

TAFDV Spring Symposium 2011

Application of Thermal Analysis in Polymer and Pharmaceutical Research

March 23, 2011

**ASTM International
100 Barr Harbor Drive
PO Box C700
West Conshohocken, PA, 19428-2959**

The program has been set, see below. Space is still available for poster presentations and exhibitors. An Exhibition by Instrument Manufacturers will also take place. To date, this will include: SETARAM, TA Instruments, Mettler, and Netzsch

Registration

General registration fee: \$50
Students, Retirees, and Unemployed Scientists \$20
This fee includes lunch and all breaks.
Students giving talks or posters are free.

To register for the symposium, please contact and send appropriate fee to:

Gray Slough
TAFDV Treasurer
TA Instruments-Waters LLC
159 Lukens Drive
New Castle DE 19720
Tel. 302-427-4158 (voice)
302-427-4001 (fax)
gslough@tainstruments.com

Please confirm your attendance by e-mail to mcghie@lrsm.upenn.edu
Any other inquiries should be sent to Andrew R. McGhie, Program Chairman, at
mcghie@lrsm.upenn.edu or (215) 898-6461.

This symposium is co-sponsored by the Laboratory for Research on the Structure of Matter, University of Pennsylvania

TAFDV Spring Symposium Program

ORAL Session

8:00-8:50 Registration, coffee, donuts. Vendor exhibit and posters set up.

8:50-9:00 Opening remarks TAFDV President, Steve Sauerbrunn, Mettler Toledo and Program Chairman, Andrew McGhie, University of Pennsylvania

9:00-9:40 Thermal Analysis in the Elucidation of the Self Assembly of Organically Functionalized Nanotubes & its Application to Other Areas of Nanotechnology and Polymer Chemistry. Plenary talk
Professor Janis G. Matison, Senior R&D Manager, Gelest Inc, Morrisville Pennsylvania

9:40-10:00 Thermal Properties, Morphology, and Ionic Conductivities of Poly(1-n-alkyl-3-Imidazolium) Homopolymers: Effect of alkyl chain length and counterion type
David Salas-de la Cruz[¥], Matthew D. Green[≠], Yuesheng Ye^Δ, John M. Layman^Λ, Yossef Elabd^Δ, Timothy E. Long^Λ, and Karen I. Winey[○],
[≠]Department of Chemical Engineering, ^ΔDepartment of Chemistry, Macromolecules and Interfaces Institute, Virginia Tech, Blacksburg, VA 24061;
^ΔDepartment of Chemical Engineering, Drexel University, Philadelphia, PA 19104
[¥]Department of Biomolecular Science and Engineering, [○]Department of Material Science and Engineering, University of Pennsylvania, Philadelphia, PA 19104

10:00-10:20 Thermal Analysis of Nanostructured- POSS Electrolytes for Lithium Ion Batteries” Parameswara Rao Chinnam and Stephanie L. Wunder, Dept. of Chemistry, Temple University

10:20-10:50 Break, vendor exhibit & posters

10:50-11:10 Detection of Obscured Glass Transitions by Quasi-Isothermal Differential Scanning Calorimetry (QiDSC)
Larry Judovits & Ravi Gupta, Arkema

11:10-11:30 Differential Scanning Calorimetry and Thermal Analysis for Characterization of Starches, Fatty Acids, Palm and Fish Oil, etc
Andre A. Levchenko , Setaram Inc., Newark, California, U.S.A. and Pierre LeParlourer, Setaram Instrumentation, Caluire, France

11:30-11:50 High Heating Rate “Flash” DSC
Steve Sauerbrunn, Mettler Toledo

11:50-1:00 pm Lunch, vendor exhibit and posters

1:00-1:40 Dynamic Mechanical Properties of Ultra-High-Molecular-Weight-Polyethylene Reference Material SRM 8456
Roger Blaine, TA instruments (Retired)- Invited Talk

1:40-2:00 Applications of Raman and Near IR spectroscopy to Thermal Analysis
C.G. Slough and S.R. Aubuchon, TA Instruments

2:00-2:20 Simultaneous TGA-DSC measurements from -150 C to 1000 C in a single experiment"

Alexander Schindler; Netzsch Geratebau; Selb, Germany and David Shepard; Netzsch Instruments North America, LLC; Burlington, MA

2:20-2:40 Break, vendor exhibit and posters

2:40-3:20 Dielectric AC field, DSC, and UV Analysis Confirm In-Vitro Drug Delivery
Alan Riga, Cleveland State University- Invited Talk

3:20-3:40 Introduction to Pharmaceutical Thermal Analysis
Shravan Thakur, Cleveland State University

3:40-4:00 Solid State Studies of Drugs and Chemicals by Dielectric and Calorimetric Analysis
Dhruthiman Mantheni, Cleveland State University

4:00 Wrap up

POSTERS

1) Universal Standard Protocols for Temperature and Material Characterization Calibration with Pharmaceuticals by Thermal Analysis
Pavan Maheswaram, Cleveland State University

2) Transdermal Drug Delivery Efficacy by Dielectric Thermal Analysis
Lakshmi Kaza, Cleveland State University

3) Dielectric and Thermal Analysis of Salts of Active Pharmaceutical Ingredients
Om Prakash , Cleveland State University

4) Thermal Analysis of Nanostructured- POSS, Polystyrene and Polystyrene-b-Poly(ethylene oxide) Polymer Electrolytes as Separators for Lithium Batteries
Jayvac Jimenez, Sahithi Mudigondan, Parameswara Rao Chinnam and Stephanie L. Wunder, Dept. of Chemistry, Temple University

5) NanoDSC and DLS Investigation of Supported Lipid Bilayer Formation of DMPC SUVS onto SiO₂ as a Function of RSUV/RSiO₂"
Dmytro Kuzyk, Kristina L. Roth, and Stephanie L. Wunder, Dept. of Chemistry, Temple University