

**Name** Elvan Ekiz-Stumphy

**Research fields of interest and experience**

- General materials characterization and analysis
- Microstructure - Process - Property relationships
- Alloy design
- Electron Microscopy and Focused Ion Beam
- Texture Analysis

My research experience and interest combine various material characterization and synthesis techniques, as I am specialized in metal-metal nanocomposite and alloy systems subjected to severe plastic deformation throughout my PhD studies. My research interests focus on microstructure-process-property relationships and the analysis via electron microscopy. I have extensive knowledge and experience on focused ion beam microscopy, and the utilization of this technique for TEM lamellae preparation, cross sectioning, nano pillar preparation, sample preparation for Atom Probe Tomography and 3D reconstruction of region of interest. I have worked with various samples; metal, polymer, electronic devices, etc. I also have experience in X-Ray diffraction systems for phase identification, composition and preferred orientation analyses. I have also been involved in TEM techniques such as bright and dark field imaging, HR-imaging and STEM analyses for 5 years. I am particularly interested in technique development and utilizing the focused ion beam system in combination with SEM and XRD.

**Instrumentation/core of responsibility within the MRL**

-Focused Ion Beam / Electron Microscopy (TEM lamellae preparation, cross sectioning, STEM, 3D reconstruction)

**Other instruments qualified to operate**

-XRD, TEM, SEM, EDS, PIPS

**Education**

Istanbul Technical University, Turkey	Metallurgical and Materials Engineering	B.Sc. (2007)
Istanbul Technical University, Turkey	Materials Science and Engineering	M.Sc. (2009)
University of Illinois at Urbana-Champaign, IL USA	Materials Science and Engineering	Ph.D. (2014)

**Professional experience**

2014 - present	Post-Doctoral Research Scientist, Frederick Seitz Materials Research Laboratory, University of Illinois, Urbana, IL
2009 - 2014	Principal Analyst, Materials Science and Engineering, University of Illinois, Urbana, IL
2007 - 2009	Graduate Research Assistant, Istanbul Technical University, Istanbul TURKEY

**Awards**

2013 - Racheff - Burnett Teaching Fellowship  
2012 – UIUC Graduate College Conference Travel Grant

**Selected publications**

E.H. Ekiz, T.G. Lach, R.S. Averbach, N.M. Mara, I.J. Beyerlein, M. Pouryazdan, H. Hahn, P. Bellon; 2014. "Microstructural Evolution of Nanolayered Cu-Nb Composites Subjected to High Pressure Torsion", Acta Materialia, 72, 178-191.

• E.H. Ekiz, "Microstructural Evolution and Phase Stability of Cu/Nb Nanolaminates Subjected to Severe Plastic Deformation by High Pressure Torsion", Doctoral Thesis, University of Illinois at Urbana Champaign, 2014.

- E.H. Ekiz, T.G. Lach, P. Bellon, R.S. Averback, N. Mara, M. Pouryazdan, and H. Hahn; 2015. “Microstructure and texture evolution of Cu-Nb nano-laminates subjected to HPT.” TMS 2013 Annual Meeting and Exhibition: Phase Transformation and Microstructural Evolution. – Podium Presentation.

- T.G. Lach, E.H. Ekiz, R.S. Averback, N. Mara, P. Bellon; 2015. “Role of Interfaces on the Trapping of He in 2D and 3D Cu-Nb Nanocomposites”, Journal of Nuclear Materials, 466, 36-42.