




School of Physics
University of Hyderabad
Faculty Details

Title		First Name	Last Name	Passport size Photograph
Dr		BARILANG	MAWLONG	
Designation	Assistant Professor			
Department/School	School of Physics			
Address	P-117, School of Physics, University of Hyderabad, P. O. Central University, Gachibowli, Hyderabad - 500046, Telangana			
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Education	PhD			
Subject	Institution	Year	Details	
Physics	University of Hyderabad	2009	Thesis title : Some aspects of rare B decays and CP violation	
Career Profile				
Organization/Institution		Designation	Duration	
Indian Institute of Science		Research Associate	Aug 2009-Oct 2010	
University of Hyderabad		Research Associate	12 Oct 2011-23 Jan 2012	
Assam University		Assistant Professor	25 Jan 2012 – 31 Dec 2013	
University of Hyderabad		Assistant Professor	01 Jan 2014 - present	
Research Interests/Specialization:				
High Energy Physics (Theory): Flavor Physics, CP Violation, New Physics Beyond the Standard Model				
Teaching Experience (Subjects/Courses Taught):				
10 years of teaching experience				

Courses taught :

Integrated MSc (IMSc): Nuclear and Particle Physics, Modern Physics, Waves and Oscillations: Light and Sound, Atomic and Nuclear Physics, Analytical Dynamics, Quantum Physics, Physical Properties Lab, Computer Programming Lab

MSc : Mathematical Physics, Classical Mechanics, Quantum Mechanics, Statistical Mechanics, Introduction to Particle Physics, Advanced Particle Physics, Numerical Methods Theory and Lab, Solid State Physics Lab

Distinctions earned like National and International Awards, Honours, Professional Societies:

**Dr. K V Rao Research Award – Young Scientist in Physics 2009
(Dr. K V Rao Scientific Society)**

Publications (LAST FIVE YEARS):

In Indexed/ Peer Reviewed Journals:

1. **New Physics analysis of some b -baryon decays, Proceedings of Science EPS-HEP 2021, 398, 505 (2022)**
2. **331- Z' mediated FCNC effects on $b \rightarrow d \mu^+ \mu^-$ transitions, Int. J. Mod. Phys A 33, 1850225 (2019)**
3. **Rare semileptonic $b \rightarrow d \mu^+ \mu^-$ transitions and effects of Z' in the 331 model, Springer Proc. Phys. 234, 469 (2019)**
4. **Investigating the 331- Z' mediated FCNC effects on $b \rightarrow s \mu^+ \mu^-$ transitions, Int. J. Mod. Phys A 33, 1850125 (2018)**
5. **Super-Yang-Mills theory on a Lorentz breaking background, Int. J. Geom. Meth. Mod. Phys 15, 1850127 (2018)**
6. **Effects of Z' mediated FCNC on $B \rightarrow K \mu^+ \mu^-$ in the 331 model, Springer Proc. Phys. 203, 749 (2018)**
7. **Study of Z' mediated FCNC effects on $B_s \rightarrow \phi \mu^+ \mu^-$ semileptonic decay, Springer Proc. Phys. 203, 365 (2018)**
8. **Effects of a Z' mediated FCNC on $b \rightarrow s \mu^+ \mu^-$ decay, Recent Advances in Physics Research and its Relevance, 15 (2017)**

Conference Presentations:

1. **Z' FCNC effects on rare semileptonic B decays, Pressing for Progress 2019, IPA National Conference towards Gender Equity in Physics; Organised by Indian Physics Association and University of Hyderabad, 19-21 September 2019**
2. **Effects of a Z' mediated FCNC on $b \rightarrow s \mu^+ \mu^-$ decay, Xth Biennial National Conference of the Physics Academy of North East (PANE) "Recent advances in Physics research and its relevance"; Organised by Physics Academy of North East (PANE) and St. Anthony's College, Shillong, 10-12 Nov 2016**
3. **Study of Z' mediated FCNC effects on $B_s \rightarrow \phi \mu^+ \mu^-$ semileptonic decay, XXII DAE- BRNS High Energy Physics Symposium; Organised by University of Delhi, New Delhi, 12-16 Dec 2016**

Public Service / University Service / Consulting Activity:
Professional Societies Memberships: Life member of Physics Academy of North East (PANE)
Other Details Membership of Editorial Boards of Journals:
Organization of conferences: <ol style="list-style-type: none"> 1. Organiser of Frontiers in Physics conference, 17 – 18 October 2014, School of Physics, University of Hyderabad 2. Organiser of Recent Advances in High Energy Physics conference, 26 – 28 February 2015, School of Physics, University of Hyderabad 3. Local organizing committee member of 16th International Conference on Flavor Physics & CP Violation (FPCP), 14 -18 July 2018, University of Hyderabad & IIT Hyderabad, Hyderabad, India 4. Convener of the Frontiers in Particle Physics and Cosmology conference, 23-25 January 2019, University of Hyderabad

Ph.D. students supervised (with full details), viz., Regd.No, Name of the student, title of topic, award date, etc.

Sl No.	Regd. Number & Name of the student	Title of Ph.D. thesis	Ph.D. degree awarded on (date)
1	13PHPH17, Soram Robertson Singh	331 Z' - mediated FCNC effects on some rare semileptonic B decays	15.10.2019

Ph.D. students pursuing (with full details), viz., Regd.No., Name of the student

Sl No.	Regd. Number	Name of the student
1	17PHPH14	C P Haritha
2	19PHPH08	Karthik Jain
3	21PHPH18	Tarun Kumar

Research Projects COMPLETED:

Sl No.	Name of the Investigator	Title of the project and duration	Funding Agency	Amount sanctioned (Rs. lakhs)
1				

Research Projects ONGOING:

Sl No.	Name of the Investigator	Title of the project and duration	Funding Agency	Amount sanctioned (Rs. lakhs)
1				

Inter-institutional collaborative projects and grants received:

Sl No.	Name of the Faculty	All India collaboration	International collaboration	Total grant Received

List of Patents obtained or applied

Sl No	Inventor Name (Faculty)	Title	Filed Year	Patent Application Number & Date	Publication Number & Date (if published)	Patent Number & Grant Date (if granted)	Remarks

Any other information: