Piyush Vijay Jagtap

Sr. Research Associate, Date of Birth: 15th Sept 1987

Materials Engineering, Email: piyushvj@gmail.com

Indian Institute of Science, Bangalore.

Research Interests

- Materials related reliability issues in microelectronic packaging
- Mechanical behavior of materials at small length scale, *in-situ* testing.
- Electrodeposition, Structural and mechanical characterization of electrodeposits.
- Lithography and Thin film deposition.

Education

M.Sc. & Ph.D.	Materials Engineering, Department of Materials Engineering, Indian
(August 2011-2016)	Institute of Science, Bangalore, Karnataka 560012, India.
B.Tech	Metallurgy and Materials Science, Visvesvaraya National Institute of
(July 2006-2010)	Technology, Nagpur, Maharashtra 440010, India.

Professional Experience

Aug 2016-June 2018 Sr. Research Associate, Indian Institute of Science, Bangalore.

Awards and Recognition

- Fulbright-Nehru Postdoctoral Fellowship 2018-2019.
- Outstanding student paper award, 49th Symposium on International Microelectronics Assembly and Packaging (IMAPS) 2016, Pasadena, CA, USA.
- Editor's choice paper: Jagtap and Kumar, J. Elec. Mater 2015.
- MHRD Government of India scholarship, 2011-2016
- Dr. *Homi Bhabha* Balvaidnyanik Competition, Bronze Medal, 2002-03.

Technical skillsets

- Microstructural characterization: Scanning Electron Microscopy, Focused Ion Beam Microscopy, Transmission Electron Microscopy, X-ray Diffraction, Electron Backscatter Diffraction (EBSD), Electron Probe Microanalysis (EPMA).
- Mechanical Characterization: Tensile and Compression testing, Creep testing. *In-situ* mechanical testing in Scanning electron microscope.
- Thin film deposition: Electrodeposition, Evaporation or sputter deposition. Thin film stress measurement: Multi-optical Stress Sensor (MOSS).
- Crystal Plasticity and Finite Element Analysis.
- Basics of hardware-software interfacing, python.

Graduate Courses Thermodynamics of Materials, Structure and Characterization of materials, Electron microscopy, Texture analysis, Defects in Solids, Finite element methods for materials engineers, Mechanical behavior of materials, Solid mechanics, High temperature deformation in materials.

Teaching Experience

- Teaching assistance — Mechanical Testing of Materials, Undergraduate laboratory, Indian Institute of Science, Bangalore.
  Aug-Dec 2013/2014/2015

Journal Publications

1. Piyush Jagtap, Prarthana Gowda, Bikramjit Das, Praveen Kumar, "Effect of electro-mechanical coupling on actuation behavior of a carbon nanotube cellular structure" Carbon, 60, 169-174, 2013

   http://www.sciencedirect.com/science/article/pii/S0008622313003035

2. Piyush Jagtap, and Praveen Kumar, "Evaluating shock absorption behavior of small-sized systems under programmable electric field", Review of Scientific Instruments 85 (11), 113903, 2014

http://aip.scitation.org/doi/10.1063/1.4900842

3. Piyush Jagtap, Siva Kumar Reddy, Deepak Sharma, Praveen Kumar, "Tailoring energy absorption capacity of CNT forests through application of electric field", Carbon 95, 126-136, 2015.

   http://www.sciencedirect.com/science/article/pii/S000862231530124X

4. Piyush Jagtap, Amit Kumar, Praveen Kumar, "Effect of electric field on creep and stress-relaxation behavior of carbon nanotube forests", RSC Advances 6 (72), 67685-67692, 2016.

   http://pubs.rsc.org/en/content/articlelanding/2016/ra/c6ra16091c#!divAbstract

5. Piyush Jagtap and Praveen Kumar, "Manipulating Crystallographic Texture of Sn coatings by optimization of Electrodeposition Process Conditions to Suppress Growth of Whiskers"; JEM, Vol. 44, no. 4, 1206-1219, Jan 2015.

   http://link.springer.com/article/10.1007/s11664-014-3622-3

6. Piyush Jagtap, Aritra Chakraborty, Philip Eisenlohr and Praveen Kumar, "Identification of Whisker Grain in Sn Coatings by Analyzing Crystallographic Micro-Texture using Electron Back-Scatter Diffraction", Acta. Metall, Vol 134, 346-359 August 2017. http://www.sciencedirect.com/science/article/pii/S1359645417304524

7. Piyush Jagtap, Vijay Sethuraman and Praveen Kumar, "Critical evaluation of role of nature of stress and stress gradients in whisker growth", J. Electron. Mater, May 2018 DOI: https://doi.org/10.1007/s11664-018-6391-6

   https://link.springer.com/article/10.1007/s11664-018-6391-6

8. Piyush Jagtap and Praveen Kumar, "Role of Substrate composition and underlayer in whisker growth", J. Electron. Mater., Vol 47, no 7, 4177-89, July 2018.

   https://link.springer.com/article/10.1007/s11664-018-6275-9

Conference publications

1. Piyush Jagtap and Praveen Kumar, "Understanding whisker growth: Role of Substrate and underlayer", 49th International Symposium, International Microelectronic Assembly and Packaging Society, Conference proceedings (IMAPS-2016)

   http://imapsource.org/doi/abs/10.4071/isom-2016-THA56?code=imap-site

2. Piyush Jagtap and Praveen Kumar, "An Electron Backscatter Diffraction Study for Understanding Whisker Growth", 18th Electronic Packaging Technology Conference proceedings (EPTC-2016)

   http://ieeexplore.ieee.org/document/7861464/

References

1. Dr. Praveen Kumar

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2. Dr. Abha Misra

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