



XXX Annual Conference of Indian Academy of Neurosciences and

International Symposium on Translational Neuroscience: Unravelling Mysteries of Brain in Health and Disease

Scientific Program

Day 1 Saturday, October 27, 2012

Venue: Guru Nanak Bhawan Auditorium, Guru Nanak Dev University, Amritsar

10:00 am - 05:00 pm

Registration

09:00 am - 12:00 noon (Hall 3)

Workshop on 'Scientific Communication and Grant Writing'

Conveners – V Vaidya (TIFR, Mumbai) and P Seth (NBRC, Manesar)

Hall 1	
10:00 am - 11:30 am	10:00 am - 11:30 am
Chairpersons: KD Gill (PGIMER, Chandigarh)	Chairmarana IIC Su

Oral Session –I

 R Shukla (CDRI, Lucknow): Involvement of NMDA receptor in Okadaic acid induced Neurotoxicity and Tau phosphorylation in rat brain

S Das (IICB, Kolkata)

- 2. S Das (IICB, Kolkata): Is addiction epigenetically regulated? Lessons from studies with a novel anti-addictive drug
- 3. M Patri (JNU, New Delhi): Noradrenalin prevents B[a]P-induced Ca²⁺-influx mediated neuronal DNA damage
- 4. A Anand (PGIMER, Chandigarh): DICER1 as a marker for age related macular degeneration in Indian patients
- 5. S Sharma (CRCHUM, Canada): Withdrawal of palatable high-fat diet leads to negative emotional consequences and adaptations in brain reward circuitry

Chairpersons: UC Srivastava (Allahabad Univ., Allahabad)

Hall 2

S Wadhwa (AIIMS, New Delhi)

Oral Session - II

- 1. PA Alladi (NIMHANS, Bengaluru): Growth factor supplementation and reversal of neurodegenerative changes: insight through an *in-vitro* model of Amyotrophic Lateral Sclerosis
- 2. Anurag Tomar (NIMS Univ, Jaipur): Status of serum micronutrients and its association with reduced intelligence score in children's with fluorosis
- 3. KH Reeta (AIIMS, New Delhi): Protective effect of tianeptine, a selective serotonin reuptake enhancer (SSRE), against experimentally induced seizure in rats
- 4. SC Biswas (IICB, Kolkata): FoxO3a is activated and mediates neuron death via Bim and PUMA in response to β -amyloid.
- 5. SS Lakhman (DYC, USA): Genomics: A need to know

11:30 am - 12:00 noon -- Tea

Created with







12:00 noon - 01:15 pm (Hall 2)

Workshop on 'Neuroscience communication in Emerging Economies; The Challenge of Change'

Convener - A Anand (PGIMER, Chandigarh)

01:15 pm - 02:00 pm Lunch

02:00 pm - 03:00 pm(Hall 1)

Plenary Lecture – I

S Sinha (NBRC, Manesar)

A novel regulatory pathway for inflammation in gliomas

Plenary Lecture – II

GN Pandey (UIC, USA)

Inflammatory markers in depression and suicide

Chairpersons: BN Dhawan (CDRI, Lucknow)

NK Mehra (AIIMS, New Delhi)

Speakers:

03:00pm -03:15pm	Tea	
Hall 1		Hall 2
03:15pm – 04:45 pm		03:15pm – 04:45 pm
Oral Session III:		Symposium I: Adult Brain Plasticity

Chairpersons: R Shukla (KGMU, Lucknow)

AB Pant (IITR, Lucknow)

Speakers:

- 1. SC (UIC, **Epigenetic** Pandey USA): landscape of anxiety and alcoholism
- Palit (CDRI, Lucknow): Neuropharmacological Studies Of Bacopa monniera
- 3. S Ganguly (IMM, New Delhi): Photo-neural Network in brain and Neuroendocrine function of the Pineal gland: Is there a Immune Link?
- 4. R Mathur (AIIMS, New Delhi): Effect of bone marrow stromal cell

1. RD Mehra (AIIMS, New Delhi): Milestones on steroids and the nervous system : A

decade of basic and translational research

RD Mehra (AIIMS, New Delhi)

Chairpersons: NZ Baquer (JNU, New Delhi)

- 2. G Paolo (INSERM, France): Semaphorins' signalling in development and function of GnRH neurons: setting the stage for reproduction
- 3. S Prasad (BHU, Varansai): Molecular basis of memory enhancing effects of Bacopa monnieri extract on diabetes mellitus induced incular vilhpairment in mice





- transplantation and exposure to magnetic field on spinal and supraspinal effects of spinal cord injury
- 5. A Jagota (UH, Hyderabad): Differential neuropharmacological effects of melatonin on age induced alterations in chronomics of serotonin metabolism and clock gene expression in SCN
- 4. TN Sathyaprabha (NIMHANS, Bengaluru): The unsung substrate in epilepsy – Autonomic nervous system
- 5. S Datta (BUSM, USA): Gift of Sleep: How Today's Experiences Become Tomorrow's Memories

Convener: RD Mehra (AIIMS, New Delhi)

05:30 pm – 07:00 pm Inaugural Programme

07:00 pm – 08:00 pm Cultural Evening

08:00 pm Dinner





Day 2 Sunday, October 28, 2012

Venue: Guru Nanak Bhawan Auditorium, Guru Nanak Dev University, Amritsar (Hall 1)

09:00 am - 9:40 am



ISN-Wiley-Blackwell-JNC-International Lectureship



PJ Robinson

Cell Signalling Unit, Children's Medical Research Institute, NSW, Australia

Dynamin Modulators in Synaptic Vesicle Endocytosis: A Pathway to New Anti-Epileptic Drugs

Chairperson: KP Mohanakumar (IICB, Kolkata)

09:45 am – 10:30 am Dr. BK Bachhawat Memorial Life Time Achievement Award Lecture

V Ravindranath (CNS – IISc, Bengaluru)

The degenerating brain: Mechanisms to therapy

Chairperson: S Sinha (NBRC, Manesar)

10:35 am – 11:10 am Group Photograph and Tea

11:15 am – 11:45 am Plenary Lecture – III

S Dunlop

Principal Research Fellow, NHMRC, Experimental & Regenerative Neurosciences
The University of Western Australia, Australia

Translating Science: Clinical trials for spinal cord injury

Chairperson: PK Seth (Biotech Park, Lucknow)





Day 2, Sunday, October 28, 2012

Venue: Guru Nanak Bhawan Auditorium, Guru Nanak Dev University, Amritsar

Hall 1	Hall 2	
11:45 am – 01:15 pm	11:45 am – 01:15 pm	
Symposium II: Breaking of the Barrier and its Implication on Brain Cells Chairpersons: P Seth (NBRC, Manesar) S Roy (UMN, USA)	Symposium III: Neurogenesis and Gliogenesis Chairpersons: S Tole (TIFR, Mumbai) J James (RGCB, Trivandrum)	
 Speakers: Y Persidsky (TUHS, USA): Blood brain barrier dysfunction in neuroinflammation: Mechanisms and protective strategies S Buch (UNMC, USA): HIV and Cocaine Go Hand in Hand. J Haorah (UNMC, USA): What makes alcohol the Good, the Bad, and the Ugly in Neuro-AIDS? P Seth (NBRC, Manesar): Neuronal damage by HIV-1 Tat – Who is to be blamed? 	signalling in migration, proliferation, differentiation of oligodendrocyte progenitors during development of the brain 2. S Tole (TIFR, Mumbai): Regulation of the neuron-glia cell fate switch in the developing hippocampus 3. N Chatterjee (VRF,Chennai):	
Conveners: S Buch (UNMC, USA) P Seth (NBRC, Manesar)	Conveners: S Tole (TIFR, Mumbai) J James (RGCB, Trivandrum)	
01:15 pm - 02:00 pm Lunch		
02:00 pm - 03:15 pm Workshop on 'Mentorship in Ethics' Convener: S Tole (TIFR, Mumbai)	Symposium IV: Neurobics Chairpersons: H Singh (AMC, Amritsar) BL Goyal (VSIMH, Amritsar) Speakers: 1. C Nath (CDRI, Lucknow): Neurobics: A new hope for patients of Alzheimer's disease 2. H Singh (AMC, Amritsar): Neurobics- The Brain Chargers 3. R Deshumukh (ISFCOF, Moga): 'Brain' use it or lose it: Neorobics/physical exercise improves synaptic connectivity and cognitive functions in aging brain	
	Created with	





03:15 pm - 03:45 pm

Plenary Lecture IV (Hall 1)

H Okamoto (RIKEN - BSI, Japan)

The roles of the habenula in aversive learning and gain of self-confidence in aggressive behaviour Chairperson: MK Thakur (BHU, Varanasi)

03:45 pm - 04:00 pm

Tea

04:00 pm - 05:30 pm

Symposium V: Alternatives to Animal Models in Neuroscience Research

Chairpersons: KC Singhal (NIMS Univ., Jaipur), LS Shashidhara (IISER, Pune)

Opening Remarks: LS Shashidhara (IISER, Pune): *Drosophila* as a model system to study development and function of the nervous system

Speakers:

- 1. AB Pant (IITR, Lucknow): Expression and inducibility of cytochrome P450s and their regulators in differentiating neurons derived from human hematopoietic stem cells
- 2. A Ghose (ISSER Pune): Actin nucleation and mechanical forces in axon guidance
- 3. A Nazir (CDRI, Lucknow): Extrinsic epigenetic interventions and Parkinson's disease: Studies employing model system *Caenorhabditis elegans*
- 4. RV Omkumar (RGCB, Thiruvananthapuram): Investigations on NMDA receptor functions using subcellular and heterologous cell culture models

04:00 pm - 05:30 pm

Symposium VI: Role of Sleep in Cognitive Development

Chairpersons: S Datta (BUSM, USA), BN Mallick (JNU, India)

Speakers:

- 1. BR Tubaki (KLEU, Belgaum): Anxiety Disorders and Sleep: Treatment Approaches in Avurveda
- 2. U Panjwani (DIPAS, New Delhi): Sleep deprivation induced cognitive decline and countermeasures
- 3. LT Rao (NIMHANS, Bangaluru): Early maternal separation and isolation stress: implications for sleep and memory functions
- 4. KK Gulia (SCTIMST, Kerala): Relationship between maternal sleep restriction and anxiety in offspring
- 5. MS Rao (Kuwait Univ, Kuwait): Role of sleep in adult neurogenesis and cognition

Convener: KK Gulia (SCTIMST, Kerala)

Convener: VK Khanna (IITR, Lucknow)

05:30 pm - 7:30 pm Tea and Poster Session - I

Venue: Sangat Hall

7:30 pm - 08:15 pm IAN General Body Meeting

08.30 pm Dinner







Day 3, Monday, October 29, 2012

Venue: Guru Nanak Bhawan Auditorium, Guru Nanak Dev University, Amritsar

08:30 am - 09:00 am Plenary Lecture V

BN Mallick (JNU, New Delhi)

Activation of inactivation process initiates rapid eve movement sleep

Chairperson: R Singh (JNU, New Delhi)

Hall 1 Hall 2

9:00 am - 11:00 am

Neuroscience Education and Training Interactive Session with School/College Students

Convener: Prof SK Shankar (NIMHANS, Bengaluru)

9:00 am - 9:20 am

SK Shankar (NIMHANS, Bengaluru): Introduction to Human brain anatomy and diseases; Pictorial illustration

9:20 am - 10:00 am

Panelists:

- 1. PJ Robinson (CMRI, Australia): Synapses are traffic lights in the brain, controlling flow between electrical and chemical communication
- 2. S Dunlop (NHMRC, Australia): Neurons that fire together wire together
- 3. BSS Rao (NIMHANS, Bengaluru): Brain Plasticity and Repair Mechanisms
- 4. A Anand (PGIMER, Chandigarh)
- 5. MC Arunan (Sophia College, Mumbai)

Each speaker will present different aspects of brain functions for 8 minutes

10:00 am - 11:00 am: Interaction with students

9:00 am - 11:00 am

Symposium VII: Neurodegeneration, Neurotoxicity and Neuroprotection: Advances in Therapeutics

Chairpersons: YK Gupta (AIIMS, New Delhi) C Nath (CDRI, Lucknow)

Opening Remarks: PK Seth, Biotech Park, Lucknow

Speakers:

- 1. V K Khanna (IITR, Lucknow): Neurotoxicity of Lambda-Cyhalothrin in Developing Rats: Involvement of Dopaminergic and Cholinergic Systems
- 2. SK Trigun (BHU, Varanasi): Characterization of NMDAR-NOS pathway as a target for methylcobalamine mediated neuro-protection in hyperammonemic neuroexcitotoxicity model
- 3. S Chakrabarti (IPGMER, Kolkata):
 Oxidative stress and altered brain amyloid
 peptide metabolism: experimental studies in
 aged rat brain and SHSY5Y cells in culture
- 4. SZ Imam (NCTR, USA): Drug repositioning as smart therapeutics: Example PD
- 5. P Balasundaram (NIMHANS, Bangaluru): Keap1-Nrf2 System: A new therapeutic drug target in neurodegenerative disease

Closing Remarks: YK Gupta (AIIMS, New Delhi)

Conveners: SZ Imam (NCTR, USA)
PK Seth (Biotech Park, Lucknow)

Created with







11:00 am - 11:15 am

Tea

11:15 am - 11:45 am

KT Shetty Memorial Oration

IK Patro (Jiwaji Univ, Gwalior)

Glia in injury, infection and aging: Our understandings and future prospects

Chairperson: RC Srimal (IITR, Lucknow)

11:45 am - 01:15 pm

Symposium VIII: Glial Cells in Health and

Disease

Chairpersons: SC Pandey (UIC, USA)

IK Patro (Jiwaji Univ, Gwalior)

Speakers:

- 1. TR Raiu (NIMHANS. Bengaluru): Amyotrophic Lateral Sclerosis (ALS) pathogenesis - Do Microglia and Astroglia play complimentary or contradictory roles?
- 2. P Joshi (NIMHANS, Bengaluru): Neuronastrocyte collaboration in brain function and pathophysiology of epilepsy
- 3. AB Patel (CCMB, Hyderabad): NMR studies of astroglial and neuronal energetics in cerebral disorders and health
- 4. N Patro (JU, Gwalior): Glial and cognitive implications of developmental neurotoxicity
- Lucknow): 5. S Singh (CDRI. Neurodegeneration and neuroprotection: Role of glia

Convener: IK Patro (Jiwaji Univ, Gwalior)

11:45 am - 01:15 pm

Symposium IX: New Neurons in the Old Brain: Implications for Neuropsychiatric Disorders

Chairpersons: GN Pandey (UIC, USA) V Vaidya (TIFR, Mumbai)

Speakers:

- 1. A Kumar (CCMB, Hyderabad): Epigenetic Jumonji domain histone regulators demethylases (Jmids) mediate the effects of chronic stress on hippocampal neurogenesis
- 2. S Brene (CSS-KUH, Sweden): Exercise and neurogenesis
- 3. V Vaidya (TIFR, Mumbai): Antidepressants and neurogenesis
- 4. BSS Rao (NIMHANS, Bengaluru): Hippocampal neurogenesis and restoration of cognitive functions in stress and depression
- 5. P Shastry (NCCS, Pune): Laminin-1-induced neuritogenesis in human bone marrow derived mesenchymal stem cells (MSC): Regulation of transcription factor- c-Jun/AP-1 and signaling pathways

Convener: V Vaidya (TIFR, Mumbai)

1:15 pm - 01:45 pm

Lunch

Hall I

01:45 pm - 03:45 pm

Dr. DM Kar Prize

Chairpersons: VK Khanna (CSIR - IITR,

Lucknow)

Hall 2

01:45 pm - 03:45 pm

First Meeting of Principal Investigators funded by DBT Initiative on Glial Cell Research Health and Display





A Jagota (UoH, Hyderabad)

- 1. Akash Gautam (BHU, Varanasi): Arc expression is correlated with memory loss and its restoration by Ashwagandha extract in amnesic mice
- 2. Arshed Nazmi (NBRC, Manesar): TLR7 regulates Suppressors of Cytokine Signaling (SOCS) expression in Brain Post Japanese Encephalitis Virus infection.
- 3. Sippy Singh (Univ. of Allahabad, Allahabad): Morphological changes in dendritic spines associated with seasonal variation in dorsomedial forebrain of female *Psittacula krameri*
- 4. Shilpa BM (NIMHANS, Bengaluru): Enriched environment restores stress-induced hippocampal hypotrophy, behavioral depression and cognitive deficits
- 5. Hina Kauser (DIPAS, New Delhi): Activation of alpha-2A receptor modulates adrenergic transmission and dendritic morphology in hypobaric hypoxia
- 6. Yasir Hasan Siddique (AMU, Aligarh): Effect of epicatechin gallate dietary supplementation on transgenic Drosophila model of Parkinson's disease
- 7. Debashis Dutta (IICB, Kolkata):
 Mitochondrial chaperones and sirtuin family
 of deacetylases: Sensitivity of dopaminergic
 neurons in SN vs. VTA to parkinsonian
 neurotoxin
- 8. Preeti Jaiswal (MVRDC, Kolkata): Genetic correlation study on SLC6A4 markers, 5-HTTLPR and rs3813034 with Autism spectrum disorder (ASD)
- 9. Dhananjay Huilgol (TIFR, Mumbai): Dual origins of the mammalian accessory olfactory bulb revealed by an evolutionarily conserved migratory stream

3:45 pm - 5:00 pm Hall I

Tulsabai Somani Educational Trust Award

Chairpersons: AK Agrawal (Lucknow) SK Trigun (BHU, Varanasi)

1. Avijit Banik (PGIMER, Chandigarh): Behavioural and pathological outcome in amyloid-β induced







- mouse model of memory loss upon intra-hippocampal transplantation of hUCB derived Lin-ve stem cells.
- 2. Mythri (NIMHANS, Bengaluru): Evaluation of oxidative / nitrosative stress markers in non-SN regions of post-mortem Parkinson's Disease Brain: Neuroprotection by natural antioxidant
- 3. Khushbu Jain (DIPAS, New Delhi): Mitochondrial Dynamics under Hypobaric Hypoxia
- 4. Suneel (AIIMS, New Delhi): Recovery of central effects of complete thoracic spinal cord injury in rats after bone marrow stromal cell transplantation
- 5. Pranay Srivastava (CSIR IITR, Lucknow): Protective efficacy of curcumin in arsenic induced mitochondrial dysfunctions, apoptosis and memory impairment in rats
- 6. Rachana Mishra (GNDU, Amritsar): Differentiation and Senescence Inducing Potential of Aqueous-Ethanolic Extract of *Tinospora cordifolia* in Neuroblastoma cells

05:00 pm - 06:30 pm	Tea and Poster Session – II Venue - Sangat Hall	
06:30 pm - 08:30 pm	Visit to Golden Temple	
08:30 pm	Dinner	

Day 4, Tuesday, October 30, 2012

Venue: Guru Nanak Bhawan Auditorium, Guru Nanak Dev University, Amritsar

08:30 am - 09:00 am

Plenary Lecture VI (Hall 1)

R Wadhwa (AIST, Japan)

Understanding the Functionality of Mortalin in Cancer and Neurodifferentiation

Chairperson: SC Lakhotia (BHU, Varanasi)

Chan person. Se Lakhotta (BHC, Varanasi)		
Hall 1	Hall 2	
09:00 am - 10:00 am	09:00 am - 10:30 am	
Symposium X: HIV and Brain	FAONS Symposium: Healthy Brain Aging and Interventions	
Chairpersons: SK Shankar (NIMHANS, Bengaluru) M Kaul (IIDCSMRI, USA)	Chairpersons: SC Kaul (AIST, Japan) C Kaur (NUS, Singapore)	
Speakers:	Speakers:	
1. A Kumar (UMKC, USA): HIV-1 Vpr and neuroinflammatory cytokines	1. SC Kaul (AIST, Japan): Molecular biology	
2. S Maggirwar (URMC, USA): Love affair of two systems inflamed by HIV-1	2. MK Thakur (BHU, Varanasi): Modulation of	
3. M Kaul (IIDCSMRI, USA): Disease	memory related gene expression by	







Mechanisms of NeuroAIDS: From HIV-Coreceptors via Protein Kinases to Brain Injury

Convener: A Kumar (UMKC, USA)

Ashwagandha extract

- 3. SC Lakhotia (BHU, Varanasi): Ayurvedic formulations on fly models of human neurodegeneration diseases
- 4. G Kaur (GNDU, Amritsar): Search for natural products with neuroplasticity potential from water extract of Ashwagandha leaves
- 5. C Kulkarni (SJMC, Bengaluru): The Pharamcological Challenges in treatment of disorders of aging brain

Conveners: SC Kaul (AIST, Japan) R Wadhwa (AIST, Japan)

10:00 am - 12:00 noon

Symposium XII: Translational Clinical Neuroscience

Chairpersons: BSS Rao (NIMHANS, Bengaluru),
P Srivastava (AIIMS, New
Delhi)

Speakers:

- 1. M Tripathi (AIIMS, Delhi): Translational research in epilepsy
- 2. P Srivastava (AIIMS, Delhi): Stem cell therapy in stroke
- 3. V Benegal (NIMHANS, Bengaluru): Neural basis of susceptibility to Addiction
- 4. JP John (NIMHANS, Bengaluru): Translational approach in schizophrenia Genetics of Psychiatric Disorders
- 5. S Jain (NIMHANS, Bengaluru): Neurodegenerative and Psychiatric Syndromes Disorders: a genetics perspective from India
- 6. MR Rajeswari (AIIMS, New Delhi): Quantification of differentially expressed proteins and Cell-Free Circulating Nucleic acids in plasma of spinocerebellar ataxia type 2 and 12

Convener: BSS Rao (NIMHANS, Bengaluru)

10:30 am - 12:00 noon

Symposium XIII: Advances in Neurodegeneration and Neurorepair mechanisms in Neurological Disorders

Chairpersons: I Singh (MUSC, USA) R Wadhwa (AIST, Japan)

Speakers:

- 1. I Singh (MUSC, USA): Rho A mediated Mechanisms in Neurodegeneration and Neurorepair
- 2. N Banik (MUSC, USA): Calpains in Neurodegeneration and Neurorepair
- 3. R Sandhir (PU, Chandigarh): Preventive effect of N-acetyl-L-cysteine on oxidative stress and cognitive impairment in hepatic encephalopathy following bile duct ligation
- 4. KP Mohanakumar (IICB, Kolkata): A crosstalk between mitochondrial and nuclear genomes in neurons
- 5. S Rasool (NYU, USA): Vaccination with a non-human random sequence amyloid oligomer mimic results in improved cognitive function, reduced plaque deposition and microhemorrhage in Tg2576 mice

Conveners: I Singh (MUSC, USA)
R Sandhir (PU, Chandigarh)

Created with





12:00 noon - 01:00 pm

Lunch

01:00 pm - 02:30 pm

Symposium XIV: Brain responses to low oxygen

Chairpersons: TR Raju (NIMHANS, Bengaluru), SB Singh (DIPAS, New Delhi)

Speakers:

- 1. SB Singh (DIPAS, Delhi): Neurophysiological and neuropsychological changes at high altitude.
- 2. SB Deshpande (BHU, Varanasi): Nitric oxide as an inhibitory transmitter/modulator in spinal synaptic transmission
- 3. C Kaur (NUS, Singapore): Glial changes in hypoxia and ischemia
- 4. SK Hota (DIHAR, Leh): Neuroprotective mechanisms in hypoxia
- 5. J Singh (CAAS, Singapore): Altitude Hypoxia-an overview

01:00 pm - 02:30 pm

Symposium XV: Computational Neuroscience

Chairpersons: M Bhattacharya (IIITM, Gwalior) A Ghosh (ISI, Kolkata)

Speakers:

- 1. A Ghosh (ISI, Kolkata): Introduction to neuro computing
- 2. J Joseph (CNS-UH, Hyderabad): A model of olfactory pathway with simultaneous rich set of constraints
- 3. K Bajaj (Brain Data Systems, New Delhi): Brain mechanisms underlying consciousness without subject and object duality
- 4. PN Yadav (CDRI, Lucknow): CNS diseases with respect to GPCR
- 5. M Bhattacharya (IIITM, Gwalior): Study of degeneracy in human brain using computational approach of image analysis

Convener: M Bhattacharya (IIITM, Gwalior)

Convener: SB Singh (DIPAS, New Delhi)

02:30 pm - 03:30 pm (Hall 1)

- ➤ Panel Discussion with Chairpersons of Scientific Sessions
- > Session on "Neuroscience Research Promotion programs" of National funding agencies Chairpersons: B Dey (DBT, GOI, New Delhi) and M Sharma (ICMR, New Delhi)

03:30 pm - 04:30 pm (Hall 1)

Valedictory Function

04:30 pm - 05:00 pm

High Tea