

**DR. JYOTISHMOY BORAH****Department of Chemistry, B.B. Engineering College****Korajhar-783370, Mobile: +91-940765154****E-mail: borahjm@rediffmail.com****Academic Profile:**

B.Sc., Nowgong College, Assam (India), 1996

M.Sc., Gauhati University, Assam (India), 1998

Ph.D., Tezpur University, Assam (India), 2007

PDF, Qingdao University of Science & Technology, PR China, 2007-2009

Research Interests:

- Development of flame retardant polymers and their applications
- Development of hyperbranched polymers and their applications
- Rubber/Plastic Blending

Research experience:

- About six years research experience particularly in the field of **Polymer Synthesis** at Tezpur Central University.
- Two years at Qingdao University of Science and Technology, PR China in the field of **rubber/plastics blending** and **waste rubber/asphalt blending**

Professional Experience:

- Lecturer in Chemistry Department, Kaliabor College, Gauhati University (Assam) teaching chemistry in HS, BSc (Pass and Major) from January 2000 to October 2007.

- Guest Professor in Electromechanical Engineering Department, Qingdao University of Science and Technology, PR China teaching B. Tech. programme (foreign students section) from February 2008-August 2009.
- Lecturer in Chemistry Department, Kaliabor College, Gauhati University (Assam) teaching chemistry in HS, BSc (Pass and Major) from November 2009 to August 2010.
- Assistant Professor in Chemistry Department, B.B. Engineering College, Gauhati University (Assam) teaching chemistry of BE 1st & 2nd Semester from 10th August, 2010 to till date.
- Guest Faculty in Bongaigaon Polytechnic, Bongaigaon, Assam.

Reviewing Manuscripts for publication in

- European Polymer Journal (SCI)
- Journal of Petroleum and Gas Engineering (Academic press)
- Journal of Brewing and Distilling (Academic press)
- Reviewed more than 50 articles of proceeding for Asian Workshop on Polymer Processing held in 2009 (EI)

List of significant publications

- i. **Borah J.** and Karak N., "Synthesis and characterization of a novel hyperbranched polyether", *Polym Int*, **2004**, 53, 2026-2030.
- ii. **Borah J.** Mahapatra S. S., Saikia D., and Karak N., "Physical, thermal, dielectric and chemical properties of a hyperbranched polyether and its linear analog", *Polym Degd Stab*, **2006** 91, 2911-2916.
- iii. **Borah J.** and Karak N., "Synthesis and characterization of hyperbranched polyethersulfone as a flame retardant material", *Int J Plastic Technol* (Springer), **2006**, 10, 598-604.
- iv. **Borah J.** and Karak N., "Blends of triazine based hyperbranched polyether with LDPE and plasticized PVC", *J Appl Polym Sci*, **2007**, 104, 648-654.
- v. **Borah J.**, Wang C.S., Hyperbranched polymers as novel flame retardant material, APPF (China), **2009**, 78-83

- vi. **Borah J.**, Wang C.S. and Karak N., “Synthesis and characterization of flame retardant hyperbranched polyether”, *Chinese J Polym Sci*, **2010**, 28, 1-12.
- vii. **Borah J.**, Lin G. and Wang C.S., “Hyperbranched polymers as novel flame retardant material”, *Adv Mater Res*, **2010**, 87-88, 271.
- viii. **Borah J.** and Karak N., “Hyperbranched polyethers and polyamines – a review”, **2011** (*Submitted*).
- ix. **Borah J** and Wang C.S., Morphological and Flame retardant Behaviors of Rubber-Modified Asphalt, *Key Engg Mater*, **2012**, 501, 532-537.

Some Selected Conferences Presentation (Published as Proceeding):

- i. **Borah J.** and Karak N., “Synthesis and characterization of hyperbranched polyethers”, National Conference on High Performance Polymers and its Applications”, at Kolkata, December **2002**.
- ii. Karak N., **Borah J.**, and Mahapatra S.S., “Synthesis and characterization of novel linear and hyperbranched polyethers”, International Symposium on Macro- and Supra-Molecular Architecture, at M.U., USA, June **2004**.
- iii. Mahapatra S.S., **Borah J.** and Karak N., “Dendritic polymers-synthesis to applications”, National Conference on Advanced Frontier Polymer Sciences and Technology, at Kolkata, February **2006**.
- iv. **Borah J.** and Karak N., “Synthesis and Characterization of Hyperbranched Polyethersulfone as a Flame Retardant Material”, National Symposium on Emerging Trends in Polymer Science and Technology, at IIT Kharagpur, September **2006**.
- v. Mahapatra S.S., **Borah J.**, and Karak N., Hyperbranched Polymers – Multipurpose Polymeric Additives, International Conference on Polymer Processing, ICPP 2007, BUCT, Beijing, China, May 18-20, **2007**.
- vi. **Borah J.**, Karak N., Hyperbranched polyethers as flame retardant materials, International Seminar on Frontiers in Polymer Science and Technology, POLY 07, Guwahati, India, November 1-3, **2007**.
- vii. **Borah J.**, Wang C.S. and Karak N., Triazine based hyperbranched polyethers as flame retardant polymeric additives, 9th International Seminar on Polymer Science and Technology (**ISPST 09**), Tehran, October 17-21, **2009**.

- viii. **Borah J.**, Application of Intumescent Flame Retardant (IFR) Materials in Polyolefins, National Seminar on Polymer Science and Technology: Vision and Scenario, Chaiduar College, Assam, February 11-12, **2011**
- ix. **Borah J** and Wang C.S., Morphological and Flame retardant Behaviors of Rubber-Modified Asphalt, **APPF (China), 2011.**
- x. **Borah J.**, Morphological Study of BR-LDPE-PVC Blends by Melt Mixing, National Seminar: Recent Challenges for Chemical Research and Practices: Moulding Chemistry towards a better tomorrow (RCCRP)., Darrang College, Assam, November 8-10, **2012**

Workshop Participated

Science Academics' Lecture Workshop on Modern Trends in Chemistry and Chemistry Education, 22nd Nov. to 23rd Nov. 2012, North Bengal University, India

Books Published: (Co-author)

1. A text book on Environmental Science for undergraduate level (Gauhati University & Dibrugarh University syllabus), title- "**Paribesh Adhayan**" **Publisher:** Kaliabor College Bigayan Mancha, Assam
2. A practical book on Science for class X standard (SEBA syllabus), title- "**Utchya Madhyamic Beboharic Bigyan**" **Publisher:** Assam Book Depot., Assam
3. A text book on Chemistry for HS-XI standard (NCERT syllabus), title- "**Utchator Madhyamic Rosayana**" **Publisher:** Assam Book Depot., Assam
4. A text book on Chemistry for HS-XII standard (NCERT syllabus), title- "**Utchator Madhyamic Rosayana**", **Publisher:** Assam Book Depot. Assam
5. A book on Chemistry Problem for HS, and competitive examinations title- "**Chemistry Through Problems**", **Publisher:** Kalyni Publishers, Ludhiana, India
6. A practical book on Chemistry for class XII standard (NCERT syllabus), title- "**Utchator Madhyamic Beboharic Rosayana**", **Publisher:** Kalyni Publishers, Ludhiana, India
7. A text book on Chemistry for Polytechnics, title- "**Chemistry for Polytechnic**"- First Semester, **Publisher:** Kalyni Publishers, Ludhiana, India

8. A text book on Chemistry for Polytechnics, title- **“Chemistry for Polytechnic-Second Semester** (*in press*), Publisher: Kalyni Publishers, Ludhiana, India
9. A text book on Chemistry for Engineering, title- **“Chemistry for Engineers”**-First Semester (*80% completed*), Publisher: Kalyni Publishers, Ludhiana, India
10. A text book on Chemistry for B.Sc. standard (GU syllabus), title- **“Snatak Moholar Rosayana”**- First Semester (*in press*) Publisher: Assam Book Depot. Assam
11. A text book on Chemistry for B.Sc. standard (GU syllabus), title- **“Snatak Moholar Rosayana”**- Second Semester (*in press*) Publisher: Assam Book Depot. Assam
12. A text book on Chemistry for B.Sc. standard (GU syllabus), title- **“Snatak Moholar Rosayana”**- Third Semester (*in press*) Publisher: Assam Book Depot. Assam
13. A text book on Chemistry for B.Sc. standard (GU syllabus), title- **“Snatak Moholar Rosayana”**- Fourth Semester (*in press*) Publisher: Assam Book Depot. Assam
14. A text book on Chemistry for B.Sc. standard (GU syllabus), title- **“Snatak Moholar Rosayana”**- Six Semester (*in press*) Publisher: Assam Book Depot. Assam
15. A practical book on Chemistry for class XI standard (NCERT syllabus), title- **“Utchator Madhyamic Beboharic Rosayana”** (*proof corrected*), Publisher: Assam Book Depot. Assam
16. A practical book on Chemistry for class XII standard (NCERT syllabus), title- **“Higher Secondary Practical Chemistry”**, Publisher: Kalyni Publishers, Ludhiana, India

Popular Science Articles:

About 10 popular science articles published in daily news-papers and Science magazine

Invited Talk:

● A talk for high school teacher on **Science Subject** organized by Kunjalata Mahanta Foundation at Kaliabor College (2001)

- A talk for B.ED. teachers on **Environmental pollution** organized by ECERT, Shillong at Kaliabor B.ED. College (2007)
- Chair Person in UGC sponsored National Seminar, Chaiduar College, 11th -12th February, (2011)

Major Project Completed:

1. Development of flame retardant rubber modified asphalt concrete, Funding Agency: Shandong (China) Innovation Post doctor Foundation (**Grant No. 200803038**), RMB 20,000/-
2. Research on flame retardant rubber modified asphalt for highway construction superior material, China Post doctoral Science Foundation, (**Grant No. 20090451287**), RMB 40,000/-

Course Completed

- (i) Orientation Programme, from 24th February to 22nd March, 2003, Academic Staff College, Himachal Pradesh University, Shimla, India
- (ii) Winter School on Catalysis, 1st to 14th February, 2006, Dept. of Chemistry Tezpur University, Assam, India
- (iii) Refresher Course, from 21st Nov. to 11th Dec. 2012, Academic Staff College, North Bengal University, West Bengal, India
- (iv) Short term course, fromto2011, NITTTR, Guwahati, Assam

Academic Involvements:

- (i) Executive Member, Water Quality Analysis, Kaliabor Sub-Division (PHE), Govt. of Assam (India)