Curriculum Vitae

◼ Personal Information

Name	Dr. Parbati Sahoo
Date of Birth	*July 10th, 1990*
Permanent Address	At-Dakhinkul, P.O.-Khariang, Dist.-Jajpur, Odisha-755049, India.
Present Address	Department of Mathematics, Bhadrak Auto. College, FakirMohan University, Odisha, 756100 India.
Mobile	+91 9348787655
Gender	Female
Email	sahooparbati1990@gmail.com

◼ Education

2020 – 2021 **Postdoc**: Astrophysics and Cosmology Research Unit, School of Mathematics, Statistics and Computer Science, **University of KwaZulu–Natal**, Private Bag X54001, Durban 4000, **South Africa**.

2015 – 2019 **Ph.D.**: Dept. of Mathematics, BITS-Pilani Hyderabad Campus, Hyderabad-500078, India.

Field of Research:

Relativity and Cosmology, Modified gravity theories, Cosmological/mathematical Modeling, Dark energy models, Exact Solutions to the Modified Einstein Field Equations, Wormhole theory.

Thesis title:

Study of Accelerated Expansion of Universe in the framework of $f(R,T)$ Gravity.

Supervisor:

Prof. P. K. Sahoo, Ph.D., Associate Professor, Dept. of Mathematics, BITS-Pilani Hyderabad Campus, Hyderabad-500078, India.

Date of Defense & Award:

15-07-2019 & 08-09-2020

2013 – 2014 **M.Phil. Mathematics :** Dept. of Mathematics, Utkal University, Odisha-751004, India, First class with Distinction (75%)

2010 – 2012 **M.Sc. Mathematics :** Dept. of Mathematics, Utkal University, Odisha-751004, India, First class with Distinction (80.90%)

2007 – 2010 **B.Sc. Mathematics(Hons.) :** Dept. of Mathematics, Utkal University, Odisha-751004, India, First class with Distinction, (76.73%)

◼ Research Interests:

Cosmology, Modified Gravity theories, Wormhole Geometry, Dark energy, Cosmological Modeling of accelerated expansion of Universe, Exact Solutions to the Modified Einstein Field Equations, cosmological parameter parametrization, Astrophysics, Stellar Structure, Einstein Gauss-Bonnent Gravity (EGB) Gravity.

Study of Astrophysical objects and Stellar structure models within the framework of modified gravity theories.

Study of dynamical and observational behavior of these models by adopting **statistical** approach of Observational data analysis, and **topological** features in their geometries.

◼ Work Experience

March 2013-March 2015 Lecturer in Mathematics, EATM, Bhubaneswar, Odisha, India.

July 2019-June 2020	Ad-hoc Faculty in Dept. of Mathematics, National Institute of Technology, Calicut, Kerala, India.
June 2020- November 2020	Assistant Professor G-I in School od Advanced Science (SAS) -Mathematics Division, VIT University, Chennai Campus, Tamilnadu, India.
May 2022- September 2023	Assistant Professor G-I in School od Advanced Science (SAS) -Mathematics Division, VIT AP University, Andhra Pradesh, India.
September 2023- Present	Assistant Professor Stage-I in Dept of Mathematics, Bhadrak Autonomous College, Fakirmohan University, Odisha, India.

Courses Taught/Teaching:

- Advanced Calculus
- Linear Algebra & Complex Variable, Numerical Analysis, Probability & Statistics
- Differential Equations (ODE & PDE), Discrete Mathematics, Optimization
- Discrete Mathematics, Optimization
- During Ph.D. tenure (As tutor) : Optimization, Differential Equations, Probability & Statistics.

Awards, fellowships, other recognition:

2010-2012	DHE Scholarship, DHE, State Govt. of Odisha, .
2018	ITS travel grant, SERB-DST, Govt. of India.
2019	Awarded with an **International Society on General Relativity and Gravitation (ISGRG) grant** for students to attend "22nd International Conference on General Relativity and Gravitation / 13th Edoardo Amaldi Conference on Gravitational Waves", Valencia, Spain.
2020	Received **YOUNG SCIENTIST AWARD** in the 4th International Scientist Awards on Engineering, Science and Medicine, held on 15 & 16-Feb-2020, Chennai, India, Organized by VDGOOD Professional Association.

List of Journal Publications:

17. **Parbati Sahoo**, Avik De, Tee-How Loo, P.K. Sahoo: Periodic cosmic evolution in $f(Q)$ gravity formalism, Commun. Theor. Phys. **74** 125402 (2022), `https://iopscience.iop.org/article/10.1088/1572-9494/ac8d8a` Arxiv:2110.11768.

16. Sunil D. Maharaj, Sudan Hansraj, **Parbati Sahoo**:New solution generating algorithm for isotropic static Einstein–Gauss–Bonnet metrics, (2021) **81** : 1113 **European Physical Journal C**, Springer, Impact factor 4.843, SCI, DOI: `https://doi.org/10.1140/epjc/s10052-021-09907-x`

15. **Parbati Sahoo**, P.H.R.S. Moraes, P.K. Sahoo, Marcelo M. Lapola: Traversable Wormholes in the Traceless $f(R,T)$ gravity. International Journal of Modern Physics D , **30**, 2150100 (15 pages) (2021), Impact factor 2.461, DOI: `https://doi.org/10.1142/S0218271821501005`, Arxiv:2012.00258.

14. **Parbati Sahoo**, Sanjay Mandal, P. K. Sahoo: Wormhole model with a hybrid shape function in $f(R,T)$ gravity. New Astronomy (2020) **80**: 101421 Elsevier, Impact factor 1.162, SCI, DOI: `https://doi.org/10.1016/j.newast.2020.101421`.

13. **Parbati Sahoo**, Barkha Taori, K.L. Mahanta: Mixed fluid cosmological model in $f(R,T)$ gravity. Canadian Journal of Physics,(2020), **98**: 11, pp 1015-1022, SCI, impact factor: 1.016, NRC Research Press (Canada), DOI: `https://doi.org/10.1139/cjp-2019-0494`.

12. **Parbati Sahoo**, S. Bhattacharjee, S. K. Tripathy, P. K. Sahoo: Bouncing scenarios in $f(R,T)$ gravity models. Modern Physics Letters A **2020**; **35**; 2050095, World Scientific, Impact factor 1.367, SCI, DOI: `10.1142/S0217732320500959`.

11. **Parbati Sahoo**, Annika Kirschner, Pradyumn Kumar Sahoo: Phantom fluid wormhole in $f(R,T)$ gravity. Modern Physics Letters A 06/2019; **34**:1950303, World Scientific, Impact factor 1.367, SCI, DOI: `10.1142/S0217732319503036`.

10. Pedro H. R. S. Moraes, Pradyumn Kumar Sahoo, Barkha Taori, **Parbati Sahoo**: Phantom energy dominated universe as a transient stage in $f(R)$ cosmology. **International Journal of Modern Physics D** 05/2019; **28**(10): 1950124, World Scientific, Impact factor 2.004, SCI, DOI: `10.1142/S0218271819501244`.

9. Pradyumn Kumar Sahoo, S. K. Tripathy, **Parbati Sahoo**: A periodic varying deceleration parameter in $f(R,T)$ gravity. Modern Physics Letters A 10/2018; **33**(33):1850193, World Scientific, Impact factor 1.367, SCI, DOI: `10.1142/S0217732318501936`.

8. Pradyumn Kumar Sahoo, Pedro H. R. S. Moraes, **Parbati Sahoo**, Binaya Bishi: $f(R,T) = f(R) + \lambda T$ gravity models as alternatives to cosmic acceleration. **European Physical Journal C** 09/2018; **78**:736, Springer, Impact factor 4.843, SCI, DOI: `10.1140/epjc/s10052-018-6211-4`.

7. Pradyumn Kumar Sahoo, Pedro H. R. S. Moraes, **Parbati Sahoo**, Gabriel Ribeiro: Phantom fluid supporting traversable wormholes in alternative gravity with extra material terms. **International Journal of Modern Physics D** 07/2018; **27**(16):1950004 , World Scientific, Impact factor 2.004, SCI, DOI: `10.1142/S0218271819500044`.

6. Pradyumn Kumar Sahoo, **Parbati Sahoo**, Binaya K Bishi, Sezgin Aygün: Magnetized strange quark matter in $f(R,T)$ gravity with bilinear and special form of time varying deceleration parameter. New Astronomy 10/2018; **60**:80., Elsevier, Impact factor 1.162, SCI, DOI: `10.1016/j.newast.2017.10.010`.

5. P. K. Sahoo, P. H. R. S. Moraes, **Parbati Sahoo**: Wormholes in R^2-gravity within the $f(R,T)$ formalism. **European Physical Journal C** 01/2018; **78**(1):46, Springer, Impact factor 4.843, SCI, DOI: `10.1140/epjc/s10052-018-5538-1`.

4. **Parbati Sahoo**, Raghavender Reddy: LRS Bianchi Type-I Bulk Viscous Cosmological Models in $f(R,T)$ Gravity. Astrophysics 03/2018; 61 (1), Impact factor 0.643, DOI: `10.1007/s10511-018-9522-0`.

3. P. K. Sahoo, **Parbati Sahoo**, Binaya K. Bishi, S. Aygün: Magnetized strange quark model with Big Rip singularity in $f(R,T)$ gravity. Modern Physics Letters A 06/2017; **32**:1750105, World Scientific, Impact factor 1.367, SCI, DOI: `10.1142/S021773231750105X`.

2. Pradyumn Kumar Sahoo, **Parbati Sahoo**, Binaya Kumar Bishi: Anisotropic cosmological models in $f(R,T)$ gravity with variable deceleration parameter. International Journal of Geometric Methods in Modern Physics 03/2017; **14**(6):1750097, World Scientific, Impact factor 1.068, SCI-E, DOI: `10.1142/S0219887817500979`.

1. Pradyumn Kumar Sahoo, Bivudutta Mishra, **Parbati Sahoo**, S K J Pacif: Bianchi type string cosmological models in $f(R,T)$ gravity. European Physical Journal Plus 09/2016; **131**(9):133, Springer, Impact factor, 2.612, SCI, DOI: `10.1140/epjp/i2016-16333-x`.

Book chapter Publications:

1. "A new way to construct Wormholes in Modified Gravity" BP International, Print ISBN:978-81-971665-2-5, eBook ISBN: 978-81-971665-1-8, **(2024)** DOI: `10.9734/bpi/cppsr/v8/7772A`.

On-line resources :

Google Scholar Link: `https://scholar.google.co.in/citations?user=iXPGeIcAAAAJ&hl=en&oi=ao`
Citation:785*, h-index-14*, i10 index-15*

Orcid ID: `http://orcid.org/0000-0002-5043-745X`

Scopus ID: `https://www.scopus.com/authid/detail.uri?authorId=57191253912`

Web of Science ResearcherID   `AAB-6204-2019`

Referee/Reviewer:

Modern Physics Letter A

Canadian Journal of Physics

Pramana Journal of Physics

American Journal of Physics

Editorial Board Membership:

Frontiers in Astronomy and Space Sciences

Collaborators:

International: Pedro H. R. S. Moraes, São José dos Campos, Brazil.

Sezgin Aygün, Çanakkale, Turkey.

Gabriel Ribeiro, São José dos Campos, Brazil.

Annika Kirschner, Nürnberg, Germany.

Avik De, Tee-How Loo, Malaysia

Sunil D. Maharaj, University of KwaZulu-Natal, Durban South Africa.

Sudan Hansraj, University of KwaZulu-Natal, Durban South Africa.

B. K. Bishi, University of ZuluLand, South Africa

National: S K J Pacif, VIT University and Pacif center for cosmology and selfology

S. K. Tripathy, IGIT, India.

B. K. Bishi, LPU, S. Bhattacharjee, Osmania University, India.

Farook Rahaman, Naeem Ahmoad, Jadavpur University, India.

Resource Persons:

in FDP on LaTex & MATLAB-2023 at G. H. Raisoni College of Engineering, Nagpur (M.S.) India, 30th January-3rd February 2023.

AICTE Training And Learning (ATAL) Academy Faculty Development Program on LaTex and MATHEMATICA-2023 at G. H. RAISONI COLLEGE OF ENGINEERING, NAGPUR. from 11/12/2023 to 16/12/2023

Conference Presentations:

3-6 July 2023	(Oral presentation), XXIII International Scientific Conference "Physical Interpretations of the Relativity Theory" (PIRT-2023), Paris.
28-30 July 2022	(Oral presentation), International Conference on Mathematical Sciences and its Applications (ICMSA-2022), Sciences, Swami Ramanand Teerth Marathwada University, Nanded (Maharashtra), India.
20 - 22 September 2021	(Oral presentation), GRAVITEX 2021 (live), held at the Premier Resort Cutty Sark ,Durban South Africa.
9- 15 August 2021	(Oral presentation), GRAVITEX 2021(Online), Astrophysics and Cosmology Research Unit, School of Mathematics,Statistics and Computer Science, University of KwaZulu–Natal, Durban South Africa.
10-14 March 2021	(Oral presentation), Alpine Gravity Workshop at Alpine Heath Resort and Conference Centre, Drakensberg, Astrophysics and Cosmology Research Unit, School of Mathematics,Statistics and Computer Science, University of KwaZulu–Natal, Durban South Africa.
9-11 March 2021	(Oral presentation), International Webinar on Recent Developments in Cosmology and Modified Gravity (RDCM-2021), BITS-Pilani Hyderabad Campus, Hyderabad, India.
12 - 13 November 2020	(Invited talk), Online Summit on Astrophysics and Space Research (CASR 2020), online conference, Timezone: Lisbon, Portugal.
28th February - 1st March 2019	(Oral Presentation), International Conference on Recent Inventions and Innovations in Mathematical Sciences (ICRIIMS-2019) held at Dept. of Mathematics, Andhra University, Vishakhapatnam, India.

23 - 25 January, 2019	(Poster Presentation), Frontiers in Partice Physics and Cosmology (FIPPC-2019), held at Dept. of Physics, Hyderabad Central University, Hyderabad, India.
3 - 5 January, 2019	(Oral Presentation), 30th meeting of the Indian Association for General Relativity and Gravitation (IAGRG-2019), held at Dept. of Physics, BITS-Pilani Hyderabad Campus, Hyderabad, India.
23 -25 October, 2018	(Oral Presentation), International Conference on Recent Advances in Pure and Applied Mathematics (ICRAPAM 2018), held at Dept. of Applied Mathematics, Delhi Technological University, New Delhi, India.
8-12 October, 2018	(Poster Presentation), 3rd HEL.A.S. Summer School and DAAD School on Neutron Stars and Gravitational Waves, held at Department of Physics, Aristotle University of Thessaloniki, **Greece**.
28 - 29 November, 2017	(Oral Presentation), National Conference on Differential Geometry and General Relativity (NCDGGR-2017), held at Department of Mathematics, Sardar Patel University, Vallabh Vidyanagar, India.
26th July-1st August 2017	(Oral Presentation), Celebrating the Centenary of Einstein's General Relativity-2017: Hundered Years with Λ (CCEGR-2017), held at The University of Burdwan, West Bengal, India.
18-20 May, 2017	(Poster Presentation) 29th meeting of the Indian Association for General Relativity and Gravitation (IAGRG), held at IIT Guwahati, Assam, India.
6-8 March, 2017	(Oral Presentation), International Conference on Mathematical Analysis and its Applications (ICMAA2017), held at Dayanand Science College Latur, Maharashtra, India.

Workshop and Schools:

November 8-10, 2019	Workshop on Emergent Gravity Paradigm (WEGP 2019), held at Department of Physics, CUSAT Kochi, Kerala, India.
December 18-23, 2017	On the Viability of Theories Beyond Einstein's General Relativity, held at Center for Theoretical Physics, Jamia Millia Islamia, New Delhi India.
July 26-August 01, 2017	Celebrating the Centenary of Einstein's General Relativity-2017: Hundered Years with Λ (CCEGR-2017), held at dept. of Mathematics, The University of Burdwan, West Bengal, India.
December 19-23, 2016	Structure and Formation in Standard Cosmology organized jointly by BITS-Pilani, Hyderabad Campus and IUCAA, Pune held at Dept. of Mathematics, BITS-Pilani, Hyderbad Campus, India.
September 27-28, 2016	Introductory workshop on Astrophysics and cosmology, held at Aliah University, Kolkata, India.
February 12-23, 2016	Cosmological and Theoretical Applications of Exact Solutions of Einstein's Equations, held at Centre for Theoretical Physics, Jamia Millia Islamia, New Delhi India.

Skills & Background Knowledge

Technical skills

Mathematica, Python, Maple, Latex writing tools, Matlab, Rstudio and Basic knowledge of the Linux operating system

Personal skills

High level in communication skills, Sociable and proactive