

Dr. Ripan Saha

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Current Position

Professor(Assistant)
Raiganj University, India.

Research Interest

Associative and Non associative rings and algebras, Topology.

Education

Jadavpur University, Kolkata
Ph.D., 2017- 2021.

Indian Institute of Science Education and Research (IISER), Mohali
DST-INSPIRE Fellow, Mathematics, January 2014-August 2016.

Indian Institute of Technology (IIT) Kanpur
M.Sc., Mathematics, 2013.

Jadavpur University
B.Sc., Mathematics, 2011.

Research Experience

Centre de Recerca Matemàtica (CRM), Barcelona, Spain
Visitor, May 16- July 1, 2022

Stat. Math. Unit, Indian Statistical Institute, Kolkata
Visiting Scholar, December 2015-July 2016

Project Grants

Principal Investigator ,
Core Research Grant (CRG) of budget INR 21,36,222 ,
from Science and Engineering Board (SERB), CRG/2022/005332
Department of Science and Technology (DST)
Govt. of India, from January 2023 to January 2026.

Awards and Fellowships

CIMPA-CARMIN (France) Laureate
2021-2022

DST-INSPIRE Research Fellowship
2014-2016.

DST-INSPIRE SHE
2008-2013.

CSIR-UGC NET

June 2013.

IIT-GATE

2013.

Summer Research Program Fellowship

Indian Academy of Sciences

2012.

SPIM Fellowship

Harish Chandra Research Institute

2012.

IIT JAM

2011.

- Publications:
19. Nijenhuis operators on Leibniz algebras (2024), (with B. Mondal), *Journal of Geometry and Physics*, Volume 196, February 2024, 105057.
 18. Cohomology of modified Rota-Baxter Leibniz algebra of weight k (2023) (with B. Mondal), to appear, *Journal of Algebra and its Applications*.
 17. On Compatible Leibniz algebras (2023), arXiv:2305.01025 (with Abdenacer Makhlouf), to appear, *Journal of Algebra and its Applications*
 16. On α -type (equivariant) cohomology of Hom-pre-Lie algebras (2024) with S. Guo, *Communications in Algebra*, 52:2, 479-499.
 15. On Hom-Groups and Hom-Group actions (2023) (with Liangyun Chen, Tianqi Feng, Yao Ma, Hongyi Zhang), *Acta Mathematica Sinica, English Series*, Vol. 39, No. 10, pp. 1887-1906.
 14. Cohomology, deformations and extensions of Rota-Baxter Leibniz algebras (with B. Mondal) *Communications in Mathematics*, Volume 30 (2022), Issue 2.
 13. On equivariant Lie-Yamaguti algebras and related structures (with Guo and Mondal), *Asian-European Journal of Mathematics Vol. 16, No. 02, 2350022 (2023)*.
 12. On 3-Lie algebras with a derivation (with S. Guo), *Afrika Matematika*, 33, 60 (2022).
 11. Equivariant one parameter formal deformations of Hom-Leibniz algebras, (with Goutam Mukherjee), *Communications in Contemporary Mathematics*, Vol. 24, No. 03, 2050082 (2022).
 10. On equivariant Hom-Leibniz cohomology, (2021), *Afrika Matematika*, 32(7), 1685-1696.

9. On certain classes of algebras in which centralizers are ideals (with David A. Towers), *J. Lie Theory*, 31 (2021), No. 4, 991–1002.
8. Involutive and oriented dendriform algebras (with Apurba Das) *Journal of Algebra*, 581 (2021) 63-91.
7. On equivariant dendriform algebras (2021), (with A. Das), *Colloquium Mathematicum* 164 (2021), 283-303.
6. Cohomology and deformations of oriented dialgebras, (with Ali Koam), arXiv:2001.02386. *Journal of Homotopy and Related Structures*, 15, 511–536 (2020),
5. On Leibniz algebras whose centralizers are ideals (2020), (with Pratulananda Das), arXiv:1903.09932. *Indian Journal of Pure and Applied Mathematics*, 51, 1555-1571 (2020)
4. Cup-product in Hom-Leibniz cohomology and Hom-Zinbiel algebras (2020), *Communications in Algebra*, 48:10, 4224-4234.
3. Equivariant associative dialgebras and its one-parameter formal deformations (2019), *Journal of Geometry and Physics*, Volume 146, December 2019, 103491.
2. On some special property of the Farey sequence, (2019), *Mathematical Journal of Interdisciplinary Sciences*, 7(2), 121-123.
1. Cup-product for equivariant Leibniz cohomology and Zinbiel algebras (with Goutam Mukherjee)(2019), *Algebra Colloquium*, Vol. 26, No. 2, 2019, 271-284.

Preprints: 21. On Nijnehuis Lie triple system (2024)
(with B. Mondal, S. Guo)

20. On deformation cohomology of compatible Hom-associative algebras (2022) (with T. Chtioui), arXiv:2210.12501.

19. Rota-Baxter operators and related structures on anti-flexible algebras (2021), arXiv:2108.01333.

Work in Progress

22. z-classes of Lie algebras (2022)
(with David A. Towers).

21. Relative Rota-Baxter operators on dialgebras(2022),

Refereeing Service

- 1. Colloq. Math.**
- 2. Reviewer for AMS MathSciNet (153272).**
- 3. Reviewer for zbMATH (19070).**
- 4. Journal of Homotopy and Related Structures.**
- 5. Open Mathematics**
- 6. Filomat**
- 7. Journal of Differential Geometry**
- 8. Journal of Geometry and Physics**
- 9. Journal of Algebra**

Memberships

- 1. Affiliate Member, American Mathematical Society (AMS).**
- 2. CIMPA (France) Fellow.**
- 3. Life Member, Indian Mathematical Society (IMS).**
- 4. Life Member, Calcutta Mathematical Society (CMS).**

Current PhD students

- 1. Mr. Bibhash Mondal,**
Assistant Professor, Behala College, Kolkata.
- 2. Mr. Abdur Rohim.**
UGC-Maulana Azad National Fellow.

Grants Received

CIMPA(France) Travel grant (2024)
To visit NORSU, Dumaguete, Philippines.

CIMPA(France) Travel grant (2022)
To visit CRM, Barcelona, Spain

CRM-CIMPA Grant (2021)
Laureates for the CRM-IRP on Higher Homotopical Structures at Barcelona, Spain.

CIMPA Travel Grant(2018)
To visit: Institute of Mathematics, Tashkent, Uzbekistan.

ICTS Travel Grant(2017)
To visit: ICTS, Bangalore, India.

ICTP Travel Grant(2015)
To visit: ICTP, Trieste, Italy.

Talks

CIMPA(2024) Research talk, Dumaguete, Philippines,
On Compatible Leibniz Algebras(January,2024).

CIMPA(2018) Research talk, Tashkent, Uzbekistan,
Equivariant Leibniz Cohomology(September,2018).

Jadavpur University,Kolkata, India.
Leibniz algebra with a finite group action and its cohomology(February,2018)

Teaching

Raiganj University
Teaching linear algebra, abstract algebra, analysis, topology,
and various other UG and PG courses at Raiganj University since 2016.

Dakshin Dinajpur University
Abstract algebra-I & II, Number Theory courses for PG students, 2021-22 & 2022-23.

Invited speaker

**“Recent Trends in Mathematics and Applications”, Ramananda College,
Bankura University, 27th November 2021.**

“MATHEMATICS FOR COMPUTING: RECENT TRENDS”
Indas College, Affiliated to Bankura University, Bankura
7th and 8th october 2021.

“Balurghat College Mathematics Camp”,
Balurghat College, West Bengal, India,
21st October 2018 to 10th November 2018.

“Winter school on basic mathematics for college students”,
Indian Statistical Institute (ISI) north east center at Tezpur,
26th December 2016 to 3rd January 2017.

Workshops/
Schools attended:

CIMPA: Current Trends in Algebra,
NORSU, Dumaguete, Philippines
29th January 2024 to 09th February 2024.

CRM IRP on Higher Homotopical Structures (online),
Centre de Recerca Matemàtica (CRM), Barcelona, Spain
17th May 2021 to 10th July 2021.

Workshop on Derived Geometry,
Centre de Recerca Matemàtica (CRM), Barcelona, Spain, June 6 to 10, 2022.

Barcelona Conference on Higher Structures,
Organised by the Centre de Recerca Matemàtica, held at
University of Barcelona, Spain, June 13 to 17, 2022.

Online TEW on Complex Analysis and Number Theory,
IIT Bhubaneswar, India, 18 – 31 December 2021.

Online Workshop on “Finite Groups of Lie Type”
IISER Pune, 31 July – 03 October, 2021.

Knots through web (online),
International Center for Theoretical Sciences (ICTS), India,
24th August 2020 to 28th August 2020.

Virtual Math Fest 2020.
July 20-26, 2020.

CIMPA-Non-associative algebra and applications,
Uzbekistan Academy of Sciences V.I.Romanovskiy Institute of Mathematics,
10th September to 21st September 2018.

Geometry, Groups and Dynamics,
International Center for Theoretical Sciences (ICTS), India,
06th November 2017 to 24th November 2017.

AIS Algebraic Topology,
NEHU, Shillong, India,
12th June 2016 to 1st July 2016.

AIS Differential Geometry,
IIT Bombay, India,
9th May 2016 to 28th May 2016.

Advanced school and workshop on Geometry of discrete actions,
International Center for Theoretical Physics (ICTP), Trieste, Italy,
24th August to 4th September 2015.

Topology,
Indian Statistical Institute (ISI), Kolkata,
14th to 21st December 2015.

Some High Points of Undergraduate Mathematics Education,
Ramanujan Mathematical Society (RMS),
May 14, 2015.

Advanced Instructional School on Quadratic forms,
IISER Mohali, India,
2nd to 21st June 2014.

Advanced Instructional School on Lie Groups,
Indian Institute of Technology(IIT), Bombay, India,
July 7th to 26th 2014.

Lattices: Geometry and Dynamics,
IISER Mohali, India,
17th to 22nd December 2014.

ICTS-Knot theory and its applications,
IISER Mohali,India,
10th December to 20th December 2013

Advanced Instructional School on Lie Groups,
Indian Institute of Technology(IIT), Bombay, India,
July 7th to 26th 2014.

Lattices: Geometry and Dynamics,
IISER Mohali, India,
17th to 22nd December 2014.

ICTS-Knot theory and its applications,
IISER Mohali,India,
10th December to 20th December 2013

Conferences
attended **30th Annual Conference of
Ramanujan Mathematical Society,**
IISER Mohali,India,
May 15-17, 2015.

Workshop/
Seminar organized **National seminar on Mathematics and its Applications (2017),**
At Raiganj University during 20th and 21st March 2017.

Summer training program for school students(2018),
Raiganj University.

**National seminar on Recent Trends of Mathematical Sciences
and Its Applications (2019),**
At Raiganj University during 14th and 15th March 2019.

Administrative Activities

Member of Post Graduate Board of Studies, 2024-,
Dakshin Dinajpur University, West Bengal, India.

Assistant controller of Examinations(Offg.),
Raiganj University, June 2017-February 2018.

Member of Post Graduate Board of Studies, 2016-,
Raiganj University.

Member of Under graduates Board of Studies, 2016-,
Raiganj University.

Programme Officer, NSS Unit-V, 2017-2021,
Raiganj University.

Nodal Officer, COVID-19 Monitoring Committee, 2021.
Raiganj University.

Center-in-charge for PG examination (2017),
Raiganj University.

Member, NAAC Committee (2022),
Raiganj University.

References Prof. Goutam Mukherjee
Stat.-Math Unit
Indian statistical Institute
goutam@isical.ac.in

Prof. Kapil Hari Paranjape
Department of Mathematics
IISER Mohali.
kapil@iisermohali.ac.in

Dr. Krishnendu Gongopadhyay
Department of Mathematical Sciences
Indian Institute of Science Education and Research Mohali.
krishnendug@gmail.com

Prof. Pratulananda Das
Department of Mathematics
Jadavpur University
pratulananda@yahoo.co.in