

Faculty Profile: - Dr. Rahul Kanti Nath

Name: Dr. Rahul Kanti Nath

Designation: Assistant Professor

Qualification: PhD, SLET (NE), GATE

Area of interest: Liquid Crystals

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Educational Profile:

No	Degree	Major Subject/ Area	Institution	Year
1	B.Sc.	Chemistry Honours	Cachar College, Silchar	2002
2	M.Sc.	Chemistry (Organic)	Assam University, Silchar	2004
3	Ph.D	Chemistry (Liquid Crystals) (Thesis title: Influence of Substituent on Chirality in Achiral Molecules: Microwave Assisted Synthesis and Characterisation of Nonlinear Shaped Liquid crystals.)	Assam University, Silchar	2011

Teaching/ Research/ Administrative Experience:

No	Name of Post	Institution	From	To
1	Assistant Professor	Cachar College, Silchar	29-05-2017	Till date

Research Papers Published in National/ International Journal.

1. Influence of the chloro substituent on the mesomorphism of unsymmetrical achiral four-ring bentcore compounds: 2D polarization modulated banana phases. **R. K. Nath**, R. Deb, N. Chakraborty, G. Mohiuddin, D. S. Shankar Rao and Nandiraju V. S. Rao. *J. Mater. Chem. C*, **2013**, 1 (4), 663–670.
2. Cholesterol-based dimeric liquid crystals: synthesis, mesomorphic behaviour of frustrated phases and DFT study. D. D. Sarkar, R. Deb, N. Chakraborty, G. Mohiuddin, **R. K. Nath** & V.S. Rao Nandiraju. *Liquid Crystals*, **2013**, 40 (4), 468-481.
3. Influence of polar substituents on the mesomorphism of non-symmetrical achiral four-ring bent-core compounds: synthesis and characterisation. **R. K. Nath**, D. D. Sarkar, D. S. Shankar Rao & V. S. Rao Nandiraju. *Liquid Crystals*, **2012**, 39 (7), 889-902.
4. Layer thinning transition in one hockey stick shaped liquid crystal.
M. K. Paul, Brian Moth, LiDong Pan, Shun Wang, **R. K. Nath**, R. Deb, Nandiraju V. S. Rao and C. C. Huang, *Phase Transitions*, **2012**, 85 (12), 1070–1078.
5. Four-ring achiral unsymmetrical bent core molecules forming strongly fluorescent smectic liquid crystals with spontaneous polar and chiral ordered B7 and B1 phases.
R. Deb, **R. K. Nath**, M. K. Paul, N. V. S. Rao, F. Tului, Y. Shen, R. Shao, D. Chen, C. Zhu, Ivan I. Smalyukh and Noel A. Clark., *J. Mater. Chem.*, **2010**, 20 (35), 7332-7336.

Presentation in national/international seminar.

- 1) Paper entitled “**Synthesis and Characterization of a new homologous series of achiral four-rings hockey stick shaped liquid crystals derived from 4-methyl substituted 1,3-phenylene.**” presented in National Symposium on Recent Trades in Chemistry, NEHU, Shillong, 31st Oct-1st Nov 2019.
- 2) Paper entitled “**Unsymmetrical four ring Banana Shaped Liquid Crystals: Influence of Chloro and Methyl substituents**” presented in 16th National Conference on Liquid Crystals, Lucknow University, 26-28 Oct 2009.
- 1) Paper entitled “**Effect of Chemical Structure on the Liquid Crystalline Behaviour of Unsymmetrical Banana shaped Molecules**” presented in 15th National Conference on Liquid Crystals, IISC, Bangalore, India, 13-15 Oct. 2008.