

User Poster Session

(Poster Title, Authors, and Affiliations)

Room Temperature Nanocolloidal Ceramic Nuclear Microcastings for Homeland Security Applications – J. D. Olivier, C. G. Wilson, *Louisiana Tech University*.

Development of Block Co-Polymers as Self-Assembling Templates for Magnetic Media and Spin-Valves – V. Warke, C. Redden, M. G. Bakker, D. E. Nikles, *The University of Alabama*; K. Hong, J. Mays, P. Britt, *Oak Ridge National Laboratory*.

Interactive Block Copolymers via Living Polymerization Strategies – R. Huyck, B. Mather, T. E. Long, *Virginia Tech*.

Device Fabrication of Active Matrix Thin Film Transistor Arrays for Intracellular and Extracellular Probing and Recording Devices – J-W. Park, S-I. Jun, *The University of Tennessee*; T. E. McKnight, A. V. Melechko, M. L. Simpson, *Oak Ridge National Laboratory*; P. D. Rack, *The University of Tennessee*.

Exploring the Magnetic Properties of Fe-Co Catalyst Particles for Nano-Heating – Th. Leventouri, *Florida Atlantic University*; A. V. Melechko, *Oak Ridge National Laboratory*; K. D. Sorge, *Florida Atlantic University*; K. L. Klein, J. D. Fowlkes, *Oak Ridge National Laboratory*; P. D. Rack, *University of Tennessee*; I. M. Anderson, J. R. Thompson, T. E. McKnight, M. L. Simpson, *Oak Ridge National Laboratory*.

On-Demand PET Biomarker Synthesis Using Microfluidics and Carbon Nanofibers – J. Matteo, *NanoTek, LLC*; T. McKnight, *Oak Ridge National Laboratory*; M. Yu, *University of Tennessee*; S. Hawkes, *GlaxoSmithKline*; G. Wright, *Oak Ridge National Laboratory*.

Microwave Characterization of Single-Walled Carbon Nanotubes – C. Song, N. Nickland, M. Yen, P. Wang, *Southern Illinois University*; Z. Liu, G. Eres, D. B. Geohegan, *Oak Ridge National Laboratory*.

Nanofiber Arrays: An Enabling Material for Biomedical Applications – T. E. McKnight, A. V. Melechko, M. J. Doktycz, M. N. Ericson, G. D. Griffin, M. L. Simpson, *Oak Ridge National Laboratory*.

Electronic Transport using Green's Function Methodologies: From Mesoscopic to Superconducting – C. Cao, L. Kemper, J. Nicely, H-P. Cheng, *University of Florida*.

Controlling the Diameter of Single Walled Carbon Nanotubes through Carbon Feeding Rate – C. Lu, D. Yuan, J. Liu, Z. Liu, D. B. Geohegan, *Oak Ridge National Laboratory*.

Influence of Macromolecular Architecture on Nucleic Acid Transfection – J. M. Layman, A. Hirani, *Virginia Tech*; J. M. Pickel, P F. Britt, *Oak Ridge National Laboratory*; Y. W. Lee, T. E. Long, *Virginia Tech*.

Research Activity at Michigan Tech on Carbon, Boron nitride, and ZnO Nanostructures – V. Kayastha, J. Wang, S. Mensah, B. Ulmen, J. Moscatello, M. Xie, Y K. Yap, *Michigan Tech.*

Nanosensing and Actuation using Carbon Nanofiber Membranes; A Cell Mimic Approach – B. L. Fletcher, E. D. Hullander, A. V. Melechko, J. D. Fowlkes, S. T. Retterer, M. L. Simpson, M. J. Doktycz, *Oak Ridge National Laboratory.*

R&D for Rapid DNA Sequencing through Nanoelectrode-Gated Molecular Detection – J. Lee, T. Thundat, P. Cummings, L. Zhang, R. Kisner, et al., *Oak Ridge National Laboratory.*

Bacteria Capture, Concentration and Detection by AC Electrokinetics – N. Islam, J. Wu, *University of Tennessee*; R. I. Zhu, H-C. Chang, *University of Notre Dame.*

Nanoscale Self-Assembly of Donor-Sigma-Acceptor Molecules: Structure and Electronic Properties – A. J. Lampkins, *University of Florida*; B. G. Sumpter, V. Meunier, R. K. Castellano, *University of Florida.*

Polymer Nanocomposites from Randomly-Oriented and Vertically-Aligned Carbon Nanotubes – Y. Liu, K. Yang, T. Xu, N. C. Das, D. D. Charlesworth, H. Wang, *Michigan Technological University.*

Finite Size Effects In Fe-5d– 4d. Nanostructures: Static and Dynamics Magnetic Properties – O. Mryasov, *Seagate Research*; C. Zhou, T. C. Schulthess, *Oak Ridge National Laboratory.*

Characterization and Dispersion of Engineered Nanoparticles – S. Mahurin, M-D. Cheng, *Oak Ridge National Laboratory.*

In-Vitro Experiments on Cellular Responses to Engineered Nanoparticles – Part of The ORNL Nanotoxicology Program – M-D. Cheng, B. Malone, D. Geohegan, B. Zhao, H. Hu *Oak Ridge National Laboratory.*

Electronic and Vibronic Interactions At Organic Interfaces: The Case Of Pentacene On Graphite – P. Paramonov, V. Coropceanu, J-L. Brédas, *Georgia Institute of Technology.*

Physical Properties of Quantum-Confined Europium Sulfide Nanocrystals – M. L. Redigolo, D. S. Koktysh, S. J. Rosenthal, J. H. Dickerson, *Vanderbilt University.*

Fabrication of Nano-Injection Needles for Neural Pathway Study in Mice – S. Swaminathan, J. Wu, *University of Tennessee*; G. Bernstein, W. Porod, *University of Notre Dame.*

Multi-Timescale Mechanics and Structural Relaxation in Carbon Nanotubes – F. Ding, Y. Lin, B. I. Yakobson, *Rice University.*

Metalated DNA – M-DNA.: Towards the Development of an Electronic Read-Out Assay for Detecting Mutations – J. Lee, *University of Saskatchewan*; M. Fuentes-Cabrera, B. G. Sumpter, J. C. Wells, *Oak Ridge National Laboratory.*

Towards Biological Nanowires made of Size-Expanded DNAs – xDNAs. – J. Leszczynski, *Jack State University*; M. Fuentes-Cabrera, B. G. Sumpter, J. C. Wells, *Oak Ridge National Laboratory.*

Bioluminescent Biosensing of Microbial Pathogens – S. Ripp, J. R. Brigati, G. S. Sayler, *University of Tennessee*.

Covalent 2D and 3D Networks from 1D Nanostructures – J. M. Romo-Herrera, M. Terrones, H. Terrones, *IPICYT*; S. Dag, V. Meunier, *Oak Ridge National Laboratory*.

Spin-Dependent Transport in Magnetic Multilayers – M. Chshiev, C. Liu, *The University of Alabama*; A. Kalitsov, *Lund University, Lund, Sweden*; W. H. Butler, *University of Alabama*.

Quantum Chemical Molecular Dynamics Study of Catalyst-Free High-Temperature SWNT Growth on SiC Surfaces – Z. Wang, S. Irle, G. Zheng, K. Morokuma, *Emory University*; M. Kusunoki, *Japan Fine Ceramics Center, Nagoya, Japan*.

Magnetic Domain Imaging on Nanoparticle Assemblies by SEMPA – W-C. Lin, *National Taiwan University*; Z. Gai, L. Gao, *Oak Ridge National Laboratory*; M-T. Lin, *National Taiwan University*.

Colloidal Processing and Freeze Casting for Net-Shaping – K. Lu, C. Kessler, X. Zhu *Virginia Polytechnic Institute and State University*.

Iron Oxide Core/Polymer Shell Nanoparticles: MRI Contrast Agents and Drug Delivery Vehicles – C. Soman, I. Tomlinson, T. Yankeelov, T. Giorgio, *Vanderbilt University*; J. Messman, P. Britt, *Oak Ridge National Laboratory*.

Spin-Orbit Coupling Effects on Magnetoresistance in Organic Semiconducting Materials – Y. Wu, B. Hu, *University of Tennessee*.

Understanding Dissociation Processes of Light-Generated Excited States in Organic Photovoltaic Devices – Z. Xu, B. Hu, *University of Tennessee*

Charge-Directed Targeting of Antimicrobial Protein-Nanoparticle Conjugates – R. Satishkumar, *Clemson University*; S. Kalinin, *Oak Ridge National Laboratory*; A. Vertegel, *Clemson University*.

Analysis of Electric Properties of DNA Nucleotides – P. S. Krstic, R. Zikic, X. Zhang, Jack Wells, M. A. Fuentes-Cabrera, X. Zhao, *Oak Ridge National Laboratory*.

Characterization of the DC Conductance Across the DNA Fragments – R. Zikic, P. S. Krstic, X. -G. Zhang, J. C. Wells, M. A. Fuentes-Cabrera, X. Zhao, *Oak Ridge National Laboratory*.

High Performance Simulations of Copolymer/Nanoparticle Composites at Mesoscopic Scales – S. W. Sides, *Tech-X*; G. Fredrickson, *University of California Santa Barbara*.

Digital Electrostatic Electron Beam Array Lithography (DEAL) – R. B. Rucker, *University of Tennessee*; S. J. Randolph, L. R. Baylor, W. L. Gardner, K. L. Klein, *Oak Ridge National Laboratory*; M. A. Guillorn, *IBM*; S. Islam, Y. Guan, T. Rahman, S. A. Eliza, T. Grundman, R. Vijayaraghavan, *University of Tennessee*; D. C. Joy, P. D. Rack, D. K. Hensley, R. J. Kasica, D. K. Thomas, T. Bigelow, *Oak Ridge National Laboratory*.

Advanced Catalyst Materials - Well-Defined Nanocrystals Supported on High Surface Area Carbon – J. Hoefelmeyer, *University of South Dakota*; H. Fong, *South Dakota School of Mines & Technology*.

Synthesis and Characterization of New Carbonaceous Catalysts – H. Fong, *South Dakota School of Mines and Technology*; G. Sereda, *University of South Dakota*.

Tuning the Molecular and Electronic Structures of Catalytic Active Sites with Oxide Support Nanoligands – E. I. Ross, I. E. Wachs, A. Burrows, C. Kiely, *Lehigh University*.

Engineering Octanuclear Cyanide-Bridged $S = 6$ Complexes for Molecule-Based Electronics Applications – D. Li, S. Parkin, B. J. Hinds, S. M. Holmes *University of Kentucky*; R. Clerac, *Centre de Recherche Paul Pascal*.

PEI/MCM-48 Membranes for Carbon Dioxide Separation – P. Kumar, S. Kim, J. Ida, V. Guliants, *University of Cincinnati*; J. Y.S. Lin, *Arizona State University*.

Synthesis and Characterization of Novel Mixed Proton and Electron-Conducting Perovskite Membranes for Hydrogen Separation – J. Tong, V. V. Guliants, *University of Cincinnati*; J. Y. S. Lin, *Arizona State University*.

The Role of Structural Anisotropy in Tricyanometalate-Based Single-Molecule Magnets – D. Li, S. Parkin, S. M. Holmes, *University of Kentucky*; R. Clerac, *Centre de Recherche Paul Pascal*; G. Wang, G.T. Yee, *Virginia Polytechnic and State University*.

Molecular Electrodes at the Exposed Edge of Metal-Insulator-Metal Trilayer Structures for Spin-tronics applications – P. Tyagi, D. Li, S. M. Holmes, B. J. Hinds, *University of Kentucky*.

Functional Proteins as Linkers for Assembling Nanoparticles – P. Nednoor, J. Li, V. G. Gavalas, N. Chopra, L. G. Bachas, *University of Kentucky*.

Nanoindentation Mechanical Property Measurements of 1D Nanostructures – X. Li, X. Wang, *University of South Carolina*; Q. Xiong, P. C. Eklund *Pennsylvania State University*.

Nanoscale Imaging and Mechanical Testing of Cells and Tissues – X. Li, X. Wang, H. Gao, M. J. Yost, *University of South Carolina*.

Synthesis and Characterization of Novel Polyelectrolytes-Sulfonated PCHD Polymers – K. Hong, A. Yun, *Oak Ridge National Laboratory*; J. Lin, *East China University of Science and Technology, Shanghai, China*; Y. B. Melnichenko, G. D. Wignall, Phillip F. Britt, Jimmy Mays, J. M. Simonson, *Oak Ridge National Laboratory*.