

**Plenary Session: Tuesday, August 1, 2017 (Morning)**

Location: Green Auditorium in Administration Building 101

Agenda	
9:00A	<b>Welcome</b>
	<b>Session Moderator: TBA</b>
9:15A	<b>CNST</b> <i>Mariam Saadah</i> : Novel Microfluidic Design for Immune Characterization via Single-Cell Encapsulation
9:45A	<b>CTL</b> <i>Vineet Shenoy</i> : Simulation of SAS-CBSD protocol for CBRS band
10:15A	<b>EL</b> <i>Omar Aboul-Enein</i> : Performance Measurement of Mobile Manipulators: Expansion to Autonomous-Unmanned Ground Vehicles (A-UGVs)
10:45A	<b>ITL</b> <i>Kelsey Fulton</i> : Unwinding the Runtime Stack: Application Runtime Analysis for Anomaly Detection Research
11:15A	<b>MML</b> <i>Alison Farrar</i> : Materials for Magnetic Nanothermometry: Experimental Investigation
11:45A	<b>NCNR</b> <i>Emily Blick</i> : The Role of Detergents in the Crystallization of Membrane Proteins from Lipidic Cubic Phases
12:15P	<b>PML</b> <i>Rebecca Moore: My Summer as a Lab Therapist: Fostering Effective Communication between Hardware, Software, and the Physicist</i>
12:45P	<b>Dining Rooms A &amp; B: Meet the SURF directors and external visitors for lunch. Lunch can be purchased at the NIST cafeteria.</b>

**Parallel Sessions: Tuesday, August 1, 2017 (Afternoon)**

	Lecture Room A	Lecture Room B	West Square	Portrait Room
	<b>MML/NCNR_ChemBio</b>	<b>MML/NCNR_MatSci</b>	<b>ITL</b>	<b>PML_PL</b>
<b>Time</b>	Moderator:TBA	Moderator:TBA	Moderator:TBA	Moderator: Stephen Eckel
<b>2:20P</b>	<i>Cayla Collett</i> : Quantification of Drugs	<i>Andrew Ericks</i> : Copper Electrodeposition on a Rotating Disk Electrode: Hydrodynamic Effects on Spatial Patterning in the Presence of a Polymer-Chloride Adlayer	<i>Jamie Thorpe</i> : Encrypting CAN Bus Communication Using a Lightweight Cryptographic Algorithm	<i>Lauren Cabrera</i> : Into the Woods: A look into urban forest carbon dynamics
<b>2:40P</b>	<i>Deandra Francis</i> : Raman and THz Raman Spectroscopy for Forensic application of illicit narcotics and explosives	<i>Eddie Chang</i> : Multimode Characterization of Multiscale Structural Architectures in New MoS <sub>2</sub> - S Composite Cathodes for High-Energy Density Li-S Batteries by Focused Ion and Electron Beam Techniques	<i>Nikita Wootten</i> : Better Auditing of IoT Devices Through Cryptographic Hash Chaining of Logs and Logcrypt Signing	<i>Joshua Hanson</i> : Highly Charged Ion Capture in a Hyperbolic Radio-Frequency Trap and Recent Progress Developing a Miniaturized Electron Beam Ion Trap
<b>3:00P</b>	<i>Dmitry Leontyev</i> : Optimization of mini-DART-MS for the Detection of Smokeless Powder Residues	<i>Ramess Quezada</i> : Fabrication of a Platinum/Gold Dual Electrode for Applications in Electrochemical DNA Sensing	<i>Raymond Lin</i> : IoT Device Identification Using Packet Analysis	<i>Justin Calamari</i> : Construction of 2D and 3D Magneto-Optical Traps for Lithium and Rubidium Atoms
<b>3:20P</b>	<i>Riccardo Torsi</i> : Latent Fingerprint Developer Standards Development	<i>Addie Lupercio</i> : First Principles Study of the Energetic Ordering and Phase Stability of Bulk and Nanostructured TiO <sub>2</sub>	<i>Theodore Weinberg</i> : System Call Anomaly Detection Using Artificial Neural Networks	<i>Ariel Shlosberg</i> : Revisualization of Thorium Atlas for Calibration of Astronomical Spectrographs
<b>3:40P</b>	<i>Andrew Gayle</i> : Investigating Atomic Force Microscopy for Forensic Analysis of Hair from Individuals	<i>Chloe Cook</i> : Single Ion Probe: Manipulation and Characterization of Point Defects in Functional Oxide Materials	<i>Xinyu Xiong</i> : Access Control Rule Logic Circuit Simulation (ACRLCS)	<i>Peter Zhou</i> : Bragg diffraction as a probe of transition to a Bose-Einstein condensate
<b>4:00P</b>	<i>Sydney Brooks</i> : Chemical and Physical Characterization of Aged Fibers	<i>Edward Arnheiter</i> : Analyzing Surface Chemistry of Thin Film Platinum via Nanocalorimetry	<i>Nicole Seese</i> : Exploring the Utility of the PAQ4 Data Compressor for Estimation of Min-Entropy	<i>Nhi Phan</i> : Assembly of a Dedicated Quantitative Imager for Fluorescence and Bioluminescence
<b>4:20P</b>	<i>Alexis Brake</i> : Evaluating the role of fiber degradation in affecting the aging characteristics of carbon nanotube based hierarchical composites	<i>Katherine Su</i> : Fabrication of 2D material heterostructures by mechanical exfoliation towards phase-change devices	<i>Tony Allen</i> : The Use of Graph Theory in Forensic Footwear Analysis	
<b>4:40P</b>	<i>Hionu (Anthony) Chung</i> : Evaluating Combined Shear and Compression Test Methods for Impact Mitigating Materials	<i>Matthew Wade</i> : Analysis of Polymer Thin Films for Organic Photovoltaics Through In-situ Spectroscopic Ellipsometry, or How I Learned to Watch Paint Dry	<i>Emily McGovern</i> : Geometric Characterization of Features for Forensic Footwear Impression Comparisons	

Parallel Sessions: Wednesday, August 2, 2017 (Morning)

	Lecture Room A	Lecture Room B	Lecture Room C	Heritage Room	Portrait Room
	MML/NCNR_ChemBio	MML/NCNR_MatSci	ITL	EL	PML_PL
Time	Moderator:TBA	Moderator:TBA	Moderator:TBA	Moderator: TBA	Moderator: Daniel Hussey
9:00A	<i>Sean McIntyre</i> : Quantitative Analysis on the Effects of Noise and Gaussian Blur on Hyperspectral Unmixing Algorithms	<i>Miguel Vega</i> : Rheological and Physical Insight into the Mechanics of Polyelectrolyte Coacervates		<i>Nathan Idrago</i> : Best Practices in Sampling Methods for Post-Disaster Investigations	<i>Hallie Miller</i> : Antineutrino Nuclear Reactor Anomalies: How Lithium doped scintillators can help
9:20A	<i>Ai Nguyen</i> : Glycan Engineering: A Case Study of NIST Monoclonal Antibody IgG1	<i>Thomas Wu</i> : Measurement of Interfacial Tension of Polyelectrolyte Complex Coacervates		<i>Joshua Fernandez</i> : Lumberton Flood Resilience Decision Support Tool	<i>David Mullins</i> : Neutron Dark-Field Imaging
9:40A	<i>Jeremy Filteau</i> : A novel chromatographic approach to characterizing monoclonal antibody aggregation kinetics	<i>Kevin Liu</i> : Measuring Local Shear Stresses in Wormlike Micelle Flow	<i>Christopher Hoyt</i> : Approximating the Permanent via Stratified Sampling	<i>Massiel Gonzalez Perez</i> : Toward a Model of Household Recovery: Examination of definitions, measurement, and causal factors	<i>Joshua Edgerton</i> : The Booster Method: Extending the Range of Ionization Chambers for Pre-Clinical Trials
10:00A	<i>Laura Lucas</i> : Effects of Membrane Active Peptides on the Organization of Cholesterol in Lipid Bilayers	<i>Vishnu Dharmaraj</i> : Effect of Altering Channel Dimensions on the Shear Banding of Wormlike Micelle Solutions	<i>David Miller</i> : Computing Capacitance using the Stochastic Walk On Boundary (WOB) Algorithm	<i>Samuel Spector</i> : Analysis of Sliding Displacement of Residential Structures during the May 22, 2011 Tornado in Joplin, MO	<i>Richelle Streater</i> : Diffuse Optical Properties of a Solid Reference Standard for Biomedical Optics
10:20A	<i>Ray Shimry Garatsa</i> : The Nature of Gelatin Fracture	<i>Brady Garring</i> : Free Energy of Coacervate Core Micelles	<i>Mark Leadingham</i> : An Exponential Time Differencing Scheme for the Schrodinger Equation	<i>Charles Burtwistle</i> : Measuring the Economic Value of Resilience Investment	<i>Zachary Waldron</i> : Progress using Laser Interferometry to Determine Radiation Dose
10:40A	<b>BREAK</b>				
11:00A	Moderator:TBA	Moderator:TBA	Moderator:TBA	Moderator: TBA	Moderator: Solomon Woods
11:00A	<i>Cyrene Arputhasamy</i> : The development of circulating cell free tumor DNA reference material for HER2 copy number measurements in liquid biopsy	<i>Daniel Ng</i> : 3D Printed Pandemonium: Understanding Phase Transformations in Additively Manufactured Inconel 625	<i>Rachael Linder</i> : Implementing the Relax Algorithm in OOF3D	<i>Elias Nicholson</i> : A Built Infrastructure Vulnerability Index	<i>Camden Kasik</i> : Light Induced Atomic Desorption of Rubidium and Lithium atoms
11:20A	<i>Emmie Knobloch</i> : Assessing CD4 Receptor Expression in Jurkat Cells	<i>David Lech</i> : 3D printing of polymers: It's all about the interface	<i>Paul Armstrong</i> : Cell Microscopy Visualization in Virtual Reality	<i>Michael Bichnevicius</i> : Testing Low Global Warming Potential Refrigerants	<i>Nicholas Terranova</i> : Investigation of Multilayers for Magnetic Thermometry using Micro-Magnetic Computer Simulations
11:40A	<i>Elena Musteata</i> : Comparative LC-MS/MS Analysis of Bacterial Metabolomic Profiles: <i>P. aeruginosa</i> and <i>S. aureus</i> in Co-culture	<i>Zachary Tronstad</i> : Substrate Influence on Hygro-mechanical response of Nafion Membranes	<i>Emily Hobby</i> : Experiments in WebVR	<i>Thomas Lacey</i> : Intelligent Agents in Commercial Heating, Ventilation, and Air Conditioning: Panoptic Engineering	<i>Claire Neice</i> : Construction and characterization of an NI-Labview FPGA based laser stabilization system
12:00N	<i>Benjamin Rahimi</i> : Biocompatibility of Novel Antimicrobial and Remineralizing Composites for Class V Restorations	<i>Shaleahk Wilson</i> : Diffusion Couple Experiments for Cobalt Superalloys	<i>Margaret Sauber</i> : Monitoring Super Computing via Visualization	<i>Emma Crockett</i> : Energy Scavenging for Low Power Applications Using Ambient Indoor Light	<i>Luke Amatucci</i> : Characterization of Miniature Differential Pressure Sensors
12:20P	<i>Samuel Smith</i> : Measurement of Electronic-Cigarette Induced Oral Biofilm Changes and Cariogenic Potential	<i>Ryan Underwood</i> : Retained Austenite Measurements and the Effect of Stress State on the TRIP Mechanism in an Advanced High Strength Steel	<i>Jeremy Rubin</i> : Development of an Image Processing Toolbox for the CAVE	<i>Stephan Smith</i> : Application of desorption tube method to measure the mass of Semi-volatile organic compounds (SVOC) emitted from material surfaces	<i>Christian Zaytoun</i> : Berretta 96G Persistence Study in Firearm Identification

Parallel Sessions: Wednesday, August 2, 2017 (Afternoon)

	Lecture Room A	Lecture Room B	Lecture Room C	Heritage Room	Portrait Room
	<b>CNST</b>	<b>MML/NCNR_MatSci</b>	<b>ITL</b>	<b>EL</b>	<b>PML-Electrical Eng</b>
	Moderator: TBA	Moderator: TBA	Moderator: TBA	Moderator: TBA	Moderator: Darwin Reyes-Hernandez
1:30P	<i>Chris Torres</i> : Modelling AI nanoparticle localized surface plasmon resonances, and synthesizing Ru-functionalized AI	<i>Ethan Finlay</i> : Composition Controlled Photo-Copolymerization: Evaluation, Kinetics and Properties	<i>Tim Cyrus</i> : Profiling Features of the Hybrid Task Graph Scheduler	<i>Shivang Chordia</i> : Integrated Additive Manufacturing	<i>Edward Hanson</i> : Integrated Photonic Sensors
1:50P	<i>Lars P Tatum</i> : Towards a Scanning Probe Diamond NV Center Nanoscale Magnetometer	<i>Emma Retmer</i> : Bottlebrush polymer networks through multiple controlled polymerizations	<i>John Nolan</i> : String Diagrams and You: Translating User Actions into Categorical Structure	<i>Ryan Fangmeyer</i> : Additive Manufacturing Material Database Schema	<i>Lily Motabar</i> : Constructing Natural Scaffolds for 3D Cell Culture in Microfluidic Devices
2:10P	<i>Sam Parks</i> : Development of Area-Selective Atomic Layer Deposition Using Surface Chemical Patterning	<i>Karina Stetsyuk</i> : High throughput molecular dynamics for predicting the $\theta$ -temperature of linear and ring polymers in solutions	<i>Sumaiyah Sarwat</i> : Metrology for Software	<i>Nicolas Serrano Ragsdale</i> : Algorithm Development for Defect Detection in X-ray Computed Tomography (CT) scans	<i>Daniel Oler</i> : Transport Measurement of 2-Dimensional Nanoelectronic Devices
2:30P	<i>Caleb Whittier</i> : Development of a High-Etch Resistant Negative-Tone Resist for Electron Beam Lithography	<i>Shaan Ramaprasad</i> : Molecular Simulation of Semi Crystalline Polymer Mechanics	<i>Nicholas Nachega</i> : Re-building user friendly webpages to utilize NLP generated terminology for efficient searching	<i>Jonathan Piland</i> : Melt Pool Geometry Modeling and Automated Experiment Analysis for Laser Powder Bed Fusion Additive Manufacturing	<i>Doua Vang</i> : Organic Transistors: Measuring Changes in Device Current using SAMs to Modify Work Function and Dipole Moment of the Contact Surface
2:50P	<i>Sally Jiao</i> : Predicting Low-Temperature Structural Properties from High-Temperature Molecular Simulations	<i>Sally Jiao</i> : Predicting Low-Temperature Structural Properties from High-Temperature Molecular Simulations	<i>Ananya Srinivasan</i> : Leveraging the Computational Performance of Word2Vec Topic Model using Root and Rule Based Method	<i>Austin Thomas</i> : Fused Deposition Additive Manufacturing of Cement	
3:10P	Break				
	<b>CTL</b>	<b>MML/NCNR_MatSci</b>	<b>ITL</b>	<b>EL</b>	<b>PML-Electrical Eng</b>
	Moderator: David Griffith, NIST	Moderator: TBA	Moderator: TBA	Moderator: TBA	Moderator: Joe Kopanski
3:20P	<i>Chadd Philp</i> : Characterizing application user experience	<i>Emily Brown</i> : Characterizing and Visualizing of the Contents of the NIST Materials Resource Registry (NMRR)	<i>Hong Chen</i> : CUSUM-based Algorithm for Segmentation for Noisy Images with Application to Optical Coherence Refractometry	<i>Sierra Ludwig</i> : Condition Assessment of Concrete Infrastructure using Photonic Sensor Networks	<i>Sai Meghasena Chavali</i> : Analysis of Neutron Beam Images for a Neutron Lifetime Experiment
3:40P	<i>Austin Blanke</i> : Performance Evaluation of Frequency Hopping in LTE D2D Communication	<i>Salma Ghorab</i> : Enhancing the Process for More Accurate Compound Identification in the NIST Tandem Mass Spectral Library	<i>Luke Benz</i> : New Procedures for Combining Results in Collaborative Studies when Reported Uncertainties are Unreliable	<i>Thomas Winnard</i> : Diagnostics via Sensors for Computer numerical control (CNC) Linear Axes	<i>Malcolm Regan</i> : Profiling the Electrical Shape of a KPFM Probe
4:00P	<i>Aneta Galazka</i> : Modeling Device to Device (D2D) communications in next-generation cellular networks	<i>Rachel Devers</i> : Modernizing microscopy data infrastructure: annotation and preservation of data and metadata	<i>Cassandra Carrick</i> : Error Rate Trade-Offs and the Other-Race Effect for Face Recognition Algorithms	<i>Matlock Mennu</i> : Diagnostics of Machine Tool Linear Axes for Smart Manufacturing	<i>Karl Montgomery</i> : Understanding Degradation of Self-Assembled Monolayers (SAMs) with Broadband Microwave Spectra, FTIR, and Contact Angle Measurements
4:20P		<i>Kathleen Mullin</i> : WebFF Data Project	<i>Pooneet Thaper</i> : Evaluation and Analysis of Machine Learning Primitives		<i>Emma DiBernardo</i> : Nickel Ion Interactions with Mutant Alpha-Hemolysin Nanopore
4:40P			<i>Willie McClinton</i> : Ad-Hoc Event Kit generation for the TRECVID Multimedia Event Detection evaluation		<i>Suzanna Capric</i> : Dimensional metrology using CT: Attenuation estimates of various materials



Parallel Sessions: Thursday, August 3, 2017 (Afternoon)

	Lecture Room A	Lecture Room B	Heritage Room	Portrait Room
	MML/NCNR_MatSci	MML/NCNR_MatSci	EL	EL
Time	Moderator:TBA	Moderator:TBA	Moderator:TBA	Moderator:TBA
1:30P	<i>Justina Freilich</i> : Analysis of 4D STEM	<i>Benjamin Riley</i> : An Investigation of Prompt Gamma Activation and Compton Imaging	<i>David Hoddinott</i> : Analysis of vegetative fuels for wildfire modeling	<i>Ashby Mullin-Conant</i> : Implementing a reusable template to model heating, ventilation and air conditioning processes
1:50P	<i>Viviana Rodriguez C.</i> : Identification and Characterization of Marine Plastics	<i>Nathaniel Kaneshige</i> : <sup>6</sup> LiF:ZnS(Ag) Neutron Detector and Data Acquisition/Processing System	<i>Jeffrey Chien</i> : Computer Vision Analysis of Firebrand Showers During Wildland-Urban Interface	<i>Weston Smith</i> : Web-Based Graphical User Interface for Manufacturing Optimization
2:10P	<i>Rachel Rohde</i> : New Detection Limits: Effect of Micro-XRF Spectroscopy in Lead Exposure Analysis and other Applications	<i>Omar Cavazos</i> : Reactor Control Interface Design	<i>Rachel McIntyre</i> : The Effect of Wind Speed and Distance on the Speed of Fire Spread in Wildland-Urban Interface Areas	<i>Nathaniel Gibbons</i> : Towards a Workflow for Optimizing Machining Instructions using Reusable Performance Models
2:30P	<i>Patricia Razafindrambina</i> : Absorption Measurements of Soil-Based Aerosol Particles	<i>Moiz Butt</i> : Compressed Air System Refurbishment and Modernization	<i>Bradley Henderson</i> : Large-Eddy Simulation of Natural Convective Heat Transfer within Enclosures using Fire Dynamics Simulator	<i>Bohan Shan</i> : Mining the Publications Universe for Manufacturing Process Models
2:50P	<i>Matthew Jordan</i> : New Approach to Measuring Absorption Characteristics of Particle-Laden Filters	<i>Kirill Stakhovsky</i> : Tritium Air Monitoring System Refurbishment and Modernization	<i>Cory Schovanec</i> : NIST Vent Study: Consolidated Model of Fire and Smoke Transport (CFAST) Validation	<i>Ramin Rafizadeh</i> : Impact of cybersecurity measures on Industrial Control Systems
3:10P	Break			
		Moderator:TBA	Moderator:TBA	Moderator:TBA
3:20P		<i>Aaron Shankler</i> : A Materials Genome Initiative Approach to Novel Catalysts	<i>Fateema Farzana</i> : NIST Vent Study: Validation of Fire Model CFAST (Consolidated Fire and Smoke Transport)	<i>Rushad Antia</i> : We Found Wireless in a Wired Place
3:40P		<i>Rosario Giuffre</i> : The Effect of Reservoir Temperature on Vapor Sorption Isotherms	<i>Julie Liu</i> : Comparison of Thermocouple Installation Methods on Steel Substrate and Development of a Postprocessing Interface	<i>Dilnesa Nukuro</i> : Industrial Safety Control System
4:00P		<i>Toyosi Afolabi</i> : Collection and Organization of Adsorption Isotherms for Standard Reference Use	<i>Gregory Fiola</i> : Confirming Calorimetry Metrology - Counting Carbon	