

CURRICULUM VITAE

Dr Pramod Kumar Pal
MBBS, MD (General Medicine),
DNB (General Medicine), DM (Neurology), FIAN

PERSONAL DETAILS

NAME: **Pramod Kumar Pal**

PERMANENT ADDRESS: No. 17, 7th Main Road,
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**ADDRESS FOR
CORRESPONDENCE:** Professor & Head,
Department of Neurology,
National Institute of Mental Health
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DATE OF BIRTH: 04/04/1961

MBBS DEGREE: February 1985

POSTGRADUATION (MD): General Medicine (1989)

SPECIALIST REGISTER (DM): Neurology (1993)

**KARNATAKA MEDICAL
COUNCIL REGISTRATION:** 62020

**AWARDED CERTIFICATE
EQUIVALENT TO CERTIFICATE
OF COMPLETION OF SPECIALIST
TRAINING (CCST) IN NEUROLOGY IN UK:** **ID 26200**, dated 27th October, 2005

GMC REGISTRATION: **Full and specialist Registration**

CURRENT POSITION: Professor & Head of Neurology,
National Institute of Mental Health
& Neurosciences (NIMHANS),
Bangalore-560 029, Karnataka, India

EXPERIENCE PROFILE

I am currently working as Professor & Head of Neurology at the National Institute of Mental Health & Neurosciences (NIMHANS), one of the largest tertiary neurology teaching centres in Asia. My core expertise and primary responsibilities include – patient care, teaching, and research, with additional responsibilities in hospital management. I have completed two Clinical Fellowship trainings: one in Movement Disorders at Vancouver, Canada, and the other in Neurology with emphasis on Electrophysiology in Movements disorders and Human Motor Physiology at Toronto, Canada. My basic degrees are MBBS, MD (General Medicine), Diplomate in General Medicine, and DM in Neurology from India. I have full and specialist registration in UK.

I attend on patients (both adult and paediatric) having general neurological problems in the outpatient services (twice a week, 50-75 patients), in-patient wards (30-40 beds) including a dedicated stroke unit and intensive care, and Casualty and Emergency services (on call). Type of problems includes Stroke, Epilepsy, Neuroinfection, Headache syndromes, Vertigo, Dementias, Movement Disorders, Neurodegenerative Disorders, Neuropathic Disorders, Demyelinating Disorders, Myopathies, etc. My role is supervisory, and involves discussions with Specialist Registrars and SHOs on findings, differential diagnosis, and plan of investigations and management.

My specialization is in Movement Disorders in which I run a specialty clinic and conduct research. I have expertise in managing common and rare movement disorders, neurodegenerative disorders, ataxias, dementias, patients with advanced Parkinson's disease and motor fluctuations, and those who have stereotactic operations (stimulation or ablation) for Parkinson's disease. My competence also includes use of botulinum toxin in treating dystonias, spasticity, hypersalivation, hyperhidrosis among others.

I have keen interest in electrophysiology. Apart from routine electroneuromyography and multimodal evoked potentials, I conduct studies in electrophysiology of movement disorders and transcranial magnetic stimulation in the human motor physiology laboratory.

Teaching responsibilities include lectures for postgraduates in Medicine and DM residents undergoing Neurology specialty training, and active participation in Neurology training programmes - journal clubs, seminars, and bedside case discussions. I also give hands on demonstration of electrophysiological procedures and technique of injecting botulinum toxin.

I have more than 225 publications in National and International journals and books and am actively involved in several funded and non-funded research projects and auditing, especially in the field of Movement disorders-Parkinson's Disease, ataxias and genetics. I am currently the guide for dissertations of DM and PhD students and also the program Director of the post-doctoral Fellowship in Movement Disorders. My additional responsibilities include administration of Neurology Department, organizing CMEs, workshops, and conferences and participation in hospital administration. I have also contributed extensively for the promotion of Movement Disorders in India and was the Founding Secretary of the Movement Disorders Society of India (MDSI) and now the founder Editor-in-Chief of the journal Annals of Movement Disorders, which is the official journal of MDSI. After from contribution to Movement Disorders, I was also the Treasurer of Indian Academy of Neurology (IAN) and now the President-Elect of IAN.

In the International field, I was a member of the Education Committees of the International Association of Parkinsonism and Related Disorders and the Asian and Oceanian subsection of International Parkinson and Movement Disorder Society (MDS-AOS) and a member of the Editorial Boards of Parkinsonism and Related Disorders and Movement Disorders Journal. Currently I am member of the Rare Movement Disorders Study Group of IPMDS and Secretary-Elect for 2017-2019 and Secretary for 2019-2021 MDS-AOS.

EDUCATION

SCHOOL:

Primary and secondary	1965-1975	St. Xavier's School, Durgapur, India
Higher Secondary	1976-1978	St. Xavier's Higher Secondary Institution, Calcutta, India

UNIVERSITY:

Medical school (MBBS, rotating internship and house physician):	1978-1986	Medical College Hospital Calcutta University, India
MBBS degree	February, 1985	

POST REGISTRATION QUALIFICATIONS/ CERTIFICATIONS

May, 1989	Doctor of Medicine (MD) degree in General Medicine Postgraduate Institute of Medical Education & Research (PGIMER), Chandigarh, India
May, 1990	Diplomat of National Board (DNB) in General Medicine, New Delhi, India
April, 1993	Doctor of Medicine (DM) National Institute of Mental Health & Neurosciences (NIMHANS), Bangalore, India (degree in Neurology super speciality equivalent to Board Certification in Neurology USA and Neurology Specialist Certification in UK)
1995	ECFMG certification
October 2005	Certificate equivalent to Certificate of Specialist Training (CCST) in Neurology in UK
2012	Awarded the Fellow of Indian Academy of Neurology (FIAN)

SPECIALITY FELLOWSHIPS

1997-1999:	Clinical Fellowship in Movement Disorders, Neurodegenerative Disorders Centre, Vancouver, Canada
2002-2003	Clinical Fellowship in Neurology (Electrophysiology in Movement Disorders, Human Motor Control and Transcranial Magnetic Stimulation), Toronto Western Hospital, Toronto Canada.

AREAS OF INTEREST AND EXPERTISE

- (1) Movement Disorders-especially Parkinson's disease, dystonias, tremor, and psychogenic movement disorders.
- (2) Spinocerebellar ataxias
- (3) Genetics of Ataxias and Extrapyrimal Disorders
- (4) Discovery of Biomarkers in Parkinson's Disease
- (5) Human Motor physiology:
 - Evaluation of movement disorders, and
 - Transcranial Magnetic Stimulation
- (6) Advanced Neuroimaging in Movement Disorders
- (7) Cognition in Movement Disorders

APPOINTMENTS/ TRAINING

PRESENT APPOINTMENT:

01/04/2016 – Till date	Professor & Head of Neurology, National Institute of Mental Health & Neurosciences (NIMHANS), Bangalore, India
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PREVIOUS APPOINTMENTS/ TRAINING:

01/07/2012 – 31/03/2016	Professor of Neurology, National Institute of Mental Health & Neurosciences (NIMHANS), Bangalore, India
01/07/2008 – 30/06/2012	Additional Professor of Neurology, National Institute of Mental Health & Neurosciences (NIMHANS), Bangalore, India
01/07/2004 – 30/6/2008	Associate Professor of Neurology, National Institute of Mental Health & Neurosciences (NIMHANS), Bangalore, India
01/7/2003 - 30/6/2004	Assistant Professor of Neurology, National Institute of Mental Health & Neurosciences (NIMHANS), Bangalore, India
01/7/2002 - 30/6/2003	Clinical Fellow in Neurology (Electrophysiology in Movement Disorders, Human Motor Control and Transcranial Magnetic Stimulation), Division of Neurology, Department of Medicine, Toronto Western Hospital, University of Toronto, Toronto, Ontario, Canada
01/01/2000 - 30/6/2002	Assistant Professor of Neurology, National Institute of Mental Health & Neurosciences

- (NIMHANS), Bangalore, India
- 01/11/1999 - 31/12/1999 Associate Professor of Neurology, Sri Venkateswara Institute of Medical Sciences (SVIMS), Tirupati, Andhra Pradesh, India
- 01/9/1997 - 30/9/1999 Clinical Fellow in Movement Disorders, Neurodegenerative Disorders Centre, Vancouver Hospital, University of British Columbia, Vancouver, Canada
- 12/4/1997 - 24/8/1997 Associate Professor of Neurology, Sri Venkateswara Institute of Medical Sciences (SVIMS), Tirupati, Andhra Pradesh, India
- 10/6/1994 - 11/4/1997 Assistant Professor of Neurology, Sri Venkateswara Institute of Medical Sciences (SVIMS), Tirupati, Andhra Pradesh, India
- 12/4/1991 - 11/4/1994 Senior Resident in Neurology (**in grade equivalent to Specialist Registrar in UK**), National Institute of Mental Health & Neurosciences (NIMHANS), Bangalore, Karnataka, India
- 01/9/1989 - 11/4/1991 Junior Resident in Neurology (**in grade equivalent to Specialist Registrar in UK**), National Institute of Mental Health & Neurosciences (NIMHANS), Bangalore, Karnataka, India
- 01/7/1986 - 30/6/1989 Resident Teaching Fellow in General Medicine (**in grade equivalent to Senior House Officer in UK**), Postgraduate Institute of Medical Education & Research (PGIMER), Chandigarh, India
- 16/12/1985 - 24/4/1986 Senior House Physician in General Medicine (**in grade equivalent to Senior House Officer in UK**), Medical College Hospital, Calcutta, West Bengal, India
- 16/8/1985 - 20/11/1985 Junior House Physician in Dermatology, Medical College Hospital, Calcutta, West Bengal, India
- 16/2/1985 - 15/8/1985 Senior House Physician in General

	Medicine (in grade equivalent to Senior House Officer in UK) Medical College Hospital, Calcutta, West Bengal, India
16/8/1984 - 15/2/1985	Junior House Physician in General Medicine (in grade equivalent to Senior House Officer in UK) Medical College Hospital, Calcutta, West Bengal, India
16/8/1983 - 15/8/1984	Rotating Internship, Medical College Hospital, Calcutta, West Bengal, India

DETAILS OF PRESENT APPOINTMENT

NATURE OF JOB / EXPERIENCE:

I am currently a **fulltime** Consultant in Neurology at the National Institute of Mental Health & Neurosciences (NIMHANS), Bangalore, -one of the National referral Institutes for Neurology, Neurosurgery, and Psychiatry in India. I joined as an Assistant Professor and was later promoted to Associate, Additional Professor and then Professor, based on the recommendation by a Review board constituted for internal promotion. Since 1st April 2016 I have the added responsibility of heading the Neurology Department.

NIMHANS is recognized for quality care, training and research. The Department of Neurology has more than 150 beds, a faculty strength of 18, and offers outpatient, inpatient, and casualty services. It is efficiently supported in its services and training by several other departments, including Neurosurgery, Psychiatry, Neuroradiology, Neurochemistry, Neuropathology, Neuromicrobiology and Neurovirology, Neurophysiology, Clinical Psychology, Neurorehabilitation, Speech Pathology, etc.

My duties encompass service, teaching and research:

A). SERVICE:

Clinical:

I see patients (both adult and paediatric) having general neurological problems (approximately 40%) and patients with movement disorders (60%) and provide outpatient (2 outpatient clinics a week), in-patient, and Casualty and Emergency services (once a week on call). I am also in charge of the Parkinson's Disease and Movement Disorders clinic. My role is a supervisory role, and I discuss with Specialist Registrars and SHOs the findings, differential diagnosis, and the plan of investigations and management. I am also involved in management of patients in the dedicated stroke unit and intensive care unit.

Our Neurology department gives service to a variety of common as well as rare neurological conditions including Stroke, Epilepsy, Neuroinfection, Headache

syndromes, Vertigo, Dementias, Movement Disorders, Neurodegenerative Disorders, Neuropathic Disorders, Demyelinating Disorders, Myopathies, etc.

Electrophysiological investigations:

I spend a day and half in a week in the electrophysiology laboratory on:

- (a) Reporting the investigations
- (b) Supervising the Registrars and technicians conducting electrophysiological studies (nerve conduction, electromyography, electroencephalogram, visual, auditory, and somatosensory evoked potentials).
- (c) Teaching electrophysiological techniques to students of DM Neurology and Diploma in neurophysiology
- (d) Interpreting and reporting findings.
- (e) Doing EMG, tremor recording (electromyography, accelerometry), transcranial magnetic stimulation {(single pulse TMS and repetitive TMS (rTMS)} for investigations as well as research (see below)
- (f) EMG guided injection of Botulinum toxin

Botulinum toxin injection:

Once a week I inject Botulinum toxin (often with EMG guidance) to patients with dystonias (blepharospasm, hemifacial spasm, writer's cramp, cervical dystonia, oromandibular dystonia, Meige's syndrome, etc) and spasticity. The residents in Neurology also get a hands-on training for injecting botulinum toxin.

Functional neurosurgery program for Movement Disorders:

I am actively involved in the functional neurosurgery program which include lesional and stimulation surgeries for tremor, Parkinson's Disease and dystonia.

Movement Disorders Fellowship Program:

I also head an active Movement Disorders Fellowship Program.

B). TEACHING:

Our Institute has a 3-years (post-MD) and 5-years (post-MBBS) Speciality training programme in Neurology after which the students appear in the University examination for obtaining DM degree in Neurology. The institute also conducts MCh course in Neurosurgery, DM course in Interventional Neuroradiology, postgraduate courses in Psychiatry, psychiatric social work, clinical psychology, certificate courses in Neuropathology, Neuroanaesthesia, Diploma in Clinical Neurophysiology Technology (DCNT), and Nursing courses.

While I take several common lecture classes on basic clinical Neurology for students of the above courses, my primary teaching responsibilities are for (i) DM students in Neurology, and (ii) Students of DCNT. For DM students, there are several academic activities throughout the year, viz. (a) journal club (once weekly), (b) clinical seminar (once weekly), (c) clinical case discussion (once a month), (d) mortality meeting

(thrice a month), electrophysiology discussion, brain-cutting session and histopathology slide sessions (each twice a month).

Continued Medical education (CME) / Workshops:

I take active part in organization of Neurology CME programs for Postgraduates in General Medicine (SHOs) as well as Specialist Registrars in Neurology, in the Institute as well in different Medical Colleges in the State.

I have also been an actively involved in several Movement Disorder Workshops in the country and have **(i)** delivered lectures on selected movement disorders and Botulinum toxin, **(ii)** taken video sessions of common and uncommon movement disorders, **(iii)** imparted hands-on training on how to inject Botulinum toxin.

Guide/co-guide for Thesis:

I was/am the principal/ co-guide for more than 30 students pursuing DM course in Neurology, PhD course in Clinical Neurosciences, PhD in Neurology, MD in General Medicine, MPhil, etc.

C) RESEARCH:

See below.

EXPERTISE / PRACTICAL PROCEDURES

Apart from diagnosis and management of various acute and chronic neurological disorders (stroke, epilepsy, neuromuscular disorders, myelopathies, headache and vertigo, neuroinfections, etc) I have special training, expertise and interest in the following:

(i) Movement Disorders:

Management of common and rare movement disorders, neurodegenerative disorders, ataxias, dementias, etc. I have experience in managing patients with advanced Parkinson's disease and motor fluctuations, and those who have stereotactic operations (stimulation or ablation) for Parkinson's disease.

(ii) Injection of Botulinum toxin:

I am competent in treating dystonias (writer's cramp, blepharospasm, hemifacial spasm, cervical, lingual, oromandibular and other focal dystonias), spasticity, hypersalivation (intraparotid botulinum toxin injection), and palmar hyperhidrosis.

(iii) Electrophysiology:

1. Routine nerve conductions and electromyography.
2. Decremental response, sympathetic skin response, blink response, silent period, etc.
3. Evoked potentials: Visual, auditory, somatosensory.
4. Interpretation and reporting of EEG, including video-telemetry.
5. Electrophysiological evaluation of movement disorders such as tremor (tremor recording, accelerometry), jerks, dystonia, premovement potentials, etc.
6. Transcranial Magnetic Stimulation-single pulse and repetitive (rTMS)

(iv) Functional neurosurgery for movement disorders:

I have expertise in microelectrode recording during functional neurosurgery for movement disorders and programming of deep Brain Stimulator.

RESEARCH**A) As a Resident Teaching research conducted for MD (General Medicine) dissertation.****Clinical and Electrophysiologic Studies in Vincristine Induced Neuropathy.**

It was a prospective study of 20 patients diagnosed to have lymphoma and received vincristine. The patients were evaluated clinically and electrophysiologically before and twice after vincristine (follow up of approximately 6 months). There was evidence of subclinical large fiber neuropathy (axonopathy) in a dose dependent fashion.

B) As a Resident in Neurology for DM (Neurology) dissertation:

(1) Clinical, neuropsychological, electrophysiological (conduction studies, EMG and multimodal evoked potential studies) and computed tomographic studies in Friedreich's ataxia, Olivopontocerebellar atrophies and, Early onset cerebellar ataxias with retained tendon reflexes.

(2) Clinical, Electrophysiological and Histopathological study Primary Neuritic Leprosy.

C) As a Consultant (Assistant and then Associate Professor) in Neurology at Sri Venkateswara Institute of Medical Sciences, Tirupati, India.

1. Clinical and Electrophysiological studies in Hypokalemic Periodic Paralysis.
2. Electrophysiological studies (including autonomic function tests and multimodal evoked potential studies) in acute and chronic ataxic neuropathies and in subacute combined degeneration of cord due to Vit. B₁₂ Deficiency.
3. Autonomic function tests in acute right versus left sided strokes.
4. Prognostication of cerebral malaria patients on basis of clinical and electrophysiological (evoked potentials and EEG) parameters.

D) As a Clinical Research Fellow in Movement Disorders fellowship at Neurodegenerative Disorders Centre, Vancouver, Canada:

1. Various clinical and epidemiological studies in Parkinson's disease (PD).
2. Positron emission tomography studies for better characterization of the pathophysiology of PD, motor-fluctuations in PD, natural history of PD, outcome of therapeutic interventions (such as pallidotomy, and transplantation therapy), in familial parkinsonism (pallido-ponto-nigral degeneration), juvenile PD, etc.
3. Pharmaceutical trials in PD (such as tolcapone, ropinirole, riluzole, SIB-1508Y, etc).
4. Efficacy of electroconvulsive therapy in PD.
5. Follow-up of PD patients after pallidotomy and deep brain stimulation.
6. Effect of vagal nerve stimulation on tremor.
7. Genetic studies in autosomal recessive type of familial PD.

8. Study of underlying factors and nature of sleep disturbances in patients of PD and their spouses.
9. Study of the natural history of cervical dystonia.
10. A pilot study on the efficacy of Botulinum-A toxin in sialorrhea (this was the first study showing the usefulness of Botulinum toxin in sialorrhea and has been published in Neurology).

D) As a Clinical Fellow in Neurology (Movement Disorders, Electrophysiology in Movement Disorders, Human Motor Control and Transcranial Magnetic Stimulation), at Toronto Western Hospital, Toronto, Canada:

1. Evaluation of asymmetry in normal brain using transcranial magnetic stimulation (TMS).
2. Effect of repetitive TMS (rTMS) of left motor cortex on ipsilateral and contralateral interhemispheric inhibition.
3. Study of cortical excitability of distal and proximal muscles in patients with corticobasal degeneration, using TMS
4. Changes in cortical excitability with change of parameters of deep brain stimulation (DBS) in patients with subthalamic nucleus DBS.

E) As a Consultant in Neurology at National Institute of Mental Health and Neurosciences, Bangalore, India.

1. Prevalence of obsessive-compulsive disorders in Parkinson's disease.
2. Effect of Levodopa on pulmonary functions in Parkinson's disease.
3. Obsessive compulsive and related disorders in adults with rheumatic heart disease.
4. Functional imaging (fMRI) of patients with writer's cramp and primary writing tremor.
5. Genetic studies in spinocerebellar ataxias (supported by Indian Council of Medical Research).
6. fMRI study of a genetically defined subset of spinocerebellar ataxias.
7. Pulmonary dysfunction in spinocerebellar ataxias.
8. Balance evaluation in patients with spinocerebellar ataxias and its correlation with MRI morphometry.
9. Central motor conduction in patients with monomelic amyotrophy.
10. Usefulness of transcranial magnetic stimulation in assessing and prognostication of myelopathies.
11. Study of cortical threshold and cortical inhibition in asymptomatic and non-alcoholic children of alcoholics by transcranial magnetic stimulation.
12. Multimodal electrophysiological evaluation to detect silent lesions in patients with optic neuritis.
13. Clinical, radiological, and electrophysiological evaluation of Secondary Movement Disorders.
14. Evaluation of depression in Parkinson's disease.
15. Study of sympathetic skin response in acute stroke.
16. Voxel based volumetric study in patients with genetically proven SCA1, SCA2 and SCA3.
17. Neuropsychological evaluation of patients with writer's cramp.
18. Prevalence of Restless Leg Syndrome in rural Indian Population.

19. A prospective questionnaire-based study on the prevalence of Restless Leg Syndrome in Parkinson's Disease, Multiple System Atrophy, Progressive Supranuclear Palsy, and Dementia with Lewy Bodies.
20. Cortical excitability pattern (using transcranial magnetic stimulation) in patients with Wilson's disease and genetically confirmed patients with spinocerebellar ataxias.
21. Evaluation of partial suspension treadmill training in improvement of motor and autonomic symptoms in Parkinson's disease.
22. Evaluation of clinical parameters, autonomic functions and cortical excitability changes using Transcranial Magnetic Stimulation.
23. Clinical and polysomnographic evaluation of drug-naïve and patients on treatment in early Parkinson's disease.
24. Non-motor manifestations of Essential tremor-A case control study.
25. Use of Transcranial Magnetic Stimulation in prognostication of patients with acute ischemic stroke.
26. Evaluation of therapeutic efficacy of rTMS in motor aphasia: A pilot study.
27. Neuropsychological assessment in Essential tremor.
28. Diffusion Tensor Imaging in patients with Essential tremor.
29. A prospective cross sectional comparative study of patients of Parkinson's disease with and without psychosis.
30. A clinical, dynamic posturographic, and radiological characterization of subtypes of Progressive Supranuclear Palsy.
31. A clinical, electrophysiological and radiological comparative study of genetically defined patients with SCA1, SCA2, AND SCA3.
32. Role of metals in the aetiopathogenesis of Parkinson's Disease
33. Neuroradiologic correlates of cognitive dysfunction in Essential Tremor
34. Evaluation of executive dysfunction and imaging abnormalities in patients of Parkinson's Disease with freezing of gait.
35. Evaluation of sleep dysfunction in patients with Huntington's Disease.
36. Imaging correlates in PD patients with REM behaviour Disorder of Sleep
37. Cortical excitability changes and imaging correlations in patients with relapsing remitting Multiple sclerosis
38. Evaluation of abnormalities of eye tracking and eye-hand coordination and correlation with imaging findings in patients with Essential Tremor, Primary Writing Tremor and Writer's Cramp.
39. Effectiveness of Tai Chi on Neuropsychological & motor functions, emotions, & quality of life on Patients with Parkinson's Disease-A Pilot study
40. Effect of EEG neuro-feedback training on cognition and quality of life in patients with Essential Tremor

FUNDED RESEARCH PROJECTS

No.	Title of Project	Funding Agency	My role
1	Investigating the effects of age of onset on the structural connectome in essential tremor through High Angular Resolution Diffusion MRI	DBT	Co-PI
2	Exploring the role of the basal ganglia-thalamo-cortical and cerebello-thalamo-cortical networks in the pathogenesis of postural and rest tremors in Parkinson's disease and Essential tremor using simultaneous EMG-fMRI and Diffusion Tensor Imaging	DST-SERB	PI
3	Advanced Network Analysis of the Structural Connectome of human brain	DST-SERB	Co-Investigator
4	Susceptibility of brain white matter to inflammatory mediators in Parkinsons disease: An exploratory DTI study	DST-SERB	Co-Investigator
5	Next generation sequencing to investigate mitochondrial mutation spectrum in movement disorders	DST-SERB	Co-PI
6	The Indian Movement Disorder Registry and Biobank: Clinical and genetic evaluation of movement disorders in Indian patients	DBT	PI
7	Understanding the Neural correlates of music and rhythm perception and the effect of Indian music and rhythm based cognitive remediation in Parkinson's Disease	Wellcome Trust UK-India Alliance DBT Project. Intermediate Fellowship	Co-Investigator
8	Characterization and functional validation of Huntington's disease modifiers influencing disease progression and manifestation : a cross-species approach	DST-SERB	Co-Investigator
9	Generation of induced pluripotent stem cells and midbrain floor plate cells from Indian ethnicity Parkinson's disease patients	PACE scheme of BIRAC	Co-Investigator
10	Effect of deep brain stimulation on speech of patients with Parkinson's Disease	NIMHANS	Co-Investigator
11	Investigating the role of nicotinic neuromodulation in levodopa-induced dyskinesias	Wellcome Trust-DBT India Alliance	Investigator
12	Can cortical excitability changes predict the onset of cognitive impairment in Parkinson's disease?	DST-CSRI	PI
13	Protein biomarker discovery for Parkinson's disease	Wellcome Trust-DBT India Alliance	Co-Investigator
14	Circulating microRNAs as biomarkers to differentiate between Parkinson's Disease, Multiple System Atrophy-Parkinsonism, and Progressive Supranuclear Palsy	ICMR	Co-Investigator
15	Identification and validation of biomarkers for Parkinsonian syndromes with cognitive impairment	ICMR	Co-PI
16	Genetic, Proteomic and Advanced Neuroimaging correlates of Spinocerebellar ataxia 2	NIMHANS	PI

FUNDED RESEARCH PROJECTS

17	Identification of biomarkers for psychosis in Parkinson's disease by retinal imaging, genetic polymorphism studies and neuropsychological profiling	NIMHANS	PI
18	Assessment of Brain Plasticity Induced by Repeated Trans Cranial Magnetic Stimulation in Patient with Movement Disorder Using Resting Brain Networks and Connectivity	DST	Co-Investigator
19	Exploring subclinical cerebellar dysfunction in patients with essential tremor, primary writing tremor and writer's cramp by quantitative characterization of ocular movements and eye-hand coordination and advanced neuroimaging techniques.	DBT	PI
20	Gray and white matter correlates of REM Sleep Behaviour Disorder and psychosis in Parkinson's Disease	ICMR	PI
21	Role of Metals in the Etiopathogenesis of Parkinson's Disease	DBT	PI
22	Glucocerebrosidase mutation in Parkinson's Disease	DBT	PI
23	Genetics of movement disorders: Genotype-phenotype correlates in ataxias and Huntington's disease	ICMR	Co-PI
24	Study of code switching in multilingualism using rTMS	DST	PI
25	Study of pattern of cortical excitability in offsprings of alcoholic parent(s)	Deaddiction Centre, NIMHANS funded	Co-Investigator
26	Efficacy of Ayurvedic treatment for motor weakness in ischemic strokes	CCRAS	Co-Investigator
27	Establishment of Central Molecular Genetics Laboratory for Neurology and Psychiatry	ICMR	Co-Investigator
28	Hemicraniectomy in acute ischemic stroke	ICMR	Co-Investigator
29	Genotypic-phenotypic correlation of Spinocerebellar Ataxias	ICMR	PI

NON-FUNDED RESEARCH PROJECTS (Dissertations of Students)**As a Primary Guide**

No.	Dissertation Topic	Course
1	Phenotype, Imaging, and Genotype Characterization of Patients with Hereditary and Sporadic Ataxias.	DM (Neurology)
2	Multimodal electrophysiological evaluation to detect silent lesions in patients with optic neuritis.	DM (Neurology)
3	Clinical, radiological, and electrophysiological evaluation of Secondary Movement Disorders.	DM (Neurology)
4	Study of non-motor symptoms in patients with essential tremor.	DM (Neurology)
5	Restless Legs Syndrome In A Cohort Of Rural Indian Population	DM (Neurology)
6	Prevalence of Restless Legs Syndrome In Parkinson's Disease and Other Parkinsonian Disorders	DM (Neurology)
7	Psychosis in Parkinson's disease	DM (Neurology)
8	A comparative study of clinical, electrophysiological and radiological profiles of genetically positive cases of Spinocerebellar Ataxias SCA1, SCA2 and SCA3	DM (Neurology)
9	Clinical, dynamic posturographic and radiological characterization of subtypes of progressive supranuclear palsy	DM (Neurology)
10	Impulse control disorders in Parkinson's Disease	DM (Neurology)
11	A profile of patients of Parkinson's Disease seen at NIMHANS in the past decade	DM (Neurology)
12	Prevalence of REM sleep behaviour disorders in Parkinson's disease: A questionnaire based study	DM (Neurology)
13	Cognitive profiles in patients with Parkinson's Disease with and without Freezing of Gait and Correlation with Neuroimaging	DM (Neurology)
14	Sleep Profiles in Genetically proven cases of Huntington's Disease	DM (Neurology)
15	Clinical, electrophysiological and imaging correlates of different types of tremor in patients with Idiopathic Parkinson's Disease	DM (Neurology)
16	Spectrum of Visual Dysfunctions in Parkinson's Disease	DM (Neurology)
17	Clinical profile, polysomnographic, neuropsychological and imaging characteristics in patients of Parkinson's disease with REM sleep behavior disorder	DM (Neurology)
18	Cortical excitability changes and cognition in patients with Huntington's disease: Correlation with advanced neuroimaging	DM (Neurology)
19	Correlations of Motor Disability and Fatigue with alterations of cortical excitability and Gray and White matter changes in Multiple Sclerosis and Neuromyelitis Optica	DM (Neurology)
20	Non-motor manifestations of genetically confirmed autosomal dominant spinocerebellar ataxia	DM (Neurology)
21	Cognitive Assessment and Its Imaging Correlation in Multiple System Atrophy (MSA) patients	DM (Neurology)
22	Clinical , Genetic , Imaging , Neuropsychological and Caregiver Burden Assessment of Early Onset non-dominant Progressive Cerebellar Ataxias	DM (Neurology)
23	Knowledge, Attitude, Decision Making, Socio-Cultural Profiling and Outcomes of patients with Parkinson's Disease who have undergone Deep Brain Stimulation at NIMHANS	DM (Neurology)
24	Non motor symptoms in young onset and familial Parkinson's disease	DM (Neurology)
25	Impact of Deep brain stimulation on non-motor symptoms in patient with Parkinson's disease	DM (Neurology)

As a Primary Guide

No.	Dissertation Topic	Course
1	Imaging correlates of the pattern of cognitive impairment in Essential Tremor	PhD in Clinical Neurosciences
2	A study on the role of iron in etiopathogenesis of Parkinson's disease	PhD in Neurology
3	Exploring subclinical cerebellar dysfunction in patients with essential tremor, primary writing tremor and writer's cramp by quantitative characterization of ocular movements and eye-hand coordination and advanced neuroimaging techniques	PhD in Clinical Neurosciences
4	Biomarkers for psychosis in Parkinson's disease patients by advanced neuroimaging, retinal imaging and genetic polymorphism studies	PhD in Clinical Neurosciences
5	Genetic, Proteomic and Advanced Neuroimaging correlates of Spinocerebellar ataxia 2	PhD in Clinical Neurosciences
6	Exploring the structural and functional connectivity of the basal ganglia-thalamo-cortical and cerebello-thalamo-cortical networks in tremor dominant Parkinson's disease, essential tremor and essential tremor plus syndrome	PhD in Clinical Neurosciences
7	Exploring the impact of central cholinergic dysfunction on cognitive functioning in patients of Parkinson's disease with and without REM sleep behavior disorder	PhD in Neurology
8	Differential impact of dopamine on clinical, neurophysiological and behavioural characteristics of patients with various parkinsonian syndromes	PhD in Neurology
9	Characterizing the Non Motor Symptom Profile in Progressive Supranuclear Palsy	PDF in Movement Disorders
10	Assessment of the Quality of life (QoL) in patients with Parkinson's disease(PD) and Parkinson Plus syndromes of more than 5 years duration	PDF in Movement Disorders
11	Comparison of effectiveness of trihexyphenidyl and levodopa on motor symptoms in Parkinson's disease	PDF in Movement Disorders
12	Exploring the modulatory effect of rTMS (Repetitive Transcranial Magnetic Stimulation) on the cerebello-thalamo-cortical circuit, cortical excitability and clinical parameters in patients with Essential tremor	PDF in Movement Disorders
13	Effectiveness of dopaminergic drugs on motor symptoms in Parkinson's disease patients with deep brain stimulation of subthalamic nucleus	PDF in Movement Disorders

As a Co-Guide

No.	Dissertation Topic	Course
1	Evaluation of cardio-autonomic and pulmonary functions in Parkinson's disease following Partial Weight Supported treadmill gait training	PhD in Neurophysiology
2	Effect of Ayurvedic Therapies on motor recovery in Pakshaghata (Stroke)- A Clinical and Electrophysiological assessment	PhD in Neurophysiology
3	Identification of Lithium induced molecular networks in Huntington's disease	PhD in Clinical Neurosciences
4	A study of circulating biomarkers in Parkinson's Disease with Dementia (PDD)	PhD in Clinical Neurophysiology
5	Study of Sleep Architecture, Cognition and Neurochemical correlates in Parkinson's disease and other Atypical Parkinsonism	PhD in Clinical Neurosciences
6	Effectiveness of Music based Cognitive Remediation Therapy in Parkinson's Disease	PhD in Clinical Psychology

As a Co-Guide

No.	Dissertation Topic	Course
1	Use of Transcranial Magnetic Stimulation in prognostication of patients with acute ischemic stroke	DM (Neurology)
2	Electrophysiological evaluation, including transcranial magnetic stimulation, for assessment of myelopathies	DM (Neurology)
3	Evaluation of Sleep pattern in Medical Students	DM (Neurology)
4	Prognostic value of Transcranial Magnetic Stimulation in Acute Ischemic Stroke	DM (Neurology)
5	Evaluation of Sympathetic Skin Response in Acute Ischemic Stroke	DM (Neurology)
6	A clinical and polysomnographic study of sleep pattern in patients with drug naïve Parkinson's disease	DM (Neurology)
7	Cognitive Profile in Patients with Early Parkinson's Disease	DM (Neurology)
8	Sleep abnormalities and polysomnographic features in Autosomal Dominant Spinocerebellar Ataxia: A prospective case-control study	DM (Neurology)
9	Sleep and other non-motor symptoms in craniofacial movement disorders: A prospective case controlled study	DM (Neurology)
10	Knowledge, Attitude and Perception of Botulinum toxin treatment in patients with movement disorders at a tertiary Hospital	DM (Neurology)
11	Saccadic abnormalities and association with Sleep stages in patients with Progressive Supranuclear Palsy: A Prospective Case Control Study	DM (Neurology)
12	Knowledge about Parkinson's disease in patients with Parkinson's disease and their caregivers attending tertiary care centre of South India	PDF in Movement Disorders
13	Evaluation of Pulmonary Functions in Parkinson's disease	MD (Medicine)
14	Obsessive compulsive and related disorders in adults with rheumatic heart disease	MD (Psychiatry)
15	Investigation of differences in Cortical Disinhibition in male offspring of Alcoholics compared to age matched normal controls	MD (Psychiatry)
16	Depression in Idiopathic Parkinson's Disease, its relation with disability and Quality of life	MD (Psychiatry)
17	Voxel based volumetric study in patients with genetically proven SCA1, SCA2 and SCA3	DM (Neuroradiology)
18	Visualization, Quantification and Correlation of Brain Atrophy with Clinical Symptoms in Spinocerebellar Ataxia Types 1,2 and 3 using 3D Volumetric Analysis	DM (Neuroradiology)
19	Advanced techniques for Radiological characterization of Progressive Supranuclear Palsy with Clinical correlation	DM (Neuroradiology)
20	Diffusion Tensor Imaging in evaluation of patients with Essential Tremor	DM (Neuroradiology)
21	The role of Electroencephalogram(EEG) and functional Magnetic Resonance Imaging(fMRI) in assessing the neuro-hemodynamic changes induced by Repetitive Trans cranial Magnetic stimulation(rTMS) in Writer's Cramp	DM (Neuroradiology)
22	Neuropsychological Profile of Primary Dystonia-Writers Cramp	MPhil in Clinical Psychology
23	Neuropsychological evaluation of patients with essential tremor	MPhil in Clinical Psychology
24	Effect of EEG neuro-feedback training on cognition and quality of life in patients with Essential Tremor	MPhil in Clinical Psychology
25	Effectiveness of Tai Chi on Neuropsychological & motor functions, emotions, & quality of life on Patients with Parkinson's Disease-A Pilot study	MPhil in Mental Health & Social Psychology
26	Evaluation of musical rhythm discrimination ability in patients with Parkinson's Disease	MPhil in Clinical Psychology
27	Evaluation of Facial, Musical and Prosody Emotion Recognition in Patients with Parkinson's Disease	MPhil in Clinical Psychology

PUBLICATIONS

LIST OF PUBLICATIONS (238)

i) List of Publications in Journals listed in Medical Databases (204)

1. **Pal P**, Taly AB, Nagaraja D, Jayakumar PN. Early onset cerebellar ataxia with retained tendon reflexes (EOCA): A clinical, electrophysiological and computed tomographic study. *Journal of Association of Physicians of India (JAPI)* 1995; 43: 608-613.
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193. Prasad S, Bhalsing KS, Jhunjhunwala K, Lenka A, Binu VS, **Pal PK**. Phenotypic variability of Essential Tremor based on the age at onset. Accepted for publication in the *Canadian Journal of Neurological Sciences*. (November 2018)
194. Shah A, Prasad S, Rastogi B, Dash S, Saini J, **Pal PK**, Ingalthalikar M. Altered structural connectivity of the motor subnetwork in multiple system atrophy with cerebellar features. *Eur Radiol*. 2018.
195. Lenka A, Reddy YCJ, Pal PK. Isolated tactile hallucination in a patient with Parkinson's disease: Quetiapine conquers the snakes and stones. *Asian J Psychiatr*. 2018 Jun;35:34-35. doi: 10.1016/j.ajp.2018.05.004. Epub 2018 May 8. PubMed PMID: 29754101.
196. Dash SK, Stezin A, Takalkar T, George L, Kamble NL, Netravathi M, Yadav R, Kumar KJ, Ingalthalikar M, Saini J, Pal PK. Abnormalities of white and grey matter in early multiple system atrophy: comparison of parkinsonian and cerebellar variants. *Eur Radiol*. 2018 Jul 4. doi: 10.1007/s00330-018-5594-9. [Epub ahead of print] PubMed PMID: 29974222.
197. Seshagiri DV, Pal PK, Jain S, Yadav R. Optokinetic nystagmus in patients with SCA: A bedside test for oculomotor dysfunction grading. *Neurology*. 2018 Sep 25;91(13):e1255-e1261. doi: 10.1212/WNL.0000000000006250. Epub 2018 Aug 29. PubMed PMID: 30158163.
198. Stezin A, Venkatesh SD, Thennarasu K, Purushottam M, Jain S, Yadav R, Pal PK. Non-ataxic manifestations of Spinocerebellar ataxia-2, their determinants and predictors. *J Neurol Sci*. 2018 Nov 15;394:14-18. doi: 10.1016/j.jns.2018.08.024. Epub 2018 Sep 1. PubMed PMID: 30196130.
199. Ramaswamy P, Christopher R, Pal PK, Yadav R. MicroRNAs to differentiate Parkinsonian disorders: Advances in biomarkers and therapeutics. *J Neurol Sci*. 2018 Nov 15;394:26-37. doi: 10.1016/j.jns.2018.08.032. Epub 2018 Aug 31. Review. PubMed PMID: 30196132.

200. Shaik RS, Netravathi M, Nitish LK, Mani RS, Shah P, Damodar T, Anita M, Pal PK. A rare case of Japanese encephalitis-induced anti-N-methyl-d-aspartate receptor encephalitis. *Neurol India*. 2018 Sep-Oct;66(5):1495-1496. doi: 10.4103/0028-3886.241335. PubMed PMID: 30233032.
201. Yadav R, Kapoor S, Madhukar M, Naduthota RM, Kumar A, Pal PK. Genetic analysis of the glucocerebrosidase gene in South Indian patients with Parkinson's disease. *Neurol India*. 2018 Nov-Dec;66(6):1649-1654. doi: 10.4103/0028-3886.246249. PubMed PMID: 30504558.
202. Stezin A, Pal PK. Jumping genes: A quantum leap in tauopathy research. *Mov Disord*. 2018 Dec 14. doi: 10.1002/mds.27551. [Epub ahead of print] PubMed PMID: 30549316.
203. Prasad S, Pal PK. Reclassifying Essential Tremor: Implications for the future of past research. Accepted for publication in *Movement Disorders*.
204. Stezin A, Kamble N, Jhunjhunwala K, Prasad S, Pal PK. Clinical utility of longitudinal measurement of motor threshold in Wilson's disease. Accepted for publication in the *Canadian Journal of Neurological Sciences*.

ii) List of Publications in Journals not listed in Medical Databases (3)

1. **Pal PK** Diagnosis of Early Parkinson's Disease. *National Bulletin on Parkinson's Disease* 2000; Oct-Dec: 2-9.
2. **Pal PK**. 'Autonomic dysfunction in diabetes mellitus'. *Diabetic Practice*, Sept. and Dec. issues, 2002.
3. **Pal PK**. Central nervous system involvement in diabetes mellitus: A Review. *Diabetic Practice (IJIM Special Issue on Diabetes)*, June 2004, 1-8.

iii) List of Chapters in the Books published (31):

- 1 **Pal PK**, Stoessl AJ. *Book Chapter* 'Positron emission tomography in Parkinson's disease' In: Sinha KK and Chandra P Eds. *Advances In Clinical Neurosciences* published by The Associations of Neuroscientists of Eastern India; 1999: pp 395-415.
- 2 **Pal PK**. *Book Chapter*: 'Parkinson's Disease'. In: Ramakrishna T. Ed. *Human Brain: Essays on Awareness*. Publication Division, University of Calicut, 2001: pp69-88.
- 3 **Pal PK**, Samii A, Calne, DB. *Book Chapter* 'Manganism in neurodegeneration and parkinsonism: mechanism, pathology, and comparison to Parkinson's disease'. In: Segura-Aguilar J. Ed. *Role of reactive catecholamine species in neurodegeneration and apoptosis of dopaminergic neurons*. Sulzburger & Graham Publishing Ltd., Johnson City, TN; 2001: pp67-84
- 4 Meenakshi-Sundaram S, **Pal PK**, Taly AB, Nair KPS. *Book Chapter* 'Rehabilitative Challenges in the management of Parkinson's Disease'. In: Taly AB, Nair KPS, Murali T. Eds. *Neurorehabilitation: Principles & Practice*. Ahuja Book Company PVT. Ltd.; 2nd edition 2001: pp 140-148.
- 5 **Pal PK**, Samii A, Calne, DB. *Book Chapter* 'Cardinal features of early Parkinson's disease'. In: Factor SA and Weiner WJ Eds. *Parkinson's Disease at the Millennium*. Demos Medical Publishing, Inc., New York; 2002: pp 41-56
- 6 **Pal PK** & Wszolek ZK. *Book Chapter* 'Familial Parkinsonism'. In. "Reviews in Neuroscience" published by Indian Academy of Neurology, India, 2002.
- 7 **Pal PK** & Wszolek ZK. *Book Chapter* 'Heredofamilial Parkinsonism'. In Ebadi M, and Pfeiffer RF, Eds. "*Parkinson's Disease*" CRC Press, Washington, D.C., 2005: pp 139-158.

- 8 **Pal PK** and Chen R. Electrophysiologic Evaluation of Movement Disorders: An Overview. *Book Chapter* in Mehrotra TN, Bhattacharya KB eds. "*Parkinson's Disease and Movement Disorders*". Jaypee Brothers Medical Publishers (P) Ltd., New Delhi. 1st Edition. 2005; Chapter 19: pp 146-158.
- 9 **Pal PK**, Zbigniew K. Wszolek. Genetics of Parkinson's disease. A progress in understanding of PARK1 locus (alpha-synuclein mutations). *Book Chapter* in Res Adv Neurol 2005; 2:13-37.
- 10 **Pal PK**, Netravathi N. Role of Electrophysiology in the Evaluation of Movement Disorders. *Book Chapter* in Rajshekhar V and Bhattacharyya KB eds. *Progress in Clinical Neurosciences*, Vol. 22. Pg. 16-29, Byword Books Pvt. Ltd. (Published by Neurological Society of India), 2007.
- 11 **Pal PK**. Cerebellar Ataxias. In Shah SN ed. *Book Chapter* in *API Textbook of Medicine*, Edn. 7, Pg. 1204-1213, 2008.
- 12 **Pal PK**. Psychogenic Movement Disorders. *Book Chapter* in Das SK ed. *Movement disorders-A Clinical and Therapeutic Approach*, Jaypee Brothers, New Delhi, January, 2009, 357-369.
- 13 D. Nagaraja, **Pramod Kumar Pal**, N. Karthik. Management of Parkinson's Disease: What is new? *Book Chapter* in Muralidhar S. Rao and Milind Y. Nadkar (Eds) *Medicine Update*, Volume 20, 2010; 734-739.
- 14 Madhu Nagappa, **Pramod Kumar Pal**. Recent Advances in the Management of Dystonia. *Book Chapter* in Satish Khadilkar and Gangandeeep Singh (Eds) *Reviews in Neurology* 2011, Published by the Continuing Medical Education Program of the Indian Academy of Neurology, Ludhiana. 2011; 41-72.
- 15 Ravi Yadav & **Pal PK**. Impulse Control Disorders in Parkinson's Disease. *Book Chapter* in Sinha KK and Jha DK eds. *Movement disorders*, The Association of Physicians of India, Indian College of Physicians, Ranchi, January, 2012, pgs 47-75.
- 16 Hrishikesh Kumar & **Pal PK**. Stiff Person Syndrome. *Book Chapter* in Sinha KK and Jha DK eds. *Movement disorders*, The Association of Physicians of India, Indian College of Physicians, Ranchi, January, 2012, pgs. 105-122.
- 17 M. Netravathi & **Pal PK**. tremor. *Book Chapter* in Sinha KK and Jha DK eds. *Movement disorders*, The Association of Physicians of India, Indian College of Physicians, Ranchi, January, 2012, pgs. 132-142.
- 18 Nagaraj S Moily, Meera Purushottam, **Pal PK** & Sanjeev Jain. Huntington's Disease. *Book Chapter* in Sinha KK and Jha DK eds. *Movement disorders*, The Association of Physicians of India, Indian College of Physicians, Ranchi, January, 2012, pgs.213-234.
- 19 Madhu Nagappa & **Pal PK**. Drug Induced Movement Disorders. *Book Chapter* in Sinha KK and Jha DK eds. *Movement disorders*, The Association of Physicians of India, Indian College of Physicians, Ranchi, January, 2012, pgs. 253-273.
- 20 YC Janardhan Reddy & **Pal PK**. Psychogenic Movement Disorders. *Book Chapter* in Sinha KK and Jha DK eds. *Movement disorders*, The Association of Physicians of India, Indian College of Physicians, Ranchi, January, 2012, pgs. 375-384.
- 21 **Pramod Kumar Pal**. Cerebellar Disorders. *Book Chapter* in Yash Pal Munjal ed. *API Textbook of Medicine, 9th Edition*, The Association of Physicians of India, Jaypee Brothers Medical Publishers (P) Ltd. Mumbai, 2012, pgs. 1468-1476.
- 22 **Pramod Kumar Pal** & Ketaki Ravindra Jhavar. Parkinson's Disease Management: Newer Perspectives. *Book Chapter* in BB Thakur Ed. *Postgraduate Medicine*. Vol. XXVI, Jaypee Brothers Medical Publishers (P) Ltd. Mumbai, 2012, pgs. 1468-1476. Ltd. New Delhi, 2012, pgs. 346-356.

- 23 Yadav R & **Pal PK**. Psychosis in Parkinson's Disease. Chapter 10. *Book Chapter* in Ashok Singh Ed. Movement Disorders. First Edition. Jaypee Brothers Medical Publishers (P) Ltd, New Delhi, 2013, pgs. 76-83.
- 24 **Pramod Kumar Pal** & Robert Chen. Breathing and the Nervous System. *Book Chapter* in Aminoff Ed. Neurology and General Medicine, 5th Edition, Elsevier Publication. *Under publication*.
- 25 M. Netravathi & **Pramod Kumar Pal**. Crebellar Disorders. *Book Chapter* in Yash Pal Munjal ed. API Textbook of Medicine, 10th Edition, The Association of Physicians of India, Jaypee Brothers Medical Publishers (P) Ltd. Mumbai, 2015.
- 26 M Netravathi, **PK Pal**, P Satishchandra. Approach to Bladder, Bowel, and Sexual Dysfunction. Book Chapter in Sudesh Prabhakar and Gagandeep Singh ed. Differential Diagnosis in Neurology. Jaypee Brothers Medical Publishers (P) Ltd. 2015.
- 27 M Netravathi, P Satishchandra, **PK Pal**. Approach to Gait Disorders. Book Chapter in Sudesh Prabhakar and Gagandeep Singh ed. Differential Diagnosis in Neurology. Jaypee Brothers Medical Publishers (P) Ltd. 2015.
- 28 Lenka A, Padmakumar C, **Pal PK**; *Treatment of Older Parkinson's Disease*. Int Rev Neurobiol. 2017; 132:381-405. doi: 10.1016/bs.irn.2017.01.005.
- 29 Sauerbier A, Lenka A, Aris A, **Pal PK**: *Non-motor Symptoms in Parkinson's Disease: Gender and Ethnic Differences*. Int Rev Neurobiol. 2017;133:417-446. doi: 10.1016/bs.irn.2017.05.032.
- 30 Nitish Kamble, **Pramod Kumar Pal**: Advanced Parkinson's Disease. IAN Textbook of Neurology. 2017.
- 31 Shweta Prasad, **Pramod Kumar Pal**: Early Parkinson's Disease. IAN Textbook of Neurology. 2017.

SCIENTIFIC PRESENTATIONS IN CONFERENCES

(A) SCIENTIFIC PAPERS PRESENTED (AS FIRST AUTHOR):

1. "Cerebellar ataxia with slow eye movement: A clinical, electrophysiological and CT study" presented in 39th Annual Conference of Neurological Society of India, held at Indore, India, 1990.
2. "Primary neuritic leprosy-An experience of 10 years (1979-88) at NIMHANS" presented in 40th Annual Conference of Neurological Society of India, held at Manipal, India, 1991.
3. "Computed tomographic study in early onset cerebellar ataxia with retained tendon reflexes (EOCA) and olivopontocerebellar atrophy (OPCA)" presented in Ist Annual Conference of Indian Academy of Neurology, held at Ranchi, India, 1993.
4. "Olivopontocerebellar atrophy and early onset cerebellar ataxia with retained tendon reflexes: A neuropsychological evaluation", presented in the First International Conference on organization and delivery of neurological services, held at New Delhi, India, 1994.

5. "Early onset cerebellar ataxia with retained tendon reflexes: A clinical, electrophysiological and computed tomographic study " presented in the 43rd Annual Conference of Neurological society of India held at Bangalore, India, 1994.
6. "Clinical and electrophysiological studies in vincristine induced neuropathy" presented in the 44th Annual Conference of Neurological society of India, held at New Delhi, India, 1995.
7. "Cold autoimmune haemolytic anaemia with neurological manifestations: A case report" presented in the III Andhra Pradesh Neuroscientists Meeting, held at Tirupati, Andhra Pradesh, India, 1996.
8. "Hypokalemic paralysis-A new look at the clinical spectrum" presented in the III Andhra Pradesh Neuroscientists Meeting, held at Tirupati, Andhra Pradesh, India, 1996.
9. "Rapid alternating two-finger tapping test is an age-independent objective measurement of parkinsonism and correlates with the Ki of [18F]-DOPA" presented in the 5th International Congress of Parkinson's Disease and *Movement* Disorders, held at New York, USA, 1998.
10. "Head Tremor in Cervical Dystonia" presented in the 51st Annual Meeting of the American Academy of Neurology, held at Toronto, Canada, 1999.
11. "[¹⁸F]-DOPA positron emission tomographic study in Juvenile Parkinsonism: A case report". --At the XIII International Congress on Parkinson's Disease, 1999, Vancouver, Canada.
12. "Botulinum-A toxin in the treatment of sialorrhoea in patients with Parkinson's disease". -- At the XIII International Congress on Parkinson's Disease, 1999, Vancouver, Canada.
13. "Syndrome of familial early onset extrapyramidal disorder with premature cataract" presented in the VIII Annual Conference of Indian Academy of Neurology, Madurai, India, 2000.
14. Presented interesting Video cassettes on Movement Disorders in the National Symposium in Movement Disorders, held at Kolkata, India, November, 2000.
15. Presented interesting Video cassettes on Movement Disorders in the 7th National Movement Disorder and Parkinson's Disease Surgery Workshop, held at Mumbai, India, January, 2001.
16. "Prognostic factors in Cerebral malaria: A study of 80 cases" presented in the XVII World Congress of Neurology, London, 17-22 June 2001.
17. "Sleep disturbances in patients with Parkinson's disease and their Caregivers" presented in the XIV International Congress on Parkinson's Disease, 27th July - 1st August, 2001, at Helsinki, Finland.
18. "Subclinical Pulmonary Dysfunctions in Parkinson's Disease" presented in the 7th International Congress of Parkinson's Disease and *Movement* Disorders, Miami, Florida, 2002.
19. "Asymmetry in transcallosal inhibition" presented in the 55th Annual Meeting of the American Academy of Neurology, Honolulu, Hawaii, 2003.
20. "Effect of Low Frequency Transcranial Magnetic Stimulation on Interhemispheric Inhibition" presented in the 56th Annual Meeting of the American Academy of Neurology, San Francisco, 2003.
21. "Low frequency subthalamic nucleus stimulation worsens bradykinesia in Parkinson's disease" in the 8th International Congress of Parkinson's Disease and Movement Disorders, Rome, Italy, June 13-17, 2004.
22. "Reduced intracortical and interhemispheric inhibitions in corticobasal degeneration" in the 8th International Congress of Parkinson's Disease and Movement Disorders, Rome, Italy, June 13-17, 2004.

23. "Childhood Dystonia: An Analysis of 48 cases" in the PEDICON 2005 Conference at Kolkata, India, 6-9th January, 2005.
24. "Balance in Spinocerebellar Ataxias: A Quantitative Evaluation" presented in the XVIII World Congress of Neurology, Sydney, 5-11 November 2005.
25. "Clinical and radiological features of Spinocerebellar Ataxia Type 1 (SCA1): A report of 12 patients from Southern India" presented in the XVIII World Congress of Neurology, Sydney, 5-11 November 2005.
26. "Monomelic Amyotrophy: Is Central Motor Conduction Abnormal?" At the XIV Annual Conference of Indian Academy of Neurology, 6th-8th October, 2006, Bangalore, India.
27. "Extrapyramidal signs in autosomal dominant spinocerebellar ataxias (SCA1, SCA2, and SCA3)", at the 10th International Congress of Parkinson's Disease and Movement Disorders, held at Kyoto, Japan, 28th October to 2nd November, 2006.
28. "Successful treatment of tremor in Wilson's disease by thalamotomy: A case report," at the 10th International Congress of Parkinson's Disease and Movement Disorders, held at Kyoto, Japan, 28th October to 2nd November, 2006.
29. "Measurement of Central Motor Conduction Time to evaluate subclinical dysfunction of the Central Motor Pathways" in the International Clinical Neurophysiology Update Conference held at NIMHANS from April 6-8, 2007.
30. "A Comparative Study of Multimodal Evoked Potentials in Spinocerebellar Ataxia Types 1, 2 and 3" at the 12th International Congress of Parkinson's Disease and Movement Disorders, held at Chicago, USA, 22nd-26th June, 2008.
31. "Psychogenic Movement Disorders: A Profile of 22 patients from India" at the 12th International Congress of Parkinson's Disease and Movement Disorders, held at Chicago, USA, 22nd-26th June, 2008.
32. "Subclinical Pulmonary Dysfunction in Spinocerebellar Ataxias 1, 2 and 3" at the XVIIth Annual Conference of the Indian Academy of Neurology (IANCON-2009) held at Cochin from 11th to 13th September, 2009.
33. "Posturographic valuation of Progressive Supranuclear Palsy" at the 18th Annual Conference of Indian Academy of Neurology (IANCON 2010) held at Trichy, Tamil Nadu from 24th -26th September, 2010.
34. "Prevalence and Profile of Restless Legs Syndrome in Parkinson's Disease and other neurodegenerative disorders: A case control study" at the 14th International Congress of Parkinson's Disease and Movement Disorders held in Buenos Aires, Argentina, from June 13-17, 2010.
35. "Alterations in cortical excitability and central motor conduction time in spinocerebellar ataxias 1, 2 and 3: A comparative study" at the 19th Annual Conference of Indian Academy of Neurology (IANCON 2011) held at Pune, 22nd -25th September, 2011.
36. "A clinical profile of 1000 patients of Parkinson's disease attending NIMHANS in the last decade." **Pramod Kumar Pal**, Anil Kumar S, Ravi Yadav. at the 20th Annual Conference of Indian Academy of Neurology (IANCON 2012) held in Ahmedabad from 4th -7th October, 2012.
37. "Sleep disturbances in Huntington's disease" **Pramod Kumar Pal**, Menka Jha, Ravi Yadav. at the 21st Annual Conference of Indian Academy of Neurology (IANCON 2013) held in Indore, October, 2013.
38. "Diffusion Tensor Imaging study in patients with Parkinson's disease: Comparison between those with and without Re-emergent tremor" **Pramod Kumar Pal**, M. Pooja, Ravi Yadav, Jitender Saini, at the 18th International Congress of Parkinson's Disease and Movement Disorders held in Stockholm, Sweden, from June 8-12, 2014.
39. "Psychogenic Movement Disorders: A clinical profile of 73 patients" **Pramod Kumar Pal**, Nitish Kamble, Menka Jha, DK Prashanth, M. Netravathi, YC Janardhan Reddy, at

the 22nd Indian Academy of Neurology Conference held at Chandigarh from 6th to 9th October, 2014.

40. "Progressive atrophy of Parahippocampal gyrus correlates with Hoehn & Yahr stages of Parkinson's Disease: A Voxel Based Morphometry study". Pramod Kumar Pal, Rajini M Naduthota, Lija George, Ketan Jhunjhunwala, Jitender Saini, Rose Dawn Bharath, Abhishek Lenka, Ravi Yadav, at the 20th International Congress of Parkinson's Disease and Movement Disorders held in Berlin, Germany, from June 19-23, 2016.
41. "Predictors of onset of psychosis in Parkinson's disease: "Who gets it early?" Pramod Kumar Pal, Abhishek Lenka, Lija George, Shyam Sundar Arumugham, Shantala Hegde, Nitish Kamble, Ravi Yadav at the 21st International Congress of Parkinson's Disease and Movement Disorders held in Vancouver, Canada, from June 4-8, 2017.

(B) SCIENTIFIC PAPERS PRESENTED AS CO-AUTHOR:

1. "Acute ataxic neuropathy-A heterogenous electrophysiologic entity" KR Naik, AO Saroja, PK Pal presented in the III Andhra Pradesh Neuroscientists Meeting, held at Tirupati, India, 1996.
2. "Carbamazepine induced aplastic anemia-Case report" KR Naik, C Chandrashekar, AO Saroja, PK Pal, presented in the III Andhra Pradesh Neuroscientists Meeting, held at Tirupati, India, 1996.
3. "Cerebral venous sinus thrombosis in men" D. Nagaraja, Shaji CV, Veerendra Kumar M, Pal PK, presented in the VIII Annual Conference of Indian Academy of Neurology, held at Madurai, India, 2000.
4. "Preliminary observations on intravenous v/s subcutaneous heparin in CVT" D. Nagaraja, Shaji CV, Veerendra Kumar M, Pal PK, presented in the VIII Annual Conference of Indian Academy of Neurology, held at Madurai, India, 2000.
5. "Enteroviruses and diseases of the nervous system: A neurovirological study" KC Bharathi, D Nagaraja, SN Madhusudana, PK Pal, presented in the VIII Annual Conference of Indian Academy of Neurology, held at Madurai, India, 2000.
6. "Causes and Problems in Diagnosis of Dementia: A Study in a Hospital-Based Population from Southern India" Ratnavalli E, Veerendrakumar M, Pal PK, Nagaraja D, Jayakumar PN, presented in the 53rd Annual meeting of the American Academy of Neurology, held at Philadelphia, USA, May 5-11, 2001.
7. "Subclinical pulmonary Functions in Parkinson's disease: Beneficial effect of Levodopa". Sathyaprabha TN, Pal PK, Tuhina P, Thennarasu K, Raju TR, presented at the International Conference on Chest disease and Allied Sciences, at VP chest Institute, New Delhi, India, Jan 12-14, 2003. "Pulmonary Function Tests in Autosomal Dominant Cerebellar Ataxia". Datta P., Sathyaprabha TN, Pal PK, Dheeraj K, Netravathi K, Thennarasu K, Raju TR., presented at the National Neuroscience Conference, NIMHANS, Bangalore, India, 2004.
9. "Quantitative Evaluation of Balance in Spinocerebellar Ataxias". Usha BR, Dheeraj K, Ganapathy VS, Sendil K, Sujo T, Thennarasu K, Nair S, Pal PK, at the XXXIII Annual National Conference of Indian Association of Physical Medicine and Rehabilitation-2005, held at NIMHANS, Bangalore, India, 28th-30th January, 2005.
10. "Autonomic Dysfunctions in Degenerative Ataxias". Netravathi M, Datta P, Netravathi K, Nirmala M, Sathyaprabha TN, Pal PK, at the 13th Indian Academy of Neurology Conference, 23rd -25th September, 2005, at Jaipur, India. "Ataxia Telangiectasia: A Profile of Forty-Five Patients".

12. Santhosh DV, **Pal PK**, at the 13th Indian Academy of Neurology Conference, 23rd –25th September, 2005, at Jaipur, India.
13. “Heart Rate Variability in Autosomal Dominant Spinocerebellar Ataxia”. Yashavantha BS, Sathyaprabha TN, **Pal PK**, at the XIV Annual Conference of Indian Academy of Neurology, 6th-8th October, 2006, Bangalore, India.
14. “Profile of Epidemiological Risk and Protective Factors in Young and Late-onset Idiopathic Parkinson’s Disease” Chandran V, **Pal PK**, at the XIV Annual Conference of Indian Academy of Neurology, 6th-8th October, 2006, Bangalore, India.
15. “Rate of Disease Progression in Spinocerebellar Ataxias Correlates with Size of CAG Repeat Lengths” Netravathi M, Yashavantha BS, Purushottam M, **Pal PK**, at the XIV Annual Conference of Indian Academy of Neurology, 6th-8th October, 2006, Bangalore, India.
16. “Profile and Quality of sleep among Medical Residents: An exploratory Study” Taly AB, Gupta A, **Pal PK**, Girish N, Gururaj G at the XIV Annual Conference of Indian Academy of Neurology, 6th-8th October, 2006, Bangalore, India.
17. Spinal Cord Disorders: A Clinico-Electrophysiological Correlation with Special Reference to Complete and Incomplete Transaction, at the XIV Annual Conference of Indian Academy of Neurology, 6th-8th October, 2006, Bangalore, India.
18. Gupta A, **Pal PK**, Taly AB at the XIV Annual Conference of Indian Academy of Neurology, 6th-8th October, 2006, Bangalore, India.
19. “Evaluation of Sensory and Motor Pathways in Patients with Optic Neuritis Using Multimodal Evoked Potentials and Transcranial Magnetic Stimulation” Kumar S, **Pal PK**, at the XIV Annual Conference of Indian Academy of Neurology, 6th-8th October, 2006, Bangalore, India.
20. “An Unusual Case of Rapidly Progressive Muscle Contractures” Subasree R, Panda S, **Pal PK**, Veerendrakumar M, Nagaraja D, Ravishankar S, Chandrashekar HS. at the XIV Annual Conference of Indian Academy of Neurology, 6th-8th October, 2006, Bangalore, India.
21. “A Clinical Profile of 82 Patients with Hemifacial Spasm”, Pasha SA, **Pal PK**, presented at the XV Annual Conference of Indian Academy of Neurology, 6th-8th October, 2007, Mumbai.
22. “Association of Incontinentia Pigmenti (Bloch-Sulzberger Syndrome) with Hereditary Motor Sensory Neuropathy: A case report”, Sanju P J, Suresh K, Panda S, Girish GB, **Pal PK**, Yasha, T, presented at the XV Annual Conference of Indian Academy of Neurology, 6th-8th October, 2007, Mumbai.
23. “Quantitative evaluation of balance in patients with Spinocerebellar Ataxia Type 1: A Case control study” Mohan G, **Pal PK**, Sendhil KR, Thennarasu K, Usha BR. International congress of Parkinson’s disease and Movement disorder 2008, Chicago, IL, USA June 22-26, 2008.
24. “Spinocerebellar ataxias type 1, 2 and 3: a study of heart rate variability” **Pradhan C**, Yashavantha BS, **Pal PK**, Sathyaprabha TN. International congress of Parkinson’s disease and Movement disorder 2008, Chicago, IL, USA June 22-26, 2008.
25. “Effect of Levodopa on Heart rate variability in Parkinson’s disease” Sriranjini S Jaideep, **Pramod Kumar Pal**, Mohan Ganesan, Sathyaprabha TN at the 13th International Congress of Parkinson’s disease and Movement Disorders held at Paris, France, 7 11 June 2009.
26. “Dynamic posturography in evaluation of balance in patients of Parkinson’s disease with normal pull test” Mohan Ganesan, **Pramod Kumar Pal**, Anupam Gupta, Sathyaprabha TN at the 13th International Congress of Parkinson’s disease and Movement Disorders held at Paris, France, 7 11 June 2009.

27. Mohan G, **Pal PK**, Gupta A, Sathyaprabha TN. “Effect of Partial Weight Supported Treadmill Gait Training on Balance in Patients with Parkinson’s Disease” - 3rd International Congress on Gait & Mental function. Washington D.C., USA, February 26-28, 2010.
28. Anupam Gupta, Mohan G, **Pal PK**, Sathyaprabha TN. Effect of Partial Weight Supported Treadmill Gait training on gait parameters in patients with Parkinson's Disease International Congress on Neurology and Rehabilitation (ICNR) , April 23- 25, 2010,Goa, INDIA.
29. Sathyaprabha TN, Mohan G, **Pal PK**, Anupam Gupta, Sriranjini SJ, Sajish C, Raju TR. Effect of Partial Weight Supported Treadmill Gait training on cardio autonomic modulation in patients with Parkinson's Disease – 14th International Congress of Parkinson's Disease and Movement Disorders, June 13- 17, 2010, Beunos Aires, Argentina.
30. Sriranjini S J, Sathyaprabha T N, Nagaraja D, **Pramod Kumar Pal**, Lavekar G S, Raju TR. Effect of Ayurveda (Indian system of medicine) treatment on cardiac autonomic dysfunction in stroke (pakshaghata): an electrophysiological assessment; 7th World Stroke Congress, Seoul, Korea, October 2010.
31. Sriranjini S J, Sathyaprabha T N, Nagaraja D, **Pal P K**, Raju T R, Sudhakar D. Cardiac autonomic modulation after ayurveda treatment in stroke (pakshaghata); Society for Neuroscience annual meeting, Neuroscience 2010, San Diego, California, November 2010.
32. Sriranjini S J, Sathyaprabha T N, Nagaraja D, **Pal P K**. Effect of Ayurveda therapies on motor recovery in pakshaghata; Lavekar G S, Raju TR; World Ayurveda Congress, Bangalore, India, December 2010.
33. Vijay Chandran, **Pramod Kumar Pal**, N. Shivashankar, Ravi Yadav. Non-motor features of Essential Tremor. Presented at the 18th Annual Conference of Indian Academy of Neurology (IANCON 2010) held at Trichy, Tamil Nadu from 24th -26th September, 2010.
34. Sriranjini S Jaideep, Prashantha DK, Sathyaprabha TN, Nagaraja D, **Pramod Kumar Pal**, Lavekar GS, Raju TR. “Motor cortical excitability changes after ischemic stroke” at the XXth World Congress on Neurology, WCN 2011, held in Marrakesh, Morocco, November 12-17, 2011.
35. “Spinocerebellar ataxia 3: Phenotypic, genotypic characteristics with electrophysiologic and evoked potential findings.” Ravi Yadav, **Pramod Kumar Pal**, Amar BR, Sanjeev Jain, at the 20th Annual Conference of Indian Academy of Neurology (IANCON 2012) held in Ahmedabad from 4th -7th October, 2012.
36. “Spectrum of Impulsive and Compulsive Behaviour Disorders in Parkinson’s disease.” Anil Kumar S, **Pramod Kumar Pal**, YC Janardhan Reddy, Ravi Yadav, at the 20th Annual Conference of Indian Academy of Neurology (IANCON 2012) held in Ahmedabad from 4th -7th October, 2012.
37. “Cognition in early Parkinson's disease and the effect of laterality of motor symptoms”. Ravi Yadav, Sikandar Adwani, SR Chandra, **Pramod Kumar Pal**. at the 20th World Congress on Parkinson’s Disease and Related Disorders, Geneva, Switzerland, 8th-11th December, 2013.
38. “Subcortical structural abnormalities in essential tremor: MR volumetry and vertex based analysis”. Jitender Saini, Ketaki Bhalsing, Ravi Yadav, Bhavanishankar Bagepaaly, **Pramod Kumar Pal**”. at the 20th World Congress on Parkinson’s Disease and Related Disorders, Geneva, Switzerland, 8th-11th December, 2013.

39. "Impulse control disorders in Parkinson's disease: a case-control study". Anilkumar Sivan, Ravi Yadav, **Pramod Kumar Pal**". at the 20th World Congress on Parkinson's Disease and Related Disorders, Geneva, Switzerland, 8th-11th December, 2013
40. "Treatment profile of 1000 patients with Parkinson's disease at the time of referral to a tertiary care centre in India". S. Pratibha, Anilkumar Sivan, Ravi Yadav, **Pramod Kumar Pal**". at the 20th World Congress on Parkinson's Disease and Related Disorders, Geneva, Switzerland, 8th-11th December, 2013.
41. "Comparison between early and late onset Parkinson's disease: a profile of 1000 patients from India". Anilkumar Sivan, Ravi Yadav, **Pramod Kumar Pal**". at the 20th World Congress on Parkinson's Disease and Related Disorders, Geneva, Switzerland, 8th-11th December, 2013.
42. "Clinical profile of 125 patients of Writers Cramp from India" Ketan Jhunjhunwala, **Pramod K Pal**, at the 18th International Congress of Parkinson's Disease and Movement Disorders held in Stockholm, Sweden, from June 8-12, 2014.
43. "A profile of 191 patients with Essential Tremor: Comparison of those with and without Head tremor" Abhishek Lenka, Ketaki Swapnil Bhalsing, Ketan Ramakant Jhunjhunwala, Vijay Chandran, **Pramod Kumar Pal**, at the 18th International Congress of Parkinson's Disease and Movement Disorders held in Stockholm, Sweden, from June 8-12, 2014.
44. "Gray matter volume change correlates with oxidative stress biomarker in Parkinson's disease" Rajini M Naduthota, Dr.Ketan Jhunjhunwala, Ravi Yadav, Jitender Saini, Rose Dawn Bharath, Rita Christopher, **Pramod Kr. Pal**, at the 4th Asian and Oceanian Parkinson's Disease and Movement Disorders Congress held at Pattaya, Thailand from November 28-30, 2014.
45. "Structural correlates of cognitive impairments in Essential tremor" Ketaki S Bhalsing, Keshav Kumar J, Jitender Saini, Ravi Yadav, Arun K. Gupta, **Pramod Kr. Pal**, at the 4th Asian and Oceanian Parkinson's Disease and Movement Disorders Congress held at Pattaya, Thailand from November 28-30, 2014.
46. "Evaluation of saccadic eye movements in patients with Parkinson's disease: Effect of levodopa". Abhishek Lenka, Ketan Ramakant Jhunjhunwala, Raviteja Kotikalapudi and **Pramod Kumar Pal**, at the 19th International congress of Parkinson's disease and movement disorders, San Diego, USA, 14th to 18th June 2015.
47. "What determines the behavioral onset in Huntington's disease? Insight from 90 genetically confirmed patients". Abhishek Lenka, Nitish L Kamble, Sowmya Venugopal, Ketan Ramakant Jhunjhunwala, Ravi Yadav, Netravathi M, Mahesh Kandasamy, Nagaraja Moily, Meera Purushottam, Sanjeev Jain and **Pramod Kumar Pal**, at the 18th International congress of Parkinson's disease and movement disorders, San Diego, USA, 14th to 18th June, 2015.
48. Pratibha Surathi, Abhishek Lenka, Ketan Jhunjhunwala, T.N Satyaprabha, Ravi Yadav, Netravathi.M, Dwarakanath Srinivas, **Pramod Kumar Pal**. Effect of STN-Deep Brain Stimulation on autonomic function in patients with PD;: 19th International Congress of Parkinson's Disease and movement Disorders, San Diego, USA, June 2015.
49. Ketan Jhunjhunwala, Raviteja Kotikalapudi, Abhishek Lenka, **Pramod Kumar Pal**. Eye-Hand coordination abnormalities in patients with writer's cramp; Ketan Jhunjhunwala, Raviteja Kotikalapudi, Abhishek Lenka, Pramod Kumar Pal: 19th International Congress of Parkinson's Disease and movement Disorders, San Diego, USA, June 2015.
50. "Corpus Callosum volumetry as a tool for differentiating subtypes of progressive supranuclear palsy". Abhishek Lenka, Shaik Afsar Pasha, Sandhya Mangalore, Ketan Ramakant Jhunjhunwala, Lija George, Bhawani Shankar Bagepally, Jitender Saini, Ravi

- Yadav, **Pramod Kumar Pal**, at the XXI World congress of Parkinson's disease and related disorders, Milan, Italy, 6th to 9th December, 2015.
51. "Exploring the grey matter correlates of Wilson's disease using voxel based morphometry." Albert Stezin Sunny, Lija George, Ketan Jhunjhunwala, Abhishek Lenka, Jitender Saini, Netravathi M, **Pramod Kumar Pal**, at the XXI World congress of Parkinson's disease and related disorders, Milan, Italy, 6th to 9th December, 2015.
 52. "A comparative study of Oxidative stress markers between the tremor dominant and akinetic-rigid subtypes of patients with Parkinson's disease". Rajini M Naduthota, Rita Christopher, Ravi Yadav, **Pramod Kumar Pal**, at the XXI World congress of Parkinson's disease and related disorders, Milan, Italy, 6th to 9th December, 2015.
 53. "Clinical Profile of Hundred Patients with Ataxia Telangiectasia from India". Manjunath M, Santhosh DV, Netravathi M, Ravi Yadav, **Pramod Kumar Pal**, at the XXI World congress of Parkinson's disease and related disorders, Milan, Italy, 6th to 9th December, 2015.
 54. "Diffusion Tensor Imaging study in patients with Parkinson's Disease: Comparison between tremor dominant and akinetic rigid subtypes". Rajini M Naduthota, Lija George, Ketan Ramakanth Jhunjhunwala, Jitender Saini, Rose Dawn Bharath, Ravi Yadav, **Pramod Kumar Pal** at the MDSICON-Chennai, 13th and 14th February 2016.
 55. "Assessment of subclinical cerebellar dysfunction in patients with progressive supranuclear palsy by SUI based volumetry". Abhishek Lenka, Shaik Afsar Pasha, Sandhya Mangalore, Lija George, Ketan Jhunjhunwala, Ravi Yadav, Jitender Saini, **Pramod Kumar Pal** at the 1st conference of the Movement Disorders Society of India (MDSICON), Chennai, India, January 2016.
 56. Abhishek Lenka, Ketan Jhunjhunwala, Rajanikant Panda, Ravi Yadav, Jitender Saini, Rose Dawn **Bharath, Pramod Kumar Pal**; *Altered brain network measures in patients with Primary Writing Tremor*. Presented (Platform) at the 2nd Annual Conference of the Movement Disorders Society of India (MDSICON-2017), 6th -8th January, 2017, NIMHANS, Bangalore.
 57. Rajini M Naduthota, Arush Arun Honnedevasthana, Abhishek Lenka, Jitender Saini, Sairam Geethanath, Rose Dawn Bharath, Rita Christopher, Ravi Yadav, Arun Kumar Gupta, **Pramod Kumar Pal**. *Association of freezing of gait with nigral iron accumulation in patients with Parkinson's disease*. Presented (Poster) at the 2nd Annual Conference of the Movement Disorders Society of India (MDSICON-2017), 6th -8th January, 2017, NIMHANS, Bangalore.
 58. Mathew Thomas Kollamkulam, Albert Stezin, Abhishek Lenka, Naveen Thota, Ravi Yadav, **Pramod Kumar Pal**; *Assessment of graphomotor impairment in patients with Spinocerebellar ataxia and Parkinson's disease*. Presented (Platform) at the 2nd Annual Conference of the Movement Disorders Society of India (MDSICON-2017), 6th -8th January, 2017, NIMHANS, Bangalore..
 59. Naveen Thota, Abhishek Lenka, Lija George, Venkateswar Reddy, Albert Stezin, Rajini M Naduthota, Shantala Hegde, A Shyam Sundar, Nitish Kamble, Ravi Yadav, **Pramod Kumar Pal**; *Frontal lobe dysfunction in patients with Parkinson's disease: A comparison between patients with and without psychosis*. Presented (Poster) at the 2nd Annual Conference of the Movement Disorders Society of India (MDSICON-2017), 6th -8th January, 2017, NIMHANS, Bangalore.
 60. Lija George, Abhishek Lenka, Venkateswar Reddy, Shantala Hegde, Shyam Sundar Arumugham, Jitender Saini, Nitish Kamble, Ravi Yadav, **Pramod Kumar Pal**; *Grey*

matter volume reduction in patients with Parkinson's disease and Visual Hallucinations. Presented (Poster) at the 2nd Annual Conference of the Movement Disorders Society of India (MDSICON-2017), 6th -8th January, 2017, NIMHANS, Bangalore.

61. Shweta Prasad, Abhishek Lenka, Nitish Kamble, Albert Stezin, Rajini Naduthota, Lija George, Naveen Thota, Ravi Yadav, **Pramod Kumar Pal**; *A comparison of early and late onset Parkinson's disease.* Presented (Poster) at the 2nd Annual Conference of the Movement Disorders Society of India (MDSICON-2017), 6th -8th January, 2017, NIMHANS, Bangalore.
62. Albert Stezin, Nitish Kamble, Abhishek Lenka, Ravi Yadav, **Pramod Kumar Pal**; *Clinical profile of patients with cortico-basal phenotype of Progressive Supranuclear Palsy.* Presented (Poster) at the 2nd Annual Conference of the Movement Disorders Society of India (MDSICON-2017), 6th -8th January, 2017, NIMHANS, Bangalore.
63. Albert Stezin, Abhishek Lenka, Manjunath Mahadevappa, Ravi Yadav, **Pramod Kumar Pal**. *Unusual case of recurrent falls in a young girl* (Knowledge Café)
64. Malliguri R Rukmani, Ravi Yadav, **Pramod Kumar Pal**, Binu Kumar B, Talakkad Satyaprabha. *Nature of cardiac autonomic dysfunction in Indians with probable MSA-P and MSA-C.* Presented (Platform) at the 2nd Annual Conference of the Movement Disorders Society of India (MDSICON-2017), 6th -8th January, 2017, NIMHANS, Bangalore.
65. Ravi Yadav, Saketh Kapoor, Mayank Madhukar, Rajini M, Pramod Kumar Pal, Arun Kumar; Genetic analysis of the Glucocerebrosidase gene in Indian patients with Parkinson's disease. Presented (Platform) at the 2nd Annual Conference of the Movement Disorders Society of India (MDSICON-2017), 6th -8th January, 2017, NIMHANS, Bangalore.
66. Abhishek Lenka, Naveen Thota, Ravi Yadav, **Pramod Kumar Pal**. Neurosyphillis presenting as abnormal facial movements and vocalizations. Presented (Video Akhada) at the 2nd Annual Conference of the Movement Disorders Society of India (MDSICON-2017), 6th -8th January, 2017, NIMHANS, Bangalore.
67. Nitish Kamble, Netravathi M, Manjunath M, Naveen T, **Pramod Kumar Pal**. Clinical Profile of Psychogenic Movement Disorders in Children Presented (Poster) at the 2nd Annual Conference of the Movement Disorders Society of India (MDSICON-2017), 6th -8th January, 2017, NIMHANS, Bangalore.
68. Shweta Prasad, Abhishek Lenka, Nitish Kamble, Ravi Yadav, **Pramod Kumar Pal** . Freezing of gait in Parkinson's disease: Clinical features and possible predictors. Presented at the 21st International Congress of Parkinson's Disease and Movement Disorders held in Vancouver, Canada, from June 4-8, 2017.
69. Mathew Thomas, Albert Stezin, Abhishek Lenka, Naveen Thota, Ravi Yadav, **Pramod Kumar Pal** . Assessment of graphomotor impairment in patients with Spinocerebellar ataxia and Parkinson's disease. Presented at the 21st International Congress of Parkinson's Disease and Movement Disorders held in Vancouver, Canada, from June 4-8, 2017.
70. Albert Stezin, Rajini MN, Ragasudha B, Shriram V, Abhishek Lenka, Jitender Saini, Ravi Yadav, **Pramod Kumar Pal**. Clinical utility of visualisation of Nigrosome-1 in patients with Parkinson's disease. Presented at the 21st International Congress of

Parkinson's Disease and Movement Disorders held in Vancouver, Canada, from June 4-8, 2017.

71. Abhishek Lenka, Ketan Jhunjhunwala, Rajanikant Panda, Jitender Saini, Ravi Yadav, Rose Dawn Bharath, **Pramod Kumar Pal**. Altered brain network measures in patients with primary writing tremor. Presented at the 21st International Congress of Parkinson's Disease and Movement Disorders held in Vancouver, Canada, from June 4-8, 2017.
72. Kamble N, Mastammannavar VK, Yadav R, Netravathi M, Kumar K, **Pal PK**. Non-motor symptoms in patients with autosomal dominant spinocerebellar ataxia. XXII World congress on Parkinson's disease and related disorders. Ho Chi Minh City, Vietnam, 12-15 November 2017.
73. Shweta Prasad, Venkateswara Reddy R, Selva Ganapathy Velayutham, Albert Stezin, **Pramod Kumar Pal**. Shaky and unsteady: Dynamic posturography in essential tremor. Presented (Poster) at the XXII World Congress on Parkinson's Disease and Related Disorders, 12th -15th November 2017, Ho Chi Minh City, Vietnam.
74. Albert Stezin, Naveen Thota, Abhishek Lenka, Shweta Prasad, Ravi Yadav, **Pramod Kumar Pal**. The diagnostic utility of next generation DNA sequencing in movement disorders. Presented (Platform) at the 3rd Annual Conference of the Movement Disorders Society of India (MDSICON-2018), 19th-21st January, 2018, Hyderabad, India.
75. Shweta Prasad, Venkateswara Reddy Reddam, Albert Stezin, Ravi Yadav, Jitender Saini, **Pramod Kumar Pal**. Drug and disease: Impulse control disorders in Parkinson's Disease. Presented (Platform) at the 3rd Annual Conference of the Movement Disorders Society of India (MDSICON-2018), 19th-21st January, 2018, Hyderabad, India.
76. Chaithra SP, Vikram V Holla, Albert Stezin, Sowmya DV, Abhishek Lenka, Shweta Prasad, Meera Purushottam, Ravi Yadav, Sanjeev Jain, **Pramod Kumar Pal**. Non-ataxic symptoms and their determinants in Spinocerebellar ataxia 2. Presented (Poster) at the 3rd Annual Conference of the Movement Disorders Society of India (MDSICON-2018), 19th-21st January, 2018, Hyderabad, India.
77. Vikram V Holla, Abhishek Lenka, Chaithra SP, Albert Stezin, Shweta Prasad, Nitish Kamble, Ravi Yadav, **Pramod Kumar Pal**. Non-motor symptoms in patients with Parkinson's Disease: Effect of gender, disease severity, and disease phenotype. Presented (Poster) at the 3rd Annual Conference of the Movement Disorders Society of India (MDSICON-2018), 19th-21st January, 2018, Hyderabad, India.
78. Abhishek Lenka, Madhura Ingalhalikar, Apurva Shah, Jitender Saini, Shyam Sundar Arumugham, Shantala Hegde, Lija George, Venkateswara Reddy, Ravi Yadav, **Pramod Kumar Pal**. Impaired executive and visual network integrity in patients with Parkinson's disease and psychosis: A structural connectome based study; 3rd Annual conference of Movement Disorders Society of India (MDSICON) 19th-21st January 2018; Hyderabad, India (Platform)
79. Kamble N, Lenka A, **Pal PK**. Bereitschaft's potential in determining the etiology of chronic hiccups: A case report. 6th Asian-Oceanian Congress of Clinical Neurophysiology (AOCCN), Bengaluru, India, 10th-12 November 2017.
80. Shweta Prasad, Venkateswara Reddy R, Selva Ganapathy Velayutham, Albert Stezin, **Pramod Kumar Pal**. Shaky and unsteady: Dynamic posturography in essential tremor. Oral poster presentation at the XXII World Congress on Parkinson's Disease and Related Disorders, Ho Chi Minh City, Vietnam – 12-15 November 2017.
81. Shweta Prasad, Venkateswara Reddy Reddam, Albert Stezin, Ravi Yadav, Jitender Saini, **Pramod Kumar Pal**. Drug and disease: Impulse control disorders in Parkinson's disease.

Platform presentation at the 3rd annual conference of the Movement Disorders Society of India (MDSICON), Hyderabad, India – January 2018.

82. Shweta Prasad, Apurva Shah, Ketaki Swapnil Bhalsing, Madhura Ingalthalikar, Jitender Saini, **Pramod Kumar Pal**. Beyond cerebellar involvement: Abnormal subcortical volumes in Essential tremor. Oral poster presentation at XXIII World Congress on Parkinson's Disease and Related Disorders, Lyon, France – 19-22 August 2018.
83. Shweta Prasad, Ketaki Swapnil Bhasing, Ketan Jhujhunwala, Abhishek Lenka, **Pramod Kumar Pal**. Phenotypic variability of Essential Tremor based on the age at onset. Poster presentation at 22nd International Congress of Parkinson's Disease and Movement Disorders, Hong Kong – 05-09 October 2018.
84. Shweta Prasad, Bharti Rastogi, Apurva Shah, Santosh Dash, Jitender Saini, **Pramod Kumar Pal**, Madhura Ingalthalikar. Altered structural connectivity of the motor subnetwork in multiple system atrophy with cerebellar features. Poster presentation at 16th Asian Oceanian Congress of Neurology, Seoul, South Korea. 08-11 November 2018.
- 85.

GUEST LECTURES/ FACULTY

1. "Classification and clinical features of stroke" in Continuing Medical Education (CME) on Stroke at Sri Venkateswara Institute of Medical Sciences, Tirupati, India, 1994.
2. "Evaluation of a patient with stroke" in CME on Stroke Sri Venkateswara Institute of Medical Sciences, Tirupati, India, 1994.
3. "Psychiatric manifestations in HIV infection" in Workshop on "Action Plans for HIV-AIDS control in India" organized and conducted by Indian Society of Health Administrators, held at Sri Venkateswara Institute of Medical Sciences, Tirupati, India, 1995.
4. "Approach to patients with neuromuscular disorders" in the Indian Medical Association (IMA) meeting held at Tirupati, India, 1996.
5. "Recent advances in the management of Parkinson's disease" keynote address at the 15th All India Medical Camp on Parkinson's disease, Cochin, India, 11th March, 2000.
6. "Electrodiagnosis in Neurological Disorders" – in the CME on Neurology organized by Kasturba Medical College, Mangalore, India, 2000.
7. "Clinical applications of Botulinum Toxin" - in the CME organized by Central Government Health Employees, Indian Medical Association Branch of Bangalore, India, 15th July, 2001.
8. "Electrophysiological evaluation of Movement Disorders" invited lecture at Bangur Institute of Neurology, Calcutta, India, 30th August, 2003.
9. "Psychogenic Tremors" invited lecture at Breakfast Session of the Indian Academy of Neurology meeting at Vishakapatnam, India, 30th September, 2003.

10. "Management of Advanced Parkinson's disease" invited lecture at Movement Disorders Workshop, Nizam's Institute of Medical Sciences (NIMS), Hyderabad, India, November, 2003.
11. "Psychogenic Movement Disorders" in the symposium entitled "Movement disorders in psychiatry-comorbidity or drug induced" at the 56th Annual National Conference of Indian Psychiatric Society, Mysore, India, 8th-11th January, 2004.
12. "Botulinum toxin-A in Hemifacial spasms, Blepharospasm and Headache" in the Movement Disorders Workshop in the Annual Meeting of the Associations of the Physicians of India, Hyderabad, India, 19th January, 2004.
13. "Inherited Ataxias" in the "Workshop on Balance" organized by Neurorehabilitation Department, NIMHANS, Bangalore, India, 20th September, 2004.
14. "Electrophysiological Evaluation in Diagnosis of Movement Disorders" in the 7th STEREOCON Conference, Bangalore, India, 29th September, 2004.
15. "Clinical features and Pathophysiology of Dystonia" in the Movement Disorders Workshop organized by NIMS, Hyderabad, India, 20th-21st November, 2004.
16. "Profile of Spinocerebellar Ataxias seen in South India" in the Movement Disorders Workshop organized by NIMS, Hyderabad, India, 20th-21st November, 2004.
17. "Management of Parkinson's disease" in CME for Postgraduate students of Karnataka, NIMHANS, Bangalore, October, 2005.
18. "Sleep and mood disturbances in PD: Management strategies" at the Movement Disorders symposium "Medical management strategies in advanced Parkinson's disease" at the XIV Annual Conference of Indian Academy of Neurology, 6th-8th October, 2006, Bangalore, India.
19. "Psychogenic Movement Disorders" at CME of Annual Conference of Association of Neuroscientists of Eastern India held at Santiniketan, West Bengal, India from 30th November 2006 to 2nd December 2006.
20. "Spinocerebellar Ataxias" at the Continuing Education in Neuropsychology-2007, February 23-24, 2007, NIMHANS, Bangalore, India.
21. "Therapeutic applications of Repetitive Magnetic Stimulation (rTMS) at the "International Update on Electrophysiology", held at NIMHANS, Bangalore, April, 2007.
22. "Management of Parkinson's Disease" at the API meet-local chapter of Port Blair, Andaman and Nicobar Islands, April, 2007.
23. "Video presentation of common Movement Disorders" at the Update on Dementia and Parkinson's Disease, Bhopal, June, 2007.
24. "Management of Parkinson's disease" at the Update on Dementia and Parkinson's Disease, Bhopal, June, 2007.
25. "Non-motor manifestations of Parkinson's disease" at the Update on Dementia and Parkinson's Disease, Bhopal, June, 2007.
26. "Cerebellar Ataxias" at the CME for Postgraduate students of Karnataka-2007, October, 2007, NIMHANS, Bangalore, India.
27. "Transcranial Magnetic Stimulation" at the CME of Annual Conference of Association of Neuroscientists of Eastern India held at Ranchi, Jharkhand, India from October, 2007.
28. "Electrophysiological evaluation of Movement Disorders" at the symposium "Movement Disorders" of the meeting of the Neurological Society of India, Agra, December, 2007.
29. "Mood and Memory Disturbances in Parkinson's Disease" at the 7th International Symposium of the Asian and Pacific Parkinson's Association (APPA), Delhi, 15th-17th February, 2009.
30. "Movement Disorders" at the at the CME 2009 organized by Department of Medicine MMC & RI, Mysore on 21st February, 2009.

31. "Trinucleotide Repeat Disorders" at the CME for Postgraduate students of Karnataka-2009, October, 2009, NIMHANS, Bangalore, India.
32. "Writing the report / Critical reading of a journal article" Workshop on Research Methodology, 3-5 December, 2009
33. "Emergencies in Parkinson's Disease" talk in the Breakfast Session of the XVIII WFN World Congress on Parkinson's Disease and Other Movement Disorders, Miami Beach, Florida on December 13-16, 2009.
34. Invited speaker for Discussion on "Psychosis in Parkinson's Disease: Due to Disease or Drugs" in the session on "Movement Disorders and Degenerative Diseases" at the NeuCon-South 2010 (conference on Controversies in Neurology) held at Chennai on 3-4 April, 2010.
35. Invited speaker on "Clinical Features and Diagnosis of Parkinson's Disease" at the First Annual Workshop-Surgical Therapy For Movement Disorders (MODICON 2010), held in the Department of Neurosciences, M.S. Ramaiah Medical College, from 16th-18th April, 2010.
36. Invited speaker on "Medical Therapy of Movement Disorders, its adverse effects and failures-when to consider surgery?-On Tremors" at the First Annual Workshop-Surgical Therapy For Movement Disorders (MODICON 2010), held in the Department of Neurosciences, M.S. Ramaiah Medical College, from 16th-18th April, 2010.
37. Invited speaker on "Role of Transcranial Magnetic Stimulation in Neurological Disorders" at Sri Venkateswara Institute of Medical Sciences (SVIMS), Tirupati, on 25/04/2010.
38. Invited speaker on "Recent Advances in Movement Disorders" at GBH American Hospital, Udaipur, as a part of Stroke and Parkinson's Disease Awareness Month, organized by API branch, Udaipur, on 5th June, 2010.
39. Invited lecture on "Approach to a patient with Dystonia", at the Neuro CME organized by the Medical College on 21st August, 2010.
40. Invited lecture on "Management of Parkinson's disease", at the Neuro CME organized by the Medical College on 21st August, 2010.
41. Invited lecture on "Electrophysiologic Evaluation of Psychogenic Movement Disorders" in the Meeting "Methods in Neurophysiology for Movement Disorders: Principles and Applications" held at Seoul on November 12- 13, 2010.
42. Invited lecture on "Electrophysiological evaluation of tremor, myoclonus and dystonia" in the "Teaching Course in Movement Disorders" held at NIMHANS, Bangalore, 20-21 November, 2010.
43. Invited lecture on in the "Psychogenic Movement Disorders" in the "Teaching Course in Movement Disorders" held at NIMHANS, Bangalore, 20-21 November, 2010.
44. Invited lecture on "Medical Management of Dystonia" at the "Neurology Symposium" on 18th December, 2010, to be held at the Neurological Society of India (NSI) Annual Conference from 16-19 December, 2010, held at Jaipur.
45. Invited speaker for Discussion on "RBD is pivotal in the evolution of Parkinsonian Syndromes" in the session on "Movement Disorders" at the NeuCon-2011 (conference on Controversies in Neurology) held at Mumbai on 2-3 July, 2011.
46. Invited speaker on "Clinical, dynamic posturographic and imaging correlates of Richardson and Parkinsonian types of Progressive Supranuclear Palsy" at the scientific meeting on Proteomics in Neurodegenerative Disorders held at University of Ruhr, Bochum, Germany, 6-7 July, 2011.
47. Conducted CME in Movement Disorders at LGB Regional Institute of Mental Health, Tejpur, Assam, 11th August, 2011.

48. Faculty for “Botulinum Toxin Workshop for Movement Disorders” on the 20th September, 2011 in the “Movement Disorders Made Easy and Exciting” program jointly organized by Kokilaben Dhirubhai Ambani Hospital and Medical Research Institute (KDAH), Mumbai and the International Movement Disorder Society.
49. Invited Speaker on “Spinocerebellar Ataxias: Indian Perspective” at the 19th Annual Conference of Indian Academy of Neurology (IANCON 2011) held at Pune, 22nd -25th September, 2011.
50. Invited speaker on “Clinical profile of 1,000 PD patients seen at NIMHANS, Bangalore, India” at the 4th AlzBioIndigo Symposium, Montpellier, France. 9th-11th October, 2012.
51. Invited speaker on “Transcranial Magnetic Stimulation and its applications” at the NEUROBIONICS2013-First Indo-German Workshop on Neurobionics, Pondicherry, 15th to 17th February, 2013.
52. Invited speaker on “Approach to movement disorder” at the 3rd Udaipur course on Neurology, Udaipur, 15-16th September, 2012.
53. Invited speaker on “Dystonia-current perspective” at the 3rd Udaipur course on Neurology, Udaipur, 15-16th September, 2012.
54. Invited speaker on “Atypical Parkinsonism” at the CME organized by MERT and Department of Neurology, NIMHANS, at NIMHANS, October, 2012.
55. Invited speaker on “Dystonia” at the CME on Movement Disorders, MDS DWEP, Jaipur, 4th November, 2012.
56. Invited speaker on “Psychogenic Movement Disorders” at the CME on Movement Disorders, MDS, DWEP, Jaipur, 4th November, 2012.
57. Invited speaker on “Management of Early Parkinson’s Disease” at the 2nd Teaching Course in Movement Disorders (TCMD-2012), Holiday Inn Resort, Goa, 16th – 18th November, 2012.
58. Invited speaker on “Electrophysiologic Evaluation of Movement Disorders” at the 2nd Teaching Course in Movement Disorders (TCMD-2012), Holiday Inn Resort, Goa, 16th – 18th November, 2012.
59. Invited speaker on “Sleep in Neurodegenerative Disorders” at the National Sleep Medicine Course (NSMC), NIMHANS, Bangalore, 15th -16th December, 2012.
60. Invited speaker on “RBD and Psychosis in Parkinson’s Disease” at the Update on Movement Disorders organized in conjunction with the EUROPAR, Kolkata, 27th January 2013.
61. Invited speaker on “Role of Magnetic Stimulation in Movement Disorders and Stroke” at the CME on “Advances in Cognitive Neurosciences ACNS 2013” New Delhi, 3rd February, 2013.
62. Invited speaker on “Role of Magnetic Stimulation in Movement Disorders Stroke, and Alzheimer’s Disease” at the CME on “Advances in Cognitive Neurosciences ACNS 2013”, NIMHANS, Bangalore, 3rd February, 2013.
63. Invited speaker on “Clinical Clues on Differential Diagnosis of Parkinson’s Disease” at the B2B in Neurology (course is primarily for postgraduate students in Neurology), Chennai, 23rd-24th February, 2013.
64. Invited speaker on “Nonmotor manifestations of PD” at the B2B in Neurology (course is primarily for postgraduate students in Neurology), Chennai, 23rd-24th February, 2013.
65. Invited speaker on “Treatment of autonomic disturbances in Parkinson’s disease ” at the 21st World Congress of Neurology (WCN 2013), Vienna, Austria, 21-26 September, 2013.
66. Invited speaker on “Neuropsychological and imaging profile of patients with Parkinson's Disease and Freezing of Gait” at the 20th World Congress on Parkinson’s Disease and Related Disorders, Geneva, Switzerland, 8th-11th December, 2013.

67. Invited speaker on “Neuroplastic interventions: A myth?” at the 20th World Congress on Parkinson’s Disease and Related Disorders, Geneva, Switzerland, 8th-11th December, 2013.
68. Invited speaker on “Psychogenic movement disorders” at the International Update on Movement Disorders, 2014, held at Siliguri from 14th to 16th February, 2014.
69. Invited speaker on “Parkinsonism Plus Syndromes” in CME of 69th Annual Conference of Association of Physicians of India (APICON-2014) held at Ludhiana on 20th February 2014 (APICON 2014 from 20th February to 23rd February 2014).
70. Invited speaker on “Differential diagnosis of Parkinson’s disease” at the Developing World Education Program: Understanding Parkinson’s Disease: From Clinics to Basics, NIMHANS, Bangalore, 5th to 7th March, 2014.
71. Invited speaker on “Role of rTMS as putative intervention in management and prognostication after HIBI” at the exploratory meeting on Hypoxic Ischemic Brain Injury (HIBI) sponsored by DBT held on the 24th March, 2014, at the All India Institute of Medical Sciences, New Delhi.
72. Invited speaker in the Video Session “Hyperkinetic Disorders”, at SHINE 2014, held at Chennai on 04-04-2014.
73. Invited speaker on “Clinical Approach to a patient with Dystonia” at the “2nd Movement Disorders Update” in Institute of Neurosciences Kolkata, held on 26th and 27th July, 2014 at Kolkata.
74. Invited Speaker for the debate session on “When to perform DBS in PD? Early or Later” on 17th August 2014 and speak against the topic “When to perform DBS in PD? Early”, at the 10th edition of NeuCon 2014, on the ‘Controversies in Neurology’, at Hyderabad on 16th - 17th August, 2014.
75. **Dr. S. Janaki Memorial Oration** entitled “Understanding the pathophysiology of Spinocerebellar Ataxias through genetics, neurophysiology, structural and functional neuroimaging” on 19th October 2014 at the 54th Annual Conference of the National Academy of Medical Sciences, held at Rishikesh on 18th and 19th October, 2014.
76. Invited speaker on “Psychiatric and cognitive problems in Parkinson’s Disease” in the National Conference on Cognitive and Neuropsychology: Challenges & Issues (NCCP-2014) organized by the Department of Psychology, Christ University, Bangalore on 14th November, 2014.
77. Invited speaker on “Management of advanced Parkinson’s Disease” at the CME Program “Neurovision Odisha”, held at Bhubaneswar, Odisha on 1st Nov 2014.
78. Invited speaker on “Approach to Dystonia” at the CME Program “Neurovision Odisha”, held at Bhubaneswar, Odisha on 1st Nov 2014.
79. “From ‘atherosclerotic’ to ‘vascular’ parkinsonism: Evolving concept and therapeutic principles” in the session “ Movement disorders in vascular diseases and hydrocephalus” on 30th November, 2014 at the 4th Asian and Oceanian Parkinson’s Disease and Movement Disorders Congress held at Pattaya, Thailand from November 28-30, 2014.
80. Invited Faculty for “Psychogenic movement disorders” at the First CME in Movement Disorders conducted by the Movement Disorders Society of India (MDSI), held at AIIMS, New Delhi, 3-4th January, 2015.
81. Invited speaker on “Uses of Botulinum Toxin update” and conduct the Botulinum Toxin, at the Indo-Swedish Educational Summit 2015, held at the Kannur Medical College, Kannur, 10th -11th January, 2015.
82. Invited Faculty for “Video Session in Movement Disorders” at SHINE 2015 held at Chennai, 6th March, 2015.
83. Invited Faculty for “Autonomic dysfunction in Parkinson’s Disease”, at the The TS. Srinivasan Knowledge Conclave 2015: Workshop on Autonomic Dysfunction, held at NIMHANS Convention Centre, Bangalore, 12th -13th February, 2015.
84. Invited speaker on “Parkinson’s Disease with Psychosis, REM Sleep Behavior Disorder and Impaired Cognition: Is It a Distinct Phenotype?”, at the The Inaugural Indo-US Translational

- Neuroscience Symposium: Biomarker Discovery and Validation, held at John Hopkins University, Baltimore, USA, 25th and 26th February, 2015 .
85. Invited speaker on “RBD, psychosis and impaired cognition in Parkinson’s disease: A distinct phenotype?” at the NIMHANS–Maastricht University Joint Workshop on Neurosciences, held at NIMHANS, Bangalore, 12-14th March 2015.
 86. Invited speaker on “Advanced PD”, at the “Euro Park Summit: 2015 -What is new in PD and Movement disorders”, held at New Delhi, 14th -15th March, 2015.
 87. Invited speaker on “Review of the Clinical Spectrum and Neuroimaging in Progressive Supranuclear Palsy”, at the 2nd Taiwan International Congress of Parkinson’s Disease and Movement Disorders (2015 TIC-PDMD), held at the Howard Civil Service International House, Taipei, Taiwan, March 28-29, 2015.
 88. Invited speaker on “Case-based Video Presentation of Psychogenic Movement Disorders”, at the 2nd Taiwan International Congress of Parkinson’s Disease and Movement Disorders (2015 TIC-PDMD), held at the Howard Civil Service International House, Taipei, Taiwan, March 28-29, 2015.
 89. Invited speaker on “Young Onset Parkinson's Disease” at “Neurology Update, Patna” held at Patna on 19th April, 2015, under aegis of Indian Epilepsy Association (Bihar Chapter) & Neurology Dept, IGIMS Patna.
 90. Invited speaker on “*The clinician loses his balance: How to approach genetic and non-genetic ataxia*” at the Skills Workshop session 3411, at the 19th International Congress of Parkinson’s Disease and Movement Disorders in San Diego, CA, USA, June 14 – 18, 2015.
 91. Invited speaker on “Stem Cell Research in Movement Disorders” at the Indian Academy of Neurology sponsored “Expert Group Meeting on Stem Cell Treatment in Neurology” held at Westin Hotel, Gurgaon, Haryana, August, 22-23, 2015.
 92. Invited speaker on “Understanding and facilitation of neural plasticity for enhancing post stroke recovery” at the Seminar organized by CEFIPRA as a collaborative task force between the French and Indian Scientists, held at AIIMS, New Delhi from 29th to 31st October, 2015.
 93. Invited lecture entitled “Electrophysiologic evaluation of Psychogenic Movement Disorders” at the Plenary Session “PSYCHOGENIC MOVEMENT DISORDERS”, on 9th December, 2015, at the XXI World Congress on Parkinson’s Disease and Related Disorders, held at Milan from 6th to 9th December, 2015.
 94. Invited lecture: “Non-invasive brain stimulation in understanding pathophysiology and modulating neuroplasticity in cognitive dysfunction” at the TS. Srinivasan Knowledge Conclave 2016: Workshop on Cognition and Dementia, held at NIMHANS Convention Centre, Bangalore, 12th -13th February, 2015.
 95. Invited lecture on “Emergencies in PD” at the CME “NeuroVision 2015” held at Chennai, 18th July, 2015.
 96. Invited lecture on “Management of early and advanced Parkinson disease” at the Pre-conference CME of the 29th Annual Conference of Association of Neuroscientists of Eastern India (ANEICON 2015), held at Siliguri, West Bengal on 20th November, 2015.
 97. Invited lecture on “Differential diagnosis of Parkinson Syndrome” at “Neuro Update, Bengaluru, 2015” held at Vydehi Institute of Medical Sciences & Research Centre, Whitefield, Bengaluru, 6th November, 2015.
 98. Invited lecture on “Clinical Approach to Ataxias” at “Neuro Update, Bengaluru, 2015” held at Vydehi Institute of Medical Sciences & Research Centre, Whitefield, Bengaluru, 6th November, 2015.
 99. Invited lecture on “Movement Disorders-Video Session” at “Neuro Update, Bengaluru, 2015” held at Vydehi Institute of Medical Sciences & Research Centre, Whitefield, Bengaluru, 6th November, 2015.

100. Invited lecture on “Clinical and Imaging Approach to Ataxia” at 1st Annual Conference of the Movement Disorders Society of India (MDSICON 2016), held at the Leela Palace Hotel Chennai from 8th to 10th January, 2016.
101. Invited Faculty for “Video Session in Movement Disorders” for SHINE 2016, held at Chennai, on 27th February, 2016.
102. Invited lecture entitled “Approach to Hereditary cerebellar ataxias” on April 3, 2016 at the “5th IAN Postgraduate Summer School in Neurology-2016” at the Bombay Hospital Institute of Medical Sciences, Mumbai held from 1st -3rd April, 2016.
103. Invited Faculty as MDS-AOS Ambassador in the 15th Asian & Oceanian Congress of Neurology, Kuala Lumpur, 18-21 August 2016, and delivered talks entitled (i) "Parkinson's Disease: Overview of Motor and Non-Motor Aspects", and (ii) "Movement Disorders Neuroimaging for the Clinician" and moderated Video Quiz Session.
104. Invited lecture entitled “Clinical approach to ataxias: genetic and non-genetic “ at the “Ataxia” symposium at the IANCON 2016, held at Kolkata from November 10-13, 2016.
105. Invited Lecture entitled “Neurological Examination – Patient with Gait Disorder” at the International Neurology Seminar 2016, organized by the Society of Neurologists of Bangladesh, held at Dhaka, Bangladesh, from 7-8 December, 2016.
106. Invited Lecture entitled “Treatment Strategies for Parkinson’s Disease –Optimizing therapy in early to late stage of the disease” at the International Neurology Seminar 2016, organized by the Society of Neurologists of Bangladesh, held at Dhaka, Bangladesh, from 7-8 December, 2016.
107. Invited Lecture entitled “Parkinson's Disease: From Clinics to Genetics” at the 2nd Annual Conference of the Movement Disorders Society of India (MDSICON-2017), held at NIMHANS, Bangalore, from 6-8 January, 2017.
108. Invited Faculty for “Video Session in Movement Disorders” for SHINE 2017, held at Chennai, on 26th February, 2017.
109. Invited lectures entitled “Medical Emergencies in Parkinson’s Disease” and (2) “Neuro Psychiatric Problems in Parkinson’s Disease” at the “Parkinson’s Disease International Conference held at Newcastle, Australia, 5-7 May, 2017.
110. Invited lectures entitled “Psychogenic Movement Disorders” at the “Movement Disorders Update – Clinics and Management”, Hyderabad, 9th July 2017.
111. Invited lecture entitled “Role of transcranial magnetic stimulation in movement disorders” in the Session “Symposium–XV: Electrophysiology of movement disorders” (September 08, 2017) at the IANCON 2017, held at Chennai from September 07-10, 2017.
112. Invited lecture entitled “RLS in Parkinson’s Disease” in the symposium entitled “Sleep and Neuropsychiatric Disorders ” (22/09/2017) in the International Conference of Sleep Medicine and Research (ISSR 2017), held from 20-23 September 2017 at the International Centre, Dona Paula, Goa.
113. Invited lectures entitled “CMCT” and “Current Status of Therapeutic Role of rTMS in Movement Disorders” at the 6th Asian-Oceanian Congress of Clinical Neurophysiology (AOCCN, organized by the Department of Neurology, 9-12 November, 2017 at NIMHANS Convention Centre, Bangalore.
114. Invited lecture entitled "Oromandibular Dystonias : Evaluation and Management" at the Botulinum Workshop entitled - 'The Art & Science of Botulinum: Xperts Guide' , November 26th 2017, Sunday, at Sheraton Hotel, Bangalore.
115. Invited Lecture entitled “Psychogenic Movement Disorders: Still an Enigma” on 19th January, 2018, at the 3rd Annual Conference of the Movement Disorders Society of India (MDSICON-2018), held at Taj Krishna Hotel Hyderabad, from 19th to 21st January, 2018.

116. Invited Faculty for a video session on "Psychogenic movement disorders-video based approach" at the 8th annual conference of Karnataka Neuroscience Academy, 26-27th January, 2018 at Denissons Hotel, Hubballi.
117. Invited Faculty for "Video Session in Movement Disorders" for SHINE 2018, held at Chennai, on 25th February, 2017.
118. Invited lecture entitled "TMS and Neurological disorders" at the Clinical Neurophysiology Symposia-Workshops held at NIMHANS, Bangalore from March 16-17, 2018.
119. Invited Lecture entitled "Approach to treatment of early and late Parkinson's disease-as similar as chalk and cheese!" on 7th April, 2018 at the 4th Movement Disorders Update of Institute of Neurosciences Kolkata, held on 7th and 8th April 2018 at Lalit Great Eastern Hotel, Kolkata.
120. Invited lecture entitled "Approach to Ataxia Syndromes" at the "Indian Academy of Neurology Summer School for Postgraduates", held at the Krishna Institute of Medical Sciences, Secunderabad, from 5th and 6th May, 2018.
121. Invited lecture entitled "Video-based phenomenology of Movement Disorders" at the Annual mid-term CME of the Association of Neuroscientists of Eastern India (ANEI) held in Hotel Chanakya, Patna, on 2-3 June 2018.
122. Invited lecture entitled "rTMS in Neurology" at the "Academic conclave on Neuropsychiatric interventions" organized by Jaslok Hospital and Research Centre, held at Mumbai, on 9-10 June, 2018.
123. Invited lecture entitled "Motor Disorders" at the "5th Bangalore Cognition Workshop" held at the Centre for Neuroscience, Indian Institute of Science, Bangalore, 25-26 June, 2018.
124. Invited lecture entitled "Psychosis in Parkinson's Disease: Current understanding and approach to management" at the CME program entitled "NIMHANS Annual Reviews in Practical Neurology (ARPrAN-2018)" held at the NIMHANS Convention Centre, Bangalore from 6-8 July, 2018.
125. Invited lecture entitled "Approach to Atypical Parkinsonism" and be a moderator of case presentation at the meeting of MDSI Kolkata Forum (under the aegis of Movement Disorders Society of India, Kolkata Forum and Institute of Neurosciences, Kolkata), held in Peerless Inn Hotel, Kolkata on 14th July, 2018.
126. Invited lecture entitled "When Time Is of the Essence: Managing Care in Emergency Situations" at the "XXIII World Congress on Parkinson's Disease and Related Disorders, held at Lyon, France, from 19-22 August 2018.
127. Visiting Professor for the Movement disorders teaching course hosted by the Nepalese Academy of Neurology and funded by Asian and Oceanian Section (AOS) of The International Parkinson & Movement Disorder Society (MDS), held at Kathmandu, Nepal, from September 8-9, 2018.
128. Invited lecture entitled "Parkinson's disease with psychosis, cognitive impairment and RBD: Is it a (genetically) distinct subtype?" at the kick-off meeting, Luxembourg German Indian Alliance on Neurodegenerative diseases and Therapeutics (Lux-GIANT), held at Tubingen, Germany on 14-15 September 2018.
129. Invited Lecture entitled "Parkinson's Disease" at the "8th Udaipur Neuroscience Course- 2018" held in PCNS, Conference Hall, Udaipur, Rajasthan, from on 22-23 September 2018.
130. Invited lecture entitled "Myoclonus" at the 16th Asian Oceanian Congress of Neurology (AOCN 2018) held at COEX, Seoul, Korea, from 8-11 November 2018.
131. Invited lecture entitled at "Movement disorders of probable infectious origin" at the 4th Taiwan International Congress of Parkinson' Disease and Movement Disorders (4th

TIC-PDMD), held at Taipei International Convention Center, Taiwan from 23-25 November 2018.

132. Invited lecture entitled “Advanced Parkinson's Disease: Indian Perspective” at the CME on "Continuous Dopaminergic Stimulation in Parkinson's Disease", held at Sheraton Grand Hotel, Bangalore, on 6th December, 2018.

AWARDS

1. National Scholarship (India), 1975.
2. First Certificate of Honours in Anatomy, Medical College, Calcutta, India, 1979-80 Session.
3. Junior Class- Assistantship in Medicine, Medical College, Calcutta, India, 1980-81 Session.
4. College Scholarship on basis of merit during 4th-9th Semester in Calcutta Medical College, India.
5. Selected for award of Senior Research Fellowship for post-graduation on the basis of result of ICMR (India) Talent Research Competitive Examination held on 6.5.1985.
6. Madurai Neuro Association (India) Award-1991.
7. Asian Fellowship (1997) for Movements Disorders from the National Parkinson Foundation, Inc. Miami, USA.
8. Welcome Junior Travel Fellowship to present paper in the XVII World Congress of Neurology, June, 2001.
9. Traveling Fellowship to present paper in the XIV International Congress on Parkinson's Disease, 27th July - 1st August, 2001, at Helsinki, Finland.
10. Research Fellowship (2002) from Movement Disorders subsection, Division of Neurology, Department of Medicine, Toronto Western Hospital, University of Toronto, Toronto, Canada.
11. Movement Disorder Society Travel Grant to present paper in the 8th International Congress of Parkinson's Disease and Movement Disorders, held in Rome, Italy, June 13-17, 2004.
12. Received Nippon Boehringer Ingelheim Scholarship for the Asian Scientific Symposium held Kyoto, October, 2006
13. Movement Disorder Society Travel Grant to present paper in the 14th International Congress of Parkinson's Disease and Movement Disorders, to be held in Buenos Aires, Argentina from June 13-17, 2010.
14. Grant from DST to present paper in the 14th International Congress of Parkinson's Disease and Movement Disorders, to be held in Buenos Aires, Argentina from June 13-17, 2010.
15. Fellow of Indian Academy of Neurology (FIAN), 2012.
16. Awarded the Full Membership of World Federation of Neurology -Association of Parkinsonism and Related Disorders (WFN-APRD).
17. Awarded Corresponding Membership of American Neurological Association, October, 2012
18. Awarded the “**Dr. S. JANAKI MEMORIAL ORATION 2014**”, NAMS, 2013

MEMBERSHIPS

1. Association of Physicians of India.
2. Indian Academy of Neurology, India.
3. Neurological Society of India, India.
4. Bangalore Neurological Society, India.
5. Indian Medical Association, India.
6. International Parkinson and Movement Disorder Society (MDS) since 2001
7. Association of Neuroscientists of Eastern India.
8. Society for Clinical Neurosciences
9. Past Corresponding member of the American Neurological Association
10. Movement Disorders Society of India
11. Neuromodulation Society, India

OTHER ACIEVEMENTS

(A) Organizing the following symposiums/ conferences:

Sl No.	Name of the activity	International/ National. Regional/ Departmental	Dates conducted	Organizer/Co-Organizer/ Member of Organizing committee
1	14 th IANCON, held at NIMHANS, Bangalore,	National	2006	Member of the Organizing Committee
2	Movement Disorder Symposium in the 14 th IANCON, held at NIMHANS, Bangalore.	National	2006	Organizer
3	International Clinical Neurophysiology Update Conference held at NIMHANS	International	April 6-8, 2007.	Member of the organizing committee
4	A Comprehensive Review of Movement Disorders for the Clinical Practitioner "Aspen Course" held at Ooty,	National	January 17-20, 2008.	Joint organizer
5	2 nd Asian and Oceanian Parkinson's Disease and Movement Disorders Congress, New Delhi	International	15-17 th February, 2009	Member of National Organizing Committee
6	1 st Teaching Course in Movement Disorders held at NIMHANS, Bangalore	International	20-21 November, 2010	Organizing Secretary
7	Parkinson's Disease Day, held at NIMHANS, Bangalore	Regional	10 th , April, 2011	Organizer
8	Symposium on "Ataxia and Movement Disorders" at the 19 th Annual Conference of Indian Academy of Neurology (IANCON-2011), held at Pune	National	22 nd -25 th September, 2011	Organizer
9	60 th Annual Conference of the Neurological Society of India (NEUROCON 11)	National	15-18 th December, 2011	Member of Organizing Committee
10	1 st IAN Postgraduate Summer Course in Neurology-2012	National	16-18 th March, 2012	Organizing Secretary

11	2nd Teaching Course in Movement Disorders held at Goa	International	16-18 November, 2012	Organizing Secretary
12	Advances in Cognitive Neurosciences (ACNS-2013)	Regional	8 th February, 2013	Organizing Secretary
13	Parkinson's Disease Day Held at NIMHANS, Bangalore	Regional	April, 2013	Organizer
14	"Movement Disorders Symposium" at the 21 st Annual Conference of Indian Academy of Neurology (IANCON 2013) held in Indore	National	October, 2013	Coordinator
15	Developing World Education Program: Understanding Parkinson's Disease: From Clinics to Basics	National	5-7 March, 2014	Co-Organizer
16.	3 rd IAN Postgraduate Summer Course in Neurology-2014	National	10 th -13 th April, 2014	Organizing Secretary
17	The TS. Srinivasan Knowledge Conclave 2015: Workshop on Autonomic Dysfunction	National	12 th -13 th February, 2015	Convenor
18	The TS. Srinivasan Knowledge Conclave 2016: Workshop on Cognition and Dementia	National	12 th -13 th February, 2016	Convenor
19	First Annual Conference of the Movement Disorders Society of India (MDSICON-2016), Chennai	National	8 th -10 th January, 2016	Secretary of MDSI
20	Second Annual Conference of the Movement Disorders Society of India (MDSICON-2017), & Ambassador Program of MDS-AOS, Bangalore	National	6 th -8 th January, 2017	Organizing Chairman
21	NIMHANS Annual Reviews in Practical Neurology (ARPrAN)-2018	National	6 th – 8 th July, 2018	Organizing Chairman

(A) Reviewer for Journals:

- (a) Parkinsonism and Related Disorders
- (b) Acta Neurologica Scandinavica
- (c) Clinical Neurology and Neurosurgery
- (d) Movement Disorders
- (e) Neurology India
- (f) Annals of Indian Academy of Neurology
- (g) Journal of Neurological Sciences
- (h) American Journal of Neuroradiology
- (i) Canadian Journal of Neurological Sciences
- (j) Journal of Parkinson's Disease
- (k) Movement Disorders Clinical Practice
- (l) Journal of Neurology, Neurosurgery and Psychiatry
- (m) Frontiers in Neurology

Past positions

Sl. No.	Organization/Society/Scientific Body	Position
1	Parkinsonism and Related Disorders journal	Member of International Editorial Board
2	Movement Disorders journal	Member of International Editorial Board
3	Association of Parkinsonism and Related Disorders	Member of the Education Committee
4	Asian and Oceanian subsection of International Parkinson and Movement Disorder Society (MDS-AOS)	Member of the Education Committee
5	Parkinson's Disease and Movement Disorders Society of India	Member of the Governing Body
6	Indian Academy of Neurology	Treasurer (2009-2014)
7	Movement Disorders Society of India	Founding Member and Secretary (2014-2018)

Current Positions

Sl. No.	Organization/Society/Scientific Body	Position
1	Asian and Oceanian subsection of International Parkinson and Movement Disorder Society (MDS-AOS)	Secretary-Elect for 2017-2019 and Secretary for 2019-2021
2	Rare Movement Disorders Study Group of IPMDS	Member
3	The Neuromodulation Society, India.	Founding Member
4	Parkinson's Research Alliance of India (PRAI)	Joint Secretary
5	Indian Academy of Neurology	President-Elect for 2018-2019 and President for 2019-2020
6	Parkinson's Disease Society of Karnataka	Member of the Governing Body
7	Annals of Movement Disorders	Founding Editor-in-Chief
8	Tremor and Other Hyperkinetic Movements	Member of International Editorial Board
9	Neurologia i Neurochirurgia Polska (Polish Journal of Neurology and Neurosurgery)	Member of International Editorial Board

My visions

I would like to further consolidate the Movement Disorders Society of India (MDSI), which is already an affiliate member of the International Parkinson and Movement Disorder Society (MDS). Through MDSI, I would like to improve the knowledge and awareness among the people of various common and rare movement disorders seen in India, and also work on preventive strategies of secondary movement disorders. I will also organize teaching programs in Movement Disorders among the health professionals which will enable them better diagnostic and management skills. Research in basic as well as clinical sciences in Movement Disorders is lacking in India. With International collaboration and help, my vision is to promote research in Movement Disorders in India.