



### A Brief Report on IAN 2016 – “Molecules to Mind”

The 34th Annual Meeting of Indian Academy of Neurosciences brought together leaders in the field of neuroscience for a comprehensive overview of this rapidly expanding area of research and development in India. The conference was held at National Brain Research Centre (NBRC), Manesar, Gurgaon from October 19 to 21, 2016.

The NBRC is a premier neuroscience research institute in India located in the foothills of Aravali range in Manesar. Its dedication for research and education in neuroscience and excellent instrument and infrastructure facilities attract researchers and students from diverse disciplines to join the exciting and challenging field of neuroscience. The institute was dedicated to the nation by past president Prof APJ Kalam in December 2003.



Group Photograph of IAN 2016 delegates

**A pre-conference workshop on 'Science communication and career'** was scheduled on 18th of October. This enabled the attendees (80 students delegates) to understand the do's and don'ts in scientific documentation and get the flavour of scientific writing.

This conference was based on the theme **“Molecules to Mind”** where the neuroscientists deliberated upon recent advances in understanding of healthy and diseased brain and shared their findings in form of scientific talks, posters and panel discussion. The highlight of the meeting were 5 plenary talks, 11, Invited talks, 11 symposia, platform presentations, short talks, Special evening lectures and two poster sessions on Oct 19 and 20<sup>th</sup>, where more than 150 posters were presented. A broad range of poster presentations were made by budding researchers in the field of neuroscience during the meeting under six categories such as a) Neuroinflammation and neurotoxicity b) Human cognition and Behaviour c) Computational Neuroscience d) Circuits and Behaviour e) Animal cognition and behavior and Neurodiseases and its therapy. The conference witnessed a huge participation of young neuroscientists, graduate students and a congregation of scientists and researchers working in the field of neuroscience from leading institutions and universities from within the country and abroad. During the IAN 2016 meeting, researchers working in diverse areas of neuroscience came together under one umbrella to present and discuss their innovative ideas and achievements in brain research. The meeting is a result of sincere efforts of Dr. Subrata Sinha President, Indian Academy of Sciences and Director, NBRC.

The meeting was inaugurated on October 19<sup>th</sup> and this year's inaugural plenary talk was delivered by Prof. Gaiti Hassan of National Centre of Biological Sciences (NCBS), Bangalore. The talk was followed by the symposium on *Genetic and Environmental Perturbations and Programming Risk for Psychiatric and Developmental Disorders* that was convened by Dr. Vidita Vaidya from Tata Institute of Fundamental Research (TIFR) Mumbai. We had several other symposia on first day such as on the topics *Adaptive Brain – Measurement to Stimulation methods in Cognitive Neuroscience* convened by Dr. Manish Asthana of IIT-Kanpur, *Yoga and Neuroscience* convened by Dr. Akshay Anand, PGI-Chandigarh, *Sleep and Cognition: Brain at Stake*, convened by Dr. KK Gulia, Sree Chitra Triunal Institute for Medical Sciences and Technology, Thrivananthapuram, *Chemical Induced Neurotoxicity and Neurodegenerative Diseases – Emerging Concepts and Technologies in Understanding the Complexities* convened by Dr. Vinay K Khanna of Indian Institute of Toxicology Research, Lucknow.



**Interactive Poster Presentations (total 150 posters were presented on two days) were well attended by delegates**

The **second day** of the meeting started with the ISN Wiley Blackwell JNC International Lectureship Award that was delivered by Dr. Kenton Swartz of National Institutes of Neurological Disorders and Stroke (NINDS), National Institutes of Health (NIH), Bethesda, USA. His talk was on *Structure and Temperature sensing mechanisms in capsaicin receptor TRPV1 channel*. There were two other Plenary Lectures which followed the lecture of Dr. Swartz that were delivered by Prof Aditya Murthy of Indian Institute of Science (IISc) on *Computational Mechanisms underlying the control of simple and complex movements* and Prof. A Jubin of Vita Salute San Raffaele, Milan Italy on the topic *Multiliguism and Neuroprotection*. These were followed by the two technical talks that described the latest tools available for research in the area of inducible pluripotent cells and in the area of assay and detection of protein expression in cells.



Considering the urgent need of augmentation in research funding in the area of Brain Research by the government funding agencies and to motivate and sensitize non-government agencies as well as general public for importance of brain research in India, an important Expert Group Meeting was held during the meeting for *Advocacy in Neuroscience*. During the meeting it was decided that as a first step to reach out general public with an idea of brain awareness, IAN can announce an animation and video contest for science communication of major neuroscience ideas for community outreach and advocacy. The thematic ideas IAN is seeking to communicate are (1) Saving the Brain; (2) Nature, Nurture and Brain Development; (3) Aging Brain.



Another important event for the day was a National Academy of Sciences India (NASI) Sponsored even for Children interaction with Peers in neuroscience. For this event, several local schools in and around Manesar area were invited. The event was attended by a total of 120 students and their teachers, from 5 different schools. The students were of 10+2 levels that were highly inquisitive about understanding functioning of a normal human brain functions and what are the complications that arise in various neurological disorders. The session started with a talk on basic functions of human brain and brain diseases by Prof Nihar Ranjan Jana from National Brain Research Centre, Manesar who is also a fellow of NASI. School students enthusiastically interacted with the speaker and later the students were encouraged to interact with the national and international experts that were invited for the session.



Students Interacting with Neuroscientists and seeking clarification their questions on Healthy and Diseased Brain

The experts included –

Prof B Roeder, University of Hamburg, Germany.

Dr. SB Singh, DIPAS, New Delhi, India.

Prof PK Seth, Biotech Park, Lucknow, India.

Prof UC Srivastava, General Secretary, NASI and Prof University of Allahabad, India

Dr. K Swartz, NINDS/NIH, Bethesda, USA

Prof S. Sinha, NBRC, India

Prof C Kaur, National University of Singapore, Singapore

Prof R. DeSilva, Nugegoda, Sri Lanka

The session was highly appreciated by the teachers and school students and there was a request that such programs should be organized more frequently. Students had several queries on learning and memory, cognition, brain disorders like Alzheimer's disease, stroke, brain trauma and reading disability etc that were answered and explained by the experts to their satisfaction.

Later during the day few other symposia were held that covered several important topics such as *Neuroinflammation and Plasticity in Neurodegenerative Disorders*, convened by Prof Suman Jain from All India Institute of Medical Sciences (AIIMS), New Delhi, *Neurocognitive networks in Health, Diseases and Recovery*, convened by Dr. Arpan Banerjee of NBRC, Manesar and *New Insights in Vertebrate Brain Organization: Role of Specialized Centers and Neural Systems*, convened by Dr. Anita Gopesh from University of Allahabad. This was followed by the platform presentations by 5 young neuroscientists from various institutions in India. In addition to these, there were two Oral sessions on the theme *Glia in Health and Disease*. The Second day of the meeting ended by a special evening lecture by Prof Brigette Roeder, Gottfried W Leibniz Awardee from University of Hamburg, Germany. She delivered her talk entitled - *Experience Dependent Development of (multi)sensory Functions*.



Prof Brigette Roeder,  
Univ Hamburg Germany

The **Third and final day** of the meeting, started with IAN's KT Shetty Memorial Oration that was delivered by Dr. Vidita Vaidya, TIFR and she delivered her oration entitled – *Adult Neurogenesis – Modulation by norepinephrine and Thyroid Hormone*, that was followed by two plenary talks delivered by Prof Chitra Sarkar from AIIMS New Delhi on *Exploiting Molecular Biology for Diagnosis and Management of Gliomas* and by Prof Ted Abel, University of Pennsylvania, USA who talked on *Molecular Mechanisms of Long-Term Memory Storage*.

The highlight of the final day of the meeting was Young Scientists Colloquium that had two award sessions namely *DM Kar Prize for Best Oral Presentation* and *Tulsabai Somani Educational Trust Award for best oral presentation*; there were 6 and 5 speakers in respective categories.

Overall the IAN 2016 meeting was an exciting activity for brain researchers to disseminate their research findings and to get valuable insights on their work through discussions and one to one interactions during poster sessions and lectures. This year's conference was important because it will covered various topics relevant to the pursuit of emerging trends and technologies in neurosciences including fundamentals of neuroscience and its *state-of-the-art* application in basic and clinical research. This could become possible by the concerted efforts of Dr. Pankaj Seth Organising Secretary and Dr. Anirban Basu, Co-organising Secretary of the conference, as well as efforts of the entire faculty, students and staff of NBRC.

This was the largest gathering of neuroscientists in India and was attended by more than 400 participants from USA, Japan, Singapore, Sri Lanka, Italy and India. Additional information available on the conference website – <http://www.nbrc.ac.in/ian2016/index.php>