BIO – DATA

1. Name: Dr. Banani Adhikari (Das)

2. Present Position: Associate Professor: Department of Physics

Siliguri Institute of Technology, Sukna, Siliguri-734 009.

3. Academic Qualifications (Undergraduate Onwards):

	Degree	Year	University/Institute
1.	B.Sc. (Hons)	1987	Univ. of North Bengal
2.	M.Sc.	1989	Univ. of North Bengal
3.	Post M.Sc.	(1990-1991)	Saha Institute of Nuclear Physics, Kolkata
4.	PhD	1996	Univ. of North Bengal
5.	Research Associate - CSIR, New Delhi	1996-2001	Univ. of North Bengal
6.	Post Doctoral Fellowship:	2001-2003	Institute for Experimental Physics-I, University of Leipzig, Germany

4. Work Experience (in chronological order):

S. No.	Positions held	Name of the Institute	From	To
1.	Physicist-cum-R.S.O.	North Bengal Medical College and Hospital	07.05. 2003	02.03.2005
2.	Lecturer in Physics,	Siliguri Institute of Technology (Techno – India Group)	03.03.2005	28.02.2006
3.	Sr. Lecturer in Physics, Siliguri Institute of Technology	Sr. Lecturer in Physics, Siliguri Institute of Technology	01.03.2006	28.02.09

4.	Assistant Professor in Physics, Siliguri Institute of	Siliguri Institute of Technology	01.03.2009	31.07.2013
5.	Associate Professor in Physics	Siliguri Institute of Technology	01.08.2013	Till date

5. Awards:

i. Awarded the **University Silver medal** for securing First class Second position rank at the M.Sc. degree examinations.
ii. Awarded **"Young Physicist" for the year 1996** at the Young Physicist Colloquium, 1996 conducted by the ***Indian Physical Society*** held at the Saha Institute of Nuclear Physics, Calcutta.
iii. Awarded the **CSIR, Senior Research Fellowship** in 1995.
iv. Awarded the **CSIR Research Associateship** (**Post Doctoral Fellowship**) in 1996 for a period of five years.
v. Awarded DFG sponsored **Post Doctoral Fellowship in Germany** for **one and a half years (2001-2002).**
vi. Awarded **two months Post Doctoral assignment** from 1st September 2007 – 31st October, 2007 at the Military University of Technology, Warsaw, Poland.
vii. Paper entitled "Development of Advanced Materials for Liquid Crystal Displays"was adjudged as **"Outstanding Paper"** presented in the 3rd Regional Science and Technology Congress- 2018, West Bengal (Northern Region) held on 12th and 13th December, 2018 at Jalpaiguri Government Engineering College, Jalpaiguri, West Bengal, India.
viii. Appreciation received from National Coorddinator, Training, Spoken Tutorial IIT Bombay for making **outstanding contribution** of using ICT based teaching and learning methodology for students of West Bengal under the National Mission on Education through ICT, funded by MHRD, Govt. of India.
ix. Co author of paper entiled "Mesomorphic Properties of a Nematic Muliticompent Mixture for Vertically Aligned Liquid Crystal Displays" adjudged as "**Best Poster Presentation"** at the 27th National Conference on Liquid Crystals held at amity University, Noida under the auspices of the Indian Liquid Crystal Society, from 21-23 December, 2020.

6. Research Activity: Area of research– Soft Condensed Matter (Liquid Crystals)

7. Expertise:

a) Electro optical studies on liquid crystal based smart display devices.
b) Research and Development of materials for Liquid Crystal Displays.
c) X-ray diffraction studies of liquid crystals.
d) Nuclear Magnetic Resonance Measurements of liquid crystals.
e) Physical characterization of Liquid Crystalline materials from optical, elastic constant, dielectric permittivity and magnetic susceptibility measurements.

f) Angle Dispersive Small Angle X -ray Diffraction Studies on Liquid Crystals using Synchrotron Radiation.

8. Research Papers – 44

9. Ph. D. Produced – 2

Continuing -1

10. List of Major Research Projects implemented/ongoing

1. Development of liquid crystalline materials with optimum properties for application in vertically aligned mode liquid crystal displays, DST, New Delhi, 2007-2011 (SR/S2/CMP-29/2007), total cost: **Rs.34,28,000.00**
2. Development of Antiferroelectric Liquid Crystalline Materials for Application in Optical Modulators with Symmetric Switching Times (EMR/2016/005001). Total Cost: **Rs. 40,00,000.**
3. Co-PI in UGC-DAE Consortium for Scientific Research sponsored project entitled "Critical Behavior at the Smectic-A-to-Smectic-C Transition investigated by Synchrotron Radiation (Project No: 2021/CRS/11/25/640) utilizing Indus Synchrotron Radiation sources at Raja Ramanna Centre for Advanced Technology INDORE.

11. Membership of academic bodies: Life member - Indian Liquid Crystal Society,
Life member - International liquid Crystal Society
Life member - Nuclear Magnetic Resonance Society.

12. Teaching Experience:

Teaching Engineering Physics (Paper Code **Ph 101, Ph 201, Ph 301 and Ph 401)** for the last fourteen years (from 03. 03.2005 till date) as per the Maulana Abul Kalam University of Technology, MAKAUT, (formerly West Bengal University of Technology) prescribed syllabus.

Taught Material Science Paper (Paper Code: MS 301) for third semester for Electrical Engineering Stream as per the MAKAUT prescribed syllabus.

13. Papers Reviewed:

i. Orientational Order Parameter Studies In Two Symmetric Dimeric Liquid Crystals – An Optical Study by VGKM Pisipati, Prasad, P V; P, Pardha; Divi, Madhavi; Rani, G; in **PHASE TRANSITIONS (publishers Taylor and Francis, UK)**

ii. Synthesis of Poly (N-Vinyl Pyrrolidone) Based Hydrogen Bonded Side Chain Liquid Crystalline Polymer by Gursel, Yesim; Senkal, Bahire ; Yakuphanoglu, Fahrettin; Erbil, Esra; Aytac, Ceren in **POLYMERS FOR ADVANCED TECHNOLOGIES (Publishers John Wiley & Sons)**

iii.. **Field dependence studies in carbon nanotubes doped nematic liquid crystal mixtures by** Praveen Malik and Ashok Chaudhary in **ADVANCES IN CONDENSED MATTER** PHYSICS (Published **by IOP Science)**

iv On the critical behaviour of the N-SmA phase transition in an induced system: an exploration from high-resolution calorimetric and optical studies, Apsari Parvin and Malay Kumar Das in Phase Transitions. (Taylor and Francis)

v. Segmental Relaxation of Sequence Defined Polymers in Journal of Physics: Condensed Matter published by **IOP** Publishing.

14. Books:

i. Work of two publications have been included as text in a book **PHYSICAL PROPERTIES OF LIQUID CRYSTALS: NEMATICS,** Edited by D.A. Dunmur, A. Kukuda and G.R. Luckhurst, by INSPEC publication.

ii. **Book Chapter in Springer Nature**: **On the Structure - Property Correlations of a new class of Chiral Liquid Crystalline Materials: A perspective from Electro-optic and Dielectric Measurements, Part VI, Smart Materials, Nano Materials,** Priyanta Barman, Malay Kumar Das, Banani Das, Vera Hamplova and Alexej Bubnov. Springer Book Series: Studies in Autonomic, Data Driven and Industrial Computation Published by Springer, Page no. 813, Electronic ISSN2730-6445 Print ISSN 2730-6437 at the International Conference on Data science and Communication ICTDsC 2023 held at Siliguri Institute of Technology, March 2023.

15. Special Lectures Delivered:

a. Lecture delivered at the **"Young Physicists Colloquium"** and awarded ***"Young Physicist" for the year 1996*** held at the Saha Institute of Nuclear Physics, Calcutta 22nd-23rd August, 1996.
b. Lecture delivered at the Department of Physics, **Martin Luther University, Halle, Germany** in Jan 2003.
c. Lecture delivered at the **Military University of Technology, Institute of Chemistry, Poland** on the occasion on the **Annual Meeting of the Polish Liquid Crystal Society, 2003.**
d**.** Delivered an invited lecture **at Raiganj University College** on 28.03.2008 in a **Seminar on "Some Recent Advances in Physics and Astrophysics".**
e**.** Delivered lecture as a resource person in **"Three day workshop on X-ray Diffraction and its applications"** sponsored under TEQIP, 4-6 December, 2008" **Department of Physics,** NIT, Silchar, Assam.
f. Lecture delivered at the Department of Physical Chemistry, **Martin Luther University, Halle, Germany** in July 2010.
g. Delivered two ***Seminar Talks*** on 21.01.2012 and 04.02.2012 at the **Department of Physics, North Bengal University.**

h. Delivered an **invited lecture** at National Conference on Emerging Materials on "Development of Liquid Crystalline Materials for Application in Vertically Aligned Mode Liquid Crystal Displays" March 20-22, 2018, Department of Chemistry, Assam University, Silchar.

j. Delivered an **invited lecture** entitlted "Dielectric and Electro-Optic Investigations on the Structure Property Relationships of Ferroelectric Liquid Crystals", Sept.17-21, 2018, Jastrzebia Gora, **Poland**.

16. LIST OF PUBLICATIONS:

In peer reviewed journals:

1. Comparison of Experimental order parameters of nematogens with Faber's theory. B. Adhikari, G. Chaudhuri and R. Paul (1993), Liquid Crystals, 14, 1217(1993).
2. Orientational order parameters in the smectic C and nematic phase of Heptyloxy Azoxy Benzene (HAB), B. Adhikari and R. Paul, Molecular Crystals and Liquid Crystals, 261, 241(1995):
3. Physical properties of three bicyclohexane compounds possessing smectic B phase I: X-ray diffraction technique, B. Adhikari and R. Paul, Phase transitions, 56, 153(1996).
4. Physical properties of three bicyclohexane compounds possessing smectic B phase II: Refractive index and density measurements. B. Adhikari and R. Paul, Phase transitions, 56, 165(1996).
5. Physical Properties of three Bicyclohexane Compounds possessing smectic B phase, B. Adhikari and R. Paul, Physics Teacher, 38, No. 2 and 3,50-53. (1996).
6. Physical properties of the mesophases of 4-n-HeptyloxyBenzylidene-4-AminoazoBenzene (HBAAB). B. Adhikari, R. A. Vora, and R. Paul, Molecular Crystals and Liquid Crystals, 287, 129 (1996).
7. Determination of K33/K11 ratio of a polar-non-polar mixture showing injected smectic phase, B. Adhikari and R. Paul, Molecular Crystals and Liquid Crystals, 301, 419(1997):
8. Temperature variation of transverse co-relation length in SmC and N phases of a liquid crystal from X-ray and Neutron diffraction studies. . M. K. Das, B. Adhikari, R. Paul, S. Paul, K. Usha Deniz and S. K. Paranjpe, Mol. Cryst. Liq. Cryst., 330, 1 (1999).
9. Ferroelectric and antiferroelectric "Banana phases" of new fluorinated five-ring bent-core mesogens. H. Nadasi, W. Weissflog, A. Eremin, G. Pelzl, S. Diele, B. Das and S. Grande, Journal of Material Chemistry, 12, 1316(2002):
10. Structural and Conformational investigations in SmA and different Smectic C phases of new hockey-stick shaped compounds. B. Das, S. Grande, W. Weissflog, A. Eremin, M. W. Schroeder, G. Pelzl, S. Diele and H. Kresse, Liquid Crystals, 30, 529(2003).
11. The first bent-core mesogens exhibiting a dimorphism B7 – SmCP, G. Pelzl, M. W. Schröder, U. Dunemann S. Diele W. Weissflog, C. Jones, D. Coleman, N. A. Clark, R. Stannarius, Y. Li, Banani Das and S. Grande, Journal of Material Chemistry, 14, 2492 (2004).
12. Chiral ordering in the nematic and an optically isotropic mesophase of bent-core mesogens with a halogen substituent at the central core. W. Weissflog, S. Sokolowski, H.

Dehne, B. Das, S. Grand, M. W. Schröder, A. Eremin, S. Diele, G. Pelzl, Liquid Crystals, 31, 923(2004).
13. Field-induced phase transitions and reversible field-induced inversion of chirality in tilted smectic phases of bent-core mesogens, G. Pelzl, M. W. Schroder, A. Eremin, S. Diele, B. Das, S. Grande, H. Kresse, W. Weissflog, European Physical Journal E, 21. 293(2006).
14. Phase transition and physical properties of a binary mixture of bicyclohexane compounds. I: Refractive index measurements, Prithwi Dev Roy, Malay Kumar, Das, Sukla Paul, Ranjit Paul and Banani Das, Mol. Cryst. Liq. Cryst., 457, 43 (2006).
15. Phase transition and physical properties of a binary mixture of bicyclohexane compounds II: X-ray Diffraction Measurements., Malay Kumar Das, Prithwi Dev Roy, Sukla Paul, Ranjit Paul and Banani Das,, Mol. Cryst. Liq. Cryst., 457, 55 (2006).
16. Comparison of the Orientational Order Parameters Determined From X-Ray Diffraction and ^{13}C NMR Studies of a Hockey Stick Shaped Compound Gautam Sarkar, Malay Kumar Das, Ranjit Paul, Banani Das and Wolfgang Weissflog, Phase Transitions, 82, 433(2009).
17. Determination of orientational order parameter of a binary mixture showing induced smectic A_d phase from magnetic susceptibility measurements. Prithwi Dev Roy, Banani Das and Malay Kumar Das, Journal of Physics: Condensed Matter, 21, 335108 (2009).
18. Physical properties of three liquid crystals with negative dielectric anisotropy from x-ray diffraction and optical birefringence measurements, P. Dasgupta, M.K. Das and B. Das, Mol. Cryst. Liq. Cryst., 540, 154(2011).
19. Structural investigations of a non calamitic shaped liquid crystalline compound showing unusual phases, Gautam Sarkar, Banani Das, Malay Kumar Das, Ute Baumaister and Wolfgang Weissflog. Mol. Cryst. Liq. Cryst., 54, 188(2011).
20. New hockey stick compounds with a lateral methyl group showing nematic, synclinic and anticlinic smectic C phases, A. Chakraborty, B. Das , M. K. Das , S. Findeisen-Tandel , M.-G. Tamb, U. Baumeister , H. Kresse & W. Weissflog, Liquid Crystals, 38,1085(2011).
21. Determination of Orientational Order Parameters of Two Tri-Component Mixtures from Optical Birefringence and X-Ray Diffraction Measurements, S. Basak, P. Dasgupta, B. Das, M. K. Das and R. Dabrowski, Acta Physica Polonica A, 120, 1037 (2011).
22. Determination of the orientational order parameter of the homologous series of 4-cyanophenyl 4-alkylbenzoate (n.CN) by different methods, Malay Kumar Das, Gautam Sarkar, Banani Das, Ratan Rai and Neeraj Sinha, J. Phys.: Condens. Matter, 24, 115101 (2012).
23. Mesomorphic and structural properties of liquid crystal possessing a chiral lactate unit, Banani Das, Anamika Pramanik, Malay Kumar Das, Alexej Bubnov, Veˇra Hamplova, Miroslav Kašpar, Journal of Molecular Structure, 1013,119(2012).
24. A comparative study of the mesomorphic properties of fluoro-isothiocyanated and fluorinated terphenyl liquid crystals from birefringence, static dielectric permittivity, splay elastic constant and rotational viscosity measurements, M. K. Das, A. Pramanik, B. Das, Ł. Szczuciñski and R. Dabrowski, J. Phys. D: Appl. Phys., 45 415304 (2012).
25. Dielectric and visco-elastic properties of laterally fluorinated liquid crystal single compounds and their mixture, P. Dasgupta, B. Das and M. K. Das, Liquid Crystals, 39, No. 11, 1297–1304(2012).

26. Mesomorphic, optical, dielectric, elastic and viscous properties of multi-component isothiocyanato mixtures, A. Pramanik, B. Das, M. Das, K. Garbat, S. Urban & R. Dabrowski , Liquid Crystals, 40, 2013, 149-158.
27. Dielectric Permittivity and Viscoelastic Measurements of Two Tricomponent Mixtures Consisting of Laterally Fluorinated Terphenyl Derivatives, S. Basak, P. Dasgupta, B. Das, M.K. Das and R. Dabrowski, Acta Physica Polonica A, No. 4, Vol. 123,714 (2013).
28. Rotational viscosity measurements of bent-core nematogens, Anish Chakraborty, Malay Kumar Das, Banani Das, Anne Lehmann, and Carsten Tschierske, Soft Matter, 9, 4273(2013).
29. Optical, dielectric and visco-elastic properties of a few hockey stick-shaped liquid crystals with a lateral methyl group, Anish Chakraborty, Malay Kumar Das, Banani Das, Ute Baumeister, Wolfgang Weissflog, Journal of Materials Chemistry C, 1, 7418(2013).
30. Electro-optical properties of a new series of fluorinated antiferroelectric orthoconic liquid crystalline esters, Anamika Pramanik, Malay Kumar Das, Banani Das, Magdalena Żurowska & Roman Dąbrowski, Liquid Crystals, 42(3), 412–421(2015).
31. Comparative study of the mesomorphic properties of several laterally fluorinated liquid crystalline materials, Prajnamita Dasgupta, Anamika Pramanik, Malay Kumar Das and Banani Das, Liquid Crystals, 42(8), 1083-1094(2015).
32. Mesomorphic and structural properties of some liquid crystals possessing a bicyclohexane core, Malay Kumar Das, Prajnamita Dasgupta, Banani Das and Sudipta Kumar Sarkar International Journal of Advanced Research, 3(3), 967-981(2015).
33. Self-assembling properties of lactic acid derivative with several ester linkages in the molecular core, Anamika Pramanik, Malay Kumar Das, Banani Das, Věra Hamplová, Miroslav Kašpar and Alexej Bubnov, Phase Transitions, 88(7), 745-757(2015).
34. Fast switching negative dielectric anisotropic multicomponent mixtures for vertically aligned liquid crystal displays, Prajnamita Dasgupta, Malay Kumar Das and Banani Das, **Materials Research Express**, 2, 045015 (2015).
35. Preparation and study of the electro-optical properties of binary mixtures of orthoconic anti-ferroelectric esters and achiral phenyl pyrimidine liquid crystal, Anamika Pramanik, Malay Kumar Das, Banani Das and Roman Dąbrowski, **Soft Materials**, 13, 201-209 (2015).
36. Effect of molecular structure on dielectric and electro-optic properties of chiral liquid crystals based on lactic acid derivatives, Barnali Barman, Banani Das, Malay Kumar Das, Věra Hamplová, Alexej Bubnov, **Journal of Molecular Liquids**, 283, 2019, 472-481.
37. Dielectric Properties of Chiral Ferroelectric Liquid Crystalline Compounds with Three Aromatic Rings Connected by Ester Groups, Malay Kumar Das 1, Barnali Barman , Banani Das, Vˇera Hamplová and Alexey Bubnov, **Crystals** 2019, 9, 473; doi:10.3390/cryst9090473 https://www.mdpi.com/2073-4352/9/9/473/pdf.
38. Dielectric Spectroscopy and Electrical Conductivity Measurements of a Series of Orthoconic Antiferroelectric Liquid Crystalline Esters Shantiram Nepal, Banani Das, Malay Kumar Das, Madhumita Das Sarkar and Roman Dabrowski FERROELECTRICS Vol 570, Issue – 1, pages 100 – 114, 2021. doi.org/10.1080/00150193.2020.1839260
39. Fast Switching Behaviour and Dielectric Parameters of two Chiral Ferroelectric Mesogens, Shantiram Nepal, Sarmistha Mondal, Anindita Sinha, Banani Das, Malay Kumar Das, Ewelina Dmochowska, Jakub Herman & Michal Czerwiński, **Liquid Crystals Published Online:** 04 Mar 2020, March 2020, Pages 1-10 DOI: 10.1080/02678292.2020.1735547

40. Dielectric Spectroscopy and Electrical Conductivity Measurements on High-Tilted Antiferroelectric Materials, Shantiram Nepal, Banani Das, Malay Kumar Das, Katarzyna Strójwąs, Magdalena Urbańska, **Phase Transitions**, Vol 93, Issue 9, 2020 https:// doi.org /10.1080/01411594.2020.1813288.
41. Static Permittivity and Electro-Optical Properties of Bi-Component Orthoconic Antiferroelectric Liquid Crystal-line Mixtures targeted for Polymer Stabilized Sensing Systems. Shantiram Nepal, Banani Das, Malay Kumar Das, Madhumita Das Sarkar, Magdalena Urbańska and Michał Czerwiński, **Polymers** February 2022, 14, 956. https://doi.org/10.3390/polym14050956.
42. High tilted antiferroelectric liquid crystals: Polymer-based approach for phase stabilisation and device development. Shantiram Nepal, Banani Das, Malay Kumar Das, Madhumita Das Sarkar, Katarzyna Strójwąs, Ewelina Dmochowska, Michał Czerwiński, **Journal of Molecular Liquids**, Volume 375, 1st April, 2023, 121297, **https://doi.org/10.1016/j.molliq.2023.121297**
43. Critical behaviour near the nematic-smectic-C and nematic-smectic-A phase transitions of a binary system: a comparative study from calorimetric, optical and dielectric measurements, Smriti Mitra, Malay Kumar Das and Banani Das **Liquid Crystals** Taylor and Francis Received 26 Dec 2022, Accepted 13 Apr 2023, Published online: 26 Apr 2023Publications. https://doi.org/10.1080/02678292.2023.2203702
44. Novel properties of High-Performance Multi-Component Mixture for Vertically Aligned Mode LCDs, Prajnamita Dasgupta, Sarmistha Mondal, Banani Das and Malay Kumar Das, **Liquid Crystals** Taylor and Francis, Volume 51, Issue 1, 2024, pages 93-104, Published online: 07 Nov 2023, https://doi.org/10.1080/02678292.2023.2275745
45. Optical and calorimetric studies near the smectic-*A* to smectic-*C* tricritical point**, Physics Scripta, 99, Volume 1, December, 2023 IOP Publishing House,** Susanta Chakraborty, Smriti Mitra, Malay Kumar Das and Banani Das. DOI: 10.1088/1402-4896/ad15db
46. Ferroelectric and Antiferroelectric Chiral Multilactate Liquid Crystalline Materials with Negative Dielectric Anisotropy, Priyanta Barman, Malay Kumar Das, Banani Das, Sergei Mironov, Vera Hamplova, and Alexej Bubnov, **Next Materials**, Science Direct, Elsevier**. (Accepted, 2024).**
47. Thermal analysis of induced frustrated blue phase and twist grain boundary phase in chiral-achiral self-organizing system by modulated differential scanning calorimetry, Malay Kumar Kumar Das; Smriti Mitra; Akhileshwar Prasad; Malay Kumar Das; Banani Das; Vera Hamplova; Alexej Bubnov **Journal of Thermal Analysis and Calorimetry (JTAC), Springer, (Communicated, 2024)**
48. Dielectric Relaxation Studies of High Tilted Antiferroelectric Liquid Crystalline Binary Mixtures, Shantiram Nepal, Banani Das, Malay Kumar Das, Madhumita Das Sarkar, Magdalena Urbańska and Michał Czerwiński, **Journal of Molecular Structure, Elsevier (to be Communicated)**

In Proceedings:

1. An experimental test of Continuum Theory. B.Adhikari., G. Chaudhuri and Ranjit Paul Proceedings of the Solid State Physics Symposium, Banaras Hindu University, India December 1991, p-351 (1991).

2. Comparison of Experimental order parameters of nematogens with Faber's theory. B.Adhikari., G. Chaudhuri and Ranjit Paul, Proceedings of the 14th International Liquid Crystal Conference, Pisa, Italy, June 1992 p-627. Abstract-H-P24 (1992).

3. X ray diffraction study of the Smectic B phase of 4(4'-butenyl)4'(propyl)1,1'bicyclohexane (BPBCH), B. Adhikari and R. Paul, Proceedings of the Winter Workshop on Liquid Crystals, Department of Physics, North Bengal University, India Dec.1992-Jan 1993 p-488, (1993).

4. Orientational ordering and molecular parameters in the mesophases of 4-n-Heptyloxybenzylidene - 4′-Aminoazobenzene. B. Adhikari, R.A. Vora and R.Paul, National Seminar on Chemistry of Liquid Crystals and Applications, M.S University of Baroda, Baroda (1994).

5. Orientational order parameters in the smectic C and nematic phase of Heptyloxy Azoxy Benzene (HAB), B. Adhikari and R. Paul, Proceedings of the 15th International Liquid Crystal Conference, Budapest, Hungary July p-303, Abstract-no C-P41 (1994).

6. Study of a bicyclohexane compound with Crystal B-Nematic phase sequence, B. Adhikari and R.Paul, Proceedings of the Solid State Physics Symposium, University of Rajasthan, Jaipur, India, December p-26 (1994).

7. Studies on the mesophases of HBAAB by x-ray diffraction and refractive index technique, B. Adhikari, R.A. Vora and R. Paul, Proceedings of the Solid State physics Symposium held at the Indian Association for the Cultivation of Science, Calcutta, India December, p-352. (1995).

8. Physical Properties of three Bicyclohexane Compounds possessing smectic B phase B. Adhikari and R. Paul, Abstract No. YPC-96/2 at the 14th Young Physicists Colloquium" for the year 1996 held at the Saha Institute of Nuclear Physics, Calcutta 22nd-23rd August (1996).

9. M.K.Das, B. Adhikari, R.Paul, S.Paul. K.Usha Deniz and S.K. Paranjpe, Proceedings of the Solid State Physics Symposium, Cochin University of Science and Technology, Kochi, India, December 1997 p-326 (1997).

10. Determination of K33/K11 ratio of a polar-non-polar mixture showing injected smectic phase B. Adhikari, and R.Paul, Proceedings of the Solid State Physics Symposium, Cochin University of Science and Technology, Kochi, India, December 1997, p-327 (1997).

11. Phase transition and physical properties of a binary mixture of bicyclohexane compounds, B. Adhikari, B., P.D.Roy, M.K. Das, S.Paul and R. Paul, Proceedings of the 18th International Liquid Crystal Conference, Sendai, Japan, June 2000, Proc. 27D, 103P, 685 (2000).

12. B. Das, S. Grande, W., Wiessflog, A., Eremin, M.W., Schoeder, G. Pelzl., G., S.Diele and H. Kresse, Structural and Conformational investigations in SmA and different SmC phases of new hockey-stick shaped compounds. Proceedings of the 30th Freiburger Arbeitstagung Flussigkristalle, March, 2002, Frieburg, Germany, P-22 (2002).

13. Phase Structure and Molecular Conformation of B_2 phases – A Comparative study of banana shaped compounds with and without F- substitution. B. Das, S. Grande, S. Diele, A. Eremin, G. Pelzl., H. Nadasi. and W. Wiessflog, Proceedings of the 30th Freiburger Arbeitstagung Flussigkristalle, March, 2002, Frieburg, Germany, P-34(2002).

14. Mesogens with hockey-stick molecular shape exhibiting unusual phase behaviour. B. Das, S Grande, M.W. Schroeder, A. Eremin, S Diele, G. Pelzl, H. Kresse, and W. Weissflog, Proceedings of the 19th International Liquid Crystal Conference, Edinburgh, U.K., 30th June – 5th July 2002, P-431 (2002).

15. X-ray diffraction and Refractive index measurements of a binary mixture of bicyclohexane compounds. B. Das, P.D.Roy , M.K.Das, S. Paul and R. Paul, Proceedings of the 20th International Liquid Crystal Conference, Ljubljana, Slovenia, July 4-9, (2004).

16. X-ray Diffraction and NMR Measurements in tilted smectic C phases of new hokey sticked shaped compounds, Banani Das, S Grande, W. Weissflog, A. Eremin, M. W. Schroder, G. Pelzl, S. Diele and H Kresse, 12th National Liquid Crystal Conference, Sichar, Assam, 19-21 December, p-25 (2005).

17. X-ray Diffraction study of a hockey stick shaped compounds, Banani Das, Malay Kumar Das and Ranjit Paul, 12th National Liquid Crystal Conference, 19-21 December, Silchar, p-21 (2005).

18. Determination of Orientational Order parameters from Magnetic susceptibility measurements of a Binary mixture showing an induced smectic Ad phase. Prithwi Dev Roy, Malay Kumar Das, Banani Das, 13th National Liquid Crystal Conference, Mysore, 9-11 October, p-2 (2006).

19. Preparation and study of the bi and tri component mixtures of the main components for vertically aligned liquid crystal displays, Somedutta Basak, Banani Das, Malay Kumar Das and Roman Dabrowski, 14th National Liquid Crystal Conference, 17-19 December, p-35, Department of Physics, North Bengal University (2007).

20. Magnetic susceptibility anisotropy measurements of a binary mixture showing induced smectic phase, Prithwi Dev Roy, Banani Das and Malay Kumar Das, Proceedings of the DAE Solid State Physics Symposium, Mysore University, Mysore, (2007).

21. Comparison of the Orientational Order Parameters determined from X-ray diffraction and ^{13}C NMR studies of a hockey stick shaped compound Malay Kumar Das, Banani Das, Gautam Sarkar, Ranjit Paul and Wolfgang Weissflog, 15th National Liquid Crystal Conference, 13-15 October, Indian Institute of Science, Bangalore (2008).

22. Preparation And Study Of The Physical Properties Of Two Multi Component Mixtures For Vertical Aligned LCD's Banani Das, Somedutta Basak, Malay Kumar Das and Roman Dabrowski 15th National Liquid Crystal Conference, 13-15 October, Indian Institute of Science, Bangalore (2008).

23. Elastic Constants and Rotational Viscosity of Two Multi Component Mixtures Comprising of Terphenyl and Bicyclohexane Compounds, Prajnamita Dasgupta, Somedatta Basak, Banani Das, Malay Kumar Das, Proceedings of the 16th National Conference on Liquid Crystals, Lucknow University, Lucknow p-20, (2009).

24. Mesomorphic and structural studies of a chiral liquid crystal with lactate group, Malay Kumar Das, Banani Das, Alexej Bubnov, Harnplova Vera and Kaspar Miroslav, Proceedings of the 23rd International Conference on Liquid Crystals, Krakow, Poland, (2010).

25.Structural Investigations of a Non Calamitic Shaped Liquid Crystalline Compound Showing Unusual Phases, Gautam Sarkar, Banani Das, Malay Kumar Das and Wolfgang Weissflog, Proceedings of the 23rd International Conference on Liquid Crystals, Krakow, Poland P—1.98, (2010).

26.Physical Properties of Three Liquid Crystals with Negative Dielectric Anisotropy from X-ray Diffraction and Optical Birefringence measurements Prajnamita Dasgupta, Malay Kumar Das and Banani Das, Proceedings of the 23rd International Conference on Liquid Crystals, Krakow, Poland, P—1.101, (2010).

27.A Five Component Mixture For Vertically Aligned Mode LCD's Prajnamita Dasgupta, Malay Das and Banani Das, Proceedings of the 17th National Conference on Liquid Crystals Veer Narmad South Gujarat University, Surat (2010).

28.Determination Of Orientational Order Parameter Of A Homologous Series Of 4-Cyanophenyl 4-N -Benzoate (n.Cn) By Different Experimental Methods, Malay Kumar Das, Gautam Sarkar, Banani Das, Ratan Rai and Neeraj Sinha, Proceedings of the 17th National Conference on Liquid Crystals, Veer Narmad South Gujarat University, Surat (2010).

29. New Hockey stick compounds with a lateral methyl group showing Nematic phases and synclinic and anticlinic smectic C phases, Anish Chakraborty, Banani Das, Malay Kumar Das, Sonja Findeisen-Tandel, Maria-Gabriela Tamba, Ute Baumeister, Horst Kresse, Wolfgang Weissflog, Proceedings of the XIX Conference on Liquid Crystals, Miedzyzdroje, Poland, September 18 – September 23, (2011).

30. Development of Liquid Crystalline Materials with Optimum Properties for Application in Vertically Aligned Mode Liquid Crystal Displays, Banani Das and Malay Kumar Das, Proceedings of the 18th National Conference on Liquid Crystals, North Eastern Regional Institute of Science & Technology, Nirjuli, Arunachal Pradesh p-30 (2011).

31.Optical and Dielectric Properties of Liquid Crystals containing Bicyclohexane Core, Prajnamita Dasgupta, Banani Das, Malay Kumar Das, Proceedings of the 18th National Conference on Liquid Crystals, North Eastern Regional Institute of Science & Technology, Nirjuli, Arunachal Pradesh p-39(2011).

32. High Birefringence and Low Viscosity Negative Dielectric Anisotropy Multi-component Liquid Crystal Mixtures, Banani Das, Somedatta Basak, Malay Kumar Das and Dabrowski Roman, Proceedings of the 18th National Conference on Liquid Crystals, North Eastern Regional Institute of Science & Technology, Nirjuli, Arunachal Pradesh, p-40 (2011).

33. Investigations of new hockey-stick compounds showing nematic, synclinic and anticlinic smectic C phases, Malay Kumar Das, Anish Chakraborty, Banani Das, Sonja Findeisen-Tandel, Maria-Gabriela Tamba, Ute Baumeister, Horst Kresse and Wolfgang Weissflog, 18th National Conference on Liquid Crystals, Itanagar (2011).

34. Structural and mesomorphic properties of a lactic acid derivative chiral liquid crystal with several ester linkages in the core, Anamika Pramanik, Banani Das, Malay Kumar Das, Alexej Bubnov and Vera Hamplova, 19th National Conference on Liquid Crystals Thapar University, Patiala (2012).

35. Measurement of rotational viscosity in the nematic phase of bent-core mesogens, Anish Chakraborty, Malay Kumar Das, Banani Das and Carsten Tschierske, 19th National Conference on Liquid Crystals Thapar University, Patiala (2012).

36. Preparation and study of the mesomorphic, optical, dielectric, elastic and viscous properties of multi-component isothiocyanato mixtures, Banani Das, Anamika Pramanik, Malay Kumar Das and Roman Dabrowski, 19th National Conference on Liquid Crystals, Thapar University, Patiala (2012).

37. Mesmerizing alliance of partial bent-core and partial calamitic like behavior in the nematic phase of a few laterally methyl substituted hockey-stick shaped liquid crystals, Malay Kumar Das, Anish Chakraborty, Banani Das, Ute Baumeister and Wolfgang Weissflog, 20th National Conference on Liquid Crystals, Manipal (2013).

38. Structural and mesomorphic properties of a liquid crystalline compound with a chiral lactate group and several ester linkages in the core, Banani Das, Anamika Pramanik, Malay Kumar Das and Alexej Bubnov, 20th National Conference on Liquid Crystals, Manipal (2013).

39. Preparation and study of the mesomorphic, optical, dielectric, elastic and viscous properties of multi-component isothiocyanato mixtures for application in liquid crystal display and high speed photonics devices, Malay Kumar Das, Anamika Pramanik, Banani Das and Roman Dabrowski, 5th Asian Conference on Colloid and Interface Science, p. 123, North Bengal University, Siliguri (2013).

40. Fascinating observation of both bent-core and calamitic like behavior in the nematic phase of a few laterally methyl substituted hockey-stick shaped liquid crystals, Anish Chakraborty, Malay Kumar Das, Banani Das, Ute Baumeister and Wolfgang Weissflog, 5th Asian Conference on Colloid and Interface Science, p. 165, North Bengal University, Siliguri (2013).

41. The role negative dielectric anisotropy liquid crystalline materials in LCD's, Banani Das and Malay Kumar Das, 5th Asian Conference on Colloid and Interface Science, p. 175, North Bengal University, Siliguri (2013).

42. Electro-optic and spontaneous polarization measurement on a new series of fluorinated anti-ferroelectric liquid crystalline esters, Anamika Pramanik, Banani Das, Malay Kumar Das and Roman Dabrowski, 21st National Conference on Liquid Crystals, Kanpur (2014).

43. Electro-optic Properties of binary mixtures containing fluorinated anti-ferroelectric liquid crystalline esters, Anamika Pramanik, Banani Das, Malay Kumar Das and Roman Dabrowski, 21st National Conference on Liquid Crystals, Kanpur (2014).

44. Study of the electro-optical properties of binary mixtures of orthoconic anti-ferroelectric esters and achiral phenyl pyrimidine liquid crystal, Banani Das, Anamika Pramanik, Malay Kumar Das and Roman Dąbrowski, 22nd National Conference on Liquid Crystals (NCLC-22) to participate and present a talk at the Department of Physics, DIT University, Dehradun, Uttarakhand during 21-23, December, 2015.

45. Effect of achiral phenyl pyrimidine molecule on the phase behaviour and physical properties of chiral orthoconic anti-ferroelectric esters, Banani Das, Anamika Pramanik, Malay Kumar Das, and Roman Dąbrowski, XXI Conference on Liquid Crystals-Chemistry, Physics and Applications, Krynica-Zdroj, Poland, 18th September, 2016 to 23rd September, 2016.

46. Orthoconic Anti-ferroelectric Liquid Crystalline Mixtures for Application in Optical Modulators, Anamika Pramanik, Banani Das, Malay Kumar Das, Roman Dabrowski, 24th National Conference on Liquid Crystals, NCLC 2017, Department of Chemical Sciences, IISER Mohali, 11-13 October, 2017.

47. Development of Advanced Materials for Liquid Crystal Displays, Prajnamita Dasgupta, Banani Das and Malay Kumar Das, 3rd Regional Science and Technology Congress- 2018, West Bengal (Northern Region) held on 12th and 13th December, 2018 at Jalpaiguri Government Engineering College, Jalpaiguri, West Bengal, India.

48. Dielectric Studies of a New Series of Orthoconic Antiferroelectric Smectic Liquid Crystalline esters Shantiram Nepal, Banani Das, Malay Kumar Das and Roman Dabrowski:, Proceedings of the 25th National Conference on Liquid Crystals-2019, Allahabad (2018).

49. Electro optic and Dielectric Investigations on the Structure Property Relationships of Ferroelectric Liquid Crystals, Barnali Barman, Banani Das, Malay Kumar Das, Věra Hamplová, Alexej Bubnov, 25th National Conference on Liquid Crystals, Centre of Materials Sciences, University of Allahabad, December 19-21, 2018.

50. Electro-Optic Performance of Smart Antiferroelectric Liquid Crystalline (AFLC) Compounds Shantiram Nepal, Banani Das, Malay Kumar Das, Michal Czerwiński., 1st International Conference on Evolving Materials and Nanotechnology for Sustainable Development, 15-16 December 2020, Central University of Technology, Kokrajhar, Assam (Poster)

51. Physical Properties of three High Tilted Antiferroelectric Liquid Crystalline Compounds from Electro-Optic Measurements Shantiram Nepal, Banani Das, Malay Kumar Das, Madhumita Das Sarkar and Michal Czerwiński., 27th National Conference on Liquid Crystals, 21st – 23rd December 2020, Amity University Uttar Pradesh (Flash talk)

52. Advanced Materials for Vertically Aligned Liquid Crystal Displays, Prajnamita Dasgupta, Sarmistha Mondal, Banani Das, Malay Kumar Das and Madhumita Das Sarkar,2nd International Conference on Future Aspects of Sustainable Technologies (FAST) Department of Chemistry, Central Institute of Technology Kokrajhar (Deemed to be University MHRD,

Govt. of India), Kokrajhar, Assam, India, on 20-21 October 2020 in Virtual Platform, Mode: Oral presentation.

53. Orientational Order, Optical and Dielectric Properties of Liquid Crystals containing Bicyclohexane Rigid Core, S. Basak, S. Mondal, A.Mondal, B.Das and M.K. Das, 1st International Conference on Evolving Materials and Nanotechnology for Sustainable Development (EMNSD-2020) Department of Physics, Central Institute of Technology Kokrajhar, (Deemed to be University under MoE, Govt. of India), Kokrajhar, Assam, India On 15-16 December 2020, online mode.Mode: Oral presentation.

54. Mesomorphic Properties of a Nematic Muliticompent Mixture for Vertically Aligned Liquid Crystal Displays, Sarmistha Mondal, Prajnamita Dasgupta, **Banani Das**, Malay Kumar Das and Madhumita Das Sarkar, 27th National Conference on Liquid Crystals (NCLC-2020). Department of Physics, Amity Institute of Applied Sciences, Amity University Uttar Pradesh, Noida, 21st-23rd December, 2020(Virtual) Mode: Poster presentation.

55. Static Permittivity and Electro-Optical Investigations of Bi-Component Antiferroelectric Liquid Crystalline Mixtures, Shantiram Nepal, **Banani Das**, Malay Kumar Das, Madhumita Das Sarkar and Michal Czerwiński, 27th National Conference on Liquid Crystals, 21st – 23rd December 2020, Amity University Uttar Pradesh.

56. Study On Fast Switching Negative Dielectric Anisotropy Chiral material for application in Liquid Crystal Display, Sarmistha Mondal, **Banani Das**, Malay Kumar Das and Goutam Kumar Panda, 5th Regional Science Congress (Zone -1) jointly organized by Department of Science and Technology, Govt. of West Bengal and Cooch Behar Panchanan Barma University, 17-18 Jan 2023.

57. Dielectric Relaxation Studies on Orthoconic Antiferroelectric Liquid Crystals and their Binary Mixtures: A new class of Smart Materials by Shrabani Pal, **Banani Das**, Malay Kumar Das and Goutam Kumar Panda, 5th Regional Science Congress (Zone -1) jointly organized by Department of Science and Technology, Govt. of West Bengal and Cooch Behar Panchanan Barma University, 17-18 Jan 2023.
58. Dielectric permittivity and electro-optical parameters of orthoconic antiferroelectric liquid crystalline materials targeted for sensor applications. Shantiram Nepal, **Banani Das**, Malay Kumar Das, Madhumita Das Sarkar, Magdalena Urbanska and Michał Czerwinski. 5th Regional Science Congress (Zone -1) jointly organized by Department of Science and Technology, Govt. of West Bengal and Cooch Behar Panchanan Barma University, 17-18 Jan 2023.
59. On the Structure - Property Correlations of a new class of Chiral Liquid Crystalline Materials: A perspective from Electro-optic and Dielectric Measurements. Priyanta Barman, Malay Kumar Das, **Banani Das**, Vera Hamplova and Alexej Bubnov. International Conference on Data Science and Communication, Siliguri Institute of Technology, 23-24 March, 2023 Springer Book Series: Studies in Autonomic, Data Driven and Industrial Computation

Published by Springer, Electronic ISSN2730-6445 Print ISSN 2730-6437.

60. Development of Orthoconic Anti-Ferroelectric Liquid Crystalline Materials for Application in Optical Modulators with Symmetric Switching times, at the 30th National Conference on Liquid Crystals, Department of Physics, Andhra University, Visakhapatnam, 2-4th November, 2023.

17. Participation in Seminar/Conference/Symposium/Workshop

(a) NATIONAL LEVEL

Name of the forum, place	**Year**
1. Winter Workshop on Liquid Crystals, Department of Physics, North Bengal University, India, 28th December 1992-6th January 1993. Sponsored by ICTP, CSIR and ILCS	1992-1993
2 DAE Solid State Physics Symposium, B.A.R.C., Mumbai, India, for 4 days, December 1993. Sponsored by Board of Research in Nuclear Sciences, DAE, Govt. of India.	1993
3 SERC (Science and Education Research Council of India) School on Liquid Crystals, Raman Research Institute, Bangalore, India. 2nd to 20th May, 1994	1994
4. National Seminar on Chemistry of Liquid Crystals and Applications, M.S University of Baroda, Baroda, India. 25-26 March.	1994
5. DAE Solid State Physics Symposium, Indian Association for the Cultivation of Science, Calcutta, India 27 – 31st December. Sponsored by Board of Research in Nuclear Sciences, DAE, Govt. of India.	1995
6..14th Young Physicists Colloquium" for the year 1996, Saha Institute of Nuclear Physics, Calcutta 22nd-23rd August, Calcutta, India. Organised by the Indian Physical Society.	1996
7. DAE Solid State Physics Symposium, Cochin University of Science and Technology,	1997

Kochi, India, 27 – 31st December.
Sponsored by Board of Research in Nuclear Sciences, DAE, Govt. of India.

8. Symposium on conceptual issues in Relativity, cosmology and Astrophysics, Department of Physics, North Bengal University, 28th – 30th March, 2001.Organised by Dept. of Physics, N.B.U., IUCAA Reference Centre, NBU and World Laboratory (Switzerland). 2001

9. National Seminar on the Frontiers of Physics, Department of Physics, North Bengal University, Siliguri, March 04. Sponsored by UGC. 2004

10. Seminar on Recent Developments in Science And Technology, Techno India College of Technology Dec. 29, 2005 2005

11. Seminar on Hundred Years of Three Seminal Papers of Albert Einstein and Contemporary Ideas, Department of Physics, N. B. University, Siliguri. Sponsored by UGC/NBU and IUCAA Reference Centre, N.B. Univ. 2005

12. 12th National Conference on Liquid Crystals Assam University, Silchar, Assam 2005

13. 13th National Conference on Liquid Crystals University of Mysore, Mysore, Karnataka 2006

14. National Seminar on Hydrogen technology and Renewable Energy for Green Environment, SIT, Siliguri 2007

15. Workshop on Engineering Physics at the West Bengal University of Technology, 14th June 2007

16. 14th National Conference on Liquid Crystals Department of Physics, University of North Bengal 2007

17. National Seminar on Nano Technology and its Applications, SIT, Siliguri 2008

18. Seminar on Teaching Methodologies in Engineering Education Organised by Indian Society for Technical 2008

Education, (Kolkata Chapter) SIT, Siliguri

19. National Seminar on Renewable Energy Sources And Energy Mamagement, SIT, Siliguri 2008

20. 15th National Conference on Liquid Crystals Indian Institute of Science, Bangalore 2008

21. QIP Sort term course, 23.02.2009 – 01.03.2009 at IIT Kharagpur 2009

22. Condensed Matter Days 09, 26th -28th August, Department of Physics, Jadavpur University Kolkata 2009

23. 16th National Conference on Liquid Crystals Lucknow University, Lucknow 2009

24. 2nd Bruker Pre-NMRS Symposium February 21, Centre for Bio Medical Research Lucknow 2010

25. Symposium on "Recent Developments and Applications of Biomedical Magnetic Resonance and the 16th Conference of National Magnetic Resonance Society February 21-24, Centre for Bio Medical Research Lucknow 2010

26. 17th National Conference on Liquid Crystals 15-17 November, Veer Narmad South Gujarat University, Surat 2010

27. AMPI-EC Advanced Workshop on updated QA program in Radiation Oncology Physics, Rangapani Cancer Hospital, 26.02.2011. 2011

28. UGC Seminar on Recent Advances in Relativity and Cosmology and Astrophysics, February 28 – March, 01 2011

29. Training Workshop on All India Survey on Higher Education, conducted by Ministry of HRD, Govt. of India at IISWBM, Kolkata, on 4th Nov. 2011

30. 18th National Conference on Liquid Crystals 2011

15-17 November, NERIST, Itanagar.

31. 19th National Conference on Liquid Crystals 2012
Thapar University, Patiala

32. 5th Asian Conference on Colloid and Interface 2013
Science, Department of Chemistry,
University of North Bengal, 20-23 November

33. 20th National Conference on Liquid Crystals, 2013
NCLC -2013, Manipal Institute of Technology,
Manipal University, 16-18 December.

34. 21st National Conference on Liquid Crystals, 2014
NCLC 2014, Department of Physics,
VSSD College, Kanpur, 10-12 November

35. National Conference on Modern Trends in 2015
Materials Science, (MTMS-2015), Department of
Physics, North Bengal University, 5-6 February

36. 22nd West Bengal State Science and Technology 2015
Congress, 28th February to 1st March, 2015,
North Bengal University,

37. Department of Atomic Energy Outreach 2015
Programme, Department of Physics,
North Bengal University, 26th August,

38.Recent Trends in Material Research-RTMR 2015
2015, Siliguri Institute of Technology, 11th September,

39. XXII National Conference on Liquid Crystals (NCLC 22), 2015
Department of Physics, DIT University, Dehradun,
21-23 December,

40. Basic Pedagogy Training: "Objective and Outcome Based 2016
Education System- Transforming Engineering Education to match
Global needs" 7-9 Dec. 2015 and 11-13th March 2016

41. 24th National Conference on Liquid Crystals (NCLC 2017), 2017
Department of Chemical Sciences, IISER Mohali,
11-13 October.

42.National Conference on Emerging materials (NCEM 2018), 2018
Department of Chemistry, Assam University,
Silchar, 20.03.2018 - 22.03.2018

43. POST CELEBRATION OF "NATIONAL SCIENCE DAY" 2018
09-03-2018-10-03-2018

44. Staff Development Program, SIT, 4th-7th July, 2018 2018

45. NPTEL Online Certification course on Stress Management 2018
(FDP recognized by AICTE) August-September

46. Bridging the Gap: Employbility and Industry challenges 2018
SiliguriInstitute of technology, 11-08-2018

47.3rd Regional Science and Technology Congress, 2018 organised 2018
by Jalpaiguri Government Engineering College and Department of Science and Technology and Bio Technology, Government of West Bengal 12-13th December, 2018 at Jalpaiguri Government Engineering College

48. 25th National Conference on Liquid Crystals, Centre of Material 2018
Sciences, University of Allahabad, December 19-21

49. Teaching and learning: Five Days Staff Development Program 2019
08.07.2019-12.07.2019

50. 27th National Conference on Liquid Crystals, Amity University, 2020
Noida, December 21-23

51. International Webinar, RPLCM 2021 on Recent perspectives 2021
on liquid crystalline materials, Department of Chemistry,
Assam University, Silchar, India on 4-5 October, 2021

52. 28th National Conference on Liquid Crystals in association 2021
with Indian liquid crystal Society, Bangalore during December 21-23, 2021, Department of Chemistry, Assam University, Silchar, India.

53. National Level Virtual Faculty Development Program on the topic 2023
"Best Practices Benchmarking in HEI's for Quality Enhancement"
organized by Guru Shree Shantivijai Jain College for Women
from 26th to 31st October 2023.

54. 30th National Conference on Liquid Crystals in association 2023
with Indian liquid crystal Society, Visakhapatnam during November 02-04, 2023, Department of Physics, Andhra University, Visakhapatnam, India.

(b) **INTERNATIONAL LEVEL**

Name of the forum, place	**Year**
1. Spring College on "Statistical Mechanics and Dynamics of Soft condensed Matter", International Centre for Theoretical Physics, Trieste, **Italy.** 4^{th} May – 5^{th} June 1998.	1998
2. 18^{th} International Liquid Crystal Conference, Sendai, **Japan**, 23^{rd} – 28^{th} July, 2000. Organised by the International Liquid Crystal Society.	2000
3. 30^{th} Freiburger Arbeitstagung Flussigkristalle, Albert – Ludwigs University, Frieburg, **Germany**, 20^{th} – 22^{nd} March, 2002. Organised by the German Liquid Crystal Society.	2002
4. 19^{th} International Liquid Crystal Conference, Edinburgh, **United Kingdom**, 30^{th} June to 5^{th} July 2002. Organised by the International Liquid Crystal Society.	2002
5. Military University of Technology Institute of Chemistry, Warsaw, **Poland**	2002
6. Martin Luther University, Physics Department Halle (Saale), **Germany**.	2003
7. XVII Conference on Liquid Crystals Augustow, **Poland**, Organised by Polish Liquid Crystal Society	2007
8. Jagiellonian University, Physics Department Krakow, **Poland**.	2007
9. Martin Luther University, **Germany**	2010
10. 23^{rd} International Conference on Liquid Crystals, Krakow, **Poland**.	2010
11. XIX Conference on Liquid Crystals, September 18 – September 23, Miedzyzdroje, **Poland**	2011

12. XXI Conference on Liquid Crystals, September 19 – September 23, Krynicadroje, **Poland** 2016

13. XXII Conference on Liquid Crystals, September 17 – September 21, Jastrzebia Gora, **Poland** 2018

(c) ORIENTATION PROGRAMME

UGC Sponsored Orientation Programme from 5th -31st March, 2007, conducted by Jadavpur University, Kolkata

(d) WEBINARS ATTENDED

I. Future of Online Education: Issues and Challenges, Organized by Kirori Mal College on April 30, 2020

II. Journey of solar cells from Silicon to Perovskite Organised by Research & Development Committee on July 8, 2020, Siliguri Institute of Technology

III. Scope of Advanced Data Acquisition System in Industry & Academia ORGANIZED BY Department of Microelectronics and VLSI Technology, MAULANA ABUL KALAM AZAD UNIVERSITY OF TECHNOLOGY, West Bengal, INDIA on 26 July, 2020

IV. National Science Day Celebration 2021(Webinar), Siliguri Institute of Technology on 28-02-2021

V. Improving Research Performance using the Science Direct Platform, Friday 14 July, 2023, organized by Researcher Academy On Campus, Science Direct

VI. Monitoring Research Performance using the Scopus Platform, Monday 17 July, 2023, organized by Researcher Academy On Campus, Science Direct

18. Administrative/Professional Experience

(a). Seminar/Conference/Workshop Organized:

(i) Professional society's activities/ events/ conference organized etc.

Professional society's activities/ events/ conference organized etc.	Role	Date/ Dates of even/events	Venue
ASTRONOMY FOR ENGINEERS:	**Convener**	Sept- 10 - Sept-11 2006	Department of Engineering Sciences and Humanities, Siliguri Institute of Technology.
14TH NATIONAL CONFERENCE ON LIQUID CRYSTALS	**Organizing Secretary**	17th -19th December, 2007.	Department of Physics, North Bengal University
Special lecture on **Quality Education** delivered by Prof. S.R. Bhadra Chaudhuri, Prof. of Electronics & Telecommunication Engineering of BESU, Shibpur .	**Convener, Seminar Sub – Committee of the Internal Quality Assurance Cell (I.Q.A.C.) of SIT**	01.12.07	J.C. Bose Memorial Hall Siliguri Institute of Technology
Interaction with students and Douglas Kelly, Director American Centre, Kolkata		07.03.08	Seminar Room, Department of Computer Science, SIT
One day Seminar on **Artificial Intelligence based Approaches to Document Analysis and Recognition in collaboration with ISI, Baranagar**		25.03.08	
Special lecture on **E - factor in Job Market** delivered by Prof. S.Nag Alumni, IIM Kolkata, Visiting Faculty, IIM Kolkata & Visiting Faculty, Jadavpur University		31.03.08	**Sir J.C. Bose**

Seminar on **Automation Technology**		05.04.08	**Memorial Hall, SIT**
Innovation Awareness Camp Conducted by Prof. Dhubes Biswas Prof. of Electronics and Electrical Communication Engineering and Prof in -Charge., Incubation & Entrepreneurship Programmes, IIT Kharagpur		05.04.08	
One day National Seminar on **Renewable Energy Sources and Energy Management**		11.04.08	
Seminar on **Teaching Methodologies in Engineering Education** in collaboration with Indian Society for Technical Education, Kolkata Chapter.		18.07.08	
Webinar on National Science Day 2022, DESH	Joint Convenor	28.02.2022	Google Meet Platform Link: Facebook Link https://fb.watch/bsksj7YQjQ/
International Conference on Data Science and Communication	Organizer and Key Note Session Chairperson	23-24 March, 2023	Siliguri Institute of Technology

(ii) Short term courses, workshops arranged

Name of the short term courses, workshops arranged and course modules developed etc.	Duration	Sponsored by (for short term courses, workshops)	Role
Contribution to development of curriculum: Participated in the West Bengal University of Technology (WBUT), presently MAKAUT organised Workshop on Engineering Physics on, held to restructure the syllabus of the Engineering Physics Subject of both the First Semester and Second Semester papers (Paper Code: Ph 101 and Ph 201) for the B.Tech Course offered under the MAKAUT	14th June, 2007	MAKAUT	Participant
Workshop **on Quality Assurance in Teaching/Learning/Examination in SIT**	24.01.2008.	Siliguri Institute of Technology, Techno India Group	Convener Seminar Sub – Committee I.Q.A.C SIT,
Department wise Workshops in presence of 4th Sem Students and Teachers of the concerned Departments	04.02.08 to 07.02.08.	Siliguri Institute of Technology, Techno India Group	Convener Seminar Sub – Committee I.Q.A.C SIT,
In-house workshop for training of Technical Staff of the various departments of SIT in the period	01.03.08 to 31.03.08.	Siliguri Institute of Technology, Techno India Group	Convener Seminar Sub – Committee I.Q.A.C SIT,
ISTE Workshop on **Signals and Systems**	2nd -12th January, 2014	MHRD	Remote Centre Coordinator
ISTE Workshop on **Fluid Mechanics**	20th - 30Th May, 2014	MHRD	Remote Centre Coordinator
ISTE Workshop on **Computer Programming**	20th May -21st June, 2014	MHRD	Remote Centre Coordinator

ISTE Workshop on **Computer Networking**	28th May -05th July, 2014	MHRD	Remote Centre Coordinator
ISTE Workshop on **Cyber Security**	10th July -20th July 2014	MHRD	Remote Centre Coordinator

b. **Section-in –Charge**, Physics Dept. (DESH), SIT (2005-2014)

c. Nominated **COLLEGE NODAL OFFICER** representing Siliguri Institute of Technology for All India Survey of Higher Education, Ministry of HRD, Govt. of India from 2011-2023

d. **REMOTE CENTRE COORDINATOR**, under NMEICT Programs, organized by IIT Bombay and IIT Kharagpur, at Siliguri Institute of Technology in 2013-2014, funded by MHRD, GOI

e. **HEAD**, Department of Engineering Sciences and Humanities, Siliguri Institute of Technology, from 27.07.2016 to 31st August, 2017.

f. Nominated as **NAAC COORDINATOR** to work on all UGC related matters at Siliguri Institute of Technology, till Feb 2022.

g. Nominated as **IQAC Director** from 01August 2018 to 18.05.2023 and supervised 1st cycle of NAAC, Siliguri Institute of Technology, College Code 119 in Jan 2022.

h. Nominated **Coordinator** MAKAUT Zone I, till date.

i. Coordinator Physics Department, SIT, from 08.01.2021

j. Selected to work as **State Level Mentor for NAAC Accreditation**, by the Director of Technical Education, Govt. of West Bengal on 10.07.2023 to supervise three colleges,
ALIPURDUAR GOVT. ENGG. & MANAGEMENT COLLEGE,
GURU NANAK INSTITUTE OF TECHNOLOGY, PANIHATI, SODEPUR,
TECHNO ENGINEERING COLLGE BANIPUR,24 PARGANAS-NORTH

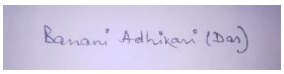
h. R and D coordinator

i. BOG MEMBER

19. Additional Information:

i. Completed successfully a certificate course in FORTRAN – 77 from Regional Computer Centre, Jadavpur University Campus, Calcutta.
ii. Completed successfully Post M.Sc Diploma course in Radiological Physics from Saha Institute of Nuclear Physics, Calcutta and declared competent to act as

Radiological Safety Officer (R.S.O.) by the division of Radiation Protection. B.A. R.C., Mumbai.



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