



Sourav Bose

Address: Rua Quinta da Armada 40, 4710-340 Braga, Portugal
Mobile: +351920519941, +351938099456; **e-mail:** bozesourav5@gmail.com
Linkedin: www.linkedin.com/in/sourav-bose-7a372955/; **ORCID ID:** 0000-0002-6449-3321

Career Objective: To gain a prestigious position in a reputed institute and to apply my acquired knowledge and skills to work place experience

RESEARCH EXPERIENCE

2017 - Present

PhD Research Fellow – International Iberian Nanotechnology Laboratory (INL), Braga, Portugal

- Development of Passivation Layers for Ultra-Thin CIGS Solar Cells

2014 - 2017

Research Assistant (HiWi) Positions – Fraunhofer Institute for Solar Energy Systems (ISE), Freiburg, Germany

- **Dept.: PV Production Technology and Quality Assurance, PTQ**

Work Details: Plasma and Sputter Depositions using Industrial coating systems, Hall Measurements, Solar Cell Characterization Techniques: Current-voltage and EQE measurements, Sheet Resistance; QSSPC, Photoluminescence Imaging, Reflection Measurements, Ellipsometry etc.

- **Dept.: Fuel Cell Systems**

Work Details: Characterization of Catalyst Coated Membranes (CCMs) by Scanning Electron Microscopy (SEM), Preparation of CCMs using Transfer decal, hot-pressing & Laser cutting, Assembling of PEM Fuel Cells and integration into test bench; In-situ Current-voltage characterization

2014

Research Assistant – Black Photon Instruments, Freiburg, Germany

- Calibration of Photovoltaic Sensors

2014

International Clean Room Lab Course with Report – IMTEK, University of Freiburg, Freiburg, Germany

- Manufacturing a miniaturized micro-heater device

EDUCATION

2017 – Present

PhD in Solid State Electronics – Ångström Solar Center, Uppsala University, Uppsala, Sweden

- Development of Passivation Layers for Ultra-Thin CIGS Solar Cells

2013 – 2016

Master of Science (M.Sc.) in Microsystems Engineering – Albert Ludwig’s University of Freiburg, Freiburg im Breisgau, Germany

- Microsystems & Process Technology; MEMS; Micro-electronics; Sensors and Actuators; Photovoltaics

2009 – 2013

Bachelor of Technology (B.Tech) in Electronics & Communication Engineering (ECE) – West Bengal University of Technology (WBUT), Kolkata, India

- Solid State Devices; Micro and Opto-Electronic Devices; Electromagnetics & Microwave Devices; Analog & Digital Electronics; VLSI & VHDL; Control Systems

PROJECTS

2016

Master Thesis Project: Development of Industrial Feasible TCO Layers for Silicon Heterojunction Solar Cells by MF Sputtering – Fraunhofer ISE (Dept. PTQ); Freiburg, Germany

2016

Fabrication of Electrical “On-Chip” Micro Heater Device – Clean Room Laboratory, IMTEK, University of Freiburg, Germany

2014

Calibration of Temperature Sensor – Sensors Laboratory, IMTEK, University of Freiburg, Germany

2013

Bachelor Thesis Project: Microcontroller Based Automatic Multi-storeyed Car Parking System – Dream Institute of Technology (Dept. ECE); Kolkata, India

2012

Active Optics & Adaptive Optics – M.P. Birla Institute of Fundamental Research, Kolkata, India

2012

3 Road Crossing Traffic Signal (Based On “PLC”) – Micro-Pro, Kolkata, India

PUBLICATIONS

- 2018 **S. Bose**, J. M. V. Cunha, J. Borme, W. C. Chen, N. S. Nilsson, J. P. Teixeira, J. Gaspar, J.P. Leitão, M. Edoff, P. A. Fernandes, P. M. P. Salomé, Passivation of Interfaces in Thin Film Solar Cells : **“A morphological and electronic study of ultrathin rear passivated Cu(In,Ga)Se₂ solar cells”**, Submitted to Thin Solid Films
- 2018 **Sourav Bose**, José M. V. Cunha, Sunil Suresh, Jessica De Wild, Tomás S. Lopes, João R. S. Barbosa, Ricardo Silva, Jérôme Borme, Paulo A. Fernandes, Bart Vermang and Pedro M. P. Salomé: **“Optical Lithography Patterning of SiO₂ Layers for Interface Passivation of Thin Film Solar Cells”**, Submitted to Solar RRL
- 2018 J. M. V. Cunha, P. A. Fernandes, B. Vermang, A. Hultqvist, J. P. Teixeira, **S. Bose**, J. Gaspar, M. Edoff, J. P. Leitão, P. M. P. Salomé, Passivation of Interfaces in Thin Film Solar Cells: **“Insulator materials for interface Passivation of Cu(In,Ga)Se₂ thin films”**, IEEE J. Photovoltaics. (2018). doi:10.1109/JPHOTOV.2018.2846674.

CONFERENCE PRESENTATIONS

- 2018 **S. Bose**, J. M. V. Cunha, J. Borme, W. C. Chen, N. S. Nilsson, J. P. Teixeira, J. Gaspar, J.P. Leitão, M. Edoff, P. A. Fernandes, P. M. P. Salomé, Passivation of Interfaces in Thin Film Solar Cells : **“A morphological and electronic study of ultrathin rear passivated Cu(In,Ga)Se₂ solar cells”**, Poster presented in 2018, June 18-22, EMRS at Strasbourg, France.
- 2017 P. M. P. Salomé, P. A. Fernandes, **S. Bose**, J. M. V. Cunha, **“Development of nanopatterning for thin film solar cells”**, Poster presented in 2017, September 18-22, MNE at INL in Braga, Portugal.

CONFERENCE CONTRIBUTIONS

- 2018 J.M.V. Cunha, P.A. Fernandes, B. Vermang, J.P. Teixeira, **S. Bose**, J. Gaspar, M. Edoff, J.P. Leitão, P. M. P. Salomé : **“Metal-Insulator-Semiconductor structures using insulator materials for passivation of thin film Cu(In,Ga)Se₂ solar cells”**, Poster presented in 2018, June 18-22, EMRS at Strasbourg, France.
- 2018 **S. Bose**, P. A. Fernandes, J. M. V. Cunha, J. P. Teixeira, J.P. Leitão, M. Edoff, P.M.P. Salomé, **“Development of nanopatterning for thin film solar cells”**, Poster presented on June 18, 2018, at IW-CIGS Tech 9, ZSW Stuttgart, Germany.
- 2017 J. M. V. Cunha, P. A. Fernandes, J. P. Teixeira, **S. Bose**, J.P. Leitão, P. M. P. Salomé, **“Metal - Insulator - Semiconductor structures using dielectric materials for passivation of Cu(In,Ga)Se₂ solar cells”**, Poster presented in 2017, September 18-22, MNE at INL in Braga, Portugal.

CERTIFICATES

- Certificate in **“Embedded Technology”**, CMC Academy, Kolkata, India
- Certificate of Proficiency in **“PLC Based Industrial Automation”**, Micro-Pro, Kolkata, India
- Certificate of Appreciation in **“Wireless Networking”**, NIHT, Kolkata, India
- Certificate in **“Embedded System Design Using 8051 Microcontroller (ATMEL)”**, Digital Power Corporation, Kolkata, India

SPECIAL ACHIEVEMENTS

- Very good rank achieved among more than 1,00,000 students in WBJEE in 2009
- Excellent credits received and always ranked between 1 to 3 in the semester exams of WBUT, ECE Dept.
- Multi-dimensional Trainings and Projects completed successfully from reputed institutes
- Multiple Research Assistant jobs and experiences

**MANAGERIAL
SKILLS**

- High motivation, dedication and tactful handling of critical situations
- Effective communication and adaptation ability to multicultural environments
- Elected and served as the Head Prefect of Hartley's High School for 2 years

SOFTWARE SKILLS

- **LANGUAGES KNOWN:** VHDL, C Programming, Python (Basic)
- **TOOLS:** Orcad, P Spice, Target 3001, Origin 9G; Statistica, CES Edupack, AutoCAD
- **SIMULATORS:** Matlab, SCAPS
- **GENERAL:** Windows 10; Microsoft Office

INTERESTS

- Interested in Music, Art Films, Theatre and Literature; Photography and Internet Browsing
- Sports: Cricket, Hockey, Football, Swimming

PERSONAL DETAILS

- **Gender:** Male; **Date of Birth:** 27/09/1988; **Nationality:** Indian
- **Marital Status:** Single
- **Languages Spoken:** Bengali (Mother Tongue); English & Hindi (Fluent); German (General speaking and understanding) & French(Basic)

I hereby declare that all the above information's are true to the best of my
knowledge

SOURAV BOSE