

# SHIBESH KUMAR JAS PACIF

## CONTACTS:

**Institution:** Pacif Institute of Cosmology and Selfology® (PICS)

At/PO: - Sagara

Dist.: - Sambalpur

PIN: - 768224

State: - Odisha

INDIA

**Webpage:** <https://shibeshkumar.in/>

**Email:** [shibesh.math@gmail.com](mailto:shibesh.math@gmail.com)

[shibesh@pacif-ics.com](mailto:shibesh@pacif-ics.com)

**Phone:** +91 8826244791, +91 8950044791



**BIRTH:** 22 June 1980



## CURRENT POSITIONS:

**Founder Director & Professor**

2023 -

Pacif Institute of Cosmology and Selfology® (PICS)

Sagara, Sambalpur, Odisha, India

Webpage: <https://pacif-ics.com>

Email: [director@pacif-ics.com](mailto:director@pacif-ics.com)

**Founder, President & Managing Trustee**

2023 -

Pacif Educational and Welfare Trust

Sagara, Sambalpur, Odisha, India

Webpage: <https://pewtrust.in>

Email: [pacif.trust@gmail.com](mailto:pacif.trust@gmail.com)

**Proprietor**

2023 -

**SELFOLOGY®**, Trademark Registered

Scientific Study of Self and Meditation Centre including in Class-41

Webpage: [www.selfology.co.in](http://www.selfology.co.in)

## HONOURS:

**Listed among World's Top 2% Scientists**

2024

Based on the published article, 'August 2024 data-update for "Updated science-wide author databases of standardized citation indicators" by John P. A. Ioannidis, 16 September 2024 | version 7,' with Elsevier Data Repository and Stanford University's ranking criterions, I am listed in the World's Top 2% of Scientists in the year 2024.

[Rank: 2,946 out of total no. of authors 1,51,105 in the field of Physics & Astronomy]

Link: <https://elsevier.digitalcommonsdata.com/datasets/btchxktzyw/7>

## AWARDS:

**Pride of Odisha Award**

2024

Received the Pride of Odisha Award in the category scientist & educationist towards my dedication and impactful work that have made significant difference in society organized by the World Charity Welfare Foundation at Cuttack, Odisha on 29<sup>th</sup> June 2024.

**International Educational Award** **2024**  
Received the International Educational Award in the category scientist & educationist towards my dedication and impactful work that have made significant difference in society organized by the World Charity Welfare Foundation at Cuttack, Odisha on 29<sup>th</sup> June 2024.

**Indian Education Excellence Award** **2024**  
Received the Indian Education Excellence Award towards Most Dynamic & Iconic Role in Science Education of the year 2024 organized by IEMS and Brandmann India at New Delhi on 10<sup>th</sup> March 2024.

**Rashtra Ka Gourav Samman** **2024**  
Received the Rashtra Ka Gourav Samman for my achievements & contributions in Science Education and Research organized by Shreya Education Trust at New Delhi on 25<sup>th</sup> February 2024.

**IOP Trusted Reviewer** **2023**  
Received the IOP Trusted Reviewer status by Institute of Physics (IOP) publishing for a high level of peer review competence in various SCI Journals of IOP.

### **ASSOCIATESHIPS:**

**IUCAA Associateship** **2022**  
Three-year (1 Aug 2022 – 31 Jul 2025) visiting associateship at Inter University Centre for Astronomy and Astrophysics, Pune

### **FELLOWSHIPS:**

**Post-Doctoral Fellowship** **2015**  
National Board of Higher Mathematics (NBHM) post-doctoral research fellowship for three-years (1 May 2015 – 30 Apr 2018) funded by Department of Atomic Energy, Government of India

**UGC Research Fellowship** **2007**  
Research fellowship during PhD funded by University Grant Commission, Govt. of India

### **PRIZES & MEDALS:**

**First prize, Gold Medal and Trophy** as principal investigator for the project “make your own telescope” at Synergy2022, SGT University tech fest. **2022**

**Third prize, Bronze Medal and Trophy** as principal investigator for the project “Science Toys from common household materials and waste items” at Synergy2022, SGT University tech fest. **2022**

**Third position and Prize**, Sushma Memorial Quiz (Mathematics), School of Mathematical Sciences, Sambalpur University. **2002**

### **ACHIEVEMENTS:**

**First position** in B. Sc. (PCM Pass), Sambalpur University **2000**

**Second position** in M. Sc. entrance examination in Sambalpur University **2000**

## ACCOLADES:

**Chief Guest** at DAV Public School, Kansbahal, Odisha during the Annual Exhibition 2024 “MANTHAN”, **16 November 2024**.

**Chief Guest** at Regional Science Centre, Bhubaneswar, Odisha during the National Space Day 2024, **23 August 2024**.

**Chief Guest** at Adhyayan Academy, Garposh during the program of 74<sup>th</sup> Republic Day of India, **26 January 2024**.

**Guest of Honor** at Sagara P. J. High School, Sagara during the Innovative program “Mo Katha Mo Kahani”, **19 January 2024**.

**Distinguished Speaker & Chief Guest** at P. G. Department of Mathematics, Fakir Mohan University, Balasore, Odisha during the Seminar on Mathematical Sciences and its Applications commemorating the National Mathematics Day, **22 December 2023**.

**Distinguished Speaker & Guest** at Sultanpur Dialogues: Second round table discussion on The Importance of Polar Science in International Geo-Politics, Global Climate and Knowledge Development, **13 January 2023**.

**Distinguished Speaker & Guest**, at the program on *Distinguished Lectures on Life Cycle of Star and Birth of Black hole*, Department of Applied Science & Engineering, Tula's Institute, Dehradun, Uttarakhand, **01 October 2022**.

**Chief Guest** at Dalmia College, Rajgangpur, Odisha at the guest lecture program of Science society of Dalmia College, **16 Dec 2021**.

**Invited Guest** at Vivekananda College, Delhi University at the guest lecture program of Vivekananda College, **29 Jan 2020**.

## ADMINISTRATIVE EXPERIENCE:

### **Founder**

Pacif Institute of Cosmology and Selfology™ (PICS) **2023**

### **&**

Pacif Educational and Welfare Trust **2023**

### **Founding Member**

Played important role in documenting the proposal of Centre for Cosmology and Science Popularization (CCSP) and establishing the Centre as the first founding member **2021**

### **Coordinator**

Science Popularization Program, CCSP, SGT University **2021-2023**

Visitor Program, CCSP, SGT University **2021-2023**

### **Founder**

Online Science Popularization Program **2020**

### **Faculty Coordinator**

VIT Astronomy Club **2020-2021**

### **Proctor**

Vellore Institute of Technology, Vellore **2019-2021**

**Asst. coordinator**, University Examination

JSS Academy of Technical Education, Noida May 2012  
**Assistant Nodal officer**, University Examination  
JSS Academy of Technical Education, Noida Dec 2008

### **ACADEMIC & TEACHING EXPERIENCE:**

**Senior Assistant Professor** Jun 2021 – Apr 2023  
Centre for Cosmology and Science Popularization (CCSP)  
SGT University, Gurugram, Delhi-NCR, Haryana

**Senior Assistant Professor** Nov 2018 – May 2021  
Department of Mathematics, School of Advanced Sciences  
Vellore Institute of Technology, Vellore

**Visiting Scientist** May 2018 - Nov 2018  
Centre for Theoretical Physics  
Jamia Millia Islamia, New Delhi

**Post-Doctoral Fellow** May 2015 - Apr 2018  
Centre for Theoretical Physics  
Jamia Millia Islamia, New Delhi

**Assistant Professor** Jul 2014 - Apr 2015  
Department of Mathematics  
Manipal University Jaipur, Jaipur

**Associate Professor** Jul 2013 - May 2014  
Department of Applied Sciences  
IEC College of Engineering and Technology, Greater Noida

**Assistant Professor** Dec 2012 - Jun 2013  
Department of Applied Sciences & Humanities  
ITM University, Gurgaon

**Assistant Professor** Mar 2008 - May 2012  
Department of applied Mathematics  
JSS Academy of Technical Education, Noida

### **ACADEMIC MEMBERSHIPS:**

**Life member** of Indian Association of General Relativity and Gravitation (IAGRG)  
**Life member** of Astronomical Society of India (ASI)  
**Life member** of International Association of Physical Sciences (IAPS)  
**Life member** of The Tensor Society of India (TTSI)  
**Sessional Member** of the Indian Science Congress Association (ISC)

### **BOARD MEMBERSHIPS:**

**Advisory Committee Member** 2022 –  
*Vratino Technologies*: A Space research organization, Gorakhpur, Kolkata, Chandigarh

**Editorial Board Member**  
*Academic Editor* of Advances in High Energy Physics Journal 2022 –  
*Associate Editor* of Physics and Astronomy International Journal 2018 –

### **EDUCATION:**

**Banaras Hindu University**, Varanasi, India  
**Ph.D.** (Mathematics, Specialization: Relativity & Cosmology) 2011

Department of Mathematics, Faculty of Science  
Thesis: Some Studies on Cosmological Models in General Relativity  
Advisor: Prof. Abdussattar

**Sambalpur University, Odisha, India**

**M. Phil. (Mathematics, Specialization: Gravitation), [Passed, 1<sup>st</sup> Div., 65.81%] 2003**

School of Mathematical Sciences

Dissertation: Some physical distributions in general theory of relativity

Advisor: Prof. G. Mohanty

**M. Sc. (Mathematics, Specialization: Graph Theory), [Passed, 1<sup>st</sup> Div., 60.13%] 2002**

School of Mathematical Sciences

Dissertation: Entire functions and Weirstrass factorization theorem

Advisor: Prof. N. Das

**B. Sc. (Mathematics, Physics, Chemistry), [Passed, Distinction, 64.58%] 2000**

Dalmia College, Rajgangpur, Odisha

**Council of Higher Secondary Education, Bhubaneshwar, Odisha, India**

**10+2 (Science Stream: Mathematics, Physics, Chemistry) 1997**

**Board of Secondary Education, Bhubaneshwar, Odisha, India**

**Matriculation (Regular) 1995**

## **BOOKS AUTHORED:**

1. **Developing Scientific Temper: Unleashing the Curiosity Within**  
First edition: 2023  
Print ISBN: 978-93-5747-354-5  
Imprint: IIP Iterative International Publishers, Karnataka
2. **Selfology: Knowing Thyself – a scientific enquiry**  
First edition: 2023  
ISBN: 978-93-5747-808-3  
E-ISBN: 978-93-5747-480-1  
Imprint: IIP Iterative International Publishers, Karnataka
3. **Cosmology for All**  
First edition: 2023  
ISBN: 978-81-19288-56-4  
Imprint: Perfect Writer Publishing, New Delhi
4. **Cosmology for All**  
Second edition: 2024  
ISBN: 9789367833353  
Imprint: Bluerose Publishers, New Delhi
5. **Cosmic Primer: A Beginner's Guide to Cosmology**  
First edition: 2023  
ISBN: 978-93-5747-846-5  
E-ISBN: 978-93-5747-990-5  
Imprint: IIP Iterative International Publishers, Karnataka

6. **Selfology: What is & Why – an educational perspective**  
 First edition: 2024  
 ISBN: 9798327557666  
 Imprint: Independently Published

## TEACHINGS:

### Total Teaching Experience – 13+ Years

**Specialization:** Applied Mathematics, Cosmology, Astronomy

### Subjects Taught:

S. N.	Subjects	No. of Semesters	Years	Course
1.	Engineering Mathematics	12	2008-2015	B. Tech.
2.	Mathematical Physics	3	2016-2018	Ph.D.
3.	Algebra	2	2014, 2015	B.Sc.
4.	Differential Equations	1	2014	B.Sc.
5.	Operations Research	5	2009-2014	B. Tech., M. Tech., MCA
6.	Applied Linear algebra	5	2019-2021	B. Tech.
7.	Applied Diff. Equations	4	2019-2021	B. Tech.
8.	Calculus for Engineers	3	2019-2021	B. Tech.
9.	Statistics for Engineers	1	2021	B. Tech.
10.	Graph Theory	2	2009, 2011	B. Tech.
11.	Modelling & Simulation	2	2013, 2014	B. Tech.
12.	Industrial management	1	2013	B. Tech.
13.	Probability & Statistics	1	2010	BCA
14.	MatLab programming	4	2019-2021	B. Tech.
15.	R programming	1	2021	B. Tech.
16.	Value Education	2	2014, 2015	B. Tech.

## ACADEMIC ACTIVITIES:

### Chaired sessions at Conferences

- International Conference in Advancement in Natural Sciences: Vedic to Modern Era, ICANSVME-2024, organized by Institute of Natural Sciences, Shri Ramswaroop Memorial University, Lucknow, **22-24 February 2024**. (chaired one session of plenary session and one session of paper presentation, and judged a session for poster presentation awards)
- International Conference on Differential Geometry and Relativity, ICDGR-2023, organized by Department of Mathematics, SSJ University, Almora, Department of Applied Sciences, BTKIT, Dwarahat and The Tensor Society, Lucknow, **18-20 May 2023**. (chaired 2 sessions of paper presentations, one plenary session, and became judge for 3 sessions for various awards at ICDGR-2023)
- International Conference on Cosmology & Gravity (CosmoGrav22) hosted by IUCAA Centre for Astronomy Research & Development (ICARD) and Gurukul Kangri (Deemed to be University), Haridwar, Uttarakhand, India, March 23 – 24, **2022**.
- XXII International Meeting Physical Interpretations of Relativity Theory, PIRT- 2021, 05-09 July **2021**.
- National Conference at Ramswaroop Memorial University, Lucknow on 24 Feb **2019**.

### Reviewer of the following peer-reviewed Science Journals

Physics of the Dark Universe (Elsevier)  
European Physical Journal C (Springer)  
Classical and Quantum Gravity (IOP Publishing)  
Fortschritte der Physik - Progress of Physics (Wiley)  
Chinese Physics C (IOP Publishing)  
European Physical Journal Plus (Springer)  
Modern Physics Letters A (World Scientific)  
Physics Scripta (IOP Publishing)  
Canadian Journal of Physics (NRC Research Press, Canada)  
Galaxies (MDPI Publications)  
Universe (MDPI Publications)  
New Astronomy (Elsevier)  
Advances in High Energy Physics (Hindawi)  
Indian Journal of Physics (Springer)  
Journal of Modern Physics  
Physics and Astronomy International Journal (Med Crave Publishing)  
Journal of Physics A

**Reviewed 200+ journal articles, 20+ conference articles and 2 Books.**

### CONFERENCES/ WORKSHOPS/ EVENTS ORGANIZED:

#### AS CONVENOR

1. “Telescope making and Science Toy Workshop” in association with Faculty of Science, SGT University, Gurugram, **07 November 2022**.
2. “Conference@CCSP\_1”, First Inaugural conference of CCSP, **17-19 October 2022**.
3. Science Popularization Talks: More than 50 talks organized on various topics of Science & allied areas, **2020-2023**.

#### AS ORGANIZING COMMITTEE MEMBER

1. “VIT Mathematical Meet - 2020”, A state level mathematical contest for school students, ‘Theme: Mathematics in Health and Society’ held at VIT, **1 February 2020**.
2. “VIT Mathematical Meet - 2020”, A state level mathematical contest for school students, ‘Theme: Mathematics in Green Technology’ held at VIT, **2 February 2019**.
3. “3<sup>rd</sup> Rajasthan Science Congress” held at Manipal University Jaipur, **28 February – 2 March, 2015**.

### SCIENCE OUTREACH:

Through different science popularization program initiatives, such as the **Taramandal programs** (using a mobile planetarium), Stargazing programs (using Telescopes), science popularization Talks, invited talks, and visits to schools & Colleges, I have so far interacted with over **30,000** children of age group 7 – 21 years.

### SCIENCE POPULARIZATION PROGRAM

**My Start-up:** With a motivation to develop **scientific temper** among children (and all citizens), I am running an online science popularization program for school students & other enthusiastic students of age group 7-21 by delivering and arranging talks and



discussions related to astronomy, astrophysics, cosmology, biology, coding (and few other areas of science). **2020-**

I have delivered 31 SP Talks and arranged 30 SP Talks delivered by experts through this platform.

SCI-POP Group-1 (Junior), <https://chat.whatsapp.com/KVHhcxygaAk5aBfO18Bkui>

SCI-POP Group-2 (Senior), <https://chat.whatsapp.com/DeSTtM2CL1S3Fngc5gswGq>

More than **100 science popularization Talks delivered** both online and offline.

Visited over 100 schools/colleges in various states in India and delivered SP talks on the theme “Knowing the Universe and Developing Scientific Temper”.

### **TARAMANDAL Program with a Mobile PLANETARIUM**

- Conducted over 40 Taramandal programs at various schools, Colleges, Universities and Public Places in the past 8 years.
- Interacted with over 20000 students and people through Taramandal programs.
- Inspired thousands of students towards a career in science, astronomy, cosmology and developing scientific temper.

### **TELESCOPE Sky-Watch (STARGAZING) Program**

- Organized seven Stargazing programs for public and students in the past 2 years.
- Interacted with over 1000 students and people through Stargazing programs.
- Inspired hundreds of students towards a career in science, astronomy, cosmology and developing scientific temper.

### **Public Speaking:**

Delivering talks & lectures and conducting discussion sessions at various schools, colleges, institutions, Universities and other gatherings on astronomy and cosmology since the past several years. **2012-**

### **Media Appearances**

Appeared in newspapers several times after various programs. **2022-**

Invited as a guest at a radio broadcast **AWAZ the voice** for a discussion on development of scientific temper and astronomy education. **2022**

Web Link: <https://www.awazthevoice.in/podcast>

Invited as a guest at the **Rozender Science**, a YouTube channel for a discussion on the topic “Astronomy and Astrology” **2019**

Web Link: <https://www.youtube.com/watch?v=BxEK4M1LxM&t=119s>

### **RESEARCH POSITIONS:**

**NBHM Post-Doctoral Fellow** **2015 - 2018**

Centre for Theoretical Physics

Jamia Millia Islamia, New Delhi, India

**Topic:** In Search of a Realistic Model of the Universe: Theoretical Constructions and Explanations to Observations

### **RESEARCH INTEREST:**



**Core area:** Relativity, Cosmology & Gravitation

**Work area:**

- Cosmological modelling, Dark energy modelling, Scalar field modelling, Modelling in modified theories of gravity ( $f(R, T)$ ,  $f(R)$ ,  $f(Q)$ ,  $f(Q, T)$  etc.).
- Reconstructing cosmic evolution, Cosmological parametrization, Cosmological tests Cosmography, Observational constraints, Dynamical system analysis, Cosmological diagnostics, Energy Conditions.
- Gravitational collapse, Exact solutions, Bouncing, Black hole and Worm hole solutions.

**RESEARCH SUPERVISION/GUIDANCE:**

M.Sc. Dissertation/Thesis

Completed: 2

Ongoing: 0

Ph.D. Thesis

Completed: 0

Ongoing: 1

Guided 1

Ph.D. Thesis Examination

Completed: 1

**RESEARCH PUBLICATIONS:**

1. A phenomenological approach to the dark energy models in the Finsler–Randers framework  
Z. Nekouee, S. K. Narasimhamurthy, B. Pourhassan, S. K. J. Pacif  
DOI: [10.1016/j.aop.2024.169787](https://doi.org/10.1016/j.aop.2024.169787)  
Published in: **Annals of Physics**, **470** (2024), **169787**
2. Cosmological tests of the dark energy models in Finsler-Randers Space-time  
Z. Nekouee, Himanshu Chaudhary, S. K. Narasimhamurthy, S. K. J. Pacif, Manjunath Malligawad  
e-Print: [2407.02801](https://arxiv.org/abs/2407.02801) [gr-qc]  
DOI: [10.1016/j.jheap.2024.08.006](https://doi.org/10.1016/j.jheap.2024.08.006)  
Published in: **Journal of High Energy Astrophysics**, **44** (2024), **19**
3. Polyropic Gas Cosmology and Late-time Acceleration  
Himanshu Chaudhary, Safae Dahmani, Amine Bouali, Shibesh Kumar Jas Pacif, and Taoufik Ouali  
Published in: **Chinese Physics C**, **48** (11) (2024)
4. Dark Energy Model in Einstein and Horava-Lifshitz Gravity with a new Parametrization of  $\omega(z)$ : Model Comparison, Analysis and Observational Constraint  
Ujjal Debnath, Himanshu Chaudhary, Niyaz Uddin Molla, S. K. J. Pacif, G. Mustafa  
e-Print: [2405.15874](https://arxiv.org/abs/2405.15874) [gr-qc]
5. Investigating  $\omega(z)$  Parametrizations in Horava-Lifshitz Gravity: Observational Constraints with Covariance Matrix Simulation  
Himanshu Chaudhary, Ujjal Debnath, Shibesh Kumar Jas Pacif, Niyaz Uddin Molla, G. Mustafa et al.  
e-Print: [2402.12324](https://arxiv.org/abs/2402.12324) [astro-ph.CO]
6. Extracting  $H_0$  and  $r_d$  in Pacif Parametrization Models through Late-Time Dataset  
Himanshu Chaudhary, Shibesh Kumar Jas Pacif, G. Mustafa, Amine Bouali, Faisal Javed

- e-Print: [2402.10499](https://arxiv.org/abs/2402.10499) [astro-ph.CO]
7. Cosmological test of dark energy parametrizations within the framework of Horava-Lifshitz gravity using via Baryon Acoustic Oscillation  
Himanshu Chaudhary, S. K. J. Pacif, Ujjal Debnath, Farook Rahman and Ghulam Mustafa  
DOI: [10.1088/1674-1137/ad6419](https://doi.org/10.1088/1674-1137/ad6419)  
Published in: **Chinese Physics C (2024) (Published online)**
  8. Observational Constraints on the Parameters of Hořava–Lifshitz Gravity  
Himanshu Chaudhary, Ujjal Debnath, Shibesh Kumar Jas Pacif, Niyaz Uddin Molla, Ghulam Mustafa, Sunil Kumar Maurya  
DOI: [10.1002/andp.202400181](https://doi.org/10.1002/andp.202400181)  
Published in: **Annalen der Physik (2024) 2400181**
  9. Re-Examining Berman’s Parametrization of the Hubble Parameter in the Context of Late-Time Acceleration  
K. R. Mishra, R. Kumar, S. K. J. Pacif  
DOI: [10.1007/s10511-024-09831-4](https://doi.org/10.1007/s10511-024-09831-4)  
Published in: **Astrofizika, 67 (2024) 2, 259-277**
  10. Significance of a quadratically varying deceleration parameter in scalar field dominated model and cosmic acceleration  
Keshav Ram Mishra, Himanshu Chaudhary, Rajesh Kumar, Z. Nekouee, Shibesh Kumar Jas Pacif  
DOI: [10.1142/S0217732324500871](https://doi.org/10.1142/S0217732324500871)  
Published in: **Modern Physics Letters A 39 (2024) 19 & 20, 2450087**
  11. Black hole solutions with constant Ricci scalar in a model of Finsler gravity  
Z. Nekouee, S. K. Narasimhamurthy, S. K. J. Pacif  
e-Print: [2311.01209](https://arxiv.org/abs/2311.01209) [gr-qc]  
DOI: [10.1088/1475-7516/2024/04/061](https://doi.org/10.1088/1475-7516/2024/04/061)  
Published in: **Journal of Cosmology and Astroparticle Physics 04 (2024), 061**
  12. Black hole formation in gravitational collapse and their astrophysical implications  
Annu Jaiswal, Rajesh Kumar, Sudhir Kumar Srivastava, Megandhren Govender , Shibesh Kumar Jas Pacif  
e-Print: [2310.17647](https://arxiv.org/abs/2310.17647) [gr-qc]  
DOI: [10.1088/1402-4896/ad25cc](https://doi.org/10.1088/1402-4896/ad25cc)  
Published in: **Physics Scripta 99 (2024) 3, 035307**
  13. Cosmic evolution in  $f(Q,T)$  gravity: Exploring a higher-order time-dependent function of deceleration parameter with observational constraints  
Madhur Khurana, Himanshu Chaudhary, Saadia Mumtaz, S. K. J. Pacif, G. Mustafa  
e-Print: [2309.14222](https://arxiv.org/abs/2309.14222) [gr-qc]  
DOI: [10.1016/j.dark.2023.101408](https://doi.org/10.1016/j.dark.2023.101408)  
Published in: **Physics of the Dark Universe 43 (2024), 101408**
  14. Diagnostic and comparative analysis of dark energy models with  $q(z)$  parametrizations  
Dhruv Arora, Himanshu Chaudhary, Shibesh Kumar Jas Pacif, G. Mustafa  
e-Print: [2304.09749](https://arxiv.org/abs/2304.09749) [gr-qc]  
DOI: [10.1140/epjp/s13360-024-05163-6](https://doi.org/10.1140/epjp/s13360-024-05163-6)  
Published in: **European Physical Journal Plus 139 (2024) 5, 371**
  15. Cosmo-dynamics of dark energy models resulting from a parametrization of  $H$  in  $f(Q, T)$  gravity  
Viraj Kalsariya, Shibesh Kumar Jas Pacif  
e-Print: [2304.09163](https://arxiv.org/abs/2304.09163) [gr-qc]  
DOI: [10.1140/epjp/s13360-023-04177-w](https://doi.org/10.1140/epjp/s13360-023-04177-w)  
Published in: **European Physical Journal Plus 138 (2023) 6, 567**

16. Model-Independent Study for a Quintessence Model of Dark Energy: Analysis and Observational Constraints  
Amine Bouali, Himanshu Chaudhary, Amritansh Mehrotra, Shibesh Kumar Jas Pacif  
e-Print: [2304.02652](#) [gr-qc]  
DOI: [10.1002/prop.202300086](#)  
Published in: **Fortschritte der Physik (Progress of Physics) 71 (2023) 12, 2300086**
17. Astrophysical implications of an eternal homogeneous gravitational collapse model with a parametrization of expansion scalar  
Annu Jaiswal, Rajesh Kumar, Sudhir Kumar Srivastava, S. K. J. Pacif  
e-Print: [2304.00894](#) [gr-qc]  
DOI: [10.1140/epjc/s10052-023-11672-y](#)  
Published in: **European Physical Journal C 83 (2023) 6, 490**
18. Eternal homogeneous gravitational collapse: A comprehensive analysis from  $\Theta$  parametrization  
Annu Jaiswal, Rajesh Kumar, Sudhir Kumar Srivastava, S. K. J. Pacif  
e-Print: [2303.06343](#) [gr-qc]
19. Cosmological implications of an interacting model of dark matter & dark energy  
Keshav Ram Mishra, Shibesh Kumar Jas Pacif, Rajesh Kumar, Kazuharu Bamba  
e-Print: [2301.08743](#) [gr-qc]  
DOI: [10.1016/j.dark.2023.101211](#)  
Published in: **Physics of the Dark Universe 40 (2023), 101211**
20. Generic Modification of Gravity, Late Time Acceleration and Hubble Tension  
Mayukh R. Gangopadhyay, Shibesh K. Jas Pacif, Mohammad Sami, Mohit K. Sharma  
e-Print: [2211.12041](#) [gr-qc]  
DOI: [10.3390/universe9020083](#)  
Published in: **Universe 9 (2023) 2, 83**
21. Late-time acceleration in  $f(Q)$  gravity: Analysis and constraints in an anisotropic background  
M. Koussour, K. El Bourakadi, S. H. Shekh, S. K. J. Pacif, M. Bennai  
e-Print: [2208.08877](#) [gr-qc]  
DOI: [10.1016/j.aop.2022.169092](#)  
Published in: **Annals of Physics 445 (2022), 169092**
22. A New Parametrization of Hubble Parameter in  $f(Q)f(Q)$  Gravity  
M. Koussour, S. K. J. Pacif, M. Bennai, P. K. Sahoo  
e-Print: [2208.04723](#) [gr-qc]  
DOI: [10.1002/prop.202200172](#)  
Published in: **Fortschritte der Physik (Progress of Physics) 71 (2023) 4-5, 2200172**
23. The oscillatory universe, phantom crossing and the Hubble tension  
Mohit K. Sharma, Shibesh Kumar Jas Pacif, Gulmira Yergaliyeva, Kuralay Yesmakhanova  
e-Print: [2205.13514](#) [gr-qc]  
DOI: [10.1016/j.aop.2023.169345](#)  
Published in: **Annals of Physics 454 (2023), 169345**
24. Reconstructing cosmic evolution with a density parametrization  
Ritika Nagpal, Shibesh Kumar Jas Pacif, Abhishek Parida  
e-Print: [2203.13992](#) [gr-qc]  
DOI: [10.1142/S0217732322501127](#)  
Published in: **Modern Physics Letters A 37 (2022) 18, 2250112**
25. Observational constraints on the massive neutrinos induced late-time cosmic acceleration  
Mohit K. Sharma, Shibesh Kumar Jas Pacif, Shynaray Myrzakul, Zamzagul Shanina  
e-Print: [2108.08913](#) [hep-ph]

- DOI: [10.1088/1402-4896/ac81ff](https://doi.org/10.1088/1402-4896/ac81ff)  
Published in: **Physics Scripta 97 (2022) 8, 085010**
26. Cosmological aspects of  $f(R, T)$  gravity in a simple model with a parametrization of  $q$   
Ritika Nagpal, Shibesh Kumar Jas Pacif  
e-Print: [2108.06077](https://arxiv.org/abs/2108.06077) [gr-qc]  
DOI: [10.1140/epjp/s13360-021-01877-z](https://doi.org/10.1140/epjp/s13360-021-01877-z)  
Published in: **European Physical Journal Plus 136 (2021) 8, 875**
27. Bulk viscous matter and the cosmic acceleration of the universe in  $f(Q, T)$  gravity  
Simran Arora, S. K. J. Pacif, Abhishek Parida, P. K. Sahoo  
e-Print: [2106.00491](https://arxiv.org/abs/2106.00491) [gr-qc]  
DOI: [10.1016/j.jheap.2021.10.001](https://doi.org/10.1016/j.jheap.2021.10.001)  
Published in: **Journal of High Energy Astrophysics 33 (2022), 1-9**
28. Cosmic acceleration with bulk viscosity in modified  $f(Q)$  gravity  
Raja Solanki, S. K. J. Pacif, Abhishek Parida, P. K. Sahoo  
e-Print: [2105.00876](https://arxiv.org/abs/2105.00876) [gr-qc]  
DOI: [10.1016/j.dark.2021.100820](https://doi.org/10.1016/j.dark.2021.100820)  
Published in: **Physics of the Dark Universe 32 (2021), 100820**
29. Late-time acceleration with a scalar field source: Observational constraints and statefinder diagnostics  
S. K. J. Pacif, Simran Arora, P. K. Sahoo  
e-Print: [2104.14453](https://arxiv.org/abs/2104.14453) [gr-qc]  
DOI: [10.1016/j.dark.2021.100804](https://doi.org/10.1016/j.dark.2021.100804)  
Published in: **Physics of the Dark Universe 32 (2021), 100804**
30. Effective equation of state in modified gravity and observational constraints  
Simran Arora, Xin-he Meng, S. K. J. Pacif, P. K. Sahoo  
e-Print: [2007.07717](https://arxiv.org/abs/2007.07717) [gr-qc]  
DOI: [10.1088/1361-6382/aba587](https://doi.org/10.1088/1361-6382/aba587)  
Published in: **Classical and Quantum Gravity 37 (2020) 20, 205022**
31.  $f(Q, T)$  gravity models with observational constraints  
Simran Arora, S. K. J. Pacif, Snehasish Bhattacharjee, P. K. Sahoo  
e-Print: [2007.01703](https://arxiv.org/abs/2007.01703) [gr-qc]  
DOI: [10.1016/j.dark.2020.100664](https://doi.org/10.1016/j.dark.2020.100664)  
Published in: **Physics of the Dark Universe 30 (2020), 100664**
32. Dark energy models from a parametrization of  $H$ : A comprehensive analysis and observational constraints  
S. K. J. Pacif  
e-Print: [2005.06972](https://arxiv.org/abs/2005.06972) [physics.gen-ph]  
DOI: [10.1140/epjp/s13360-020-00769-y](https://doi.org/10.1140/epjp/s13360-020-00769-y)  
Published in: **European Physical Journal Plus 135 (2020) 10, 792**
33. Accelerating Universe in Hybrid and Logarithmic Teleparallel Gravity  
Sanjay Mandal, Snehasish Bhattacharjee, S. K. J. Pacif, P. K. Sahoo  
e-Print: [2004.08211](https://arxiv.org/abs/2004.08211) [physics.gen-ph]  
DOI: [10.1016/j.dark.2020.100551](https://doi.org/10.1016/j.dark.2020.100551)  
Published in: **Physics of the Dark Universe 28 (2020), 100551**
34. An Accelerating Cosmological Model from a Parametrization of Hubble Parameter  
S. K. J. Pacif, Md Salahuddin Khan, L. K. Paikroy, Shalini Singh  
e-Print: [1911.09102](https://arxiv.org/abs/1911.09102) [gr-qc]  
DOI: [10.1142/S021773232050011X](https://doi.org/10.1142/S021773232050011X)  
Published in: **Modern Physics Letters A 35 (2019) 05, 2050011**

35. Viability of the  $R+e^{\Lambda}T$  cosmology  
P. H. R. S. Moraes, P. K. Sahoo, S. K. J. Pacif  
e-Print: [1905.00417](#) [gr-qc]  
DOI: [10.1007/s10714-020-02681-3](#)  
Published in: **General Relativity and Gravitation** 52 (2020) 4, 32
36. Bouncing cosmology in  $f(R,T)$  gravity  
J. K. Singh, Kazuharu Bamba, Ritika Nagpal, S. K. J. Pacif  
e-Print: [1807.01157](#) [gr-qc]  
DOI: [10.1103/PhysRevD.97.123536](#)  
Published in: **Physical Review D** 97 (2018) 12, 123536
37. Analysis with observational constraints in  $\Lambda$ -cosmology in  $f(R, T)$  gravity  
Ritika Nagpal, S. K. J. Pacif, J. K. Singh, Kazuharu Bamba, A. Beesham  
e-Print: [1805.03015](#) [physics.gen-ph]  
DOI: [10.1140/epjc/s10052-018-6403-y](#)  
Published in: **European Physical Journal C** 78 (2018) 11, 946
38. Cosmic acceleration from coupling of baryonic and dark matter components: Analysis and diagnostics  
Abhineet Agarwal, R. Myrzakulov, S. K. J. Pacif, M. Shahalam  
e-Print: [1711.06321](#) [gr-qc]  
DOI: [10.1142/S0218271819500834](#)  
Published in: **International Journal of Modern Physics D** 28 (2019) 06, 1950083
39. Statefinder diagnostic for modified Chaplygin gas cosmology in  $f(R,T)$  gravity with particle creation  
J. K. Singh, Ritika Nagpal, S. K. J. Pacif  
e-Print: [1710.09257](#) [gr-qc]  
DOI: [10.1142/S0219887818500494](#)  
Published in: **International Journal of Geometric Methods in Modern Physics** 15 (2017) 03, 1850049
40. Cosmic acceleration sourced by modification of gravity without extra degrees of freedom  
Abhineet Agarwal, R. Myrzakulov, S. K. J. Pacif, M. Sami, Anzhong Wang  
e-Print: [1709.02133](#) [gr-qc]  
DOI: [10.1142/S0219887819501287](#)  
Published in: **International Journal of Geometric Methods in Modern Physics** 16 (2019) 08, 1950128
41. LRS Bianchi type-I cosmological model with constant deceleration parameter in  $f(R,T)$  gravity  
Blinaya K. Bishi, S. K. J. Pacif, P. K. Sahoo, G. P. Singh  
e-Print: [1706.08844](#) [gr-qc]  
DOI: [10.1142/S0219887817501584](#)  
Published in: **International Journal of Geometric Methods in Modern Physics** 14 (2017) 11, 1750158
42. Anisotropic cosmological models with two fluids  
B. Mishra, Pratik P. Ray, S. K. J. Pacif  
e-Print: [1706.07661](#) [gr-qc]  
DOI: [10.1155/2018/6306848](#)  
Published in: **Advances in High Energy Physics** 2018 (2018), 6306848
43. Dark Energy Cosmological Models with General forms of Scale Factor  
B. Mishra, Pratik P. Ray, S. K. J. Pacif  
e-Print: [1705.09153](#) [physics.gen-ph]  
DOI: [10.1140/epjp/i2017-11697-y](#)

- Published in: **European Physical Journal Plus** **132** (2017) **10**, 429
44. Dynamics of Bianchi V universe with bulk viscous fluid in modified gravity  
B. Mishra, S Tarai, S. K. J. Pacif  
e-Print: [1705.06593](#) [physics.gen-ph]  
DOI: [10.1142/S0219887818500366](#)  
Published in: **International Journal of Geometric Methods in Modern Physics** **15** (2017) **03**, 1850036
45. Cosmological parametrizations and their scalar field descendents  
S. K. J. Pacif, K. Myrzakolov, R. Myrzakolov  
e-Print: [1702.01028](#) [gr-qc]  
DOI: [10.15406/paij.2017.01.00038](#)  
Published in: **Physics and Astronomy International Journal** **1(6)** (2017) 00038
46. Bianchi type string cosmological models in  $f(R,T)$  gravity  
P. K. Sahoo, B. Mishra, Parbati Sahoo, S. K. J. Pacif  
DOI: [10.1140/epjp/i2016-16333-x](#)  
Published in: **European Physical Journal Plus** **131** (2016) **9**, 333
47. Reconstruction of cosmic history from a simple parametrization of H  
S. K. J. Pacif, R. Myrzakulov, S. Myrzakulov  
e-Print: [1609.02801](#) [gr-qc]  
DOI: [10.1142/S0219887817501110](#)  
Published in: **International Journal of Geometric Methods in Modern Physics** **14** (2017) **07**, 1750111
48. Galileons, phantom fields, and the fate of the Universe  
M. Shahalam, S. K. J. Pacif, R. Myrzakulov  
e-Print: [1602.03176](#) [gr-qc]  
DOI: [10.1140/epjc/s10052-016-4254-y](#)  
Published in: **European Physical Journal C** **76** (2016) **7**, 410
49. FLRW non-singular cosmological model in general relativity  
Shibesh Kumar Jas Pacif, Bivudutta Mishra  
DOI: [10.1088/1674-4527/15/12/002](#)  
Published in: **Research in Astronomy and Astrophysics**. **15** (2015) **12**, 2141-2150
50. Anisotropic cosmological model with a specific form of Hubble parameter  
S. K. J. Pacif, B. Mishra  
DOI: [10.1007/s10509-015-2560-8](#)  
Published in: **Astrophysics and Space Science** **360** (2015) **2**, 48
51. On the simultaneous variation of some cosmological parameters in the presence of interacting dark energy  
S. K. J. Pacif, Abdussattar  
DOI: [10.1140/epjp/i2014-14244-6](#)  
Published in: **European Physical Journal Plus** **129** (2014) **11**, 244
52. An Exact chameleon cosmological model unifying phantom inflation with late-time acceleration  
A. Sattar, S. R. Prajapati  
DOI: [10.1007/s10773-011-0718-x](#)  
Published in: **International Journal of Theoretical Physics** **50** (2011), 2355-2365
53. Friedman-Robertson-Walker models with late-time acceleration  
Abdussattar, S. R. Prajapati  
e-Print: [1604.03804](#) [physics.gen-ph]  
DOI: [10.1088/0256-307X/28/2/029803](#)  
Published in: **Chinese Physics Letter**. **28** (2011), 029803

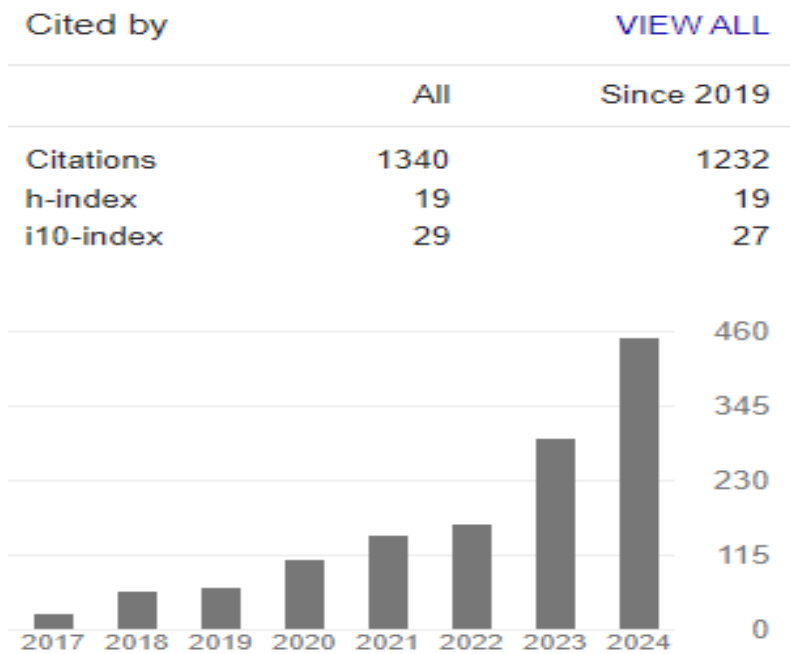
54. LRS Bianchi type-I perfect fluid cosmological model with modified generalized Chaplygin gas equation of state  
 Abdussattar, S. R. Prajapati  
 DOI: [10.1007/s10509-010-0508-6](https://doi.org/10.1007/s10509-010-0508-6)  
 Published in: **Astrophysics and Space Science 332 (2011), 455-461**
55. Role of deceleration parameter and interacting dark energy in singularity avoidance  
 Abdussattar, S. R. Prajapati  
 DOI: [10.1007/s10509-010-0461-4](https://doi.org/10.1007/s10509-010-0461-4)  
 Published in: **Astrophysics and Space Science 331 (2011), 657-663**

**Conference Proceedings Publications:**

1. On Simultaneous Variation of Some Cosmological Parameters  
 Shibesh Kumar Jas Pacif, Abdussattar  
 ISBN: [978-93-83083-98-5](https://doi.org/978-93-83083-98-5)  
 Published in: **Proceedings of 3rd International Conference APMSCSET-2014 (2014) 69**
2. Non-existence of string cosmological model in kink space-time  
 G. Mohanty, P. K. Sahoo, Shibesh Ram Prajapati  
 Published in: **Proc. 2nd Nat. conf. WMVC-2003, Jalpaiguri (2003) 144**

**MY RESEARCH STATISTICS:**

**From Google Scholar Citations**



<https://scholar.google.com/citations?user=qeyPHMQAAAJ>

**MY RESEARCH IDENTIFIERS:**

- ArXiv: [http://arxiv.org/a/pacif\\_s\\_1](http://arxiv.org/a/pacif_s_1)  
 Inspire: <https://inspirehep.net/authors/1808341?ui-citation-summary=true>  
 Scopus: <https://www.scopus.com/authid/detail.uri?authorId=57218145555>  
 Researcher ID: <https://publons.com/researcher/2061498/shibesh-k-j-pacif/>



Orcid: <https://orcid.org/0000-0003-0951-414X>  
Research gate: [https://www.researchgate.net/profile/Shibesh\\_Pacif](https://www.researchgate.net/profile/Shibesh_Pacif)  
Publons: <https://www.webofscience.com/wos/author/record/N-7901-2017>

## RESEARCH/ACADEMIC VISITS:

### International

**University of Belgrade, Belgrade, Serbia** **09 - 14 Sept 2019**

To attend the 10th Mathematical Physics Meeting: School and Conference on Modern Mathematical Physics & delivered a talk.

**Yangzhou University, Yangzhou, China** **18 - 20 Oct 2017**

To attend the first symposium of the BRICS Association of Gravity, Astrophysics and Cosmology, Centre of Gravity and Cosmology.

### National

**Inter-University Centre for Astronomy and Astrophysics, Pune**

22 Nov 2023 – 10 Dec 2023, 02 April 2023 – 15 April 2023, 23 Dec 2022 – 31 Dec 2022, 01 Sept 2022 – 17 Sept 2022, 15 Aug 2018 – 15 Sept 2018, 24 Dec 2017 – 08 Jan 2018, 04 Jan 2017 – 09 Jan 2017, 14 Dec 2015 – 24 Dec 2015, 25 Nov 2013 – 05 Dec 2013, 25 Mar 2007 – 22 Apr 2007

**International Centre for Cosmology, Gujarat** 18 - 23 Nov 2019

**Centre for Theoretical Physics, New Delhi** 09 - 10 Jul 2019

## SHORT TERM COURSES ATTENDED:

### School

Participated the Radio Astronomy Winter School, RAWS2022 as a mentor at NCRA-IUCAA, Pune **13-23 Dec 2022**

### MHRD-GIAN (*Global Initiative for Academic Networks*) Courses

1. *Cosmological Structure Formation*, Centre for Theoretical Physics, Jamia Millia Islamia, New Delhi, **09-14 Apr 2018**
2. *On the Viability of Theories beyond Einstein's General relativity*, Centre for Theoretical Physics, Jamia Millia Islamia, New Delhi, **18-23 Dec 2017**
3. *Introduction to Cosmological Perturbation Theory*, Centre for Theoretical Physics, Jamia Millia Islamia, New Delhi, **16-23 Dec, 2016**
4. *Origin and Evolution of Perturbations during Inflation and Reheating*, Department of Physics, Indian Institute of Technology Madras, Chennai, **25-30 Nov 2016**
5. *Probing Large Structure of the Universe using Weak Lensing*, Centre for Theoretical Physics, Jamia Millia Islamia, New Delhi, **07-12 Mar 2016**
6. *Cosmological and Theoretical Applications of Exact Solutions of Einstein's Equations*, Centre for Theoretical Physics, Jamia Millia Islamia, New Delhi, **12-23 Feb, 2016**

### Soft Skills

1. ASTRONOMY <#CODE> CAMP: Organized by Nehru Planetarium, New Delhi, **16-30 June 2018**
2. Three-day workshop on "basic programming using PYTHON" offered by FOSSEE project, IIT Bombay, Nehru Planetarium, New Delhi, **19-21 June 2018**

### Faculty Development Programs

At Academic Staff College, VIT, Vellore

1. How to Conduct Online Fall-2020 FAT exam? 25 – 25 Dec 2020
  2. Role of Teaching-Learning Center in Educational Institutions 29 – 29 Nov 2020
  3. Proctoring and Counselling 11 – 11 Nov 2020
  4. Research Planning for a University Faculty: Maximize your Research Output 11 – 11 Oct 2020
  5. Open-Source Educational Resources (OER) 27 – 27 Sep 2020
  6. How to conduct Interesting, Interactive and Effective Online Classes? 22 – 22 Sep 2020
  7. Beyond PowerPoint Presentations - Using whiteboard and Digipads for Online Classes 20 – 20 Sep 2020
  8. A Complete Understanding on Machine Learning with Hands on using Scikit-Learn 02 – 03 Mar 2020
  9. Research Proposal Writing and Approaches for National and International Grants 06 – 06 Mar 2020
  10. Prevention of Sexual Harassment @ Workplace 29 - 29 Aug 2019
  11. Memory and Mind Dynamics for Peak Performance 11 - 11 Apr 2019
  12. Faculty Approach to Students-Psychological Dimensions 04 - 04 Mar 2019
  13. Living your life in the happiest possible way 22 – 22 Jan 2019
  14. Digital Online Content Creation in Basic Sciences 19 – 19 Jan 2019
- At other Institutes**
15. One week online FDP “Modern Strategies in Physics Research: Ensuring Sustainable Development (MSPR-ESD)” organized by Department of Physics, Faculty of Science, SGT University, Gurugram. 28 Jun - 2 Jul 2022
  16. Five-Day Faculty Development Program on “Applied Mathematical Sciences” at Forum for Interdisciplinary Research in Mathematical Sciences, Manipal University Jaipur 25 - 29 June 2021
  17. Six-Day Faculty Development Programme on “Applications of Mathematics in Engineering and Sciences” organized by the departments of Humanities and Sciences, Sri Venkateswara Institute of Science and Technology, Kadapa, A.P. 20 - 25 Aug 2020

## INVITED TALKS:

1. “*Exploring the Universe: Multidisciplinary, Interdisciplinary, Transdisciplinary Approach*”: Expert Talk delivered at Vivekananda College, University of Delhi, Delhi, **12 November 2024**.
2. “*SELFOLOGY – A scientific study of Self*”: Talk delivered **as a resource person** at the One Week Short Term Course (Online) on Interdisciplinary & Multidisciplinary Research organized by UGC-Malaviya Mission Teacher Training Centre & D. D. U. Gorakhpur University, Gorakhpur, **16-22 October 2024**.
3. “*Transdisciplinary Approach to Exploring the UNIVERSE: Integrating Science, Philosophy, and Consciousness*”: Talk delivered **as a resource person** at the One Week Short Term Course (Online) on Interdisciplinary & Multidisciplinary Research organized by UGC-Malaviya Mission Teacher Training Centre & D. D. U. Gorakhpur University, Gorakhpur, **16-22 October 2024**.
4. “*Bridging Science and Society - Integrating Scientific Temper and Consciousness Studies in Education*”: Talk delivered **as an invited speaker** at the Faculty Development Program, organized by Institute of Natural Sciences, Shri Ramswaroop Memorial University, Lucknow, **15-20 July 2024**.
5. “*Knowing the Universe: A multifaceted Expedition*”: Talk delivered **as an invited speaker** at the International Conference in Advancement in Natural Sciences: Vedic to Modern Era,

- ICANSVME-2024, organized by Institute of Natural Sciences, Shri Ramswaroop Memorial University, Lucknow, **22-24 February 2024**.
6. “*Knowing the Universe from diverge Perspectives*”: Talk delivered **as a distinguish speaker and chief guest** at P. G. Department of Mathematics, Fakir Mohan University, Balasore, Odisha during the Seminar on Mathematical Sciences and it’s Applications commemorating the National Mathematics Day, **22 December 2023**.
  7. “*The Mathematical Universe*”: Talk delivered **as a resource person** at the 8<sup>th</sup> refresher course in mathematics from 08 Dec – 21 Dec, 2023, organized by Department of Mathematics and Statistics, DDU Gorakhpur University, Gorakhpur, **09 December 2023**.
  8. “*Knowing the Universe from diverge Perspectives*”: Talk delivered **as an invited speaker** at Guest lecture Series by Faculty of Mathematical & Statistical Sciences, Institute of Natural Sciences & Humanities, Shri Ramswaroop Memorial University, Lucknow, **07 November 2023**.
  9. “*Knowing the Universe through Various Perspectives*”: Talk delivered **as an invited speaker** at the Monthly talks of Nehru Planetarium, New Delhi **28 Sep 2023**.
  10. “*Cosmological Parametrization: Model-Independent approach in Cosmology*” at International Conference on Differential Geometry and Relativity, ICDGR-2023, organized by Department of Mathematics, SSJ University, Almora, Department of Applied Sciences, BTKIT, Dwarahat and The Tensor Society, Lucknow, **18-20 May 2023**.
  11. “*Cosmological Parametrization: A Model-Independent approach in Cosmological Modelling and Reconstructing Cosmic Evolution*” at Star-UBB Seminar Series in Gravitation, Cosmology and Astrophysics, Gurugram, **20 April 2023**.
  12. “*Knowing the Universe and Developing Scientific Temper*” at Science Day @CCSP SGT University, Gurugram, **15 March 2023**.
  13. “*The Physical Universe and its Mathematical Modelling*” at Department of Mathematics & Statistics, DDU Gorakhpur University, Gorakhpur, **04 February 2023**.
  14. “*Ram Gopal Vishwakarma Memorial Lecture*” at Department of Mathematics & Statistics, DDU Gorakhpur University, Gorakhpur, **03 February 2023**.
  15. “*Knowing the Universe and Developing Scientific Temper*” **as a guest** at the program “Ek Prayash” to support the less privileged children to provide free education by Siddharth Memorial Charitable Trust, Noida, **08 January 2023**.
  16. “*Understanding the Physical Universe*” Expert Talk delivered **as a distinguished guest** at the program on *Distinguished Lectures on Life Cycle of Star and Birth of Black hole* organized by Department of Applied Science & Engineering, Tula’s Institute, Dehradun, Uttarakhand, **01 October 2022**.
  17. “*The Universe & Mathematical Modelling*” Talk delivered **as a resource person** at the International Virtual Conference on Recent Trends in Mathematical Sciences (IVCRTMS-2021), **29-30 October 2021**.
  18. “*The Physical Universe: Observational Status & Mathematical Modelling*”: Talk delivered **as a resource person** at the International Webinar on “Neoteric Development of Cosmology and Gravitational Theories”, organized by Department of Mathematics and IQAC, Mungsaji Maharaj Mahavidyalaya, Darwha & Department of Mathematics, Government College of Engineering, Nagpur, **29 September 2021**.
  19. “*Knowing our Universe through mathematics*”: Talk delivered in the Webinar of the Cosmic Shala - an online students club, **11 July 2021**.
  20. “*Understanding of the Physical Universe & its Mathematical Modelling*”: Talk delivered **as a resource person** at Five-Day Faculty Development Program on ‘Applied Mathematical Sciences’ organized by FIRMS, Manipal University Jaipur, **25 - 29 June 2021**.
  21. “*Understanding of the Universe with Mathematics*”: Talk delivered **as a resource person** at a

- Webinar organized by Tractrix Club, Department of Mathematics & Statistics, Manipal University Jaipur, Rajasthan, **08 Mar 2021**.
22. “*Application of Mathematics in the Understanding of the Universe*”: Talk delivered **as a resource person** in ‘One day National Webinar on Mathematical Approaches in Science and Engineering (MASE-2021)’ by Departments of Applied Mathematics, Yogi Vemana University, Kadapa, A.P., **01 Mar 2021**.
  23. “*Insight into the Universe*”: Talk delivered in the Webinar of the Inaugural program of VIT-Stellar Astronomy Club of VIT, Vellore, **26 Feb 2021**.
  24. “*Understanding the Physical Universe with Mathematics*”: Webinar talk delivered **as a resource person** in the Six-Day Faculty Development Programme on ‘Applications of Mathematics in Engineering and Sciences’ organized by the Departments of Humanities and Sciences, Sri Venkateswara Institute of Science and Technology, Kadapa, A.P., **25 Aug 2020**.
  25. “*The Universe & Mathematical modelling*”: Webinar talk delivered **as a resource person** at JSS academy of Technical Education, Noida, **11 June 2020**.
  26. “*The Universe and our Current Understanding*”: Talk delivered **as an invited speaker** at 2<sup>nd</sup> National Conference on Recent Trends in Mathematics with Applications, Department of Mathematics, Shri Ramswaroop Memorial University, Lucknow, **30-31 Jan 2020**.
  27. “*The Universe & Mathematical Cosmology*”: Talk delivered **as a chief guest** in a program at Vivekananda College, Delhi University, Delhi, **29 Jan 2020**.
  28. “*Theories of Gravitation and Cosmological Modelling*”: Webinar talk delivered **as a resource person** at Stellar Universe, Delhi, **29 Sept 2019**.
  29. “*Scalar fields models of Dark Energy*”: Talk delivered **as a resource person** at Stellar Universe, Delhi **24 Feb 2019**.
  30. “*Cosmological Models and Dark Energy*”: Talk delivered as an **invited speaker** at the National Conference on Recent Trends in Mathematics with Applications, Department of Mathematics, Shri Ramswaroop Memorial University, Lucknow, **21 - 22 Feb 2019**.

### **TALKS DELIVERED DURING VISITS/ IN MEETINGS:**

1. “*Cosmological Modelling with Dark Energy: Parametrization and Reconstruction*”: A talk given during a visit at International Centre for Cosmology, Charusat, Gujarat, **21 Nov 2019**.
2. “*Science Popularization and Technical Proposal for a Planetarium*”: A talk given during a visit at International Centre for Cosmology, Charusat, Gujarat, **22 Nov 2019**.
3. “*An Accelerating Cosmological Model from a Parametrization of Hubble Parameter*”: Talk given at 10th Mathematical Physics Meeting: School and Conference on Modern Mathematical Physics in **University of Belgrade, Belgrade, Serbia, 09-14 Sept 2019**.
4. “*A Singularity Free Cosmological Model in General Relativity*” **talk given** in the Saha Theory workshop: Cosmology at the Interface, Theory Division, Saha Institute of Nuclear Physics, Kolkata, **28-30 Jan 2015**.

### **PAPER PRESENTATIONS IN CONFERENCES:**

1. “*Reconstruction of Cosmic History from a Simple Parametrization of  $H$* ” presented in the National Conference on Differential Geometry and General Relativity, Department of Mathematics, Sardar Patel University, Gujarat, **28-29 Nov 2017**.
2. “*Anisotropic Cosmological Models with a Specific form of Hubble Parameter*” presented in the International Conference on General Relativity, Sant Gadge Baba Amravati University, Amravati, **25-28 Nov 2015**.
3. “*On Simultaneous Variation of Some Cosmological Parameters in presence of Interacting Dark Energy*” presented in the International Conference on Recent Advances in Mathematics,

- (ICRAM), Rastrasant Tukadoji Maharaj Nagpur University, Nagpur, **20-23 Jan 2014**.
4. “*On Simultaneous Variation of Some Cosmological Parameters*” presented in the International Conference on Recent Advances in Mathematical Sciences and Applications, (ICRAMSA), Rajiv Gandhi Proudhyogiki Vishwavidyalaya (RGPV), Bhopal, **24-26 Dec 2013**.
  5. “*Some FRW Models Filled with Matter and Radiation in Presence of Vacuum Energy*” presented in the National Conference on Modern Analysis and Allied Areas, Banaras Hindu University (BHU), Varanasi, **23-24 Feb 2007**.
  6. “*String Cosmological Model in LRS-Bianchi Type-I Space-time*” presented in Thirty First Annual Conference of Orissa Mathematical Society (OMS), Bhubaneswar, **7-8 Feb 2004**.
  7. “*Non-existence of String Cosmological Model in Kink Space-time*” presented in the Second National Conference on Applicable Mathematics in Wave Mechanics and Vibrations (WMVC), Jalpaiguri, **15-16 Mar 2003**.

### **WORKSHOPS ATTENDED:**

1. Horn Antenna Workshop, for Teachers at Teaching and Learning Centre, Inter University Centre for Astronomy and Astrophysics (IUCAA), Pune, **03-06 April 2023**.
2. International Webinar on Relativity & Cosmology, Department of Mathematical Sciences, Bodoland University, Kokrajhar, India on **09 Aug 2020**.
3. Indo-South Africa Workshop on Gravitation and Cosmology, Centre for Theoretical Physics, Jamia Millia Islamia, New Delhi, **03-04 Mar 2018**.
4. Workshop on Statistical Analysis in Cosmology, Department of Physics, CUSAT, Kochi, Kerala, **12-14 Jan 2017**.
5. Introductory Workshop on Astrophysics and Cosmology, Aliah University and IUCAA Resource Centre, Kolkata, West Bengal, **27-28 Sept 2016**.
6. General Relativity Centennial, Centre for Theoretical Physics, Jamia Millia Islamia, New Delhi, Delhi, **10-12 Dec 2015**.
7. Saha Theory workshop: Cosmology at the Interface, Theory Division, Saha Institute of Nuclear Physics, Kolkata, West Bengal, **28-30 Jan 2015**.
8. 2<sup>nd</sup> National Workshop on Scientific Computational Techniques (SCT-2014), Manipal University Jaipur, Rajasthan, **18-19 Dec 2014**.
9. Gravitational Wave Physics and Astronomy Workshop (GWPAW) and Astronomy and physics with LIGO India meeting, Inter-University Centre for Astronomy and Astrophysics, Pune, Maharashtra, **17-20 Dec 2013**.
10. Workshop on Geometry, Gravity and Cosmology, Sardar Patel University (SPU), Gujarat, **16-18 Feb 2006**.

### **CONFERENCE/ SYMPOSIUM ATTENDED:**

1. International Conference in Advancement in Natural Sciences: Vedic to Modern Era, ICANSVME-2024, organized by Institute of Natural Sciences, Shri Ramswaroop Memorial University, Lucknow, **22-24 February 2024**.
2. International Conference on Differential Geometry and Relativity, ICDGR-2023, organized by Department of Mathematics, SSJ University, Almora, Department of Applied Sciences, BTKIT, Dwarahat and The Tensor Society, Lucknow, **18-20 May 2023**.
3. International Conference on Cosmology & Gravity (CosmoGrav22) hosted by IUCAA Center for Astronomy Research & Development (ICARD) and Gurukul Kangri (Deemed to be University), Haridwar, Uttarakhand, India, March **23 – 24, 2022**.
4. 2<sup>nd</sup> National Conference on Recent Trends in Mathematics with Applications, Department of Mathematics, Shri Ramswaroop Memorial University, Lucknow, **30-31 Jan 2020**.
5. National Conference on Recent Trends in Mathematics with Applications, Department of



- Mathematics, Shri Ramswaroop Memorial University, Lucknow, **21-22 Feb 2019**.
6. The first symposium of the BRICS Association of Gravity, Astrophysics and Cosmology, Center of Gravity and Cosmology, **Yangzhou University, Yangzhou, China, 18-20 Oct 2017**.
  7. National Conference on Differential Geometry and General Relativity, Department of Mathematics, Sardar Patel University, Gujarat, **28-29 Nov 2017**.
  8. 29<sup>th</sup> meeting of Indian Association for General Relativity and Gravitation, Department of Physics, IIT Guwahati, Assam, **18-20 May 2017**.
  9. XXII DAE-BRNS High Energy Physics Symposium, Dept. Physics and Astrophysics, University of Delhi, **12-16 Dec 2016**.
  10. International Conference on General Relativity, Sant Gadge Baba Amravati University, Amravati, Maharashtra, **25-28 Nov 2015**.
  11. 3<sup>rd</sup> Rajasthan Science Congress, Manipal University Jaipur, Rajasthan, **28 Feb-2 Mar 2015**.
  12. 3<sup>rd</sup> International Conference on “Innovative Approach in Applied Physical, Mathematical/Statistical, Chemical Sciences and Emerging Energy Technology for Sustainable Development”, Jawaharlal Nehru University, New Delhi, Delhi, **28 Sept 2014**.
  13. International Conference on Recent Advances in Mathematics, Rastrasant Tukadoji Maharaj Nagpur University, Nagpur, Maharashtra, **20-23 Jan 2014**.
  14. International Conference on Recent Advances in Mathematical Sciences and Applications, Rajiv Gandhi Proudhyogiki Vishwavidyalaya, Bhopal, Madhya Pradesh, **24-26 Dec 2013**.
  15. National Conference on Modern Analysis and Allied Areas, Banaras Hindu University, Varanasi, Uttar Pradesh, **23-24 Feb 2007**.
  16. Twenty Second Annual Conference of the Mathematical Society, Banaras Hindu University, Varanasi, Uttar Pradesh, **15-16 Dec 2006**.
  17. Twenty First Annual Conference of the Mathematical Society, Banaras Hindu University, Varanasi, Uttar Pradesh, **23-24 Jan 2006**.
  18. Thirty First Annual Conference of Orissa Mathematical Society, Bhubaneswar, Odisha, **7-8 Feb 2004**.
  19. National Conference on Applicable Mathematics in Wave Mechanics and Vibrations, Jalpaiguri, West Bengal, **15-16 Mar 2003**.

## **PERSONAL DETAILS:**

- Permanent address: At/Po- Sagara, Dist- Sambalpur, Pin-768224, Odisha, India.
- Languages Known: English, Hindi, Odiya.

## **SKILLS:**

- **Education & Guidance**  
Demonstrated proficiency in providing effective teaching and guidance across various educational levels, including schools, colleges, and universities.
- **Learning Acceleration**  
Possess strong analytical abilities, enabling rapid learning and adaptation. Proven capability in multitasking and adept at resolving complex problems efficiently.
- **Written Communication**  
Exemplary writing skills with expertise in literature surveys and the organization of comprehensive write-ups.
- **Organizational Aptitude**  
Highly skilled in organizational tasks, ensuring efficient and systematic execution of responsibilities.

- **Peaceful handling & Active Participation**  
Known for maintaining a calm demeanor and actively engaging in all matters. Effectively contribute to collaborative efforts and thrive in team environments.
- **Problem Solving & Adaptability**  
Demonstrated ability to handle difficult situations with resilience and find innovative solutions. Quick to adapt to evolving challenges and provide effective resolutions.
- **Dedication & Hard work**  
Known well for honesty with a strong work ethic and commitment to delivering quality results. Willing to work diligently day and night to ensure tasks are completed to the highest standards.
- **Public Speaking**  
Effective public speaking skills with the ability to articulate ideas and concepts clearly. Comfortable addressing diverse audiences and presenting information in a compelling and engaging manner.

### **EXTRACURRICULAR ACTIVITIES:**

#### **Sports, Cultural & Leadership**

- First position, 400-meter relay race, 2001-2002, Sambalpur University.  
Second position, 400-meter relay race, 1999-2000, Sambalpur University.  
Runners up, Carom Doubles, 2001-2002, Inter-Hostel, Sambalpur University.  
Third position, Instrumental Competition (Guitar), 2000-2001, Sambalpur University.
- Worked as Seminar secretary, Mess secretary, Cultural secretary during my Masters at Sambalpur University, 2000-2003 and organized several events and programs.
- I have won several prizes & recognitions at various other sports & cultural activities since my schools.
- **Meditation & Yoga Courses**  
Attended 10 Days Vipassana meditation courses (4 times) and 3 Days short-term course (once). Practice regularly in daily life, since 2012.  
Attended a 9 days mindfulness meditation camp at Tushita Meditation Centre, Himachal Pradesh in 2018  
Attended several other Meditation camps at Oshodham, since 2012.  
Attended a Yoga course to learn Yogasanas, in 2003.

### **MY VISION:**

In pursuit of my passion for diving into the scientific exploration of the Universe and the intricate realms of the Self, I dedicated several years to the establishment of an integrated platform. This endeavor, self-financed and fueled by unwavering enthusiasm, has now materialized into the “Pacif Institute of Cosmology & Selfology (PICS)”—a groundbreaking institution devoted to the comprehensive study of the cosmos and Self-discovery.

Within the framework of PICS, my vision is to create a unified platform that seamlessly integrates the study of the outer Universe and the inner Universe. This singular umbrella aims to bridge the gap between Science and Spirituality, facilitating a profound understanding of the physical, psychological, and true nature of reality. The ultimate goal is to contribute to the advancement of right education, enabling humanity to lead fulfilling lives in harmony with nature.

PICS stands as the inaugural unit of the “Pacif Educational and Welfare Trust,” an organization (charitable trust) I founded in Sagara, Sambalpur, Odisha. Rooted in the aspiration for a peaceful society, this initiative is guided by the principles of right education and right action.



The overarching mission of the “Pacif” philosophy, denoting a peaceful being characterized by tranquility and harmony, is to actively foster peace across all realms of existence.

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**Date & Place:**

**Shibesh Kumar Jas Pacif**