



Name: Dr Moon Mandal

Designation: Assistant Professor

Department: Chemistry

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### **Position Held**

- Assistant Professor, PDUAM, Dalgaoon, (Dec' 2019-till date)
- Guest Faculty, Golaghat Engineering College, Bogorijeng, Assam (Aug' 2018- Sept' 2019)

### **Education Qualification:**

- PhD in Chemical Sciences for thesis titled "*Development of Wood-Vegetable Oil Based Polymer Nanocomposites*" from Tezpur University (2014-2019), Assam
- MSc. (Five year Integrated Programme) in Chemistry from Tezpur University (2009-2014), Assam

### **Research Interest:**

- Polymer Nanocomposites
- Biodegradable and Sustainable Materials

### **Research Publications:**

1. M Mandal, P Bardhan, M Mandal, TK Maji, Development of wood polymer composites with thermosetting resin from soybean oil cross-linked with rosin derivative, European Journal of Wood and Wood Products, 2020, 78, 1265-1278

2. M Mandal, Z Halim, TK Maji, Mechanical, moisture absorption, biodegradation and physical properties of nanoclay-reinforced wood/plant oil composites, *SN Applied Sciences*, 2020, 2, 1-14
3. M Mandal, P Begum, RC Deka, TK Maji, Wood flour thermoset composites using chemically modified epoxidized soybean oil, *European journal of wood and wood products*, 2019, 77, 569-580
4. M Mandal, TK Maji, Preparation, physical properties and ultraviolet resistance of wood nanocomposites based on modified soybean oil and bentonite, *Wood Material Science & Engineering* 14 (6), 381-391
5. G Gogoi, M Mandal, TK Maji, Study of properties of modified soybean oil based composite reinforced with chicken feather, *Fibers and Polymers*, 2019, 20, 1061-1068
6. M Mandal, D Nath, TK Maji, Wood polymer nanocomposites from functionalized soybean oil and nanoclay, *Wood Science and Technology* 52, 1621-1643
7. M Mandal, P Borgohain, P Begum, RC Deka, TK Maji, Property enhancement and DFT study of wood polymer composites using rosin derivatives as co-monomers, *New Journal of Chemistry*, 2018, 42 (3), 2260-2269
8. M Mandal, TK Maji, Comparative study on the properties of wood polymer composites based on different modified soybean oils, *Journal of Wood Chemistry and Technology*, 2017, 37 (2), 124-135
9. M Mandal, V Nagaraju, B Sarma, GV Karunakar, KK Bania, Enantioselective Epoxidation of Styrene by Manganese Chiral Schiff Base Complexes Immobilized on MCM-41, *ChemPlusChem*, 2015, 80 (4), 749-761
10. M Mandal, V Nagaraju, GV Karunakar, B Sarma, BJ Borah, KK Bania, Electronic, conjugation, and confinement effects on structure, redox, and catalytic behavior of oxido-vanadium (IV) and-(V) chiral Schiff base complexes, *The Journal of Physical Chemistry C*, 2015, 119 (52), 28854-28870.

## **Book Chapters**

1. G Gogoi, M Mandal, TK Maji, Animal fiber-based green composites, *Green Sustainable Process for Chemical and Environmental Engineering and Science*, 2023, Elsevier, ISBN: 978-0-323-95183-8
2. A Deka, M Mandal, V Saikia, Insights into the Challenges faced by Women Researchers in STEM Workforce: A Case Study, 2023, Gargaon College, ISBN: 978-81-945305-1-0
3. M Mandal, M Khannam, Sanitary Practices and Waste Management Among Adolescent Girls & Women in Rural Area of Dalgaoon Constituency Under Darrang District, Assam: A Case Study, 2022; Thanuj International Publishers. ISBN: 978-93-94638-19-8
4. M Mandal, M Khannam, Industrial Water Treatment Program-Importance and Management of Water Systems, Environment, Climate Change and Natural Challenges, 2021; Gargaon College Publication Cell & Purbayon Publication. ISBN: 978-93-90919-60-4

5. B Purkayastha, M Mandal, Act East Policy and the Northeast: A Subnational Level Analysis. Society, Economy and Politics of North-East India, 2021; Gargaon College Publication Cell & Purbayon Publication. ISBN: 978-93-90919-68-0
6. M Mandal, G Gogoi, N Dutta, TK Maji, Development of biobased wood polymer nanocomposites: industrial applications, market, and future trends, Handbook of Polymer Nanocomposites for Industrial Applications, 2021, Elsevier.
7. P Baishya, M Mandal, P Gogoi, TK Maji, Natural polymer-based nanocomposites: a greener approach for the future, Handbook of composites from renewable materials, Nanocomposites: Science and Fundamentals, 2017, John Wiley & Sons.