

BIO-DATA AND PUBLICATIONS

DR. VIKASH SIWACH
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Current Research:

My Research interest is to find unknotting numbers of different knot types corresponding to different unknotting invariants. In my research, I proposed an unknotting method for torus knots and provided many applications of the method in knot theory. Some other invariants Region unknotting number, Arf invariant and Trivializing numbers are also part of current research. Further, I want to do research in other algebraic and differential concepts of knot theory and Topology.

Educational Qualification:

Doctor of Philosophy (Ph.D.)	Geometric Computations of Unknotting Numbers (2015) Indian Institute of Technology Ropar, Rupnagar, Punjab, India
Master of Science (M.Sc.)	Mathematics (2009) Maharshi Dayanand University, Rohtak, Haryana, India
Bachelor of Science (B.Sc.)	Non-Med (2007) Maharshi Dayanand University, Rohtak, Haryana, India

Teaching Experience:

Currently I am working at the post of Assistant professor in the Dept. of Mathematics, Central University of Haryana. Previously, I have worked as Assistant Professor at NIT Jalandhar for one semester (January-June 2016). Also, during my PhD, I was working as Teaching Assistant in IIT Ropar for different B.Tech courses e.g., Advanced Calculus, Real Analysis, Discrete Mathematics, MATLAB Programming, Linear Algebra etc. Further, I can teach Abstract Algebra, Topology, Number Theory, Probability Theory and Numerical Analysis also.

Publications:

- V. Siwach and P. Madeti, A sharp upper bound for region unknotting number of torus knots. **J. Knot Theory Ramifications** (World Scientific), ISSN No. 0218-2165, Vol 22 (5) 1350019 (21 pages), 2013.
- V. Siwach and P. Madeti, Region unknotting number of 2-bridge knots. **J. Knot Theory Ramifications** (World Scientific), ISSN No. 0218-2165, Vol 24 (11) 1550053 (20 PAGES), 2015.
- V. Siwach and P. Madeti, A method for unknotting torus knots. **Topology and its Applications** (Elsevier), ISSN No. 0166-8641, Vol 196 (668-674), 2015.

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- V. Siwach and P. Madeti, On Arf invariant and Trivializing number. **Contemporary Mathematics** (AMS Proceedings), ISSN No. 0271-4132, Vol 670, 2016.

- V. Siwach and P. Madeti, On Unknotting numbers. Communicated.

Conferences:

- Participated and presented paper at “International Conference on Topology and Geometry 2013 joint with the 6th Japan-Mexico Topology Symposium” held at Shimane University, Matsue, Japan during September 2 - 6, 2013.

- Participated and presented paper at “Advanced School and Discussion Meeting on Knot Theory and its Applications” held at IISER Mohali, Punjab during December 10 - 20, 2013.

- Participated and presented paper at “International Congress of Mathematicians 2014” held at Coex, Seoul, South Korea during August 13 - 21, 2014.

- Participated and presented paper at a satellite conference of ICM2014 “Knots and Low Dimensional Manifolds” held at Bexco, Busan, South Korea during August 22 - 26, 2014.

- Participated and presented paper at “Knots, Braids and Topology” held at IISER Mohali, Punjab during October 24 - 26, 2014.

Academic Achievements:

- Qualified **Graduate Aptitude Test in Engineering** (GATE) with AIR 99, Score 0496 in February 2010.

- Qualified **CSIR-Junior Research Fellowship** Exam with AIR 32 in June 2010.

- Local Organizer for ICTS International Conference “Advanced School and Discussion Meeting on Knot Theory and its Applications” held at IISER Mohali.

- Co-Organizer for International Workshop “Knots, Braids and Topology” held at IISER Mohali.

Computing Skills:

- Working experience in PCs using MS-Windows, Linux operating systems

- Working experience in software MATLAB, MATHEMATICA

- Text processing using LATEX, MS-Word

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References:

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Personal Details:

- Date of Birth: February 05, 1987
- Sex: Male
- Nationality: Indian

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I hereby declare that the information furnished as above is true to the best of my knowledge and belief.



Date:

(VIKASH SIWACH)