CURRICULUM VITAE

Name: Dr. Bibekananda Nayak

Designation: Assistant Professor in Physics (Stage II)

Address: P. G. Department of Applied Physics & Ballistics
Fakir Mohan University, Vyasa Vihar, Balasore
Odisha – 756019, India.

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Research Area

Broad area of Research: *Gravitation and Cosmology, Particle Astrophysics*.

Topics: *Scalar-Tensor Theory, Primordial Black Holes, Dark energy, Modified Theories of Gravity, Loop Quantum Cosmology*.

Educational Qualifications — Year

- High School (10th) — 1999
  Board of Secondary Education, Orissa
  Division: First

- Higher Secondary (+2 Science) — 2001
  Council of Higher Secondary Education, Bhubaneswar, Orissa
  Division: First

- Bachelor of Science — 2004
  Utkal University, Bhubaneswar, Orissa
  Honours: Physics
  Division: First Class with Distinction

- Master of Science in Physics 2006
  Utkal University, Bhubaneswar, Orissa
  Special Paper: Particle Physics
  Division: First

- PhD in Physics 40a T.67 2013
  Utkal University, Bhubaneswar, Orissa
  Thesis Title: *Cosmological Aspects of Brans-Dicke Theory*

- UGC-CSIR NET (in Physical Sciences): Qualified in June 2006 & December 2006
- GATE (in Physics): Qualified in 2006

Honors and Awards

- Junior Research Fellowship (JRF): *Council of Scientific and Industrial Research, New Delhi (June 2007 ±June 2009)*.

December 2006

Research Guidance

- M. Phil. Degree Awarded:

	Name	Thesis Title	Year
1.	Rupak Kumar Behera	A Study on Black Holes and their Cosmological Consequences.	2016
2.	Bibhuti Bhusan Sahoo	Solar Neutrino Oscillation.	2016
3.	Itishree Nayak	A Brief Review on Standard Model of Cosmology.	2017
4.	Sthitapragyan Nayak	Supersymmetry: Something beyond Standard Model of Particle Physics.	2017
5.	Suraj Kumar Pati	Accelerating Expansion of the Universe and *f(R)* gravity.	2018
6.	Subhalaxmi Sethy	Cosmological Constant: The Simplest Candidate of Dark Energy.	2018
7.	Debasis Sahu	Interacting Quintessence Model and Accelerated expansion of the Universe.	2019

Administrative Experience

- Joint Coordinator, Three years Integrated B. Ed. / M. Ed. Programme (June 2016 – May 2018).
- Deputy Director, DDCE (October 2017 – August 2018).
- Coordinator, P. G. Department of Education (20th May 2018 – 15th December 2018).
- Coordinator, Non-Collegiate Programme under DDCE (October 2017 – Cont.).
- I/ C of University Guest House (Old Campus) (April 2017 – Cont.).

Research Publications

A. International Journals

Sl.	Journal	Authors	Title	Vol. / Page No. /Year	ISSN No.	Impact Factor
1	Mod. Phys. Lett. A	*B. Nayak* and L. P. Singh	Present Acceleration of the Universe, Holographic energy and Brans-Dicke Theory	24, 1785 (2009)	1793-6632	1.391
2	Phys. Rev. D	*B. Nayak*, L. P. Singh and A.S. Majumdar	Effect of Accretion on Primordial Black Holes in Brans-Dicke Theory	80, 023529 (2009)	1550-2368	4.833
3	J. Cosml. Astropart. Phys	*B. Nayak*, A.S. Majumdar and L. P. Singh	Astrophysical Constraints on Primordial Black Holes in Brans-Dicke Theory	08, 039 (2010)	1475-7516	5.210
4	Phys. Rev. D	*B. Nayak* and L. P. Singh	Note on Non-stationarity and Accretion by Primordial Black Holes in Brans-Dicke Theory	82, 127301 (2010)	1550-2368	4.833
5	Pramana- J. Phys.	*B. Nayak* and L. P. Singh	Accretion, Primordial Black Holes and Standard Cosmology	76, 173 (2011)	0973-7111	1.688
6	Eur. Phys. J. C	*B. Nayak* and L. P. Singh	Phantom energy accretion and Primordial Black Holes Evolution in Brans-Dicke Theory	71, 1837 (2011)	1434-6052	4.389
7	Int. J. Theor. Phys.	*B. Nayak* and L. P. Singh	Brans-Dicke Theory and Primordial Black Holes in Early Matter-Dominated Era	51, 1386 (2012)	1572-9575	1.347
8	Phys. Lett. B	*B. Nayak* and M. Jamil	Effect of Vacuum energy on Evolution of Primordial Black Holes in Einstein Gravity	709, 118 (2012)	0370-2693	4.384
9	Int. J. Mod. Phys. D	D. Dwivedee, *B. Nayak* and L. P. Singh	Evolution of Primordial Black Hole Mass Spectrum in Brans-Dicke theory	22, 1350022 (2013)	1793-6594	2.154

10	J. Astrophys. Astronomy	D. Dwivedee, *B. Nayak*, M. Jamil, L. P. Singh and R. Myrzakulov	Evolution of Primordial Black Holes in Loop Quantum Cosmology	35, 97 (2014)	0973-7758	1.273
11	Int. J. Theor. Phys.	D. Dwivedee, *B. Nayak* and L. P. Singh	Vacuum Energy and Primordial Black Holes in Brans-Dicke Theory	54, 2321 (2015)	1572-9575	1.347
12	J. Expt. Theor. Phys,	S. Mahapatra and *B. Nayak*	Accretion of radiation and rotating Primordial black holes	122, 243 (2016)	1090-6509	1.152
13	Grav. Cosmol.	*B. Nayak*	Interacting Holographic Dark Energy, the Present Accelerated Expansion and Black Holes	26, 273 (2020)	0202-2893	0.880
14	Gen. Rel. Grav.	S. K. Pati, *B. Nayak* and L. P. Singh	Black hole dynamics in power-law based metric *f (R)* gravity	52, 78 (2020)	1572-9532	2.030

B. National Journals

Sl.	Journal	Authors	Title	Vol. / Page No./ Year	ISSN No.	Impact Factor
1	Orissa J. Phys.	*B. Nayak* and L. P. Singh	Accretion and Evaporation of Primordial Black Holes in Standard Cosmology	16, 1 (2009)	0974-8202	_ _ _
2	Orissa J. Phys.	*B. Nayak* and L. P. Singh	Nucleosynthesis Constraints from evaporation of Primordial Black Holes in Standard Cosmology	17, 45 (2010)	0974-8202	_ _ _
3	Orissa J. Phys.	*B. Nayak* and L. P. Singh	Constraints on Primordial Black Holes' initial mass fraction in Standard Cosmology	18, 7 (2011)	0974-8202	_ _ _
4	Orissa J. Phys.	D. Dwivedee, *B. Nayak* and L. P. Singh	Effect of Vacuum Energy Accretion on Primordial Black Holes in Brans-Dicke Theory	22, 78 (2015)	0974-8202	_ _ _

C. Books

1. *B. Nayak* (December 2018), “Primordial Black Holes and Brans-Dicke Theory”,

15	National Seminar on Ballistics- A multidisciplinary Physical Science	14-15 Feb 2015	Fakir Mohan University, Balasore
16	UGC-DRS Sponsored Seminar on 100 Years of General Theory of Relativity	10-11 March 2015	Utkal University, Bhubaneswar
17	State Level Seminar on Recent Trends in Physics	27 August 2015	Bhadrak Autonomous College, Bhadrak
18	UGC Sponsored Skill based Workshop on “Computational methods and Application in Physics”	5-6 Nov 2015	Utkal University, Bhubaneswar
19	National Seminar on Recent Trends in Physics (RTP)	13-14 Feb 2016	Maharishi College of Natural Law, Bhubaneswar
20	Role of Microscopy and Allied Techniques in the Development of Multifunctional and Nano Materials	25-27 Nov 2016	Fakir Mohan University, Balasore
21	Current Trends and Prospective of Physics (NSCTPP-2017)	11-12 Feb 2017	Berhampur University, Berhampur
22	Current Progress in Physics and its Applications	3-4 March 2017	North Odisha University, Baripada
23	Recent Developments in Nuclear and Material Sciences	25-26 March 2017	Fakir Mohan University, Balasore
24	Recent Advances in Physics and its Application	10-11 Feb 2018	BJB Auto. College, Bhubaneswar
25	Challenges and Prospects in Physics	23-24 Feb 2018	North Orissa University, Baripada
26	India International Science Festival 2018	5-8 Oct 2018	Indira Gandhi Pratishthan, Lucknow
27	India International Science Festival 2019	5-8 Nov 2019	Biswa Bangla Convention Centre. Kolkata

(Bibekananda Nayak)