

## Challenges in Synthetic Aperture Radar

**Monday February 6, 2012**

- 8:00–8:50 *Check-In/Light Breakfast (Hosted by IPAM)*
- 8:50–9:00 *Welcome and Opening Remarks*
- 9:00–9:50 **Edmund Zelnio** (Wright-Patterson Air Force Base)  
*Wide Angle, Staring Synthetic Aperture Radar*
- 10:00–10:15 *Break*
- 10:15–10:50 **Brett Borden** (Naval Postgraduate School)  
*SAR Imaging of Dynamic Scenes*
- 11:00–11:30 *Break*
- 11:30–12:20 **Scott Hensley** (Jet Propulsion Laboratory)  
*Radar Interferometry: A Tool for Topography, Deformation and 3-D Structure Measurements*
- 12:30–2:30 *Lunch (on your own)*
- 2:30–3:20 **Charles (Jack) Jakowatz** (Sandia National Laboratories)  
*Mode-Independent SAR Image Formation Using A Beamforming Framework*
- 3:30–4:00 *Break*
- 4:00–4:50 **Fioralba Cakoni** (University of Delaware)  
*The imaging of anisotropic media using electromagnetic waves*
- 5:00–7:00 *Reception and Poster Session (Hosted by IPAM)*
- 5:05–7:00 **Zhijun Qiao** (University of Texas Pan American)  
*Poster: Filtered back projection of turntable ISAR image*

**Tuesday February 7, 2012**

- 8:00–9:00 *Continental Breakfast*
- 9:00–9:50 **Michael Minardi** (Wright-Patterson Air Force Base)  
*Challenges in Detecting and Tracking Moving Objects in Synthetic Aperture Radar (SAR)*
- 10:00–10:15 *Break*
- 10:15–11:05 **Ronald Lipps** (United States Naval Research Laboratory)
- 11:15–11:30 *Break*

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- 11:30–12:20 **Mark Stuff** (Michigan Technological University)  
*Mathematical Challenges for SAR Signal Analysis*
- 12:30–2:30 *Lunch (on your own)*
- 2:30–3:20 **Nick Marechal** (The Aerospace Corporation)  
*Moving Targets in SAR Imagery*
- 3:30–4:00 *Break*
- 4:00–4:50 **Jen King Jao** (Lincoln Laboratory, Massachusetts Institute of Technology)  
*Multichannel SAR-GMTI Clutter Cancellation Performance*

### Wednesday February 8, 2012

- 8:00–9:00 *Continental Breakfast*
- 9:00–9:50 **Oscar Bruno** (California Institute of Technology)  
*Electromagnetic Modeling: Large Antennas, Structures, and Beyond*
- 10:00–10:15 *Break*
- 10:15–11:05 **Mujdat Cetin** (Sabanci University)  
*Sparsity-Driven SAR Imaging*
- 11:15–11:30 *Break*
- 11:30–12:20 **Albert Fannjiang** (University of California, Davis (UC Davis))  
*Compressed sensing SAR*
- 12:30–2:30 *Lunch (on your own)*
- 2:30–3:20 **Joachim Ender** (Fraunhofer Institute for High Frequency Physics & Radar Techniques)  
*Sparse Representation and Autofocus for ISAR and Spotlight SAR imaging*
- 3:30–4:00 *Break*
- 4:00–4:50 **Justin Romberg** (Georgia Institute of Technology)  
*Ideas from Compressive Sampling for Radar*

### Thursday February 9, 2012

- 8:00–9:00 *Continental Breakfast*
- 9:00–9:50 **Richard Albanese** (Brooks Air Force Base)  
*Using SAR to Identify Materials*
- 10:00–10:15 *Break*

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- 10:15–11:05 **Liliana Borcea** (Rice University)  
*Detection and imaging with waves in strongly backscattering random media*
- 11:15–11:30 *Break*
- 11:30–12:20 **Knut Solna** (University of California, Irvine (UCI))  
*Coherent Interferometric Imaging for Synthetic Aperture Radar in the Presence of Noise*
- 12:30–2:30 *Lunch (on your own)*
- 2:30–3:20 **Semyon Tsynkov** (North Carolina State University)  
*Reducing the ionospheric distortions of spaceborne SAR images by dual carrier probing*
- 3:30–4:00 *Break*
- 4:00–4:50 **George Papanicolaou** (Stanford University)

### Friday February 10, 2012

- 8:00–9:00 *Continental Breakfast*
- 9:00–9:50 **Eric Keydel** (Science Applications International Corporation (SAIC))  
*From Physics to the Physical: a Systems Perspective*
- 10:00–10:15 *Break*
- 10:15–11:05 **Laurent Demanet** (Massachusetts Institute of Technology)  
*The butterfly algorithm for synthetic aperture radar imaging*
- 11:15–11:30 *Break*
- 11:30–12:20 **Fredrik Andersson** (Lund Institute of Technology)  
*Fast algorithms for the non-equally-spaced FFT*
- 12:30–2:00 *Lunch (on your own)*
- 2:00–3:00 **Margaret Cheney** (Rensselaer Polytechnic Institute)  
*Discussion and Wrap-Up*

