might enable finely-targeted drug delivery into the CNS.

These achievements can primarily be attributed to the commitment and cooperation of the investigators,

but the central coordinating role of ERA-NET NEURON should not be overlooked. Its emphasis on highly competitive scientific excellence and its strategic view when setting priorities have been essential for success. By harmonising the diverse priorities of the many funding institutions involved, ERA-NET NEURON can avoid redundant efforts and complement those that are given priority by several countries, as shown by their last joint call on spinal cord and traumatic brain injury research; this call can complement the work of InTBIR, in a research area for which Europe, USA, and Canada have set themselves the common goal of improving clinical outcomes by 2020.

Deciphering disease mechanisms, understanding disease progression, and developing treatments are the overarching pillars of ERA-NET NEURON's current strategic research agenda, set up in 2015. This agenda is being implemented through joint calls for proposals and discussed in dedicated workshops regularly. Feedback from professional and patients' associations has highlighted the need to reinforce the interactions between scientists, clinicians, and society. With that revised aim, ERA-NET NEURON is exploring ways to promote patients involvement in their procedures and assessments. The support of investigators early in their careers has also been highlighted as an area for improvement by members of professional bodies surveyed for feedback. ERA-NET NEURON presents an Excellent Paper in Neuroscience Award for early-career investigators at the Forum of the European Neuroscience Society, but an award seems meek patronage for an organisation that claims support of young researchers as a core component. Scientific achievement and innovation can peak during the early stages of a research career, and such potential should not be overshadowed in consortia that tend to be led by senior investigators. More needs to be done to promote young talent and multidisciplinary training.

Although the lack of a dedicated approach to suit the needs of young researchers and help them reach their full potential is a weak spot in an otherwise exemplary international organisation, overall ERA-NET NEURON is succeeding in maintaining the difficult balance between scientific excellence and inclusiveness. The network has the potential to stretch goals far beyond those of its individual members. ■ *The Lancet Neurology*



For the joint call for proposals on spinal cord and traumatic brain injury see <http://www.neuron-eranet.eu/en/613.php>

For more on prion-like features of proteins involved in neurodegeneration see *Personal View Lancet Neurol* 2010; **9**: 1128–38

For more on REVIS see <https://clinicaltrials.gov/ct2/show/NCT02405143>

For more on the findings of LIGHTPAIN see *Nat Chem Biol* 2014; **10**: 813–15

For more on InTBIR see *Editorial Lancet Neurol* 2013; **12**: 1127