2010 George A. Jeffrey NanoExplorer Symposium

Wednesday, August 18, 1:00 – 5:00 p.m.

Kusch Auditorium (Founders North 2.102), The University of Texas at Dallas

1:00 Opening Remarks

Ray Baughman, Robert A. Welch Professor of Chemistry and Director, Alan G. MacDiarmid NanoTech Institute

Hobson Wildenthal, Executive Vice President and Provost

Session A: Chairs Dr. Shaoli Fang

1:15 (A1) Development of a Small Scale Thermoacoustic Refrigerator Using Carbon Nanotube Speakers

Gaurang Gupte and Joseph Yeh

1:25 (A2) Study of Superconductivity in Carbon Nanostructures by LFMA/ESR Techniques

David Burkhalter

1:35 (A3) Influence of pH on the Formation of Luminescent Gold Nanoparticles

Chelsea Carson, Ali Mozayan, Chen Zhou, and Jie Zheng

1:45 (A4) Blue Organic Light Emitting Diodes

Alex Biju and Joshua Beck

1:55 (A5) Zeolitic Imidazolate Framework-8 (ZIF-8)/polymer Blend Mixed-matrix Membranes (MMMs)

Hemanth Garapati, Grace Kalaw, Kenneth Balkus, Jr., Inga Musselman, and John Ferraris

2:05 (A6) Escherichia Holmes: A Smart Contaminant Sensor

Mitu Bhattatiry, Kristina Ehrhardt, Sameer Sant, Jacob White, Laguajeet Pradhan, Tanveer Bhuiyan, Hyun-Joo Nam, and Leonidas Bleris

Session B: Chair David Novitski

2:15 (B1) **XPS Peak Deconvolution Studies of Atomic Layer Deposited Al_2O_3 on Group-III Nitride Substrate for MOSHEMT Applications**

Kevin Chen, Brian E. Coss, Prasanna Sivasubramani, and Jiyoung Kim

2:25 (B2) **Testing Neuromorphic Synaptic Devices using LabView**

Rishi Das, Kurtis Cantley, and Eric Vogul

2:35 (B3) **Simulating Neuromorphic Circuits with SPICE**

Yousef Abdel-Raziq, Kurtis Cantley, and Eric Vogel

2:45 (B4) **Passivation Techniques for Use in Fuel Powered Muscle Applications**

Victor Masten and David Novitski

2:55 (B5) **Conductive Elastomers for Use in Mechanical Energy Harvesting**

Katarina Mentzelopoulos and David Novitski

3:05-3:20 Break

Section C: Chair Dr. Marcio Dias Lima

3:20 (C1) **Synthesis of Zeolitic Imidazolate Frameworks via Template-Directed Assembly**

Rebecca H olden, Anne Marti, and Kenneth Balkus

3:30 (C2) **Nanoparticle Cancer Therapeutics: Novel Photosensitive Nanoparticles for Site-Specific Drug Delivery**

Siddharth Sant and Abdelaziz Rahy

3:40 (C3) **Fabrication and Characterization of Polymeric Solar Cells via Spray Coating**

Rohan Shah, Alexander Cook, and Anvar Zakhidov

3:50 (C4) **iO_2 Nanotube Fabrication and Electrical Characterization**

David Lee, Mingun Lee, and Jiyoung Kim

4:00 (C5) **Carbon nanotubes/poly(3,4-ethylenedioxythiophene) Composite as Electrodes for Supercapacitors**

Max Grunewald, Jeliza Bonso, and John Ferraris

4:10 (C6) **Optimization of Permeater LabVIEW Code and Synthesis of Amino-MIL-53**

Andrew Wells and Inga H. Musselman

4:20 (C7) **Dye Sensitized Solar Cells (Gratzel Cells) and Structure of Photonic Crystal Layers**

Priya Chitta, Josef Velten, Raquel Ovalle-Robles, Anvar Zakhidov, Ali Aliev, and Rabia Moussa

Session D: Chair Dr. Elizabeth Castillo-Martinez

4:30 (D1) **ZIF-8/ 6FDA-durene Mixed Matrix Membranes for Gas Separation**

Srishti Goel, Sumudu Wijenayake, and John P. Ferraris

4:40 (D2) **Mechanical Properties of Graphene Ribbon Yarns**

Isaac Chan, Nikki Reddy, Justin Sovich and Javier Carretero-Gonzalez

4:50 (D3) **Electrodeposition of Platinum Black onto Nickel Titanium Wires and Optimization of Thermal Cool Down with Carbon Nanotube Sheets**

Justin Fu

5:00 (D4) **Novel Electrode Designs in DCS's**

Sirish Kamarjugadda, Vaibah Sharma, Rohit Vadvadgi, and Josef Velten

5:10 (D5) **Carbon Nanotube Synthesis**

Alvaro Rotea and Julia Bykova

5:20 (D6) **Langmuir Probes: How Do They Work?**

Maxwell Li and Matthew Goeckner

5:30 Closing Remarks and Certificate Ceremony