DR. BORNALI SARMA

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Associate Professor, Deptartment of Physics
School of Advanced Sciences,
VIT University, Chennai Campus,
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Chennai-600127

EDUCATION

PhD	IASST, Gauhati University Dissertation title: ***Sheath Phenomena in Magnetized and Thermally Ionic Plasmas***	2004
MSc	Cotton College, Gauhati University Physics	1997
BSc	Cotton College, Gauhati University Physics (Honors), Chemistry, Mathematics	1994

HONORS AND AWARDS

Title of Award

- **State merit** scholarship — 1989 to 1994

Title of Fellowship

- Awarded Junior Research Fellowship (JRF) under DST, Govt. of India sponsored project entitled "Advancement of Plasma Physics Division at IASST" at IASST, Guwahati. — 1998

- **PSSI** research fellowship 2000
  & worked at **Institute for Plasma Research (IPR), Gandhinagar –28**.

- **Indian Academy of Science'**s Summer Research Fellow 2012
  in **Saha Institute of Nuclear Physics**, Kolkata

Title of Grant

✍ **DST-SERC** fast track proposals for 2006
Young Scientist of the project entitled
"**Theoretical Investigation of Boundary Layer in Strong Tilted Magnetic Field under Various Imposed Conditions and Configurations and its Induced Instability**

✍ BRNS-DAE sponsored project 2014
"Experimental investigation of nonlinear dynamical phenomena and modeling in DC/RF discharge plasma in presence of external magnetic field"

✍ ISRO-RESPOND sponsored project 2015
"**Nonlinear structures (evolution and effects) of Oscillating plasma bubbles in various experimental conditions"**

✍ DST Sponsored **project entitled " Complex Plasma Device with DC & RF Source: Studies of micro particle Charges, Drag forces and associated nonlinear behavior 2016**

RESEARCH EXPERIENCE

I had joined research in Plasma Physics in April 1998 as a Junior Research Fellow (JRF) in the Plasma Physics Division (now Material Science Division) of Institute of Advanced Study in Science and Technology (IASST), Paschim Boragaon, Guwahati – 35, Assam under the D.S.T., Govt. of India sponsored project "*Advancement of Plasma Physics Division at IASST*".

The title of my thesis is "*Sheath Phenomena in Magnetized and Thermally Ionic Plasmas*". The subject of research work is related with basic plasma sheath physics having interdisciplinary outlook. The scope of the thesis work includes theoretical and experimental investigations of wave activities in an inhomogeneous atmosphere of electrical and magnetic pre-sheath region in presence of magnetic field. In addition to it, the thesis contains valuable contributions to the basic physical understanding of the static and dynamic properties of the ion space charge limited Child sheath. The fundamental idea of sheath

physics is applicable to all plasma based coating or surface modifications of any materials. Overall, the thesis includes important contributions to applied and basic plasma research.

I am continuing my research in experimental as well as theoretical studies in nonlinear plasma dynamics and plasma assisted materials processing. I have attended and presented papers in few National and International Symposium on Plasma Science & Technology during my research period.

TEACHING EXPERIENCE

(1)

- **Position held**: **Lecturer, Applied Physics** Department at **Birla Institute of Technology, Mesra,** Ranchi, India.

- **Duration**: From February 2004 to June 2007

- **Type of work**: I have the experience of taking Physics courses in both **B. Tech and M. Tech level**. In B. Tech Level, I used to teach the following core courses of **Applied Physics** in all **Engineering Departments**:
  (i) Physics – I (Vector, Electrostatics, Electrodynamics, Wave optics, Plasma Physics)
  (ii) Physics – II (Special Theory of Relativity, Quantum Mechanics, Nuclear Physics, Thermodynamics, Lasers)
  (iii) Material Science Theory & Laboratory
  (iv) UG & PG Physics Laboratory
  I also used to teach the following courses in other **Engineering Department**:
  (v) Advanced Electrodynamics (6^{th} Semester Electrical & Electronics Engineering)
  (vi) Thermodynamics & Fluid dynamics (3^{rd} & 4^{th} Semester in Mechanical Engineering)
  In **M. Tech**. (New Materials & Processing Technology) I used to teach one course of Basic Plasma Science & its Application.

(2)

- **Position held**: **Geophysicist** in the Institute of Seismological Research, Gandhinagar for about one year.
- **Duration**: June 2008 to April 2009.
- **Type of work**: Research and development work related to various geophysical activities. Mostly I was engaged doing **gravity survey, electromagnetic survey** etc. and their analysis using instruments viz., **Gravimeter, Magneto- Telluric unit** and **RTK unit**.

(3)

- **Position held**: **Associate Professor** in Shankersinh Vaghela Bapu Institute of Technology, Gandhinagar, approved by **AICTE / GTU**.
- **Duration**: April 2009 to July 2011.

- **Type of work:** Teaching Engineering Physics in all Branches viz., Electronics & Communication, Mechanical, Information Technology and Computer Engineering. Administrative work such as conducting **University Examination, HOD**, Physics Department.

(4)

- **Position held**: **Online subject expert** for **Physics** in a **3D Animation Design** and **publishing firm (Design mate Pvt. India Ltd.)** at Ahmedabad.
- **Duration**: Online.
- **Type of work:** Writing **scripts and simulation** on various scientific topics for making 3D educational animated videos.

(5)

- **Position held**: **Associate Professor and HOD, Physics Department in VIT University, Chennai Campus.**
- **Duration**: 1st August, 2011 to **20 April 2020**
- **Type of work:** Teaching **B. Tech. students (both theory & Lab) & guiding Ph. D. students,** Administrative responsibility **as Department head for four years** (from 2013-2017)

JOURNAL PUBLICATIONS (SCOPUS INDEXED)

1) **"*Study of sheath and plasma parameters in a magnetized plasma system*", Bornali S. (Sarma) et. al., *Pramana, Indian J. Phys*. 55(5&6)**, (2000) 899. https://www.ias.ac.in/article/fulltext/pram/055/05-06/0899-0910(ISSN 0304-4289) (IF 1.185) SPRINGER
2) **"*Influence of magnetic field on plasma sheath and electron temperature*", Bornali S. (Sarma), et. al.** , ***Rev. Sci. Instum.* 72(5)**, (2001) 2282 (ISSN 0034-6748) (IF 1.428). *d.o.i. 10.1063/1.1362437 AIP*
3) **"*Experimental Observation on Sheath and Magnetic Pre-sheath over an Oblique Metallic Plate in Presence of Magnetic Field*", Bornali S. (Sarma),** et. al., ***Phys. Plasmas*, 9(2)**, (2002) 683.(ISSN 1070-664X) (IF: 1.941) AIP *d.o.i. 10.1063/1.1431973*
4) **"*Unified Model for Collective Oscillations of An Assymetric Positive Space Charge Sheath*", Bornali S. (Sarma),**et. al. , **Indian J. Pure & Appl. Phys. 40** (2002) 24.(ISSN 0019-5596) (IF 0.582) NISCAIR CSIR
5) **"*Characteristics Behavior of Sheath Formation in Thermal Plasma*", Bornali S. (Sarma)** et. al. ***Phys. Plasmas*, 06** (1999) 3685. (ISSN 1070-664X), https://doi.org/10.1063/1.873627 (IF: 1.941) AIP
6) ***"Continuous wavelet transform analysis for self similarity properties of turbulence in magnetized DC glow discharge plasma"* Bornali Sarma**, Sourabh S. Chauhan, A. M. Wharton & A. N. S. Iyengar, , Journal of Plasma Physics (2013), Vol. 79, part 5, page 885-891.(ISSN 0022-3778) (IF 1.567), doi:10.1017/S0022377813000639, CAMBRIDGE UNIVERSITY PRESS
7) ***"Comparative study on nonlinear dynamics of magnetized and un-magnetized DC glow discharge plasma "*, Bornali Sarma**, Sourabh S. Chauhan, A. M. Wharton & A. N. S. Iyengar, Physica Scripta, 88, (2013), 065005.(ISSN 0031-8949) (IF 1.902)

https://iopscience.iop.org/article/10.1088/0031-8949/88/06/065005/meta IOP

8) ***"Order to Chaos transition in a DC glow discharge plasma by using recurrence quantification analysis",*** Vramori Mitra, Arun Sarma, M. S. Janaki, A. N. S. Iyengar, **Bornali Sarma**, Nobert Marwan,Jurgen Kurths et. al., Choas Solitons & Fractals, 69 (2014) 285-293. http://dx.doi.org/10.1016/j.chaos.2014.10.005 *(ISSN 0960-0779) IF* 2.213 ELESVIER

9) ***"Processing of Natural Jute Fibers using glow discharge plasma & its characterization",*** **Bornali Sarma**, Hari Prakash N. Supin Gopi & Arun Sarma, International Journal for Research in Emerging Science & Technology, Vol. 1, issue 6, November (2014). (ISSN 2349-7610) IF 0.5

10) ***"Surface and Moisture Characterization of Jute using a D.C. Glow Discharge Argon Plasma*** ", N. Hari Prakash, **Bornali Sarma**, Supin Gopi and Arun Sarma, Instrumentation, Sci. & Tech. 44(1), 73-84 (2016) (ISSN 1073-9149) IF 0.963 https://www.tandfonline.com/doi/abs/10.1080/10739149.2015.1075134?tab=permissions&scroll=top TAYLOR & FRANCIS

11) ***"Structural and optical analysis of single phase CuInS nanocrystals for solar cell applications"***, A. D. Sivagami, **Bornali Sarma** and Arun Sarma, **55, 01AE07**, Jp. J. Applied Phys. (2016). ISSN 1347-4065 IF 1.471 *d.o.i. 10.7567/JJAP.55.01AE07 IOP*

12) ***"Surface Modifications of Natural Kanchipuram Silk (Pattu) Fibers using Glow Discharge Air Plasma",*** K. Vinisha Rani, **Bornali Sarma** and Arun Sarma, ***Fibers and Polymers,*** Vol.17, No.1, 52-58(2016).ISSN 1229-9197 IF 1.49 https://link.springer.com/article/10.1007/s12221-016-5513-0 SPRINGER

13) ***"Onset of normal and inverse homoclinic bifurcation in a double plasma system near a plasma fireball",*** Vramori Mitra, **Bornali Sarma**, Arun Sarma,M. S. Janaki,and A. N. Sekar Iyengar, ***Phys. Plasmas***, Vol. 23, 032304 (2016). (ISSN 1070-664X) (IF: 1.941) https://aip.scitation.org/doi/10.1063/1.4942932 AIP

14) ***"Investigation of complexity dynamics in a DC glow discharge magnetized plasma using recurrence quantification analysis",*** Vramori Mitra, **Bornali Sarma**, Arun Sarma,M. S. Janaki,and A. N. Sekar Iyengar, Norbert Marwan, and Juergen Kurths, ***Phys. Plasmas*** 23, 062312 (2016). (ISSN 1070-664X) (IF: 1.941) https://aip.scitation.org/doi/10.1063/1.4953903 AIP

15) ***"Oscillating Plasma Bubble and its associated nonlinear studies in presence of low magnetic field",*** Mariammal Megalingam, **Bornali Sarma**, Vramori Mitra, Hari prakash.N and Arun Sarma, ***Phys of Plasmas***, 23, 072102 (2016). (ISSN 1070-664X) (IF: 1.941) https://aip.scitation.org/doi/abs/10.1063/1.4954297?journalCode=php AIP

16) ***"Surface Properties of Graphite and LaB_6 Materials Used for Laser Heated Emissive Probe Diagnostic"***, P. Mehta, A. Sarma', A. D. Sivagami, N. HariPrakash, S. Gopi, **Bornali Sarma** and J. Ghosh, ***Indian Journal of Physics***, 91, 2, 225 (2017). d.o.i. 10.1007/s12648-016-0907-9 ISSN 0973-1458 IF 0.988 SPRINGER

17) ***"Correlation of structural and optical properties of PVD grown amorphous carbon thin films"*** Infant Solomon, Mukul Bhatnagar, Krishnanand Shukla, **Bornali Sarma**, Mukesh Ranjan, Arun Sarma, ***Diamond and Related Materials*** , 75, 69–77 (May 2017) ISSN 0925-9635 IF 2.561 ELSEVIER

18) ***"Mixed mode oscillations in presence of inverted fireball in an excitable DC glow discharge magnetized plasma",*** Vramori Mitra, Hari prakash.N, Infant Solomon, Mariammal Megalingam, A. N. Sekar Iyengar, Norbert Marwan, Juergen Kurths, Arun Sarma and **Bornali Sarma**" ***Phys. Plasmas*** 24, 022307 (2017). https://aip.scitation.org/doi/10.1063/1.4976320 ISSN 1070-664X IF 1.941 AIP

19) ***"Irregular-regular mode oscillations inside plasma bubble and its fractal analysis in glow discharge magnetized plasma" ,*** Mariammal Megalingam, Hari Prakash.N, Infant Solomon, Arun Sarma and **Bornali Sarma**, ***Phys. Plasmas,* 24**, 042304 (2017) ISSN,1070-664X
https://aip.scitation.org/doi/abs/10.1063/1.4979891?journalCode=php AIP

20) "Hydrophobic Surface Modification Of Silk Fabric Using Plasma Polymerized HMDSO" , K. Vinisha Rani, Nisha Chandwani, Purvi Kikani, Sudhir Nema, Arun Sarma and **Bornali Sarma**, ***Surface Review and Letters***, Vol. 25, No. 02, 1850060 (2018), d.o.i. 10.1142/S0218625X18500609 ISSN 0218-625X IF 0.734 WORLD SCIENTIFIC PUBLISHING CO

21) "Optimization and Surface Modification of Silk Fabric using DBD Air Plasma for Improving Wicking Properties" , K. Vinisha Rani, Nisha Chandwani, Purvi Kikani, Sudhir Nema, Arun Sarma and **Bornali Sarma** , ***The Journal of the Textile Institute vol 109, issue 3,*** 368-375 ***(June 2017) ISSN 0040-5000 IF*** 1.174 TAYLOR & FRANCIS ***d.o.i.*** 10.1080/00405000.2017.1347230

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22) ***"Structural and Characteristics Change of Water Hyacinth Fiber due to Combine Effect of Plasma and Nano-technology"*** , Hari Prakash. N, Mariammal. M, Infant Solomon, **Bornali Sarma**, Arun Sarma , ***American Journal of Materials Science and Engineering, 2017, Vol. 5, No. 1, 17-27***,Available online at http://pubs.sciepub.com/ajmse/5/1/3 ISSN 2333-4665 IF 0.765 SCIENTIFIC & ACADEMIC PUBLISHING

23) Complexity and onset of chaos control in a DC glow discharge magnetized plasma using all pass filter, Vramori Mitra, Hari prakash.N, Infant Solomon, Mariammal Megalingam, Arun Sarma and **Bornali Sarma**, " ***Chaos, Solitons and Fractals: the interdisciplinary journal of Nonlinear Science, and Nonequilibrium and Complex Phenomena"(July 2017)*** Vol. 103 (2017) 613–621 (IF :1.6) ISSN *0960-0779* ELSEVIER

24) ***PLASMA SPUTTERING PROCESS OF COPPER ON POLYESTER/SILK BLENDED FABRICS FOR PREPARATION OF MULTIFUNCTIONAL PROPERTIES,*** K. VINISHA RANI, **BORNALI SARMA** AND ARUN SARMA, **VACUUM,** 146 (2017) PAGE NO. 206-215, ISSN 0042-207X IF **2.067 ELSEVIER**

25) ***Plasma treatment on cotton fabrics to enhance the adhesion of reduced Graphene Oxide for electro-conductive properties,*** K. Vinisha Rani, **Bornali Sarma** and Arun Sarma, **Diamond & Related Materials,** 84, pp 77–85 (2018) (IF : 2.561) ISSN 0925-9635
d.o.i. 10.1016/j.diamond.2018.03.009 ELSEVIER

26) Plasma Pretreatment on Tasar Silk Fabrics Coated With ZnO Nanoparticles against Antibacterial Activity, K. Vinisha Rani, **Bornali Sarma** and Arun Sarma, **Surface Review and Letters**, Vol. 26, No. 05, 1850193 (2019) WORLD SCIENTIFIC PUBLISHING

d.o.i. 10.1142/S0218625X18501937 ISSN 0218-625X IF 0.734

27) ***Antibacterial studies of copper deposited water hyacinth fiber using RF plasma sputtering process***, Hari Prakash, **Bornali Sarma** and Arun Sarma, **Materials Technology: Advanced Performance Materials, *Vol 33 issue 9 pp 621-633 (2018 ISSN*** 1066-7857***) IF*** 1.232 TAYLOR & FRANCIS ***https://www.tandfonline.com/doi/abs/10.1080/10667857.2018.1483862***

28) Characteristic behavior of plasma fluctuations inside plasma bubble in presence of magnetic field due to the formation of potential well, Mariammal Megalingam and **Bornali Sarma**, Arun Sarma, **Contributions to Plasma Physics,** Volume59, Issue7, August 2019, e201800104, ISSN: 0863-1042, IF 1.234 **d.o.i.** 10.1002/ctpp.201800104 WILEY

29) **Formation of Virtual Anode and its fluctuation characteristics in presence of plasma bubbles,** Mariammal Megalingam and **Bornali Sarma,** in press, Physical Review E.

30) **"Plasma Technology & its Impact on Next Generation Smart Textile"**, **Bornali Sarma, Current Trends in Fashion Technology and Textile Engineering** 3(5): CTFTTE.MS.ID.555621 (2018) ISSN 2577 2929 JUNIPER PUBLISHING DOI: 10.19080/CTFTTE.2018.03.555621

31) **"Occurrence of ionization instability associated with plasma bubble in glow discharge magnetized plasma",** Mariammal MEGALINGAM and **Bornali SARMA**, **Plasma Science & Technology,** 21(11) August, 2019. ISSN 1009-0630 IF 1.07 IOP DOI: https://doi.org/10.1088/2058-6272/ab2ef2

32) **"Experimental observation of intermittent route to chaos in magnetized filamentary discharge plasma due to the cylindrical plasma bubble"**, Mariammal Megalingam, Anurag Sangem and **Bornali Sarma**, May 2020, **Contributions to Plasma Physics.** Vol.60 No.4, e201900189, ISSN: 0863-1042, IF 1.234, DOI:10.1002/ctpp.201900189 WILEY

33) **"A single step approach of fabricating superhydrophobic PET fabric using low pressure plasma for oil water separation" ,** *T Anupriya, Shanmugavelayutham G Bornali Sarma, Mariammal Megalingam* ***Colloids and Surfaces A: Physicochemical and Engineering Aspects, Vol. 600, pp 124949, ISSN 0927-7757 https://doi.org/10.1016/j.colsurfa.2020.124949*** **May 2020.** ***IF 3.131 Elsevier publication***

PATENTING

1) Patent filed on "Plasma treatment on cotton/silk fabrics to enhance the adhesion of reduced graphene oxide for multifunctional properties such as antibacterial and electro-conductivity" to Indian Patent Office, Chennai **(ref. no. E-2/943/2019/CHE)**

BOOK PUBLISHED

1) Chapter entitled ***"Hydrophobic Surface Modification Of Silk Fabric Using Plasma Polymerized HMDSO"*** as a part of the book "Superhydrophobic Surfaces - Fabrications to Practical Applications" DOI: 10.5772/intechopen.80304

PROFESSIONAL TRAINING

1) I was selected to participate in the **School of Plasma Physics,** held at IASST, Guwahati during April 1998 under the sponsorship of DST, Govt. of India.

2) I was selected to participate in the **1st** SERC School on "***Plasma Based Particle Accelerators***" held at SINP, Kolkata during 2nd to 21st February 2003 under the sponsorship of DST, Govt. of India.

3) I have visited **IPR** (Institute for Plasma Research), Gandhinagar, India to attend a **training program** under Prof. D. Bora on "***Diagnostics in RF Plasma Device***" for **three months** (June to August 2000).

4) I have visited **Innsbruck University, Innsbruck, Austria** from 1st January to 20th March 2005 to do collaborative research work with Prof. Roman Schrittwieser and his group.

5) I have attended the First National workshop on Infrared Thermo-graphy held in **Institute for Plasma Research** during March 2009.

6) I have visited **Saha Institute of Nuclear Physics, Kolkata** from 15th May 2012 to 15th July 2012 as a part of **Indian National Science Academy's** Summer Research fellowship Progarm.

7) I have attended FDP on **"Teaching & Learning"** at **IIT, Madras** organized by TLC, IITM during 27th November to 29th November 2019.

PAPERS PRESENTED IN INTERNATIONAL & NATIONAL CONFERENCES

1) **Bornali Sarma** and Mariammal Megalingam, "**Characteristic behavior of plasma fluctuations inside plasma bubble in presence of magnetic field due to the formation of potential well",** presented an **invited talk** in **2nd Asia-Pacific Conference on Plasma Physics** organized by AAPPS at Kanazawa. Japan held during 12 -17 November 2018.
2) **Bornali Sarma**, K. Vinisha Rani and Arun Sarma, *"Plasma treatment of graphene coated cotton cellulose for enhanced electro-conductive properties"* presented an **poster** in **28th International Conference on Diamond and Carbon Materials - 2017**, held during 4th -7th September, 2017 at Guthenburg, Sweden.
3) **Bornali Sarma,** K. Vinisha Rani, Infant Solomon, N. Hari Prakash and Arun Sarma,

"Plasma sputtering process of copper deposition on polyester/silk blended fabrics for preparation of self-cleaning and antibacterial fabrics", presented an **invited talk** in **International conference on Polymers & Composite Materials-2016**, held during 20th -23rd May, 2016 at Hangzhou (Wuhan Advanced Materials Society), China.

4) **Bornali Sarma,** S. Chauhan, A. M. Wharton, A N Sekar Iyengar, "*Continuous Wavelet transform analysis for self similarity properties in magnetized dc glow discharge plasma",* presented in **International conference** on **Complex processes in Plasmas and nonlinear Dynamical Systems**, **2012**, Institute for Plasma Research, Gandhinagar, India.
5) A. Sarma, B. Sarma, C. Ionita & R. Schrittwieser, "*Observation of Ion – ion Instability in a Dusty Double Plasma Device*", Presented in the ***12th International Congress on Plasma Science 'ICPP – 2004'***, Nice, France.
6) Bornali Singha(Sarma), et. al., "*Experimental Observations of Plasma Sheath in presence of tilted Magnetic field*", Presented in the **15th** National Symposium on Plasma Science & Technology, SINP, Calcutta, India, 2000.
7) Bornali Singha(Sarma), "*Comprehensible physical model for the positive space region*", Presented in the **14th** National Symposium on Plasma Science & Technology, GNDU, Amritsar, India, 1999.
8) Bornali Singha(Sarma), , "*Wave Field Measurement in CCRF Discharge Plasma*", **16th** National Conference on Plasma Science & Technology, CPP, Guwahati 2001.
9) Bornali Singha(Sarma), , "*Effect of Discharge Current on the Ionic Space Charge Pattern in Magnetic Plasma System*", **17th** National Conference on Plasma Science & Technology, BU, Coimbatore 2002.
10) Bornali Sarma *" Studies of magnetized pre-sheath in front of a rough surface"* **20th** National Conference on Plasma Science & Technology, Cochin University, Cochin 2005.
11) Bornali Sarma & Devendra Sharma, "*Behavior of flow velocities of ions in magnetized two species plasma"*, 25th National Conference on Plasma Science & Technology, IASST, Guwahati-Assam.
12) Vramori Mitra, Bornali Sarma et. al. *"Nonlinear analysis of floating potential fluctuation using laser heated emissive probe developed under national fusion program",* 29th National Conference on Plasma Science & Technology, Kottayam, Kerala, India.
13) Vramori Mitra, Bornali Sarma et. al. *"Study of nonlinear oscillations in DC glow discharge magnetized plasma by using detrended fluctuation analysis",* 29th National Conference on Plasma Science & Technology, Kottayam, Kerala, India.
14) K. Vinisha Rani, Bornali Sarma et. al., *"Surface modifications of natural kanchipuram silk (pattu) fibers using glow discharge plasma"* , 29th National Conference on Plasma Science & Technology, Kottayam, Kerala, India.
15) Infant Solomon, Bornali Sarma et. al., *"Structuring of NCD (Nano crystalline diamond) using DC plasma source"*, 29th National Conference on Plasma Science & Technology, Kottayam, Kerala, India.
16) Hari Prakash, Bornali Sarma et. al., *"Treatment of water hyacinth fibers using glow discharge plasma & its characterization"*, 29th National Conference on Plasma Science & Technology, Kottayam, Kerala, India.

17) A. D. Sivagami, Bornali Sarma et. al, *" Bi Incorporation on the CuInS2 thin film solar cells for critical efficiency studies"*, 29th National Conference on Plasma Science & Technology, Kottayam, Kerala, India.

REVIWER TO INTERNATIONAL JOURNALS

- ✍ Reviewing for Plasma Sources Science and Technology, IOP Publishing Temple Circus, Temple Way, Bristol, BS1 6HG, UK, in the year 2017
- ✍ Reviewing for Thin Solid Films, Elsevier Publication, in the year 2018
- ✍ Reviewing for Cellulose, Springer Publication in the year 2018
- ✍ Reviewing for Applied Surface Science, Elsevier Publication in the year 2018
- ✍ Reviewing for Materials letters, Elsevier Publication in the year 2018
- ✍ Reviewing for Journal of Physics D: Applied Physics, IOP Publishing Temple Circus, Temple Way, Bristol, BS1 6HG, UK, in the year 2017, 2018, 2019
- ✍ Reviewing for Fibers & Polymers, in the year 2019
- ✍ Reviewing for Physica Scripta in 2020
- ✍ Reviewing for IEEE Plasma Science in 2020
- ✍ Reviewing for Journal of Plasma Physics in 2020

PROFESSIONAL SERVICE

- ✍ **CSIR & BRFST sponsored National Seminar on "Recent Trends in Plasma Display Technology"** on 15th September 2012 at VIT University, Chennai.
- ✍ **National PSSI –PSC 2014 colloquium sponsored by PSSI, DST, CSIR, BRNS and IPR** during 3-5 th July 2014 at VIT University, Chennai.
- ✍ **"National Conference & workshop on Materials for Energy conversion & Storage-NCMECS-2015" sponsored by Energy Science Society of India during 19th-21st** March 2015 at VIT University, Chennai.
- ✍ **"34th National Symposium on Plasma Science & Technology" sponsored by DST, PSSI, CSIR, BRNS and ESSI during 2nd -6th December 2019** at VIT University, Chennai.

PH. D. STUDENTS GUIDED

1. Dr. Vramori Mitra
2. Dr. Vinisha Rani K.
3. Dr. Mariammal Megalingam

COMMUNITY SERVICE

Organization

- Assam Association, Chennai
- Eanctus, VIT Chennai

COMPUTER SKILLS

- ✍ Software packages: I have got good knowledge of handling MS (Word, Power Point, Paint, etc) packages, MATLAB, Dataplore (Nonlinear Dynamics software) and various graphic packages like ORIGIN, GNUPLOT, GT etc.

INSTRUMENTAL KNOWLEDGE

- ✍ I know to handle Spectrum Analyzer and any form of oscilloscope.
- ✍ I know to handle some geophysical instruments viz., Gravimeter, MT Unit, RTK2 unit.

MEMBERS OF SOCIETIES

(i) Life member of Plasma Science Society of India (LM-416)
(ii) Life member of AAPPS-DPP (Association of Asia Pacific Physical Societies Division of Plasma Physics) (member ID is 431)
(iii) Member of IEEE (member ID is 94492987)

FAMILY DETAILS

Spouse: Dr. Arun Kumar Sarma (Director General, NECTAR, DST, Govt. of India, New Delhi)
Children: Aaryan (17 years) and Eshan (14 years)

REFERENCES

1) Prof. Arvind Kudchadker
Former Deputy Director IIT Mumbai,
Director DAIICT & Director General,
Pandit Deendayal Petroleum University
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Mumbai – 400 088
Email: arvindk@echeguru.com
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022 25563696 (H)

2) Prof. A. N. Sekar Iyengar,
Former HOD, Plasma Physics Division,
Saha Institute of Nuclear Physics. Bidhannagar, Kolkata, India
Email: ansekariyengar53@gmail.com
Phone:919830474499 (M)

3) Dr. Joydeep Ghosh, Institute for
Plasma Research, Bhat,

Gandhinagar-382428, Gujarat.
Email: jghosh.ipr@gmail.com
Phone: 9427628353(M)

Dr. Bornali Sarma