Gyula Eres

Oak Ridge National Laboratory
Bldg 4100, MS 6056
Oak Ridge, TN 37831

Phone: (865) 57405494
Email: eresg@ornl.gov

Current Position

Senior Research Staff Member, Oak Ridge National Laboratory

Background

- Senior Research Staff Member, 2004-Present, Materials Science and Technology Division, Oak Ridge National Laboratory
- Research Staff Member, 1987–2004, Solid State Division, Oak Ridge National Laboratory
- Postdoctoral Research Associate, 1985-1987, Department of Materials Science and Engineering, University of Illinois at Urbana-Champaign

Honors

- Battelle, Critical Science and Technology Challenges Award (2002)
- ORNL Technical Achievement Award (2000)
- DOE DMS Significant Implications for DOE-Related Technologies in Solid State Physics (1993)
- ORNL Significant Event Award (1987)
- Avery Brundage Scholarship, University of Illinois (1983, 1984)

Activities

- Organizer Materials Research Society Spring Meeting, Symposium "Insights for Energy Materials Using *In Situ* Characterization," 2015, San Francisco, CA
- Co-organizer Materials Research Society Spring Meeting, Symposium "*In Situ* Characterization Methods in Energy Materials Research," 2013, San Francisco, CA
- Organizer, American Physical Society March Meeting, Focus Session "Carbon Nanotubes and Related Materials," 2012, Boston, MA
- Co-Organizer, Materials Research Society Spring Meeting, Symposium "Bandgap Engineering and Interfaces of Metal Oxides for Energy," 2012, San Francisco, CA

- Co-Organizer, Materials Research Society Fall Meeting, Symposium "Real Time Studies of Evolving Thin Films and Interfaces," 2010, Boston, MA
- Organizer, American Physical Society March Meeting, Tutorial "Forefront Methods and Limits of Lithography," 2006, Baltimore, MD

Interests

- My research interests are focused on the study of atomic surface transport processes in formation of atomically sharp interfaces in epitaxial film growth of complex oxides and nanostructured materials using energy enhanced growth methods including molecular beams and pulsed laser deposition. I use x-rays to probe both the atomic and the electronic structure preferably in real-time during the actual growth process. Real-time surface x-ray diffraction is ideal for these studies because it provides time-resolved data about the formation and evolution of atomic structure. X-ray spectroscopies provide complementary information about the electronic structure allowing determination of the structure property relationship.

Goals

- As a user of surface characterization capabilities at APS for almost two decades I developed a good sense about what improvements might help to make it easier to do better science at the APS. The surface and interface community is currently spread out over many sectors. This leads to a lack of "community" which makes it harder to have spontaneous discussions about science and operational matters. There has been on ongoing effort to better organize the community and I would be very much interested helping that effort.
- It would be a great honor to be a member of the APSUO at such an exciting time as the preparation for the APS Upgrade, seeing through the upgrade and enjoying the great new capabilities.