Manjil P. Saikia

May 10, 2026

Mathematical & Physical Sciences Division
School of Arts & Sciences, Ahmedabad University
Central Campus, Navrangpura, Ahmedabad, Gujarat - 380009, India

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Degrees/Diploma & Academic Positions

- **Ahmedabad University** — Ahmedabad, India
  Assistant Professor (tenure-track) — *Jul 2023 – present*
  - Major Advisor for Mathematical & Computational Sciences (Jan 2024 – present)
  - Minor Advisor for Mathematics (Jan 2024 – present)
  - Faculty Mentor, Quiz Club (May 2024 – present)
  - School of Arts & Sciences Social Media Coordinator (Jul 2024 – present)
  - Member, Standing Committee for Students' Success (Nov 2024 – present)
  - Minor Advisor for Computer Science (Oct 2023 – Jan 2024)
  - University Statistical Training Software Co-Coordinator (Oct 2023 – Jul 2024)
- **Indian Institute of Information Technology** — Imphal, India
  Guest Assistant Professor — *Dec 2022 – May 2023*
  - Examination in-charge (Feb 2023 – May 2023)
  - Library in-charge (Feb 2023 – May 2023)
- **Cardiff University** — Cardiff, UK
  Postdoctoral Research Associate — *Nov 2019 – Oct 2022*
  - Supervisor: Professor Roger E. Behrend
  - Supported by a grant from the Leverhulme Trust
- **Universität Wien** — Vienna, Austria
  Dr. rer. nat. Mathematics — *Sep 2015 – Sep 2019*
  - Advisor: Professor Ilse Fischer
  - Thesis: Topics on Alternating Sign Matrices and Aztec Rectangles
  - Graduated with distinction
  - Supported by a grant from the Austrian Science Fund
  - Member, Student Steering Committee of the Vienna Doctoral School in Mathematics (Aug 2017 – Sep 2019)
- **International Centre for Theoretical Physics** — Trieste, Italy
  Postgraduate Diploma in Mathematics — *Sep 2014 – Aug 2015*
  - Advisor: Professor Fernando R. Villegas
  - Thesis: Representations of the Symmetric Group
  - Supported by a scholarship from UNESCO
- **Tezpur University** — Tezpur, India
  M.Sc. Mathematics — *Aug 2009 – Jun 2014*
  - Advisor: Professor Nayandeep Deka Baruah
  - Thesis: A study of the crank function with special emphasis on Ramanujan's Lost Notebook
  - Awarded with Gold Medal for academic excellence
  - Supported by a scholarship from INSPIRE-DST, Government of India

Awards, Grants & Honours

ICM 2026 Travel Grant (Funded by Simons Foundation, IMU, and AMS) 2026
I'ntl Travel Grant (Funded by Ahmedabad University) to attend JMM 2026 (INR 2,00,000) . 2026
Ahmedabad University Start-Up Grant (INR 12,57,000) . . . . . 2024 – 2027
Elected Membership of the Indian National Young Academy of Science (INYAS) . . 2024 – 2029
Conference funding of USD 300 to attend Combinatory Analysis in Penn State, USA 2018
Conference funding of CAD 350 to attend 28th FPSAC in Vancouver, Canada 2016
Gold Medal (Tezpur University) 2014
National Eligibility Test (UGC-CSIR) 2014
INSPIRE Scholarship (DST, Government of India) . . . . . 2009 – 2014
Prof. Bapu Krishna Choudhury Memorial Prize (Assam Academy of Mathematics) 2008
Qualified Regional Mathematical Olympiad (RMO) 2008
Dr. Subratananda Dowerah Memorial Gold Medal (Assam Academy of Mathematics) 2007
Anundoram Barooah Award (Government of Assam) 2007

Teaching Experience

Courses which were designed/co-designed by me are marked in brown.

- **Algebraic Combinatorics (MAT631)** — Ahmedabad University
  Instructor — *Winter 2027, Winter 2025*
- **Introductory Calculus (MAT142)** — Ahmedabad University
  Instructor — *Winter 2027, Bi-semester 2023-24*
- **Probability and Random Variables (STA102)** — Ahmedabad University
  Instructor — *Bi-semester 2026-27, Winter 2026*
  - Also Course Coordinator in Winter 2026.
- **Precalculus (MAT123)** — Ahmedabad University
  Instructor — *Bi-semester 2026-27*
- **Advanced Combinatorics: Enumerative and Algebraic (MAT751)** — Ahmedabad University
  Instructor — *Monsoon 2026*
- **Cataland: A Romance of Many Bijections** — Lodha Genius Programme, Ashoka University
  Instructor — *Summer 2026*
- **Combinatorial Enumeration (MAT515)** — Ahmedabad University
  Instructor — *Winter 2026, Monsoon 2024, Winter 2024*
  - Taught as a reading course in Winter 2024 & 2026.
- **Gateway to Abstract Reasoning (MAT165)** — Ahmedabad University
  Instructor — *Bi-semester 2025-26*
- **Combinatorial Representation Theory (MAT730)** — Ahmedabad University
  Instructor — *Monsoon 2025*
- **Elementary Number Theory & Cryptography (MAT215)** — Ahmedabad University
  Instructor — *Monsoon 2025*
- **Combinatorial Enumeration** — Lodha Genius Programme, Ashoka University
  Instructor — *Summer 2025, Summer 2024*

– Taught combinatorics for grades 11 and 12.

- **Foundation Programme: Environment and Climate Change** — Ahmedabad University
  Instructor — *Winter 2025, Monsoon 2023*
  – Co-taught the third module (week-long) of this unique programme, which builds the foundations of interdisciplinary learning at Ahmedabad University and engages with issues of the society through project-based learning.
- **Combinatorial Enumeration (MAT315)** — Ahmedabad University
  Instructor — *Monsoon 2024*
- **Differential Equations (MAT256)** — Ahmedabad University
  Instructor — *Monsoon 2024*
- **Mathematics for Business (MAT000)** — Ahmedabad University
  Instructor — *Summer 2024, Summer 2023*
  – Co-taught the course.
- **Applied Linear Algebra (MAT248)** — Ahmedabad University
  Instructor — *Winter 2024*
  – Co-taught the course.
- **Introduction to Data Structures and Algorithms (CSC210)** — Ahmedabad University
  Instructor — *Monsoon 2023*
  – Co-taught the course.
- **Theory of Computing (CSE525)** — Ahmedabad University
  Instructor — *Monsoon 2023*
- **Mathematical Problem Solving** — Lodha Genius Programme, Ashoka University
  Instructor — *Summer 2023*
  – Taught mathematical problem solving (number theory, combinatorics and geometry) for grades 9 to 12.
- **Multivariable Calculus & ODEs (MA1012 Mathematics II)** — IIIT Manipur
  Instructor — *Spring 2023*
- **Optimization Techniques (MA305)** — IIIT Manipur
  Instructor — *Spring 2023*
- **Linear Algebra & Single Variable Calculus (MA1011 Mathematics I)** — IIIT Manipur
  Instructor — *Autumn 2022-23*
- **Single Variable Calculus (MA1006 Foundations of Mathematics II)** — Cardiff University
  Teaching Associate — *Spring 2022*

Publications (available at http://manjilsaikia.in/research/)

Undergraduate/Masters student authors (at the time of writing) are listed in brown.

Preprints

11. A. M. Alanazi, P. J. Mahanta and M. P. Saikia. *Inequalities involving Partitions with Parts Separated by Parity.* under preparation, 2026.

10. S. Maity and M. P. Saikia. *Extending Recent Arithmetic Properties of Overcubic Partition Tuples.* preprint, 2026.

9. N. D. Baruah, H. Das, P. J. Mahanta, and M. P. Saikia. *Hook Length Biases in t-core Partitions*, preprint, 2026. doi

8. M. P. Saikia and J. A. Sellers. *Elementary Proofs of Two Recent Parity Results of Merca.* preprint, 2026.

7. M. P. Saikia and A. Sarma. *Proof of a Nonnegativity Conjecture of Merca.* preprint, 2026.

6. H, Nath, M. P. Saikia, and J. A. Sellers. *New Arithmetic Properties for Overpartitions where Nonoverlined Parts are ℓ-Regular.* preprint, 2025. doi

5. H. Das, S. Maity, and M. P. Saikia. *Arithmetic Properties of Generalized Cubic and Overcubic Partitions.* under review, 2025. doi

4. P. Paul and M. P. Saikia. *Symmetric Domino Tilings of Aztec Diamonds.* under review, 2024. doi

3. P. Paul and M. P. Saikia. *A Novel Approach to Counting Perfect Matchings of Graphs.* preprint, 2024. doi

2. N. D. Baruah, H. Das, M. P. Saikia, and A. Sarma. *Congruences for Andrews-Uncu's partition function $\mathcal{EO}_u(n)$.* under review, 2024.

1. D. Haje, D. Ahmed, H. Izanloo and M. P. Saikia. *The Signed Roman Domination Number of Ladder graphs, circular Ladder graphs, and their complements.* preprint, 2024. doi

Peer-Reviewed Journal Articles

Scimago Quartile rankings[1] *of journals are added for the year of publication/acceptance/submission (whichever is higher); current rankings may differ.*

38. M. L. Nadji, M. P. Saikia, and J. A. Sellers. Arithmetic properties of t-Schur overpartitions, *Quaestiones Mathematicae*, to appear, 2026. doi **Q2, SCOPUS, SCIE**

37. M. P. Saikia. On some conjectures of Paudel, Sellers, and Wang. *Journal of the Assam Academy of Mathematics*, to appear, 2025.

36. H. Das, M. P. Saikia, and A. Sarma. Arithmetic Properties Modulo Powers of 2 and 3 for Overpartition k-Tuples with Odd Parts. *Bulletin of the Malaysian Mathematical Sciences Society*, 49:112, 2026. doi **Q2, SCOPUS, SCIE**

35. A. M. Alanazi, A. O. Munagi, and M. P. Saikia. Some Properties of Overpartitions into nonmultiples of two integers. *AIMS Mathematics*, 11(4):9876-9891, 2026. doi **Q2, SCOPUS, SCIE**

34. M. P. Saikia, A. Sarma, and P. Talukdar. Ramanujan-type Congruences for Partition k-Tuples with 5-Cores. *Indian Journal of Pure and Applied Mathematics*, 57(2):344–354, 2026. doi **Q3, SCOPUS, SCIE**

33. P. J. Mahanta, M. P. Saikia, and A. Sarma. Biases in Non-Unitary Partitions. *Boletín de la Sociedad Matemática Mexicana*, 32(1):23, 2026. doi **Q2, SCOPUS, ESCI**

32. H. Nath and M. P. Saikia. Arithmetic properties of partition functions introduced by Pushpa and Vasuki. *Journal of Symbolic Computation*, 135(July–August):102555, 2026. doi **Q1, SCOPUS, SCIE**

31. M. P. Saikia and P. Talukdar. Hook-Length Biases in t-regular partitions. *Enumerative Combinatorics and Applications*, 6 (1), Article #S2R8, 2026. doi

[1] https://www.scimagojr.com/journalrank.php

30. M. P. Saikia and J. A. Sellers. Generalizing Recent Results of Kathiravan, Majumdar, Sangalae, and Srinivas on (ℓ, k)-regular Partitions. *Journal of Integer Sequences*, 28 (6), Article 25.6.1, 2025. doi **Q3, SCOPUS, ESCI**

29. F. S. Jeba, P. J. Mahanta, A. Roy, and M. P. Saikia. On near F_k-perfect and deficient F_k-perfect numbers. *Integers*, 25, A#86, 2025. doi **Q2, SCOPUS**

28. M. P. Saikia and A. Sarma. Further Arithmetic Properties of Overcubic Partition Triples. *Bulletin of the Australian Mathematical Society*, 112(2):260-273, 2025. doi **Q2, SCOPUS, SCIE**

27. H. Nath, M. P. Saikia, and A. Sarma. Arithmetic Properties of k-tuple ℓ-regular Partitions. *Journal of Mathematical Analysis and Applications*, 551(2):129688, 2025. doi **Q1, SCOPUS, SCIE**

26. M. P. Saikia, A. Sarma, and J. A. Sellers. Arithmetic Properties Modulo Powers of 2 for Overpartition k-Tuples with Odd Parts. *Journal of the Ramanujan Mathematical Society*, 40(2):107-123, 2025. doi **Q3, SCOPUS, SCIE**

25. P. J. Mahanta and M. P. Saikia. Combinatorial Proofs of Some Results of Andrews and El Bachraoui. *The Ramanujan Journal*, 66(4):77, 2025. doi **Q1, SCOPUS, SCIE**

24. P. J. Mahanta and M. P. Saikia. Extensions of some results of Jovovic and Dhar. *Journal of the Ramanujan Mathematical Society*, 39(4):349-358, 2024. doi **Q3, SCOPUS, SCIE**

23. M. P. Saikia. Further congruences for $(4, 8)$-regular bipartition quadruples modulo powers of 2. *Journal of the Assam Academy of Mathematics*, 14:1-5, 2024. doi

22. M. P. Saikia. Conjectures on congruences of binomial coefficients modulo higher powers of a prime number. *Journal of the Assam Academy of Mathematics*, 13:5-7, 2023. doi

21. M. P. Saikia. Some Missed Congruences modulo powers of 2 for t-colored overpartitions. *Boletín de la Sociedad Matemática Mexicana*, 29(1):15, 2023. doi **Q2, SCOPUS, ESCI**

20. P. B. Borah, P. J. Mahanta, and M. P. Saikia. Representing Even Perfect and Near-Perfect Numbers as Sums of Cubes. *Journal of the Assam Academy of Mathematics*, 12:1-7, 2022. doi

19. P. J. Mahanta and M. P. Saikia. Refinement of some partition identities of Merca and Yee. *International Journal of Number Theory*, 18(5):1131-1142, 2022. doi **Q2, SCOPUS, SCIE**

18. P. J. Mahanta and M. P. Saikia. Some New and Old Gibonacci Identities. *Rocky Mountain Journal of Mathematics*, 52(2):645-665, 2022. doi **Q2, SCOPUS, SCIE**

17. K. Banerjee, S. Bhattacharjee, M. G. Dastidar, P. J. Mahanta, and M. P. Saikia. Parity Biases in Partitions and Restricted Partitions. *European Journal of Combinatorics*, 103:103522, 2022. doi **Q1, SCOPUS, SCIE**

16. I. Fischer and M. P. Saikia. Refined Enumeration of Symmetry Classes of Alternating Sign Matrices. *Journal of Combinatorial Theory, Series A*, 178:105350, 2021. doi **Q1, SCOPUS, SCIE**

15. P. J. Mahanta and M. P. Saikia. A family of lacunary recurrences for Lucas Numbers. *The Fibonacci Quarterly*, 58(4):356-360, 2020. doi **Q4, ESCI**

14. P. J. Mahanta, M. P. Saikia, and D. Yaqubi. Some properties of Zumkeller numbers and k-layered numbers. *Journal of Number Theory*, 217:218–236, 2020. doi **Q2, SCOPUS, SCIE**

13. J. T. Akagi, C. F. Gaona, F. Mendoza, M. P. Saikia, and M. Villagra. Hard and Easy Instances of L-Tromino Tilings. *Theoretical Computer Science*, 815:197-212, 2020. doi **Q2, SCOPUS, SCIE**

12. P. Dutta and M. P. Saikia. On Deficient Perfect Numbers with Four Distinct Prime Factors. *Asian-European Journal of Mathematics*, 13(7):2050126, 2020. doi **Q3, SCOPUS, ESCI**

11. M. P. Saikia. Enumeration of Domino Tilings of an Aztec Rectangle with boundary defects. *Advances in Applied Mathematics*, 89:41–66, 2017. doi **Q2, SCOPUS, SCIE**

10. A. Laugier and M. P. Saikia. Some Properties of Fibonacci Numbers, Generalized Fibonacci Numbers and Generalized Fibonacci Polynomial Sequences. *Kyungpook Mathematical Journal*, 57(1):1–84, 2017. doi **Q3, SCOPUS, ESCI**

9. A. Laugier, M. P. Saikia, and U. Sarmah. Some Results on Generalized Multiplicative Perfect Numbers. *Annali Della Universita di Ferrara*, 62(2):293–312, 2016. doi **Q2, SCOPUS, ESCI**

8. A. Laugier and M. P. Saikia. A combinatorial proof of a result on generalized Lucas Polynomials. *Demonstratio Mathematica*, 49(3):266–270, 2016. doi **Q3, SCOPUS, SCIE**

7. M. P. Saikia. A study of the crank function in Ramanujan's Lost Notebook. *The Mathematics Student*, 84(1-2):105-121, 2015. doi **Q4[2], SCOPUS**

6. A. Laugier and M. P. Saikia. Some results about Linear Recurrence Relation Homomorphisms. *Notes on Number Theory and Discrete Mathematics*, 20(4):58-68, 2014. doi **ESCI**

5. A. Laugier and M. P. Saikia. A characterization of a prime p from the binomial coefficient $\binom{n}{p}$. *The Mathematics Student*, 83(1-4):221-227, 2014. doi **Q4[2], SCOPUS**

4. M. P. Saikia. Cranks in Ramanujan's Lost Notebook. *Journal of the Assam Academy of Mathematics*, 6:59-63, 2013. doi

3. A. Laugier and M. P. Saikia. A new proof of Lucas' Theorem. *Notes on Number Theory and Discrete Mathematics*, 18(4):1-6, 2012. doi **ESCI**

2. M. P. Saikia and J. Vogrinc. Binomial Symbols and Prime Moduli. *Journal of the Indian Mathematical Society*, 79(1-4):137-143, 2011. doi **Q4[2], SCOPUS**

1. M. P. Saikia and J. Vogrinc. A Simple Number Theoretic Result. *Journal of the Assam Academy of Mathematics*, 3:91-96, 2010. doi

Peer-Reviewed Conference Proceedings[3]

5. S. Gonzalez, A. A. Bavandpour, P. Ye, E. Zhang, R. Aleksejevs, T. Antić, P. Baron, S. Bhalerao, S. Bhattacharya, Z. Burton, J. Byrne, H. Choi, N. A. Disha, K. I. Encz, Y. Fang, R. J. George, E. Ghorbani, A. Goldfarb, J. Guo, M. Gupta, S. Huber, A. Kanckos, M. Kang, H. J. Kim, D. Lorenzini, L. Lorenzo, T. Mao, G. Marzenta, A. M. Masuda, L. Mauth, A. Mickovic, A. Miniguano-Trujillo, A. Moulin, W. Ni, T. Parry, K. Ren, H. Roodbarani, M. Rundström, M. Saikia, D. Samart, R. Steiner, C. Stewart, D. Thakkar, J. Tse, V. Velona, Y. Xiang, S. Yalçın, J. Yan, J. Zeng, A. Cohan, Q. C. Liu. QEDBENCH: Quantifying the Alignment Gap in Automated Evaluation of University-Level Mathematical Proofs. In *Proceedings of the Forty-Third International Conference on Machine Learning*, to appear, 2026. doi **A***

4. F. S. Jeba, A. Roy, and M. P. Saikia. On k-Facile Perfect Numbers. In *Algebra and Its Applications, ICAA 2023*, Springer Proceedings in Mathematics & Statistics, vol 474., Springer, 111-121, 2025. doi **Q4, SCOPUS**

[2]Not ranked then, this is an estimate based on historical trends.
[3]CS conference ratings are mentioned in cyan.

3. F. S. Jeba, A. Roy, and M. P. Saikia. On near-perfect numbers with five prime factors. In *Advances in Mathematical and Computational Sciences: Proceedings of The ICRTMPCS International Conference 2023*, De Gruyter Proceedings in Mathematics, De Gruyter, 207-220, 2025. doi **Q4**[3]**, SCOPUS**

2. K. Banerjee, S. Bhattacharjee, M. G. Dastidar, P. J. Mahanta, and M. P. Saikia. Parity Biases in Partitions and Restricted Partitions. *Seminaire Lotharingien de Combinatoire (Proceedings of the 34th Conference on Formal Power Series and Algebraic Combinatorics)*, 86B.21, 2022. doi **Q4, SCOPUS**

1. J. T. Akagi, C. F. Gaona, F. Mendoza, M. P. Saikia, and M. Villagra. Hard and Easy Instances of L-Tromino Tilings. *Proceedings of the 13th International Conference and Workshops on Algorithms and Computation (WALCOM) 2019, Lecture Notes in Computer Science (LNCS)*, Volume 11355, 82-95, 2019. doi **Q2, SCOPUS, C**

Selected Non Peer-Reviewed Papers/Articles

13. M. P. Saikia. *Collection of Book Reviews.* Mathematical Association of America Reviews, 2020 – present. doi

12. M. P. Saikia. *Is an Assamese-Medium Medical College Just a Poll Gimmick?.* The Wire Science, 10 Feb 2021. doi

11. M. P. Saikia. *The Remarkable Sequence* $2, 7, 42, 429, 7436, \ldots$. Ganit Bikash, 67(2):44-50, 2020. doi

10. M. P. Saikia. *Freeman Dyson: A Short Portrait.* Ganit Bikash, 67(2):25-27, 2020. doi

9. M. P. Saikia and M. P. Talukdar. *The Perils of the Indian Education System.* Pragyan, Tinisukia College Magazine, 2019. doi

8. M. P. Saikia. *On Deficient Perfect Numbers with Four Distinct Prime Factors, II.* unpublished, 2018. doi

7. M. P. Saikia. *Debate: The Case for Intellectual Colonialism.* The Wire, 09 Dec 2017. doi

6. M. P. Saikia. *Book review: The Surprising Mathematics of Longest Increasing Subsequences.* Newsletter of the European Mathematical Society, 102(12):52-53, 2016. doi

5. M. P. Saikia. *John Forbes Nash, Jr.: A Short Obituary.* Asia Pacific Mathematics Newsletter, 5(2):42-43, 2015. doi

4. M. P. Saikia. *The Pythagoras' Theorem.* Asia Pacific Mathematics Newsletter, 5(2):5-8, 2015. doi

3. A. Laugier and M. P. Saikia. *Periodic Sequences modulo m.* unpublished, 2015. doi

2. P. J. Mahanta and M. P. Saikia. *Gonit Sora-the two year journey.* Asia Pacific Mathematics Newsletter, 3(4):25-27, 2013. doi

1. M. P. Saikia. *An interesting number theoretic problem.* Ganit Bikash, 57, 2011. doi

Solutions to Problems

2. M. P. Saikia. *Problem 4, 2015 (1-2).* The Mathematics Student, 84(3-4):181, 2015. doi **Q4**[3], **SCOPUS**

1. B. Deb and M. P. Saikia. *Problem 1908.* The Mathematics Magazine, 86(5):384-385, 2013. doi **Q4, SCOPUS**

Presentations

∗ = Invited; † = Contributed

- **Enumeration of Domino Tilings of Certain Planar Regions on the Square Lattice**
  † *International Congress of Mathematicians, Philadelphia, USA* *July 2026*
- **Hook-length biases in t-regular and t-core partitions**
  † *Combinatorial and Additive Number Theory (CANT), USA* *July 2026*
- **Inequalities between classes of partitions introduced by Andrews**
  ∗ *Special Session on Partition Thy., q-Series, & Related Topics, JMM, USA* *January 2026*
- **Perfect Matchings and Domino Tilings**
  † *Theoret., Alg., & Spectral approaches in Graph Thy., IIT (ISM) Dhanbad, India* *May 2025*
- **Open Access and geographically balanced editorial boards: an urgent call**
  ∗ *Euro. Math. Soc. Committee for Developing Countries Meeting, Univ. Cork, UK* *April 2025*
- **Cataland: A Romance of Many Bijections**
  ∗ *IISER Trivandrum, India* *November 2024*
- **Career Opportunities in Mathematics**
  ∗ *Jawaharlal Nehru College, Boko, Assam, India* *October 2024*
- **Alternating Sign Matrices and Plane Partitions**
  ∗ *Ganit Seminar, Indian Institute of Technology Gandhinagar, India* *October 2024*
  † *38th Annual Conference of the RMS, IITG, India* *December 2023*
  ∗ *Research Seminar Series, Ahmedabad University, India* *May 2023*
  ∗ *Combinatorics Seminar, University of Bristol, UK* *October 2022*
- **The Evolution of Trust**
  ∗ *ENABLE Activity, New Students Orientation, Ahmedabad University, India* *July 2024*
- **Discovering the Joy of Mathematics**
  ∗ *Ahmedabad Grand Challenge Programme, Ahmedabad University, India* *July 2024*
- **Arithmetic Properties of Overpartition k-Tuples with Odd Parts**
  † *2nd Meru Combinatorics Conference, GEHU, Bhimtal, India* *June 2024*
- **The Aztec Diamond Theorem Revisited**
  ∗ *COmbinatorial Number Theory And Connected Topics (CONTACT - III), online* *March 2024*
- **Partitions with fixed differences between parts with fixed multiplicities**
  † *COmbinatorial Number Theory And Connected Topics (CONTACT - II), online* *February 2023*
- **An Introduction to Algebraic Topology**
  ∗ *National Mathematics Day 2022, D. C. B. Girls College, Jorhat, India* *December 2022*
- **JEE Mathematics Problem Solving**
  ∗ *IIIT Manipur, India* *December 2022*

- **An Introduction to Mathematical Cryptography**
  ∗ *Institute Seminar, Chaitanya Bharathi Inst. of Technology, Hyderabad, India* *November 2022*
- **Some Combinatorial Problems**
  ∗ *Assam Academy of Mathematics, Bongaigaon Branch, Assam, India* *October 2022*
  ∗ *Mathematics Seminar, Dibrugarh University, Assam, India* *October 2019*
- **Logarithms and Hyperbolic Area**
  ∗ *IDM, Sipajhar College, Assam, India, online* *March 2022*
  ∗ *Patharkandi College, Assam, India, online* *February 2022*
- **Gonit Sora: Assessment and Future Needs**
  ∗ *CSIR-NIScPR, New Delhi, India* *February 2022*
- **What is Pseudoscience**
  ∗ *InSCIgnis, Tezpur University, Assam, India (video)* *February 2022*
- **Parity Biases in Partitions and Restricted Partitions**
  † *COmbinatorial Number Theory And Connected Topics (CONTACT - I), online* *December 2021*
  ∗ *Mathematics Colloquium, Ashoka University, India (video)* *November 2021*
- **How Mathematics has helped shape civilization**
  ∗ *Mathematics Seminar, Sambalpur University, Odisha, India* *December 2021*
  ∗ *15 Minit Xikhya, Assam, India, online (video)* *November 2021*
- **How to Discover the Rogers - Ramanujan Identities**
  ∗ *National Mathematics Day, Tezpur University, India (video)* *December 2021*
  ∗ *St. Berchmans College, Kerala, India (video)* *August 2021*
- **An Introduction to q-analysis**
  ∗ *Talk Series, Club of Mathematics, IISER, Thiruvananthapuram, India* *November 2021*
- **Euler's Pentagonal Number Theorem and Generalizations**
  ∗ *Online Seminar in Number Theory, Tezpur University, Assam, India* *October 2021*
  ∗ *Webinar Series in Mathematics, Rangapara College, Assam, India* *September 2021*
- **Combinatorial Reciprocity Theorems: Some Examples**
  ∗ *Institute Seminar, Institute of Mathematics and Applications, Bhubaneswar, India* *July 2021*
- **Signed Roman Domination Function on Some Graphs**
  ∗ *Joint Mathematics Meetings (AMS-MAA), online* *January 2021*
- **Refined enumeration of symmetry classes of Alternating Sign Matrices**
  ∗ *Topics in Special Functions and Number Theory, India, online (video)* *November 2020*
  Combinatorics in Algebra, Topology and Graph Theory (CATGT) Webinar, India *September 2020*
  ∗ *GAPT Seminar, Cardiff University, UK* *April 2020*
  † *Combinatory Analysis 2018, PSU, State College, USA* *July 2018*
- **The Remarkable Sequence** $1, 1, 2, 7, 42, 429, 7436, \ldots$
  ∗ *Webinar, Gurucharan College, Silchar, India (video)* *August 2020*
  Interdisciplinary Symposium of VDS, Universität Wien, Austria *September 2017*
- **Permutations and Games**
  Webinar, Kaziranga University, Jorhat, India *August 2020*
- **The Concrete Tetrahedron**
  ∗ *Webinar, Digboi College, Digboi, India* *August 2020*
- **Perspectives on Mathematics Education**
  ∗ *Assam Down Town University, Guwahati, India* *July 2020*
- **Hard and Easy Instances of L-Tromino Tilings**
  ∗ *Int'l Conf. on Mathematical Modelling in Appl. Scs., Dibrugarh U., India* *June 2020*
  † *13th WALCOM, IITG, India* *February 2019*

- **Introduction to the Theory of Computation**
  Mathematics Colloquium, Tezpur University, Assam, India — *October 2019*
- **Refined enumeration of Vertically Symmetric Alternating Sign Matrices**
  Mathematics Colloquium, Tezpur University, Assam, India — *May 2018*
  Mathematics Colloquium, North-Eastern Hill University, Shillong, India — *May 2018*
  ∗ *Vienna Discrete Mathematics Seminar, Technische Universität Wien* — *April 2018*
  † *80th SLC, Lyon, France* — *March 2018*
- **The Story of Alternating Sign Matrices ... so far**
  Mathematics Seminar, The Abdus Salam ICTP, Trieste, Italy — *July 2019*
- **Tiling Problems and Perfect Matchings**
  PhD Colloquium, Fakultät für Mathematik, Universität Wien, Austria — *March 2018*
  Mathematics Colloquium, Tezpur University, Assam, India — *November 2016*
- **Perfect Matchings and Game Theory**
  ∗ *Mini-Conference on Networks and Games, Indian Statistical Institute, Kolkata, India* — *July 2017*
- **Graphical Condensation and Aztec Rectangles**
  Stat-Math Unit Seminar, Indian Statistical Institute, Delhi, India — *February 2017*
  † *Int'l Conf. of TIMC, BHU, Varanasi, India* — *December 2016*
  † *ALEA in Europe Young Researcher's Workshop* — *September 2016*
  ∗ *Vienna Discrete Mathematics Seminar, Technische Universität Wien* — *June 2016*
- **Domino Tilings of Aztec Rectangles with Boundary Dents**
  † *3rd AEC Summer School, RISC, Hagenberg, Austria* — *August 2016*
- **Some Results on Generalized Multiplicative Perfect Numbers**
  † *Nat'l Seminar on Advances in Math. Sciences, Gauhati U., Assam, India* — *December 2015*
- **Binomial Symbols and Prime Moduli**
  ∗ *ICM Int'l Satellite Conf. on Rings and Near Rings, NEHU, Shillong, India* — *September 2010*

Selected Conferences/Workshops Attended

Excluding the ones where I have given a talk.

- National Conference on Contemporary Trends in Mathematical Sciences, Arunachal Pradesh University, Pasighat, India (online), April 2026
- COmbinatorial Number Theory And Connected Topics (CONTACT) V, online, March 2026
- International Conference on Graph Theory and its Applications, Presidency University, Bengaluru, India, June 2024
- FPSAC (Formal Power Series and Algebraic Combinatorics) 2022 Online, July 2022
- Ramanujan and Euler: Partitions, mock theta functions, and q-series, Online, July 2022
- FPSAC (Formal Power Series and Algebraic Combinatorics) 2021 Online, January 2022
- Lattice Paths, Combinatorics and Interactions, CIRM, Marseille Luminy, France, online, June 2021
- International Conference on Number Theory and Algebra, IIT (BHU), Varanasi, India, online, December 2020

- International Conference on Special Functions & Applications (ICSFA-2020), Babu Banarasi Das University, Lucknow, India, online, December 2020
- International Conference on Number Theory and Discrete Mathematics, Rajagiri School of Engineering and Technology, Kochi, India, online, December 2020
- FPSAC (Formal Power Series and Algebraic Combinatorics) 2020 Online, July 2020
- Combinatorial and Additive Number Theory 2020, online, June 2020
- Algebraic Combinatorics Online Workshop, online, April 2020
- 5th Algorithmic and Ennumerative Combinatorics Summer School, Research Institute for Symbolic Computation, Johannes Kepler Universität Linz, Austria, July-August 2019
- 31st International Conference on Formal Power Series and Algebraic Combinatorics (FPSAC), University of Ljubljana, Ljubljana, Slovenia, July 2019
- 13th International Conference and Workshops on Algorithms and Computation (WALCOM), Indian Institute of Technology, Guwahati, India, February-March, 2019
- 4th Algorithmic and Ennumerative Combinatorics Summer School, Research Institute for Symbolic Computation, Johannes Kepler Universität Linz, Austria, July-August 2018
- Workshop on Computer Algebra in Combinaroics, Erwin Schrödinger International Institute for Mathematics and Physics, Universität Wien, Austria, November 2017
- Workshop on Enumerative Combinaroics, Erwin Schrödinger International Institute for Mathematics and Physics, Universität Wien, Austria, October 2017
- ALEA in Europe Workshop, Technische Universität Wien, Austria, October 2017
- European Conference on Combinatorics, Graph Theory and Applications, Technische Universität Wien, Austria, August-September 2017
- Elliptic Hypergeometric Functions in Combinatorics, Integrable Systems and Physics, Erwin Schrödinger International Institute for Mathematics and Physics, Universität Wien, Austria, March 2017
- Computer Algebra and Elementary Particle Theory at the Large Scale: 10 Years of JKU-DESY Collaboration, Research Institute for Symbolic Computation, Johannes Kepler Universität Linz, Austria, February 2017
- 2016 Symposium Diskrete Mathematik, Freie Universität Berlin, Zuse-Institut Berlin, Germany, July 2016
- 28th International Conference on Formal Power Series and Algebraic Combinatorics (FPSAC), Simon Fraser University, Vancouver, Canada, July 2016
- 76th Séminaire Lotharingien de Combinatoire, Obernai, France, April 2016
- Conference dedicated to the scientific legacy of Marcel-Paul Schützenberger, Université de Bordeaux, Bordeaux, France, March 2016
- CIMPA International Research School and Conference on Fourier analysis of groups in Combinatorics, North-Eastern Hill University, Shillong, India, November 2013

- Advanced Instructional School on Analytic Number Theory, Kalinga Institute of Industrial Technology (KIIT) University, Bhubaneshwar, India, June 2013
- The Legacy of Srinivasa Ramanujan, University of Delhi, New Delhi, India, December 2012
- Pan Asian Number Theory Conference, Indian Institute of Science Education and Research, Pune, India, July 2012
- Advanced Instructional School on Number Theory (The Circle Method), The Institute of Mathematical Sciences, Chennai, India, June - July 2012

Events Organized/Co-Organized

Online events (not exceeding a day) are not added.

- **PART-I** (Partitions and Related Topics), 26–28 June, 2026 (online)
- **Advanced Instructional School in Advanced Combinatorics**, 15 December 2025 – 3 January 2026 at **Ahmedabad University**, Gujarat, India (supported by the National Centre for Mathematics)
- **CONTACT-IV** (Combinatorial Number Theory And Connected Topics), 29–30 March, 2025 (online)
- **National Mathematics Day 2024 Celebration**, 22 December 2024 at **Tezpur University**, Assam, India (supported by the Indian National Young Academy of Mathematics)
- **Glimpses of Mathematical Sciences**, 24 August 2014 at **Cotton College State University**[4], Guwahati, Assam, India (supported by Gonit Sora and Cotton College State University)

Students/JRFs

- Subhashish Shukla (Jan. 2026 – present, PhD student); Ahmedabad University, Ahmedabad, India
- Saikat Maity (Nov. 2024 – present, JRF); Ahmedabad University, Ahmedabad, India
- Mohit Dilipbhai Rohida (Jan. 2024 – present, Member, Doctoral Advisory Committee); Ahmedabad University, Ahmedabad, India
- Flora Jeba S (Jan. 2021 – present, External PhD Supervisor); CHRIST Deemed to be University, Bangaluru, India
- Anant Kedia (Sept. 2025 – Apr. 2026, BS Thesis); Ahmedabad University, Ahmedabad, India
- Prabal Talukdar (Jan. 2025 – Apr. 2025, MS Thesis); Indian Institute of Science Education & Research Kolkata, India

Academic Service and Professional Activities

- Member of the editorial board of the following journals/periodicals:

[4] Now renamed Cotton University.

  - Journal of the Assam Academy of Mathematics (June 2021 – present)
  - Ganit Bikash (July 2020 – present)
    * Deputy Editor (July 2020 – March 2024)

- **Executive Committee Member** of the **Assam Academy of Mathematics** (2020 – 2024)

- **Organising Committee Member** of the **Distinguished Lecture Series** of **The (Indian) Mathematics Consortium TMC** (October 2020 – October 2022).

- Delivered a series of talks at the **EAUMP-ICTP School: Topics in Concrete Mathematics** on **Combinatorial Representation Theory** in online mode, organized by **ICTP-East African Institute for Fundamental Research (EAIFR) in Kigali, Rwanda** (August 2021)

- Organized a series of talks and a department colloquium by Prof. Fernando Rodriguez Villegas at the Faculty of Mathematics, University of Vienna (November 2018)

- Refereed papers for the following journals and conferences:
  - Advances in Applied Mathematics
  - Advances in Mathematics
  - Afrika Matematika
  - AIMS Mathematics
  - Annali dell'Universitá di Ferrara. Sezione VII. Scienze Matematiche
  - Annals of Combinatorics
  - Axioms
  - Boletín de la Sociedad Matemática Mexicana
  - Bulletin of the Malaysian Mathematical Sciences Society
  - CSAE 2018
  - Discrete Mathematics
  - European Journal of Combinatorics
  - FPSAC (Formal Power Series and Algebraic Combinatorics) 2025
  - Graphs and Combinatorics
  - ICEPAM (International Conference on Evolution in Pure and Applied Mathematics) 2024
  - Indian Journal of Pure and Applied Mathematics
  - Integers
  - Journal of Algebraic Combinatorics
  - Journal of Algebraic Systems
  - Journal of Mathematics
  - Journal of the Assam Academy of Mathematics
  - Journal of the Indian Mathematical Society
  - Journal of the Korean Mathematical Society
  - Mathematica Slovaca
  - Mathematical Communications
  - Mathematics
  - Notes on Number Theory and Discrete Mathematics

  - Palestine Journal of Mathematics
  - Rad HAZU, Matematičke znanosti
  - SIGMA (Symmetry, Integrability and Geometry: Methods and Applications)
  - Symmetry
  - The Mathematics Student
  - The Ramanujan Journal
- Reviewed projects for the following funding agencies:
  - Board of Research in Nuclear Sciences (Department of Atomic Energy, Government of India)
- Reviewer for Mathematical Reviews (American Mathematical Society).
  January 2015 – present
- Reviewer for Zentralblatt Math (European Mathematical Society).
  September 2014 – present

Memberships

- **American Mathematical Society**, ordinary member (since 2015)
- **Ramanujan Mathematical Society**, life member (since 2018)
- **Assam Academy of Mathematics**, life member (since 2019)
- **Academy of Discrete Mathematics and Applications**, life member (since 2025)
- **Gujarat Ganit Mandal**, life member (since 2026)

Outreach

- Co-Organized a successful **series of online seminars** (June 2020 – June 2021) for **Early Career Mathematicians from India**.
- Organized a successful **series of webinars** (June 2020 – May 2021) under the aegis of Gonit Sora, where **speakers from 7 different countries gave 29 talks** aimed mainly at school and college students of India.
- I was a **Core Team Member** of **Xomidhan**, a career counselling platform for students from North-East India. In this role I assited in organizing several online and offline events for students in various parts of Assam (India).
- **Co-founded** the online bilingual (English & Assamese) magazine **Gonit Sora** in April 2012. (Serving as the **Managing Editor** in charge of the overall management of the website since its inception.)
- Co-founded the **Students' Science Council** (SSC) while an undergraduate at Tezpur University. SSC now successfully does school science outreach and organizes the largest science festical in North-East India, called **InSCIgnis**.

Mentoring

- Mentor for an internship program run by Gonit Sora and have so far **mentored four undergraduate students** from different parts of India (each for 3 months at a time).
- I have given the following advanced level courses on a volunteer basis to students (masters & PhD) in India (all online):
  - **Advanced q-Analysis** (Summer 2025): website.
  - **Rogers-Ramanujan Identities and Related Topics** (Fall 2022 & Summer 2024): a few lectures from Summer 2024 are available online.
  - **q-Series and Partitions** (Spring 2022): a few lectures are available online.
  - **Perfect Numbers and its Generalizations** (Spring 2022): a few lectures are available online.
  - **Topics on Alternating Sign Matrices** (Summer 2021): discussed the book **Proofs and Confirmations** by David Bressoud.
  - **Generating Functions in Combinatorics** (Spring 2021): discussed the book **generatingfunctionology** by H. Wilf.
- Actively involved in Mathematical Olympiad training camps in the North-East of India since 2008. I have delivered lectures for high school students at the following places:
  - Jawahar Navodaya Vidyalaya, North-East Region (online) (August 2025)
  - University of Science and Technology Meghalaya, India (January 2025)
  - Indian Institute of Technology Guwahati, India (December 2024 - January 25)
  - Inspire Academics, Tezpur, India (2018)
  - Birjhora Higher Secondary School, Bongaigaon, India (2017)
  - North-Eastern Hill University, Shillong, India (2012, 2013, 2014)
  - Darrang College, Tezpur, India (2011, 2014)
  - Gauhati University, Guwahati, India (2012, 2013, 2014)
  - Tinsukia Women's College, Tinsukia, India (2013)
  - Kaliabor College, Kuwaritol, India (2008, 2012, 2013)

Technical Skills

- Markup Languages
  - LaTeX, HTML
- Specialized Software
  - Mathematica
- Web Development
  - Apache Web Server

Other Research Experience

- **Visiting Student** — IASc, Bangaluru, Karnataka India
  Algebra — *June 2013 – July 2013*
  – Mentored by Prof. R. Sujatha
- **IASc Summer Research Fellowship** — IMSc, Chennai, Tamil Nadu, India
  Additive Combinatorics — *June 2012 – July 2012*
  – Mentored by Prof. R. Balasubramanian
- **IASc Summer Research Fellowship** — IISER Mohali, Punjab, India
  Algebraic Number Theory — *June 2011 – July 2011*
  – Mentored by Prof. Kapil H. Paranjape
- **CMI Summer Research Fellowship** — CMI, Chennai, Tamil Nadu, India
  Analytic Number Theory — *June 2010 – July 2010*
  – Mentored by Prof. Purusottam Rath

References

Available on request.