

IBRO APRC ASSOCIATE SCHOOL ON

**Modern interventional tools to improve Cognitive
behaviour in children with neurodevelopmental disorders**

ORGANIZED BY

Department of Biomedical Engineering, NEHU, Shillong,
Meghalaya in collaboration with Department of Education,
NEHU, Shillong, Meghalaya

REGISTRATION LINK:

https://docs.google.com/forms/d/1rcFucS693P66xLtKAO0tttpK9RklfsxLERds_T-q3s/edit

PROGRAM LINK:

<https://meet.google.com/vgh-sjyf-pbm>



Virtual mode-25th -30th October, 2021



About the School

The aim of the present IBRO-APRC Associate School 2021 would provide participants with extensive knowledge to understand the modern interventional tools related to cognitive impairment in children with neuro-developmental disorders and improvement in their functional outcome and quality of life. This School would provide exposure and include hands on training to the participants with the theme “Modern interventional tools to improve Cognitive behaviour in children with neurodevelopmental disorders” that would allow to understand how diseased brain condition could be improved and made to function similar to the normal human brain. This is one of the major facets of the neuroscience research which encompasses most of these disorders and it is one of the biggest challenges for survivors. Cognition could be defined as a mental process for acquiring knowledge and understanding the thoughts, experiences and sensory process. The cognition process encompasses domains such as attention, knowledge, working memory, judgment and logical reasoning. These disorders could be accompanied by other disorders such as epilepsy, speech deficits, hearing, vision and intellectual disability. Performing tasks for cognitive changes in neurodevelopmental disorders is one of the most difficult tasks that depend on neuro-modulation as they show difficulty in motor neuron functions such as rolling, crawling, sitting, standing and walking with many other associated problems such as poor understanding, intellectual disability, hearing impairment and visual impairment. In the area of cognitive enhancement both physical milestones and the methods through which they can be achieved are not well defined and enumerated. Presently, neuro-modulation technique is an emerging medical and research field that targets the nervous system to do restoration of functional performance, relief of pain and control of involuntary movements thereby improving neuroplasticity. The key features of this school would be emphasis on open scientific discussion with experts, a hands-on laboratory training experience and presentation of the participants through symposia and group meetings during the proposed School. It would lead to generation of new technical know-how and sharing of research ideas among the participants and experts for the advancement of the field globally. The School would integrate lectures of ethics in neuroscience research and concerns while handling children with neurodevelopmental disorders. By organizing and creating new technical know-how through these schools would provide new research dimension leading to improvement in their lifestyle and reduction of stigmatization of such population with their integration with the society.



PROGRAM SCHEDULE

| TIME DAY | 9:30-11:00 AM | 11:00 AM to 11:30 AM | 11:30 AM to 1 PM | 1 PM to 2 PM | 2 PM to 3 PM | 3PM to 3:30 PM | 3:30 PM to 5 PM |
|---------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|-----------------------------------------------------------------------------------------------------------------------------------------|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
| DAY 1 25.10.2021 | REGISTRATION OF PARTICIPANTS | TEA/ COFFEE BREAK | WELCOME ADDRESS | LUNCH | INAUGRAL PROGRAMME IBRO Associate School 2021 Inauguration Programme *Short Introductory Session by IBRO APRC Chair | TEA/ COFFEE BREAK | Dr. Sujit Kumar Kar, KGMU, Lucknow, India Modern interventional tools to improve Cognition in children with neurodevelopmental disorders |
| DAY 2 26.10.2021 | Prof. Prakash Babu, Univ. of Hyderabad, India Cognitive impairment during Cerebral malaria: Implication of dendritic spines | TEA/ COFFEE BREAK | Dr. Somasekhar Naraganti, Rainbow Children Hospital, India Emerging interventional strategies of neurodevelopmental disorders | LUNCH | Dr. Kshipra Gurunandan, BCBL, Spain Hemispheric specialisation of language function: provenance, flexibility and implications | TEA/ COFFEE BREAK | Dr. Tapan Gandhi, IIT, Delhi Understanding and Interventions in Autism Spectrum Disorders |
| DAY 3 27.10.2021 | Prof. Suman Jain, AIIMS, Delhi, India Non-invasive brain stimulation techniques to improve cognitive behavior in hemiparetic Cerebral Palsy children | TEA/ COFFEE BREAK | Prof. K Udupa, NIMHANS, India Non-invasive brain stimulation in Neuropsychiatry with special emphasis on neuromodulation in cognitive behaviors with neurodevelopmental disorders Dr. Dr. Devendra Biswal, NEHU, India- Neural crest evolution in vertebrates: an evolutionary genomics perspective | LUNCH | Dr. Sivakumar Balasubramanian, CMC, Vellore, India Robots, Sensors, and Machine Learning for Movement Neurorehabilitation | TEA/ COFFEE BREAK | Hands on Worskhop I: Dr. Meena, Gupta, Amity University, India Neuromodulation for cognitive functions in children having cognitive impairment |
| DAY 4 28.10.2021 | Dr. Biswaroop Chakrabarty, AIIMS, Delhi, India Creating early career clinical research opportunities in Neurodevelopmental Disorders and comorbidities. | TEA/ COFFEE BREAK | Hands on Worskhop II: Prof. Prof. Sheffali Gulati, AIIMS, Delhi, India Role of technology in Neurodevelopmental disorders | LUNCH | Dr. Pavan Kumar, Ethiopia Educational Adaptations of children with Intellectual limitations | TEA/ COFFEE BREAK | Dr. Prasenjit Biswas, NEHU, India Improving Emotional Mirror Resonance in ASD: Ways to handle impaired abilities. |
| DAY 5 29.10.2021 | Dr. Vesky, Baths, BITS, Goa, India Brain Computer Interface and EEG based smart wheelchair for disabled | TEA/ COFFEE BREAK | Symposia and Presentation : Presentation by Participants on chosen topic and evaluation by Experts with panel discussions | LUNCH | Prof. Ramesh Kumar Mishra, Univ. of Hyderabad, India Attention and the mind : Implications for cognitive disorders | TEA/ COFFEE BREAK | IBRO Associate School 2021 Valedictory Programme *Feedback/comments by IBRO APRC Chair and APRC observer member |
| Day 6 30.10.2021 | Society for Neurochemistry India (SNCI) MEETING Interaction with participants | | | | | TEA/ COFFEE BREAK | SNCI Virtual Meeting |

EVENT ORGANIZERS



Prof. P.S. SHUKLA

**HON'BLE VICE-
CHANCELLOR,**
North-Eastern Hill
University,
Shillong

CHIEF GUEST



**Prof. BIBHUTI B.
BISWAL**

DIRECTOR
NIT,
MEGHALAYA

GUEST OF HONOUR



Prof DONPUKAR SYIEM

Director
Design &
Innovation Centre,
NEHU, Shillong

Special Invited Guest



**Dr. SANJAY K.
MISHRA**

Senior Advisor,
DBT, GoI

Special Invited Guest



Prof. L. J. SINGH

**North-Eastern Hill
University,
Shillong**

DEAN, SoT



Dr. DINESH BHATIA

**North-Eastern
Hill University,
Shillong**

Coordinator



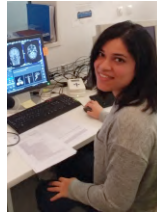
Dr. N.A. Reddy,
Joint Coordinator,
NEHU, Shillong

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International



Dr. Cheah Pike See, IBRO Asia Pacific Regional Committee (APRC) Chair, UPM, Malaysia



Dr. Kshipra Gurunandan, BCBL, Spain

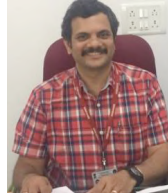


Dr. Pavan Kumar, Ethiopia

National



Prof. Suman Jain, AIIMS, Delhi



Prof. Kaviraja Udupa, NIMHANS Bangalore



Dr. Tapan Gandhi, IIT Delhi



Dr. Prasenjit Biswas, NEHU



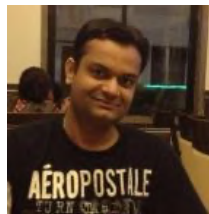
Prof. Sheffali Gulati, AIIMS, Delhi



Dr. Meena Gupta, Amity University, Noida



Prof. Ramesh Kumar Mishra, University of Hyderabad



Dr. Veeky Baths, BITS, Goa



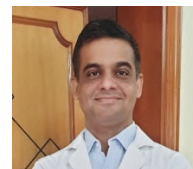
Dr. Devendra K. Biswal, NEHU



Dr. Sekhar Naraganti, Hyderabad



Prof. Prakash Babu, University of Hyderabad



Dr. Biswaroop Chakrabarty, AIIMS, Delhi



**DR. Sujita Kumar
Kar- Keynote Speaker**

INAUGURAL CEREMONY

VENUE: SEMINAR ROOM, BME DEPARTMENT, NEHU, SHILLONG

| TIME (IST) | EVENT |
|--------------|------------------------------------------------------------------------------------------------------------------------------------------|
| 1:30-2:00 PM | Registration and welcome to all Participants |
| 2:00-2:10 PM | Welcome Speech by Dr. Dinesh Bhatia , Coordinator, IBRO APRC Associate School |
| 2:10-2:30 PM | Introductory Address about IBRO APRC School by Dr. Cheah Pike See , Chair, IBRO APRC and Special Guest, University Putra Malaysia |
| 2:30-2:40 PM | Address by Prof. L.J. Singh Dean (SoT), NEHU, Shillong |
| 2:40-2:50 PM | Address by Prof. Don Syiem , Director, DIC, NEHU, Shillong and Special Guest |
| 2:50-3:00 PM | Address by Dr. Sanjay Kumar Mishra Sr. Adviser, DBT, GoI and Special Invited Guest |
| 3:00-3:10 PM | Address by Prof. Bibhuti Bhusan Biswal , Director, NITM, Shillong and Guest of Honor |
| 3:10-3:15 PM | Address by Prof. P.S. Shukla , Hon'ble Vice Chancellor and Chief Guest, NEHU, Shillong |
| 3:15-3:20 PM | Felicitation of Invitees and Dignitaries |
| 3:20-3:30 PM | Vote of Thanks by Dr. N.A. Reddy , Joint Coordinator, IBRO APRC School |