Curriculum Vitae

Name: Nagendran Ramalingam
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Education:

1994 - 1997	BSc	Botany	Bharathidasan University Trichy, India
1997 - 1999	MSc	Biochemistry	Bharathidasan University Trichy, India
2003 - 2009	PhD	Biology Advisor: Dr. Michael Schleicher	Ludwig-Maximilians-University Munich, Germany

Postdoctoral Training:

10/2009 - 12/2013	Postdoctoral Research Fellow	Pathology Advisor: Dr. Gregg Gundersen	Columbia University Medical Center New York, NY
05/2017 - 06/2021	Research Fellow	Neurology Advisor: Dr. Ulf Dettmer	Brigham & Women's Hospital and Harvard Medical School Boston, MA

Faculty Academic Appointments:

01/2014 - 01/2017	Associate Research Scientist	Neurology	Columbia University Medical Center, New York
07/2021 - 06/2024	Instructor	Neurology	Harvard Medical School, Boston
07/2024 – 01/2026	Assistant Professor	Neurology	Harvard Medical School, Boston
02/2026 – present	Assistant Professor	Molecular Medicine and Neurology	University of South Florida, Morsani College of Medicine

Appointments at Hospitals/Affiliated Institutions:

05/2017 - 06/2021	Research Fellow	Neurology	Brigham & Women's Hospital, Boston
07/2021 – 01/2026	Investigator	Neurology	Brigham & Women's Hospital, Boston

Other Professional Positions:

10/2000 - 06/2003	Research Assistant	Molecular Biology & Genetics Unit	Jawaharlal Nehru Center for Advanced Scientific Research, Bangalore, India

Committee Service:

National

2024 – 2025	Mentor in a Postdoc Mentoring Circle Program, Brigham & Women's Hospital and Harvard Medical School, Boston
2024 – present	External PhD thesis committee member, Drexel University, Philadelphia

International

2022 - Present	Board of Study for Translational Neuroscience Master's program by research	Manipal Academy of Higher Education, Bangalore, India

Professional Societies

2005 - 2009	German Society for Cell Biology
2006 - 2014	American Society for Cell Biology

Editorial Activities:

- **Ad hoc Reviewer**

Acta Neuropathologica Communications
Aging Cell
Brain
Communications Biology
Experimental Neurology
Frontiers in Neuroscience
Genes and Diseases
Human Molecular Genetics
Metabolic Brain Disease
Nature Biomedical Engineering
Nature Cell Biology
Nature Communications
npj Parkinson's disease
STEM CELLS

Honors and Prizes:

1994 - 1997	Outstanding Academic Performance	Bharathidasan University, Trichy, India	BSc

1997 - 1999	Best Academic Performance	Bharathidasan University, Trichy, India	MSc
2003 - 2005	PhD scholarship	Max von Pettenkofer-Institute, Munich, Germany	PhD proposal
2005 - 2009	PhD scholarship	Elite Network of Bavaria, Bavarian State Ministry of Science and the Arts	PhD proposal
2017	Travel Award	American Society for Cell Biology	Presentation
2019 - 2021	Travel Fellowship	Program for Interdisciplinary Neuroscience, Brigham and Women's Hospital	Collaborative proposal

Report of Funded Projects

2022 - 2027	Polo-like-kinase-2-dependent α-synuclein Serine-129 Phosphorylation: A Physiological Role During Synaptic Activity NIH RF1 1NS122880-01 Multi-PI; Other PI: Ulf Dettmer; $999,978 (direct cost - my portion) – Investigator Initiated The goal of this project is to understand the physiological role of α-synuclein serine-129 phosphorylation at active synapses during neuronal activity.
2022 - 2026	Leveraging heterogeneity in autosomal dominant AD to elucidate pathophysiology and improve AD biomarkers NIH RF1 AG079569-01 Co-investigator (PIs: J Chhatwal, L Liu, and MS Wolfe); $33,750 (direct cost - my portion) – Investigator Initiated. The goal of this project is to stratify AD pathophysiology using plasma and CSF biomarkers.
2023 - 2028	How serine-129 phosphorylation status affects the spreading of α-synuclein pathology-in vivo: a study in knock-in animals NIH RF1 NS133979-01 PI; Other PI: Ulf Dettmer; $1,213,023 (direct cost - my portion) – PAR-23-023 The goal of this project is to explain the contribution of α-synuclein serine-129 phosphorylation in synucleinopathies mechanistically.
2024 - 2026	Distinguishing α-synuclein serine129 phosphorylation in health and Lewy body dementia NIH R21AG085401-01A1 Principal Investigator; $235,000 direct cost – Investigator initiated The goal of this project is to refine biomarkers for diseases of Lewy bodies.

Training Grants

2019 - 2021	The role of α-synuclein tetramerization at the synapse Program for Interdisciplinary Neuroscience, Brigham and Women's Hospital Training grant; $40,000

Principal Investigator
The goal of this project was to characterize the structure-function relationship of α-synuclein during neuronal activity.

Report of Local Teaching and Training

Teaching:

1997 - 1998	Biochemistry Students majoring Medical Laboratory Techniques	Trichy, India 2 semesters; 60 h in total
2000	Introductory Biology Students preparing for Indian Civil Service Exams	Trichy, India 20 h in total
2023	Animal models of Parkinson's disease Master students - Translational Neuroscience	Manipal Academy of Higher Education, Bangalore, India 3 h lecture in total

Research Supervisory and Training Responsibilities:

2016 to 2025 Provided extensive mentoring, supervision, and technical training to undergraduate, master's, PhD students, research assistants, fellows, instructors, and junior faculty at Columbia University, Brigham and Women's Hospital, and Harvard Medical School, including hands-on guidance in protein biochemistry, neuronal culture techniques, calcium imaging, and research project execution through regular one-on-one and group mentoring.

Other Mentored Trainees and Faculty:

2021 – 2025 Provided mentorship and scientific guidance to postdoctoral fellows, research scientists, and visiting predoctoral trainees at Brigham and Women's Hospital and Harvard Medical School, supporting their professional development and research training across multiple career stages.

Local Invited Presentations

2018	The interplay of α-synuclein S129 phosphorylation, membrane interaction and toxicity AD/PD seminar series ARCND, Neurology, Brigham and Women’s Hospital, Boston, MA
2020	New insight into the neuronal role of α-synuclein and its posttranslational modification AD/PD seminar series ARCND, Neurology, Brigham and Women’s Hospital, Boston, MA
2021	Neuronal activity triggers physiological α-synuclein S129 phosphorylation AD/PDPD seminar series ARCND, Neurology, Brigham and Women’s Hospital, Boston, MA
2021	Activity-dependent α-synuclein homeostasis Neurology Grand Rounds Neurology, Brigham and Women’s Hospital, Boston, MA
2022	Phosphorylated S129 α-synuclein: new wine in a new bottle

	Movement Disorder Conference Neurology, Brigham and Women's Hospital, Boston, MA
2023	Neuronal α-synuclein dynamics in health and disease AD/PD seminar series ARCND, Neurology, Brigham and Women's Hospital, Boston, MA
2025	The normal life of α-synuclein Neuroscience Institute seminar series ARCND, Neurology, Brigham and Women's Hospital, Boston, MA
2026	The normal life of α-synuclein Molecular Medicine Retreat, Faculty seminar University of South Florida, Tampa, FL

Report of Regional, National and International Invited Teaching and Presentations

National

2020	Activity-dependent α-synuclein homeostasis Invited presentation Leveragen, Worcester, MA
2023	Activity-dependent α-synuclein homeostasis in health and disease Invited presentation University of Nebraska Medical Center, Omaha, NE
2023	Neuronal α-synuclein homeostasis in health and disease Invited presentation New York University, New York, NY
2023	Distinguishing α-synuclein S129 phosphorylation in health and synucleinopathy Invited presentation Columbia University, New York, NY
2024	α-synuclein dynamics in health and disease Invited presentation Drexel University, Philadelphia, PA
2024	Distinguishing α-synuclein S129 phosphorylation in health and disease Invited presentation Barrow Neurological Institute, Phoenix, AZ
2025	Beyond synucleinopathies: the normal life of α-synuclein Invited Presentation Boston University, Boston, MA
2025	Beyond synucleinopathies: the normal life of α-synuclein *Chester Stephens Lecture*, Neurology Grand Round. University of South Florida, Tampa, FL

International

2023	Dynamic physiological α-synuclein serine-129 phosphorylation is driven by neuronal activity *Selected oral presentation* ADPD International Conference, Gothenburg, Sweden
2024	Beyond synucleinopathies: the normal life of α-synuclein *Invited Presentation* Center for Stroke and Dementia Research, Ludwig Maximilians University Munich, Germany
2024	Physiological α-synuclein serine-129 phosphorylation is not an oxymoron

	Invited Presentation University of Medicine, Gottingen, Germany
2024	Beyond synucleinopathies: the normal life of α-synuclein *Invited Presentation* Max Delbrück Center, Berlin, Germany
2025	Distinguishing α-synuclein serine-129 phosphorylation in health and Lewy body diseases *Invited Presentation* India Institute of Science, Bangalore, India
2025	Beyond synucleinopathies: the normal life of α-synuclein *Invited Presentation* National Institute for Mental Health and Neurosciences, Bangalore, India
2025	Beyond synucleinopathies: the normal life of α-synuclein *Invited Presentation* University of Edinburgh, UK
2025	Beyond synucleinopathies: the normal life of α-synuclein *Invited Presentation* University of Bern, Switzerland
2025	Distinguishing α-synuclein serine-129 phosphorylation in health and Lewy body diseases *Selected oral presentation* Synuclein International Conference, Cambridge, UK
2025	Beyond synucleinopathies: the normal life of α-synuclein *Invited Presentation* Gordon Research Conference – Parkinson's Disease. Session: Normal functions of α-synuclein. Waterville Valley, New Hampshire
2026	Distinguishing α-synuclein serine-129 phosphorylation in health and Lewy body diseases *Invited Presentation* Shiga University of Medical Science, Japan
2026	The normal life of α-synuclein *Oral Presentation* The 6th International Research Conference on Neurodegenerative Diseases, Minneapolis, MN

Research Investigations

1. Ranga U, Shankarappa R, Siddappa NB, Ramakrishna L, **Nagendran R**, Mahalingam M, Mahadevan A, Jayasuryan N, Sathishchandra P, Shankar SK, Prasad VR. Tat protein of human immunodeficiency virus type 1 subtype C strains is a defective chemokine. J Virol. 2004 Mar;78(5):2586-90.
2. Arasada R, Son H, **Ramalingam N**, Eichinger L, Schleicher M, Rohlfs M. Characterization of the Ste20-likekinase Krs1 of Dictyostelium discoideum. Eur J Cell Biol, 2006 Sep;85(9-10):1059-68.
3. Joseph JM, Fey P, **Ramalingam N**, Liu XI, Rohlfs M, Noegel AA, Muller-Tauberberger A, Glockner G, Schleicher M. The actinome of Dictyostelium discoideum in comparison to actins and actin-related proteins from other organisms. PLoS ONE. 2008 Jul 9;3(7):e2654.
4. **Ramalingam N**, Zhao H, Breitsprecher D, Lappalainen P, Faix J, Schleicher M. Phospholipids regulate localization and activity of mDia1 formin. Eur J Cell Biol. 2010 Oct;89(10):723-32.
5. Bartolini F, **Ramalingam N**, Gundersen GG. Actin capping protein promotes microtubule stability by antagonizing mDia1's actin activity. Mol Biol Cell. 2012 Oct 23(20):4032-40.

6. Morris EJ, Nader GPN, **Ramalingam N**, Bartolini F and Gundersen GG. Kif4 interacts with EB1 and stabilizes microtubules downstream of Rho-mDia in migrating fibroblasts. PLoS ONE 2014 Mar 21;9(3):e91568.
7. **Ramalingam N**, Franke C, Jaschinski E, Winterhoff M, Lu Y, Bruhmann S, Junemann A, Meier H, Noegel AA, Weber I, Zhao H, Merkel R, Schleicher M, Faix J. A resilient formin-derived cortical actin meshwork in the rear drives actomyosin-based motility in 2D confinement. Nat Commun. 2015 Sep 29;6:8496.
8. Bartolini F, Andres-Delgado L, Qu X, Nik S, **Ramalingam N**, Kremer L, Alonso MA, Gundersen GG. An mDia1-INF2 formin activation cascade facilitated by IQGAP1 regulates stable microtubules in migrating cells. Mol Biol Cell. 2016 Jun 1;27(11):1797- 808.
9. Dettmer U, **Ramalingam N**, von Sauken VE, Kim TE, Newman AJ, Terry-Kanter E, Nuber S, Ericsson M, Fanning S, Bartels T, Lindquist S, Levy OA, Selkoe D. Loss of native α-synuclein multimerization by strategically mutating its amphipathic helix causes abnormal vesicle interactions in neuronal cells. HumMol Genet. 2017: Sep 15;26 (18):3466-3481.
10. Sun X, Aime P, Dai D, **Ramalingam N**, Crary J, Burke R, Greene L, Levy OA. Guanabenz promotes neuronal survival via enrichment of ATF4 and parkin expression in models of Parkinson's disease. Exp Neurol. 2018:Feb 9;303:95-107.
11. Litschko C, Bru¨hmann S, Szisar A, Stephan T, Dimchev V, Damiano-Guercia J, Junemann A, Korber S,Winterhoff M, Nordholz B, **Ramalingam N**, Peckham M, Rottner K, Merkel R, Faix J. Functional integrity of the contractile actin cortex is safeguarded by multiple Diaphanous-related formins. Proc Natl Acad Sci USA2019 Feb 26;116(9):3594-3603.
12. Fanning S, Haque A, Imberdis T, Baru V, Barrasa I, Nuber S, Termine D, **Ramalingam N**, Ho GPH, Noble T,Sandoe J, Lou Y, Landgraf D, Freyzon Y, Newby G, Soldner F, Terry-Kantor E, Kim TE, Hofbauer HF, Becuwe M, Jaenisch R, Pincus D, Clish CB, Walther TC, Farese, Jr. RV, Srinivasan S, Welte MA, Kohlwein SD, Dettmer U, Lindquist S, Selkoe D. Lipidomic analysis of α-synuclein neurotoxicity identifies stearoyl coA desaturase as a target for parkinson treatment. Molecular Cell. 2019 Mar 7;73(5):1001-1014.
13. Imberdis T, Negri J, **Ramalingam N**, Terry-Kantor E, Ho G, Fanning S, Stirtz G, Kim TE, Levy O, Young-Pearse T, Selkoe D, Dettmer U. Cell models of lipid-rich α-synuclein aggregation validate modifiers of α-synuclein biology and identify stearoyl-CoA desaturase. Proc Natl Acad Sci USA 2019 Oct 8;116(41):20760-20769.
14. Terry-Kantor E, Tripathi A, Imberdis T, LaVoie Z, Ho G, Selkoe D, Fanning S, **Ramalingam N***, Dettmer U*. Rapid α-synuclein toxicity in a neural cell model and its rescue by a stearoyl-CoA desaturase inhibitor. Int J Mol Sci. 2020 July 22. (*corresponding authors).
15. **Ramalingam N*** and Dettmer U*. Temperature is a key determinant of alpha- and beta-synuclein membrane interactions in neurons. J Biol Chem. 2021 Jan 8(*corresponding authors).
16. Ho G, **Ramalingam N**, Imberdis T, Wilkie E, Dettmer U, Selkoe D. Upregulation of cellular palmitoylation mitigates α-synuclein aggregation and neurotoxicity. Mov Disord. 2020 Oct 26
17. Kim TE, Newman AJ, Imberdis T, Brontesi L, Tripathi A, **Ramalingam N**, Fanning S, Selkoe D, Dettmer D. Excess membrane binding of monomeric alpha-, beta-, and gamma-synuclein is invariably association with inclusion formation and toxicity. Hum Mol Genet. 2021 July 12.
18. Tripathi A, Alnakhala H, Terry-Kantor E, Newman A, Liu L, Imberdis T, Fanning S, Nuber S, **Ramalingam N**, Selkoe D, Dettmer U. Pathogenic mechanisms of cytosolic and membrane-enriched α-synuclein converge on fatty acid homeostasis. J. Neurosci. 2022 Mar 9.
19. **Ramalingam N***, Jin S, Moors TE, Fonseca-Ornelas L, Shimanaka K, Lei S, Cam HP, Watson AH, Brontesi L, Ding L, Hacibaloglu DY, Jiang H, Choi SJ, Kanter E, Liu L, Bartels T, Nuber S, Sulzer D, Mosharov E, Chen WV, Li S, Selkoe DJ, Dettmer U*. Dynamic physiological α-

synuclein S129 phosphorylation is driven by neuronal activity. NPJ Parkinsons Dis. 2023 Jan 16. (*corresponding authors).

20. Brontesi L, Imberdis T, **Ramalingam N***, Dettmer U*. The effect of KTKEGV repeat motif and intervening ATVA sequence on α-synuclein solubility and assembly. J Neurochem. 2023 Jan 10. (*corresponding authors).
21. Jin M, Wei Z, **Ramalingam N**, Xiao M, Xu A, Yu X, Song Q, Liu W, Zhao J, Zhanf D, Selkoe DJ, Li S. Activation of ß2-adrenergic receptor prevents AD-type synaptotoxicity via epigenetic mechanisms. Molecular Psychiatry. 2023 June 26.
22. **Ramalingam N***, Brontesi L, Jin S, Selkoe DJ, Dettmer U*. Dynamic reversibility of α-synuclein S129 phosphorylation is impaired in synucleinopathy models. EMBO Reports. 2023 Oct 23. (*corresponding authors).
23. Shimanaka K, Shi B, Brontesi L, Alnakhala H, Subramanian K, **Ramalingam N**, Tripathi A, U Dettmer. The cytosolic half of the α-synuclein amphipathic 3-11 helix: Consequences of adding hydrophobicity or positive charges. FEBS Letters. 2023 Nov 22.
24. White AJ, Clark KA, Alexander KD, **Ramalingam N**, Young-Pearse TL, Dettmer U, Selkoe DJ, Ho GPH. A stem cell-based assay platform demonstrates α-synuclein dependent synaptic dysfunction in patient-derived cortical neurons. NPJ Parkinsons Dis. 2024 May 21.
25. Lam I, Ndayisaba A, Lewis AJ, Fu Y, Sagredo GT, Kuzkina A, Zaccagnini L, Celikag M, Sandoe J, Sanz RL, Vahdatshoar A, Martin TD, Morshed N, Ichihashi T, Tripathi A, **Ramalingam N**, Oettgen-Suazo C, Bartels T, Boussouf M, Schäbinger M, Hallacli E, Jiang X, Verma A, Tea C, Wang Z, Hakozaki H, Yu X, Hyles K, Park C, Wang X, Theunissen TW, Wang H, Jaenisch R, Lindquist S, Stevens B, Stefanova N, Wenning G, van de Berg WDJ, Luk KC, Sanchez-Pernaute R, Gómez-Esteban CJ, Felsky D, Kiyota Y, Sahni N, S. Yi SS, Chung C, Stahlberg H, Ferrer I, Schöneberg J, Elledge SJ, Dettmer U, Halliday GM, Bartels T, Khurana V. Rapid iPSC inclusionopathy models shed light on formation, consequence and molecular subtype of α-synuclein inclusions. Neuron. 2024 July 29.
26. Bolsinger M, Moors TE, Brontesi L, Nuber S, Dettmer U*, **Ramalingam N***. Acute lipid droplet accumulation induced by the inhibition of the phospholipase DDHD2 does not affect the level, solubility, or phosphoserine-129 status of α-synuclein. Metabolic Brain Disease. 2025 Jan 24. (*corresponding authors)
27. Jin S, Bellier J, Wells A, Liopis PM, Anekal PV, Tresback JS, Caldarone BJ, Liu L, Li S, Dettmer U, **Ramalingam N**, Selkoe D. Inhibition of hippocampal mossy fiber plasticity and episodic memory by human Aβ oligomers is prevented by enhancing cAMP signaling in Alzheimer mice. Alzheimer & Dementia. 2025 April 21.
28. Eubanks E, VanderSleen K, Mody J, Pater N, Sacks B, Darestani F, Wang J, Elliott J, Jaber N, Akçimen F, Bandres-Ciga S, Helweh F, Liu J, Archakam S, Kimelman R, Sharma B, Socha P, Guntur A, Huang Y, **Ramalingam N**, Guadagno E, Bartels T, Dettmer U, Mouradian MM, Bahrami AH, Dai W, Baum J, Shi Z, Hardy J, Kara E. Increased burden of rate risk variants across gene expression networks predisposes to sporadic Parkinson's disease. Cell Reports. 2025 May 2.
29. Yang T, Xu YR, Jin S, **Ramalingam N**, Bellier JP, Lish AM, Ostaszewski BL, Toung-Pearse T, Liu L, Yang HS, Chhatwal JP, Lawton TL, Selkoe DJ. An improved immunoassay detects Aβ oligomers in human biofluids.: their CSF levels rise with tau and phosphotau levels. Alzheimers Res Ther. 2025 Jul 12.
30. Al-Azzani M, Weber S, **Ramalingam N**, Ramón M, Shvachiy L, Mestre G, Zech M, Sicking K, de Opakua AL, Jayanthi V, Amaral L, Agarwal A, Chandran A, Chaves SR, Winkelmann J, Trenkwalder C, Schwager M, Pauli S, Dettmer U, Fendández CO, Lautenschläger J,

Zwecksttetter M, Busnadiego RF, Mollenhauer B, Outeiro TF. A novel alpha-synuclein K58N missense variant in a patient with Parkinson's disease. Mov Disord. 2025 Sep 4.

31. Brücke C, Al-Azzani M, **Ramalingam N**, Ramón M, Sousa RL, Buratti F, Zech M, Sicking K, Amaral L, Gelpi E, Chandran A, Agarwal A, Chaves SR, Fendández CO, Dettmer U, Lautenschläger J, Zwecksttetter M, Busnadiego RF, Zimprich A, Outeiro TF. A novel alpha-synuclein G14R missense variant is associate with atypical neuropathological features. Molecular Neurodegeneration. 2025 Sep 26.
32. Choi SJ, Frank A, Ben-Johny M, Tang G, Bendig J, Fanourakis S, Hobson BD, **Ramalingam N**, Dettmer U, Kanter E, Sulzer D, Mosharov EV. α-Synuclein expression is required for somatodendritic dopamine release and immediate early gene induction. Sci Adv. 2026 Jan 30.
33. Cevallos J, Eubanks E, Jung S, Huang Y, Guadagno E, Jabe N, Xia Y, Wang H, Suvvari NR, Doshi A, Ravinutala N, Mosera A, Hsu T, Mody J, Sacks B, Narayan A, Smith B, Wang M, Gottapu M, Alnakhala H, **Ramalingam N**, Tripathi A, Bartels T, Dettmer U, Shi Z, Dai W, Kara E. Lipid droplets promote the aberrant liquid-liquid phase separation of alpha-synuclein leading to impaired energy homeostasis. EMBO Reports. 2026 July 2.
34. Li B, Anderson AK, Levy OA, **Ramalingam N***, Dettmer U*. Quantifying the acute toxicity of alpha-synuclein membrane-accumulation in a cell-based assay. Journal of Molecular Neuroscience 2026 *In Press* (*corresponding authors)

Other peer-reviewed scholarship

1. Imberdis T, Fanning S, Newman A, **Ramalingam N**, Dettmer U. Studying α-synuclein conformation by intact-cell cross-linking. Methods Mol Biol. 2019;1948:77-91.
2. **Ramalingam N*** and Dettmer U*. α-Synuclein serine129 phosphorylation - the physiology of pathology. Molecular Neurodegeneration. 2023 November (*corresponding authors).
3. Li JZ, **Ramalingam N**, Li S. Targeting epigenetic mechanisms in amyloid-ß-mediated Alzheimer's pathophysiology: unveiling therapeutic potential. Neural Regeneration Research. March 2024.
4. **Ramalingam N***, Haass C, and Dettmer U*. Physiological roles of α-synuclein serine-129 phosphorylation — not an oxymoron. Trends in Neurosciences. June 2024. (*corresponding authors).

Narrative Report

Nagendran Ramalingam is an Assistant Professor in Molecular Medicine and Neurology at University of South Florida, Morsani College of Medicine. He is a trained cell biologist with a background in biochemistry, and his research focuses on understanding alpha-synuclein (αS) homeostasis in health and disease.

Nagendran earned his bachelor's and master's degrees in Botany and (Plant) Biochemistry, respectively, from Bharathidasan University, India. He subsequently obtained his Ph.D. in 2009 from Ludwig-Maximilians University, Munich, Germany, under the mentorship of Dr. Michael Schleicher. His doctoral research focused on the role of the actin cytoskeleton signaling in cell migration. Following his Ph.D., Nagendran joined the Gundersen lab at Columbia University as a postdoctoral research scientist, where he expanded his expertise in cytoskeletal biology, focusing on microtubule dynamics. His fascination with cytoskeletal dynamics in neurons ultimately led him to the field of Neurobiology.

In 2014, Nagendran accepted his first faculty position as an Associate Research Scientist in the Department of Neurology at Columbia University, working with Dr. Oren Levy. During this time, he began investigating cytoskeleton dysfunction in Parkinson's disease and later explored the cause and consequence of serine-129 phosphorylated αS "pS129", a major hallmark of Parkinson's Disease (PD) pathology. This work was conducted in collaboration with Dr. Dennis Selkoe and Dr. Ulf Dettmer at the Ann Romney Center for Neurologic Diseases at Brigham & Women's Hospital.

In 2017, Nagendran relocated to Boston to formally join the Dettmer lab as a Research Fellow and was subsequently appointed as Instructor in Neurology at Harvard Medical School in July 2021. He was promoted to Assistant Professor of Neurology at Harvard Medical School in July 2024.

In February 2026, Nagendran started his new role at University of South Florida, where he established the Synuclein Interest Group at the Byrd Alzheimer's Institute and Research Center. He remains committed to balancing his research on the physiological and pathological roles of αS to advance our understanding of PD and Lewy body dementias.

Nagendran is committed to creating an environment that embraces students and postdocs of all backgrounds in educating next-generation scientists and teachers. He strongly believes that *"science is for everyone"*.