

Nirupam Ghosh

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Research Interests

Complex Analysis, Harmonic Mappings, Geometric Function Theory and Operator Theory.

Education

PhD Mathematics, Indian Institute of Technology Kharagpur, September, 2019.

Dissertation Topic: Analytic and Geometric Characterizations of Certain Subclasses of Harmonic Functions (Thesis Adviser: **Prof. Vasudevarao Allu** and **Prof. G P Raja Sekhar**).

Master of Science (Mathematics), Indian Institute of Technology Kanpur, May 2013.

Bachelor of Science (Hons.), Jadavpur University, Kolkata, July, 2011.

Experience

August, 2023 - continue, Assistant Professor (Level - 10), Indian Institute of Engineering Science and Technology, Shibpur, India.

March, 2021- August, 2023 NBHM Postdoc (Mentor - **Prof. Jaydeb Sarkar**), Indian Statistical Institute Bangalore, India.

November, 2019 - February, 2021 Visiting Scientist, Indian Statistical Institute Bangalore, India.

July, 2019 - November, 2019 Adjunct Assistant Professor, VNIT Nagpur, India.

Fellowships and Achievements

Awarded NBHM Postdoctoral Fellowship, by Department of Atomic Energy (January, 2021).

Awarded Visiting Scientist, by Indian Statistical Institute, Bangalore (November, 2019).

Awarded Senior Research Fellowship, by CSIR-UGC (May, 2016).

Awarded Junior Research Fellowship, by CSIR-UGC (December, 2013).

Awarded INSPIRE Fellowship (2014) (not availed).

Qualified CSIR-UGC NET with rank 71 (June, 2013).

Qualified JAM 2011 with rank 96.

Awarded INSPIRE Scholarship (2008 - 2013).

Research

RESEARCH INTEREST

My principle areas of research is geometric function theory. I am primarily interested in the study of complex valued harmonic functions on unit disk. In this context, I am interested to study different subclasses of harmonic functions which have special geometric importance.

I am also interested in higher dimension harmonic functions theory and harmonic quasi-conformal extension.

Apart from the harmonic functions, I am also interested on operator theory, specially operators on Hardy space.

PUBLICATIONS

Vasudevarao Allu and **Nirupam Ghosh**, Bohr type inequality for Cesaro and Bernardi integral operator on simply connected domain, *Proc. Indian Acad. Sci. (Math. Sci.)* **133** (2023), 1–10.

Neeru Bala, **Nirupam Ghosh** and Jaydeb Sarkar, Invariant subspaces of idempotents on Hilbert spaces, *Integr. Equ. Oper. Theory* **95**(4) (2023), 1–16.

Nirupam Ghosh, Timir Karmakar and G P Raja Sekhar, Application Of Conformal Mapping To Two-Dimensional Flows In An Anisotropic Aquifer, *Indian J. Pure Appl. Math.* **53** (2022), 617–626.

Md Firoz Ali, Vasudevarao Allu and **Nirupam Ghosh**, On convolution property of univalent harmonic right-half plane mappings, *Monatsh. Math.* **193**(4) (2020), 729–736.

Nirupam Ghosh and A. Vasudevarao, On Some Subclasses of Harmonic Mappings, *Bull. Aust. Math. Soc.* **101**(1) (2020), 130–140.

Nirupam Ghosh and A. Vasudevarao, The Radii of Fully Starlikeness and Fully Convexity of a Harmonic Operator, *Monatsh. Math.* **188**(4) (2019), 653–666.

Nirupam Ghosh and A. Vasudevarao, On a Subclass of Harmonic Close-to-convex Mappings, *Monatsh. Math.* **188**(2) (2019), 247–267.

Nirupam Ghosh and A. Vasudevarao, Some Basic Properties of Certain Subclass of Harmonic Univalent Functions, *Complex Var. Elliptic Equ.* **63**(12) (2018), 1687–1703.

Nirupam Ghosh and A. Vasudevarao, Coefficient Estimates for Certain Subclass of Analytic Functions Defined by Subordination, *Filomat* **31**(11) (2017), 3307–3318.

PREPRINTS

Firoz Ali and **Nirupam Ghosh**, On starlike logharmonic mappings of order α (submitted in journal).

Teaching

I have taught a variety of courses to the undergraduate students at different levels. At VNIT Nagpur, I have taught “Calculus - I” and “Integral Transformation” course for science and engineering students. Before that, as a tutorial assistant in IIT Kharagpur, I taught Mathematics - I and Mathematics - II courses meant mostly for B.Tech students and “Complex Analysis” for under graduate students. In my postdoctoral time at ISI Banalore, I was assigned as a teaching assistant of “Analysis of Several Variables” for master students.

Selected Conferences

Presented “**Certain subclasses of harmonic univalent mappings**” at ICM - 2018, Rio De Janeiro during 1st to 9th August, 2018.

Presented “**on certain properties of a subclass of harmonic univalent mappings**” at Central University of Rajasthan during March 19 – 23, 2018.

Presented “**Coefficient Bounds of Certain Subclass of Analytic Functions Defined By Subordination**” at National Conference on Engineering Mathematics organized by IIT Kharagpur during December 16 to December 17, 2017.

Presented “**On Some Subclass of Harmonic Close-to-convex Mappings**” at International Conference on Mathematical Analysis and its Applications (ICMAA) organized by IIT Roorkee during November 28 to December 02, 2016.

Workshop/Syposium

1. Attended ”**Advanced Instructional Schools on Several Complex Variables**” at Indian Institute of Science during June 11 – 23, 2018.
2. Attended Workshop on “**Planar Harmonic mappings and Quasiconformal Mappings**” at Central University of Rajasthan during March 19 – 23, 2018.
3. Attended “**One Day Symposium on Geometric Function Theory- II**” held at the Indian Statistical Institute (ISI), Chennai Centre, India, on March 30, 2015.

Research Visit

Indian Statistical Institute (ISI), Chennai Centre, India, March-April 2015.

Personal Information

Date of Birth : 5th June, 1991

Gender : Male

Nationality : Indian

Marital Status : Married

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References

1. Prof. Jaydeb Sarkar
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Indian Statistical Institute Bangalore, India
E-mail: jaydeb@gmail.com

2. Dr. Vasudeva Rao Allu
School of Basic Sciences,
Indian Institute of Technology Bhubaneswar, India.
E-mail: avrao@iitbbs.ac.in

3. Prof. G. P. Raja Shekhar
Department of Mathematics,
Indian Institute of Technology Kharagpur, India
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