

Curriculum Vitae



Position/Designation: Associate Professor

Department: Department of Mathematical and Physical Sciences

College: College of Arts & Sciences

University of Nizwa , Sultanate of Oman

Personal Information

Name: Dr. Baiju Dayanandan
Marital Status: Married
Email Address: baiju@unizwa.edu.om
Contact Numbers: 0096891710545

Academic Qualifications

Academic Qualifications:

➤ **Ph.D. : Physics**

Title of Ph.D. Thesis: *VHF Ionospheric Scintillation & Total Electron Content Studies over Low Latitude, In Special Reference to Space Weather Science.*

University: M.L.Sukhadia University, Udaipur Rajasthan, India. (2010)

➤ **Post-graduation: M.Sc. Physics**

University: Mahatma Gandhi University, Kerala, India (2000)

➤ **Graduation:**

(a). **Bachelor Degree in Science.(Physics-Main)**

University: Mahatma Gandhi University, Kerala, India (1997)

(b). **Bachelor Degree in Education (Physical Science)**

University: Kerala University, Kerala, India (1998)

Teaching Activities, Current / Previous Experience

I have teaching experience at all levels.

Subject taught:

General Physics-I, General Physics-II, Laser Design, Laser Industrial Applications, Laser Communication, Laser Interaction with matter, Modern Physics ,Nuclear Science and Applications, Optoelectronics, Physics for Teacher-I, Physics for Teacher-II, Quantum Mechanics-I, Quantum Mechanics-II, Radiology X-ray and Dosimetry, Solid State Physics, Sound and Optics, Radiology X-ray and Dosimetry, Experimental methods in electronics, Experiential methods in nuclear science and applications, electromagnetism and applications, Thermal and Statistical Physics, Thermal Fluid, Thermodynamics and Applied spectroscopy,

DETAILS OF ACADEMIC POSITIONS

- June 2018/ till date : Associate Professor, Department of Mathematical and Physical Science, College of Arts and Sciences, University of Nizwa.
- February 2011/ June 2018 : Assistant Professor, Department of Mathematical and Physical Science, College of Arts and Sciences, University of Nizwa.
- January 2010/ February 2011 : Lecturer, Department of Mathematical and Physical Science, College of Arts and Sciences, University of Nizwa.
- August 2007 / January 2010 : Lecturer of Physics, Royal Oman Air Force Technical College, Sultanate of Oman.
- October 2004/June 2007 : Research Scholar, M.L.Sukhadia University, Udaipur, Rajasthan, India.
- June 2000/ September 2002 : Lecturer of Physics, Imperial Arts and Science College, Alappuzha, India.

Research Activities

(includes but not limited to research interests, conference attendance, conference presentations and publications, refereed journal, articles ,books, ect.)

Research interests:

Conference presentations:

- D.Baiju, Vyas, B.M.& Pandey, R (2006); *Study of VHF Ionospheric Scintillation During Geomagnetic Storms at Udaipur*, Proceedings of XIV National Space Science Symposium, Visakhapatnam, India, 2 IT-03, P.78

- Baiju, D. & Vyas, B.M. (2008): *Characteristics of VHF Ionospheric Scintillations during different epochs of Solar Cycle over Udaipur (24.35° N, 73.42 °E)*, Proceeding of 15th National Space Science Symposium (XV NSSS-2008), Ooty, India, PS2-P-097
- Dr. M K Jasim , B. Dayanandan and Smitha T.T; *Numerical simulations of charged analogues of isotropic super dense star model* International Conference on Numerical Analysis and Optimization January 3-6, 2011, Sultan Quboos university , Muscat, Sultanate of Oman
- 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
- Relativistic charged compact star model: An embedding class one approach, International Conference on Science, Engineering & Technology – ICSET, 12/04/2019 (Muscat)

PUBLICATIONS

- (i) S.K. Maurya, Ksh. Newton Singh, Baiju Dayanandan; *Non-singular solution for anisotropic model by gravitational decoupling in the framework of complete geometric deformation stars*, The European Physical Journal C (2020) 80:448 <https://doi.org/10.1140/epjc/s10052-020-8005-8>
- (ii) Baiju Dayanandan , T.T. Smitha, S.K. Maurya ;, “*Embedding class I spherically symmetric charged compact star model*” *Astrophys Space Science* (2020) 365(2) <https://doi.org/10.1007/s10509-020-3734-6>
- (iii) Amit Kumar Prasad,; Jitendra Kumar,; S.K Maurya,; Baiju Dayanandan; “*Relativistic model for anisotropic compact stars using Karmarker Conditions*” *Astrophys Space Science* (2019) 364:66 <https://doi.org/10.1007/s10509-019-3553-9>
- (iv)(iii) S.K. Maurya, S. R. Choudhury, Saibal Ray, Baiju Dayanandan; “*Study of compact Star with class I metric under general relativity contributing*”: *Candian Journal of Physics*(2019), <https://doi.org/10.1139/cjp-2018-0560>

- (v) Baiju Dayanandan ,S.K. Maurya , T.T. Smitha,; *Modeling of charged anisotropic compact stars in general relativity* ; Published in European Physical Journal A (Springer-Verlag), Vol:53,pp:1-10 Article no.141,2017 Impact factor-2.833,H-Index-70.
- (vi) Baiju Dayanadan, S.K. Maurya, Y.K. Gupta , T.T. Smitha; *Anisotropic generalization of Matese & Whitman solution for compact star models in general relativity* ,Astrophys Space Sci (2016) 361:160 DOI 10.1007/s10509-016-2743-y
- (vii) S.K.Maurya, Y.K. Gupta, Baiju Dayanandan, Saibal Ray; *A new model for spherically symmetric anisotropic compact star* ,The European Physical Journal C (2016) 76:226 DOI 10.1140/epjc/s10052-016-4111-z
- (viii) S.K. Maurya , Y.K. Gupta, Baiju Dayanandan, M. K. Jasim ,Ahmed Jamal; *Relativistic anisotropic models for compact star with equation of state $p = f(\rho)$* , International Journal of Modern Physics D (2016) Vol. 26 (2017) 1750002 (22 pages) World Scientific Publishing Company DOI: 10.1142/S021827181750002X
- (ix) M. K. Jasim ,S.K. Maurya , Y. K. Gupta; B. Dayanandan; *Well behaved anisotropic compact star models in general relativity*, Astrophys Space Sci (2016) DOI 10.1007/s10509-016-2940-8.
- (x) S.K. Maurya, Y.K. Gupta ,Saibal Ray, Baiju Dayanandan; *Anisotropic models for compact stars*, The European Physical Journal C (2015) 75:225 DOI 10.1140/epjc/s10052-015-3456-z
- (xi) S.K. Maurya , Y.K. Gupta, Baiju Dayanandan, T.T. Smitha; *Three new exact solutions for charged fluid spheres in general relativity*,Astrophys Space Sci (2014) 355:2200 DOI 10.1007/s10509-014-2200-8
- (xii) B.M. Vyas and D.Baiju; *Response of Ionospheric Total Electron Content on various Geomagnetic and Interplanetary Field Parameters over Indian Sub- Continent*, International Journal of Applied Physics, ISSN 2249-3174 Volume 3, Number 1 (2013), pp. 23-41

(xiii) D.Baiju and B.M. Vyas; *Study of VHF Inospheric Scintillation During Geomagnetic Storms at Udaipur*” International Journal of Astronomy, Vol.2, No.1, February 2013

(xiv) D.Baiju and B.M. Vyas; *Study of Night time VHF Ionospheric Scintillations over crest of Equatorial Appleton Anomaly Indian Station, Udaipur*” Acta Geod. Geoph. Hung. (Vol 46, 2011, No. 1, March)

(xv) B.M. Vyas and D.Baiju ; *Study of Total Ionospheric Electron Integrated Production and Effective Loss Rates over Ahmedabad*” Pure and Applied Science volume 27D,P1-12,2008

RESEARCH PROJECTS HANDLING AT UNVERSITY OF NIZWA :

- i. 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. The project is submitted to TRC (The research council of Oman)
- ii. The research project entitled ‘**Characterization of atmospheric aerosols and their direct radiative implications over Middle-East**’. The project is submitted to TRC (ready for block funding applications)

Research Interests

- Multiple satellite data analysis
- Compact star modeling
- Ionospheric physics
- Aerosol-cloud interactions and their climate feedbacks
- Role of dynamics in aerosol-cloud interaction
- Satellite remote sensing and process studies of clouds Aerosol direct and indirect effects

Faculty Administrative Experience

- Acting Head of the Dept. of Physics, UN on several occasions since 2011

Community Services

- Organizing committee member of International Arab Conference in Information Technology (ACIT 2015)
- Initiated collaborate research work with Meteorological department of Oman as well as presented a paper internationally
- Supervisor of student activities for Physics Section (2010-2018)
- Chair of DMPS department academic advising committee since 2015
- Convener of Physics section since 2012
- Member of timetabling committee of DMPS since 2012
- Member of Final Project committee of DMPS since 2015
- Programme coordinator for Physics section since 2016
- Member of Examination committee of DMPS (2016-2017)
- Member of quality assurance committee of DMPS since 2016
- Member of curriculum committee of DMPS since 2019
- Member of promotion committee of DMPS since 2019

Consultancy Activities

Membership in Professional Bodies

- Life Member of Indian Aerosol Association of Science and Technology
- Editorial member [International Journal of Advanced Research in Physical Science](#)
- Reviewer of Springer Journals
- Reviewer International Journal of Astronomy

Awards and recognitions