



14 NPRL Presenters at Undergrad Research Symposium

Fourteen papers by NanoPower Research Labs (NPRL) students and their faculty advisors were presented at the 18th Annual Undergraduate Research Symposium, held August 7, 2009, in the Center for Student Innovation and the Louise Slaughter Building on the RIT campus. NPRL, under the leadership of its Director, Dr. Ryne P. Raffaele, is dedicated to the development of new materials and devices for power generation and storage for microelectronic components and micro-electromechanical systems.

Both oral and poster presentations were delivered to Symposium attendees; they include:

NPRL Oral presentations:

Determining Temperature Coefficients of Single-Junction Solar Cells: A Detailed Balance Approach – T. Bald, S. Hubbard.

Fabrication and Testing of Gallium Arsenide Solar Cells with Iridium Arsenide Quantum Dots – Z. Bittner, M.P. Brindak, B.B. Post, S.J. Polly, C.G. Bailey, D.V. Forbes, R.P. Raffaele, S. M. Hubbard.

Fabrication and Testing of Concentrator Photovoltaics Using an Electroplated Grid Design for Terrestrial Applications – Michael P. Brindak, Z. Bittner, B.B. Post, S.J. Polly, C.G. Bailey, D.V. Forbes, R.P. Raffaele, S.M. Hubbard.

Effects of Metalization on Rate Capability of Single Walled Carbon Nanotube Li-Ion Battery Anodes – A. Castiglia, B. Landi, M. Ganter, R. DiLeo, A. Stux, C. Schauerman, R. Raffaele.

Separation of Carbon Nanotubes by Electronic Configuration – L. Gorse, Matthew J. Ganter, Brian J. Landi, Rayne P. Raffaele.

Multijunction Solar Cell Characterization by Electroluminescence Spectroscopy – A. Grede, C. Bailey, S. Hubbard, R. Raffaele.

Recrystallization of Epitaxially Deposited Germanium Films on Low Cost Metal Substrates for Multijunction III-V Solar Cell Applications – M. Kassis, C. Plourde, R. Raffaele.

Electrical Characterization of Polymer-Based Thin Film Solar Cells – A. Podell, S. Hubbard, P. Jarosz.

Transparent Conductive Thin Film Electrodes Using SWCNT/Polymer Composites – M. Scafetta, R. Raffaele.

Electrochemical Impedance in Carbon Nanotube-Enhanced Anodes for Li-Ion Batteries – R. Schwartz, B. Landi, A. Stux, R. DiLeo, M. Ganter, A. Castiglia, R. Raffaele.

Optical and Electrical Characterization of Zinc Oxide Thin Films for Spin-Based Electronic Applications – W. Strong, T. Bald, S. Hubbard, R. Raffaele.

NPRL Poster presentations:

P3HT:PCBM Bulk Heterojunction Polymer Solar Cells – A. Monfette, J. Staub, J. Jarosz, R. Raffaele.

Processing Single and Multijunction Photovoltaics for Space Applications – B. Post, C. Bailey, S. Polly, D. Forbes, S. Hubbard.

The Characterization and Thermal Oxidation Profiling of Helium Single-Walled Carbon Nanotube Material Produced by Laser Vaporization Synthesis – Peggy J. Walsh, Brian J. Landi, Christopher M. Schauerman, Jack Alvarenga, Roberta A. DiLeo, Elizabeth M. Gorse, Thomas L. Mastrangelo.

NPRL students gave the largest number of presentations (by department/college) in this year's symposium. Michael Kassis won best oral presentation among the presentations in his session. GIS congratulates the NPRL presenters and their advisors for a job well done!