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Professor and Head (Senior Scale)

Department of Neurology, Jawaharlal Institute of Postgraduate Medical Education and Research (An Institute of National importance under the ministry of Health and Family Welfare, Government of India), Dhanvanthari Nagar, Pondichery-6.

(Employee Code: JD 0193; Travancore-Cochin Medical Council (India) Registration Number: 13510/1984)

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Why I wish to be reelected to IAN stroke subsection chairman

I spent nearly 7-8 years struggling to buildup this session, initially with only 20-30 members and little participations during the meetings despite hardwork until in 2020s during Covid period when we started having an increasing membership steadily and thereafter we never looked back. Starting with webinars and online expert monthly talks and then a major national conference last year and then a new programme of academic journal clubs of very high quality, we have only just started growing in an unprecedented manner just recently. Able scientific guidance of Dr. Kameswar Prasad, dynamic convenership of Dr. Gorthi and active interests and participation of our new young members have been helping it. I would like to have some more time to build further on to complete some very important unfinished agenda such as

- a) Updating the guidelines that we published in 2019 incorporating the levels of evidence including the newly introduced grade system.
- b) Also wish to work relentlessly to increase various types of awareness in stroke care among the common man, which is very important to improve stroke care outcomes.
- c) I wish to work on stroke centre accreditations and make it in public domain to direct doctors and patients to the right centre in minimal time windows.
- d) To work on better rehabilitation measures for stroke patients and for better advocacy with governments to create better facilities for stroke victims and for their social supports including better hospice cares.
- e) E) To promote better scientific advances for stroke care through modern techniques like stem cell research and neuromodulation and brain computer interphases and robotics.

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Telephone:

Office:

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ext.7285/7284/7278/7280/7067

Date of Birth : 18.1.1961
 Nationality : Indian
 Research ID : H-4848-2013
 ORCID ID : 0000-0001-9866-2894

Research Impact of my career

- 1) In India, first time proved the efficacy and safety of Thymectomy in Myasthenia Gravis (Narayan SK, Sarada C, Radhakrishnan K, Nair MD, Kartha CC, Neelakandhan KS, Tharakan KJ. Response to thymectomy in South Indian patients with myasthenia gravis. *Acta Neurol Scand.* 1996 Jul;94(1):63-6. PubMed PMID: 8874596)
- 2) First time in Asia, I showed the neurodevelopmental sequelae of pyogenic meningitis in children (Narayan SK, Philip E, Nair MKC. Neuro developmental sequelae of pyogenic meningitis in children. *Neurol India.* 1996 Oct-Dec; 44(4):170-176. PubMed PMID: 29542524)
- 3) Brought to light the association of total plasma homocysteine with brain atrophy rates and cognitive decline in a prospective study for first time in literature (PMID: 21554791 and 21597295)
- 4) Brought to light the differential effect of MTHFR C677T polymorphism on increased risk to ischemic stroke but not to Myocardial infarction in the Tamil (PMID: Neurology April 2013 Supp; Abstract Number: 2278. American Academy of Neurology, San Diego 2013.
- 5) Brought to light the protective effect of MTHFR A1298C polymorphism for all vascular diseases in the Tamil population (PMID: Neurology April 2013 Supp; Abstract Number: 2278. American Academy of Neurology, San Diego 2013).
- 6) Brought to light the high prevalence of Protein C and Protein S deficiency in Tamil population and their potential complex associations with Ischemic stroke (PMID: 33313850)
- 7) Proved the association of total plasma homocysteine with depression in Tamil population (PMID: 24574558)
- 8) Patent: A dual purpose Combo tube for use in comatose and neuroparalysed patients (Patent published; Patent filed in India: LLAN: TR-5; KET No.10217 dated 20.12.2017; Number: 201741005334)
- 9) Patent: A polymer based Neural repair conduit provisional patent applied: 'BIODEGRADABLE NERVE CONDUIT AND METHOD 'Application No. 202041049056 dated November 10, 2020.

Career Summary

After Neurology training from SCTIMST, Trivandrum, an INI under DST_DBT, in 1994I worked as AP at SVIMS, Tirupati and Completed astroke fellowship with Charles Warlow (ECST) and joined JIPMER as associate Professor and Head of Neurology in 2000. Build up the department to state of the-art training centre, with DM Neurology, BSC and MSc Neurotechnology and PhD an stroke PDF course with the most comprehensive Neuroscience laboratories including neuromodulation and neurobiology. Completed my own PhD in stroke genetics and metabolomics through acommonwealth scholarship. Trained 8 PhDs including the 3 ongoing in Neurology, 16 DM, 2MCh, 14 MD theses; 95 indexed papers with 1001 citations; hi index 20 (GS)/14(WOS/SCOPUS); i10 index: 27; EM research grants of 135 Lakhs at present.

Research specialization (Major scientific fields of interest):

Cerebrovascular Diseases, Multiple Sclerosis, Motor Neuron disease and Neurometabolic and neurogenetic diseases

Education Qualification and Titles

| Graduation | Year of passing | University/Institution |
|--|------------------------|--|
| MBBS | 1983 | Calicut, Calicut University |
| DCH | 1988 | Trivandrum, Kerala University |
| MD | 1989 | Trivandrum, Kerala University |
| DM (Neurology) | 1994 | SCTIMST (INI) |
| DNB (Neurology) | 1994 | National Board of Medical Examinations |
| Postdoctoral Fellowship (Stroke)* | 1996* | Edinburgh University, UK |
| PhD (Interdisciplinary- Neurology and Pharmacology & Split-site) | 2013 | JIPMER (INI); One year of PhD research at Newcastle University, UK |
| FIAN | 2021 | Indian Academy of Neurology |

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| FRCP (UK) | 2012 | Royal College of Physicians, London |
| FEAN | 2015 | European Academy of Neurology, Berlin |
| FAAN | 2018 | American Academy of Neurology |

Highlights of Pre-University Education

1. **Awards, distinctions, prizes etc.** :

(a) **At under-graduate level** :

1. Pre-degree Physics, Chemistry

Calicut University Biology, Maths, Sanskrit

University First Rank (1978)

2. Kerala Sastra Sahitya Parishad State Level

Science Fair Quiz

State First Prize (1976)

3. Kerala Sastra Sahitya Parishad

Sastra Gathi Quiz School Team Quiz

State First Prize (1974)

4. Kerala State Secondary School Leaving

State Fourth Rank (1976)

Certificate (SSLC)

5. **Ministry of Education, India: National Merit Scholarship (1971-1983)**

6. **Ministry of Education, India): National Residential School Merit**

Scholarship (1972-1976)

7. Kerala State Intermedicos Festival (Alleppey, 1981):

English Essay Writing

Runner-up

8. Cochin-Naval Base Sanjeevani Hospital

All India Medical Debate:

Runner up

(b) **At post-graduate level** :

1. Kerala State DST research grant for my MD thesis in microbiology and sequelae of pyogenic meningitis in children : 1987

2. No system of medals, classes, distinction or ranks at MD level at Kerala University in 1989; Best performance at MD amongst 6 MD students who took examinations.

3. Secretary Postgraduate Medical students Forum, Trivandrum Medical

College (1987-88)

Teaching Experience

| Designation | Institute where worked | Period | |
|---|---|-----------|-----------|
| | | From | To |
| After DM post graduation | Teaching, Research and Administration in Neurology | | |
| Professor (Senior Grade-INI) Neurology Department | JIPMER, Pondicherry | 1.7.2017 | Till date |
| Professor (INI) and Head of Neurology Department | JIPMER, Pondicherry | 1.7.2010 | 30.6.2017 |
| Professor (CHS) and Head of Neurology Department | JIPMER, Pondicherry | 1.5.2004 | 11.7.2009 |
| Addl Professor (INI) and Head of Neurology Department | JIPMER, Pondicherry | 12.7.2009 | 30.6.2010 |
| Associate Professor and Head of Neurology Department | JIPMER, Pondicherry | 1.11.2000 | 30.4.2004 |

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|-------------------------------------|---|------------|------------|
| Associate Professor of Neurology | JIPMER, Pondicherry | 1.5.2000 | 31.10.2000 |
| Assistant Professor of Neurology | SVIMS, Tirupati | 20.6.1995 | 24.12.1995 |
| Stroke Research Fellow | University of Edinburgh, UK | 1.1.1996 | 30.10.1996 |
| Stroke Research Fellow and Lecturer | University of Manchester, UK | 20.12.1996 | 5.4.1997 |
| Assistant Professor of Neurology | SVIMS, Tirupati | 12.3.1998 | 30.4.2000 |
| After MD post graduation | Teaching of postgraduates | | |
| PG Senior Resident (Neurology) | SCTIMST, Trivandrum | 1.1.1991 | 15.1.1994 |
| Non-PG Senior Resident (Neurology) | GB Pant Hospital , New Delhi | 5.3.1990 | 27.12.1990 |
| Assistant Professor of Paediatrics | PSG Institute of Medical Sciences, Coimbatore | 5.8.1989 | 28.2.1990 |
| Before Post graduation | MD thesis with a DST grant of STEC Kerala and an indexed publication in Neurology, India | | |

Fellowships, Scholarships (Post DM) and Travel grants

1. Visiting Clinical Research Fellowship **Hargobind Medical Foundation Fellowship** USD 5000/month X 6 months: Edinburgh Stroke Research and clinical trial Fellowship 1995-96
2. Travel Grant **XIV World Congress of Neurology** **Travel Trust** Rs.30,000 : Edinburgh Clinical Trial Fellowship 1995-96
3. **Young investigator Conference Travel Grant** International Stroke Society Travel grant: Rs. 1,25,000 International Stroke Society Meet, Vancouver, Canada 2004
4. **Young investigator Conference Travel Grant** **UGC**, New Delhi and **INSA**, New Delhi Rs. 1,00,000 World Congree of Neurology, Sydney, Australia2005

5. **Commonwealt Split-site PhD Doctoral Scholarship** ~GBP 10,000
University of Newcastle March 2007-Aug 2007 and October 2008-March 2009
6. **Conference Travel Grant UGC**, NewDelhi: Rs.1,25,000 AAN 2014, San Diego
April 2013
7. **NAMASTE India – Erasmus Mundus Mobility grant** 2015, Departments of Clinical Neurophysiology and Engineering designs, University of Goettingen, Germany

Fellowship/Membership of National and International Scientific Societies, Academics etc.

| S.No | Society/Academic body | ID No | Period |
|-------------|---|--------------|---------------|
| 1 | Fellow of the American Academy of Neurology | 120256 | Since 2018 |
| 2 | Fellow of the Royal College of Physicians (FRCP-UK) | rcl166639 | since 2012 |
| 3 | Fellow of European Academy of Neurology (FEAN): | 90979 | since 2015 |
| 4 | Fellow of Indian Academy of Neurology | 289 | Since 2021 |
| 5 | Neurological Society of India (NSI) : | LM.NNP19 | since 1998 |
| 6 | Indian Academy of Neurology (IAN): | LM 289 | since 2002 |
| | Stroke subsection | Chairman | Since 2022 |

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| 7 | Indian Stroke Association (ISA): | LM ISA 50 | since 2004 |
| 8 | Tamil Nadu Association of Neurologists: | LM 35 | since 2012 |
| 9 | Member (Corresponding active) of American Academy of Neurology (AAN) | 120256 | since 2002 |
| 10 | World Stroke Organisation (WSO) | 208505 | since 2005 |
| 11 | European Stroke Organisation (ESO) | Coregistration with WSO | since 2015 |
| 12 | World Federation of Neurorehabilitation (WFNR) | 6197 | Since 2017 |
| 13 | European Neurological society (ENS) | 619227 | 2012 - 2014 |
| 14 | American Heart Association/Stroke Council | 279086779 | 2021 |
| 15 | American Academy of Sciences (AAAS) | 41000881 | since 2014 |
| 16 | Neuroscience Society of India | LM | Since 1992 |
| 13 | Indian Association of Biomedical Scientists | LM | since 1993 |
| 14 | Indian Society of Health Administrators | LM 2057 | since 1995 |
| 15 | National Academy of Medical Sciences (India) | LM | since 2002 |
| 16 | American Heart Association-American Stroke Association (AHA-ASA) | 279086779 | Since 2020 |

Extramural Research grants and Outcome

| STATUS | ROLE | FUNDING | TITLE | PERIOD | OUTCOME/PUBLICATIONS |
|-----------|------------------------------------|-----------------------|-------------------------------------|-----------|---|
| COMPLETED | Dr. Sunil Narayan, co-investigator | Rs.1 Lac, DST, Kerala | Intracranial infections in Children | 1987-1989 | Narayan SK, Philip E, Nair HKC. Neurodevelopmental Sequelae of Pyogenic Meningitis in |

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| | | | | | Children. Neurology India. 1996; 44:170-176 |
| COMPLETED | Dr.Sunil K Narayan Principal Investigat or | Rs. 1 lac DST, Pondicherr y | SERC project, Trace elements in Neurodege neration | 2002- 2003 | PubMed PMID: 16679666 |
| COMPLETED | Dr.Sunil K Narayan Principal Investigat or | Rs.5,000 ICMR, STRC | JIPMER Acute Stroke Inpatient Registry | 2003- 2004 | PubMed PMID: 14742924. PubMed PMID: 15626859 |
| COMPLETED | Dr.Sunil K Narayan Principal Investigat or | Rs.5,000 ICMR, STRC | JIPMER Stroke Outpatient Registry | 2004- 2005 | PubMed PMID: 23349590; PubMed Central PMCID: PMC3548363. |
| COMPLETED | Dr.Sunil K Narayan Principal Investigat or | Rs.5,000 ICMR, STRC | JIPMER Communit y based Stroke Registry | 2004- 2005 | Narayan SK. Current status of stroke care and research in India. Neurolinks. 2007; 4(01). |
| COMPLETED | Dr.Sunil K Narayan | Rs.1.58 crores ICMR, | ICMR Center for Advanced Research | 2007- 2012 (5years) | 1.PubMed PMID: 18040121. |

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|-----------|---------------------------|---------------------------------|--|---------------------|--|
| | Co-Principal Investigator | New Delhi | in Pharmacogenomics | | <p>2. PubMed PMID: 20390258.</p> <p>3. PubMed PMID: 21068649.</p> <p>4. Pubmed PMID: 25112801;</p> <p>5. PubMed PMID: 22955794</p> |
| COMPLETED | CFSP split-site scholar | Pounds 800 per month X 6 months | <p>1) Homocysteine, Folic acid, B12 levels correlated to cognitive decline in the elderly hypertensives</p> <p>2) Homocysteine, Folic acid, B12 levels correlated to silent brain lesions in the elderly hypertensives</p> | March 2007-Aug 2007 | <p>PubMed PMID: 21554791; 21597295; 20374668;</p> |

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|-----------|---|--|--|---------------------------|--|
| COMPLETED | CFSP split-site scholar | Pounds 700 per month X 6 months | Minimum Prevalence and mutations of CADASIL in North-East England | October 2008 - March 2009 | PubMed PMID: 22422895; |
| COMPLETED | INTRAMURAL RESEARCH | Rs.60,000 | Plasma Homocysteine levels in depression and schizophrenia | 2007-2009 | PubMed PMID:24574558 |
| COMPLETED | Dr.Sunil K Narayan Principle Investigator or INTRAMURAL RESEARCH | Rs.6 lakhs | Plasma homocysteine, B12 and Folate levels and MTHFR mutations in stroke in Tamil population: A case-control study | 2009-2012 | Abstract Number: 2278. AAN2013; Abstract Neurology 2013. |
| COMPLETED | GLOBAL placebo controlled RCT; MRC funded | Variable. Per patients recruited; University of Nottingham, UK | (ENOS) Efficacy of Nitric oxide in Stroke | 2010-2013 | PMID:25465108 PMCID:PMC4343308 |

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| ONGOING | JIPMER placebo controlled RCT; | Industry supplies test drug alone; Now Faculty Intramural CTRI registered | EDOZ (Edaravone versus Ozagrel in Ischemic Stroke) | 2011-2014 | Stopped prematurely since the trial drug availability was affected |
| COMPLETED | Dr.Sunil K Narayan Principle Investigator: Dr.Akshaya V | GJ-Straus, JIPMER; Rs.10,000 | Determination of normative values for resting and breathholding TCD for Tamil population | 2015-2016 | Submitted in IJMR |
| COMPLETED | Dr.Sunil K Narayan Principle Investigator | Intramural Research grant; 60,000 | Determinants of relapses and natural history in Multiple Sclerosis | Since 2011-2013 | 62nd Annual Conference NSI; Bangalore from 12th-15th Dec.2013 |
| COMPLETED | Dr.Sunil K Narayan Principle Investigator- JIPMER and National Steering Committee Member | Sponsored Clinical Trial: Gennova Biopharmaceuticals: ~ Rs. 15 Lakhs plus drug | Clinical trial to assess the efficacy and safety of TNK-TPA in Acute Ischemic Stroke (CTRI/2009/091/000251) | National multicentric Trial | Made in India thrombolytic drug approved for marketing by DCGI; PMID: 29948822 |

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| COMPLETED May 2015 | Dr.Sunil K <u>Narayan</u> , PI and Program me coordinat or | Namaste- India, 1 month Mobility and Euro 3000 for researcher' s support | Erasmus Mundus | Skills Training' Staff Mobility grant | Procured equipments and started NIBS rehab programme |
| COMPLETED 1995-96 | Dr.Sunil K <u>Narayan</u> , Clinical Research Fellowshi p | Hargobind Medical Foundation Fellowship USD 5000/mont h X 6 months | Edinburgh Stroke Research | Clinical trial Fellows hip | PMID: 10382694; 11863327; 9707203; 11863327; 9593407 and 9593407 |
| COMPLETED 1995-96 | Dr.Sunil K <u>Narayan</u> , Travel Grant | XIV World Congress of Neurology Travel Trust Rs.30,000 | Edinburgh Clinical Trial Fellowship | | |
| COMPLETED 2004 | Dr.Sunil K <u>Narayan</u> , Conferen ce Travel Grant | Internation al Stroke Society Travel grant: Rs. 1,25,000 | Internation al Stroke Society Meet, Vancouver , Canada | Young investig ator Travel grant | A cost- effective strategy for investigations for primary thrombophilias in arterial strokes in the young: 5th World Stroke Congress . Vancouver BC, 23-26th June 2004 |
| 2005 | ICMR, SRC; and Conferen ce Travel Grant | ICMR, UGC, New Delhi and INSA, New Delhi Rs. 1,00,000 | World Congress of Neurology, Sydney, Australia | Young investig ator Travel grant | Journal of Neurological Sciences: WCN 2005, Sydney Abstracts 1): Narayan SK, |

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| | | | | | <p>Karthikeyan VS. Is syncope a risk factor for adult ischemic strokes? Analysis from an outpatient stroke registry in a neurology clinic in a University hospital in South India.;</p> <p>2)Narayan SK, Rajalakshmi R, Sahai A. A cross-sectional, door-to-door epidemiological study of the prevalence of stroke in socio-economically and racially varied populations in Pondicherry, a coastal South Indian town.</p> |
| COMPLETED | Dr. Sunil Narayan as PI; Dr. Nirmala V, Co-PI | INTRAMURAL RESEARCH; Rs.60,000 total | Association of Vitamin D with prognosis of MS and NMO | Biomarker study | NSICON 2012; Conference Abstract; Neurology India Suppl2012 |
| COMPLETED | Dr. Sunil Narayan as PI; Dr. Donna Mathew Co-PI | INTRAMURAL RESEARCH; Rs.1,20,000 total | Serum biomarkers in acute ischemic and | Biomarker study | ISACON 2013; WSC Stroke Congress 2015; Submitted to |

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| | | | haemorrhagic strokes | | J.of Stroke and cerebrovascular diseases |
| COMPLETED | Dr. Sunil Narayan as PI; Dr. Donna Mathew Co-PI | INTRAMURAL RESEARCH; Rs.1,20,000 total | CSF pNFh in Motor Neuron Disease | Biomarker study | IANCON 2018, Chennai; Submitted to journal Biomarker |
| COMPLETED | Dr.Sunil Narayan Co-Principal Investigator | ICMR Study on Pharmacogenomics of | CYP2C9 mutations on Valproate induced obesity and other complications | National multicentric | PMID: 34656038 |
| COMPLETED | Dr.Sunil K Narayan Principle Investigator- JIPMER | ICMR sponsored National Stroke Trial Registry | INSTRUCT-I | National multicentric Trial | PMID: 34167324. |
| COMPLETED | Dr.Sunil K Narayan Principle Investigator- JIPMER | ICMR sponsored National Stroke Trial Registry | SPRINT | National multicentric Trial | PMID:31852411 |

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| COMPLETED | Dr. Sunil K Narayan; Principal Investigator, JIPMER | ICMR National Stroke Trial Registry | RESTORE | National Multicentric Trial on Ayurvedic Treatment of Ischemic Stroke | Not yet |
| IN PROGRESS | Dr. Sunil K Narayan, PI | DBT Societal (SAN No.102/IF D/SAN/50 64/2018-20) | Study of Vedic Chants Intervention in Autistic Spectral Disorders | ASD | Not yet |
| IN PROGRESS | Dr. Sunil Narayan | SERB-DST-CRG (CRG/2019 /002076) | Exosomes therapy in vitro and in-vivo stroke models | Stroke Preclinical Models | PMID: 34179718; PMID: 36592803 |
| COMPLETED | Dr. Sunil Narayan | CSIR | Peripheral Nerve Injury Model | Nerve Repair | PMID: 30391821; Patent application: 202041049056;10.11.2020 |
| IN PROGRESS | Co-PI | SEED/TIDE (DST) | Development and Standardization of Computerized Cognitive Retraining | Computerised Cognitive retraining | Not yet |

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| | | | Program for Dementia Patients | | |
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Intramural

- Effect of WAB based therapeutic battery with or without prior priming with tDCS in improving language function in aphasic chronic ischemic stroke patients- A Pilot study: Rs.50, 000, duration 2020-2021
- A randomized controlled trial to compare the efficacy of coupled Transcranial stimulation with decoupled Transcranial stimulation and sham stimulation as motor enhancement therapy for upper extremity in chronic ischemic stroke: Rs. 5, 25,000, duration 2018-2021
- Epidemiological, clinical and neurovascular profile of cerebral venous thrombosis and correlation with outcome: Rs. 21,000, duration 2018-2019
- Preparation, characterization and evaluation of nerve conduits for peripheral nerve repair: Rs. 1, 55, 637, duration 2018-2019
- : Rs.2, 50,000, duration 2020-2023.

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| IN PROGRESS | Dr. Sunil Narayan/ Dr. Rajeswari/ Vaishnavi Viswanathan (MSc) | IM Grants | Transcranial Direct current stimulation in Aphasia | Clinical Trial | Not yet |
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| IN PROGRESS | Dr. Sunil Narayan/Ms. Jeshma Jayan (PhD-Intramural) | IM Grants | Non-invasive brain stimulation in upper limb rehabilitation after stroke | Clinical Trial | Systematic review published in Neurology India |
| IN PROGRESS | Dr.Sunil Narayan/Ms Simy Grace Cherian | IM grants | Assessment of safety and efficacy of human umbilical cord-mesenchymal stem cell derived exosomes in rodent ischemic stroke model | Translational Medicine | Two pubmed indexed papers published |
| IN PROGRESS | Dr. Sunil Narayan/Mr. Nishal Shetty | IM Grant | Cerebral neuroanatomical variations between South Indian and North Indian language speakers | Clinical and Basic science | Not yet |

Publications And Presentations

| National Guidelines | Published Indexed | | | Presented at Conferences including published abstracts |
|--|------------------------|----------|-----------------------|--|
| | Indexed journal papers | Accepted | Indexed Book chapters | |
| 1.Stroke-Indian Academy of Neurology and | | | | |

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|--|-----------|---|--------------------------|---|
| DGHS, Delhi Member of writing team (First time in India 2019) | | | | |
| | 95 | - | 1 book and 6 chapters | 97 papers + 50 invited faculty lectures) |
| Total=249 | 95 | | 6 | 148 |

A complete list of Pubmed indexed Publications :

Already Published

1. Cherian SG, **Narayan SK**, Arumugam M. Exosome therapies improve outcome in rodents with ischemic stroke; meta-analysis. Brain Research, 2023. 1803 (148228). ISSN 0006-8993. PMID: 36592803 <https://doi.org/10.1016/j.brainres.2022.148228>.
2. Ye Z, Busse JW, Hill MD, Lindsay MP, Guyatt GH, Prasad K, Agarwal A, Beattie C, Beattie J, Dodd C, Heran MKS, **Narayan S**, Chartúir NN, O'Donnell M, Resmini I, Sacco S, Sylaja PN, Volders D, Wang X, Xie F, Zachrison KS, Zhang L, Zhong H, An Z, Smith EE. Endovascular thrombectomy and intravenous alteplase in patients

with acute ischemic stroke due to large vessel occlusion: A clinical practice guideline. *J Evid Based Med.* 2022 Sep;15(3):263-271. doi: 10.1111/jebm.12493. Epub 2022 Sep 19. PMID: 36123777.

3. Kate MP, Arora D, Verma SJ, et al. On behalf of SPRINT INDIA Collaborators. Secondary Prevention by Structured Semi-Interactive Stroke Prevention Package in India (SPRINT INDIA) study protocol. *International Journal of Stroke.* 2020;15(1):109-115. doi:10.1177/1747493019895653. PMID: 31852411
4. Elavarasi, **SK Narayan**, S Parameswaran, D Gocchait. Carotid Occlusion Associated With Eosinophilia and Proteinuria: Potential Diagnostic Clues or Red Herrings? *Journal of Stroke Medicine* 2022, 25166085221082433;
5. Elavarasi, **SK Narayan**, S Chandran, DP Rath. Bilateral Carotid Stenosis in a Patient with Previous Neck Surgery: Difficulties in Endarterectomy; *Journal of Stroke Medicine* 2022, 25166085221082410.
6. Elavarasi, **SK Narayan**, K Nagarajan. Carotid angioplasty and stenting-device related complication: Embolic protection filter-wire retention. *J Clin Images Med Case Rep* 2022. 3 (1); 1555.
7. **Narayan SK**, Grace Cherian S, Babu Phaniti P, Babu Chidambaram S, Rachel Vasanthi AH, Arumugam M. Preclinical animal studies in ischemic stroke: Challenges and some solutions. *Animal Model Exp Med.* 2021 Apr 23;4(2):104-115. PMID: 34179718
8. Narayan SK, Jayan J, Arumugam M. Short-term Effect of Noninvasive Brain Stimulation Techniques on Motor Impairment in Chronic Ischemic Stroke: A Systematic Review with Meta-Analysis. *Neurol India* 2022;70:37-49. PMID: 35263851

9. Pandian JD, Verma SJ, Arora D, Sharma M, Dhaliwal R, Khatter H...**Narayan S.** et al; INSTRuCT: Protocol, Infrastructure, and Governance. Stroke. 2021 Jun 25 (10):574-580. PMID: 34167324.
10. Goel Atul, Narayan, Sunil, Sugumaran, Ramkumar. Neuropsychiatric features, health-related quality of life, and caregiver burden in parkinson's disease. 2022 Nov 1. Annals of Indian Academy of Neurology; 25(6) 1147-1152. Doi: <https://www.annalsofian.org/article.asp?issn=0972-2327>
11. Goel A, Narayan SK, Sugumaran R. A telephonic survey of health-related quality of life of outpatient department dropout Parkinson's disease patients during the COVID-19 pandemic. Acta Neurol Belg. 2022 Feb 17:1-5. PMID: 35175569
12. Panicker G, Kaliaperumal S, Narayan S, Mani M. Glaucoma and optical coherence tomography changes in migraine: A comparative cross-sectional study. Indian J Ophthalmol 2021;69:3546-51. PMID: 34826993
13. Done IP, Aghoram R, Narayan SK. Everyday Abilities Scale for India in Screening for Poststroke Dementia Among Young Stroke Survivors. Alzheimer Dis Assoc Disord. 2021 Jul-Sep 01;35(3):275-277. PMID: 33973879
14. Aghoram R, Wadwekar V, Narayan SK, Nair PP, Ramkumar S, Jain S. Neurology Exams during the COVID-19 Pandemic. Ann Indian Acad Neurol. 2021 Jul-Aug;24(4):626-627. PMID: 34728977.
15. Manjubashini D, Nagarajan K, Amuthabarathi M, Papa D, Wadwekar V, Narayan SK. Magnetic Resonance Imaging in Peripartum Encephalopathy: A Pictorial Review. J Neurosci Rural Pract. 2021 Apr;12(2):402-409. PMID: 33927531;

16. Priya DI, Aghoram R, Narayan SK. Neuropsychiatric symptoms among young stroke survivors-frequency, patterns, and associated factors. *Neurol Sci.* 2021 Dec;42(12):5021-5027. PMID: 33733388.
17. Mani B, Nair PP, Sekhar A, Kamalanathan S, Narayan SK, Kesavan R. CYP2C19 & UGT1A6 genetic polymorphisms and the impact on Valproic acid-induced weight gain in people with epilepsy: Prospective genetic association study. *Epilepsy Res.* 2021 Nov;177:106786. PMID: 34656038
18. Mohan AB, Adithan S, **Narayan S**, Krishnan N, Mathews D. Evaluation of White Matter Tracts Fractional Anisotropy Using Tract-Based Spatial Statistics and Its correlation with Amyotrophic Lateral Sclerosis Functional Rating Scale Score in Patients with Motor Neuron Disease. *Indian J Radiol Imaging.* 2021 Apr;31(2):297-303. PMID: 34556911
19. Atul Goel, Sugumaran R, **Narayan SK**. Zonisamide in Parkinson's disease: a current update. *Neurol Sci.* 2021 Aug 27. doi: 10.1007/s10072-021-05550-2. Epub ahead of print. PMID: 34448999.
20. **Narayan SK**, Grace Cherian S, Babu Phaniti P, Babu Chidambaram S, Rachel Vasanthi AH, Arumugam M. Preclinical animal studies in ischemic stroke: Challenges and some solutions. *Animal Model Exp Med.* 2021 Apr 23;4(2):104-115. doi: 10.1002/ame2.12166. eCollection 2021 Jun. PMID: 34179718 Free PMC article. Review.
21. **Narayan S**, Chandrasekaran A, Basu D, Hanumanthappa N, Aghoram R, Dutta TK, Rejul V. Prothrombotic Factors have Significant Association with Arterial and Venous

- Strokes in Indian Tamilians. *J Appl Lab Med*. 2020 Dec 12;jfaa198. doi: 10.1093/jalm/jfaa198. Epub ahead of print. PMID: 3313850
22. Das AM, Ramamoorthy L, **Narayan SK**, Wadvekar V, Harichandrakumar KT. Adherence to Antiepileptic Regime: A Cross-sectional Survey. *Neurol India*. 2020 Jul-Aug;68(4):856-860. doi: 10.4103/0028-3886.293468. PMID: 32859828
23. Priya DI, Aghoram R, **Narayan SK**. Neuropsychiatric symptoms among young stroke survivors-frequency, patterns, and associated factors. *Neurol Sci*. 2021 Mar 17. doi: 10.1007/s10072-021-05178-2. PMID: 33733388
24. Ramaswamy G, Premarajan KC, Kar SS, **Narayan SK**, Thekkur P. Prevalence and determinants of sleep disorders in a community in rural southern India. *Natl Med J India*. 2020 May-Jun;33(3):132-136. doi: 10.4103/0970-258X.314002. PMID: 33904415
25. Sugumaran R, **Narayan SK**, Goel A, Kundra P. Cord injury after spinal block for caesarean section. *Pract Neurol*. 2021 Jun;21(3):264-265. *practneurol-2020-002760*. doi: 10.1136/practneurol-2020-002760. Epub ahead of print. PMID: 33727243.
26. Menon B, **Narayan SK**, Bhade S. COVID-19, Moral Injury and the Bhagvad Gita. *J Relig Health*. 2021 Feb 26:1–9. doi: 10.1007/s10943-021-01210-z. PMID: 33635446; PMCID: PMC7908940.
27. Mekala S, Paplikar A, Mioshi E, Kaul S, Divyaraj G, Coughlan G, Ellajosyula R, Jala S, Menon R, Narayanan J, **Narayan S**, Aghoram R, Nehra A, Rajan A, Sabnis P, Singh SK, Tripathi M, Verma M, Saru LV, Hodges JR, Alladi S. Dementia Diagnosis in Seven Languages: The Addenbrooke's Cognitive Examination-III in India. *Arch Clin*

- Neuropsychol. 2020 Jul 24;35(5):528-538. doi: 10.1093/arclin/aaa013. PMID: 32188967.
28. Indira Priya D, Sugumaran R, **Sunil K Narayan**, Supriya C. Bobble-head doll syndrome with supra-sellar arachnoid cyst. Pract Neurol. 2020 Oct 22;practneurol-2020-002666. doi: 10.1136/practneurol-2020-002666. Epub ahead of print. PMID: 33093183.
29. Elavarasi A, **Narayan SK**, Parameswaran S, Srinivas BH, Mani B. Stroke in a Young Man with Nephropathy and Cardiac Thrombosis: An Uncommon Presentation of Antiphospholipid Syndrome. J Clin Rheumatol. 2020 Oct 22. Dec 1;27(8S):S699-S700. doi: 10.1097/RHU.0000000000001589. Epub ahead of print. PMID: 33105315.
30. Sugin LJS, Murugesan A, Bindu M, **Sunil KN**. Roflumilast: A potential drug for the treatment of cognitive impairment? Neurosci Lett. 2020 Sep 25;736:135281. doi: 10.1016/j.neulet.2020.135281. Epub 2020 Jul 28. PMID: 32735939. IF: 2.27;Cite Score:4.1
31. Atul Goel, **Sunil K Narayan**, Ramkumar Sugumaran. Hemiplegic cerebral palsy complicated by acute hemidystonia in adulthood. Neurol; Clin Pract Sep 2020, 10.1212/CPJ.0000000000000931; DOI: 10.1212/CPJ.0000000000000931 (Indexed in PMID PMC, Science Citation index)
32. Chatterjee D, Nagarajan K, **Narayan SK**, Narasimhan RL. Regional leptomeningeal collateral score by computed tomographic angiography correlates with 3-month clinical outcome in acute ischemic stroke. Brain Circ 2020;6:107-15. PMID: 33033780

PMCID: PMC7511921 DOI: 10.4103/bc.bc_55_19. Indexed in EBSCO, PMC and Proquest and citation index

33. Pradeep Pankajakshan Nair, Vaibhav Wadwekar , Sunitha Vellathussery Chakkalakkoombil, **Sunil K. Narayan**, Revanth Marusani, Aditya Murgai, Sibi Thirunavukkarasu, Amritha Krishnamoorthy, Harichandrakumar Kottiyen Thazhath. Comparison of proximal and distal corticosteroid injections for carpal tunnel syndrome. *Muscle and Nerve*; 2020;62(1):89-94. Clinical Trial. Impact factor:2.5; 2019 Journal Citation Reports (Clarivate Analytics): 109/204 (Clinical Neurology)184/272 (Neurosciences)
34. **Sunil Narayan**, Ranukumari A, Shakila R, Jeevanandham L, Liji B, Naveeta Yadav. Effect of dentures in preservation of muscles of mastication- an ultrasonographic and electromyographic study. *Journal of Prosthodontics Dentistry*. 2019; 14 (2); 1-13. t
35. Murugesan Arumugam and **Sunil K.Narayan**. Rethinking of the concepts: Migraine is an autoimmune disease? *Neurology, Psychiatry and Brain Research*. Volume 31, February 2019, Pages 20-26. Indexed in Scopus. CiteScore: 0.9; Source Normalized Impact per Paper (SNIP): 0.328 SCImago Journal Rank (SJR): 0.230
36. **Sunil K Narayan**, Murugesan Arumugam and Ravikumar Chittoria; Outcome of human peripheral nerve repair interventions using conduits: a systematic review. October 2018. *Journal of the Neurological Sciences*. PMID 30391821; IF 3.111; Cite score: 4.9
36. Dheeraj Khurana, M. Vasantha Padma, Rohit Bhatia, Subhash Kaul, Jeyaraj Pandian, P.N. Sylaja, for Guideline Core Committee, Deepak Arjundas, Ashok Uppal, V.G. Pradeep, Vinit Suri, D. Nagaraja, Anand Alurkar, **Sunil Narayan** for ISA Executive

- Committee. Recommendations for the Early Management of Acute Ischemic Stroke: A Consensus Statement for Healthcare Professionals from the Indian Stroke Association. *Journal of Stroke Medicine*. September 20, 2018. Indexed in Scopus <https://doi.org/10.1177/2516608518777935>
37. Aghoram R, **Narayan SK**. Patterns of transcranial doppler flow velocities in recent ischemic stroke patients. *Ann Indian Acad Neurol* 2018;21:193-6. PMID: 29687403
38. **Narayan SK** and Elavarasi A. Endovascular Interventional Management of Cerebral Venous Sinus Thrombosis. *Journal of Stroke Medicine*. August 24, 2018; 1(1) 28 - 33. <https://doi.org/10.1177/2516608518774211>.
39. Tirppur C. Ramakrishnan, Kumaravelu S, **Narayan SK**. et al. Efficacy and Safety of Intravenous Tenecteplase Bolus in Acute Ischemic Stroke: Results of Two Open-Label, Multicenter Trials. *Am J Cardiovasc Drugs* (2018). PMID: 29948822
40. Abdul Mannan Laskar, Deepashree R, Prasanna Bhat, Biju Pottakkat, **Sunil K Narayan**, Apurba Sastry, R Sneha. A multimodal intervention to improve hand hygiene in a tertiary care center. May 2018. *American Journal of Infection Control* 46(7). DOI: 10.1016/j.ajic.2017.12.017; PMID: 29753498
41. Palugulla S, Devaraju P, Kayal S, **Narayan SK**, Mathaiyan J. Genetic polymorphisms in cyclin H gene are associated with oxaliplatin-induced acute peripheral neuropathy in South Indian digestive tract cancer patients. *Cancer Chemother Pharmacol*. 2018 Jun 23. doi: 10.1007/s00280-018-3629-1. PMID: 29936608.
42. Sreenivasulu Palugulla, Dimpal N Thakkar, Smita Kayal, **Sunil K Narayan**, Steven Aibor Dkhar. Association of Voltage-Gated Sodium Channel Genetic Polymorphisms

- with Oxaliplatin-Induced Chronic Peripheral Neuropathy in South Indian Cancer Patients. *Asian Pac J Cancer Prev*, 18 (11), 3157-3165. PMID: 29172294
43. Das AM, Lakshmi Ramamoorthy L, **Narayan SK**, Wadwekar V. Barriers of drug adherence among patients with epilepsy: in tertiary care hospital, South India. *J Caring Sci* 2018; 7 (4): 177-81. PMID 30607357
44. Aghoram, R. and **Narayan, S.K.** Progressive multifocal leukoencephalopathy in idiopathic CD4+ lymphocytopenia. *J. Neurovirol.* (2018). PMID: 30258261
45. Preethi Venkatesan, Maanasa M Bhaskar, Sujatha Sistla, S Badrinath, **Sunil K Narayan**. Evaluation of immunological and molecular methods for rapid diagnosis of herpes simplex type-1 encephalitis. *Journal of Clinical and Diagnostic Research*. 2018 Aug, 12(8): 24-27. <https://doi.org/10.7860/JCDR/2018/36435.11937>
46. Sreenivasulu Palugulla, Steven Aibor Dkhar, Smita Kayal, **Sunil K Narayan**. Oxaliplatin-induced Peripheral Neuropathy in South Indian Cancer Patients: A Prospective Study in Digestive Tract Cancer Patients. *Indian J Med Paediatr Oncol* 2017; 38:502-7. DOI: 10.4103/ijmpo.ijmpo_143_17. PMID: 29333020
47. Maurya VP, Rajappa M, Wadwekar V, **Narayan SK**, Barathi D, Madhugiri VS. Tethered Cord Syndrome-A Study of the Short-Term Effects of Surgical Detethering on Markers of Neuronal Injury and Electrophysiologic Parameters. *World Neurosurg.* 2016 Oct; 94:239-247. PubMed PMID: 27422680.
48. Khilari M, **Narayan SK**. The National Institute of Health toolbox. *Ann Indian Acad Neurol* 2014; 17:247-52. PMID: 25221390
49. **ENOS Trial Investigators**. Efficacy of nitric oxide, with or without continuing antihypertensive treatment, for management of high blood pressure in acute stroke

(ENOS): a partial-factorial randomised controlled trial. *Lancet*. 2015 Feb 14;385(9968):617-28. PubMed PMID: 25465108.

50. **ENOS Investigators (2014)**, Baseline characteristics of the 4011 patients recruited into the 'Efficacy of Nitric Oxide in Stroke' (ENOS) trial. *International Journal of Stroke*, 9: 711–720. PMID: 25465108.
51. Priyadharsini R, Shewade DG, Subraja K, Ravindra BK, Umamaheswaran G, Dkhar SA, Satheesh S, Sridhar MG, **Narayan SK**, Adithan C. Single nucleotide polymorphism of CYP3A5*3 contributes to clopidogrel resistance in coronary artery disease patients among Tamilian population. *Mol Biol Rep*. 2014 Aug 12. PMID: 25112801
52. Sahu PS, Parija SC, Kumar D, Jayachandran S, **Narayan S**. Comparative profile of circulating antigenic peptides in CSF, serum & urine from neurocysticercosis patients diagnosed by immunoblotting. *Parasite Immunol*. 2014 Jun 26. 36(10):509-21; PMID: 24965663
53. **Narayan SK**, Verman A, Kattimani S, Ananthanarayanan PH, Adithan C. Plasma homocysteine levels in depression and schizophrenia in South Indian Tamilian population. *Indian J Psychiatry*. 2014 Jan; 56(1):46-53. PMID: 24574558
54. Nair PP, Wadwekar V, Murgai A, **Narayan SK**. Refractory status epilepticus complicated by drug-induced involuntary movements. *BMJ Case Rep*. 2014 Feb 11; 2014. PubMed PMID: 24518529
55. Roopesh Kumar VR, Madhugiri VS, Kamalanathan SK, Srinivas BH, **Narayan SK**, Bidkar P. Complete and curative excision of hypothalamic hamartomas via the orbito-zygomatic approach. *Neurol India*. 2013 Nov-Dec;61(6):690-1. PubMed PMID: 24441357.
56. Kaliaperumal S, **Narayan S**. Neuroretinitis: Update on a visual emergency and role of technology in its diagnosis. *Journal of Biomedical Science and Engineering*. 2013 October 30; 6(10B):15-19. doi: 10.4236/jbise.2013.610A2003.(A technology journal)

57. Subramanian SK, Gaur GS, **Narayan SK**. Low luminance/eyes closed and monochromatic stimulations reduce variability of flash visual evoked potential latency. *Ann Indian Acad Neurol*. 2013 Oct;16(4):614-8. PubMed PMID: 24339591.
58. Roopesh Kumar VR, **Narayan SK**, Madhugiri VS, Sasidharan GM, Gundamaneni SK. Cerebral revascularization with superficial temporal - middle cerebral artery anastomosis for complete carotid occlusion: An emerging modality for preventing recurrent stroke. *Ann Indian Acad Neurol*. 2013 Oct; 16(4):521-4. PMID: 24339571.
59. Subraja K, Dkhar SA, Priyadharsini R, Ravindra BK, Shewade DG, Satheesh S, Sridhar MG, **Narayan SK**, Adithan C. Genetic polymorphisms of CYP2C19 influences the response to clopidogrel in ischemic heart disease patients in the South Indian Tamilian population. *Eur J Clin Pharmacol*. 2013 Mar; 69(3):415-22. PubMed PMID: 22955794.
60. **Narayan SK**, Sivaprasad P, Sharma S, Sahoo RK, Dutta TK. Aetiology and outcome determinants of Intracerebral Hemorrhage (ICH) in a South Indian population, a hospital based study. *Ann Indian Acad Neurol* 2012; 15:263-6. PMID: 23349590.
61. Senthil Kumar S, Gaur.G.S, **Narayan.S.K**. Effect of color of flash stimulus on variability of flash visual evoked potential latencies. *Indian J Physiol Pharmacol* 2012; 56(4): 28–35. PMID: 23781651
62. Aditya Murgai, Pradeep Pankajakshan Nair and **Sunil Narayan**. Teaching Neurolimages: Neuropathic elbow arthropathy due to Syringomyelia. *Neurology* 2012; 79; e102. PMID: 22987748
63. **Narayan SK**, Gorman G, Kalaria RN, Ford GA, Chinnery PF. The minimum prevalence of CADASIL in northeast England. *Neurology*. 2012 Mar 27; 78(13):1025-7. PMID: 22422895.
64. **Narayan SK**, Firbank MJ, Saxby BK, Stansby G, Hansrani M, O'Brien JT, Ford GA. Elevated Plasma Homocysteine Is Associated with Increased Brain Atrophy Rates in Older Subjects with Mild Hypertension. *Dement Geriatr Cogn Disord*. 2011 May;18; 31(5):341-348. PMID: 21597295.

65. **Narayan SK**, Saxby BK, Firbank MJ, O'Brien JT, Harrington F, McKeith IG, Hansrani M, Stansby G, Ford GA. Plasma homocysteine and cognitive decline in older hypertensive subjects. *Int Psychogeriatr*. 2011 May 6:1-9. PMID: 21554791.
66. Ramasamy K, **Narayan SK**, Shewade DG, Chandrasekaran A. Influence of CYP2C9 genetic polymorphism and undernourishment on plasma-free phenytoin concentrations in epileptic patients. *Ther Drug Monit*. 2010 Dec; 32(6):762-6. PMID:21068649.
67. Kesavan R, **Narayan SK**, Adithan C. Influence of CYP2C9 and CYP2C19 genetic polymorphisms on phenytoin-induced neurological toxicity in Indian epileptic patients. *Eur J Clin Pharmacol*. 2010 Jul; 66(7):689-96. PMID: 20390258.
68. Firbank MJ, **Narayan SK**, Saxby BK, Ford GA, O'Brien JT. Homocysteine is associated with hippocampal and white matter atrophy in older subjects with mild hypertension. *Int Psychogeriatr*. 2010 Aug; 22(5):804-11. PMID: 20374668.
69. **Narayan SK**, Swaroop A, Jayanthi S. Chronic epidural intracranial actinomycosis: A rare case. *Ann Indian Acad Neurol*. 2009 Jul; 12(3):195-6. PMID: 20174505.
70. **Narayan SK**, Kumar K, Swaminathan RP, Roopeshkumar VR, Bhavna B. Isolated cerebral aspergilloma in a young immunocompetent patient. *Pract Neurol*. 2009 Jun; 9(3):166-8. PMID: 19448060.
71. **Narayan SK**, Sreelakshmi M, Sujatha S, Dutta TK. Anthrax meningoencephalitis--declining trends in an uncommon but catastrophic CNS infection in rural Tamil Nadu, South India. *J Neurol Sci*. 2009 Jun 15; 281(1-2):41-5. PMID: 19304297.
72. Sahu PS, Parija SC, **Narayan SK**, Kumar D. Evaluation of an IgG-ELISA strategy using *Taenia solium* metacestode somatic and excretory-secretory antigens for diagnosis of neurocysticercosis revealing biological stage of the larvae. *Acta Trop*. 2009 Apr;110(1):38-45. PMID: 19183550.
73. **Narayan SK**, Sivaprasad P, Sahoo RN, Bhuvaneshwari V. Teaching video Neurolmage: Chvostek sign with Fahr syndrome in a patient with hypoparathyroidism. *Neurology*. 2008 Dec 9;71(24):e79. PubMed PMID: 19064874.

74. **Narayan SK**, Kaliaperumal S, Srinivasan R. Neuroretinitis, a great mimicker. Ann Indian Acad Neurol. 2008 Apr; 11(2):109-13. PMID: 19893649.
75. Doble Mukesh, **Narayan Sunil K**. Mathematical Analysis of EEG of Patients with Non-fatal Nonspecific Diffuse Encephalitis. Mathematical Analysis of EEG of Patients with Non-fatal Nonspecific Diffuse Encephalitis. International Journal of Medicine and Medical Sciences. 2008; 3(4):254-260. (Biomedical Technology Journal).
76. Ramasamy K, **Narayan SK**, Chanolean S, Chandrasekaran A. Severe phenytoin toxicity in a CYP2C9*3*3 homozygous mutant from India. Neurol India. 2007 Oct-Dec; 55(4):408-9. PubMed PMID: 18040121.
77. **Narayan SK**, Kumar S, Prabhakar P, Elangovan S, Baumann N, Verma IC. Multiple Sclerosis in Keralite siblings after migration to the Middle East: a report of familial Multiple Sclerosis from India. J Neurol Sci. 2007 Sep 15; 260(1-2):244-8. PMID: 17588606.
78. **Narayan SK**, Kaveer N. CNS demyelination due to hypocupremia in Wilson's disease from overzealous treatment. Neurol India. 2006 Mar; 54 (1):110-1. PMID: 16679666.
79. **Narayan SK**, Dutta JK. Creutzfeldt-Jakob disease. J Asok Physicians India. ; 53:791-5. Review. PMID: 16334625.
80. Prakash ES, Madan Mohan, Sethuraman KR, **Narayan SK**. Cardiovascular autonomic regulation in subjects with normal blood pressure, high-normal blood pressure and recent-onset hypertension. Clin Exp Pharmacol Physiol. 2005 May-Jun; 32(5-6):488-94. PubMed PMID: 15854164.
81. Nandigam K, **Narayan SK**. Time and cost: are they the only contributors to poor rate of stroke thrombolysis. Neurol India. 2004 Dec; 52(4):519. PubMed PMID: 15626859.
82. Prakash ES, Madan Mohan, **Narayan SK**, Prashanth U, Kamath MG, Udupa K, Sethuraman KR, Srinivasan S, Kumar RA. Tilt table testing in the diagnostic evaluation of presyncope and syncope: a case-series report. Indian J PhysiolPharmacol. 2004 Apr; 48(2):213-8. PubMed PMID: 15521561.

83. Biswas R, Parida SC, **Narayan SK**. Dot-ELISA for the diagnosis of neurocysticercosis. Rev Inst Med Trop Sao Paulo. 2004 Sep-Oct; 46(5):249-52. PubMed PMID: 15517026.
84. Ghotekar LH, Dutta TK, **Narayanan S**, Basu D, Dambal A, Vivekanandan. Trigger autoimmunity -development of multiple plexopathy in a patient with chronic idiopathic thrombocytopenic purpura. Neurol India. 2004 Jun;52(2):281-2. PMID: 15269507
85. Nandigam K, **Narayan SK**, Elangovan S, Dutta TK, Sethuraman KR, Das AK. Feasibility of acute thrombolytic therapy for stroke. Neurol India. 2003 Dec;51(4): 470-3. PubMed PMID: 14742924.
86. Hamide A, Sarkar E, Kumar N, Das AK, **Narayan SK**, Parija SC. Acanthameba Meningo- encephalitis: a case report. Neurol India. 2002 Dec;50(4):484-6. PubMed PMID: 12577102.
87. Bond R, **Narayan SK**, Rothwell PM, Warlow CP; European Carotid Surgery Trialists' Collaborative Group. Clinical and radiographic risk factors for operative stroke and death in the European carotid surgery trial. Eur J VascEndovasc Surg. 2002 Feb; 23 (2):108-16. PubMed PMID: 11863327
88. **European Carotid Surgery Trialists' Collaborative Group**. Prediction of benefit from carotid endarterectomy in individual patients: a risk-modelling study. Lancet. 1999 Jun 19; 353(9170):2105-10. PubMed PMID: 10382694.
89. **European Carotid Surgery Trialists' Collaborative Group**. Randomised trial of endarterectomy for recently symptomatic carotid stenosis: final results of the MRC European Carotid Surgery Trial (ECST). The Lancet .Vol 351. May 9, 1998. PMID: 9593407.
90. Wardlaw JM, Marshall I, Wild J, Dennis M, Cannon J, Lewis C. Studies of Acute Ischemic Stroke With Proton Magnetic Resonance Spectroscopy. Relation between time of onset, neurological deficit, metabolic abnormalities in the infarct, Blood flow and clinical outcome (Acknowledgement). Stroke. 1998; 29:1618-1624. PMID: 9707203;

91. **Narayan SK**, Kuruvilla A, Shanmugam J, Radhakrishnan VV. Fast-wave periodic complexes in a mentally retarded child who later developed subacute sclerosing panencephalitis: a modification of a classic EEG by preexisting brain damage? *Dev Med Child Neurol*. 1997 Nov; 39 (11):766-9. PubMed PMID: 9393892.
92. **Narayan SK**, Sarada C, Radhakrishnan K, Nair MD, Kartha CC, Neelakandhan KS, Tharakan KJ. Response to thymectomy in South Indian patients with myasthenia gravis. *Acta Neurol Scand*. 1996 Jul;94(1):63-6. PubMed PMID: 8874596.
93. Radhakrishnan VV, Saraswathy A, Mohan PK, **Narayan SK**. Necrotizing myelopathy -a report of two cases with review of literature. *Indian J Pathol Microbiol*. 1994 Oct; 37(4):439-45. Review. PubMed PMID: 7868180.
94. **Narayan SK**, Philip E, Nair MKC. Neuro developmental sequelae of pyogenic meningitis in children. *Neurol India*. 1996 Oct-Dec; 44(4):170-176. PubMed PMID: 29542524

Publications in Unindexed Journals

95. Narayan S.K. Migraine and its management. *Indian journal of Pediatric Neurology*. 2002 April. 221-223.
96. Sunil K Narayan. Current status of stroke care and research in India. *Neurolinks*. Vol. 4.01 Perspectives. 2007 (Spring and Summer) www.nsig.org
97. Mark Christopher, Narayan S.K Sivarajan. K, Sethuraman K.R and Chandrasekharan.R: An unusual presentation of a rare CNS tumor. *JIPMER Scientific Society Bulletin*. 2001.
98. Febrile Seizures. Narayan SK, Proceedings of 2nd SAARC meeting on Reduction of Childhood Neuromorbidity 2002, P.29-31. Ministry of external affairs, Department of Science & Technology, Government of India.

99. Management of status Epilepticus: Narayan S.K. Physician's Digest. June- July 2004
Vol 13, No.2 .P. 66-87.
100. Sudhir K, Narayan SK, Elangovan S, Puran Singh, Bowmann N, Verma IC.
Familial Multiple Sclerosis in Keralite siblings after migration to the Middle East; rare
expression of a genetic trait due to environmentally triggered factors? JIPMER
Scientific Society Bulletin. 2007-8; 87-92

Accepted Full Papers in Indexed Journals (In Press)

1. Manuscript ID: IJMR_454_19. "An update on Clinical trials in Stem Cell therapy in
ischemic stroke. Accepted in Indian Journal of Medical Research". **ACCEPTED**

Papers submitted to indexed journals

1. Manuscript ID: svn-2022-001685. Endovascular thrombectomy and alteplase in acute
ischemic stroke: a guideline. Stroke & Vascular Neurology.
2. Manuscript ID: CORTEX-D-22-00228. Title: Effect of prior transcranial direct current
stimulation (tDCS) on the Indian every-day-language and cognitive rehabilitation programme
(REPAIR), in post stroke aphasia -a pilot study
3. Manuscript ID: A-10-2447-1. Capsaicin Induced Regional Brain Plasma Protein
Extravasation: A novel Preclinical Rabbit Animal Model for Migraine drug discovery.
Submitted: in Basic and Clinical Neuroscience
4. Manuscript ID: IJOY_83_20. "Effect of a yogic relaxation technique on cerebral
vasomotor reactivity in subjects with stroke: A randomized controlled trial".
5. Manuscript ID: 2020/024118; Stroke Homocysteine and MTHFR 677C->T variants
associated with ischemic strokes but 1298 A->C vascular protective in Tamilians.
6. Manuscript ID: NSL-22504. Effect of Non-invasive Brain Stimulation on Somatosensory
Evoked potentials in Chronic Ischemic Stroke"

Books

1. Narayan SK, Sanchetee P. Selected topics in Tropical Neurology. Publisher: Byword Books; Hardback| 268 pages; Publication date: 10 July 2015; ISBN 10: 8181931173; ISBN 13: 9788181931177

Chapters in Books

1. Narayan.SK. Pathophysiology of Ischemic Stroke. Chapter 2; in Reviews in Neurology. Ed. Lakshmi Narasimhan Ranganathan; Wolters Kluwer. ISSN: in Indian Academy of Neurology. ISSN 0971-5924; ISBN 978-973-893-35.
2. Narayan S K. Imaging in diagnosis of Rabies (chapter). 'Human Rabies' edited by JaminiKanta Dutta. P 64-78. Sradha publications, Balasur, India.2005
3. Narayan SK. Controversies in Genetic testing: CME book, Indian Academy of Neurology 2010.
4. Narayan SK, Adithan C, Chinnery PF. Neurogenetics, an update. CME book, Neurological Society of India. 2011.
5. Sushma S, Narayan S. Central Nervous System Infections in Elderly. 467-478. Ch.95; Section 14; Neurology. In Testbook of Geriatric Medicine. Ed. Pratap Sanchetee. Paras Medical Publisher, New Delhi 2014.
6. Sunil K Narayan. Epigenetics in Tropical Neurology; Chapter 14. In "Selected Topics in Tropical Neurology"; Byword books. July 2015; ISBN 10: 8181931173; ISBN 13: 9788181931177
7. Sunil Narayan. Neurogenetics. Year Book of Indian Academy of Neurology. 2021

Authorship/contributions in National Health guidelines

1. Dr. Kameshwar Prasad, Professor & Head, Neurology, All India Institute of Medical Science, New Delhi • Dr. M. V. Padma Srivastava, Professor, Neurology, All India Institute of Medical Science, New Delhi • **Dr. Sunil Narayan**, Professor & Head, Neurology, JIPMER, Puduchery et al. Guidelines for Prevention and Management of Stroke: National Programme for Prevention and Control of Cancer, Diabetes,

Cardiovascular Diseases & Stroke (NPCDCS); Directorate General of Health Services Ministry of Health and Family Welfare Government of India 2019
<https://mohfw.gov.in/sites/default/files/Guidelines%20for%20Prevention%20and%20Managment%20of%20Stroke.pdf>

2. **Narayan SK**, Febrile Seizures. Proceedings of 2nd SAARC meeting on Reduction of Childhood Neuromorbidity 2002, P.29-31. Ministry of external affairs, Department of Science & Technology, Government of India.
3. **Narayan SK** et al. IAN Stroke Revised guidelines 2022 (In Progress). IAN stroke subsection writing group.

Academic Workshops and training programmes attended

1. Neurosonology workshops:
 - a) TCD at Neuroupdate, Chennai 2004 from 4th to 5th Jan 2004
 - b) Workshop on “Ultrasound and Vessels”: Hands-on held World Congress of Neurology, Marrakesh 2011
 - c) Preconference Neurosonology workshop of INSC 2015 at Chandigarh March 15th
2. Epilepsy: Symposium and workshop on perspectives in Epilepsy: 7th and 8th October 1990
3. Sleep Medicine: at Amrutha Institute of Medical Sciences and Research Centre on 5th and 6th October 2002
4. EEG workshop: EEG telemetry and Epilepsy workshop by Colin Binnie held on 13th December 2001 at Mumbai
5. ENMG workshop: Neuroelectrophysiology workshop on 20th September 2001
6. Interventional Neurovascular radiology
 - a) Workshop on 24th and 26th November 1998 at AIIMS, New Delhi

- b) Preconference workshop 23rd September 2010 at Trichy in connection with IANCON 2010
 - c) Preconference workshop on Interventional Neurology held with INSC 2015 at Chandigarh
7. Cognitive Neurology:
- a) Cognition and Dementia: 12th and 13th February 2016 at NIMHANS, Bangalore
 - b) Cognitive Neurology course: 29th April to 1st May 2016
 - c) Dementia and cognition Feb 16-18th 2003, Chennai
8. Neurocritical care workshop: 27th and 28th November 2009
9. Movement disorders
- a) Parkinson's disease and other movement disorders: International workshop Feb 17th to 19th, 2002, Chennai
 - b) Comprehensive review of movement disorders for the clinical practitioner: 17th to 20th January, 2008; Ooty
10. International workshop on stroke 14th to 17th February 2004, Chennai, India
11. National symposium endorsed by International Stroke Society on Feb 2nd and 3rd 2002
12. Neuro-ophthalmology course organised under the chairmanship of Nancy Newman, David Zee and Valerie Biousse at Chennai on 19th November 2010
13. Paediatric Neurology course conducted by Dr. Sakkubai Naidu, in a connection with Neuroupdate, Chennai
14. Pharmacovigilance awareness programme 2011 held at JIPMER, Pondicherry from February 21-23, 2011
15. Botulinum Toxin workshop:
- a) 3rd April 1999 at NIMHANS, Bangalore
 - b) 15-16 July, 2005 International SRMC-Bt workshop at RAM MOVE 2005

16. Neuropsychological rehabilitation: Clinical skills workshop held at Chennai under aegis of WFNR/IFNR and Neurokrish from 29th to August 2014
17. Neuroepidemiology Symposium: November 22nd and 23rd 1991 at Bombay Hospital, Mumbai
18. Workshop on Sample Size Calculation in Research held at PPFI, New Delhi in 2015
19. Medical Statistics workshops: Preconference workshop of Indian Society of Medical Statistics from 19th to 23rd January 2005
20. Evidence Based Medicine Toolkit training workshop jointly organised by American Academy of Neurology and Sriramachandra University, Porur
21. Clinical Trials workshop: Edinburgh Clinical Trial course 31.1.1996 to 2.2.1996
22. Cochrane Systematic Review protocol development, 13th to 17th February 2012 held by South Asian Cochrane Network Centre, at CMC, Vellore.
23. Grant writing workshop: 2nd Joint Leadership Indo-US VAP: RePORT INITIATIVE India Grantmanship Seminar 8th to 10th May 2014 held at JIPMER
24. Scientific Writing workshop: Workshop on "Art of Scientific Writing" on 11th and 12th July 2016 held at JIPMER
25. Book Writing and Publishing: Resource person and participant at the workshop on same organised by JIPMER Research Division held on 20th October 2016
26. Critical thinking workshop: Critical thinking in Medical Research at workshop held on 12th September 2015 on occasion of 1st JIPMER Research Day celebration, 30th November 2015 and on
27. Medical innovations and Intellectual Property Rights workshop: 10th September 2016
28. fMRI and MEG workshop: NIMHANS, Bangalore, 2014
29. Laboratory Medicine-Clinical Practice, JIPMER: 6th August 1995
30. Biosafety in DNA research workshop, JIPMER: 21st August 2014

31. Basic and applied Bioinformatics for clinical genomics workshop: at CIDRF, Puducherry 14th October 2016
32. Stem Cell therapy: SRMCRI, Porur, Chennai on 6th January 2006
33. Medical Education workshop: 72nd National Teacher Training Centre for Health Professionals held at JIPMER from 16th to 21st February 2015
34. JIPMER Quality Council Accreditation workshop 2015 on 14th and 15th November 2015
35. National Medical College Network programme of Ministry of Health and Family Welfare, Government of India held at JIPMER on 16th August 2013
36. Course on Advocacy- Leadership at WCN 2012 at Marrakesh
37. Action plans for HIV and AIDS control in India under aegis of ISHA held at SVIMS, Tirupati from Nov 20th to 24th 1995
38. American Academy of Neurology:
 - a) 54th Annual conference, Denver, Colorado, April 13th 20th 2002
 - b) 64th Annual conference at San Diego, 2013
 - c) 69th Annual conference at Boston, California, 2017
39. World Congress of Neurology:
 - a) New Delhi 1994
 - b) Sydney, Australia 2004
 - c) Marrakesh, Morocco from November 12-17, 2011
40. World Stroke Congress:
 - a) Hyderabad, India 2000
 - b) Vancouver, Canada 2005
 - c) Istanbul, Turkey 2014
 - d) Hyderabad, India 2016

INTERNATIONAL TRAINING EXPOSURES

Lectures, Courses and Seminars attended in the UK during fellowships

A.High Value skill Courses attended:

- a) 2nd Edinburgh Clinical Trials Course- Jan.1996.
- b) Elementary data analysis course - Summertime Course 1996. University of Edinburgh, Department of Statistics and Epidemiology.
- c) Staff Development course. University of Manchester. 1997.
- d) Advanced Computer software training for research students in Access, SPSS and World Wide Web- Manchester Computing Centre. 1997 March- April.
- e) Clinical Research Facility Courses, Royal Victoria Infirmary:
 1. Setting up investigator site. Jane Barnes and Debbie Carrick-Sen. 25.5.07:
 2. Critical Appraisal, Elaine McCol. 15.6.07:
 3. Systematic Review. Katherine Deans, Senior Lecturer, Northumbria University. 29.6.07
 4. Data Management, Corrine Hedgely. 13.7.07:
 5. Good Clinical Practice: Tanya Symonds.19.7.07:
 6. Research Governance: Leonie Walker
 7. Setting up investigator site. Jane Barnes and Debbie Carrick-Sen. 25.5.07
 8. Critical Appraisal, Elaine McCol12.15.6.07
 9. Data Management, Corrine Hedgely. 13.7.07
 10. Good Clinical Practice: Tanya Symonds19.7.07:
 11. Research Governance: Leonie Walker. 27.7.07

B. High Value Lectures Attended:

- a) Thick and thin reflections on Science: Institute of human genetics, Centre for Life, Newcastle, UK; 29.3.07

- b) Statistical Bioinformatics and Stochastic systems in Biology. University of Newcastle, Dept of Bioinformatics. 2.4.07
- c) Genetic Models of animals: Centre for Life: Lunch Seminars; 25.4.07
- d) Pergenomics to postgenomics and proteomics: Prof.Gary Black, Northumbria University; 4.5.2007
- e) Newest applications to treatment of mental illness. Prof. Sander Gilman, Emory University, Atlanta:10.5.07
- f) The psychology of the paranormal: Dr. Matthew Smith (Liverpool Hope University); 17.5.07
- g) Aggression as a coping style: a multidimensional approach of underlying mechanisms. JaapKoolhaas (University of Groningen) 23.5.07
- h) Ethics and research of clones and hybrids: Deryck Beyleveld, Department of Law, University of Durham at Centre for Life; 30.5.07:
- i) Ageaction: Changing expectations of Life. Institute of ageing and health. Full day Seminar funded by European Union.22.4.07.
- j) An introduction to fMRI and application to the elderly patient. Dr.Michael Firbank, Institute of ageing and Health, University of Newcastle. 11.5.07.
- k) Toxins, autoantibodies and ion channels. ION Seminar: Professor Angela Vincent (Department of Clinical Neurology, Oxford University. 6.6.2007.
- l) Gerontology research seminar: Hypertension and Cognition: Prof. Gary Ford, Director, Clinical Research Facility and Director, Stroke Research Network, UK.:7.6.2007.
- m) Centre for Life Researc Seminar: Good Links, Bad links, Co-ordinating: Tiago Moreira, Department of Sociology, University of Durham. 13.6.07.
- n) Wolfson Centre Research Seminar: Dementias with Parkinsonism and Lewy body dementia, PietroTiraboschi. 2.7.07.

C.Short Academic/skills higher Training in the UK, United States of America and Canada and Germany

1. 4 weeks' training in **Video-EE monitoring at Mayo Clinic**, Rochester, with Prof.G.Cascino, Director, Epilepsy Programme, American Academy of Neurology, 2002 April.
2. 4 weeks training at **Neurobiology** division of **University of British Columbia, Vancouver** 2004 with Prof Chen
3. 4 weeks' training in **transcranial Doppler with Prof.Andrei Alexandriov**, Director, Neurosonography at the neurosonology division of **Barrow Institute of Neurology, University of Arizona, Phoenix** June 2006.
4. 10 months training as Stroke Research Fellow, Stroke Unit organisation and in stroke clinical trials at Edinburgh, UK in Jan to October1996 with Prof. Charles Warlow
5. 6 Months training at Clinical Research Facility at Royal Infirmary, Newcastle, UK with Prof. Gary Ford, Currently stroke coordinator at Oxford University,UK
6. 6 Months training at Mitochondrial Research group and Centre for Life and institute of ageing at Newcastle, UK with Prof. Patrick Chinnery, currently Head, Neurology at Cambridge, UK

PARTICULARS OF RESEARCH WORK DONE AND RESEARCH EXPERIENCE

| | | |
|--|---------|--|
| Neurodevelopmental sequelae of pyogenic meningitis in children | 1986-89 | Medical College, Trivandrum (DST,Kerala Project) |
| Thymectomy in Myasthenia gravis | 1991-94 | SCTIMST, Trivandrum |
| Clinical & EEG study of complex partial seizures-postdoctoral fellowship | 1994-95 | SCTIMST, Trivandrum |
| a)Lothian Stroke registry b)European Carotid Surgery Trial-Role of LVH as | 1996 | Western General Hospital, Edinburgh |

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| Independent risk factor in medically and surgically treated ischemic stroke patients c)Oxfordshire community Stroke Project: Is routine VDRL test cost-effective in ischemic stroke patients? | | (Visiting Stroke Research Fellow) |
| Urgent Carotid Surgery in Acute Stroke | 1997 | University Hospitals of South Manchester (Stroke Research Fellow) |
| Thrombophilia in young stroke patients | 1995-2000 | Sree Venkateswara Institute of Medical Sciences, Tirupati |
| 1.Role of Heavy Metals in Neurodegenerative diseases (DST,Pondi) | 2001-2002 | Jawaharlal Institute of Postgraduate Medical Education & Research, Pondichery-6 |
| Homocysteine,Folic acid,B12 levels correlated to cognitive decline in the elderly hypertensives | March 2007-Oct 2007 | Split-site doctoral scholarship, CFSP, University of Newcastle: Dr. Sunil <u>Narayan</u> , supervised by Prof Gary Ford, Newcastle University |
| Homocysteine, Folic acid,B12 levels correlated to silent brain lesions in the elderly hypertensives | March 2007-Oct 2007 | Split-site doctoral scholarship, CFSP, University of Newcastle: Dr. Sunil <u>Narayan</u> , supervised by Prof Gary Ford, Newcastle University |
| Community prevalence of CADASIL, a monogenic stroke disorder in North-East England | October 2008-March 2009 | Split-site doctoral scholarship, CFSP, University of Newcastle: Dr. Sunil <u>Narayan</u> , supervised by Patrick Chinnery, Newcastle University |
| Association of Plasma Homocysteine and MTHFR | Jan 2010-March 2013 | PhD Doctoral work of Dr, Sunil <u>Narayan</u> , |

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| polymorphisms with ischemic stroke in Tamil population | | supervised by Prof. C. Adithan |
| Association of Plasma Homocysteine with Depression | Jan 2010- March 2013 | PhD Doctoral work of Dr, Sunil <u>Narayan</u> , supervised by Prof. C. Adithan |
| Association of prothrombotic factors with ischemic heart disease | Jan 2010- March 2013 | PhD Doctoral work of Dr, Sunil <u>Narayan</u> , supervised by Prof. C. Adithan |
| ENOS International trial | Jan 2011- March 2014 | MRC-UK Sponsored Clinical Trial |
| Tenecteplase in Ischemic stroke | 2014-2016 | M/s. GenovaPharmac. Sponsored Clinical trial |
| Edaravone or Sodium Ozagrel for neuroprotection in ischemic stroke trial | 2010 onwards | Faculty initiated ischemic stroke Trial |
| INSTRUCT Indian stroke trial registry | 2017 onwards | ICMR sponsored Multicentric national trial |
| SPRINT Indian stroke prevention trial | do | ICMR sponsored Multicentric national trial |
| A clinical and genetic study of Hereditary spastic paraplegia in Tamilian population | do | Faculty initiated study |
| Assessment of the health status and quality of life and their association with clinical and socio-demographic factors among stroke survivors | 2017 onwards | Co-investigator, Department of Biometrics |
| Assessment of depression and its association with clinical and socio-demographic factors among stroke survivors | 2017 onwards | Co-investigator, Department of Biometrics |

STUDENTS' PH.D/DM/MD THESIS TITLES GUIDED :

| | DM Neurology | | | | |
|---|-------------------------|---|-----------|--------------------|--------------------------------------|
| 1 | Aditya Murgai | Association of clinical type, ALSRF scores at presentation on natural | 2010-2013 | Guide,DM Neurology | Conception of idea, design of study, |

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|---|--------------------|---|-----------|----|---|
| | | history and survival in Motor Neuron Disease | | | Correction of dissertation |
| 2 | Nirmala Vangapandu | Determinants of relapses and natural history in Multiple Sclerosis | 2010-2013 | Do | Conception of idea, design of study, Correction of thesis and write-up of paper |
| 3 | Madhuri Khilari | Utility of TCD and SPECT in differentiation between labyrinthine and central vascular vertigo | 2011-2014 | Do | Do |
| 4 | Dhanasree Peddawad | Association of Biomarkers with acute stroke | 2011-2014 | Do | Do |
| 5 | Rajeswari A | Effect of Pranava Yoga in TCD parameters of Stroke | 2012-2015 | Do | Do |
| 6 | Sibi T | Prevalence of Carotid artery disease in Tamil stroke patients | 2012-2015 | Do | Do |
| 7 | Ashish Susvikar | Autonomic dysfunction in ischemic stroke | 2013-2016 | Do | Do |
| 8 | Kiran Patil | Retinal artery AV ratio and ophthalmic TCD in Ischemic stroke | 2013-2016 | Do | Do |
| 9 | Donna Mathew | Assessment of p-nfh in the cerebrospinal fluid of patients with Motor Neuron Disease and its correlation with the | 2014-2017 | Do | Do |

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| | | type and severity based on revised amyotrophic Lateral Sclerosis Functional rating scale (ALSFRS-R) score in South Indian population | | | |
| 10 | Upendra Shah | Cerebrovascular Reactivity and Postural alterations in Cerebral blood flow velocity in Ischemic Stroke patients: A case control study | 2015-2018 | Do | Do |
| 11 | Mohan Rao | Spectral EEG, MRI brain imaging and MeCP2 gene mutation in autistic spectral disorders - A descriptive analytical study | 2016-2019 | Do | Do |
| 12 | Revanth Reddy | Nerve conduction study parameters in individuals without neuropathic signs and symptoms | 2014-2017 | Co-guide | Do |
| 13 | Indira Priya | Neurocognitive profile of young stroke survivors | 2017-2020 | Do | Assisted in design of study, Correction of proposal; Paper accepted at AAN 2020; |
| 14 | Balachander K | Effect of CYP2C19 & GT1A6 genetic polymorphism on Valproic acid induced weight gain in persons living | 2017-2020 | Do | Coguide:Assisted in design of study in genetic |

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|-------------------------|---------------|--|-----------|---------------------------|---|
| | | with epilepsy (PWE) from South India | | | aspects, Correction of proposal |
| 15 | Atul Goel | Randomised Trial of Zonisamide in Parkinsonism | 2019-2022 | Do | Coguide:Assisted in design of clinical trial, Correction of proposal |
| 16 | Bidhan Mandal | Long Term Vascular, neurocognitive and quality of life outcome in ischemic stroke: A cohort study | 2020-2023 | | Guide: Concept, Design |
| MCh Neurosurgery | | | | | |
| 1 | Ved Mourya | An assessment of the electrophysiologic and metabolic effects of surgical detethering of the spinal cord in patients with tethered cord syndrome – a prospective pilot study | 2014-2017 | Co-guide, MChNeurosurgery | Assisted in design of study, Correction of proposal and write-up of paper |
| 2 | Sreekesh | Effect of Hemicraniectomy on a)CBF gauged by CT perfusion b) one month outcome in Ischemic stroke | 2020-2023 | Do | Co-guide: Concept, Design |
| PhD | | | | | |

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|---|--------------------|---|-----------|---------------------------|---|
| 1 | Jeshma Jayan | NIBS in Ischemic stroke rehabilitation | 2017- | GuidePhD Neurology | Conception of idea, design of study, Correction of thesis and write-up of paper |
| 2 | Moitrayee Majumdar | Exosomes in ischemic stroke- In Vitro | 2018- | GuidePhD Neurology | Conception of idea, design of study, Correction of thesis and write-up of paper |
| 3 | Simy Grace | Exosomes in Ischemic stroke | 2018- | GuidePhD Neurology | Conception of idea, design of study, Correction of thesis and write-up of paper |
| 4 | Piriyatharshini R | A Stratified Analysis of Clinical Manifestations and Different Diagnostic Methods of Neurocysticercosis-suspected Tamilian Population residing in and around Puducherry | 2013- | Coguide PhD Microbiology | Clinical evaluation of subjects, Correction of thesis and write-up of paper |
| 5 | Sahu | Diagnostic value of immunodiagnosis of Neurocysticercosis on body fluids | 2004-2008 | Co-guide PhD Microbiology | Clinical evaluation of subjects, Correction of thesis and write-up of paper |

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|---|---------------|--|-----------|--------------------------------|---|
| 6 | KavirajUduppa | Autonomic function tests in Syncope | 2001-2005 | Co-guide PhD Physiology | Conception of idea, design of study, Correction of thesis and write-up of paper |
| | MD | | | | |
| 1 | Prakash | Autonomic function tests in Mild and moderate hypertension | 2001-2004 | Co-guide MD Physiology | Conception of idea, design of study, Correction of thesis and write-up of paper |
| 2 | Vinod | Cost-effective investigations for thrombophilia in ischemic stroke patients | 2001-2004 | Co-guide MD Medicine | Design of study, Correction of thesis and write-up of paper |
| 3 | PonrajM | Clinical, neuroelectrophysiological study and outcome of intermediate syndrome in organophosphorus poisoning | 2011-2014 | Co-guide MD Medicine | Design of study, Correction of thesis and write-up of paper |
| 4 | Rakhi Biswas | Serum, CSF and Urine antibodies in Neurocysticercosis | 2002-2005 | Co-guide MD Microbiology | Conception of idea, design of study, Correction of thesis and write-up of paper |
| 5 | Biswajith | Clinical and electrophysiological profile of GBS | 2002-2005 | Co-guide MD Medicine | Conception of idea, design of study, Correction of |

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|----|------------------|--|-----------|---------------------------|---|
| | | | | | thesis and write-up of paper |
| 6 | Elizabeth Mathew | Profile of epilepsy and antiepileptic drug levels in pregnancy | 2002-2008 | Co-guide MD OBG | Conception of idea, design of study, Correction of thesis and write-up of paper |
| 7 | Sivaprasad P | Corelation of clinical and radiological profile of Primary Parenchymal haemorrhage to outcome | 2007-2--9 | Co-guide MD Medicine | Conception of idea, design of study, Correction of thesis and write-up of paper |
| 8 | Venkatesh | Neurological complications of AIDS | 2008-2011 | Co-guide MD Medicine | Conception of idea, design of study, Correction of thesis and write-up of paper |
| 9 | Senthilkumar | Standardisation of Flash VEP in healthy normal adults aiming at reduction of variability of latencies | 2010-2013 | Co-guide Physiology | Conception of idea, design of study, Correction of thesis and write-up of paper |
| 10 | Priyadarshini R | Effect of CYP3A5 and CYP2Y12 genetic polymorphisms on platelet aggregation in patients on treatment with clopidogrel | 2009-2012 | Co-guide, Pharmacology MD | Design of study, Correction of thesis and write-up of paper |

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|----|---------------|--|-----------|---------------------------------------|--|
| 11 | Subraja | Effect of CYP2C19 and MDR1 genetic polymorphisms on antiplatelet effects of clopidogrel in clinical settings | 2009-2012 | Co-guide, Pharmacology MD | Design of study, Correction of thesis and write-up of paper |
| 12 | Sarath Babu | Somatosensory Evoked potentials normative data-age and gender based variations | 2010-2013 | Coguide, Physiology MD | Conception of idea, design of study, Correction of thesis |
| 13 | Preethi, V | RT-PCR Vs. ELISA in Herpes Encephalitis | 2009-2011 | Co-guide, Microbiology MD | Conception of idea, design of study, Correction of thesis |
| 14 | Hariprasad | Polysomnography in sleep disordered breathing | 1010-2013 | Co-guide, MD Pulmonary Medicine | Conception of idea, design of study, Correction of thesis |
| 15 | Amudhabharati | White matter micro integrity in Motor neuron disease patient with diffusion tensor imaging using fractional anisotropy (FA) | 2014-2017 | Co-guide, MD Radiodiagnosis | Conception of idea, design of study, Correction of thesis and write-up of paper |
| 16 | Arshiya | Pre and in-hospital delay and clinico-epidemiological profile in acute ischemic stroke patients presenting to emergency department of a tertiary care hospital in South India. | 2016-2019 | Co-guide, MD Emergency Medicine | Conception of idea, design of study, Correction of thesis and write-up of paper |
| 17 | Susanthi | Glaucoma among adult patients with migraine -a | 2017-2020 | Co-guide, MD | Conception of idea, design of study, |

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|----|------------------|--|-----------|-------------------------------|---|
| | | hospital based comparative cross-sectional study. | | Gynaecology | Correction of thesis and write-up of paper |
| 18 | Gomathi Ramasamy | Prevalence of sleep disorders among people aged more than 15 years from a rural area, Puducherry, India. | 2014-2017 | Co-guide, MD P&SM | Design of study, Correction of thesis and write-up of paper |
| 19 | HemaBaskarane | Association of atrial fibrillation with ischemic heart disease and stroke | 2017-2020 | Co-guide. MD General Medicine | Design of study, Correction of thesis and write-up of paper |
| 20 | Bharat Jeyaram | Clinico-radiologic Correlations of MRI-detected Cerebral Microbleeds – A descriptive study | 2017-2020 | Co-guide, MD Radiodiagnosis | Conception of idea, design of study, Correction of thesis and write-up of paper |
| 21 | Anand Kishore | Carotid Occlusion | 2019-2022 | Co-guide MD Radiodiagnosis | Conception of idea, design of study |
| | MSc | | | | |
| 1 | Athira | Effect of short duration cognitive exercise on EEG spectrum in patients with schizophrenia. | 2015-2018 | Co-guide MSc Physiology | Conception of idea, design of study, Correction of thesis and write-up of paper |

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|-----------------|-----------------|--|-----------|-------------------------------|---|
| 2 | Ancy | Adherence pattern to anti-epileptic regimen and its determinants among patients attending Neurology OPD | 2012-2015 | Co-guide, MSc Nursing (Neuro) | Conception of idea, design of study, Correction of thesis and write-up of paper |
| 3 | Unnikrishnan | Mental imagery combined with physical practice to enhance hand recovery in stroke patients- A randomized controlled trial (CTRI /2016/05/006930) | 2013-2016 | Co-guide, MSc Nursing (Neuro) | Conception of idea, design of study, Correction of thesis and write-up of paper |
| 4 | Semparuthi Y | Safety and efficacy of continuous TCD on chemothrombolysis | 2018-21 | Guide MSc Neurotechnology | Under submissions |
| 5 | Yasmin Neha | Safety and Efficacy of tDCS in poststroke aphasia rehabilitation | 2018-21 | Guide MSc Neurotechnology | Under submissions |
| 6 | Nishal Shetty | Neuroanatomical variations between cortical language areas between North and South Indian language speakers | 2019-23 | Guide MSc Neurotechnology | In progress |
| 7 | Ramesh Chandra | Whole exosome analysis in young Tamil ischemic stroke patients | 2019-23 | Guide MSc Neurotechnology | In progress |
| ICMR-STs | | | | | |
| 1 | Kaveer Nandigam | Feasibility of thrombolysis in acute isckemic Stroke- An EMS based <i>acute stroke registry in JIPMER</i> | 2002-3 | Guide | Conception of idea, design of study, Correction of thesis and write-up of paper |

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|--------------------------|-------------------|---|-----------|-------|---|
| 2 | Rajalakshmi. P | A <i>community based</i> epidemiological study of incidence and prevalence of strokes in Pondicherry town – Burden of stroke in three different populations | 2003-4 | do | Conception of idea, design of study, Correction of thesis and write-up of paper |
| 3 | Karthikeyan VS | Adult ischemic strokes Clinical Subtypes and Risk factors. An <i>Outpatient based stroke registry</i> | 2003-4 | do | Conception of idea, design of study, Correction of thesis and write-up of paper |
| GJ- STAUS, JIPMER | | | | | |
| 1 | Akshaya Vasudevan | Transcranial Doppler flow velocity measurements in cerebral vasculature: Reference values at rest and after breath holding in healthy volunteers | 2015-2016 | Guide | Conception of idea, design of study, Correction of thesis and write-up of paper |

Mentorship of Postdoctorate Scholars

1. Dr. Murugesan Arumugam BPharm MPharm PhD: Research assistant in a project on Peripheral Nerve Injury Repair project funded by Erasmus Mundus (Namaste India)
2. Dr. Murugesan Arumugam BPharm MPharm PhD: PDF in a project on Peripheral Nerve Injury Repair project funded by CSIR (Postdoctoral fellowship) and DBT
3. Dr. Umarani K, MSc PhD Senior Research Fellow, DST_SERB
4. Mr. Shubham Ghai; MSc Veterinary Science, Senior Research Fellow, DST_SERB
5. Ms. Archanakumary Shaw; BSc MSc Biotechnology, Senior Research Fellow, DST_SERB

Conferences/CME/Workshops organized

| Sl. No. | Name of CME/Workshop | Dates | Role of the applicant as faculty/organizer |
|----------------|---|--|--|
| 1 | National Conference of stroke subsection of Indian Academy of Neurology 2022 | 15-17 th July 2022 | Chairman and Convener, Scientific Programme |
| 2 | State conference of Tamilnadu Academy of Neurology | 23 rd 025 th October 2022 | President, Tamil Nadu Academy of Neurology |
| 3 | International workshop Neurobioinics 2013 (Indo-German DST-DFG funded) | 15 th to 17 th February 2013 at SSB Auditorium, JIPMER | Scientific Programme Co-Director (with German counter part from University of Goettingen) and Organising secretary |
| 4 | National CME on Frontiers in Neurobiology of stroke | 25.10.2013 at Brilliant Convention Centre, Indore | Convener, CME |
| 5 | Tropicon 2010 (National Conference of the Tropical Neurology subsection of Indian Academy of Neurology) | 27 th -28 th March 2010 | Organising Secretary |
| 6 | TANCON 2014 (State Conference of Tamilnadu Association of Neurologists) | 8 th to 9 th June 2013 | Convener, Regional Neurological Services session |
| 7 | Workshop series on Capacity building in Research | 7 th November 2014 | Organised under the aegis of JSS as its president in |

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| | | | collaboration with Division of Research, JIPMER |
| 8 | Regional Neuroradiology CME | 12.2.2017 at SSB Auditorium, JIPMER | Organising chairman |
| 9 | Institute World Stroke Day Stroke CME and Patient counselling | 30 th November 2012 at SSB auditorium, JIPMER Also in 2005,2006, 2008, 2009, 2010,2011 | Organising Chairman |
| 10 | Institute World Epilepsy Day CME | 17th November 2012, SSB Auditorium, JIPMER | Convener |
| 11 | Multiple Sclerosis CME | 25th May 2011, 2012 Department Seminar Room, JIPMER | Organising Secretary |

Patient Care and laboratory Services developed by me in JIPMER

- a) **OPD/ Clinic New Services: Neurogenetics and neurodegenerative diseases clinic** on Tuesday, **Stroke follow up and Prevention Clinic** on Thursday); 4 each per month in addition to a General Neurology clinic
- b) **IPD New Services:** Started and is in charge of Comprehensive stroke care centre including **Acute Stroke Ward** since September 2009, **Stroke rehabilitation and Stroke Recovery ward** since October 2015
- c) **Laboratory Services Developed:** As HOD from 2000-2016, I developed the following facilities

- i. Epilepsy: Started a Video- EEG lab in 2002
- ii. Neuromuscular diseases: ENMG lab in 2006
- iii. Stroke: TCD lab in 2005, Carotid Duplex lab 2007, Tilt Table lab in 2011, Autonomic function tests lab in 2012, Ambulatory BP monitoring (and inpatient holter monitoring with cardiology)
- d) Cognitive disorders: Computerised Cantab Cognitive laboratory in 2013
- e) Conventional Neurorehabilitation: Motorized robotic Physiotherapy in 2014, Action Research Arm training 2014, Traedmill Gait training with partial weight suspension
- f) Transcranial Direct Current stimulation in 2016 and Transcranial Magnetic stimulation in 2016
- g) Neurobiology: Deep Freezer 2009, Centrifuge: 2009; Phase-contrast Microscope: 2010, ELISA in 2012, Coolant Centrifuge: 2013, Point-of-Care INR: 2015, Point-of-care Neuroimmunology: 2016. Autoclave, Millipore

A major new research laboratory service for neurometabolic and neurodegenerative diseases is to start in Superspecialty Expansion block and major extramural funding applications are in process.

New Hospital Service Initiatives:

I started the **acute stroke intravenous thrombolytic** therapy programme in JIPMER in 2009. In 2010, we started **acute stroke hemicraniectomy decompression programme and carotid revascularization programme**. In 2011, following workshops by international and Indian faculty, we started limited **elective carotid stenting programme**. In 2014, we started **acute stroke intra-arterial thrombolysis and mechanical thrombectomy with the help of cardiology faculty, though this had been suspended since 2016**.

We started diagnostic Carotid duplex studies and transcranial Doppler studies in 2010. **Sonothrombolysis** also started for selected cases from 2012 with the help of Neurotechnology students supervised by consultants and DM senior residents. In 2016, we started **non-invasive brain stimulation registry for neurorehabilitation using tDCS and TMS**.

We also done **intrathecal baclofen pump** for management of spasticity

Ambulatory BP monitoring.

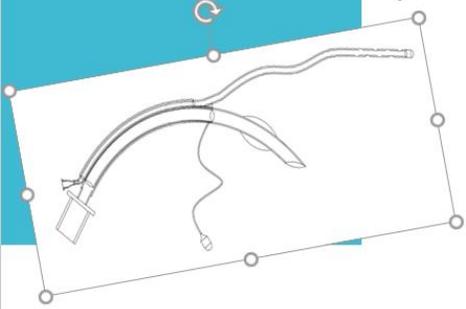
New Techniques developed

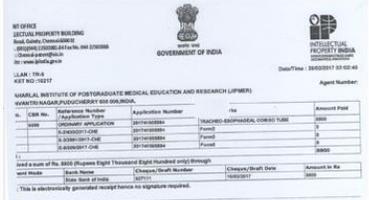
Patent application:

1. A combo-tube developed by me along with student has been submitted for patent-
I guided the first MBBS student in JIPMER for a successful patent application
2. Application number No. 202041049056 dated November 10th, 2020

Patents and IPR

- **1. Combo Tube to be used in any acute emergency and chronically neuro paralysed patient to Indian patent office. (First UG patent of JIPMER)**





TITLE OF INVENTION TRACHEO-ESOPHAGEAL COMBO TUBE
 FIELD OF INVENTION BIO-MEDICAL ENGINEERING
 PUBLICATION DATE (U/S 11A)
 24/08/2018

2. Polymer Nerve Conduit for Nerve Repair: with IITM (Application submitted): 'BIODEGRADABLE NERVE CONDUIT AND METHOD THEREOF'
 (2) Application No. 202041049056 dated November 10, 2020.

New Services started

(Creation of disease management programmes for core – Continuum) :

- a) Intravenous and intra-arterial thrombolysis and mechanical thrombectomy
- b) Functional Electrical Stimulation therapy for rehabilitation
- c) Mechanical thrombectomy for acute ischemic stroke
- d) Telestroke counselling facility at NMICU
- e) Automated robotic physiotherapy system
- f) Non-invasive brain stimulation techniques: tDCS and TMS
- g) Treadmill with weight suspension
- h) Clinical Neurobiology laboratory facilities: ELISA, Immunoblot and Point-of-care INR , Spectrophotometer, Gel documentation, Cell culture facility, Coolant centrifuge, Phase contrast Microscope

Destination Programs (High excellence) :

1. Acute stroke Thrombectomy
2. Elective carotid stenting programme

3. Automated robotic physiotherapy programme
4. Computerised cognitive rehabilitation programme
5. Transcranial electrical and Transcranial magnetic non-invasive brain stimulation programme

Interdisciplinary clinical treatment that are pace setters for other systems to adopt:

Former two are best helped by cardiology, and interventional neuroradiology groups and 3rd by physical medicine teams while 4th and 5th by neuroengineering, engineering designs and clinical psychology groups.

NEW COURSES STARTED

1. Started **DM (Neurology)** at JIPMER, Pondicherry 2009
2. Started **BSc Neurotechnology** at JIPMER, Pondicherry 2010
3. Started **MSc Neurotechnology** at JIPMER, Pondicherry 2019
4. Started **PhD Neurology** at JIPMER, Pondicherry in 2016

5. Started **Stroke postdoctoral fellowship** in 2020
6. Initiated **Research postdoctoral fellowship in Neurosciences** with one candidate obtaining CSIR PDF grant to work in JIPMER in 2017

CLINICAL TRIALS

- I. International levels: ENOS(**MRC, UK**)
- II. National Levels:
 1. INSTRUCT: ICMR Stroke Trials Network

2. SPRINT: ICMR stroke Trial
 3. RESTORE: ICMR ayurvedic intervention trial in ischemic stroke
 4. INSTRUCT II
 5. STENOSIS: Long term DAPT Intracranial stenosis
 6. INTRINSIC: Tranexamic acid in Intracerebral haemorrhage
- III. Faculty initiated Level:
1. EDOZ **(Intramural)- Terminated**
 2. Vedic Chants in Autistic Spectral Disorders
- IV. Student Guide Level:
- A. MSc Nursing
 - a) Mental Imagery in Stroke Rehabilitation
 - B. MSc Neurotechnology
 - a) TRANESA: tDCS in Aphasia
 - b) Continuous TCD along with Tenecteplase thrombolysis for acute ischemic stroke
 - B. **PhD Neurology:**
 - a) tDCS plus TMS vs Sham stimulations in ischemic stroke rehabilitation
 - b) Exosomes in ischemic stroke rodent models
- V. Sponsored clinical trial (Industry)
- a) Tenecteplase in Ischemic stroke
 - b) Enebilizumab in AChR and MuSk antibody Myasthenia Gravis

MEMORANDUMS OF UNDERSTANDING

- a) Research MoU with university of Nottingham for ENOS trial
- b) MoU with IITM, Chennai for Neurobionics programme and for BSc and MSc Neurotech courses
- c) MoU with University of Goettingen for Erasmus Mundus grants for Neurobionics 2013 and for joint academic programmes and student and staff exchanges like MANASTE India
- d) MoU with IITB, Mumbai for Research on peripheral nerve injury repair
- e) Research MoU with DAE, Kalpakkam for development of a tremor analysis software
- f) MoU with CIPET, Chennai for development of Combo-tube applied for patent

POSITIONS HELD IN ORGANISATIONS AND SCIENTIFIC COMMITTEES

1. Stroke Subsection of Indian Academy of Neurology: Chairman since 2021
2. Tamilnadu Academy of Neurology: President 2021-22
3. Indian Stroke Association : Executive committee member since 2015
4. Visiting Professor, George Augustus University of Goettingen 2012

5. Adjunct Faculty IITM, Chennai since 2012
6. Past President, JIPMER Scientific Society 2014-2015
7. Past Vice President, JIPMER Scientific Society: 2012-13
8. Past Executive Member, JIPMER Scientific Society: 2001-2002 and 2004-1005.
9. Past Executive member, JIPMER Officers' Club: 2000-200, 2005-6.
10. Treasurer, JIPMER Officer's Club: 2002-2003.
11. Vice President: Pondicherry Association of Neuroscientists: Since 2012
12. Executive Member, Tamil Nadu Association of Neurologists: Since 2012; Pr esident
Elect Tamil Nadu Association of Neurologists: Since 2019-21
13. President, Tamil Nadu Association of Neurologists: 2021-22

**EXTRA-CURRICULAR ACTIVITIES SUCH AS MEDICO-SOCIAL WORK,
JOURNALISTIC OR OTHER ACTIVITIES**

1. I rendered my services as Chairman (Director Nominee) of the executive committee of Vidyalaya vikasan Samithi, Kendriya Vidyalaya, JIPMER for last 2 years. Conducts executive committee meetings with KV principal and supports him in executing the decisions of the VVS.

2. Working with Auroville, I am supporting a group called ARKA run by Mr. Krishnan Myer in helping them design ARKA, an old age home.
3. At the request of the principal, KV and the teachers of the school, I organized a student screening programme for difficult children in collaboration with Paediatric psychiatry and child guidance clinics of JIPMER
4. Working with the Satya special school for children with disabilities, in Pondicherry, to explore the possibilities of referrals for children with learning disabilities and autistic spectral disorders and has initiated a research proposal for genetic studies and interventions on children with autistic spectral disorders. At present a DM student in Neurology (MD paediatrics) is researching on ASD and another postdoctoral fellow is selected to work in Neurology on a related project.
5. I am working with the Cluny Home for the aged and Anna Thidal, Pondicherry to help support of stroke victims and the demented with no family support
6. Supports the patients of senior service home of Aurobindo Ashram, Desiree
7. Had visited and conducted neurological survey on Don Bosco home for orphan and mentally disabled children close to JIPMER in Pondicherry.

CONTRIBUTIONS TO ACADEMIA AND GOVERNMENT OUTSIDE JIPMER

1. DST, Govt of India:
 - A. Expert committee member on evaluation of medical research projects proposals for grants
 - a) Pharmacogenomics of antiepileptic medications
 - b) Neurogenetic studies in Indian stroke patients

2. Faculty at brainstorming on seminar on magnetoencephalography, IGCAR, DAE Chennai Aug 2015
3. ICMR-WHO Expert committee Member on
 - a) National Surveillance on Stroke –STEPS 2007
 - b) Low cost therapeutics in Neurological services 2015
4. National Board of Medical Examinations in Neurology:
 - a) Setter of Question papers in DNB Neurology 2014
 - b) Inspection of institutions for accreditation for DNB course in Neurology 2006
5. Medical Council of India inspector for DM Neurology at SRM Institute of Medical sciences, Chennai and Amruta Institute of Medical sciences, Kochi 2015
6. DCGI, New Drug advisory board member (Neuropsychiatry) since 2011 April.
7. UKMRC-Welcome-DBT grant application evaluator 2014 of Neurology, JIPMER to start DM Neurology, PDF, Stroke, BSc Neurotechnology and PhD courses in JIPMER.
8. PhD, DM (Neurology), MCH(Neurosurgery), MD (Psychiatry) Examiner for Dr.MGR, Dr.NTR, Kerala University of Health Sciences, Meenakshi Institute of Medical Sciences and Research, JIPMER Medical Universities
9. PhD thesis evaluator, Monash University, Australia 2015 (ICMR- collaboration); AIIMS, New Delhi, Dr.MGR University, Madras

CONTRIBUTIONS TO JIPMER

1. As Head of Department of Neurology from 2000 to 2016 and from 2023 onwards
2. Past President, JIPMER Scientific Society 2013-2014
3. Chairman, Executive Council, Kendriya Vidyalaya, JIPMER
4. Member, JIPMER Scientific Advisory Committee, JIPMER

5. Member of International Collaborations Committee, JIPMER
6. Member of Committee for MoUs, JIPMER
7. Ex-Member of Research committees: UGRMC, PGRMC, AMC, PhDRMC, JIPMER
8. Member of Superspecialty Board, JIPMER, JIPMER
9. Ex-Member of JIPMER Quality Council
10. Ex-Member Hospital Infection Committee
11. Ex-member, Superspecialty Block committee