

# CURRICULUM VITAE

## **PERSONAL DETAILS:-**

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<b>Name</b>	Dr. Ravikumar Ratilal Panchal
<b>Designation</b>	Assistant Professor
<b>Contact No.</b>	+91-9909239778
<b>Email Address</b>	ravipanchal1712@spuvvn.edu
<b>Date of birth</b>	17 <sup>th</sup> December, 1987
<b>Gender</b>	Male
<b>Address (Work and Communication)</b>	Department of Mathematics, Sardar Patel University, Vallabh Vidyanagar, - 388120 Dist: Anand, Gujarat (India)
<b>Address (Residential)</b>	D-69, University Staff Colony, Vallabh Vidyanagar, - 388120 Dist: Anand, Gujarat (India)
<b>Specialization</b>	Theory of Relativity, Applied Mathematics

## **ACADEMIC QUALIFICATIONS:-**

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### **Doctor of Philosophy, Mathematics**

Department of Mathematics, Sardar Patel University, Vallabh Vidyanagar

- Year of Passing: 2017
- Title of Thesis: Applications of NP Formalism and GHP Formalism in General Relativity
- Research Area: Theory of Relativity
- Fellowship Awarded: UGC BSR Research Fellowship

### **Master of Philosophy, Mathematics**

Department of Mathematics, Sardar Patel University, Vallabh Vidyanagar

- Year of Passing: 2011
- Title of Dissertation: A Study of Lanczos Potential for Axially Symmetric Space-time
- Research Area: Theory of Relativity
- Percentage: 65.2

### **Master of Science, Mathematics**

Department of Mathematics, Sardar Patel University, Vallabh Vidyanagar

- Year of Passing: 2010
- Percentage: 66.11

### **PAPERS PUBLISHED IN INTERNATIONAL JOURNALS:-**

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- (1) “*Algebraic computations of general observer quantities using Mathematica*”, Astrophysics and Space Science, (2015) Vol. 359(1): P. No. 1. (jointly with A.H. Hasmani).  
doi:[10.1007/s10509-015-2465-6](https://doi.org/10.1007/s10509-015-2465-6) (I.F. 1.678) ISSN: 1572-946X
- (2) “*On Algebraic Computations of Electric and Magnetic parts of the Weyl Tensor*”, International Journal of Mathematics and Scientific Computing, (2016) Vol. 6(1): P. No. 7. (jointly with A.H. Hasmani and B.N. Patel).  
ISSN: 2231-5330
- (3) “*Lanczos Potential for Some Non-Vacuum Spacetimes*”, The European Physical Journal Plus, (2016) Vol. 131(9): P. No. 1. (jointly with A.H. Hasmani).  
doi: [10.1140/epjp/i2016-16336-7](https://doi.org/10.1140/epjp/i2016-16336-7) (I.F. 1.521) ISSN: 2190-5444
- (4) “*Interaction of Electromagnetism and Gravity for pp-waves Spacetimes*”, Mathematics Today, (2016) Vol. 32: P. No. 47. (jointly with A.H. Hasmani and A.C. Patel).  
ISSN: 0976-3228
- (5) “*Electric and Magnetic parts of the Weyl Tensor and Spin Coefficients*”, Journal of Dynamical Systems and Geometric Theories, (2017) Vol. 15(1): P.No. 37. (jointly with A.H. Hasmani).  
doi: [10.1080/1726037X.2017.1323417](https://doi.org/10.1080/1726037X.2017.1323417) ISSN: 2169-0057
- (6) “*Lanczos Potential for Weyl Metric*”, PRAJÑĀ - Journal of Pure and Applied Sciences, (2017) Vol. 24-25: P. No. 11. (jointly with A.H. Hasmani and A.C. Patel).  
ISSN: 0975-2595
- (7) “*On Lanczos Potential for Spherically Symmetric Spacetimes*”, Journal of the Tensor Society, (2019) Vol. 13: P. No. 31. (jointly with A.H. Hasmani and A.C. Patel)  
ISSN: 0974-5428

### **PAPER PUBLISHED IN NATIONAL JOURNAL:-**

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- (1) “*FLRW Metric and Lanczos Potential*”, GIT-Journal of Engineering and Technology, (2018) 11: 26. ISSN: 2249 – 6157.

### **PAPER PUBLISHED IN PROCEEDINGS OF NATIONAL CONFERENCE: -**

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- (1) “*Algebraic Computations of Complex Tetrad Components of Ricci Tensor*”, In Proceedings of Recent Trends in Mathematics and Statistics, (2015) pp. 97. (jointly with A.H. Hasmani).  
ISBN: 978-81-925005-4-6.

### **PAPER PRESENTED IN INTERNATIONAL CONFERENCE: -**

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- (1) “*On Algebraic Computations of Electric and Magnetic parts of the Weyl Tensor*”, International Conference in General Relativity, during 25<sup>th</sup>-28<sup>th</sup>, November, 2015, held at the Department of Mathematics, SBG Amravati University, Amravati, Maharashtra.

### **PAPERS PRESENTED IN NATIONAL CONFERENCE :-**

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- (1) “*Lanczos Potential for General Axially Symmetric Space-times*”, National seminar on advances in Mathematics: Historical developments and engineering applications, during 9<sup>th</sup>-11<sup>th</sup>, January 2012, held at MBICT, New Vallabh Vidyanagar, Gujarat.
- (2) “*Algebraic Computations of Complex Tetrad Components of Ricci Tensor*”, Recent Trends in Mathematics and Statistics, on 5<sup>th</sup>, September, 2015, held at Maharshi Dayanand College, Mumbai, Maharashtra.
- (3) “*On Algebraic Computations of Electric and Magnetic Parts of the Weyl Tensor*”, International Conference on General Relativity-2015, during 25<sup>th</sup> -28<sup>th</sup>, November, 2015, held at Sant Gadge Baba Amravati University, Amravati, Maharashtra.
- (4) “*Lanczos Potential for Spherically Symmetric Spacetimes*”, National Conference on Differential Geometry and General Relativity, during 28<sup>th</sup>-29<sup>th</sup>, November, 2017, held at the Department of Mathematics, Sardar Patel University, Vallabh Vidyanagar, Gujarat.

### **LECTURE DELIVERED IN WEBINAR:-**

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- (1) “*Introduction to Mathematica*”, on 23<sup>rd</sup> July, 2020 organized by Parul Institute of Technology, Vadodara, Gujarat.

### **SEMINARS/CONFERENCES ATTENDED:-**

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- (1) “*National Seminar on Astronomy and Astrophysics*”, on 18<sup>th</sup>, April, 2011, held at the Department of Physics, Vallabh Vidyanagar, Gujarat.
- (2) “*National Seminar on Advances in Mathematics: Historical Developments and Engineering Applications*”, during 9<sup>th</sup>-11<sup>th</sup>, January 2012, held at MBICT, Vallabh Vidyanagar, Gujarat.
- (3) “*Advanced Engineering Mathematics: Project – Implementation and Deliverables*”, on 07<sup>th</sup>, October, 2012, held at Birla Vishvakarma Mahavidyalaya, Vallabh Vidyanagar, Gujarat.
- (4) “*International Conference on Differential Geometry and General Relativity*”, during 20<sup>th</sup>-22<sup>th</sup>, November, 2012, held at the Department of Mathematics, Aligarh Muslim University, Aligarh, Uttar Pradesh.
- (5) “*International Conference on Differential Geometry and Relativity*”, during 09<sup>th</sup>-11<sup>th</sup>, Nov., 2013, held at the Department of Mathematics, DDU Gorakhpur University, Gorakhpur, Uttar Pradesh.
- (6) “*National Conference on Interdisciplinary Perspectives: Defense Studies, Earth System Science and Bio-Medical Science*”, during 15<sup>th</sup>-17<sup>th</sup>, November, 2013, held at Sardar Patel University, Vallabh Vidyanagar, Gujarat.
- (7) “*National Seminar on Analysis, Geometry and Applications*”, during 17<sup>th</sup> -18<sup>th</sup>, February, 2014, held at the Department of Mathematics, Sardar Patel University, Vallabh Vidyanagar, Gujarat.
- (8) “*51th Annual Conference of Gujarat Ganit Mandal*”, during 6<sup>th</sup>-8<sup>th</sup>, November, 2014, held at P.P. Savani Group of Schools, Surat, Gujarat.
- (9) “*Recent Trends in Mathematics and Statistics*”, on 5<sup>th</sup>, September, 2015, held at Maharshi Dayanand College, Mumbai, Maharashtra.

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- (10) “*International Conference in General Relativity*”, during 25<sup>th</sup>-28<sup>th</sup>, November, 2015, held at the Department of Mathematics, SBG Amravati University, Amravati, Maharashtra.
  - (11) “*Interdisciplinary Research Scholars Meet- 2016*”, during 3<sup>th</sup>-4<sup>th</sup>, March, 2016, held at Sardar Patel University, Vallabh Vidyanagar, Gujarat.
  - (12) “*Differential Geometry and its Applications*”, during 27<sup>th</sup>-28<sup>th</sup>, January, 2017, held at the Department of Mathematics, DDU Gorakhpur University, Gorakhpur, Uttar Pradesh.
  - (13) “*National Conference on Differential Geometry and General Relativity*”, during 28<sup>th</sup>-29<sup>th</sup>, November, 2017, held at the Department of Mathematics, Sardar Patel University, Vallabh Vidyanagar, Gujarat.

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**WORKSHOPS PARTICIPATED:-**

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- (1) “*Workshop on Problem Solving in Mathematics*”, during 21<sup>st</sup>-27<sup>th</sup>, February, 2010, Department of Mathematics, Sardar Patel University, Vallabh Vidyanagar, Gujarat.
- (2) “*Workshop on Computational Techniques of Geometry in Relativity and Allied Topics*”, during 16<sup>th</sup>-20<sup>th</sup>, November, 2012, Department of Mathematics, Aligarh Muslim University, Aligarh, Uttar Pradesh.
- (3) “*Indo-European Study Group Meeting on Industrial Problems*”, 4<sup>th</sup>-9<sup>th</sup>, January, 2015, Faculty of Technology and Engineering, the M.S. University of Baroda, Vadodara, Gujarat.

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**STTP/TRAINING PARTICIPATED:-**

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- (1) “*Applications of Physics and Mathematics in Engineering*”, during 30<sup>th</sup>, April-5<sup>th</sup>, May, 2018, G.H. Patel College of Engineering and Technology, Vallabh Vidyanagar, Gujarat.
- (2) “*Publons Academy Practical Peer Review Course*”, completed on 25<sup>th</sup> June, 2020, Publons Academy.
- (3) “*UDAYAM (Unlimited Digital Advanced Yearlong Academic Method of Learning) E-Content Development Course*” during 28<sup>th</sup> July – 18<sup>th</sup> August, 2020, Jointly Organized by Knowledge Consortium of Gujarat, Ahmedabad and HRDC, Gujarat University.
- (4) “*Comprehensive Online Intellectual Property Rights (IPR)*” during 6<sup>th</sup> July, 2020 to 14<sup>th</sup> September, 2020 organized by Gujarat Student Startup and Innovation Hub (i - Hub).
- (5) “*Leadership development at different levels*” during 12<sup>th</sup> July-16<sup>th</sup> July, 2021, NITTTR, Bhopal, Madhya Pradesh.

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**LIFETIME MEMBERSHIPS OF LEARNED SOCIETIES:-**

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- (1) Indian Association for General Relativity and Gravitation
- (2) The Tensor Society

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**ACHIVEMENT:-**

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- (1) Cleared “*Gujarat State Eligibility Test (GSET)*”- 2017