Curriculum Vita

1. Name: **DR. NAYANDEEP DEKA BARUAH.**

2. Designation: **Reader, Department of Mathematical Sciences, Tezpur University, Assam, INDIA.**

3. Mailing address: **Department of Mathematical Sciences, Tezpur University, Napaam, Assam, PIN-784028.**

   Phone: **9954699777, 03712-267012 (O) Fax: 03712-267005/6.**

   E-mail: **nayan@tezu.ernet.in, baruah_nd@yahoo.co.in.**

4. Nationality: **Indian.**

5. Sex: **Male.**

6. Marital Status: **Married.**

7. Date of Birth: **February 1, 1972.**

8. Educational Qualification (Starting from B. Sc. onwards):

Degree	University/Board	Year	Subjects	Percentage	Remark
B.Sc.	**Cotton College, Gauhati University, Assam**	**1992**	**Mathematics**	**87.1**	**first class second**
M.Sc.	**IIT, Kanpur**	**1995**	**Mathematics**	**CPI 8.3 (Out of 10)**	**first among M.Sc. 2-yrs. students**
Ph.D.	**Tezpur University**	**2001**	**Mathematical Sciences**	**—**	**—**
NET	**UGC-CSIR**	**1995**	**Mathematics**	**qualified**	**—**
GATE	**MHRD**	**1995**	**Mathematics**	**percentile 95.50**	**—**

9. Details of Employment:

- **June 14, 2004 – Present**: **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 – January 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*.

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. Details of Research Experience:

a) **Research leading to Ph.D. degree**

Date of Registration: **23 - 6 - 1999,** Ph. D. degree on: **31 - 10 - 2001.**

Title of the thesis: ***Contributions to Ramanujan's Schläfli-type Modular Equations, Class Invariants, Theta-functions, and Continued Fractions.***

Thesis supervisor: **Prof. P. Bhattacharyya.**

b) **My Past Ph. D. students**

- **Dr. Nipen Saikia (March, 2007)**: *Explicit Evaluations of Ramanujan's Continued Fractions and Theta-Functions.*
- **Dr. Jonali Bora (March, 2007)**: *Contributions to Ramanujan's Theta-Functions and Modular Equations.*

c) **My Current Ph. D. students** with their year of registration

- **Rupam Barman** (August, 2006, Co-supervisor),
- **Narayan Nayak** (August, 2007),
- **Bidyut Boruah** (August, 2007),
- **Bipul Kumar Sarmah** (January, 2008),
- **Kallol Nath** (January, 2008),
- **Kanan Kumari Ojha** (January, 2008).

13. Complete list of publications in refereed journals:

(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**.

(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**.

(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**.

(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**.

(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**.

(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**.

(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**.

(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**.

(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**.

(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**.

(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**.

(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**.

(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**.

(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**.

(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**.

(16) **Nayandeep Deka Baruah** (*with Bruce C. Berndt*): Ramanujan's series for $1/\pi$ arising from his cubic and quartic theory of elliptic functions, **Journal of Mathematical Analysis and Applications**, Vol. 341, No. 1, pp. 357–371, **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**.

(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**.

(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**.

(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**.

(21) **Nayandeep Deka Baruah** (*with Bruce C. Berndt*): Ramanujan's Eisenstein series and new hypergeometric-like series for $1/\pi^2$, **Journal of Approximation Theory**, accepted for publication.

(22) **Nayandeep Deka Baruah** (*with Bruce C. Berndt and Heng Huat Chan*): Ramanujan's series for $1/\pi$: A survey, **American Mathematical Monthly**, accepted for publication. This paper will also appear in the Centennial Volume of the **Mathematics Student**.

(23) **Nayandeep Deka Baruah** (*with Bruce C. Berndt*): Eisenstein Series and Ramanujan-type series for $1/\pi$, **The Ramanujan Journal**, accepted for publication.

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

(1) "On some of Ramanujan's Schläfli-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**.

15. Invited talks and talks in Seminars, Workshops, Refresher Courses, etc.:

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**.

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 organised 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**.

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."**)

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.

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**.

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**.

In 2007

(b) **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**.

(c) **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)**.

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**.

16. Completed Project:

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**.

17. Reviewing Experience:

(a) I have been serving 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),
- **The Ramanujan Journal** (Springer),
- **International Journal of Number Theory** (World Scientific),
- **Integral Transforms and Special Functions** (Taylor and Francis),
- **Integers – The Electronic Journal of Combinatorial Number Theory**,
- **The Indian Journal of Pure and Applied Mathematics** (Indian National Science Academy),

(b) I have been serving as a **Reviewer** for **Mathematical Reviews**, published by the **American Mathematical Society**, since **2003**.

18. Membership in the Scientific Societies:

- ***Life Member*, Assam Academy of Mathematics,**
- ***Life Member*, Assam Science Society,**
- ***Member*, American Mathematical Society.**

• • • **Last updated on December 17, 2008** • • •