Himanshu Chaudhary
Curriculum Vitae

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🖥 ResearchGate, Google Scholar, ORCID, InspireHEP, LinkedIn

ABOUT ME

Allow me to introduce myself as a passionate individual deeply immersed in the captivating realm of cosmology an individual who finds sheer fascination in unraveling the mysteries of the cosmos. I am a dedicated researcher with profound interest and expertise in several key areas of theoretical physics. My primary focus resides in the fields of Tensor Analysis and Tensor Calculus, where I adeptly navigate the complexities of mathematical frameworks to derive meaningful insights. My passion extends into the realms of General Relativity, Astrophysics, and Cosmology, where I delve into the profound mysteries of the universe. My contributions to gravitational lensing, black holes, and dark energy and dark matter showcase a keen understanding of the intricate workings of cosmic structures. Additionally, I am actively exploring modified theories of gravity to address the Hubble tension, recognizing that pushing the boundaries of our understanding of the dark energy problem is fundamental in present-day physics. My expertise further extends to cosmological tests and observational constraints, where I utilize statistical methods for cosmological analysis. As a meticulous researcher, I employ mathematical and numerical modeling to unravel the complexities of the cosmos. My work stands as a testament to my dedication to advancing our understanding of the Universe through rigorous scientific inquiry. With a wealth of knowledge and a commitment to excellence, I continue to make significant contributions to the fields of theoretical and mathematical physics, leaving an indelible mark on our comprehension of the cosmos.

RESEARCH INTERESTS

Tensor Analysis, Tensor Calculus, General Relativity, Astrophysics and Cosmology, Gravitational Lensing, Black Holes, Dark Energy and Dark Matter, Modified Gravity Theories, Cosmological Tests and Observational Constraints, Statistical Methods for Cosmology, Mathematical and Numerical Modeling

PERSONAL INFORMATION

DATE OF BIRTH	30-Dec-1998
NATIONALITY	Indian
PERMANENT ADDRESS	H.No 1449/6D Durgapuri, Street No 10 Shadhara Delhi:-93

COMMUNICATION SKILLS

LANGUAGES	English
	Hindi

EDUCATION

2024 – PRESENT	**Doctor of Philosophy** Department of Physics *Babeş-Bolyai University, Romania*
2021 – 2023	**Master of Science, Percentage: 84.4 %** Department of Applied Mathematics *Delhi Technological University*
2019 – 2021	**Bachelor of Education, Percentage :86.2 %** Guru Ram Dass College Of Education *Guru Gobind Singh Indraprastha University*
2016 – 2019	**Bachelor of Science, CGPA : 7.924** Shyam Lal College *University of Delhi*

COMPUTER SKILLS

SKILLS	Ms Office
	Microsoft Windows & Internet Surfing
	LaTeX
PROGRAMMING	Mathematica
	MatLab
	C Programming
	Python
	Pytearcat: Python Tensor Algebra Calculator

SELECTED PUBLICATIONS

Bouali, Amine, **Himanshu Chaudhary**, Tiberiu Harko, Francisco SN Lobo, Taoufik Ouali, and Miguel AS Pinto. "Observational constraints and cosmological implications of scalar–tensor f (R, T) gravity." *Monthly Notices of the Royal Astronomical Society* 526, no. 3 (2023): 4192-4208."

https://doi.org/10.1093/mnras/stad2998

Chaudhary, Himanshu, Amine Bouali, Niyaz Uddin Molla, Ujjal Debnath, and G. Mustafa. "Cosmological tests of f

SUPERVISOR

Prof. Dr. Ladislau Nagy

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EMPLOYER Department of Physics
Babes-Bolyai University, Romania

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POSITION Senior Honorary Research Associate
EMPLOYER Department of Physics
Babes-Bolyai University, Romania

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LICENSES & CERTIFICATIONS

Introduction into General Theory of Relativity

Higher School of Economics National Research University
Coursera

Understanding Einstein: The Special Theory of Relativity

Stanford University
Coursera

Astronomy: Exploring Time and Space

University of Arizona
Coursera

Understanding Modern Physics I: Relativity and Cosmology

The Hong Kong University of Science and Technology
Coursera

From the Big Bang to Dark Energy

The University of Tokyo
Coursera

Mathematical Predictions of General Relativity

Udemy

Mathematical intuition behind Special and General Relativity

Udemy

Astro 101 : Black Holes

University of Alberta
Coursera

(R, G, T) dark energy model in FRW universe." *The European Physical Journal C* 83, no. 10 (2023): 918.

https://doi.org/10.1140/epjc/s10052-023-12094-6

Bouali, Amine, **Chaudhary, Himanshu**, Hama, Rattanasak, Harko, Tiberiu, Sabau, Sorin V., and San Martín, Marco. "Cosmological tests of the osculating Barthel–Kropina dark energy model." *The European Physical Journal C* 83, no. 2 (2023): 121.

https://link.springer.com/article/10.1140/epjc/s10052-023-11265-9

Bouali, Amine, **Chaudhary, Himanshu**, Mehrotra, Amritansh, and Pacif, S. K. J. "Model-independent study for a quintessence model of dark energy: Analysis and Observational constraints." Fortschritter der Physik (2023): 2300086. "*Reports on Progress in Physics* (2023).

http://doi.org/10.1002/prop.202300086

Bouali, A., **Chaudhary, H.**, Debnath, U. et al. Data analysis of three parameter models of deceleration parameter in FLRW universe. "*Eur. Phys. J. Plus 138, 816 (2023).*

https://doi.org/10.1140/epjp/s13360-023-04442-y

Chaudhary, Himanshu, Amine Bouali, Ujjal Debnath, Tanusree Roy, and Ghulam Mustafa. "Constraints on the Parameterized Deceleration Parameter in FRW Universe." Physica Scripta (2023).

https://iopscience.iop.org/article/10.1088/1402-4896/acea02

Chaudhary, Himanshu, Kaushik, Aditya, and Kohli, Ankita. "Cosmological test of $\sigma\theta$ as a function of the scale factor in $f(R,T)$ framework." *New Astronomy* 103 (2023): 102044.

https://doi.org/10.1016/j.newast.2023.102044

Chaudhary, H., Molla, N.U., Khurana, M. et al. Cosmological test of dark energy parameterizations in Hořava–Lifshitz gravity. *Eur. Phys. J. C 84, 223 (2024).*

https://doi.org/10.1140/epjc/s10052-024-12504-3

Khurana, Madhur, **Himanshu Chaudhary**, Saadia Mumtaz, S. K. J. Pacif, and G. Mustafa. "Cosmic evolution in f(Q, T) gravity: Exploring a higher-order time-dependent function of deceleration parameter with observational constraints." *Physics of the Dark Universe* (2023): 101408.

https://doi.org/10.1016/j.dark.2023.101408

Chaudhary, Himanshu, Saadia Mumtaz, Amine Bouali, Ujjal Debnath, and G. Mustafa. "Parametrization of the deceleration parameter in a flat FLRW universe: constraints and comparative analysis with the ΛCDM paradigm." *General Relativity and Gravitation* 55, no. 11 (2023): 133.

https://link.springer.com/article/10.1007/s10714-023-03181-w