

## Curriculum Vitae

### **Personal Details:**

*Name* : Akhtar Hussain Malik  
*Address* : Department of Chemistry  
Govt. Degree College Sopore  
Srinagar, India  
*Date of Birth* : 01 December 1988  
*Status* : Bachelor  
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*Research Gate* : [https://www.researchgate.net/profile/Akhtar\\_Malik](https://www.researchgate.net/profile/Akhtar_Malik)

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### **Education:**

2012 : M.Sc, Organic Chemistry (First Class)  
Aligarh Muslim University  
Aligarh, India.  
2009 : B.Sc. (Hons.) Chemistry (First Class)  
Aligarh Muslim University  
Aligarh, India.  
2006 : Senior Secondary School (First Class)  
J & K State Board of School Education.  
2004 : Secondary School (First Class)  
J & K State Board of School Education.

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### **Research Experience:**

*Jul 2014 – June 2017t* : Senior Research Fellow  
Department of Chemistry

Indian Institute of Technology Guwahati, Assam India.

Jul 2012 – Jun 2014 : Junior Research Fellow

Department of Chemistry

Indian Institute of Technology Guwahati, Assam India.

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### Area of Research:

Design and development of fluorescent based water soluble conjugated polymers for optical and electrical based detection of explosive materials, environmental contaminants, biological molecules, metal ions and cancer biomarkers.

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### Publications: (in chronological order)

- ❖ Conjugated Polyelectrolyte Based Sensitive Detection and Removal of Antibiotics Tetracycline from Water **Malik, A. H.**; Iyer, P. K. *ACS Appl. Mater. Interfaces* **2017**, 9, 4433–4439.
- ❖ Inner Filter Effect Based Selective Detection of Nitroexplosive-Picric Acid in Aqueous Solution and Solid Support Using Conjugated Polymer. Tanwar, A. S.; Hussain, S.; **Malik, A. H.**; Afroz, M. A.; Iyer, P. K. *ACS Sens.*, **2016**, 1, 1070–1077. (New in 2016)
- ❖ Anion-Exchange Induced Strong  $\pi$ - $\pi$  Interactions in Single Crystalline Naphthalene Diimide for Nitroexplosive Sensing: An Electronic Prototype for Visual on-Site Detection. Kalita, A.; Hussain, S.; **Malik, A. H.**; Iyer, P. K., *ACS Appl. Mater. Interfaces* **2016**, 8, 25326–25336. (I.F=6.7)
- ❖ Aggregation-Induced FRET via Polymer–Surfactant Complexation: A New Strategy for the Detection of Spermine. **Malik, A. H.**; Hussain, S.; Iyer, P. K. *Anal. Chem.*, **2016**, 88, 7358–7364. (I.F=5.8)
- ❖ FRET-assisted label free detection and discrimination of flavins via cationic conjugated polyelectrolyte under physiological conditions. Hussain, S.; **Malik, A. H.**; Iyer, P. K. *J. Mater. Chem. B*, **2016**, 4, 4439–4446. (I.F= 4.8)
- ❖ Vapor Phase Sensing of Ammonia at Sub-ppm Level using a Perylene Diimide Thin Film Device.” Anamika Kalita, Sameer Hussain, **Akhtar Hussain Malik**, Nimmakayala V. V. Subbarao and Parameswar K Iyer *J. Mater. Chem. C* **2015**, 3, 10767–10774. (I.F=4.69)
- ❖ Conjugated polymer nanoparticles for the amplified detection of nitro-explosive picric acid on multiple platforms. **Malik, A. H.**; Hussain, S.; Kalita, A.; Iyer, P. K., *ACS Appl. Mater. Interfaces* **2015**; 7, 26968–26976. (I.F=6.7)

- ❖ Ultrasensitive detection of nitro explosive-picric acid via conjugated polyelectrolyte in aqueous media and solid support. Hussain, S.; **Malik, A. H.**; Afroz, M. A.; Iyer, P. K., *Chem. Commun.* **2015**, *51*, 7207-7210. (I.F=6.7)
  - ❖ Anionic conjugated polymer as a multi-action sensor for the sensitive detection of Cu<sup>2+</sup>, PPI, real-time ALP assaying and cell imaging. **Malik, A. H.**; Hussain, S.; Tanwar, A. S.; Layek, S.; Trivedi, V.; Iyer, P. K., *Analyst* **2015**, *140*, 4388-4392. (I.F=4.1)
  - ❖ Highly precise detection, discrimination, and removal of anionic surfactants over the full pH range via cationic conjugated polymer: An efficient strategy to facilitate illicit-drug analysis. Hussain, S.; **Malik, A. H.**; Iyer, P. K. *ACS Appl. Mater. Interfaces* **2015**, *7*, 3189-3198. (I.F=6.7)
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### **Honors/Awards:**

- ❖ **Best Poster award** in Research Conclave 2017 organize by Academic Affairs Board of Indian Institute of Technology Guwahati.
  - ❖ **Best Poster award** in Research Conclave 2016 organize by Academic Affairs Board of Indian Institute of Technology Guwahati.
  - ❖ Delivered oral talk on “Conjugated Polyelectrolyte’s as Promising Materials for Monitoring Environmental Contaminants” in **Global Research Mind Seminar 2016** held at Kyushu Institute of Technology Japan.
  - ❖ **Delivered an Invited lecture** in the 2nd Indo-Sweden Joint International Workshop held at IIT Guwahati on 2<sup>nd</sup> December 2015.
  - ❖ **Best Poster Award** (First) in Annual Chemical Engineering Festival "Reflux 2015" organised by the Department of Chemical Engineering, IIT Guwahati, India.
  - ❖ Junior Research Fellowship and Eligibility for Lectureship (**CSIR JRF-NET**), **Dec-2013**, awarded by Council of Scientific & Industrial Research and University Grant Commission, India.
  - ❖ Qualified **GATE-2013** (Graduate Aptitude Test in Engineering) examination organized by Ministry of Human Resource Development, Government of India.
  - ❖ Awarded “**University Merit Scholarship**” on the basis of Departmental Competitive Test held at Department of Chemistry Aligarh Muslim University in 2011.
  - ❖ Qualified Joint Admission Test For M.Sc. (**JAM 2011**) Organized by Indian Institute of Technology Bombay.
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### **Conferences/Seminars Attended:**

- ❖ Attended the full agenda of **ACS on campus** (An Initiative from the American Chemical Society) at Indian Institute of Technology Guwahati, Guwahati, India on January 16, 2017.
  - ❖ Delivered an oral talk entitled “Aggregation Induced FRET via Polymer-Surfactant Complexation: A New Strategy for the Detection of Spermine” at Frontiers in Chemical Sciences (**FICS 2016**) conducted by Department of chemistry, Indian Institute of Technology Guwahati during 08-11 Dec 2016.
  - ❖ Presented a poster entitled “Conjugated Polymer Nanoparticles for the Amplified Detection of Nitro-explosive Picric Acid on Multiple Platforms” in Material Research Society of India (**MRSI-2016**) Symposium on Advanced Materials for Sustainable Applications held at CSIR-NEIST, Jorhat during 18-21 Feb 2016.
  - ❖ Presented a poster in 68<sup>th</sup> Annual Session of Indian Institute of Chemical Engineers (**CHEMCON 2015**) held at Indian Institute of Technology during Dec 27-30, 2015.
  - ❖ Delivered an oral talk entitled “Conjugated Polymer Nanoparticles for the Amplified Detection of Nitro-explosive Picric Acid on Multiple Platforms” in the 4<sup>th</sup> International Conference on Advanced Nanomaterials and Nanotechnology (**ICANN-2015**) conducted by Centre for Nanotechnology, Indian Institute of Technology Guwahati during 08-11 Dec 2015.
  - ❖ Presented a poster entitled “Conjugated Polyelectrolytes as Promising Materials for Monitoring Environmental Contaminants” at Annual Chemical Engineering Festival (**Reflux 2015**) during 27-29 March, 2015 organized by Department of Chemical Engineering, IIT Guwahati, India.
  - ❖ Presented a poster entitled " Anionic Conjugated Polymer as a Multi-Action Sensor for the Sensitive Detection of Cu (II), PPI, Real-Time ALP Assaying and Cell imaging" in International Symposium on Polymer Science and Technology (**MACRO 2015**) organized jointly by the Kolkata and Kharagpur chapters of the SPSI and held during 23-26 January, 2015 at the Indian Association for the Cultivation of Science (IACS), Kolkata, India.
  - ❖ Attended National Conference on Recent Advances in Cancer Biology and Therapeutics (**RACBT**) on 5th December, 2014 organized by Department of Biotechnology, Indian Institute of Technology Guwahati, Guwahati, India.
  - ❖ Attended 3rd International Conference on Advanced Nanomaterials and Nanotechnology (**ICANN-2013**) conducted by Centre for Nanotechnology, Indian Institute of Technology Guwahati in 2013.
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### **Trainings/ Workshops:**

- ❖ Attended 2nd National Workshop on NEMS/MEMS and Theranostics Devices (**NWNTD - 2016**) from 21st - 22nd March, 2016 organized by Centre for Excellence in Nanoelectronics & Theranostic Devices under the aegis of Centre for Nanotechnology, Indian Institute of Technology Guwahati.

- ❖ Attended “National Workshop on **Advanced Probing Techniques in TEM**” organized jointly by IIT Guwahati and Electron Microscopy Society of India during 15-16 February 2016.
  - ❖ Attended “Two-Day **Familiarization Workshop on Nanofabrication Technologies**” held at Tezpur University during 25-26 April, 2015 sponsored by Dept. of Electronics and Information Technology (DeitY), Ministry of Communication and Information Technology (MCIT), Govt. of India.
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