

K. Arun Kumar

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Positions held

- 2016–2020 **Research Assistant(PhD)**, *Universität Osnabrück*, Osnabrück
part of the graduate school "DFG-GK1916 Combinatorial Structures in Geometry"
2021–2024 **Postdoctoral fellow**, *IISER Tirupati*, Tirupati
2024–2024 **Visiting Scientist**, *ISI Bangalore*, Bangalore
2024–current **Postdoctoral fellow**, *IISER Mohali*, Mohali

Education

- 2011–2016 **B.S-M.S dual degree**, *IISER*, Pune
2016–2020 **PhD in mathematics**, *Universität Osnabrück*, Osnabrück

Master Thesis

- title Topics in Algebraic K-theory
supervisor Dr. Amit Hogadi
description Additivity theorem for Quillen's Q-construction and Waldhausen's S-construction of higher K-groups
grade Excellent

Doctoral Thesis

- title On the Motivic spectrum BO and Hermitian K-theory
supervisor Prof. Oliver Röndigs
description We extend Panin and Walter's motivic spectrum BO to arbitrary schemes and study its properties
defense date November 2020
grade very good

Courses Taught

- 08/23–11/23 **Instructor**, *Elementary Number Theory*, IISER Tirupati

Research Interests

- Algebraic and Hermitian K-theory
- Motivic Homotopy theory
- Equivariant Homotopy theory

Preprints and publications

- Construction of the motivic cellular spectrum KO^{geo} over $Spec(Z)$, *New York Journal of Mathematics Volume 30 (2024)*, 323-350.
- Endomorphisms of equivariant algebraic K-theory (with Girja Tripathi) (*submitted for publication*)
- A cellular absolute motivic ring spectrum representing Hermitian K-theory (with Oliver Röndigs) (*submitted for publication*)
- Equivariant algebraic cobordism (with Girja Tripathi) (*in preparation*)

Awards and Recognitions

- Academic excellence Prize: Best academic performance in the 6th semester, B.S-M.S, IISER Pune
- Academic excellence Prize: Best academic performance in the 7th semester, B.S-M.S, IISER Pune
- Rank 8 in CSIR-UGC Test for Junior Research Fellowship held on 21/06/2015

References

- Prof. Oliver Röndigs, *Universität Osnabrück*
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- Prof. Markus Spitzweck, *Universität Osnabrück*
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- Dr. Girja Tripathi, *IISER Tirupati*
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