

CURRICULUM VITAE

Position/Designation: Lecturer

Department: Department of Mathematical and Physical Sciences

College: College of Arts & Sciences

University of Nizwa, Sultanate of Oman

Personal Information

Name: Dr. Smitha Thankappan Thakadiyil

Marital Status: Married

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Contact Numbers: 0096895802991

Academic Qualifications**i. Ph.D.: Applied Mathematics**

Title of Ph.D. Thesis: Some Exact Solutions for Fluid Spheres in General Relativity

University: *Manonmaniam Sundaranar University*, Tamilnadu, India (2014)

ii. Post-graduation: M. Sc Mathematics

University: Mahatma Gandhi University, Kerala, India (2004)

iii. Graduation:**(a). Bachelor's Degree in mathematics**

University: Mahatma Gandhi University, Kerala, India (2002)

(b). Bachelor's Degree in mathematics education

University: Kerala University, Kerala, India (2005)

Teaching Activities, Current / Previous Experience

I have teaching experience at all levels.

Subject taught: Precalculus, Calculus I, Calculus II, Calculus III, Advanced Calculus, Discrete Mathematics, Mathematics for Teachers, Graph Theory, Linear Algebra, Differential Equations for Engineers, Introduction to Group Theory, Introduction to Number Theory, Introduction to Statistics, Topics in Mathematics and Mathematical Economics.

DETAILS OF ACADEMIC POSITIONS

January 2007/till date : Lecturer, Department of Mathematical and Physical Science, College of Arts and Sciences, University of Nizwa.

December2005/ September2006: Lecturer of Mathematics, Imperial Arts and Science College, Alappuzha, India.

Research Activities

Research Interests:

- i. Exact solutions of Einstein's field equation in General Relativity.
- ii. Compact star modeling.
- iii. Graph Theory.
- iv. Satellite remote sensing and process studies of clouds Aerosol direct and indirect effects

Conference presentations:

- i. B. Dayanandan, Piyushkumar N. Patel, Pravash Tiwari, Issa Al-Amri, **Smitha T.T**, Humaid Al Badi, Khamis Al-Riyami; "*Climatology and trend of aerosol optical depth and associated changes in radiative budget over Middle-East*"; AGU Fall Meeting 2021- Multisensor, Model, and Measurement Synergy to Improve Our Understanding of Aerosol Distributions and Processes, New Orleans, USA, held from 13-17 December, 2021.

- ii. B. Dayanandan, Piyushkumar N. Patel, Pravash Tiwari, Issa Al-Amri, **Smitha T.T**, Humaid Al Badi, Khamis Al-Riyami; *“Long-term changes in aerosol loading and observed impacts on radiative budget over Middle-East”*; 4th International Conference on Atmospheric Sciences held from July 16 to 31, 2021.
- iii. B. Dayanandan, **Smitha T.T**, S. K. Maurya *“Relativistic charged compact star model: An embedding class one approach”*, International Conference on Science, Engineering & Technology – ICSET, 12/04/2019 (Muscat).
- iv. Badriya Al-Mawali, Sultan Al-Yahyai, Baiju Dayanandan and **Smitha.T.T**; *“Numerical Model Simulation of Indian Summer Monsoon Over South of Oman khareef”*, Public Authority of Civil Aviation, Oman National Meteorological Service held at held at the Indian Institute of Tropical Meteorology, Pune, India, 2-3 March 2015 Monsoon Workshop.
- v. M.K Jasim, B. Dayanandan & **Smitha T.T**; *“Numerical simulations of charged analogues of isentropic super – dence star model”*, The second International Conference on Numerical Analysis and Optimization(2011), Sultan Qaboos University, Oman.
- vi. M.K Jasim & **Smitha T.T**; *“On the lie’s reduction theorem through an application to non-conformal accelerating and shearing fluid Spheres”*, Internatioal Conference on Analyisis and Applications (ICAA 2010), Sultan Qaboos University, Oman.

Publications:

- i. B. Dayanandan, **Smitha T.T**, S. K. Maurya ; *“Self-gravitating anisotropic star using gravitational decoupling”* , Physica Scripta (IOP Publishing), Vol. 96, Iss.12, P.12 (2021) Impact Factor - 2.487, H- Index- 83, (United Kingdom).
- ii. B. Dayanandan, **Smitha T.T**,, *“Modelling of Dark Energy Stars with Tolman IV gravitational potential”*, Chinese Journal of Physics (Elsevier), Vol.71, p. 683-692 (2021) Impact factor- 3.31 , H- Index- 38, (Taiwan).

- iii. Baiju Dayanandan, **Smitha T.T.**, S. K. Maurya, “*Embedding class I Spherically symmetric charged compact star models*” *Astrophysics and Space Science* (Springer-Verlag), Vol.365, Iss.2, pp.20 (2020) Impact factor -1.885, H- index - 53 (Netherlands).
- iv. S.K.Maurya, SaibalRay, Shounak Ghoshc, Sarbajit Mannad, **Smitha T.T.**, “*A generalized family of anisotropic compact object in general relativity*”; *Annals of Physics* (Elsevier), Vol.395, p. 152-169 (2018) Impact factor- 2.73 , H- Index- 116, (United States).
- v. B. Dayanandan, S. K. Maurya, **Smitha T.T.**, “*Modeling of Charged anisotropic compact stars in general relativity*”, *European Physical Journal A* (Springer- Verlag), Vol.53, p. 141 (2017) Impact factor- 2.37 , H- Index- 70, (United States).
- vi. S.K. Maurya , **Smitha T. T.**, Y.K.Gupta, Farook Rahaman, “*A new exact solution for anisotropic compact stars of embedding class one*”, *European Physical Journal A* (Springer-Verlag), Vol.52, p. 191 (2016), Impact factor- 2.37 , H- Index- 70, (United States).
- vii. S.K. Maurya, M. K. Jasim, Y.K. Gupta, **Smitha T.T.**, “*A new model for charged anisotropic compact star*”, *Astrophysics and Space Sciences* , (Springer- Verlag), Vol.361, Iss.5, pp.163 (2016) Impact factor -1.885, H- index - 53 (Netherlands).
- viii. B. Dayanandan, S. K. Maurya, Y. K. Gupta, **Smitha T.T.**, “*Anisotropic generalization of Matese & Whitman solution for compact star models*”, *Astrophysics and Space Sciences* , (Springer Verlag), Vol:361, Iss:5, pp:160 (2016), Impact factor -1.885, H- index - 53 (Netherlands).
- ix. S. K. Maurya, Y. K. Gupta, B. Dayanadan and **Smitha T T.**: “*Three New Exact solutions for Charged Fluid Spheres in General Relativity*”, *Astrophysics and Space Science*, (Springer- Verlag), Vol. 356, pp 75-87 (2014) Impact factor 1.885, H- index - 53 (Netherlands).
- x. **Smitha T.T** & M.K Jasim, “*Invariant Solutions of Einstein’s Field Equations for Conformally Flat Fluid Spheres of Embedding Class One*”, *International Journal of*

Theoretical Physics. (Springer-Verlag), Vol. 52, 3960–3964 (2013) Impact factor 1.708, H- index – 65 (United States).

- xi. M K Jasim, Inamm A Maluki, **Smitha T.T** & Arwa A Abdul Malik ; “*Generalised Exact Solution for a Spherical Symmetric Perfect Fluid Sphere Model of Embedding Class Two*”, Applied Mathematical Sciences, Vol.5, 763-774 (2011) Impact factor 0.451, H-index – 36 (Bulgaria).

RESEARCH PROJECTS HANDLING AT UNVERSITY OF NIZWA:

- v. The research project entitled “**Synergy of ground based and satellite measurements for atmospheric aerosol monitoring over middle east**” is financed by TRC in collaboration with NASA Jet Propulsion Laboratory, Universities Space Research Association Columbia, Columbia, United States & Public Authority of Civil Aviation, Oman National Meteorological Service.
- vi. The research project entitled ‘**An Extensive study of exact solutions of Einstein field equations with antigravity and dark matter contributions**’ is financed by the Research and Publications Committee of University of Nizwa. The project deals with the compact star modeling, antigravity and dark matter contributions.

Undergraduate Student’s Projects:

Supervised the following final year Mathematics student’s research projects under the Course MATH 421 at University of Nizwa.

- i. 2020-2021: Miss. Asma Salim Ali Al Hadhrami, Miss. Badriya Nasser Sulaiyam Al Hatmi, Miss. Khulood Khamis Talib Al Balushi & Miss.Sabha Bakhit Saif Al Aamri
MATH421 Research Project on ‘Exact Solutions of Einstein's Field Equations’
- ii. 2019-2020: Miss. Aisha Khadam Hamed Al Uwaisi & Miss. Shaima Amur Masoud Al Shuaili – MATH421 Research Project on ‘Graph Colouring and its Applications’

iii. 2016-2017: Miss. Maryam Said Al Rawahi – MATH421 Research Project on ‘Shortest Path Problems in Graph Theory’

iv. 2014-2015: Miss. Mohammed Raya Mohammed Said Al-Faraji – MATHS421 Research Project on ‘Graph Colouring and its Applications’.

Faculty Administrative Experience

- Acting Head of the Mathematics Section, UoN on several occasions

Community Services

- Supervisor of student activities for Mathematics Section (2011- 2021)
- Chair of DMPS department examination committee and member of college examination committee (2016 – 2021)
- Member of timetabling committee of DMPS since 2016
- Member of Grade Review Committee of DMPS (2018 -2021)
- Member of quality assurance committee of DMPS (2016-2018)
- Member of different committees in section level.

Consultancy Activities

Membership in Professional Bodies

- Reviewer of Springer Journals
- Reviewer International Journal of Astronomy

Awards and recognitions