

Curriculum Vitae

1. Name: **DR. NAYANDEEP DEKA BARUAH.**
2. Designation: **Professor, Department of Mathematical Sciences, Tezpur University, Assam, INDIA.**
3. Mailing address: **Department of Mathematical Sciences, Tezpur University, Napaam, Assam, PIN-784028.**

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4. Nationality: **Indian.**
5. Sex: **Male.**
6. Marital Status: **Married.**
7. Date of Birth: **February 1, 1972.**
8. Education:

- HLSC from *Katori Higher Secondary School*, Sibsagar, Assam in **1987.**
- HS from *Cotton College*, Guwahati, Assam in **1989.**
- B. Sc. in Mathematics (Major) from *Cotton College*, Guwahati, under Gauhati University, Assam in **1992.**
- M. Sc. in Mathematics from *Indian Institute of Technology (IIT), Kanpur* in **1995.**
- Qualified *UGC-CSIR NET* in **1995.**
- Qualified *GATE* in **1995.**
- Ph. D. in Mathematical Sciences from *Tezpur University*, Assam in **2001.**
Title of the thesis: *Contributions to Ramanujan's Schläfli-type Modular Equations, Class Invariants, Theta-functions, and Continued Fractions.* Thesis Advisor: **Prof. P. Bhattacharyya.**

9. Details of Employment:

Sept. 24, 2009 – Present:

PROFESSOR, Department of Mathematical Sciences, **Tezpur University**, Assam.

June 14, 2007 – September 24, 2009:

ASSOCIATE PROFESSOR, Department of Mathematical Sciences, **Tezpur University**, Assam.

June 14, 2004 – June 13, 2007:

READER, Department of Mathematical Sciences, **Tezpur University**, Assam.

November 1, 2001 – June 13, 2004:

SENIOR LECTURER, Department of Mathematical Sciences, **Tezpur University**, Assam.

February 6, 1997 – October 31, 2001:

LECTURER, Department of Mathematical Sciences, **Tezpur University**, Assam.

March 18, 1996 – Jan. 30, 1997:

LECTURER, Department of Mathematics, **Assam University**, Silchar, Assam.

March, 2006 – March, 2007:

BOYSCAST FELLOW of DST, Govt. of India, Department of Mathematics, **University of Illinois at Urbana-Champaign**, USA.

10. Professional Recognition, Awards, Fellowships received:

- (a) **Prof. M. Vengkataraman Best Paper Presentation Award** by the *Ramanujan Mathematical Society* in its 15th Annual Conference held at the Ramanujan Institute for Advanced Study in Mathematics, University of Madras, during **June 5-7, 2000**.
- (b) **Young Scientist Award** in the section of Mathematical Sciences by the *Indian Science Congress Association* in its 91st Indian Science Congress held at Punjab University, Chandigarh, during **January 3-7, 2004**.
- (c) **Eighth Dr. Biraj Mohan Das Memorial Science Award, 1999-2003** in 2006 by the *Dr. Biraj Mohan Das Memorial Trust*.
- (d) **BOYSCAST FELLOWSHIP 2005-06** of *DST, Govt. of India*. Under this fellowship, I spent the year **March, 2006 – March, 2007** at the University of Illinois at Urbana-Champaign, USA, as a Visiting Scholar and conducted joint research work with *Professor Bruce C. Berndt*.
- (e) **29th Srinivasa Ramanujan Award Lecture** of *Indian Mathematical Society*. I delivered this award lecture in the 84th Annual Conference of the Indian Mathematical Society: An International Meet held in the Shri Mata Vaishno Devi University, Jammu on November 28, 2018.

11. Research Interest:

Number Theory, Special Functions, & Ramanujan's Mathematics, especially, Elliptic and Theta Functions, Modular Equations, Continued Fractions, q -series, Partition Theory, etc.

12. a) My Past Ph. D. students

- **Dr. Nipen Saikia (March, 2007):** *Explicit Evaluations of Ramanujan's Continued Fractions and Theta-Functions.*

(Current position: Assistant Professor, Rajiv Gandhi University, Arunachal Pradesh.)

- **Dr. Jonali Bora (March, 2007):** *Contributions to Ramanujan's Theta-Functions and Modular Equations.*

(Current position: Assistant Professor, Dibru College, Dibrugarh, Assam.)

- **Dr. Bipul Kumar Sarmah (June, 2012):** *Contributions to Partition Identities and Sums of Polygonal Numbers by Using Ramanujan's Theta Functions.*

(Current position: Assistant Professor, Tezpur University, Assam.)

- **Dr. Narayan Nayak (October, 2013):** *A Study on Ramanujan-type Series for $1/\pi$.*

(Current position: Assistant Professor, Royal School of Engineering and Technology, Assam.)

- **Dr. Kallol Nath (October, 2013):** *Contributions to t -core Partitions for Some Small t by Using Ramanujan's Theta Functions*

(Current position: Assistant Professor, Sibsagar College, Joysagar, Assam.)

- **Dr. Kanan Kumari Ojah (December, 2013):** *Contributions to Partition Identities and Congruences by Using Ramanujan's Theta Functions, Modular Equations and Continued Fractions*

(Current position: Assistant Professor, Assam Don Bosco University, Guwahati, Assam.)

- **Dr. Gautam Kalita (March, 2014):** (Co-supervisor) *Certain Families of Algebraic Curves and Polynomials, and Their Connections to Hypergeometric Functions..*

(Current position: Assistant Professor, Indian Institute of Information Technology, Guwahati, Assam.)

- **Dr. Bidyut Boruah (June, 2014):** *Arithmetic Identities of the Coefficients of Some Theta Functions and Colored Partition Identities*

(Current position: Assistant Professor, C.N.B. College, Bokakhat, Assam.)

- **Dr. Zakir Ahmed (June, 2016):** *Congruences for Some Partition Functions by Using Dissections of q -Products and Ramanujan's Theta Functions*

(Current position: Assistant Professor, Barnagar College, Sorbhog, Assam.)

- **Ms. Kuwali Das (Thesis submitted on November 16, 2016, deceased on December 16, 2016):** *Studies on Some Cubic Modular Equations of Ramanujan and Congruences for Certain Partition Functions.*

- **Ms. Mandeep Kaur (June, 2019):** *Arithmetic Properties of a Partition Function, Vanishing Coefficients in Infinite Product Expansions and Relations Between Sums of Squares and Triangular Numbers*

(Current position: Assistant Professor, Lovely Professional University, Phagwara, Punjab.)

- **Ms. Nilufar Mana Begum (June, 2019):** *Exact Generating Functions and Congruences for Some Partition Functions*

(Current position: Assistant Professor, Debraj Roy College, Golaghat, Assam.)

b) My Current Ph. D. students

- **Hirakjyoti Das**
- **Subhajit Bandyopadhyay**
- **Abhishek Sharma**
- **Pranjal Talukdar**

13. List of publications in refereed journals (60) and conference proceedings (3):

- (63) **Nayandeep Deka Baruah** (*with Hirakjyoti Das*): Matching Coefficients in the series expansions of certain q -products and their reciprocals, **The Ramanujan Journal**, 2021, DOI: 10.1007/s11139-021-00534-4.
- (62) **Nayandeep Deka Baruah** (*with Hirakjyoti Das*): Families of congruences for fractional partition functions modulo powers of primes, **Research in Number Theory**, Vol. 7, Article No. 57, 21 pp., **2021**.
- (61) **Nayandeep Deka Baruah** (*with Hirakjyoti Das*): Relations among representations of integers by certain quadratic forms, **Indian Journal of Pure and Applied Mathematics**, 2021, DOI: <https://doi.org/10.1007/s13226-021-00158-w>.
- (60) **Nayandeep Deka Baruah** (*with Hirakjyoti Das*): Generating functions and congruences for 9-regular and 27-regular partitions in 3 colors, **Hardy Ramanujan Journal**, to appear.
- (59) **Nayandeep Deka Baruah** (*with Subhajit Bandyopadhyay*): The n -color partition function and some counting theorems, **Integers**, Vol. 21, #A83, 16 pp., **2021**.
- (58) **Nayandeep Deka Baruah** (*with Mandeep Kaur*): A note on some recent results of Da Silva and Sellers on congruences for k -regular partitions with designated summands, **Integers**, Vol. 20, #A74, 6 pp., **2020**.

- (57) **Nayandeep Deka Baruah** (*with Mandeep Kaur*): Some results on vanishing coefficients in infinite product expansions, **The Ramanujan Journal**, Vol. 53, No. 3, pp. 551–568, **2020**.
- (56) **Nayandeep Deka Baruah** (*with Mandeep Kaur*): New congruences modulo 2, 4, and 8 for the number of tagged parts over the partitions with designated summands, **The Ramanujan Journal**, Vol. 52, No. 2, pp. 253–274, **2020**.
- (55) **Nayandeep Deka Baruah** (*with Nilufar Mana Begum*): Generating functions and congruences for some partition functions related to mock theta functions, **International Journal of Number Theory**, Vol. 16, No. 2, pp. 423–446, **2020**.
- (54) **Nayandeep Deka Baruah** (*with Mandeep Kaur, Mingyu Kim, Byeong Kweon Oh*): Proofs of some conjectures by Z. -H. Sun on relations between sums of squares and sums of triangular numbers, **Indian Journal of Pure and Applied Mathematics**, Vol. 51, No. 1, pp. 11–38, **2020**.
- (53) **Nayandeep Deka Baruah** (*with Nilufar Mana Begum*): Proofs of some conjectures of Chan on Appell-Lerch sums, **The Ramanujan Journal**, Vol. 51, No. 1, pp. 99–115, **2020**.
- (52) **Nayandeep Deka Baruah** (*with Nilufar Mana Begum*): On Exact generating functions for the number of partitions into distinct parts, **International Journal of Number Theory**, Vol. 14, No. 7, pp. 1995–2011, **2018**.
- (51) **Nayandeep Deka Baruah** (*with Bidyut Boruah*): Partition identities arising from Ramanujan’s formulas for multipliers, **The Ramanujan Journal**, Vol. 42, pp. 241–265, **2017**.
- (50) **Nayandeep Deka Baruah** (*with Zakir Ahmed*): New congruences for ℓ -regular partitions for $\ell \in \{5, 6, 7, 49\}$, **The Ramanujan Journal**, Vol. 40, pp. 649–668, **2016**.
- (49) **Nayandeep Deka Baruah** (*with Zakir Ahmed and Manosij Ghosh Dastidar*): New congruences modulo 5 for the number of 2-color partitions, **Journal of Number Theory**, Vol. 157, pp. 184–198, **2015**.
- (48) **Nayandeep Deka Baruah** (*with Zakir Ahmed*): Congruences modulo p^2 and p^3 for k dots bracelet partitions with $k = mp^s$, **Journal of Number Theory**, Vol. 151, pp. 129–146, **2015**.
- (47) **Nayandeep Deka Baruah** (*with Kuwali Das*): Bipartitions with 4-cores and sextenary quadratic forms, **Proceedings of the Conference of RMS-2014, RMS-Lecture Notes Series**, No. 21, pp. 27–38, **2015**.
- (46) **Nayandeep Deka Baruah** (*with Kanan Kumari Ojah*): Partitions with designated summands in which all parts are odd, **Integers**, Vol. 15, #A9, 16 pp., **2015**.

- (45) **Nayandeep Deka Baruah** (*with Zakir Ahmed*): New congruences for Andrews' singular overpartitions, **International Journal of Number Theory**, Vol. 11, pp. 2247–2264, **2015**.
- (44) **Nayandeep Deka Baruah** (*with Kuwali Das*): Parity results for 7-regular and 23-regular partitions, **International Journal of Number Theory**, Vol. 11, pp. 2221–2238, **2015**.
- (43) **Nayandeep Deka Baruah** (*with Bidyut Boruah*): Colored partition identities conjectured by Sandon and Zanello, **The Ramanujan Journal**, Vol. 37, pp. 479–533, **2015**.
- (42) **Nayandeep Deka Baruah** (*with Kallol Nath*): Infinite families of arithmetic identities and congruences for bipartitions with 3-cores, **Journal of Number Theory**, Vol. 149, pp. 92–104, **2015**.
- (41) **Nayandeep Deka Baruah** (*with Zakir Ahmed*): Parity results for broken 5-diamond, 7-diamond and 11-diamond partitions, **International Journal of Number Theory**, Vol. 11, pp. 527–542, **2015**.
- (40) **Nayandeep Deka Baruah** (*with Bipul Kumar Sarmah*): Generalized Frobenius partitions with 6 colors, **The Ramanujan Journal**, Vol. 38, pp. 361–382, **2015**.
- (39) **Nayandeep Deka Baruah** (*with Kallol Nath*): Infinite families of arithmetic identities for doubled distinct t -cores for $t = 3, 4, \dots, 10$, **International Journal of Number Theory**, Vol. 10, pp. 85–113, **2014**.
- (38) **Nayandeep Deka Baruah** (*with Kallol Nath*): Infinite families of arithmetic identities for self-conjugate 5-cores and 7-cores, **Discrete Mathematics**, Vol. 321, pp. 57–67, **2014**.
- (37) **Nayandeep Deka Baruah** (*with Kallol Nath*): Some results on 3-cores, **Proceedings of the American Mathematical Society**, Vol. 142, pp. 441–448, **2014**.
- (36) **Nayandeep Deka Baruah** (*with Kallol Nath*): Two quotients of theta functions and arithmetic identities for 3-cores, in **The Legacy of Srinivasa Ramanujan**, B.C. Berndt and D. Prasad (eds.), RMS Lecture Notes Series, Ramanujan Mathematical Society, Vol. 20, pp. 99–110, 2013.
- (35) **Nayandeep Deka Baruah** (*with Bipul Kumar Sarmah*): Identities and congruences for the general partition and Ramanujan's tau functions, **Indian Journal of Pure and Applied Mathematics**, Vol. 44, pp. 643–671, **2013**.
- (34) **Nayandeep Deka Baruah** (*with Kallol Nath*): Infinite families of arithmetic identities for 4-cores, **Bulletin of the Australian Mathematical Society**, Vol. 87, pp. 304–315, **2013**.
- (33) **Nayandeep Deka Baruah** (*with Jonali Bora and Kanan Kumari Ojah*): Ramanujan's modular equations of degree 5, **Proceedings of the Indian**

- Academy of Science (Mathematical Sciences)**, Vol. 122, No. 4, pp. 485–506, **2012**.
- (32) **Nayandeep Deka Baruah** (*with Bipul Kumar Sarmah*): The number of representations of a number as sums of various polygonal numbers, **Integers**, Vol. 12, #A54, 16 pp. **2012**.
 - (31) **Nayandeep Deka Baruah** (*with Kanan Kumari Ojah*): Analogues of Ramanujan's partition identities and congruences arising from his theta functions and modular equations, **The Ramanujan Journal**, Vol. 28, Issue 3, pp. 385–407, **2012**.
 - (30) **Nayandeep Deka Baruah** (*with Bidyut Boruah*): Two theta function identities of Ramanujan and representation of a number as a sum of three squares and as a sum of three triangular numbers, **Integers**, Vol. 12, #A40, 11 pp. **2012**.
 - (29) **Nayandeep Deka Baruah** (*with Bipul Kumar Sarmah*): Identities for self-conjugate 7- and 9-core partitions, **International Journal of Number Theory**, Vol. 8, Issue 3, pp. 653–667, **2012**.
 - (28) **Nayandeep Deka Baruah** (*with Kanan Kumari Ojah*): Some congruences deducible from Ramanujan's cubic continued fraction, **International Journal of Number Theory**, Vol. 7, Issue 5, pp. 1331–1343, **2011**.
 - (27) **Nayandeep Deka Baruah** (*with Bipul Kumar Sarmah*): Congruences for generalized Frobenius partitions with 4 colors, **Discrete Mathematics**, Vol. 311, Issue 17, pp. 1892–1902, **2011**.
 - (26) **Nayandeep Deka Baruah** (*with Narayan Nayak*): New hypergeometric-like series for $1/\pi^2$ arising from Ramanujan's theory of elliptic functions to alternative base 3, **Transactions of the American Mathematical Society**, Vol. 363, Issue 2, pp. 887–900, **2011**.
 - (25) **Nayandeep Deka Baruah** (*with Rupam Barman*): Ramanujan's modular equations of degree 15 and associated theta-function identities, **Proceedings of the Indian Academy of Sciences (Mathematics Sciences)**, Vol. 120, Issue 3, pp. 267–284, **2010**.
 - (24) **Nayandeep Deka Baruah** (*with Narayan Nayak*): Series for $1/\pi$ arising from certain representations for Eisenstein series in Ramanujan's second notebook, in **Ramanujan Rediscovered**, N. D. Baruah, B.C. Berndt, S. Cooper, T. Huber, M. Schlosser (eds.), RMS Lecture Notes Series, No. 14, Ramanujan Mathematical Society, pp. 9–30, **2010**.
 - (23) **Nayandeep Deka Baruah** (*with Bruce C. Berndt*): Eisenstein Series and Ramanujan-type series for $1/\pi$, **The Ramanujan Journal**, Vol. 23, Issues 1–3, pp. 17–33, **2010**.
 - (22) **Nayandeep Deka Baruah** (*with Bruce C. Berndt*): Ramanujan's Eisenstein series and new hypergeometric-like series for $1/\pi^2$, **Journal of Approximation Theory**, Vol. 160, Issues 1–2, pp. 135–153, **2009**.

- (21) **Nayandeep Deka Baruah** (*with Bruce C. Berndt and Heng Huat Chan*): Ramanujan's series for $1/\pi$: A survey, **Mathematics Student** (Special Centenary Volume), pp. 1–24, **2007**; **American Mathematical Monthly**, Vol. 116, No. 7, pp. 567–587, **2009**.
- (20) **Nayandeep Deka Baruah** (*with Shaun Cooper and Michael Hirschhorn*): Sums of squares and sums of triangular numbers induced by partitions of 8, **International Journal of Number Theory**, Vol. 4, No. 4, pp. 525–538, **2008**.
- (19) **Nayandeep Deka Baruah** (*with Bruce C. Berndt*): Partition identities arising from theta function identities, **Acta Mathematica Sinica, English Series**, Vol. 24, No. 6, pp. 955–970, **2008**.
- (18) **Nayandeep Deka Baruah** (*with Nipen Saikia*): Explicit evaluations of Ramanujan-Göllnitz-Gordon continued fraction, **Monatshefte für Mathematik**, Vol. 154, No. 4, pp. 271–288, **2008**.
- (17) **Nayandeep Deka Baruah** (*with Jonali Bora*): Modular equations for the nonic analogues of the Rogers-Ramanujan functions with applications to partitions, **Journal of Number Theory**, Vol. 128, No. 1, pp. 175–206, **2008**.
- (16) **Nayandeep Deka Baruah** (*with Bruce C. Berndt*): Ramanujan's series for $1/\pi$ arising from his cubic and quartic theories of elliptic functions, **Journal of Mathematical Analysis and Applications**, Vol. 341, No. 1, pp. 357–371, **2008**.
- (15) **Nayandeep Deka Baruah** (*with Jonali Bora and Nipen Saikia*): Some new proofs of the modular relations for the Göllnitz-Gordon functions, **The Ramanujan Journal**, Vol. 15, No. 2, pp. 281–301, **2008**.
- (14) **Nayandeep Deka Baruah** (*with Bruce C. Berndt*): Partition identities and Ramanujan's modular equations, **Journal of Combinatorial Theory, Series A**, Vol. 114, No. 6, pp. 1024–1045, **2007**.
- (13) **Nayandeep Deka Baruah** (*with Jonali Bora*): Further analogues of the Rogers-Ramanujan functions with applications to partitions, **Integers – The Electronic Journal of Combinatorial Number Theory**, Vol. 7(2), Article No. A5, 22 pp., **2007**.
- (12) **Nayandeep Deka Baruah** (*with Nipen Saikia*): Two parameters for Ramanujan's theta-functions and their explicit values, **Rocky Mountain Journal of Mathematics**, Vol. 37, No. 6, pp. 1747–1790, **2007**.
- (11) **Nayandeep Deka Baruah** (*with Nipen Saikia*): Modular relations and explicit values of Ramanujan-Selberg continued fractions, **International Journal of Mathematics and Mathematical Sciences**, Vol. 2006, Article ID 54901, pp. 1–15, **2006**.

- (10) **Nayandeep Deka Baruah** (*with Rupam Barman*): Certain theta-function identities and Ramanujan's modular equations of degree 3, **Indian Journal of Mathematics**, Vol. 48, No. 1, pp. 113–133, **2006**.
- (9) **Nayandeep Deka Baruah** (*with Jonali Bora*): Some new proofs of Ramanujan's modular equations of degree 9, **Indian Journal of Mathematics**, Vol. 47, No. 1, pp. 99–122, **2005**.
- (8) **Nayandeep Deka Baruah** (*with Nipen Saikia*): Some new explicit values of Ramanujan's continued fractions, **Indian Journal of Mathematics**, Vol. 46, Nos. 2-3, pp. 197–222, **2004**.
- (7) **Nayandeep Deka Baruah** (*with P. Bhattacharyya*): Some theorems on the explicit evaluations of Ramanujan's theta-functions; **International Journal of Mathematics and Mathematical Sciences**, Vol. 2004, No. 40, pp. 2149–2159, **2004**.
- (6) **Nayandeep Deka Baruah** (*with Nipen Saikia*): Some general theorems on the explicit evaluations of Ramanujan's cubic continued fraction; **Journal of Computational and Applied Mathematics**, Vol. 160, Nos. 1-2, pp. 37–51, **2003**.
- (5) **Nayandeep Deka Baruah**: On some of Ramanujan's Schläfli-type “Mixed” modular equations; **Journal of Number Theory**, Vol. 100, No. 2, pp. 270–294, **2003**.
- (4) **Nayandeep Deka Baruah**: Modular equations for Ramanujan's cubic continued fraction; **Journal of Mathematical Analysis and Applications**, Vol. 268, No. 1, pp. 244–255, **2002**.
- (3) **Nayandeep Deka Baruah**: On some class invariants of Ramanujan; **Journal of the Indian Mathematical Society**, Vol. 68, Nos. 1–4, pp. 113–133, **2001**.
- (2) **Nayandeep Deka Baruah**: On some of Ramanujan's identities for eta-functions; **Indian Journal of Mathematics**, Vol. 42, No. 3, pp. 253–266, **2000**.
- (1) **Nayandeep Deka Baruah**: A few theta-function identities and some of Ramanujan's modular equations; **The Ramanujan Journal**, Vol. 4, No. 3, pp. 239–250, **2000**.

14. Other publications:

- (a) **Nayandeep Deka Baruah**: *RAMANUJAN AARU TEUR GONIT*, An Assamese book on Ramanujan and his mathematics published by Sanjiwan Prakashan, Guwahati, 2021.

15. Papers/invited talks presented in national/international conferences:

- (1) “On some of Ramanujan’s Schl  fli-type modular equations,” **presented** at the **15th Annual Conference of the Ramanujan Mathematical Society**, held at the Ramanujan Institute for Advanced Study in Mathematics, University of Madras, **Chennai**, during 5–7 June, 2000.
- (2) “Some general theorems on the explicit evaluations of Ramanujan’s cubic continued fraction,” **presented** at the **International Conference on Special Functions and Their Applications (ICSF 2002)**, held at the Institute of Mathematical Sciences, **Chennai**, India, during **September 23–27, 2002**.
- (3) “Some new explicit values of Ramanujan’s continued fractions,” **presented** at the **91st Indian Science Congress** held at Punjab University, **Chandigarh**, during **January 3–7, 2004**.
- (4) “Nonic Analogues of the Rogers-Ramanujan functions with applications to partitions,” **invited talk** given in the **INTEGERS CONFERENCE 2005** held at **The University of West Georgia, USA**, during **October 27–30, 2005**.
- (5) “Partition identities arising from Ramanujan’s modular equations and theta functions,” **Contributed talk** in the Joint AMS-MAA Meeting, **New Orleans, USA**, January 5–8, 2007.
- (6) “Ramanujan’s Eisenstein series and new hypergeometric-like series for $1/\pi^2$,” **invited talk** in the 73rd annual conference and centenary celebration of the Indian Mathematical Society held at **Pune** during **December 27–30, 2007**.
- (7) “New hypergeometric-like series for $1/\pi^2$ arising from Eisenstein series and Ramanujan’s cubic theory of elliptic functions,” **invited talk** in the international conference “Ramanujan Rediscovered” at **IIIT, Bangalore** during **June 1–5, 2009**.
- (8) “Quest for the digits of π ,” **invited general talk** in the international conference “Ramanujan Rediscovered” at **IIIT, Bangalore** during **June 1–5, 2009**.
- (9) “Ramanujan’s modular equations and theta function identities with applications to t -cores,” **invited talk** in *The Legacy of Srinivasa Ramanujan- An International Conference*, held at **University of Delhi** during **December 17–22, 2012**.
- (10) “Generalized Frobenius partitions with 4, 5, and 6 colors,” **invited talk** in the 29th Annual Conference of the Ramanujan Mathematical Society held at **IISER, Pune** during **June 23–27, 2014**.
- (11) “Some new congruences for the number of partitions into distinct (or into odd) parts,” **invited talk** in the 29th International Conference of The Jangjeon Mathematical Society on Number Theory and Special Functions and Their Applications at **Pondicherry University, Puducherry** during **August 8–10, 2016**.

- (12) “Some recent results on generalized Frobenius partitions,” **Keynote Address** in the National Conference on “Advances in Science, Engineering and Technology (ASET 2017)” held at **Girijananda Chowdhury Institute of Management and Technology (GIMT), Tezpur** during **November 10–11, 2017**.
 - (13) “Some partition identities analogous to Ramanujan’s “Most Beautiful Identity”,” **29th S. Ramanujan Memorial Award Lecture** in the *84th Annual Conference of Indian Mathematical Society: An International Meet*, held at **Shri Mata Vaishno Devi University, Jammu** during **November 27–30, 2018**.
 - (14) “Ramanujan’s “most beautiful identity” and some analogous results related to mock theta functions,” **Invited Talk** in the *International Conference on Number Theory and Graph Theory*, held at **University of Mysore, Karnataka** during **June 27–29, 2019**.
 - (15) “Ramanujan and Pi,” **invited talk** on December 22, 2020 in the *International Conference on Number Theory and Algebra* held at **IIT BHU** during **December 22–23, 2020**.
16. Invited talks and talks in Seminars, Workshops, Refresher Courses, etc.:
- (1) **In 2001**
 - (a) **June 18 & 21:** Delivered a couple of talks at **Government Girls’ H.S. and M.P. School, Tezpur**, in the “Five Day in Service Training Course cum Workshop for Secondary School Teachers of Sonitpur District,” organized by the Inspector of Schools, Sonitpur District Circle, held during June 18–22.
 - (b) **June 27 & 28:** Delivered a couple of talks on **“Pi and Fibbonacci Numbers,”** in the Refresher Course for Higher Secondary Subject Teachers organized by Assam Higher Secondary Education Council (AHSEC), held at **Lakhimpur Girls’ College, Lakhimpur**.
 - (c) **October 10:** Delivered a talk on **“Ramanujan and π ,”** at **Lokanayak Amio Kumar Das College, Dhekiajuli**.
 - (d) **December 8:** Delivered a talk on **“The Story of π ,”** at **Darrang College, Tezpur**.
 - (2) **In 2002**
 - (a) **February 28:** Delivered an invited talk on **“Beautiful Numbers and Pi,”** at **Jawahar Navodaya Vidyalaya, Sonitpur**.
 - (b) **November 27:** Conducted a **Mathematical Quiz Contest** amongst the High school and HS students held at Nagaon Polytechnic and organized by the **Assam Academy of Mathematics, Nagaon Branch**.
 - (c) **December 2–6:** Delivered five lectures on **“Fourier Series and Transforms,”** in the **Refresher Course on Physics of Earthquakes** organized by the Department of Mathematical Sciences, Tezpur University and sponsored by **Indian Academy of Sciences (IASc), Bangalore**.

(3) In 2003

- (a) **July 4:** Delivered an invited talk on **“Geometry and Numbers,”** at **Kaliabor College, Nagaon.**
- (b) **November 14:** Delivered an invited talk on **“Ramanujan’s Number Theory,** at **Tyagbir Hem Baruah College, Jamugurihat, Sonitpur, Assam.**
- (c) **December 3:** Delivered (jointly with *Professor Malay Dutta* of Dept. of Information Technology, Tezpur University) the **Sixth Professor R. C. Gupta Endowment Lecture of Assam Academy of Mathematics,** held at Darrang College (Topic: **“Primality: A Historical Perspective.”**)

(4) In 2004

- (a) **July 4:** Delivered an invited talk on **“How Mathematics Learning Can Be Made Interesting,”** in a seminar organized by **Bharata Jana Vijnan Jatha, Tezpur Branch.**
- (b) **December 10–30:** Delivered a series of six lectures on **“Complex Analysis,”** in the **UGC Refresher Course in Mathematics** organized by the Department of Mathematical Sciences, Tezpur University during December 10-30, 2004.

(5) In 2005

- (a) **January 6:** Delivered an invited talk on **“How to Teach Mathematics in Primary Schools,”** in a motivational programme for school teachers organized by **Tezpur Gurukul School, Sonitpur.**
- (b) **February 16–18:** Delivered a series of six talks on **“Elementary, Analytic and Computational Number Theories,”** in the **UGC sponsored Refresher Course in Mathematics** for College/Teachers organized by the Department of Mathematics, **Dibrugarh University.**
- (c) **February 18:** Delivered a talk on **“Repunit Primes and Narcissistic Numbers,”** in a seminar organized by the Department of Mathematics, **Dibrugarh University.**
- (d) **March 15:** Delivered an invited talk on **“Arithmetic Geometric Mean, Modular Equations, and the Evaluation of π ,”** in the **Department of Mathematics, IIT, Guwahati.**
- (e) **June 26:** Delivered two invited talks on **“Recreational Number Theory,”** in a Refresher Course in Mathematics for Secondary Mathematics Teachers organized by the Assam Higher Secondary Education Council held in the Department of Mathematics, **Cotton College, Guwahati.**

(6) In 2006

- (a) **August 29:** Delivered a talk on **“Ramanujan’s Modular Equations and t -core Partitions,”** in the Number Theory Seminar of **University of Illinois at Urbana-Champaign, USA.**
- (b) **September 21:** Delivered an invited talk on **“Partition Identities and Ramanujan’s Modular Equations,”** in the Number Theory Seminar of **Pennsylvania State University, USA.**

- (c) **November 6:** Delivered a talk on “**Ramanujan-type series for $1/\pi$,**” in the q -series Seminar of **University of Illinois at Urbana-Champaign, USA.**

(7) **In 2007**

- (a) **March 13:** Delivered a talk on “**Some New Series for $1/\pi^2$,**” in the Number Theory Seminar, Department of Mathematics, **University of Illinois at Urbana-Champaign, USA.**
- (b) **October 16–18:** Delivered a series of six lectures on various topics of “**Number Theory and Mathematics Influenced by Ramanujan,**” in the **UGC sponsored Refresher Course in Mathematics** for College/University Teachers organized by the Department of Mathematics, **North East Hill University (NEHU).**

(8) **In 2008**

- (a) **January 28–30:** Delivered a couple of lectures on “**Various Beautiful Patterns of Numbers,**” in the Workshop in Mathematics for High School Mathematics Teachers organized by **Women’s College, Tinsukia, Assam.**
- (b) **June 1:** Delivered a talk on “**Some Simple Applications of the Greatest Integer Function and Congruences,**” in a training programme for Mathematics Olympiad aspirants organized by **Darrang College, Tezpur.**
- (c) **November 21–22:** Delivered a series of four lectures on various topics of “**Elementary Number Theory,**” in the **UGC sponsored Refresher Course in Mathematics** for College/University Teachers organized by the Department of Mathematics, **Gauhati University.**
- (d) **December 22:** Delivered a talk on “**Ramanujan: His Life and Mathematics,**” in Ramanujan’s Birthday celebration programme at **Darrang College, Tezpur.**

(9) **In 2009**

- (a) **October 25:** Delivered a talk on “**Pi,**” and conducted a Quiz Competition among the school/college students in a seminar organized by the Nagaon Branch of Assam Academy of Mathematics at **Anandaram Dhekial Phookan College, Nagaon, Assam.**
- (b) **October 31:** Delivered a talk on “**The Amazing Story of the King and a Genius,**” in a seminar organized by the Department of Mathematics, **Sibsagar College, Joysagar, Assam.**
- (c) **December 22:** Delivered a talk on “**Ramanujan’s Life and Mathematics,**” in Ramanujan’s Birthday celebration programme at **Darrang College, Tezpur.**

(10) **In 2010**

- (a) **January 28–29:** Delivered lectures on **“MATHEMATICA,”** in a UGC Sponsored Workshop in Mathematics for College Teachers organized by **Women’s College, Tinsukia, Assam.**
- (b) **April 23–24:** Delivered a series of four lectures on Magic of Numbers, MATHEMATICA and Pi (π) in “MATH-MAGIC: A Workshop on Teaching and Learning Mathematics,” organized by **Delhi Public School, Duli-ajan, Assam.**
- (c) **June 16:** Delivered a talk on “An Inspiring story of Ramanujan and Pi (π)” in a DST sponsored INSPIRE Programme organized by **Tezpur University, Assam.**
- (d) **August 27:** Delivered a talk on “Number System” in a training programme for Mathematics Facilitators organized by **Assam Science and Technology Education Council, Assam.**
- (e) **December 6–7:** Delivered a series of four lectures on various topics of **“Number Theory ”** in the **UGC sponsored Refresher Course in Mathematics** for College/University Teachers organized by the Department of Mathematics, **North East Hill University (NEHU).**

(11) **In 2011**

- (a) **January 04:** Delivered two talks on “Number System” in a training programme for Mathematics Facilitators organized by **Assam Science and Technology Education Council, Assam.**
- (b) **February 10:** Delivered an invited talk on “Ramanujan-type series for $1/\pi$ and $1/\pi^2$ ” in a UGC sponsored National Conference on Recent Trends in Mathematical Sciences organized by **North Bengal University, Siliguri, West Bengal.**
- (c) **July 21:** Delivered two invited talks as a mentor in Mathematical Sciences in a DST sponsored INSPIRE Programme organized by **Dibrugarh University, Assam.**

(12) **In 2012**

- (a) **April 21:** Delivered a talk on “Magical Numbers ” in a Outreach Programme at **Pachmile H. S. School, Pachmile, Tezpur.**
- (b) **June 14:** Delivered a talk on “An Inspiring Story of a Genius and the King” in a DST sponsored INSPIRE Programme organized by **Tezpur University.**
- (c) **July 20:** Delivered an invited talk on “Ramanujan and Pi” at **Royal School of Engineering and Technology, Guwahati.**
- (d) **September 22:** Delivered an invited talk on “Numbers, Pi and Ramanujan” at **Dibru College, Dibrugarh** as a part of the Golden Jubilee Celebration of the College.

- (e) **October 17:** Delivered an invited talk on “Ramanujan’s Modular Equations and Theta Functions with Applications to Partitions” at **Indian Statistical Institute (ISI), Delhi Centre, New Delhi.**
- (f) **October 17:** Delivered an invited talk on “Ramanujan and Pi” at **Shri Ram School, Gurgaon, Haryana.**
- (g) **October 18:** Delivered an invited talk on “Ramanujan and Pi” in the Science Academies Lecture Workshop in Celebration of the National Mathematics Year-2012 at **Jamia Milia Islamia, New Delhi.**

(13) **In 2013**

- (a) **May 09:** Delivered a keynote address on “Ramanujan’s modular equations and theta function identities with applications to t -cores,” in the *National Conference on Pure and Applied Mathematics* held at **Royal School of Engineering and Technology, Guwahati**, during May 9–10, 2013.
- (b) **December 18:** Delivered a talk on “An Inspiring Story of a Genius and the King” in a DST-INSPIRE Programme organized by **M. C. College, Barpeta, Assam.**
- (c) **December 25:** Delivered a talk on “Ramanujan and Pi (π)” in a DST-INSPIRE Programme organized by **Tezpur University, Assam.**

(14) **In 2014**

- (a) **May 10:** Delivered an invited talk on “**Fun with Mathematics,**” in a motivational programme for school teachers organized by **Army Public School, Tezpur.**
- (b) **September 06:** Delivered an invited talk on “**Work and Achievement of Manjul Bhargava: Fields Medalist-2014,**” in a seminar organized by the **Department of Mathematical Sciences, Tezpur University.**
- (c) **December 20:** Delivered an invited talk on “**Ramanujan,**” in a seminar organized by the **Kendriya Vidyalaya, Central University, Tezpur.**
- (d) **December 22:** Delivered an invited talk on “**Ramanujan,**” in the National Mathematics Day celebration at **Kendriya Vidyalaya, Missamari, Sonitpur.**

(15) **In 2015**

- (a) **March 19-21:** Delivered a series of four lectures on “**Number Theory,**” in a Refresher Course in Mathematics for College/University teachers organized by **North Bengal University, West Bengal.**
- (b) **June 09:** Delivered an invited talk on “**Ramanujan and Pi,**” in a seminar organized by the **Department of Mathematics, B. Barooah College, Guwahati.**

(16) In 2016

- (a) **March 14:** Delivered a lecture on π in the Pi-Day celebration organized by **Girijananda Institute of Management and Technology (GIMT), Dekar-gaon, Tezpur.**
- (b) **August 09:** Delivered an invited talk on Ramanujan and π in the **Department of Mathematics, Pondicherry University, Puducherry.**

(17) In 2017

- (a) **October 27:** Delivered an invited colloquium talk on Works of Srinivasa Ramanujan organized by **Indian Statistical Institute, North East Centre, Tezpur.**
- (b) **December 22:** Delivered an invited talk on Srinivasa Ramanujan and his works on the occasion of National Mathematics Day organized by **Gir-ijananda Institute of Management and Technology (GIMT), Azara, Guwahati.**

(18) In 2018

- (a) **March 14:** Delivered a lecture on π in the Pi-Day celebration organized by **Girijananda Institute of Management and Technology (GIMT), Dekar-gaon, Tezpur.**
- (b) **July 27:** Delivered a lecture on “Learning Mathematics: Some Simple Examples” in a three week long Induction Program for the newly admitted students of B. Tech. organized by **School of Engineering, Tezpur University.**
- (c) **November 28:** Delivered the **29th S. Ramanujan Memorial Award Lec-ture** on “Some partition identities analogous to Ramanujan’s “Most Beau-tiful Identity”,” in the *84th Annual Conference of Indian Mathematical Society: An International Meet*, held at **Shri Mata Vaishno Devi Univer-sity, Jammu** during **November 27–30, 2018.**
- (d) **December 21 & 22:** Delivered three lectures on Elementary Number Theory in the **Refresher Course in Mathematics and Statistics** for Col-lege/University Teachers held at **Gauhati University, Assam** during **De-cember 19, 2018 – January 08, 2019.**
- (e) **December 22:** Delivered an invited talk on **Ramanujan and a Glimpse of his Mathematics** in the *National Seminar on Advances in Mathematical Sciences commemorating the 131st birth anniversary of Srinivasa Ramanu-jan & National Mathematics Day* organized by **Department of Mathe-matics, Gauhati University, Assam.**

(19) In 2019

- (a) **February 08:** Delivered an invited talk on “Some mathematical tidbits” in a seminar organized by the **Students’ Science Council** and the **Depart-ment of Mathematical Sciences, Tezpur University.**

- (b) **March 30:** Delivered a lecture on π in a belated Pi-Day celebration organized by the **Students' Science Council**.
- (c) **September 27:** Delivered an invited talk on "Quality Research Communication: How and Why?" in the One Day Capacity Building Workshop on Quality Research Communication for the Research Scholars of the Departments of Mathematical Sciences, MBBT and Physics, organized by **IQAC Cell of Tezpur University**.
- (d) **December 22:** Delivered an invited talk on Ramanujan and three of his contributions that influenced further research in the celebration of National Mathematics Day organized by **Assam Academy of Mathematics, Tezpur Branch at Tezpur Girls H.S. and M.P. School, Tezpur**.
- (e) **December 27:** Delivered an invited talk on The Influence of Ramanujan in Mathematics in the belated celebration of National Mathematics Day organized by **Assam Science, Technology and Environment Council (ASTEC), Aryabhatta Science Centre, Inspector of Schools and District Administration, Lakhimpur** and held at **Lakhimpur Higher Secondary School, Assam**.

(20) **In 2020**

- (a) **February 02:** Delivered an invited talk on Ramanujan and his mathematics in the belated celebration of National Mathematics Day and Mathematics Olympiad Award giving ceremony organized by **Assam Academy of Mathematics** and held at **B. Borooah College, Guwahati**.
- (b) **March 14:** Delivered a talk on "Pi (π): The King of Constants" in a celebration of Pi Day and the First International Day of Mathematics proclaimed by UNESCO and Organized centrally in Assam by **Assam Academy of Mathematics** and held at **Darrang College, Tezpur**.
- (c) **July 22:** Delivered an invited online talk on " $22/7$ and Pi (π)" in a seminar organized by the web mathematics magazine **Gonit Sora**.
- (d) **July 29:** Delivered an invited online talk on "Ramanujan and a Glimpse of his Mathematics" in a seminar organized by **Royal Global University, Guwahati**.
- (e) **August 26:** Delivered an invited online talk on "The Story and History of Pi (π): A Mathematical Constant" in a seminar organized by **Salesian College Siliguri, West Bengal**.
- (f) **August 27:** Delivered an invited online talk on "The Story and History of Pi (π): A Mathematical Constant" in a seminar organized by **Golaghat Commerce College, Assam**.
- (g) **September 18:** Delivered an invited online talk in Assamese on "Ramanujan aru teor ganitot ebhumukhi (Ramanujan and a Glimpse of his Mathematics)" in the Ramanujan Yatra Lecture Series organized by **Vigyan Prasara of DST, New Delhi, Govt. of India**.

(21) **In 2021**

- (a) **January 7:** Delivered an invited online talk on “Ramanujan and Pi” in a seminar organized by the **Department of Mathematics, IIT Indore, India.**
- (b) **April 15:** Delivered an online talk on “Matching coefficients in some q -products and their inverses” in the Special Functions and Number Theory seminar organized by **IIT Gandhinagar, Ashoka University, New Delhi and JNU, New Delhi.**
- (c) **July 22:** Delivered an invited talk on “Rational approximations to irrational numbers and some related topics” in a webinar organized by **Asom Jnanbhumi Academy, North Lakhimpur, Assam.**
- (d) **August 11:** Delivered an online talk on “Teaching Mathematics with fun” in a Teacher Training Program organized by **Tezpur Science Centre of Assam Science Society, Assam.**

17. Projects:

- (a) Completed a **Fast Track Project for Young Scientist** on “**Ramanujan’s Theory of Theta-functions and Modular Equations with Applications to His Continued Fractions and Related Fields,**” sponsored by **DST, Govt. of India** during **June 20, 2003 – March 28, 2006.**
- (b) A three-years **SERB MATRICS-PAC Mathematical Science Project** on “**A study on exact generating functions and congruences for partition functions associated to Ramanujan’s mock theta functions and other related functions,**” sponsored by **DST, Govt. of India** is ongoing (2019–2022).

18. Reviewing Experience:

- (a) Served as a **Referee** of research articles for
 - **Journal of Number Theory** (Elsevier),
 - **Journal of Mathematical Analysis and Applications** (Elsevier),
 - **Journal of Computational and Applied Mathematics** (Elsevier),
 - **Journal of Combinatorial Theory, Series-A** (Elsevier),
 - **Discrete Mathematics** (Elsevier),
 - **Mathematical and Computer Modelling** (Elsevier),
 - **The Ramanujan Journal** (Springer),
 - **American Mathematical Monthly** (Mathematics Association of America),
 - **Acta Arithmetica** (IMPAN),
 - **Southeast Asian Bulletin of Mathematics** (Springer),

- **International Journal of Number Theory** (World Scientific),
- **Integral Transforms and Special Functions** (Taylor and Francis),
- **Rocky Mountain Journal of Mathematics** (RMM Consortium),
- **Advances in Difference Equations** (Hindawi Publications),
- **Mathematical Sciences** (Springer),
- **Proceedings of the Edinburg Mathematical Society** (Cambridge),
- **The Electronic Journal of Combinatorics**,
- **Bulletin of the Brazillian Mathematical Society**,
- **Colloquium Mathematicum** (Polish Academy of Sciences),
- **Ars Combinatoria**,
- **Integers – The Electronic Journal of Combinatorial Number Theory**,
- **Proceedings of the Jangjeon Mathematical Society**,
- **Functiones et Approximatio, Commentarii Mathematici**,
- **Asian European Journal of Mathematics**,
- **Acta Mathematica Vietnamica**,
- **Annali dell Universita di Ferrara**,
- **Note di Mathematica**,
- **The Indian Journal of Pure and Applied Mathematics** (Indian National Science Academy),
- **Journal of the Indian Mathematical Society**,
- **Mathematics Student**.

(b) Served as a **Reviewer** for **Mathematical Reviews**, published by the **American Mathematical Society**, during **2003–2013**.

19. Current Membership in the Scientific Societies:

- *Life Member*, **Assam Academy of Mathematics**,
- *Life Member*, **Assam Science Society**,
- *Life Member*, **Indian Mathematical Society**,
- *Council Member*, **Indian Mathematical Society**, for the period **April 01, 2020 – March 31, 2023**.

20. Notable Academic/Administrative Responsibilities:

- ***Head*, Department of Mathematical Sciences, Tezpur University, during September, 2008 – April, 2011,**
- ***Dean*, School of Sciences, Tezpur University, during April, 2011– April, 2014.**
- ***Chairperson*, Tezpur University Entrance Examination, Tezpur University, during 2015 – 2016.**
- ***Vigilance Officer*, Tezpur University, for three years starting from July 24, 2017.**
- ***Local Coordinator*, for Global Initiative of Academic Networks (GIAN), from Phase I started in 2016. Coordinated in conducting eight GIAN Courses so far in Tezpur University.**

• • • Last updated on November 16, 2021. • • •