

Curriculum Vitae

Name: SYED ARSHAD HUSSAIN

Present Position: Assistant Professor (Physics) (Since June, 2004 – till to date)

Academic Profile:

M. Sc., Ph. D. (Tripura University)

Postdoctoral Research (K.U. Leuven, Belgium)

Present Address:

Department of Physics,
Tripura University,
Suryamaninagar-799130,
Tripura, India.

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Honours/Award:

1. Visiting Post Doctoral Fellow of K. U. Leuven, Belgium (July, 2007 – August, 2008)
2. Jagadish Chandra Bose Award-2009 by Govt. of Tripura, India.
3. DAE-Young Scientist Research Award by Department of Atomic Energy, Govt. of India.
4. Research project under FAST-TRACK scheme for Young Scientist by Department of Science & Technology, Govt. of India.
5. Best Research paper presentation Award in Material Science section of 96th Indian Science Congress Association held at NEHU, Shillong, Meghalaya during 3 – 7 January, 2009.
6. Felicitation by State Journalist Forum, Tripura, India

Country visited: Belgium, France, Germany, Luxemburg, Netherland and Turkey.

Special Achievement:

- A. Attended the ASSOCHAM Global Knowledge Summit – IV, “Nanotechnology & Biotechnology – Meet the Future Nano – Bio Billionaires” held at Vigyan Bhavan, New Delhi during 27 – 29 th March, 2006 organized by ASSOCHAM, New Delhi. Participated the program as the representative of Government of Tripura. The program was a bilateral knowledge summit between India and China. Scientists and Businessman from 19 countries throughout the world participated in the program and exchange their views. The memorable incident was the interaction with the Nobel laureate Prof. Harry Kroto (1996, Chemistry) during the program.

B. Selected to attend the Science Conclave: A Congregation of Nobel Prize Winners (Interaction Meet of Young Scientists with Nobel Laureates / Eminent Scientists) held at Indian Institute of Information Technology, Allahabad, India during December 15 – 21, 2008.

Professional experiences:

Post-graduate teaching experience: 08 years (2003 – onwards)

Worked as visiting Lecturer at Polytechnic Institute, Narshingharh, Tripura for one year (2003-04)

Taught BCA Physics at Tripura University for three years

Nine year research experience (2002 – onwards)

Worked at Centre for Surface Chemistry and Catalysis for one year (July, 2007 – August, 2008)

Worked as Member of Faculty Council, Tripura University (2005 – 2007)

Worked as a Member of syllabus revision and up-gradation committee for under graduation and post graduation level

Worked as Member of expert committees to visit different colleges to check the feasibility of opening new courses (*Govt. Degree College, Dharmanagar; Netaji Subhas Mahavidyalaya, Udaipur; Ambedkar College, Fatikroy; Ramkrishna Mahavidyalaya, Kailasahar; Belonia College, Belonia*).

working as question paper setter & moderator, examiner for different under graduate and post graduate courses on a regular basis

Member of professional bodies / organizations:

Life member of Indian Physical Society

Life member of Indian Physics Association

Life member of Indian Science Congress association

Life member of Material Research Society of India

Life member of Physics Academy of North East

Life member and General Secretary of Society for Physical Science in Tripura

Area of Specialization: Material Science & Spectroscopy

Research Interest:

Langmuir-Blodgett (LB) Films

Layer-by-Layer Self Assembled Films

Dyes, organic, polymeric molecules at air-water interface and solid films

Nano-dimensional Clay materials, Organo-clay hybrid Films

Biomolecules (lipid, DNA, protein) at films & air-water interface

Knowledge of Instruments:

Langmuir Blodgett Film deposition Instrument,

UV-VIS Absorption Spectroscopy,

Fluorescence spectroscopy,

Scanning Electron Microscope (SEM),

Transmission Electron Microscope (TEM)

Atomic Force Microscope (AFM)

FTIR, XRD

Fluorescence Imaging Microscopy

Spin Coating Instrument

Ongoing Research Project:

1. Project Title: *Investigations of molecular organization in nano-dimensional organo-clay mono- and multilayer hybrid films fabricated by Langmuir-Blodgett and Layer-by-Layer Self assembled technique.*

Funding agency: CSIR, Govt of India

Sanctioned amount: Rs. 13.5 lakh

2. Project Title: *Investigations of the organizations and morphology of nano-dimensional organo-clay hybrid Langmuir-Blodgett (LB) films*

Funding agency: DAE, Govt of India (DAE Young Scientist Research Award -2009)

Sanctioned amount: Rs. 15.6 lakh

3. Project Title: *Fabrication and characterizations of ultrathin films obtained by molecular self assembly method through electrostatic interactions*

Funding agency: DST, Govt of India (Fast Track Scheme for Young Scientist)

Sanctioned amount: Rs. 13.8 lakh

4. Project Title: *Morphological and photophysical investigations of Langmuir and Langmuir-Blodgett films*

Funding agency: DST, Govt of India

Sanctioned amount: Rs. 19.64 lakh

Completed Research Project:

1. Project Title: Photophysical investigation of stable Langmuir-Blodgett films of organic, polymeric and water soluble materials

Funding agency: CSIR, Govt of India

Sanctioned amount: Rs. 7.5 lakh

2. Project Title: Photophysical studies of organized molecular assemblies in Langmuir-Blodgett Films.

Funding agency: UGC, Govt of India

Sanctioned amount: Rs. 1 lakh (minor research project)

Research Collaboration:

1. Prof. R. A. Schoonheydt

Royal Society Fellow

Centre for Surface Chemistry and Catalysis

K. U. Leuven

Belgium.

2. Alexander Volodin

K. U. Leuven

Laboratory of Solid State Physics and Magnetism

Celestijnenlaan 200D

B-3001 Heverlee (Leuven)

Belgium.

Research Guidance:

A. Doctor of Philosophy (Ph.D.)

1. Mr. Dhananjay Dey

Title of Ph.D. Thesis: *Spectroscopic Characterizations of Organized Molecular Assemblies in Ultrathin Films Fabricated by Layer- by- Layer (LbL) Self Assembled Technique* (Public seminar delivered)

2. Md. Nurul Islam

Title of Ph.D. Thesis: *Photo physical characterizations of organized molecular assemblies in ultrathin films fabricated by Langmuir-Blodgett (LB) and Layer by Layer (LbL) self assembled (SAM) techniques* (Ready to deliver the Pre-PhD public seminar).

3. Mr. Sekhar Chakraborty

Title of Ph.D. Thesis: *Investigations of molecular and particulate organization in hybrid organo-clay mono and multilayer films* (ongoing)

4. Mr. Dibyendu De

Title of Ph.D. Thesis: *Yet to finalize*

M. Phil:

1. Namita Das (awarded)

Title of dissertation: *"Photophysical Characterizations of Organized Molecular Assemblies of Pyrene in Mixed LB Films"*.

2. Shirshendu Choudhury (awarded)

Title of dissertation: *"Optical characterizations of ultrathin films fabricated by Layer by Layer (LbL) technique"*.

3. Nabanita Chackraborty (awarded)

Title of dissertation: *"Spectroscopic characterizations of self assembled films of rosebengal"*.

Reviewer of the Journals: *Journal of Colloid and Interface Science, Spectrochimica Acta A, Journal of Luminescence, Journal of Physical Chemistry B, Sensors and Aquator B.*

Guest Editor of Journal: Indian Journal of Physics (Proceedings of 6th National conference of Physics Academy of North East (PANE) held on 2-4th April, 2009 at Department of Physics, Tripura University.)

Editor of Book: Physics Research in the North East, ACB Publication, Kolkata. [ISBN 81-87500-53-0]

Editor of Magazine: Edited the magazine "Fusion" published on the occasion of Reunion – 2007 of Department of Physics, Tripura University on 6 th May, 2007.

Popular articles in news paper and magazine: Popular articles on contemporary issues are being published in different local daily news papers, periodicals and magazine on regular basis.

Convenors of Seminar / Conference:

A. Convener: National Seminar on Condensed Matter Physics (SCMP2010) held at Department of Physics, Tripura University on 16th February, 2010.

B. Joint convener: VI th National Conference of Physics Academy of North East (PANE) on Physics Research in North East held at Department of Physics, Tripura University during 2 – 4 th April, 2009.

C. Organizing Secretary: Reunion – 2007, Department of Physics, Tripura University held on 6 th May, 2007

List of publications in peer reviewed journals:

1. Langmuir-Blodgett monolayers of cationic dyes in the presence and absence of clay mineral layers: N,N' -dioctadecyl thiocyanine, octadecyl rhodamine B and laponite." **Syed Arshad Hussain**, R. A. Schoonheydt
Langmuir (2010) [article in press]

2. Effect of nano-clay platelets on the J-aggregation of thiocyanine dye organized in Langmuir-Blodgett films
D. Bhattacharjee, **Syed Arshad Hussain**, S. Chakraborty, and R. A. Schoonheydt
Spectrochimica Acta Part A (2010) [article in press]

3. Fluorescence Resonance Energy Transfer between organic dyes adsorbed onto nano-clay and Langmuir–Blodgett (LB) films
Syed Arshad Hussain, S. Chakraborty, D. Bhattacharjee, R.A. Schoonheydt
Spectrochimica Acta Part A 75 (2010) 664–670

4. Reaction kinetics of organo-clay hybrid films: In-situ IRRAS, FIM and AFM studies
Syed Arshad Hussain, Md N. Islam, D. Bhattacharjee
Journal of Physics and Chemistry of Solids 71 (2010) 323–328

5. Photophysical studies of xanthene dye in alkanols and in inorganic ions
B Ganguly, R K Nath, **S A Hussain** and A K Panda
Indian J. Phys. 84 (6), 549-555 (2010)

6. Investigations of RhB18 langmuir monolayer by fluorescence imaging microscopy
S A Hussain, S Chakraborty and D Bhattacharjee
Indian J. Phys. 84 (6), 625-629 (2010)

7. Preparation of ODA-clay hybrid films by Langmuir–Blodgett technique
P. K. Paul, **Syed Arshad Hussain**, D. Bhattacharjee
Modern Physics Letters B vol. 23 No. 10 (2009) 1351-1358

8. Langmuir-Blodgett Films and Molecular Electronics (*Brief Review*)
Syed Arshad Hussain, D. Bhattacharjee
Modern Physics Letters B vol. 23 No. 27 (2009) 1-15

9. Layer-by-Layer self assembled films of rosebengal
D. Dey, **S. A. Hussain** and D. Bhattacharjee
International Journal of Modern Physics B (accepted for publication)

10. Molecular self assembly of chicao sky blue onto solid substrate.
Md. N. Islam, D. Dey, D. Bhattacharjee and **Syed Arshad Hussain**
International Journal of Modern Physics B (accepted for publication)

11. Photophysical characterizations of 2-(4-Biphenyl)-5 phenyl-1, 3, 4- oxadiazole in restricted geometry
P. K. Paul, **S. A. Hussain** and D. Bhattacharjee
Journal of Luminescence 128/1 (2008) 41-50
12. Preparation and characterization of an anionic dye-polycation molecular films by electrostatic Layer-by-Layer adsorption process
D. Dey, **S. A. Hussain**, R. K. Nath and D. Bhattacharjee
Spectrochimica Acta A Spectrochimica Acta Part A 70 (2008) 307–312
13. Monolayer Characteristics of pyrene mixed with stearic acid at the air-water interface
Md. N. Islam, D. Bhattacharjee, **Syed Arshad Hussain**
Surface Review and Letters Volume: 15, Issue: 3 (June 2008), 287-293
14. Aggregation of P-Terphenyl Along with PMMA/SA at the Langmuir and Langmuir–Blodgett Films
Syed Arshad Hussain, Md. N. Islam, H. Leeman, D. Bhattacharjee
Surface Review and Letters, Vol. 15, No. 4 (2008) 1–9
15. Spectroscopic characterizations of nonamphiphilic 2, 5-Bis (5- tert- butyl-benzoxazolyl) - thiophene molecules at the air-water interface and in Langmuir-Blodgett films
S. Biswas, **S. A. Hussain** and D. Bhattacharjee
Surface Review and Letters, Vol. 15, No. 6 (2008) 1–8
16. Layer by Layer (LbL) Technique for fabrication of electrostatic Self assembled ultrathin films
D. Dey, M.N. Islam, **S.A. Hussain** and D. Bhattacharjee
International Journal of Pure and Applied Physics, Volume 4 Number 1 (2008) pp. 39–44
17. Photophysical characterization of layer-by-layer self-assembled films of deoxyribonucleic acid
D. Dey, M. N. Islam, **S. A. Hussain**, D. Bhattacharjee
Pramana Journal of Physics, Vol. 71, No. 2 (2008) 379-384
18. Effect of Temperature and Ionic Concentration on Self-Assembled Films of Chicago Sky Blue
D. Dey, M. N. Islam, **S. A. Hussain**, D. Bhattacharjee
Chinese Physics Letters (IOP) Vol. 25, No. 10 (2008) 3732
19. Immobilization of single strand DNA on solid substrate
S. A. Hussain, P. K. Paul, D. Dey, D. Bhattacharjee and S. Sinha
Chemical Physics letter Volume 450, Issues 1-3, 14 December 2007, Pages 49-54
20. Miscibility and molecular orientation of carbazole in the mixed Langmuir and Langmuir-Blodgett films
Md. N. Islam, D. Bhattacharjee and **S. A. Hussain**
Chinese Physics letter (IOP) 2007 24 (7): 2044-2047
21. Langmuir-Blodgett films of p-terphenyl into different matrices: Evidence of dual excimer formation
S. Deb, **S. A. Hussain**, S. Biswas and D. Bhattacharjee
Spectrochimica Acta A 68/2 (2007) 257-262

22. Formation of complex Langmuir and Langmuir-Blodgett films of water soluble rosebengal
S. Biswas, D. Bhattacharjee, R. K. Nath and **S. A. Hussain**
Journal of Colloid and Interface Science 311(2) (2007) 361-367
23. Miscibility of two components in the binary mixture of 9-phenyl anthracene mixed with stearic acid or polymethyl methacrylate at air-water interface
P. K. Paul, Md. N. Islam, D. Bhattacharjee and **S. A. Hussain**
Chinese Physics Letter (IOP) Vol 21 No. 5 (2007) 1331
24. Orientation of Carbazole molecule in the mixed Langmuir-Blodgett films
S. Biswas, D. Bhattacharjee and **S. A. Hussain**
Macromolecules: An Indian Journal Vol. 3 Issue 4, 2007.
25. Formation of complex films with water-soluble CTAB molecules
S. Biswas, **S. A. Hussain**, S. Deb, R. K. Nath and D. Bhattacharjee
Spectro Chimica Acta part A 65 (2006) 628–632
26. Role of microenvironment in the mixed Langmuir-Blodgett films
S. A. Hussain, P. K. Paul and D. Bhattacharjee
Journal of Colloid and Interface Science; Vol. 299 Issue 2 (2006) pp 785 – 790
27. Role of various LB parameters on the optical characteristics of mixed Langmuir-Blodgett films
S. A. Hussain, P. K. Paul and D. Bhattacharjee
Journal of Physics and Chemistry of Solids 67 (2006) 2542–2549
28. Spectroscopic Characterizations of the mixed Langmuir Blodgett (LB) films of 2,2'-biquinoline molecules: evidence of dimer formation
S. Deb, S. Biswas, **S. A. Hussain** and D. Bhattacharjee
Chemical Physics Letter , 405 (2005) 323–329
29. Spectroscopic Characterizations of non-amphiphilic 2-(4-biphenyl)-6-phenyl benzoxazole molecules at the air-water interface and in Langmuir-Blodgett Films
S. A. Hussain, S. Deb and D. Bhattacharjee
Journal of Luminescence, 114 (2005) 197-206
30. Langmuir Blodgett Films of 9-phenyl anthracene molecules incorporated into different matrices
S. A. Hussain, S. Deb, S. Biswas, D. Bhattacharjee
Spectrochimica Acta Part-A , 61 (2005) 2448-2454
31. Ageing effect of mixed Langmuir-Blodgett film of 9-Phenyl Anthracene in PMMA and SA matrices
S. Deb, S. Biswas, **S. A. Hussain** and D. Bhattacharjee
Indian Journal of Physics 79 (9), 1027-1031 (2005)
32. Langmuir-Blodgett technique a unique tool for fabrication of Ultrathin Organic Films
S. A. Hussain, S. Deb and D. Bhattacharjee
J. Env. Sc. Res. Vol 4 (25-33), 2005

Paper presented in National/International Seminar/conference/Symposium: 31 (Details list is available at my website)