The FENS Forum in Milan: were you there?

The 9th FENS Forum was held in Milan on July 5th-9th. Were you there?

More than 6000 scientists gathered to present their latest results, discuss, consolidate existing collaborations and start new exciting ones. The top-level scientific programme was attended with equal interest by renowned scientists as well as by younger ones, and one could almost feel the high-level of energy and enthusiasm that all the participants injected into the meeting. The city of Milan warmly welcomed the Forum participants, hosting a variety of great outreach activities.

All in all, this was yet another confirmation, if one is really needed, of the steadily increasing interest of the European and international neuroscience community for the FENS Forum. Indeed, the Forum became an ideal platform for all neuroscientists to present and discuss their most recent findings: a must in everyone’s agenda.

The next FENS Forum will be in Copenhagen in July 2016 - don’t miss it! Check the website for updates and sign up to receive updates from FENS about its Forum (www.fens.org/2016)

However, FENS will fill these coming two years with a number of new initiatives: stay with us!

A brand new activity will be the “CAJAL Advanced Neuroscience Training Programme”. This programme, carried out by FENS and IBRO in partnership with Bordeaux Neurocampus and the Champalimaud Foundation at Lisbon, will establish a prominent, state-of-the-art European neuroscience training programme, in internationally recognised and attractive European training sites.
The CAJAL Advanced Neuroscience Training Programme has the main ambitious objective of providing advanced hands-on training courses in key topics and emerging techniques. In the European scenario, the CAJAL Advanced Neuroscience Training Programme will represent a unique possibility to learn the latest technical and scientific developments in neuroscience ranging from molecules to human brain imaging. A programme for 2015 will be available soon. Check the FENS and IBRO websites for more information about the programme.

But this new programme will not overshadow the traditional FENS schools, a Summer School in collaboration with SFN and a Winter School in collaboration with the Hertie Foundation, which will offer important opportunities to PhD students and young post-docs to be trained in specific topics in an exciting and stimulating environment. In addition, the NENS programme will continue to offer educational activities at the graduate level.

Another new and important activity is the FENS-Kavli Network of Excellence. In collaboration with the Kavli Foundation, FENS has agreed to establish a high-level network of excellent young neuroscientists. Its goal is to foster scientific or science-policy exchange between junior/mid-career neuroscientists who are either currently working, or have received their training, in Europe. The call for nomination for the FENS Kavli - Network of Excellence is now open and I look forward to gaining from the input and exchanges with this group!

These are only some of the activities that FENS has decided to endorse on behalf of all its members societies and in collaboration with its partners.

At the heart of FENS mission, however, remains the important task of maintaining the visibility of European neuroscience within and outside Europe, and continuing to advocate for brain research with a strong voice, representing all FENS member societies in the policy arena.

I consider it an honour to able to help in reaching these goals, and in general to serve all of our members, in the years of my presidency.

Monica Di Luca
FENS President

This year, the prestigious Brain Prize from the Grete Lundbeck European Brain Research Foundation was awarded to Professors Stanislas Dehaene (Collège de France, France), Giacomo Rizzolatti (Università di Parma, Italy) and Trevor Robbins (University of Cambridge, UK). This Prize, endowed with €1 million, recognises the winners’ ‘pioneering research’ on higher brain mechanisms underpinning such complex human functions as literacy, numeracy, motivated behaviour and social cognition, and for their efforts to understand cognitive and behavioural disorders’ (http://www.thebrainprize.org/fix/prize_winners/).

FENS congratulates them on this significant Prize.

Stanislas Dehaene is Professor of Experimental Cognitive Psychology at the Collège de France, Paris; Director of the INSERM-CEA Cognitive Neuroimaging Unit, NeuroSpin, Saclay, France; Member of the US Academy of Sciences, the British Academy, the French Academy of Sciences, the Pontifical Academy of Sciences, the American Philosophical Society, and the Academia Europae. His research focuses on how the human brain acquires and implements the symbolic processes that underlie language and mathematics.

Maria Luz Montesinos: What does the Brain Prize Award represent for you?
Stanislas Dehaene: I am particularly delighted that the prize this year is attributed to scientists working on higher brain mechanisms – my feeling is that this is not just a personal sign of encouragement, but also a strong indication that cognitive neuroscience as a whole has truly come of age. There is also a huge feeling of responsibility, with the need to continue...
producing good research in the next twenty years.

**Maria Luz Montesinos:** Why did you decide to study consciousness mechanisms?

**Stanislas Dehaene:** Twenty-five years ago, when I was working on the mental representations of numbers, I was struck by the fact that reading, and even sophisticated forms of mathematical intuition, seemed to escape conscious reportability. One of my early dyscalculic patients was unable to express verbally any conscious knowledge of arithmetic, yet he still had strong numerical intuitions (for example, he didn’t know what 2 + 2 was, but he was certain it couldn’t be as large as 9). To verify whether number processing could be fully automatic, I started to do experiments with flashed numbers that were masked below the threshold for conscious perception. My lab was among the first to use brain imaging techniques to track the fate of subliminal stimuli.

**Maria Luz Montesinos:** How can neuroimaging techniques help us to understand consciousness mechanisms?

**Stanislas Dehaene:** By contrasting the brain activity evoked by seen and by unseen stimuli, or by comparing minimally conscious patients with vegetative-state patients, we can create minimal contrasts between conscious and unconscious states. We then search our brain images (EEG, MEG, fMRI) for specific “signatures” that occur only in the conscious state. The fun part of the field consists in trying to constantly push the limits of unconscious processing – for instance with Simon Van Gaal, we recently found that even multiple unconscious words could be combined non-consciously according to the rules of syntax.

**Maria Luz Montesinos:** Which are the neural correlates of consciousness?

**Stanislas Dehaene:** Jean-Pierre Changeux, Lionel Naccache and I have proposed that what we call consciousness corresponds to a massive diffusion of a specific piece of information, made possible by cortical neurons with long-distance projections. Our experiments have revealed several signatures that still remain to be fully validated, including an “ignition” pattern of increased distributed gamma-band activity, sudden increase in prefrontal activity and long-distance synchrony with posterior cortical areas. I am particularly excited by a recent measure designed by Jean-Rémi King and Jacobo Sitt, which we dubbed “weighted symbolic mutual information”, and which quantifies the amount of long-distance information sharing in the cortex, based solely on EEG patterns – this can be really helpful in detecting residual consciousness in patients.

**Maria Luz Montesinos:** What breakthrough is needed to really prove what consciousness is?

**Stanislas Dehaene:** We need to address the question of causality: which brain events truly cause a conscious state, and which merely accompany it? Brain stimulation, including optogenetics, will be useful here. We also need a major effort to decipher the high-level neural codes for language, planning and theory-of-mind that are probably unique to the human brain. To this end, we may capitalise on the major ongoing progress in human intracranial recordings.

**Maria Luz Montesinos:** A piece of advice for young neuroscientists?

**Stanislas Dehaene:** Read a lot, and try to have more than one competence in your hands. More than ever, neuroscience is a multidisciplinary enterprise, where strong theory and mathematical tools will play an increasingly important role.

**Maria Luz Montesinos:** What does the Brain Prize Award represent for you?

**Trevor Robbins:** Above all, it’s a terrific endorsement of my research, together with that of my research group and collaborators, in the area of neuropsychopharmacology with its cross-species translational potential to help discover new treatments for mental health disorders. I am proud also to have shared the prize with such distinguished colleagues who have made major contributions to the understanding of complex human disorders. Finally, it’s also a very significant personal milestone, especially at this stage of my career, when Universities like Cambridge tend to encourage retirement of its senior members, and one needs encouragement like this to continue!
Maria Luz Montesinos: How did you decide to study decision-making processes and their related psychiatric disorders?

Trevor Robbins: By a roundabout route, beginning with basic studies using experimental animals, which I felt had to be justified by their applicability to humans. However, this research should ideally be bidirectional and one can take inspiration from clinical observations that need to be understood in a more controlled experimental context. And the area of decision-making processes encompasses all the elements I find most fascinating about the brain: fronto-striatal functions, chemical neuromodulation, (especially by the monoamine systems), reward, executive function and cognitive enhancement! All of this stems from my early interests in molecular biology and my later attempts to somehow merge these with later passions to study experimental psychology and neuroscience!

Maria Luz Montesinos: How neuroimaging techniques are helping to understand these diseases?

Trevor Robbins: In a variety of ways and modalities, again across species, mainly to help delineate neural network aspects of phenotypes in neuropsychiatric and neurological disorders and help define neurocognitive systems underlying normal behaviour. Thus, they can be used in longitudinal or endophenotype studies (i.e. including clinically unaffected relatives) to identify pathology in neural circuitry that may give expression or vulnerability to psychopathology and cognitive impairment. PET and magnetic resonance spectroscopy, of course, potentially give us invaluable windows for observing the functioning of chemical neurotransmitters in the human brain. But in my view, to be useful, virtually all neuroimaging studies should involve (i) some correlation with behavioural or cognitive variables, and also (ii) by suitable interventions, additional tests of potential causal functions in neural circuits for thought and behaviour.

Maria Luz Montesinos: What is the main impediment to understanding human psychiatric disease, and how could it be overcome?

Trevor Robbins: At this time, I would suggest the stigma of having psychiatric problems. Although mental health disorders entail a much more significant socioeconomic burden than does cancer or other diseases, research in this area is drastically underfunded as shown e.g. by the analysis of societies such as ECNP. This lack of funding has been exacerbated by big Pharma deciding that for them the problems may be too complex, difficult and unprofitable to continue drug discovery programs in mental health. Perhaps the only recourse is to enhance philanthropy in this area to the same level as in other very well-organised charities and foundations supporting more conventional diseases- but that will require a brave approach to stigma on the part of patients and their families, as well as clinicians, researchers, journalists and politicians. I also believe that we need a new approach to psychiatric diagnosis and more encouragement and training for neuroscientists wishing to bridge this clinical domain.

Maria Luz Montesinos: Which are the neural correlates of impulsivity/compulsivity?

Trevor Robbins: This is a big question which would take an article or two (or more) to begin to address. I hope to provide some kind of answer to it, if you would kindly listen in on my FENS lecture at the next FENS Forum! The short answer is distinct, but partially overlapping circuitries in the fabled, fronto-striatal-pallidal-thalamic loop pathways!

Maria Luz Montesinos: A piece of advice for young neuroscientists?

Trevor Robbins: Use the most appropriate techniques to test smart hypotheses, work hard, love data, and enjoy collaborations and communications of findings, neuroscience ultimately being a social enterprise.
neuron by neuron the visual cortex of the mouse, a nocturnal animal endowed with very poor vision. I also appreciate that the prize recognises the “ideology” of my research, which assumes that the brain is not a big computer, but a social machine based on cognitive and emotional relationship between individuals.

Finally, the prize gives a welcome visibility to Italian science, which we hope may encourage politicians here to stop neglecting research. The Italian university is today more similar to the ruins of Pompei than to an American campus.

Maria Luz Montesinos: How did you discover mirror neurons?

Giacomo Rizzolatti: Several years before the discovery of mirror neurons, I decided (with Massimo Matelli and Maurizio Gentiliucci) to study the monkey motor cortex in an ethological way. We started studying the behaviour of monkeys in a more natural situation, giving monkey food, observing the monkey eating it, and so on. Simultaneously we recorded single neurons from the monkey premotor cortex and correlated the discharge of the recorded neurons with the monkeys’ behaviour. This approach allowed us to give a new and much richer description of motor-cortex properties. For example, we found that many neurons in the ventral premotor cortex encode the goal of an action and not the movements forming the action, and many of them respond to visual stimuli.

Some years later with a new team (Luciano Fadiga, Leonardo Fogassi, Vittorio Gallese and for a short time Giuseppe Di Pellegrino) we observed that some motor neurons also fired when we (the experimenters) grasped the food or manipulated it in the way similar to the one that, when performed by the monkey, triggered the neuron. For a long time we were afraid that this visually elicited discharge could be an artifact.

However, after many, many controls we became convinced that the phenomenon was real. Mirror neurons were discovered.

Maria Luz Montesinos: What are the roles of mirror neurons?

Giacomo Rizzolatti: Mirror neurons are present not only in monkeys and humans, but also in species very distant from primates, like birds. This indicates that the mirror mechanism is a basic mechanism for recognising the action of others, which evolution “invented” in various evolutionary lines. Actions of others may be understood, of course, in many ways, going from the action consequences to inferential reasoning. The specificity of the mirror mechanism is that the actions of others are mapped on motor programmes that also the observer possesses. It is this “you are like me” mechanism that renders the mirror mechanism so interesting.

Maria Luz Montesinos: Are mirror neurons relevant to neuropsychiatric disorders?

Giacomo Rizzolatti: Understanding neuropsychiatric disorders is the most challenging issue for the research in neuroscience. The discovery of the mirror mechanism might be an initial step to “naturalise” psychiatric diseases and describe them in a mechanistic way. Studies on autistic spectrum disorders indicate that this possibility does indeed exist.

Maria Luz Montesinos: What is the next key step for mirror neuron research?

Giacomo Rizzolatti: At present we have three main projects. The first is to record mirror neurons in humans (surgical patients). This is possible thanks to a new type of electrode that allows one to record not only from the electrode tip, but also from the shaft. Our working hypothesis is that the empathic properties of mirror neurons in humans are more complex than those in monkeys. An example is their possible activation during listening to action words. The second project is to extend the study of the mirror mechanism in the monkey to areas controlling the premotor cortex (e.g. pre SMA) and basal ganglia and to test the effect of different drugs, injected via the same electrodes, on their activity. The results of these studies will show whether it is possible to manipulate the mirror system, improving its efficiency. The third is a clinical project. It concerns the development of action observation therapy (AOT). AOT is based on the activation of the motor cortex (or of the residual part of it) by the observation of different types of actions. Preliminary data showed excellent results in the recovery of normal motility in patients with post-traumatic motor deficits and some effect on patients with limb paresis after stroke. It appears that there is a high possibility of improvement of AOT with better and more personalised stimuli. We are working on this in collaboration with the Italian Institute of Technology (IIT).

Maria Luz Montesinos: A piece of advice for young scientists?

Giacomo Rizzolatti: My first piece of advice would be to choose an excellent supervisor. My second would be to be sure that you have talent for research. Research is like music, either you have talent or you don’t. If you have talent you have to work hard and not to be discouraged by possible failures at the beginning. When you discover something new, you’ll find it so rewarding that you will
Opinion corner

Cell therapies for Parkinson’s disease re-enter the clinical arena

Experimental transplants of dopaminergic cells was halted a decade ago, but scientists from Europe and elsewhere believe that now is the right time for them to begin again.

PD is a common chronic neurodegenerative disorder that typically affects men more than women in their seventh decade of life. It presents with a resting tremor, rigidity and bradykinesia although it is now recognised that it has many non-motor features, some of which may even predate the motor onset and diagnosis (so called prodromal PD). The pathology of PD is also widespread, as the clinical features would suggest, but at the core of the illness is the loss of the nigral dopaminergic neurons which project to the striatum. The recognition of this key neurochemical loss in the 1960s led to the successful introduction of dopaminergic drugs for treating PD which in the early stages can restore many patients back to almost normal function. However over time these therapies start to fail as the disease progresses, as well as generate their own side-effects such as “on-off” phenomena and L-dopa induced dyskinesias. As a result alternative therapies designed to replace or restore this network have been investigated including the use of intracerebral transplants of dopamine containing cells.

This approach has used a whole range of different types of “dopaminergic” cells, but the only ones that have really been shown to provide long term benefits are those involving the developing nigral dopaminergic neuroblasts grafted in as part of a fetal ventral mesencephalic (VM) allotransplant. This regenerative approach began in the 1980s after a series of pre-clinical experiments showing that in animal models of PD, fetal dopamine cells grafted in this fashion could survive, make and receive synapses from the host and release dopamine with functional recovery to the animal. This then led to the initiation of small open label studies in Europe and North America. These trials showed that in some cases patients had transformative long lasting benefits (>10 years off anti-PD medication) from the transplant which correlated with restoration of normal dopamine tone in the striatum around the graft and large numbers of surviving dopamine cells at post mortem.

As the early results from these open label studies were being reported, the need to move to more definitive double-blind, placebo-controlled studies was felt necessary and supported by a new NIH funding initiative as result of a change in the political landscape in the USA in the early 1990s. These two trials published their results in the early part of this century. They concluded that human VM grafts did not produce statistically significant benefits in terms of their primary end points at the prescribed times of 1 and 2 year post grafting in the transplanted patient cohorts. In addition these studies also reported that some grafted patients had developed involuntary movements secondary to the graft- so called graft induced dyskinesias- which necessitated further neurosurgical intervention with deep brain stimulation (DBS) in some cases.

These trial results led to a moratorium on this cellular approach to treat PD on the grounds that it did not produce benefits and even caused side-effects. In addition, better therapies were now available for this condition which did not exist when these trials were originally conceived (e.g. DBS). This view was paradoxically at a time when the ability to make dopamine cells from stem cells was gaining prominence and scientific credibility as a therapy for PD. As a result, those clinicians and scientists involved in the human VM transplant trials met to discuss the data to better understand what these human VM trials had shown and whether there was any merit in taking this type of therapeutic approach forward in the 21st century.
These discussions concluded that these transplants could work in younger patients with less advanced disease, especially if proper attention was given to how the tissue was prepared and grafted along with their immunosuppression.

Furthermore it also became clear that there were some concerns about the design of the double blind placebo control trials not only in terms of the type of patient recruited but the primary end points chosen and the time they were collected.

As a result a new trial was planned that was funded by the EU (TRANSEURO) which will hope to start grafting younger, early stage patients this year. This trial is seen as developing a template which in time will allow for the translation of dopamine cells derived from stem cells for use in PD, and discussions between the relevant groups as to how to do this have already commenced (the GFORCE initiative).

In conclusion, cell-based therapies for PD are back on the clinical agenda. However successful and competitive they will ultimately be, will depend on the consistency and size of their clinical response along with how much they cost, which in turn depends on who owns them. as they will never be the sole preserve of academic institutions.

Roger A. Barker
John van Feest Centre for Brain Repair,
University of Cambridge

Research at the Center for Neurosciences of Vrije Universiteit Brussel

The Center for Neurosciences (www.c4n.be) coordinates the neuroscience-related research activities in a joint venture between the university (V.U.B.) and the university hospital (U.Z. Brussel), and aims a lasting collaborative research program among basic and clinical neuroscientists, allowing research from bench to bed and from bed to bench.

C4N constitutes an interactive research environment for neuroscientists, with the aim of developing novel therapeutic strategies for neurological and mental disorders and a better understanding of mechanisms of diseases, cognition and behaviour.

The Center was established in 2011 and consists of 133 members from five different faculties (Medicine & Pharmacy, Physical Education & Physiotherapy, Psychology & Educational Sciences, Arts & Philosophy and Engineering) including 40 faculty members, 14 postdocs and 79 PhD students.

C4N contains three main research areas: Target Driven Drug Discovery, Clinical Research & Disease, and Cognition, Behaviour & Health Impact.

Target Driven Drug Discovery focuses on reciprocal astrocyte-neuronal interactions with a special emphasis on glial and extrasynaptic drug targets, such as glutamate transporters (e.g. cystine/glutamate antiporter or system xc-), the astroglial adrenergic B2 receptors and endothelin system, the insulin-like growth factor I (IGF-I) system, and various neuropeptides and their receptors.

Clinical research and disease mainly focuses on multiple sclerosis and related diseases of white matter, stroke, neuro-ophthalmology, and neuromodulation of disease.

With regard to multiple sclerosis, special attention is paid to neuroprotection and the role of cerebral metabolism and perfusion in disease progression. A multi-centre clinical trial with fluoxetine in progressive MS (FLUOX-PMS) is ongoing. Another area of interest is the identification of factors that influence disease activity and progression. The goal of the stroke research team is to improve acute management and outcome, starting from the prehospital phase (telemedicine) to hospital discharge (e.g. role of dysautonomy, cooling), and the search for biomarkers.

Neuromodulation focuses on the role of transcranial magnetic stimulation in mental diseases, the role of the vagus nerve in cancer and obesity, and the effect of hemispheric lateralisation on infectious diseases and mood.

The pillar Cognition, Behavior and Health Impact comprises a number of research groups from different disciplines conducting research on the fundamental and
Prior to conducting your study you will need to obtain the appropriate review board approvals.

Take home messages from the training seminar:

- Prior to conducting your study you will need to obtain the appropriate review board approvals.
- Study design, including effect size estimates, and appropriate reporting of statistical analyses are key components of good scientific practice. We encourage researchers to seek advice during the planning and development of their study design.
- Carefully select the journal so that article falls within the scope of the journal. If you are unsure contact the editorial office for clarification.
- When preparing figures, keep in mind they will likely be shrunk; thus, use large letter fonts in all figure labels.
- Clearly present the hypothesis of your study in the abstract and introduction.
- To improve readability of your article, avoid ineffective phrases; use simple words; keep sections concise; use a narrative style with linking statements and summary statements; explain the relevance of the work to your hypothesis; justify the techniques and approach used.
- A fair and high quality peer review takes time, but there is no harm in following up with editorial office from 5-6 weeks after submission.
- If you wish to publish companion papers, submit both to the same journal and indicate in your cover letter that these are companion papers you would like to have reviewed by the same reviewers.
- The website of the Committee on Publication Ethics (COPE) provides guidelines on all aspects of publication ethics, including author disputes.
- If your article has been rejected for priority reasons at a journal that is a member of the NPRC alliance, save time by revising your manuscript according to original reviews and have the reviews transferred to another journal of this alliance.
- If you disagree with a referee’s comment, refute the comment in your letter of reply to the reviewers in a neutral manner.

News from EJN

EJN Training Seminar: “How to Successfully Publish Your Research”

At the FENS Forum of Neuroscience 2014 in Milan the editors of EJN organised a training seminar for junior neuroscientists. The seminar focused on important steps toward improving the quality of manuscripts. The course began with a series of mini-lectures, presented by the editors of EJN, followed by small group discussions during which participants and editors discussed topics ranging from statistical methods to the mechanics of the editorial process. We were very pleased with the attendance and the lively discussions. We thank all attendees for their participation.

Take home messages from the training seminar:

- Prior to conducting your study you will need to obtain the appropriate review board approvals.
- Study design, including effect size estimates, and appropriate reporting of statistical analyses are key components of good scientific practice. We encourage researchers to seek advice during the planning and development of their study design.
- Carefully select the journal so that article falls within the scope of the journal. If you are unsure contact the editorial office for clarification.
- When preparing figures, keep in mind they will likely be shrunk; thus, use large letter fonts in all figure labels.
- Clearly present the hypothesis of your study in the abstract and introduction.
- To improve readability of your article, avoid ineffective phrases; use simple words; keep sections concise; use a narrative style with linking statements and summary statements; explain the relevance of the work to your hypothesis; justify the techniques and approach used.
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- If you disagree with a referee’s comment, refute the comment in your letter of reply to the reviewers in a neutral manner.

News from EJN

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CHET Gains Momentum

During the FENS FORUM in Milan in early July, new members of the FENS Committee on Higher Education and Training (CHET) were elected and appointed. Two IBRO representatives were selected later in the month. CHET is therefore ready to roll, chaired by Menno Witter. Its members comprise Róbert Gábriel (IBRO representative), Angela Cenci Nilsson (IBRO representative) Michael Häusser, Svjetlana Kalanj Bogner, Marja-Leena Linne and Gal Richter-Levin. These excellent and dedicated committee members are already engaged in a number of ongoing activities to ensure the continuity of the NENS and Training activities. CHET will have its first meeting on 3 November 2014.

Last year, FENS, in partnership with IBRO, launched a programme within the NENS schools initiative called National Slots. Five schools were selected to run courses in 2014: EEG in neurology and neuroscience (1-5 September 2014, Lausanne Switzerland) which received 47 applications; New targets in neurodegenerative diseases (1-5 September 2014, Maastricht The Netherlands) which received 45 applications; and Neural development and neurodevelopmental disorders (22-26 September 2014, Turin, Italy) which received 45 applicants. The high number of applicants demonstrates the attractiveness of the initiative, but also illustrates the need for efficient, lean, and transparent selection routines; CHET will evaluate the routines and adapt the procedures if deemed appropriate. In addition, three FENS-IBRO stipends were made available for international master or PhD students.

Three successful public events took place at the FENS Forum: Women in Neuroscience, Building your Career, and New perspectives in training for education in Neuroscience. These events were well attended and received. We also had a very stimulating meeting with many representatives of our NENS partners, where we discussed how the national training programmes can benefit from and contribute to the activities of FENS and CHET. An additional information resource for CHET is the now finalised survey on training and education activities. The 515 respondents provided us with a powerful resource to help CHET to select new training activities that will resonate in the community. So we are grateful to all of you who responded.

Of course, a main and challenging task for CHET, in collaboration with the two training sites in Bordeaux and Lisbon, presented in the previous newsletter, is to organise the CAJAL FENS-IBRO training program, to select topics and course organisers on highly attractive and groundbreaking topics and to develop and safeguard the competitive quality of the program.

We congratulate the following applicants on their awarded stipends, as following:

FENS-IBRO slots in national courses and programmes:

- EEG in neurology and neuroscience course (1-5 September 2014):
  - Jing-Yi Wang (PhD student, Germany)
  - Marta Teixeira (PhD student, Portugal)
  - Yuranni Calderin (PhD student, Germany)

- New targets in neurodegenerative diseases course (1-5 September 2014):
  - Lucy Nelson (PhD student, UK)
  - Sriram Balusu (PhD student, Belgium)
  - Katarzyna Laskowska-Kazub (PhD, Poland)

- Neural development and neurodevelopmental disorders course (22-26 September 2014):
  - Lars-Björn Riecken (PhD student, Germany)
  - Xiang Zhao (PhD student, Finland)
  - Lauren Harkin (PhD student, UK)

NENS exchange grants for training stays:

- February call 2014:
  - Juliette Le Douce, PhD School Brain, cognition, behaviour, Univ Paris VI, Pierre et Marie Curie, France
  - Judy van Hemmen, Graduate School Neurosciences Amsterdam Rotterdam (ONWAR), VU University, the Netherlands
  - Paul Zhutovsky, International Master Program Computational Neuroscience, Technische Universität Berlin, Germany

- June call 2014:
  - Johanna van Schaik, Donders Institute for Brain, Cognition, the Netherlands
  - Giuseppina Porciello, Psychology and Social Neuroscience, research curriculum CoSAN

The next deadline for submitting an application for NENS exchange grants is 15 October 2014.

Further information on the call is available here.

Menno Witter
Chair, CHET
Timeline in Neuroscience and Neurology

Timelines in Neuroscience and Neurology is supported by a 2012 FENS history grant to Lucio Tremolizzo and Michele Riva (University of Milano-Bicocca, Italy). It will create timelines related to five different neuroscientific or neurological topics which will be published on the FENS website. A timeline is a tool consisting of time-contextualised hypertext in which pictures, audio, video and other documents, such as original papers in pdf format, are freely available for download in cloud storage.

The five topics that were chosen for this exploratory project include three neurodegenerative disorders - Alzheimer’s disease, Parkinson’s disease and amyotrophic lateral sclerosis - along with microscopy techniques and the nervous system, and European neurological schools (first sketch).

Alzheimer’s disease, Parkinson’s disease and amyotrophic lateral sclerosis comprise a triple timeline, which will allow the degree of historic overlap between the events that led to current concepts to be appreciated.

The topic of European neurological schools was chosen because current practice of neurology has been shaped in each European country by pivotal figures who contributed to the constitution of national schools. Differences in the denomination and execution of semiotic manoeuvres, interpretation of movement disorders, choice of diagnostic methods, or even of therapeutic approaches are just some of the aspects that reflect this path of divergent evolution. Some information on people and facts related to basic neuroscience are also included in this timeline in order to better understand clinical content. The project is currently freely available on the website

Neuralcloud created by Marco Tironi (a former University of Milano-Bicocca medical student) for specifically hosting web-based (clouding) projects and ideas on neuroscience topics. Timelines in Neuroscience and Neurology will take time to complete, since the task of collecting pivotal documents is extremely difficult – for example, issues of copyright often specifically forbid the free download of the source documents. A special option is therefore provided on the website allowing the neuroscience internet community to participate in the project by suggesting content and sharing documents (with the appropriate acknowledgment of participants and sources). The intent is to create over the years an “annotated” storage room for historical documents freely available for study purposes.
**Announcement Section**

**The FFRM 2015 - Call for Symposia**

The FFRM 2015 Scientific Committee announced the opening of a call for symposium proposals. European and international neuroscientists are encouraged to submit their proposals.

Deadline for proposal submission: **30 September 2014**  
Notification of selected symposia: **December 2014**

For guidelines and submission proposal form, please check [FFRM 2015](http://www.fens.org) website.

**FENS Forum 2016**

FENS is actively engaged in the preparation of its 10th FENS Forum on neuroscience to be held in Copenhagen, Denmark on 2 - 6 July 2016.

A new Programme Committee under the chairmanship of Rui M. Costa (Portugal) will be appointed by December, 2014.  
Call for submission of symposium and technical workshop proposals will be open from **2 February – 2 March 2015**.

The Programme Committee will establish the scientific programme of the FENS Forum 2016 on the basis of proposals from scientists from all over the world and all areas of neuroscience research.

For further details about the Forum 2016 and application procedure, please visit [www.fens.org/2016](http://www.fens.org/2016).

**FENS EJN Award 2016**

This award is donated by the EJN publisher Wiley and is given in recognition of an outstanding scientific work in any area of neuroscience.

This is a personal prize of **£10,000**

Deadline for nominations: **22 November 2014**

Requirements:

- Candidates should be nominated by fellow neuroscientists (i.e. no self-applications) and they must either be working in a European institute or be of European origin if working abroad.
- There is no age limit.
- The prize winner is required to give a lecture at the FENS Forum 2016 in Copenhagen (2-6 July 2016).
- The prize winner is required to write a review article for publication in EJN.

Application:

- Short CV
- List of publications
- Short summary outlining the main scientific contributions of the candidate, supported by key publications

**Evaluation**

The applications will be evaluated by a committee comprising the FENS president, the chairs of the FENS Programme Committee and the Communication Committee and the co-Editors-in-Chief of EJN. The committee will meet in March 2015 and the recipient of the prize will be notified by 1 April 2015.

For nomination and further details, please visit FENS EJN Award 2016 page.

**FENS EJN Young Investigator Prize 2016**

The FENS EJN Young Investigator Prize is a biennial prize donated by Wiley, publishers of EJN, and is given in recognition of outstanding scientific work in any area of neuroscience.

This is a personal prize of **£7,000**

Deadline for application: **16 February 2015**

Requirements:

- Candidates must either be working in a European research institution or be of European origin if working outside of Europe. Individuals may apply themselves or be nominated by fellow neuroscientists.
- Age limit is 35 years (at the nomination deadline)
- Award will be presented at the FENS Forum 2016 in Copenhagen (2-6 July 2016).
- The prize winner is required to give a lecture at the FENS Forum 2016 in Copenhagen and write a review article for publication in EJN.

Application:

- Short CV
- A one-page statement of research interests and achievements to date
The Tenth International Prize of €25,000 will be awarded in 2015 by the IBRO-Dargut & Milena Kemali Foundation to a scientist under 45 years of age on 31 December 2014 who has made outstanding contributions to basic or clinical neuroscience.

Nominations in electronic format should be submitted by email to ibrokemaliprize@gmail.com and ibrocentral@gmail.com. Self-nominations are welcome. They should be received by 15 April 2015 and accompanied by:

1. A one-page statement of research interests and achievements to date
2. A list of up to ten publications by the applicant, including pdf versions of the two most prominent articles by the applicant
3. A short half-page summary of current research
4. Names and e-mail addresses of two key scientists in the field willing to provide a letter of recommendation on request

Evaluation
The applications will be evaluated by a Committee formed by members of the FENS Executive Committee; FENS President, FENS Programme Committee chair, FENS Communication Committee chair, and the co-Editors in Chief of EJN. Committee will meet in March, 2015 and the recipient of the Prize will be notified by April 1, 2015.

For application and further details, please visit FENS EJN Young Investigator Prize 2016 page.

Call for Nominations

THE FENS-KAVLI NETWORK OF EXCELLENCE is a prestigious network of 30 outstanding young European neuroscientists that represent the most talented scholars among their peer group.

The first group of FENS-Kavli Scholars will be selected in November 2014. Self-nominations are encouraged (see call for nominations for requirements). FENS member societies may also nominate excellent scientists as potential members of the network. Please see the call for nominations below for further information about the requirements.

The call for nominations is open from September 1 with a deadline for nominations on 15 October 2014. Interviews with selected candidates will take place in November 2014.

Read the Call for nominations and submit your (self)-nomination online here.

The CAJAL Advanced Neuroscience Training Programme

The CAJAL Advanced Neuroscience Training Programme was initiated in partnership between FENS and IBRO, and in collaboration with Bordeaux Neuroscampus and the Champalimaud Foundation to offer international high-level courses in Europe. These courses will take place in dedicated state-of-the-art neuroscience training facilities in Bordeaux and Lisbon.

Upcoming CAJAL Training Courses (2015)
2. Advanced Course in Computational Neuroscience (Champalimaud 2015)
1) the curriculum vitae of the candidate with a complete list of publications (no abstracts, please);
2) one copy of three recent papers published by the candidate;
3) a reference letter from an internationally recognised expert describing the candidate’s scientific achievements and standing;
4) a summary (maximum two pages) outlining the main scientific contributions of the candidate;

Nominations will be evaluated by the Prize Committee of the IBRO-Dargut & Milena Kemali Foundation. The recipient of the Prize will be notified by 31 July 2015.

The Prize will be awarded at the Forum of the Federation of European Neuroscience Societies (FENS FORUM 2016) to be held in Denmark, Copenhagen (2-6 July 2016) where the Prize recipient will give the IBRO/Kemali Lecture, sponsored by the IBRO-Dargut & Milena Kemali Foundation.

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**THE BRAIN PRIZE**

**The Brain Prize Meeting 2014**

**Brain and Cognition – function and dysfunction**

Once annually Grete Lundbeck European Brain Research Foundation awards The Brain Prize - a €1 million personal prize. It is awarded as an important part of the aim of the Foundation: – ‘to boost interest in brain research and its results, to stimulate and reward outstanding brain research and to stimulate Danish research through an expanded interplay with other European brain research, and thus to improve the scientific basis for progress in the prevention, diagnostics and treatment of diseases and disorders of the brain and nervous system’.

**Registration closes on 4 November 2014.**

The meeting will take place in Hindsgavl Castle, Denmark.

Participants are invited and encouraged to submit one or more abstracts. Abstracts dealing with topics outside of the main theme of the meeting are also welcome. All submitted abstracts will be presented as either oral presentation or poster presentation.

Submit abstracts in pdf format max 350 words to info@thebrainprize.org att. Janne Axelsen.

**REGISTRATION**

Online registration is on a first come-first served basis - priority will be given to participants submitting an abstract.

**Deadline for abstracts: 1 October 2014.**

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**Read new articles by past and current FENS presidents**

A series of articles by Monica Di Luca, Marian Joëls and Sten Grillner in a June issue of Neuron addresses some big questions.

The following articles appeared in Neuron 82, 18 June 2014.

**The Cost of Brain Diseases: A Burden or a Challenge?**

Brain diseases represent a considerable social and economic burden in Europe. With yearly costs of about 800 billion euros and an estimated 179 million people afflicted in 2010, brain diseases are an unquestionable emergency and a grand challenge for neuroscientists.- Monica Di Luca

**Megascience Efforts and the Brain**

Several recent megascale neuroscience efforts in the U.S. and Europe are concerned with developing infrastructure for tools, modelling, or neuroinformatics. It may seem surprising that they are not instead focused directly on gaining fundamental new insights into brain function. - Sten Grillner

**A Tale of Two Sexes**

This year marks the first time that the largest Neuroscience societies in the U.S. and Europe are led by females. Here we discuss the challenges that women face in moving through the ranks of academia and propose ways to increase women's representation in the field. - Marian Joëls
Calendar

- 5 - 8 October 2014, Copenhagen, Denmark: Fall Brain Conference: The Social Brain
- 19 - 22 April 2015, Rungstedgaard, Denmark: Fall Brain Conference: Bridging Neural Mechanisms and Cognition
- 7 - 13 June 2015, Bertinoro, Italy: FENS-SfN Summer School 2015: Shared mechanisms and specificity in neurodegenerative diseases

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