Curriculum Vitae

Name: Dr. Subhendu Bhandari

E-mail: subhendu.bhandari@mit.asia

Designation: Assistant. Professor,

Department of Plastic and Polymer Engineering

Mobile: 7980065290

Web identifiers:

Google Scholar: https://scholar.google.co.in/citations?user=EccZvqgAAAAJ&hl=en

Scopus: https://www.scopus.com/authid/detail.uri?authorId=56362367400

ORCID: 0000-0001-8675-0862

Academic Credentials

- **Ph.D.** from Indian Institute of Technology Kharagpur in the field of conducting polymer.
- **M. Tech** in Rubber Technology from Indian Institute of Technology Kharagpur
- **B. Tech** in Jute and Fibre Technology from Institute of Jute Technology (under University of Calcutta).

Key Research Areas: Conducting polymer, Nanocomposite, Supercapacitor, Fiber-reinforced composite

Experience

- 9.5 years of Teaching experience

Membership of Professional Bodies

- Life Member of Asian Polymer Association.
- Life member of International Society of Research and Development.
- Life member of The Indian Society for Technical Education.
- Life member of The Society for Polymer Science, India (Kharagpur chapter).
- Member of the editorial board of Electrical Science & Engineering, published by Bilingual Publishing Co.

Seminar/Workshop/ Industrial Training/ STTP/FDP/CEP/Conference organized

- Organized International e-Poster Conference on "Current Outlook in Material Science and Engineering" online in Facebook platform as Co-Convener (May 15 - 16, 2020).
- Organized 2nd national conference on “Materials for Advanced Technology & Application” (August 22-23, 2019) at Maharashtra Institute of Technology, Aurangabad as Co-Convener.
- Organized workshop on “Intellectual Property Rights” (December 21-22, 2018) at Maharashtra Institute of Technology, Aurangabad as Joint Organizing Secretary.

- Organized faculty development programme on “Advanced Analytical Testing and Characterization” (July 2-7, 2018) at Maharashtra Institute of Technology, Aurangabad as Coordinator.
- Organized workshop on “Intellectual Property Rights & Opportunities for Funded Research” (January 5-6, 2018) at Maharashtra Institute of Technology, Aurangabad as member of the organizing committee.
- Organized national conference on “Materials for Advanced Technology & Application” (September 20-21, 2016) at Maharashtra Institute of Technology, Aurangabad as Joint Organizing Secretary.

Invited talks delivered

- Delivered invited talk on "Simultaneous dual doping with succinic and citric acid leading toward synergistic improvement of electrical and thermal characteristics of polyaniline” in “International Conference on Composite Materials for Environment Protection & Remediation (ICCMEPR-2024)”, organized by *Gram Bharti College, Ramgarh, Kaimur, Bih*ar under the flagship of *Chemical Research Society of India* in association with *Research Plateau Publishers***(July 2-3, 2024)**.
- Delivered invited talk on "Simultaneous dual doping: an effective approach toward synergistic improvement in electrical and thermal characteristics of polyaniline" in International Conference on Recent Innovations in Biotechnological, Chemical & Environmental Sciences (RIBCES-2023), organized by *University College of Science, Mohanlal Sukhadia University, Udaipur, Rajasthan* in association with *Microbiologists Society India***(March 15-16, 2023)**.
- Delivered invited talk on "Comparative analysis of electrical characteristics of nanostructured polyaniline synthesized by using the combinations of maleic acid and oxalic acid", in International Online Conference on Advanced Nano Materials (ICAN 2021), organized by *Amol Jyothi College of Engineering, Mahatma Gandhi University, India and Gdansk University of Technology, Poland***(December 14-16, 2021)**.
- Delivered invited talk on "Synergistic improvement of thermal degradation and dielectric characteristics of simultaneously doped polyaniline synthesized via solid state polymerization" in International Online Conference on Nano Materials (ICN 2021), organized *by Mahatma Gandhi University, P.D Hills P.O, Kottayam, Kerala, India, Wroclaw University of Technology, Wroclaw, Poland, Gdansk University of Technology, Poland and Wuhan University, China***(April 9-11, 2021)**.
- Delivered invited talk on “Nanostructured Conducting Polymers for Supercapacitor Application” in Online Workshop cum Faculty Development Program on Quality Engineering and Technological Advances in Materials and Devices, organized by *Sharda University, Uttar Pradesh***(March, 8-12, 2021)**.

Projects,Research Grants and Consultancy

- “Sonochemical synthesis of polyacrylonitrile based activated carbon grafted layered double hydroxide: ecofriendly nanoadsorbents for removal of toxic pollutants from drinking and industrial wastewater” amounting Rs. 73,98,200/-, funded by Nanomission, Department of Science & Technology (DST), Ministry of Science & Technology, Government of India.

  Role: Co-Investigator

Intellectual Property Rights

- Subhendu Bhandari, Nikhil K. Singha, Dipak Khastgir, Synergistic Combination Of Dual Dopants For Improved Electrical Conductivity In Conducting Polymer (Indian Patent, 987/KOL/2013 A, Published on 26/08/2016)

List of Research Publications

Papers in National/ International Journal*(Web of Science/ Scopus indexed/ UGC approved)*

International Journal:

- **Subhendu Bhandari***, Suryakanta Nayak, Ramon Artiaga, Prasanta Kumar Guchhait*, Time derivative of DSC and dielectric analysis of elastomeric poly(thiourethane–urethane)/Cloisite 30B clay nanocomposites, *Iranian Polymer Journal* Vol. 32, pp 151-163 (2023) *[Impact Factor: **2.4**]*.
- Uday Shankar, **Subhendu Bhandari**, Dipak Khastgir, Carbon Black-Filled Nitrile Rubber Composite as a Flexible Electrode for Electrochemical Synthesis of Supercapacitive Polyaniline, *Polymer Composites* Vol. 40, Issue S2, pp E1537-E1547 (2019) *[Impact Factor: **4.8**]*.
- Om Prakash Bajpai, Sujit Kumar, **Subhendu Bhandari**, Achintya Dhar, Dipak Khastgir, Santanu Chattopadhyay, Electrolyte and current density determines the fate of electrodeposited polythiophene from waveguide to photovoltaics, *Solar Energy Materials and Solar Cells* Vol. 183, pp 107–119 (2018) *[Impact Factor: **6.3**]*
- Mostafizur Rahaman, Ali Aldalbahi, Periyasami Govindasami, Noorunnisa P. Khanam, **Subhendu Bhandari**, Peter Feng, Tariq Altalhi, A New Insight in Determining the Percolation Threshold of Electrical Conductivity for Extrinsically Conducting Polymer Composites through Different Sigmoidal Models, *Polymers* Vol. 9, Issue 10, pp 527 (2017) *[Impact Factor: **4.7**]*
- Dipankar Ghosh, **Subhendu Bhandari**, Dipak Khastgir, Synthesis of MnO_2 nanoparticles and their effective utilization as UV protectors for outdoor high voltage polymeric insulators used in power transmission lines, *Physical Chemistry Chemical Physics* Vol. 18, Issue 48, pp 32876-32890 (2016) *[Impact Factor: **2.9**]*
- **Subhendu Bhandari**, Nikhil K. Singha, Dipak Khastgir,Synthesis of graphene-like ultrathin polyaniline and its post-polymerization coating on nanosilica leading towards superhydrophobicity of composites,*Chemical Engineering Journal* Vol. 313, pp 1302-1310 (2017) *[Impact Factor: **13.3**]*
- **Subhendu Bhandari**, Dipak Khastgir, Effect of unsaturation in bicarboxylic acid dopants for solid-state synthesis of polyaniline, *Polymer International* Vol. 65, Issue 6, pp 698-705 (2016) *[Impact Factor: **2.9**]*
- **Subhendu Bhandari**, Dipak Khastgir, Corrosion-free electrochemical synthesis of polyaniline using Cu counter electrode in acidic medium, *International Journal of Polymeric Materials and Polymeric Biomaterials* Vol. 65, Issue 11, pp 543-549 (2016)*[Impact Factor: **2.5**]*
- **Subhendu Bhandari**, Dipak Khastgir, Synergistic effect of simultaneous dual doping in solvent-free mechanochemical synthesis of polyaniline supercapacitor comparable to the composites with multiwalled carbon nanotube, *Polymer* Vol. 81, pp 62-69 (2015) *[Impact Factor: **4.1**]*
- Dipankar Ghosh, **Subhendu Bhandari**, Tapan Kumar Chaki, Dipak Khastgir, Development of a high performance high voltage insulator for power transmission lines from blends of polydimethylsiloxane/ethylene vinyl acetate containing nanosilica, *RSC Advances* Vol. 5, pp 57608-57618 (2015) *[Impact Factor: **3.9**]*

- **Subhendu Bhandari**, Dipak Khastgir, Synergistic effect of dopant combination and switchover in formation mechanism of polyaniline nanowire, *Journal of Applied Polymer Science* Vol. 132, pp 41520 (2015) *[Impact Factor: **2.7**]*
- **Subhendu Bhandari**, Dipak Khastgir, Template-free solid state synthesis of ultra-long hairy polyaniline nanowire supercapacitor, *Materials Letters*Vol. 135, pp 202-205 (2014) *[Impact Factor: **2.7**]*
- **Subhendu Bhandari**, Nikhil Kumar Singha, Dipak Khastgir, Preferential distribution of polyaniline in different phases of acrylate triblock copolymer, *Materials Express*Vol. 4, pp 115-124 (2014) *[Impact Factor: **1.65**]*
- **Subhendu Bhandari**, Nikhil Kumar Singha, Dipak Khastgir, Electrochemical Synthesis of Nanostructured Polyaniline: Heat Treatment and Synergistic Effect of Simultaneous Dual Doping, *Journal of Applied Polymer Science* Vol. 129, Issue 3, pp 1264-1273 (2013) *[Impact Factor: **2.7**]*
- Devesh Kumar Mahla, **Subhendu Bhandari**, Mostafizur Rahaman, Dipak Khastgir, Morphology and cyclic voltammetry analysis of in situ polymerized polyaniline/graphene composites, *Journal of Electrochemical Science and Engineering*Vol. 3, Issue 4, pp 157-166 (2013) *[Impact Factor: **2.9**]*
- P. K. Guchhait, **S. Bhandari**, S. Singh, M. Rahaman*, Study on the effect of nanosilica particles on morphology, thermo-mechanical and electrical properties of liquid polysulfide modified epoxy hybrid nanocomposites, *International Journal of Plastics Technology* Vol. 15, Issue 2, pp 150-162 (2011)

National Journal:

- R. S. Chanda, Ms. R. Banerjee, S. Bhandari, S. Nath, Optimal Machine Scheduling Using Fuzzy Linear Programming, Journal of the Institution of Engineers (India) (Computer Divn.) Vol. 89, pp 17-21 (2008).

Books/ Book Chapter

Monograph:

- **Subhendu Bhandari**, Dipak Khastgir, Nikhil Kumar Singha, Nanostructured Conducting Polyaniline: Synthesis, Characterization and Supercapacitor Application, *Lambert Academic Publishing* [ISBN: 978-3659921353](2016).

Books edited:

- **Subhendu Bhandari**, Arti Rushi (ed.), Materials for Chemical Sensors, *CRC Press,* Place: Boca Raton, Florida (17th April, 2023) [ISBN: 978-0-367-48435-4](2023).
  [Role: Corresponding editor]
- **Subhendu Bhandari**, Prashant Gupta, Ayan Dey (ed.), Frontiers in Polymer Science (Vol. 1): Industrial Applications of Polymer Composites, *Bentham Science Publishers,* Place: Sharjah, UAE (23rd August, 2023) [ISBN: 978-981-5124-81-1] (2023). *[Citation: **2**]*
  [Role: Corresponding editor]

Book Chapter:

- Prashant Gupta, **Subhendu Bhandari**, "Classification and sources of nanowastes" in *Nanomaterials Recycling*. Ed. Mahendra Rai, Tuan Anh Nguyen. Elsevier pp. 37-60 [ISBN: 978-0-323-90982-2] (2021).
- **Subhendu Bhandari**, Mostafizur Rahaman, "Thermal properties of polymer-graphene composites" in *Polymer Nanocomposites Containing Graphene: Preparation, Properties, and Applications*. Ed. Mostafizur Rahaman, Lalatendu Nayak, Ibnelwaleed Hussein, Narayan Das. **Elsevier** pp. 163-182 [ISBN: 978-0-12-821640-8] (2022).

- **Subhendu Bhandari**, Prashant Gupta, "Dispersion of graphene in polymer matrices" in *Polymer Nanocomposites Containing Graphene: Preparation, Properties, and Applications*. Ed. Mostafizur Rahaman, Lalatendu Nayak, Ibnelwaleed Hussein, Narayan Das. **Elsevier** pp. 275-298 [ISBN: 978-0-12-821640-8] (2022).
- Prashant Gupta, **Subhendu Bhandari**, "Polymer-graphene composites as flame and fire retardant materials" in *Polymer Nanocomposites Containing Graphene: Preparation, Properties, and Applications*. Ed. Mostafizur Rahaman, Lalatendu Nayak, Ibnelwaleed Hussein, Narayan Das. **Elsevier** pp. 743-776 [ISBN: 978-0-12-821640-8] (2022).
- Mostafizur Rahaman, Rajesh Theravalappil, **Subhendu Bhandari**, Lalatendu Nayak, Purabi Bhagabati, "Electrical conductivity of polymer-graphene composites" in *Polymer Nanocomposites Containing Graphene: Preparation, Properties, and Applications*. Ed. Mostafizur Rahaman, Lalatendu Nayak, Ibnelwaleed Hussein, Narayan Das. **Elsevier** pp. 107-140 [ISBN: 978-0-12-821640-8] (2022).
- Ayan Dey, Suranjana Mandal, **Subhendu Bhandari**, Chandrika Pal, Jonathan Tersur Orasugh, Dipankar Chattopadhyay, "Characterization methods" in *Fiber-Reinforced Nanocomposites: Fundamentals and Applications*. Ed. Baoguo Han, Sumit Sharma, Tuan Anh Nguyen, Li Longbiao, K. Subrahmanya Bhat. **Elsevier** pp. 7-68 [ISBN: 978-0-12-819904-6] (2020).
- Prashant Gupta, **Subhendu Bhandari**, "Chemical Depolymerization Of PET Bottles Via Ammonolysis And Aminolysis" in*Recycling of Polyethylene Terephthalate Bottles*. Ed. Sabu Thomas, Ajay Vasudeo Rane, Krishnan Kanny, Abitha V.K., Martin George Thomas. **Elsevier**: pp 109-134. [ISBN: 9780128113615] (2019).
- **Subhendu Bhandari**, "Polymer/Carbon Composites for Sensor Application" in *Carbon-Containing Polymer Composites* Ed. Mostafizur Rahaman, Dipak Khastgir, Ali Kanakhir Aldalbahi. **Springer**:pp 503-531 [ISBN: 978-981-13-2688-2] (2019).
- Purabi Bhagabati, Mostafizur Rahaman, **Subhendu Bhandari**, Indranil Roy, Ayan Dey, Prashant Gupta, M. A. Ansari, Astha Dutta, Dipankar Chattopadhyay, "Synthesis/Preparation of Carbon Materials" in *Carbon-Containing Polymer Composites* Ed. Mostafizur Rahaman, Dipak Khastgir, Ali Kanakhir Aldalbahi. **Springer**:pp 1-16 [ISBN: 978-981-13-2688-2] (2019).
- **Subhendu Bhandari**, Prashant Gupta. "Chemical Depolymerization of Polyurethane Foam via Ammonolysis and Aminolysis" in *Recycling of Polyurethane Foams*. Ed. Sabu Thomas, Ajay Vasudeo Rane, Krishnan Kanny, Abitha V.K. **Elsevier**: pp 77-87. [ISBN: 978-0-323-51133-9] (2018).
- **Subhendu Bhandari**."Polyaniline: Structure and Properties Relationship" in *Polyaniline Blends, Composites, and Nanocomposites.* Ed. P. M. Visakh, Cristina Della Pina, Ermelinda Falletta. **Elsevier**: pp 23-60. [ISBN: 978-0-12-809551-5] (2017).

Papers in National /International Conference Proceedings

International:

- **Subhendu Bhandari**[*]. Electrochemical Synthesis and Characterization of Sulfuric Acid and Acrylic Acid Co-doped Polyaniline. "A Multi-disciplinary International Congress on Industry 5.0 and Paradigm Shift: Emerging Challenges" (SANMANTRANA-2023), organized by Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore in association with St. Cloud State University, USA (1-3 February, 2023), *Allied Publishers Pvt. Ltd.* (pp 279-285) [ISBN: 978-93-90951-50-5].

National:

- Nirmay Raibagkar, Amit Rahangdale, Tirth Deokar, Saurabh Motkar, Pallavi Shindikar, Rushikesh Panchal, **Subhendu Bhandari**. Industrial Waste Cotton Fiber-Based Rubber Composite. 6th National Conference on Textile Recycling and Sustainable Apparel Design

(TEXCON-2023), organized by Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore (3-4 March, 2023), *Allied Publishers Pvt. Ltd.* (pp-100-107) [ISBN: 978-93-90951-53-6].

- Uday Shankar, **Subhendu Bhandari**, Dipak Khastgir*, Electrodeposition of nanostructured silver particles and it's composite with polyaniline on flexible electrode, *Journal of Basic and Applied Research International* Vol. 19, Issue 4, pp 267-271 (2016). National Conference on "Materials for Advanced Technology & Application" (MATA-2016), organized by Maharashtra Institute of Technology, Aurangabad (20-21 September 20-21, 2016).

Papers presented in Conferences

International:

- A comparative study of polyaniline/CNT composites synthesized via different methods by Subhendu Bhandari*International Conference on Current Trends in Chemical Science for Sustainable Living (Oral Presentation)***Shyam Lal College, University of Delhi (April, 4-5)** (2024)
- Electrochemical Synthesis and Characterization of Sulfuric Acid and Acrylic Acid Co-doped Polyaniline by Subhendu Bhandari*A Multi-disciplinary International Congress on Industry 5.0 and Paradigm Shift: Emerging Challenges (SANMANTRANA-2023) (Oral Presentation)***Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore in association with St. Cloud State University, USA (1-3 February) (**2023), Allied Publishers Pvt. Ltd. (pp 279-285) [ISBN: 978-93-90951-50-5].
- Simultaneous use of dopant combination during synthesis of polyaniline: An approach towards synergistic improvement in different properties by Subhendu Bhandari, Dipak Khastgir *International Conference and Exhibition on Materials Chemistry (e-Poster Presentation)***Valencia, Spain (March, 31-April, 01)** abstractpublished in*Journal of Material Sciences & Engineering*, Vol. 5, Issue 2 (2016) (Suppl) [DOI: http://dx.doi.org/10.4172/2169-0022.C1.012]
- Mechanochemical route to synthesize nanostructured polyaniline for supercapacitor application by Subhendu Bhandari, Dipak Khastgir *International Conference on Polymers and Allied Materials (Oral Presentation)***Indian Institute of Technology Patna (May, 30-31)** (2014)
- Electrically Conducting Polyaniline Nanorod for Capacitor Application by Subhendu Bhandari, Nikhil K. Singha, Dipak Khastgir *International Conference on Functional Materials (Poster Presentation)***Indian Institute of Technology Kharagpur (February, 5-7)** (2014)
- Electrochemical synthesis of acid doped polyaniline using copper electrode *by* Subhendu Bhandari, Nikhil K. Singha, Dipak Khastgir *International Conference on Rubber and Rubber-Like Materials (Oral Presentation)* **Indian Institute of Technology Kharagpur (March, 6-9)** (2013)
- Electrical and Morphological Studies of Polyaniline/MWCNT Nanocomposites Synthesized by Different Methods *by* Subhendu Bhandari, Nikhil K. Singha, Dipak Khastgir *International Conference on Recent Advances in Composite Materials (Poster Presentation)* **Goa (February, 18-21)** (2013)
- Effect of processing condition of Electrochemical synthesis of Polyaniline on its structure and properties *by* Subhendu Bhandari, Nikhil K. Singha, Dipak Khastgir *Advances in Polymer Science and Rubber Technology (Poster Presentation)* **Indian Institute of Technology Kharagpur (March, 3-5)** (2011)

National:

- Electrical and morphological analysis and characterization of in-situ electropolymerized dual doped polyaniline *by* Subhendu Bhandari, D. Khastgir, N. K. Singha *Frontiers in*

Polymer Chemistry (Oral Presentation) **Indian Institute of Technology Kharagpur (November 29-30)** (2011)

NPTEL Certification

NPTEL Certification

- Twelve Weeks Course on *NBA Accreditation and Teaching and learning in Engineering (NATE)* in January - April, 2023.
- Eight Weeks Course on *TALE 2: Course Design and Instruction of Engineering* in July – September, 2019

Awards, Achievements and Recognition

- Invited as the member of the Scientific Committee of the Annual International Congress on Nanoscience & Nanotechnology, to be held at Oxford, United Kingdom in online mode (February 27-28, 2025).
- Chaired a technical session in "International Conference on Composite Materials for Environment Protection & Remediation (ICCMEPR-2024)", organized by *Gram Bharti College, Ramgarh, Kaimur, Bih*ar under the flagship of *Chemical Research Society of India* in association with *Research Plateau Publishers* (July 2-3, 2024).
- Outstanding Editorial Board Member of Electrical Science & Engineering, an international journal of Biliangual Publishing Co., Singapore in 2023.
- Selected as scientific member of 2nd International Conference on Frontiers of Electrical Power & Energy Systems 2022, held on November 29-30, 2022, in Zhuhai, China.
- Selected as International Committee Member of International Symposium on Measurement, Instrument and Electronic Engineering (ISMIEE), held at Wuhan, China on March, 11-13, 2022.
- Chaired a technical session in an International Online Conference on Advanced Nano Materials (ICAN 2021), organized by Amol Jyothi College of Engineering, Mahatma Gandhi University, India and Gdansk University of Technology, Poland on December 14-16, 2021.
- Recognized for top downloaded paper from Polymer Composites (Wiley) in 2018-19.
- **All India Rank 9** in Graduate Aptitude Test in Engineering **(GATE - 2007)** in Textile Engg. & Fibre Science in 2007.
- Senior Research Fellowship from Ministry of Human Resource Development (MHRD).