



## Curriculum Vitae

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Dr.V. Selva Ganapathy MPT, Ph.D. (PT)

Senior Physiotherapist

National Institute of Mental Health And Neuro Sciences (NIMHANS)

Bengaluru

Karnataka

India

Selva2274@gmail.com

Hand Phone: +919035428301

Office : +91 80 26995711

India-622301

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### EXPERIENCE PROFILE

Currently, I work as a senior physiotherapist at National Institute of Mental Health and Neurosciences (NIMHANS), one of the most prestigious teaching hospitals in Asia. My job responsibilities include clinical, teaching, and research as well as administration of physiotherapy services. It is my special interest to assess balance and gait and to manage various neurological disorders. Currently, I work in close association with the movement disorder wing of the neurology department. I earned my Ph.D. in balance and gait research in behavioural variant frontotemporal dementia under the NIMHANS University. My research has been published in journals such as Movement disorder, Asian Journal of Psychiatry, Journal of Neurological Sciences, etc. In addition to receiving a bursary award for my research work at the international neuropsychiatry conference (2018), I also received a bursary award for waiver of registration at the 2021 World physiotherapy conference.

I work at the geriatric and pediatric neurology units, the child guidance clinic, the chronic pain clinic and the balance and gait lab. A few of the tests I conduct are clinical tests of sensory integration and balance (CTSIB), postural stability tests and motor control tests using dynamic posturography (Biodex Balance Master, USA). I conduct kinematic gait analyses using GaitRite, treadmill gait analysis. The training includes feedback based balance and gait training. Patients with Parkinson disease, PSP, HD, SCA, dementias, strokes, and neuromuscular disorders are included.

The teaching responsibilities include training interns and post-graduate students posted to the physiotherapy department; facilitating hands-on training among physiotherapy and DM neurology students in balance and gait analysis; and actively participating in journal clubs, seminars and conferences.

I have published my research work in national and international journals of high repute. As a co-investigator for DM students, I guided them to complete their research work on topics related to Parkinson diseases, Huntington diseases, and vestibular schwannoma.

I represent physiotherapy services of the special clinics run by the department of Neurology which includes ALS clinic, neuromuscular clinic.

I am currently a member of the International Parkinson and movement disorder society, the Movement Disorder Society of India, a member of Huntington disease India, and an associate member of the European Huntington disease network and holds Life membership with Indian association of Physiotherapy.

I have conducted a research work for a non funded research projects as a principle investigator on Pain neuroscience education for chronic lowback pain in India and working as a co investigator for a project on balance improvement through integrative medicine approach.

I work as a co investigator for the KABHI project lead by Dr. Suvarna alladi and funded by the karnataka health department.

## **PUBLICATIONS**

1. James TT, SelvaGanapathy V, Dhargave P, Parekh D. Agreement between GAITRite and Conventional Gait Assessment Tools which can be utilized in Community Settings—A Cross-sectional Pilot Study. *Clinical Epidemiology and Global Health*. 2024 May 4:101624.

2.Soman A, Chikkanna U, Ramakrishna KK, Bhargav H, Venkataram S, Jasti NL, Sharma S, Ganapathy VS, Varambally S. Integrative medicine enhances motor and sensory recovery in guillain–Barre syndrome—A case study. *International Journal of Yoga*. 2022 Jan;15(1):80.

3.Kulamarva K, Chikkanna U, Ramakrishna KK, Bhargav H, Velayutham SG, Varambally S. Integrative approach improves fall risk and postural stability in spinocerebellar ataxia-2—A case report. *International journal of yoga*. 2022 May 1;15(2):168.

4.James TT, SelvaGanapathy V, Kamble N, Dhargave P, Pal PK, Muralidharan K. Quantitative gait analysis in patients with spinocerebellar ataxia—An explorative analysis. *Annals of Movement Disorders*. 2022 May 1;5(2):106.

5.Ganapathy V, Bharath S. Gait instability and dynamic Balance Characteristics in Behavioral variant Frontotemporal dementia: A cross sectional study. In. *Movement disorders 2021 Sep 1 (Vol. 36, pp. S2-S2)*. <https://doi.org/10.1002/mds.28794>

6.V.Selvaganapathy, T.James, M.Philip, N.Kamble, A.Bhattacharya, A.Stezin, P.Dhargave, p.Pal, V.Muralidharan, M.P S, P.Kishore. Comparative measurement of balance between Parkinson Diseases and Spinocerebellar ataxia-A Dynamic Posturography Study[Abstract]. *Mov Disord*. 2021;36 Accessed April 30, 2022

(suppl 1). [https://www.mdsabstracts.org/abstract/comparative\\_measurement\\_of\\_balance\\_between\\_Parkinson\\_diseases\\_and\\_spinocerebellar\\_ataxia\\_a\\_dynamic\\_posturography\\_study/](https://www.mdsabstracts.org/abstract/comparative_measurement_of_balance_between_Parkinson_diseases_and_spinocerebellar_ataxia_a_dynamic_posturography_study/). Accessed April 30, 2022.

7. Ganapathy VS, Chandra SV, Bharath S, Philip M, Narayan VB. Association between gait variability and direction-specific postural stability in a middle-age sample: A quantitative study with single and dual-task paradigm. *Journal of Geriatric Care and Research*. 2021;8(2).
8. V. Selva Ganapathy, S.R. Chandra, Srikala Bharath, Ravi GS, Subclinical Motor involvement in patients with Behavioral Variant Frontotemporal Dementia: A Case Control study, *Asian Journal of Psychiatry*, 2019, ISSN 1876-2018, <https://doi.org/10.1016/j.ajp.2019.10.001>. (<http://www.sciencedirect.com/science/article/pii/S1876201819308081>)
9. Velayutham S, Chandra S, Bharath S, Shankar R. Quantitative balance and gait measurement in patients with frontotemporal dementia and Alzheimer diseases: A pilot study. *Indian Journal of Psychological Medicine*. [Original Article]. March 1, 2017; 39(2):176-82.
10. Ganapathy VS, James TT, Philip M, et al. Anteroposterior Stability: A Determinant of Gait Dysfunction and Falls in Spinocerebellar Ataxia. *Ann Indian Acad Neurol*. 2021; 24(4):518-523. doi:10.4103/aian.AIAN\_1090\_20
11. Prasad S, Velayutham SG, Reddam VR, Stezin A, Jhunjhunwala K, Pal PK. Shaky and unsteady: Dynamic posturography in essential tremor. *J Neurol Sci* 2018 Feb 15; 385:12-16 doi: 10.1016/j.jns.2017.12.003 Epub 2017 Dec 5.
12. Srinivasan K, Ravikumar S, Chandra SR, Ganapathy S, Ravi GS. Cerebral and Coronary Vasculature in Disease Associations and Dissociations in the South Indian Population. *J Neurosci Rural Pract* 2017 Jul-Sep;8(3):352-356 doi: 10.4103/jnrp.jnrp\_31\_17.
13. Sriranjini SJ, Pal PK, Devidas KV, Ganapathy S. Improvement of balance in progressive degenerative cerebellar ataxias after Ayurvedic therapy: a preliminary report. *Neurol India* 2009 Mar-Apr;57(2):166-71 doi: 10.4103/0028-3886.51286.
14. Pal P, Usha B, Kalladka D, Ganapathy V, Sendil K, Sujo T, Thennarasu K, Nair S. Balance in spinocerebellar ataxias: A quantitative evaluation. In: *Journal of the Neurological Sciences* 2005 Nov 15 (Vol. 238, pp. S200-S200). Po box 211, 1000 AE Amsterdam, Netherlands: Elsevier Science Bv.

#### **Awards & Prizes**

- Bursary Award received for the research work titled “Effect of simulated community ambulation training in chronic stroke at the World Physiotherapy conference, 9-11 April 2021 (Virtual)
- Dr. R.N Moorthy Foundation Grant to develop teaching material on “Pain Neuroscience Education” and conduct workshop for professionals, patients and care givers 2022.
- T S Srinivasan Bursary award for the poster Titled “Mediolateral Imbalance in Frontotemporal Dementia. A differential diagnostic tool in early stage cortical dementia? at the International conference on Neuropsychiatry held from 15.2.18 to 17.2.18 at NIMHANS Convention Centre.
- Professional contribution award” in the year 2008 from “The oxford college of physiotherapy”, Bangalore, Karnataka, India for the outstanding works in the field of Neuro Physiotherapy by making publications.

- First prize in the poster competition on the theme spasticity held at oxford college of physiotherapy Bangalore, Karnataka, India on 25 June 2008
- 2nd prize in the poster competition in the workshop on physiotherapy management of people with spinal cord injuries held at father muller medical college hospital on 29 Feb & 1st march 2008.
- “Community Ambulation; training and its importance in patients with chronic stroke in “Healthcon” held at Garden city college, Bangalore on 13th feb 2008. (3/5 star)

### **Visiting Fellow**

- Clinical observation Programme at Conwy & Denbighshire NHS Trust, Wales, UK from 05/02/2005 –28/02/2005.

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### **Research Projects**

#### **Principle Investigator**

Development and validation of culturally sensitive Pain neuroscience Education India. A pilot feasibility study.

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- **Advisory board Member**
- Senior citizen friendly Karnataka
- Huntington diseases society -India

### **Membership**

- International Parkinson and Movement Disorders society
- World Federation for Neurological Rehabilitation
- Associate Member of European Huntington diseases network-From 29 September 2018 onwards.
- Life Member- Indian Association of Physiotherapist
- Health Professional Council UK (Registration # PH 70479-(2004-2006))

### **Organized workshop/Conference/CME**

- Delivered a talk on development of culturally sensitive pain neuroscience education at R V college of physiotherapy June 2023.
- Pain Neuroscience workshop for patients with chronic low back pain on 13/07/22 at NIMHANS, Bengaluru, India.
- Pain Neuroscience workshop in the management of chronic low back pain for physiotherapists on 14/07/22 at NIMHANS, Bangalore, India.
- Organized an awareness & Education programme on stroke at the “world stroke day” held on 29/10/2016 at NIMHANS, Bengaluru, India.
- Organized an awareness & Education programme on Falls in elderly on world elderly day (5/10/17) at the NIMHANS OPD premise by the physiotherapy center.
- Organized an awareness & Education programme on stroke at the “world stroke day” held on 29/10/2016 at NIMHANS, Bengaluru, India.
- Sprint India trial acceptability stage meeting on 18/12/2018 at NIMHANS, Bengaluru, India (ICMR sponsored).

## **Research Work –Paper presentation**

- “Effect of simulated community ambulation training in chronic stroke at the World Physiotherapy conference,9-11 April 2021
- Quantitative analysis of gait in Huntington diseases: e poster presentation at the 4th movement disorder conference of India held on 22nd to 24th February 2019 at the hotel ashok, new Delhi, India
- Mediolateral Imbalance in Frontotemporal Dementia. A differential diagnostic tool in early stage cortical dementia? International conference on Neuropsychiatry held from 15.2.18 to 17.2.18 at NIMHANS Convention Centre, Bengaluru.
- “Comparison of Balance & Gait abnormalities in Frontotemporal dementia & Alzheimer diseases with control subjects: A pilot study at the 2<sup>nd</sup> T.S Srinivasan-NIMHANS knowledge Conclave-Cognition&Dementia 2016 held at NIMHANS Convention Centre on 12&13 February 2016
- Management of Orthostatic Hypo tension in Spinal Cord Injuries, A Comparative Study with Pneumatic Splint and Stockings. at the Annual Conference of Indian Association of Physiotherapist 2001
- “Effect of circumferential pneumatic splint on orthostatic hypotension among people with spinal cord disorder” at the National conference of physical medicine and Rehabilitation held at NIMHANS, Bangalore on January 2005
- Quantification of imbalance in Ataxic patients (co-author). Poster Presentation at the National conference of physical medicine and Rehabilitation held at NIMHANS, Bangalore on January 2005

## **Guideship**

Co guide:

- “Motor parameters predicting cognitive decline in patients of Parkinson Diseases.-Dr. Pratik Kishore (DM Neurology thesis).
- To study the effect of task-oriented motor training in post-stroke patient: A Longitudinal study Focus on Brain Plasticity using f-MRI- DM Neurology thesis.-Dr. SanjayBhaskar (DM Neurology thesis)
- Retrospective observational study for outcome of ataxia in cases of vestibular schwannoma undergoing surgery.-Dr.Sattar Khan (Mch Neurosurgery).

## **Public Talk**

“Exercise for life” at the Science day event held at NIMHANS convention center 27/02/2018 at NIMHANS, Bengaluru, India.

## **Community Outreach Activities**

Elderly care campat Gandhi old age home, Bangalore on 09/12/18

Senior citizen health camp at various part of Bengaluru, Karnataka

## **Skill Training**

- Clinical Neurophysiology Symposia-Workshop on updates on Neurophysiology technique from basic to bedside held on 16.03.2018 to 17.03.2018 at NIMHANS, Bengaluru, India.

- Internal Quality manager's induction workshop on 4/1/18 to 06/1/18 & 9/1/18 held at NIMHANS, Bengaluru, India.
- Cognitive Behavior Therapy workshop(August 2018) conducted at Dept of Clinical Psychology,NIMHANS

### **Resource Person**

- Invited Speaker for the IFNR (Indian federation of Neurological rehabilitation) Conference and delivered a talk on Assessment and management of Cerebral palsy held at NIMHANS convention Centre on 1 to 3 April 2016 organized by Dept of Psychology, Neuro Rehab&Neuro rehab sub section of Neurology NIMHANS
- Delivered a talk on Range of motion Exercise for the BSc Nursing students of College of Nursing, NIMHANS. (January 2017)
- Chaired a scientific session at the annual conference of Indian federation of Neuro Rehabilitation held on 1/4/2016 to 3/4/2016 at NIMHANS conventional Centre, Bengaluru.
- Chaired a scientific session for clinicians at the PHYSIOCON conference held at NIMHANS convention Centre 19/3/2017
- Presented a topic on Management of Balance disorders at the workshop on "Balance disorders: Evaluation and Management" conducted in National institute of Mental health and Neurosciences Bangalore, India on 20/09/2004.
- Presented a topic on Management of Balance disorders at the workshop on "Balance disorders: Evaluation and Management" conducted in Government college of Physiotherapy, Tiruchirappalli, India on May 2005
- Resource person for the workshop on "Balance disorders: Evaluation and Management" conducted in National institute of Mental health and Neurosciences (NIMHANS) Bangalore, India on september 2004 & 2010 .
- Resource person for the CPD on "Balance disorders: Evaluation and Management" may 2005 at Government college of Physiotherapy, Tiruchirappalli, India.
- Resource Person for the National seminar on multidisciplinary approach to the management of "pediatric disabilities" held at Ramakrishna mission, Vivekananda University, Coimbatore, Tamil nadu, India on June 2010.
- Resource person for the National conference on Neuro Diagnostics and presented a topic on Role of sEMG on Neuro Rehabilitation at KMCH college of Physiotherapy, Coimbatore April 2010
- Resource person for the conference on 1st National conference of Bangalore Physiotherapy Network at Atria Hotel on 23/4/2011 and presented a topic on Role of Biofeedback in Neuro Rehab.
- Resource person for the conference on Role of NDT on motor speech disorders held at NIMHANS on 4th January 2013
- Cerebral Palsy assessment-ICF Model, clinical decision making in Treatment held at JKK college of Physiotherapy, Tamilnadu. 2015