Prashant Misra

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Professional Experience

Center for Solar Energy Materials, ARCI (Sept 2016 – present)
Project Scientist 'C'

- Working on development of 'flexible' CIGS thin film solar cells.

TDK-Epcos India Pvt. Ltd. (Oct 2013 – Sept 2016)
Dy. Manager, R&D, AC film capacitors BG

- Responsible for design & development of metallized polypropylene film based AC capacitors for a global clientele of appliance manufacturers.
- Execution of design & development projects in compliance with ISO/TS 16949 standard (APQP procedure). Handled customer and third party certification audits for R&D function.
- Looked after internal research & development work for improvement of film capacitor technology; involving process improvement, development of new test methods/fixtures for characterization and failure analyses.
- Managed three strategic development projects related to film metallization profile/annealing parameters optimization, humidity protection and redesign of internal safety mechanism in S2 class capacitors.

Moser Baer India Ltd. (MBIL) (Jan 2011 – Sept 2013)
Astt. Manager, Corporate R&D

- Played a key role in setting up an in-house advanced material/thin film analysis laboratory with sophisticated characterization equipment, including, SEM/EDS, XRD, XRF, Hall probe and UV-VIS-NIR spectrophotometer.
- Managed the activities of thin film processing and characterization labs; looking after the CIGS solar cell related process optimization, device integration and characterization tasks.
- Performed structural, electrical & optical analysis of different semiconductor /metal films. Framed SOPs for characterization equipment/techniques and imparted training to other group members.
- Independently developed low temperature deposited back contact (Mo) and transparent front contact (Al:ZnO) layers for CIGS solar cells; having electrical, optical and mechanical properties comparable to the best reported.

Dept. Instrumentation & Applied Physics, IISc Bangalore

Postdoctoral Researcher (Dec 2009 – Jan 2010)

Research Associate (July 2009 – Nov 2009)

Education

- **M.Sc. Engg. (research) – Ph.D. (Engg.)**

  Dept. Instrumentation & Applied Physics, IISc Bangalore, India
  Dissertation: Simultaneous Studies of Electrical and Thermal Contact Resistance in Metallic Contacts
  CGPA: 6.7/8

- **M.Sc. Physics**

  IIT Mumbai, India
  Major: Solid state physics
  Project: Study on High Temperature Magnetic Superconductors
  CGPA: 7.0/10

- **B.Sc. (Hons.) Physics**

  Dayalbagh Educational Institute, Agra, India
  Majors: Physics, Mathematics
  Minors: Chemistry, English
  Percentage: 71.1%

Publications

1. S. Mandati, **P. Misra**, B. V. Sarada, and T. N. Rao, "Copper chalcopyrites for solar energy applications," (Review Article) *Trans. Indian Inst. Met.*, published online (Nov 2018), DOI: 10.1007/s12666-018-1455-0.
2. **P. Misra**, V. Ganeshan, N. Agrawal, "Low temperature deposition of highly transparent and conducting Al-doped ZnO films by RF magnetron sputtering," *J. Alloys Compd.* 725, pp. 60-68, 2017.
3. S. Das, **P. Misra**, G. Vignesh, S. B. Srivastava, and N. Agarwal, "A study on the effect of concentration, pH and temperature on CdS film thickness deposited by CBD process," *Inv. J. Renew. Energ.* 3 (2), pp. 1–7, 2013.
4. S. Das, **P. Misra**, G. Vignesh, A. Upadhaya, and N. Agarwal, "A study on the effect of complexing agent on particle size of CBD deposited CdS layer," *Int. J. Renew. Energ. Res.* 2 (4), pp. 697–701, 2012.
5. S. Das, **P. Misra**, G. Vignesh, A. Upadhaya, D. Mukherjee, S. Punjabi, and N. Agarwal, "A study on the effect of resistivity of deionized water used in the deposition of CdS layer for fabrication of CIGS solar cells," *Inv. J. Renew. Energ.* 1 (4), pp. 214–218, 2011.
6. V. S. Prasad, **P. Misra**, and J. Nagaraju, "An experimental study to show the behavior of electrical contact resistance and coefficient of friction at low current sliding electrical interfaces," in *Proc. 57th IEEE Holm Conf. Elec. Cont.*, Minneapolis, USA, pp. 254–260, 2011.
7. **P. Misra** and J. Nagaraju, "Electrical contact resistance in thin (≤ 0.5 μm) gold plated contacts: Effect of gold plating thickness," *IEEE Trans. Compon. Packag. Technol.* 33 (4), pp. 830–835, 2010.

8. **P. Misra** and J. Nagaraju, "Thermal gap conductance at low contact pressures (< 1 MPa): Effect of gold plating and plating thickness," *Int. J. Heat Mass Transfer* 53 (23–24), pp. 5373–5379, 2010.
9. **P. Misra** and J. Nagaraju, "An experimental study to show the effect of thermal stress on thermal contact conductance at sub-megapascal contact pressures," *ASME J. Heat Transfer* 132 (9), 094501, 2010.
10. V. Srinivas, **P. Misra**, H. D. Maheshappa, and J. Nagaraju, "Electrical contact resistance across bare and gold coated OFHC Cu contacts in different environments", in *Proc. 24th Int. Conf. Elec. Cont. (ICEC-2008)*, Saint-Malo, France, pp. 514–519, 2008.
11. K. Bapurao, **P. Misra**, J. Nagaraju, and M. V. K. Murthy, "Thermal contact conductance across gold-coated OFHC Cu contacts in different media", *ASME J. Heat Transfer* 127 (6), pp. 657–659, 2005.
12. **P. Misra** and J. Nagaraju, "Test facility for simultaneous measurement of electrical and thermal contact resistance," *Rev. Sci. Instrum.* 75 (8), pp. 2625–2630, 2004.