

Bhooshan Uday Varsha Gadre

CONTACT INFORMATION A-206, IUCAA,
University of Pune Campus,
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PERSONAL INFORMATION DOB: 30th March, 1989
Nationality: Indian
Web-page: gw.iucaa.in/bhooshan-gadre

RESEARCH INFORMATION Ph.D., [IUCAA, Pune, India](#), *Expected to finish:* Jul-Aug 2018

- Thesis Topic: *Efficient algorithms for detection of gravitational waves from compact binary coalescences*
- Advisors: [Dr. Sanjit Mitra](#)

Research Interests:
Gravitational wave data analysis specially search of a precessing Compact Binary Coalescence, Gravitational wave astronomy, Big-Data and machine learning.

EDUCATION

M.Sc. (Physics), [Department of Physics, University of Pune](#), July 2012

- Thesis Topic: *Study of topological insulators.*; Advisor: [Prof. B. Dey](#)

B.Sc. (Physics), [Department of Physics, Sir Parashurambhau College, Pune](#), June 2010.

- PICC Project for year 2008-09:
Topic: *Synthesis and Characterisation of Tin Oxide Thin Film as Sulphur Dioxide Gas Sensor.*; Advisor: [Dr. Sangeeta Kale](#)

REFEREED JOURNAL PUBLICATIONS

1. “**An Enhanced Method for Scheduling Observations of Large Sky Error Regions for Finding Optical Counterparts to Transients**”
J. Rana, A. Singhal, **B. Gadre**, V. Bhalerao and S. Bose.
arXiv:1603.01689 [astro-ph.IM]
DOI:10.3847/1538-4357/838/2/108
Astrophys. J. **838**, no. 2, 108 (2017)

8 more LIGO Scientific Collaboration publications.

PAPERS IN PREPARATION

1. **B. Gadre**, S. Dhurandhar, and S. Mitra. “Hierarchical search of gravitational waves from compact binary coalescences using aligned spin waveforms.”
2. **B. Gadre**, and S. Mitra. “Fast data reduction using cross-correlation to search for gravitational wave transients.”
3. S. Dhurandhar, A. Gupta, **B. Gadre**, S. Bose. “ χ^2 discriminators for searches of gravitational waves from compact binary coalescences.”
4. C. Aflé, A. Gupta, **B. Gadre**, P. Kumar, et. al. “Detection and characterisation of spin-orbit resonances in the advanced gravitational wave detectors era.”

OTHER ACHIEVEMENTS	<ul style="list-style-type: none"> • Qualified for the Council for Scientific and Industrial Research (CSIR) University Grants Commission (UGC), National Eligibility Test (NET), December 2011. • Qualified Graduate Aptitude Test in Engineering (GATE) for Physics, 2012 (All India Rank: 12). 																								
PROFESSIONAL MEMBERSHIP	<ul style="list-style-type: none"> • LIGO Scientific Collaboration (since 2014) • IndIGO consortium (since 2014) 																								
PROGRAMMING SKILLS	<ul style="list-style-type: none"> • Python, C, Fortran. • Mathematica, Shell-script, Matlab. 																								
WORKSHOPS AND CONFERENCES	<ul style="list-style-type: none"> • GW Physics and Astronomy Workshop (GWPAW), IUCAA, Pune (2013). • LIGO.India: The Road Ahead (LITRA 1,2, 4), IUCAA, Pune. • ICTS Winter School on Experimental GW Physics, RRCAT, Indore, India (2013). • Workshop on Experimental GW Physics, RRCAT, Indore, India (2014). • Workshop on The Future of GW Astronomy, ICTS, Bangalore, India (2016). 																								
TALKS AND PRESENTATIONS	<ul style="list-style-type: none"> • A couple of lectures on “Use of mathematical and statistical methods in gravitational wave data analysis” at School of Mathematics, IISER, Pune. • A talk on “Gravitational wave data analysis” at Department of Physics, University of Pune. 																								
TEACHING EXPERIENCE	<table border="0" style="width: 100%;"> <tbody> <tr> <td style="width: 150px;">Co-instructor</td> <td style="width: 600px;"></td> <td style="text-align: right; vertical-align: top;">2013</td> </tr> <tr> <td></td> <td> <ul style="list-style-type: none"> • PHY-T309 - Advanced Quantum Mechanics with Dr. P Durga Nandini and Dr. Shailesh Kulkarni Department of Physics, University of Pune, Pune. </td> <td></td> </tr> <tr> <td>Teaching Assistant</td> <td></td> <td style="text-align: right; vertical-align: top;">2014</td> </tr> <tr> <td></td> <td> <ul style="list-style-type: none"> • PHY-T411 - Introduction to General Relativity Instructor: Dr. Snajit Mitra Department of Physics, University of Pune, Pune / IUCAA, Pune. </td> <td></td> </tr> <tr> <td>Tutor</td> <td></td> <td></td> </tr> <tr> <td></td> <td> <ul style="list-style-type: none"> • Workshop on Gravitational Wave Data Analysis (Also Instructor) Department of Physics Engineering, IIT, Delhi. </td> <td style="text-align: right; vertical-align: top;">2016</td> </tr> <tr> <td></td> <td> <ul style="list-style-type: none"> • Workshop on Gravitational Wave Data Analysis ME College, Kothamangalam, Kerala. </td> <td style="text-align: right; vertical-align: top;">2015</td> </tr> <tr> <td></td> <td> <ul style="list-style-type: none"> • Workshop on Data Intensive Science (DIS) IUCAA, Pune. </td> <td style="text-align: right; vertical-align: top;">2016</td> </tr> </tbody> </table>	Co-instructor		2013		<ul style="list-style-type: none"> • PHY-T309 - Advanced Quantum Mechanics with Dr. P Durga Nandini and Dr. Shailesh Kulkarni Department of Physics, University of Pune, Pune. 		Teaching Assistant		2014		<ul style="list-style-type: none"> • PHY-T411 - Introduction to General Relativity Instructor: Dr. Snajit Mitra Department of Physics, University of Pune, Pune / IUCAA, Pune. 		Tutor				<ul style="list-style-type: none"> • Workshop on Gravitational Wave Data Analysis (Also Instructor) Department of Physics Engineering, IIT, Delhi. 	2016		<ul style="list-style-type: none"> • Workshop on Gravitational Wave Data Analysis ME College, Kothamangalam, Kerala. 	2015		<ul style="list-style-type: none"> • Workshop on Data Intensive Science (DIS) IUCAA, Pune. 	2016
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SERVICE	<ul style="list-style-type: none"> • SoC (Chair), Young Astronomers Meet (YAM) 2017. • Assisted Chaitanya Afle and Varun Srivastava during their M.Sc. projects. • Involved in science education and public outreach @ IUCAA : This Involves arranging various events, competitions, projects, etc. for school children. Also some public talks, poster presentations and translations of simple scientific material in the native (Marathi) language. 																								

REFERENCES

- Dr. Sanjit Mitra
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IUCAA, Pune, India. Phone: (9120) 25604-126
- Prof. Sanjeev Dhurandhar (Emeritus)
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IUCAA, Pune, India. Phone: (9120) 25604-123
- Dr. Varun Bhalerao
E-mail: varunb@iitb.ac.in
Department of Physics, IIT-Bombay, Mumbai, India. Phone: (9122) 2576-9379
- Prof. B. Dey
E-mail: bdey@physics.unipune.ac.in
Department of Physics, University of Pune, Pune. Phone: (9120) 25692678-308