

Resume

Name: Dr. Phalguni Anand Alladi



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Qualifications:

Degree	Name of University	Date of entry	Date of leaving	Distinctions
B. Sc. (Microbiology)	Gujarat University	May 1986	May 1989	2 nd Rank in University
M. Sc. (Microbiology)	Gujarat University	May 1989	May 1991	Gold Medal
Ph.D. (Neuroscience)	All India Institute of Medical Sciences, New Delhi	July 1997	May 2002	Awarded (March 2003)

Doctoral Thesis:

Prenatal auditory stimulation: Effects on programmed cell death and synaptogenesis in chick auditory nuclei, under Prof. Shashi Wadhwa, Dept. of Anatomy, All India Institute of Medical Sciences, New Delhi.

Present position:

Scientist 'F', Department of Clinical Psychopharmacology & Neurotoxicology, National Institute of Mental Health and Neurosciences (NIMHANS) March 2019 onwards

Positions held:

1. JRA Gujarat Cancer Research Institute, Ahmedabad (Junior Research Assistant) Feb'92- Jan'94
2. Project Assistant Indian Institute of Science (DST Project) Feb'94- July'95
(Ph.D. student from July 1997- July 2002 at All India Institute of Medical Sciences, New Delhi)
3. Senior Research Fellow (Dept of Anatomy, AIIMS) Mar 96 - Mar 98
4. AIIMS Institute Fellow (Dept of Anatomy, AIIMS) Apr 98 - Mar 99
5. Senior Research Fellow (Dept of Anatomy, AIIMS & ICMR Fellowships) Apr 99 - Jul 2002
6. Post-doctoral Research Fellow (Dr. UB Muthane, Dept of Neurology, NIMHANS) Nov 02 - Dec 04
7. Research Associate (Dept of Neurophysiology, NIMHANS) March05-Aug05
8. DST Woman Scientist (Dept of Neurophysiology, NIMHANS) Sept 05- Nov 08
9. Senior Scientific Officer (Dept of Neurophysiology, NIMHANS) Nov 08-Nov 17
10. Scientist 'F' Department of Neurophysiology, NIMHANS Nov 17 - Mar 19
11. Present position: Scientist 'F' Dept of Clin Psychopharmacol & Neurotoxicol, NIMHANS
12. Visiting Professor, Institute of Neurophysiology, Goethe University, Frankfurt-am-Main, Germany (April-June 2018)

National Awards/Recognition:

- 1) **SS Misra Memorial Award-2004** instituted by **National Academy of Medical Sciences, Government of India**, awarded for the best unpublished work in the field of Bio-medical research. Conferred on May 29, 2005.
- 2) **DST Woman Scientist Award 2005-2008**
- 3) **Prof. Surinder Mohan Marwah Award in Geriatrics-2014** by **Indian Council of Medical Research, Government of India** conferred in October 2017.
- 4) **Member, National Academy of Medical Sciences**, Government of India, since October 2019
- 5) **“Prof. A Namasivayam Award”** from “Indian Association of Biomedical Scientists” to a Mid career scientist in Neurophysiology, Oct 2019
- 6) A recognized laboratory for the “INSA-IASc-NASI Summer Research Fellowship”.

Research interests:

I: Mechanisms of ethnicity based differential susceptibility to Parkinson’s disease (PD) using MPTP models

II: Identification of organellar hierarchy in Parkinson’s disease pathogenesis

II: Role of midbrain development in deciphering vulnerability to PD

III: Age related changes in human basal ganglia components

IV: CSF Biomarkers in Parkinson’s disease with cognitive deficits (ICMR funded collaborative project with departments of Neurology, Neuroradiology, Clinical psychology)

Synopsis of research done so far: These studies have been executed with funding support from National Funding agencies like SERB, DBT, CSIR, ICMR etc.

Developmental Neuroscience: My doctoral studies provide convincing neuroanatomical evidence of the role of extrinsic activity in consolidating the contribution of intrinsic activity to facilitate the development of nervous system. We used chick (*Gallus domesticus*) as an experimental model. While providing extraneous auditory stimulation of species typical type (maternal and hatchling calls) as well as Music (Sitar music) we found that patterned sounds delivered during the critical developmental period enhanced the neuroanatomical substrate associated with the auditory functions.

Effect of aging on human substantia nigra pars compacta: We explored the possibility of ethnic differences in the vulnerability of dopaminergic substantia nigra neurons, by revisiting the midbrains of Asian-Indians using principles of stereology on archived human midbrains, obtained from the Human Brain Tissue Repository, (Brain Bank) at NIMHANS. We found that the nigral neuronal numbers were stable through life and retained glial cell-derived neurotrophic growth factor (GDNF) responsiveness. Further, we evinced occurrence of sub-threshold neurodegeneration in nigra due to gradual age-related increase in Marinesco bodies and α -synuclein expression and a probable involvement of chaperone proteins in addition to some synaptic proteins. We also provided conclusive evidence of role of astroglial and microglial transformation in aging nigra. Recently, we reported that aging mildly affects the dendritic arborisations. We are currently investigating the striatum and locus coeruleus. These findings may partly explain the lower prevalence of PD in the Asian Indian population compared with Caucasians.

Animal models to understand differential prevalence to Parkinson’s disease: Akin to the differences in human populations’ vulnerability to Parkinson’s disease, different mice strains are also differentially

susceptible to the neurotoxin MPTP. We investigated the factors in a susceptible and resistant strain and their admixed F1-generation that may be responsible for rendering populations or individuals susceptible to this devastating disease. The crossbreds were yet better protected against MPTP induced neurotoxicity, essentially reflected by supernumerary DA neurons, no neuronal loss and protected morphology following MPTP injection. Differential neuroprotection was noted even in the striatum. Glia and Interneurons also contribute to the phenomenon. Existence of similar anatomical substrate and genetic/molecular mechanisms may be envisaged in the Anglo-Indians. These findings provide an interesting experimental paradigm to study the mechanisms pertinent to the human phenomenon of differential prevalence of Parkinson's disease.

(iv) Animal Models of Amyotrophic Lateral Sclerosis (ALS): Our studies provided evidence for the role of astroglia and neuron-specific the pathways of degeneration in the ALS pathogenesis. Other exciting leads include the role of microglia, miRNA and muscles in the etiopathogenesis of ALS. We also demonstrated the neurotrophic capability of BDNF and VEGF in the cellular models of ALS. Our recent work is focused on pathogenic potential of the putative toxic factors Chitotriosidase-1 and Osteopontin. These studies provide reliable avenues to explore new therapeutic modalities for treating neurodegenerative diseases of the nervous system, which are hitherto incurable.

Collaborations:

1. **Prof. Jochen Roeper**, Director, Institute of Neurophysiology, Goethe University, Frankfurt, Germany, roeper@em.uni-frankfurt.de
2. **Dr. Tal Burstyn-Cohen**, Faculty of Dental Medicine, Hebrew University - Hadassah, POB 12272, Jerusalem 91120, Israel; talbu@ekmd.huji.ac.il
3. **Dr. TC Nag**, Additional Professor, Department of Anatomy, All India Institute of Medical Sciences, New Delhi in the field of "**Age-related changes in human retina**" (Publication: 1)
4. **Dr. Ravi Manjithaya**, DBT Wellcome Fellow and Assistant Professor, Jawaharlal Nehru Centre for Advanced Scientific Research (JNCASR), Bangalore in the field of "**Small molecules in Neurodegenerative diseases, with special emphasis on Parkinson's Disease**". (Publications: 2)

Publications:

<http://www.ncbi.nlm.nih.gov/pubmed/?term=alladi+p> <http://www.ncbi.nlm.nih.gov/pubmed/?term=phalguni+A>

1. **Anand Phalguni**, Modak Jayant. M and Natarajan K.A.: Biobeneficiation of bauxite using *Bacillus polymyxa*: calcium and iron removal. **1996. Int. J. Miner. Process. 48, 51-60. Impact factor: 2.48;**
2. Natarajan K. A., Modak. J.M and **Anand Phalguni**: Some microbiological aspects of bauxite mineralization and beneficiation. **1997. Minerals and Metallurgical Processing. 14, 47-53 Impact factor: 1.714;**
3. Bakshi Sonal. R., Trivedi Amit. H., Patel Rashmi K., Roy Shambhu. K., **Alladi Phalguni A.**, Bhatavdekar Jyotsana M., Patel Devendra D., Shah Pankaj M. and Rawal Upendra M.: Constitutive heterochromatin polymorphism in paediatric cancer patients. **1997. Ind J Hum Genet. 3(2): 89-94 Impact factor: 0.7**
4. Bakshi Sonal. R., Patel Rashmi K., Roy Shambhu. K., **Alladi Phalguni A.**, Trivedi Amit. H., Bhatavdekar Jyotsana M., Patel Devendra D., Shah Pankaj M., and Rawal Upendra M.: Mitomycin C induced chromosomal aberrations in young cancer patients. **1998. Mutation Res. 422: 223-228 Impact factor: 4.44;**
5. Bakshi Sonal. R., Patel Rashmi K., Roy Shambhu. K., **Alladi Phalguni A.**, Trivedi Amit. H., Bhatavdekar Jyotsana M., Patel Devendra D., Shah Pankaj M., and Rawal Upendra M.: Chromosomal aberrations in young cancer patients. **1999. Cancer Genet. Cytogenet. 115: 114-117 Impact factor: 1.929;**
6. Wadhwa Shashi, Roy Anandita and **Anand Phalguni**: Quantitative study of cellular and volumetric growth of magnocellular and laminar nuclei in developing chick brainstem. **1997. J.Biosci. 22 (4): 407-417 Impact factor: 1.939;**
7. Wadhwa Shashi, **Anand Phalguni** and Bhowmick Deepika: Quantitative study of plasticity in the auditory nuclei of chick under conditions of prenatal sound attenuation and over stimulation with species specific and music sound stimuli. **1999. Int. J. Devl. Neurosci. 17 (3): 239-253 Impact: 2.198;**
8. **Alladi Phalguni Anand**, Wadhwa S and Singh N: Effect of prenatal auditory enrichment on developmental expression on synaptic proteins in chick brainstem auditory nuclei. **2002. Neuroscience 114: 577-590 Impact factor: 3.457**
9. **Alladi Phalguni Anand**, Roy TS, Singh N and Wadhwa S: Developmentally regulated expression of c-Fos and c-Jun in the brainstem auditory nuclei of Gallus domesticus is modified by prenatal auditory enrichment **2005. J. Neurobiol 62(1): 92-105 Impact factor: 4.76**
10. **Alladi Phalguni Anand**, Roy TS, Singh N and Wadhwa S: Prenatal auditory enrichment with species-specific calls and sitar music modulates expression of Bcl-2 and Bax to alter programmed cell death in developing chick auditory nuclei **2005. Int. J. Devl. Neurosci 23: 363-373 Impact: 2.25**
11. Bindu B, **Alladi Phalguni Anand**, Masooralikhan BM, Srikumar BN, Raju TR, Kutty BM. Short-term exposure to an enriched environment enhances dendritic branching but not brain-derived Neurotrophic factor expression in the hippocampus of rats with ventral subicular lesions. **2007. Neuroscience; 144(2): 412-423 Impact factor: 3.327**

12. Shobha K, Vijayalakshmi K, **Alladi Phalguni Anand**, Nalini A, Sathyaprabha TN and Raju TR: Altered *in-vitro* and *in-vivo* expression of glial glutamate transporter1 following exposure to cerebrospinal fluid of Amyotrophic Lateral Sclerosis patients 2007. **J Neurol Sci**; **254(1-2):9-16 Impact factor: 1.53**
13. **Alladi Phalguni Anand**, Anita Mahadevan, TC Yasha, TR Raju, Susarla K Shankar, Uday B Muthane. Absence of age-related changes in nigral dopaminergic neurons of Asian Indians: Relevance to lower incidence of Parkinson's disease 2009. **Neuroscience**; **Mar 3; 159(1):236-45; Impact factor: 3.292**
14. Gunasekaran R, Sankaranarayani R, Vijayalakshmi K, **Alladi Phalguni Anand**, Sathyaprabha TN, Nalini A and Raju TR. Exposure to Cerebrospinal Fluid of Sporadic Amyotrophic Lateral Sclerosis patients alters Nav1.6 and Kv1.6 channel expression in rat spinal motor neurons; 2009 **Brain Res.**; **1255:170-9 ; Impact factor: 2.463**
15. Vijayalakshmi K*, **Alladi Phalguni Anand***, Sathyaprabha TN, Jamuna R Subramaniam, Nalini A and Raju TR. Cerebrospinal Fluid from sporadic Amyotrophic Lateral Sclerosis patients induces degeneration of a cultured motor neuron cell line; 2009 **Brain Res. Mar 31;1263:122-33. Impact factor: 2.463**
16. Govindan A, Mahadevan A, Bhat DI, Arivazhagan A, Chakraborti S, Suja MS, **Phalguni AA**, Sampath S, Chandramouli BA, Shankar SK. Papillary glioneuronal tumor-evidence of stem cell origin with biphenotypic differentiation. 2009 **J Neurooncol. 95(1):71-80. Impact factor: 2.787; Citations: 28**
17. Rekha J., Sridhara Chakravarthy, L. R. Veena, Vani P. Kalai, Rupam Choudhury, Harsha N. Halahalli, **Alladi Phalguni Anand**, Anandh Dhanushkodi, M. Nirmala, Geetha M. Swamilingiah ,Maulishree Agrahari ,T. R. Raju, M. M. Panicker, Bindu M. Kuty. Transplantation of Hippocampal Cell Lines Improves Spatial Learning in Rats With Ventral Subicular Lesions. 2009 **Behav Neurosci Dec;123(6):1197-217 Impact factor: 3.72**
18. Shobha K, **Alladi Phalguni Anand**, Nalini A, Sathyaprabha TN and Raju TR (2010) Exposure To CSF From Sporadic Amyotrophic Lateral Sclerosis Patients Induces Morphological Transformation of Astroglia and Enhances Expression of GFAP and S100 β . 2010. **Neurosci Lett. Mar 31;473(1):56-61. Epub Feb 17 Impact factor: 2.08; Citations: 17**
19. **Alladi Phalguni Anand**, Anita Mahadevan, TR Raju, Susarla K Shankar, Uday B Muthane. Expression of GDNF receptors GFR α 1 and RET is preserved in substantia nigra pars compacta of aging Asian Indians 2010. **J Chem Neuroanat. 40(1):43-52. (Epub 2010 Mar 27) Impact factor 3.389; Citation: 18 Impact factor: 2.**
20. **Alladi Phalguni Anand***, Anita Mahadevan, Vijayalakshmi K, Uday B Muthane, Susarla K Shankar, TR Raju. Ageing enhances α -synuclein, ubiquitin and endoplasmic reticular stress protein expression in the nigral neurons of Asian Indians 2010 **Neurochem Int. Nov;57(5):530-9. Epub 2010 Jul 6. Impact factor: 3.14**
21. Deepa P., Neelam Shahani, **Alladi Phalguni Anand**, K. Vijayalakshmi, T.N. Sathyaprabha, A. Nalini, V. Ravi, T.R. Raju. Down Regulation of Trophic Factors in Neonatal Rat Spinal Cord after Intrathecal Administration of Cerebrospinal Fluid from Sporadic Amyotrophic Lateral Sclerosis Patients 2011 **J Neural Transm. Apr;118(4):531-8. Epub 2010 Nov 11. Impact factor: 3.58**
22. Rekha J, Veena LR, Prem N, Kalaivani P, Choudhury R, **Alladi Phalguni Anand**, Agrahari M, Raju TR, Panicker MM, Kuty BM. NIH-3T3 Fibroblast transplants enhance host regeneration and improve spatial learning in ventral subicular lesioned rats. 2011 **Behav Brain Res. Apr 15;218(2):315-24 Impact factor: 4.91**

23. Vijayalakshmi K, **Alladi Phalguni Anand**, Shampa Ghosh, Prasanna VK, Sagar BC, Nalini A, Sathyaprabha TN and Raju TR. Evidence of Endoplasmic Reticular Stress in the Spinal Motor Neurons Exposed to CSF from Sporadic Amyotrophic Lateral Sclerosis Patients **2011 Neurobiol Dis. Mar;41(3):695-705 Impact factor: 6.72**
24. Dinkar Kulshreshtha, K. Vijayalakshmi , **Alladi Phalguni Anand**, A Nalini and TR Raju Vascular Endothelial Growth Factor attenuates neurodegenerative changes in NSC-34 Motor Neuronal Cell line induced by Cerebrospinal fluid of Sporadic Amyotrophic Lateral Sclerosis patients **2011 Neurodegener Dis Mar 10. 8(5):322-30. Impact factor: 3.45**
25. Nag Tapas Chandra, Wadhwa Shashi, **Alladi Phalguni Anand**, Sanyal T. Localization of 4-hydroxy 2-nonenal immunoreactivity in aging human retinal Müller cells. **2011 Ann Anat. Mar 29. May;193(3):205-10. Impact factor: 1.861**
26. Chakraborti S, Mahadevan A, Govindan A, Bhateja A, Dwarakanath S, Aravinda HR, **Phalguni AA**, Santosh V, Yasha TC, Rout P, Sampath S, Shankar SK. Rosette-forming glioneuronal tumor - evidence of stem cell origin with biphenotypic differentiation. **Virchows Arch. 2012 Nov; 461(5):581-8. Impact factor: 2.676**
27. Mansoor AK, Thomas S, Sinha JK, Alladi PA, Ravi V, Raju TR Olfactory tract transection reveals robust tissue-level plasticity by cellular numbers and neurotrophic factor expression in olfactory bulb. **Ind J Exp Biol. 2012 Nov; 50(11):765-70. Impact factor: 2.04**
28. Varghese AM, Sharma A, Mishra P, Vijayalakshmi K, Harsha HC, Sathyaprabha TN, Bharath SM, Nalini A, **Alladi PA**, Raju TR. Chitotriosidase - a putative biomarker for sporadic amyotrophic lateral sclerosis. **Clin Proteomics. 2013 Dec 2;10(1):19. Impact factor: 3.43**
29. Vijayalakshmi K, Ostwal P, Sumitha R, Shruthi S, Varghese AM, Mishra P, Manohari SG, Sagar BC, Sathyaprabha TN, Nalini A, Raju TR, **Alladi PA**. Role of VEGF and VEGFR2 Receptor in Reversal of ALS-CSF Induced Degeneration of NSC-34 Motor Neuron Cell Line. *Mol Neurobiol.* 2014 Jun 1. [Epub ahead of print] **Impact factor: 5.287**
30. Sumitha R, Sidhu RJ, Sathyaprabha TN, Nalini A, Raju TR, **Alladi PA**. Differential expression of microRNA-206 in the gastrocnemius and biceps brachii in response to CSF from sporadic amyotrophic lateral sclerosis patients. *J Neurol Sci.* 2014 Jul 9. **Impact factor: 2.262**
31. Jyothi HJ, Vidyadhara DJ, Mahadevan A, Philip M, Parmar SK, Manohari SG, Shankar SK, Raju TR, **Alladi PA**. Aging causes morphological alterations in astrocytes and microglia in human substantia nigra pars compacta. *Neurobiol Aging.* 2015 Aug 31. [Epub ahead of print] **Impact factor: 6.662;**
32. Aparna Sharma, Anu Mary Varghese, Kalyan Vijaylakshmi, Rajendra Rao Sumitha, V.K. Prasanna, S. Shruthi, B.K. Chandrasekhar Sagar, Keshava K. Datta, H.C. Harsha, Atchayaram Nalini, **Phalguni Anand Alladi**, Rita Christopher, Talakad N. Sathyaprabha, Trichur R. Raju and M.M. Srinivas Bharath. Cerebrospinal fluid from sporadic Amyotrophic Lateral Sclerosis patients induces mitochondrial and lysosomal dysfunction" *Neurochem Res.* 2015 Dec 8 [Epub ahead of print] **Impact factor: 2.593**
33. Vidyadhara DJ, H. Yarreiphang, Abhilash PL, Raju TR, **Alladi PA**. Differential expression of calbindin in nigral dopaminergic neurons in two mice strains with differential susceptibility to 1-Methyl-4-Phenyl-1,2,3,6-Tetrahydropyridine *Journal of Chemical Neuroanatomy* 2016 Jan 8, [Epub ahead of print] **Impact factor: 1.925**
34. Shruthi S., Sumitha R., Anu Mary Varghese, Ashok S., B. K. Chandrasekhar Sagar, T.N. Sathyaprabha, Nalini A., Boris W. Kramer, T.R. Raju Vijayalakshmi K., and **Phalguni Anand Alladi** "Brain Derived Neurotrophic Factor facilitates functional recovery of ALS-

- CSF induced neurodegenerative changes in NSC-34 motor neuron cell line” Neurodegener Dis. 2016 Sep 13;17(1):44-58. [Epub ahead of print] **Impact factor: 2.842**
35. Vidyadhara D.J., H. Yarreiphang, T.R. Raju and **Phalguni Anand Alladi**. Admixing of MPTP-resistant and susceptible mice strains augments nigrostriatal neuronal correlates to resist MPTP-induced neurodegeneration. Mol Neurobiol. 2017 Oct;54(8):6148-6162. doi: 10.1007/s12035-016-0158-y. **Impact factor: 6.19**
 36. Mishra PS, Dhull DK, Nalini A, Vijayalakshmi K, Sathyaprabha TN, Alladi PA, Raju TR. Astroglia acquires a toxic neuroinflammatory role in response to the cerebrospinal fluid from amyotrophic lateral sclerosis patients. J Neuroinflammation. 2016 Aug 30;13(1):212. **Impact factor: 5.102**
 37. Shubham Shantanu, Vijayalakshmi K, S. Shruthi, B. K. Chandrasekhar Sagar, T.N. Sathyaprabha, A. Nalini, Trichur R Raju and **Phalguni Anand Alladi**. VEGF targets the stress granules but does not completely reverse ALS-CSF induced cytoplasmic mislocalization of TDP-43 and FUS/TLS in NSC-34 cells. 2017 **Journal of Chemical Neuroanatomy; 2017 Apr; 81:48-52. Impact factor: 1.925**
 38. S. N. Suresh, Aravinda K. Chavalmane, Vidyadhara DJ, Haorei Yarreiphang, Shashank Rai1, Abhik Paul, James P Clement, **Phalguni Anand Alladi** and Ravi Manjithaya. A novel autophagy modulator 6-Bio ameliorates SNCA/ α -synuclein toxicity. 2017, Autophagy; **2017 Mar 28:0. doi: 10.1080/15548627.2017.1302045. [Epub ahead of print]. Impact factor: 11.1**
 39. Mythri RB, Raghunath NR, Narwade SC, Pandareesh MDR, Sabitha KR, Aiyaz M, Chand B, Sule M, Ghosh K, Kumar S, Shankarappa B, Soundararajan S, **Alladi PA**, Purushottam M, Gayathri N, Deobagkar DD, Laxmi TR, Srinivas Bharath MM. Manganese- and 1-methyl-4-phenylpyridinium-induced neurotoxicity display differences in morphological, electrophysiological and genome-wide alterations: implications for idiopathic Parkinson's disease. J Neurochem. 2017 Nov;143(3):334-358. doi: 10.1111/jnc.14147 **Impact factor: 4.609**
 40. Mishra PS, Vijayalakshmi K, Nalini A, Sathyaprabha TN, Kramer BW, **Alladi PA**, Raju TR. Etiogenic factors present in the cerebrospinal fluid from amyotrophic lateral sclerosis patients induce predominantly pro-inflammatory responses in microglia. J Neuroinflammation. 2017 Dec 16;14(1):251. **Impact factor: 5.717**
 41. S. N. Suresh, Aravinda K. Chavalmane, Malini Pillai, Veena Ammanathan, D. J. Vidyadhara, Haorei Yarreiphang, Shashank Rai, Abhik Paul, James P. Clement, **Phalguni A. Alladi** and Ravi Manjithaya. Modulation of Autophagy by a Small Molecule Inverse Agonist of ERR α Is Neuroprotective Front. Mol. Neurosci., 09 April 2018 | <https://doi.org/10.3389/fnmol.2018.00109> **Impact factor: 5.076**
 42. Shruthi Shanmukha , Gayathri Narayanappa , Atchayaram Nalini, **Phalguni Anand Alladi*** and Trichur R. Raju* Sporadic amyotrophic lateral sclerosis (SALS) - Skeletal muscle response to cerebrospinal fluid from SALS patients in a rat model **Disease models and mechanisms** Dis Model Mech. 2018 Apr 16;11(4). pii: dmm031997. doi: 10.1242/dmm.031997 **Impact factor: 5.394 (*Joint corresponding author)**
 43. Bhaduri B, Abhilash PL, Alladi PA. Baseline striatal and nigral interneuronal protein levels in two distinct mice strains differ in accordance with their MPTP susceptibility. J Chem Neuroanat. 2018 Apr 22;91:46-54. doi: 10.1016/j.jchemneu.2018.04.005. **Impact factor: 2.394**
 44. Sumitha R, Manjunatha VM, Sabitha RK, Alladi PA, Nalini A, Rao LT, Chandrashekhar Sagar BK, Steinbusch HWM, Kramer BW, Sathyaprabha TN, Raju TR. Cerebrospinal Fluid from patients with Amyotrophic lateral sclerosis induces degeneration of motor neurons derived from human embryonic stems cells. Mol. Neurobiol2018, 1149 **Impact factor: 6.19**

45. Ayushman Ghosh, **Phalguni Anand Alladi**, Gayathri Narayanappa, Ravi Vasanthapuram, Anita Desai. The time course analysis of morphological changes induced by Chikungunya virus replication in mammalian and mosquito cells. *Acta Virol.* 2018;62(4):360-373. doi: 10.4149/av_2018_403. **Impact factor: 1.51**
46. Vidyadhara DJ, Sasidharan A, Kutty BM, Raju TR, **Alladi PA**. Admixing MPTP-resistant and MPTP-vulnerable mice enhances striatal field potentials and calbindin-D28K expression to avert motor behaviour deficits. *Behav Brain Res.* 2019 Mar 15;360:216-227. doi: 10.1016/j.bbr.2018.12.015. Epub 2018 Dec 7. doi: 10.1016/j.bbr.2018.12.015. **Impact factor: 3.173**
47. Aditi Naskar, Anita Mahadevan, Mariamma Philip, **Phalguni Anand Alladi** Aging mildly affects Dendritic Arborisation and Synaptic Protein Expression in Human Substantia Nigra Pars Compacta 2019 Apr;97:57-65. doi: 10.1016/j.jchemneu.2019.02.001. Epub Feb 8.
48. Akshaya Seshadri and **Phalguni Anand Alladi** Divergent expression patterns of Drp1 and HSD10 in the nigro-striatum of two mice strains are based on their MPTP-sensitivity *Neurotox Res.* 2019 Apr 16. doi: 10.1007/s12640-019-00036-8. [Epub ahead of print]
49. Suresh Sn, Janhavi Pandurangi, Ravi Murumalla, Vidyadhara DJ, Lakshmi Garimella, Achyuth Acharya, Shashank Rai, Abhik Paul, Haorei Yarreiphang, Malini S Pillai, Mridhula Giridharan, James P Clement, **Phalguni Anand Alladi**, Taslimarif Saiyed, Ravi Manjithaya Small Molecule Modulator of Aggrephagy Regulates Neuroinflammation to Curb Pathogenesis of Neurodegeneration *E Bio Medicine* 50, 260-273 Dec 2019
50. Varghese AM, Ghosh M, Bhagat SK, Vijayalakshmi K, Preethish-Kumar V, Vengalil S, Chevula PC, Nashi S, Polavarapu K, Sharma M, Dhaliwal RS, Philip M, Nalini A, Alladi PA, Sathyaprabha TN, Raju TR. Chitotriosidase, a biomarker of amyotrophic lateral sclerosis, accentuates neurodegeneration in spinal motor neurons through neuroinflammation. *J Neuroinflammation.* 2020 Aug 6;17(1):232. doi: 10.1186/s12974-020-01909-y.

Invited Book Chapters:

International:

1. **Alladi, P. A. (2013).** Age Effects in Substantia Nigra of Asian Indians 3. *Neurostereology: Unbiased Stereology of Neural Systems*, **39-51, PR Mouton Eds, Wiley Publishers, USA.**
2. Bhaduri, B and **Alladi, PA** (Oct, 2020). Glial cells are Key Orchestrators of Neural degeneration in Basal Ganglia Disorders: Classical and Contemporary observations from the last 50 years *Glial Biology: Role of Glia in Health and Disease*". Editors: Prof. P. N. Tandon; P. Seth; N. Patro; I. Patro (In Press)

Reviewer for International journals:

1. Brain Structure and Function, Springer, impact factor 4.698
2. Experimental Neurology, Elsevier, impact factor 4.478
3. Journal of Biosciences, India, impact factor 1.419
4. Journal of Chemical Neuroanatomy, Elsevier, impact factor 2.52
5. Journal of Comparative Neurology, Wiley, impact factor 3.225
6. Journal of Neurological Sciences, Elsevier impact factor 2.474
7. IBRO Reports, IBRO- Elsevier.
8. Mechanisms of Ageing and Development, Elsevier, impact factor 4.022
9. Molecular Neurobiology, Springer, impact factor 6.19
10. Neurobiology of Aging- Elsevier, impact factor 6.5
11. Neurochemistry Intl. Elsevier, impact factor 3.262
12. Neurodegenerative diseases, Karger, impact factor 3.40
13. Neurotoxicity Research impact factor 3.40

Expert, Neuroscience Task Force of the Department of Biotechnology, India

Awards and Scholarships:

- 7) **2nd Rank in University** B.Sc. Microbiology, *Gujarat University*- May 1989
- 8) **'K.M. Kothawala Gold Medal'** – M.Sc. Microbiology, *Gujarat University*- May 1991
- 9) **Best Oral Presentation** for the paper entitled “Biobeneficiation of bauxite using *Bacillus polymyxa*” in Annual Metallurgy Symposium, *Indian Institute of Science*, Bangalore. 7th – 8th October 1994.
- 10) **ICMR Senior Research Fellowship** April 99 - Jul 2002
- 11) **SFN International Travelling Fellow** (Asia Pacific Chapter) to attend the Society for Neuroscience Annual Meeting, San Diego Nov 2001
- 12) **Lay Summary article at the** Society for Neuroscience Annual Meeting, San Diego Nov 2001
- 13) **'DM Kar Prize'** for best oral presentation by a young scientist less than 35 years of age by *Indian Academy of Neurosciences*, at Calcutta March 2002.
- 14) **SS Misra Memorial Award-2004** instituted by **National Academy of Medical Sciences, Government of India**, awarded for the best unpublished work in the field of Bio-medical research. Conferred on May 29, 2005.
- 15) **'DST Woman Scientist Scheme Award'** for a project entitled, “Localisation and quantification of Nurr1, GFRalpha1 and Ret protein in substantia nigra pars compacta of normal adult humans and Parkinson's disease brains.” September 2005-2008
- 16) **'Jyotsanamoyee Raghunath Bhattacharya Award'** for the best published paper in the field of basic Neurosciences by *Indian Academy of Neurosciences*, Bangalore, 2005
- 17) **'Prof. Surinder Mohan Marwah Award in Geriatrics-2014'** from Indian Council of Medical Research, conferred in October 2017.

- 18) "Prof. A Namasivayam Award" from "Indian Association of Biomedical Scientists" during the 40th Annual Conference conducted in Chennai. Oct, 31, 2019

International Travel Awards/Recognition:

1. **IBRO - Society for Neuroscience (IBRO-SFN) 'International Travel Fellowship'**, to attend 31st Annual Meeting of Society for Neuroscience at San Diego USA, Nov 2001. **(Accommodation)**
2. **'Foreign Travel Support from Council for Scientific and Industrial Research, Govt. of India** to attend Society for Neuroscience 31st Annual Meeting at San Diego USA, Nov 2001 **(Travel)**
3. **IBRO Travel Grant and 'International travel support'** from *Department of Science and Technology, Govt. of India* to attend "The 2004 Chicago Microscopy Courses Qualitative and Quantitative Microscopy for Biomedical Research". August 17-21, 2004 at the Chicago Medical School, USA.
4. **Movement Disorders Society Travel Award** at the 11th International Movement Disorders Congress 3-7 June 2007 Istanbul, Turkey.
5. **Highlight of the Poster Session'** for the poster titled, "No age-related loss or morphological changes in neurons of substantia nigra pars compacta of normal Indian human brains: a stereological study" **at the 11th International Movement Disorders Congress 3-7 June 2007** Istanbul, Turkey.
6. **IBRO-SFN Fellowship** to attend the IAC-USNC Neurobiology of Disease Workshop July 10-12, 2007 in Melbourne, Australia.
7. **Neuroscience 2008 Travel Award & Excellent Scientific Presentation Neuroscience 2008** from **the Japanese Neuroscience Society** at the 31st Annual Meeting of the Japan Neuroscience Society at Tokyo 2008
8. **Neuroscience 2008 Travel Award & Excellent Scientific Presentation Neuroscience 2009** from **the Japanese Neuroscience Society** for **excellent scientific presentation** at the 32nd Annual Meeting of the Japan Neuroscience Society at Nagoya Sept 2009
9. **'International travel support'** from *Department of Science and Technology, GOI* to attend "12th International Movement Disorders Congress" from June 22-26, 2008 at Chicago, USA
10. **Movement Disorders Society Travel Awards** (partial travel support) from **2007- 2010, 2013 & 2015** to attend the annual conferences.
11. **'International travel support'** from *Department of Science and Technology, GOI* to attend "19th International Congress of Parkinson's disease and Movement Disorders" from June 14-18, 2015 at San Diego, USA
12. **Movement Disorders Society Travel Award** to attend the 20th International Movement Disorders Congress 19-23 June 2016 Berlin, Germany.
13. **Movement Disorders Society** bursary for the MDS-AOS Symposium for Young Neurologists and Emerging Researchers Grooming for Interaction and Excellence in Science (SYNERGIES) course May 2017
14. **Visiting Professor, Institute of Neurophysiology, Goethe University, Frankfurt-am-Main, Germany** (April-June 2018)

Awards to Co-authors/Students

1. **Best poster award by Federation of Asian Oceanian Neuroscience Societies (FAONS)** at the 3rd FAONS Congress at Seoul, South Korea 28th Sept-1st Oct 2002.
2. **Best Oral Presentation Award for the paper** "Stress on Endoplasmic Reticulum in the Spinal Motor Neurons Exposed to CSF from Sporadic Amyotrophic Lateral Sclerosis Patients" to Dr. Vijayalakshmi K in International symposium on "Cellular and Molecular basis of brain plasticity and repair mechanism" at DRDO Leh-Ladakh, Jammu and Kashmir, India, 3rd - 5th September 2010.
3. **B K Anand Research Prize in Physiology, 2010** for the best paper published in physiology at the 56th Annual conference of Physiologists and Pharmacologists of India, December 2010, for the paper "Cerebro Spinal Fluid from sporadic Amyotrophic Lateral Sclerosis patients induces degeneration of cultured motor neuron cell line" to Dr. Vijayalakshmi K.
4. **R. Srinivasan prize for the best oral presentation** at 59th Annual conference of Physiologists and Pharmacologists of India at NIMHANS, Bangalore 2014 to Dr. Anu Mary Varghese.
5. **2nd place in National Level Physiology Quiz competition** to Vidyadhara D J. during APPICON-2013, held at NIMHANS, Bangalore, 27th November, 2013
6. **International Brain Research Organization (IBRO) fellowship** to Vidyadhara D J. to attend IBRO-APRC Associate School of Neuroscience, held at Banaras Hindu University, Varanasi, India, Oct 19-24, 2013
7. **Tulsabai Somani Educational Trust Award** at International Symposium on Translational Neuroscience and XXXII Annual Conference of Indian Academy of Neurosciences, at NIMHANS Bangalore (2014) to Ms. Anu Mary Varghese for Chitotriosidase.
8. **B K Anand Research Prize in Physiology, 2015** for the best paper published in physiology at the 61st Annual conference of Physiologists and Pharmacologists of India, December 2015, for the paper titled "Aging causes morphological alterations in astrocytes and microglia in human substantia nigra pars compacta" to Jyothi HJ.
9. **Dept. of Science & Technology Travel grant** to Vidyadhara D J., to attend 45th Annual Meeting of Society for Neuroscience Chicago, U S A, Oct. 17-21, 2015
10. **International Association of Parkinsonism and Related Disorders** Travel grant, to Vidyadhara DJ, for XXI World Congress on Parkinson's Disease and Related Disorders, Milan, Italy, Dec. 6-9, 2015
11. **International Brain Research Organization (IBRO) travel grant** to Yarreiphang H to attend IBRO/APRC School on "Mitochondria and Neurodegeneration" at Panjab University, from Oct 26-30, 2015, Chandigarh
12. **Department of Biotechnology travel award** to Yarreiphang H to attend 5th Asian and Oceanian Parkinson's Disease and Movement Disorders Congress, Manila, Philippines, March 11-13, 2016
13. **Poster Award to Abhilash PL** at 2nd IBRO- APCR School at Panjab University, Chandigarh, Dec 2016
14. **B K Anand Research Prize in Physiology, 2017** for the best paper published in physiology at the 61st Annual conference of Physiologists and Pharmacologists of India, December 2015, to Mr. Vidyadhara DJ.
15. **Intl Parkinson's disease and Movement Disorders Society Travel Award 2019** to Aditi Naskar to attend the MDS Congress at Nice, France
16. **Intl Parkinson's disease and Movement Disorders Society Travel Award 2019** to Bidisha Bhaduri to attend the MDS Congress at Nice, France

Membership of Scientific Organization:

- Indian Academy of Neurosciences - Life Member
 - Association of Physiologists and Pharmacologists of India (Life Member)
 - Indian Academy of Neurology (Life Associate Member)
 - International Brain Research Organization (Individual member)
 - International Parkinson and Movement Disorders Society USA
 - Japanese Neuroscience Society
 - Society For Neuroscience
 - Movement Disorders Society of India (Life Associate Member)
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