

## **Project Description for R&D Internship**

## Job Title: Intern: Specialist Characterization

- **Job Description:** Seeking focused, motivated and hands-on Diploma/Bachelors internship students or recent graduates to join a fast-paced R&D team in the Next-Generation Industrial Solar Cells and Modules Cluster at the Solar Energy Research Institute of Singapore (SERIS) at the National University of Singapore (NUS). SERIS is Singapore's national institute for applied solar energy research and conducts industry-oriented research and development as well as use-inspired basic research in the field of solar energy conversion. You will be part of an industry-aligned R&D project developing leading-edge technologies for next-generation industrial solar photovoltaic cells. As a metrology/characterization specialist intern, you will help to optimize processes on industrial pilotscale production equipment for solar cell fabrication by performing specialized metrology and characterization on silicon, perovskite and/or tandem solar cells and related test samples. This position reports to a Senior Research Fellow in the NISCM cluster at SERIS.
- The discovery of new functional materials and new ways to deposit Project them are creating exciting new possibilities for developing cheaper and **Description:** better performing solar cells and electronic devices. In this project, research interns will be joining a team of researchers aiming to measure and customize the properties of various novel functional materials for use in solar cells. Students will perform optical and electrical characterization and use the empirical data to develop and validate new physical models for various metal oxide, organic, perovskite and siliconbased functional materials for use in photovoltaics and OLED industries. Skills developed in this project will be directly relevant for a research or

engineering career in photovoltaics, semiconductor/ microelectronics, OLED/display, battery technology, metrology and instrumentation industries.

- Competencies 1. Solar Cell / Semiconductor Metrology and Processing
  - 2. Data Management & Data Analysis
- gained during 3. Scientific Experiments & Engineering Problem-solving Internship 4. Stakeholder Management

**Programme:** 

5. Technical Writing and Documentation

## Skills & Requirements

- 1. Enrolled in or recently completed Diploma or Bachelor's Degree in Engineering, Applied Science or other relevant disciplines. Preferred specializations include (but not limited to): Materials Science, Microelectronics, Electronics, Nanotechnology, Electrical, Mechanical, Engineering Design, Industrial, Chemical, Software Development
  - 2. Coursework or practical experience with metrology (measuring physical properties), data analysis and reporting/presentation is highly valued



- 3. Must be able and willing to work in multiple environments: cleanrooms (solar / semiconductor), laboratories, or at office desk/work from home. Required training/inductions will be provided.
- 4. Experience with basic productivity and communication software is required: Office (Microsoft Excel, Word, Powerpoint, Outlook), Remote Working (Microsoft Teams, Zoom or similar).
- 5. Ability to work and learn independently, and operate well within a team environment
- 6. Must be target-oriented and have good time-management skills
- 7. Good English language skills (oral and written)
- 8. Effective communication and good interpersonal skills
- 9. Must have attention to detail and aptitude for data handling, analysis and regular reporting
- 10. Prior internship or traineeship experience in manufacturing, R&D or related industries is a plus (but not mandatory
- 11. Experience in data analysis tools is highly valued (Excel / Tableau / JMP / other)
- 12. Hands-on experience with measurement instruments and data analysis is highly valued alternatively, must have interest / aptitude for this.

Interested applicants to kindly submit CV to Dr. Biplab Ghosh (biplab@nus.edu.sg) for review