

Dr. Natarajan Shriethar

Research and Development Department
MAGA Tech Gramam
Karaikudi,
India
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Born: March 08, 1991

Current position

Head, Research and Development Department, MG Health Tech, Karaikudi, India

Areas of Specialisation

- Quantum cosmology
- Quantum gravity
- General relativity,
- Evolution of black holes
- Conformal cyclic cosmology
- Dark energy
- Quantum computing
- Group field theory
- Nonlinear dynamics
- Quantum field theory
- Raspberry pi

Appointments held

Oct'24 - Current Research and Development Department, MAGA Tech Gramam, Karaikudi, India
Oct'19 - Sep'24 Department of Energy Science, Alagappa University, Karaikudi, India
Jul'17-May'18 Department of Physics, Gandhigram University, Gandhigram, India
Sep'14-May'17 Department of Physics, Sree Sevugan Annamalai College, Devakottai, India

Years of experience in Teaching and Research : 9 Academic years

Education

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| 2015-2020 | Ph.D in Physics, Alagappa University Karaikudi |
| 2011-13 | M.Sc in Physics, School Of Physics, Alagappa University Karaikudi |
| 2008-11 | B.Sc in Physics, St.Joseph's College, Trichy |

Grants, Honours & Awards

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| 2016 | Cleared State Level Eligibility Test for Assistant Professors |
| 2025 | SPECIALIZED COURSE ON THE ESSENTIALS OF PATENTS (World Intellectual Property Organization (WIPO)) |

Technical Skills

- Patent Drafting
- Python
- SageMath
- Cadabra
- LaTeX
- Linux Command Line
- RaspberryPi
- LibreOffice
- Qiskit
- Requirments building and management

Teaching activities

Classes Handled

- Quantum Mechanics
- Theory of Relativity
- Particle Physics
- Mathematical Physics
- Physics for Energy science

Teaching Activities

- Co- Supervised MSc physics-level projects on open-source astronomy and Raspberry Pi
- Promoted students to participate in conferences and let them make PowerPoint presentations

Designed Prototypes

- Nonlinear dynamical triple Pendulum system with Raspberry Pi
- Raspberry Pi-based temperature sensor module for solar thermal application
- Quantum Computing-based accident avoidance module (in construction)

Publications

PATENTS

A prototype for Cancer Radiotherapy (Drafting Phase)

JOURNAL ARTICLES

- 2025 Natarajan, S. (2025). Conformal Cyclic Baby Universes in Evaporating Black Holes, General Relativity and Gravitation (Accepted)
- 2025 Natarajan, S., Manikandan, M. (2025) Topology-Based Activity Recognition: Stratified Manifolds and Separability in Sensor Space, Computer Research and Modelling (Accepted)
- 2025 Natarajan, S. (2025). Limit cycles and period-doubling bifurcations in a van der pol-type triple pendulum with spring coupling, Cybernetics and Physics. 14 (2), 174-190
- 2025 Natarajan, S. (2025). Testing loop quantum gravity with Gaia BH1: predicted orbital anomaly, gravitational wave echoes, and thermodynamic shifts, Astronomical and Astrophysical Transactions 35 (1), 107-126.
- 2024 Natarajan, S. (2024). Quantum Probabilistic Space Analysis For Enhanced Two-Wheeler Traffic Safety: From Classical Limitations To Advanced Quantum Circuits, Cybernetics and Physics. 13 (4), 302-322
- 2024 Ramya, A., Natarajan, S., Nithya, A., Sarala, M. S., and Karuppuchamy, S. (2024). Evaluation Of Various Parameters Of Nattadavu In Bharatanatyam Using A Raspberry Pi-Based Sensor. MOMENTO, (68), 11-26.
- 2023 Shriethar, N., and Rajendran, N. (2023). Interacting cosmic strings and Dark matter-For the case of missing stars. arXiv preprint arXiv:2303.11955.
- 2023 Shriethar, N. (2023). Exploring Higher Dimensional Solutions for Conformal Cyclic Cosmology with DeSitter Space via Eternal Inflation. arXiv preprint arXiv:2303.04638.
- 2022 Shriethar, N., Chandramohan, N., and Rathinam, C. (2022). Raspberry Pi-Based Sensor Network For Multi-Purpose Nonlinear Motion Detection In Laboratories Using Mems. MOMENTO, (65), 52-64.
- 2022 Shriethar, N., Letchoumanane, P., and Solai, S. (2022). Raspberry Pi based automatic temperature measurement and logging system for solar thermal purposes. Momento, (64), 11-15.
- 2022 Natarajan, S. (2022). Cyclic phantom energy dominated cosmological scenario from loop quantum cosmology. Mathematical Physics and Computer Modeling, 25(1).
- 2021 Natarajan, S. and Chandramohan, R. (2021), 'Conformal evolution of phantom dominated final stages of the universe in higher dimensions', Canadian Journal of Physics 99(1), 1-9.

- 2020 Shriethar, N. and Rathinam, C. (2020), 'Conformal Cyclic Evolution of the Universe: a Loop Quantum Gravity Perspective', *International Journal of Theoretical Physics* 59(12), 3995–4012.
- 2020 Natarajan, S., Chandramohan, R. and Swaminathan, R. (2020), 'Conformal cyclic evolution of phantom energy dominated universe', *Revista Mexicana de Fisica* 66(2), 209–223.
- 2019 Natarajan, S. and Chandramohan, R. (2019), 'Resolution of big rip singularity in loop quantum cosmology and bouncing scenarios', *Journal of Applied Physical Science International* 11(1), 30–37.

PEER-REVISED RESEARCH ARTICLES IN TAMIL

- 2024 Natarajan, S. (2025), "Maruthuva Thuraiyil Seyarkai Nunnarivin Ethirkalam", Vallamai.
- 2021 Natarajan, S. (2024), "Vinveliyil Vatratha Surangam", Vallamai. Natarajan, S. and Raghav, S. (2021), 'Brief instructions for writing a research paper', *Mulumai aiviyal udhayam* 14(8), 15–30.
- 2021 Natarajan, S. and Nageswaran, R. (2021), 'Alnthu Agandru Nunniyathum, Pirabanjaththin Oor-maippulliyum', *Mulumai ariviyal udhayam* 14(11), 11956–11975.
- 2021 Natarajan, S. and Nageswaran, R. (2021), 'Kalaveli Nadukkam', *Muzhumai Ariviyal Udhayam* 14(7), 11682–11686.
- 2021 Natarajan, S. and Nageswaran, R. (2021), 'Pirabanja Kattamaippil Tharchulal Nurai', *Mulumai Ariviyal Udhayam* 14(4), 56–74.
- 2021 Natarajan, S. (2021), "Book Review: Astrophysics for People in Hurry", Vallamai.
- 2020 Natarajan, S. (2020), 'Will the brain be Hacked in the future?', Vallamai, <https-www>.
- 2020 Natarajan, S. (2020), 'Is the ninth planet a black hole?', Vallamai(<https://www.vallamai.com/?p=97788>).
- 2020 Natarajan, S. (2020), 'Before Big bang', *Mulumai aiviyal udhayam* 13(5).
- 2020 Natarajan, S. (2020), 'The human brain is in direct contact with the computer', *Mulumai aiviyal udhayam* 13(11), 11114–11123.
- Natarajan, S. (2020), 'Loop Quantum Gravity an Introduction', *Mulumai aiviyal udhayam* 13(1), 10411–10418.
- 2019 Natarajan, S. and Chandramohan, R. (2019), 'Non singular initial stages of the universe', *International Journal of Management, Technology And Engineering* 9(1), 1828–1833.
- 2019 Natarajan, S. and Chandramohan, R. (2019), 'A hide-and-see game behind the black hole', Vallamai, <http-www>.
- 2019 Natarajan, S. and Chandramohan, R. (2019), 'Bounce Universe Model', Vallamai.

- 2019 Natarajan, S. and Chandramohan, R. (2019), 'Image of a recently released black hole and its description', *Mulumai aiviyaal udhayam* 12(5), 26–35.
- 2019 Natarajan, S. and Chandramohan, R. (2019), 'Correlation between Tamil and Mercury', *Mulumai aiviyaal udhayam* 12(3), 9687–9693.
- 2019 Natarajan, S. and Letchoumanane, S. (2019), 'Paaguththunarvil Thoguthunarvu Pampaattai Uyarththat-tum', *Mulumai aiviyaal udhayam* 12(1), 15–26.
- 2019 Natarajan, S. and Chandramohan, R. (2019), 'Cow's fur and quantum mathematics', Vallamai,
- 2019 Natarajan, S. and Chandramohan, R. (2019), 'Did the universe come from nothing? - Physical study', vallamai.com.
- 2019 Natarajan, S. and Chandramohan, R. (2019), 'Scientific explanation of dandruff formation', Val-lamai,
- 2019 Natarajan, S. (2019), 'The Wolf Comet has some historical references and the mood of the people', *Mulumai aiviyaal udhayam* 12(8), 42–52.
- 2018 Natarajan, S. and Chandramohan, R. (2018), 'Gravity or Complexity?', *International Journal of Scientific Research in Physics and Applied Sciences* 6(5), 75–79.
- 2018 Natarajan, S. and Chandramohan, R. (2018), 'A universe from nothing or big bounce?', *International Journal of Research and Analytical Reviews* 5(4), 573–577.
- 2018 Natarajan, S. and Chandramohan, R. (2018), 'Manichavaasaka and Hubble telescope', *Mulumai aiviyaal udhayam* 11(11), 9411–9422.
- 2017 Natarajan, S., Deepika, A., Pradeeba, I. and Chandramohan, R. (2017), 'Low Cost Temperature Logging System using Raspberry Pi', *International Research Journal of Engineering and Technology* 4(4), 254–258.
- 2017 Natarajan, S. and Chandramohan, R. (2017), 'Theethum nandrum Pirar thara vaara -Iyarbiyalaalarin Paarvaiyil', *Tamil Marabu Arakkattai*, pp. 180–186.

BOOKS PUBLISHED

- 2025 Natarajan, S., (2024), *Arubathu Nimidaththil Andrada Ariviyal*, INI Pathippagam
- 2025 Natarajan, S., (2024), *Arai Nimidaththil Ariviyal*, TNSF publishers
- 2023 Natarajan, S., Nageswaran, R., (2023), *Pirabanjathirkul Oru Sutruula*
- 2023 Natarajan, S., Nageswaran, R., (2023), *Vinveli Payanagalin Vararu*
- 2022 Natarajan, S., Nageswaran, R., (2022), *Kaalapayanamum Karunthulaigalum*. Natarajan, S., Nageswaran, R., Sethu, K., Kottalam, J., Srinivasan, Sivakumar, Krishnamurthy, K. and others (2021), 'Arivom Ariviyal'.
- 2020 Natarajan, S. and Chandramohan, R. (2020), 'Viyakka Vaikkum Vinveli Karunthulaigal',

Outreach Activities and Public Talks

- Teaching Raspberry Pi to School students
- Organizing talks from various professors and scientists as part of the PhyFron research team.
- Providing lectures via PhyFron research group

Public lectures given

- A talk on the history of gravity and cosmology - PhyFron July 2021
- A talk on understanding the atoms - PhyFron August 2021
- A talk on How to write research papers - PhyFron August 2021
- A talk on loop quantum gravity PhyFron October 2021
- A talk on interesting equations in mathematics PhyFron November 2021
- A talk on Space travel PhyFron November 2021
- A talk on understanding the black holes PhyFron November 2021
- A talk on cosmic microwave background PhyFron December 2021

Reviews done for the journals

- IRJT
- AxioMathes
- Muzhumai Ariviyal Udhayam

Dr.Natarajan Shriethar
Karaikudi
30-10-2025