Pacific Centre for Advanced Materials and Microstructures (PCAMM)

7th Annual Meeting, Dec. 7, 2002

NRC Innovation Centre, University of British Columbia

Sponsored by AMPEL Laboratories, The University of British Columbia
Organized by Mark MacLachlan, Andrew MacFarlane and Todd Stuckless
Special Thanks to Francois Girard and the NRC Innovation Centre
and to Jim MacKenzie, Harold Davis, Jason Gozjolko, and all participants.

Schedule

9:15 Session 1. Chair: Todd Stuckless

Materials Selection Issues for Targets Used to Generate Intense Radioactive Ion Beams.
Marik Dombsky
TRIUMF

Experimental Investigations of Basic Physical, Spectroscopic and Laser Properties of $Nd:GdVO_4$, $Nd:YVO_4$, $Nd:LaSc_3(BO_3)_4$, $Tm:GdVO_4$ and Other Oxide Crystals.
Faouzi Zerrouk
Zekotek Innovations

Phase-Sensitive Pulse Injection to Measure the Optical Dispersion of Semiconductor Lasers.
Reuven Gordon
Department of Electrical and Computer Engineering, University of Victoria

10:15 Donuts and Posters

10:40 Session 2. Chair: Andrew MacFarlane

Luminescent Ln^{3+} Based Materials; Organic and Inorganic/Hybrid Approaches Compared.
Frank van Veggel
Department of Chemistry, University of Victoria

High-resolution Spectroscopy on Shallow Impurity Transitions in Isotopically Pure Silicon.
Denis Karaiskaj
Department of Physics, Simon Fraser University

Resonant Soft X-ray Scattering Study of Chain Ordering in High-Tc Superconductor YBCO
Donglai Feng
Department of Physics & Astronomy, The University of British Columbia

Effect of Applied Magnetic Field on the Growth of CdTe and (CdZn)Te Single Crystals by the Traveling Heater Method
Brian Lent
Amistar R&D/ Redlen Technologies

12:00 Pizza and Posters

1:30 Session 3. Chair: Mark MacLachlan

Synthetic Strategies Towards Novel Liquid Crystalline Materials.
Vance Williams
Department of Chemistry, Simon Fraser University

Development of Biochemical Fuel Cell Technology.
Francois Girard
NRC Innovation Centre

Development of Three Diffracted-Beam Holography and Confocal Holography for the Measurement of Absolute Physical Parameters of Materials Systems.
Rodney Herring
Department of Mechanical Engineering, University of Victoria

Influence of Different Microstructural Regions of 2023-T3 Aluminum Alloy on the Initiation and Deposition of Corrosion Protective Coatings.
Darija Susac
Department of Chemistry, The University of British Columbia

2:50 Coffee and Posters

3:05 Session 4. Chair: Todd Stuckless

Conducting Polymer 'Muscle'.
John Madden
Department of Electrical and Computer Engineering, The University of British Columbia

Non-local Damping in Magnetic Bilayers.
G. Woltersdorf
Department of Physics, Simon Fraser University

Metal-Organic Conducting Polymer Hybrid Materials.
Michael Wolf
Department of Chemistry, The University of British Columbia

4:05 PCAMM Wrap.

PCAMM Posters

Wavelength-Invariant Resist Composed of Bimetallic Layers
T.W. Simpson, J. Peng, K. L. Kavanagh and G. H. Chapman
Dept. of Physics and School of Engineering Science, Simon Fraser University
Y. Tu, M. Karimi, N. Morawej and W N Lennard
Dept. of Physics, University of Western Ontario

TEM Sample Preparation with a Dualbeam SEM- FIB System
Jinqiang Liu and Karen L. Kavanagh
Department of Physics, Simon Fraser University

Study of Electrical Conduction in $0.67BiFeO_3$-$0.33PbTiO_3$ Ferroelectric Ceramics
Weimin Zhu and Zuo-Guang Ye
Department of Chemistry, Simon Fraser University

Preparation and Properties of Metallated Poly(phosphino)thiophenes.
Carolyn Moorlag, Olivier Clot and Michael Wolf
Department of Chemistry, The University of British Columbia

Porous-Alumina / Conjugated-Polymer Composite Materials
Andras Pattantyus and Michael Wolf
Department of Chemistry, The University of British Columbia

Preparation and Characterization of Ferroelectric $YMnO_3$ Thin Films
Haiyan Guo
Department of Chemistry, Simon Fraser University

Polythiophene Studied by Two-Photon Photoelectron Spectroscopy
Youngku Sohn & J.Todd Stuckless
Department of Chemistry, The University of British Columbia

Effect of Ni^{2+} on the Formation of Zinc Phospahte Conversion Coatings on 2024-T3 Aluminum Alloy
A.S. Akhtar, D. Susac, K.C. Wong, P.C. Wong and K.A.R. Mitchell
Department of Chemistry, The University of British Columbia

Investigations of Interfaces Formed Between Bis-1,2-(Triethoxysilyl)ethane (BTSE) and Aluminum after Different Pre-Treatments.
M. Teo, J. Kim, P.C. Wong and K.A.R. Mitchell
Department of Chemistry, The University of British Columbia

Strain Relaxation in Nanoscale GaAs/$In_xGa_{1-x}As$/GaAs Quantum Wells.
A.N. Koveshnikov, V. Fink, K.L. Kavanagh
Department of Physics, Simon Fraser University
E. Young, S. Tixier, and T. Tiedje
Department of Physics and Astronomy, University of British Columbia

Thermal Cl_2 Etching of GaAs for the Fabrication of Buried GaAs/AlGaAs Nanostructures.
J. H. Schmid, R. Mar, M. Whitwick, A. Ballestad and T. Tiedje
Department of Physics and Astronomy, University of British Columbia

Surfactant Enhanced Growth of GaNAs and InGaNAs using Bismuth.
S. Tixier,M. Adamcyk, J.H. Schmid and T.Tiedje
Department of Physics and Astronomy, The University of British Columbia
E.C. Young
Department of Metals and Materials Engineering, The University of British Columbia
A.N. Koveshnikov, V. Fink and K.L. Kavanagh
Department of Physics, Simon Fraser University

Interface Characterization and Fracture Mechanics of Tungsten and Copper Composite Materials.
Ludmila Shepelev and Martha Dudek
Vortek Industries Ltd.

Operational Stability of Various Mixed Layer Organic LEDs.
George Vamvounis
Department of Chemistry,Simon Fraser University
Hany Aziz, Nan-Xing Hu and Zoran Popovic
Xerox Research Centre of Canada, Mississauga, Ontario

Microstructure Evolution of Electroplated Copper During Self-Annealing.
P.Freundlich and M.Militzer
Metals and Materials Engineering Department, The University of British Columbia
D.Bizzotto
Department of Chemistry, The University of British Columbia

On the Apparent Fluorescence Recovery Due to Electrosorption.
Jeff Shepherd and Dan Bizzotto
Department of Chemistry, The University of British Columbia

A New Method of Measurement of Shrinkage in Holographic Materials Using Superimposed Reflection Plane-Wave Holograms.
Faouzi Zerrouk et al.
Zecotek Innovations

Photopolymer Material for WGH Recording.
S.Peredereeva, N.Kostrov, S.Makarenko, N.Koutina, P.Trochtchanovich, E.Goulanian, F.Zerrouk
Zecotek Innovations

Electron Trapping in Fe/MgO/Fe Whisker Tunnel Junctions Using AFM Tip.
R. Urban and B. Heinrich
Department of Physics, Simon Fraser University
X. Zhu and P Gruetter
McGill University, Montreal, Quebec

Field-Aligned Colloidal Crystals for Photonic Band-Gap Materials.
Anand Yethiraj
Department of Chemistry, The University of British Columbia

Monolayer Protected Metal-semiconductor Diodes: Molecular Modification of Classical Devices.
Yong-Jun Liu and Hua-Zhong Yu
Department of Chemistry, Simon Fraser University

Mechanochemical Synthesis of Aluminum Titanate Powder.
Guotian Ye, Tom Troczynski and George Oprea
Metals and Materials Engineering Department, The University of British Columbia

An Efficient Synthesis of Families of Discotic Mesogens.
Johan Foster
Department of Chemistry, Simon Fraser University

Electrochemical Deposition of Calcium Phosphates on Titanium.
Ke Duan, Rizhi Wang, Yuwei Fan, Youxin Hu
Department of Metals and Materials Engineering, the University of British Columbia,

Resonance Raman Study of Plasma-Etched GaAs/AlGaAs Heterostructures.
Xiaonong Shen, Georg Riegerand Jeff Young
Physics & Astronomy Department, The University of British Colunmbia

Weak Ferromagnetism in Antiferromagnetic TiBO.
Mahesh Kumar Matam
Department of Chemistry, Simon Fraser University

Adsorption and Detection of Promoter Atoms and Reactions on the MoS_2 Catalyst Surface.
Greg Cetnarowski and Gary Leach
Department of Chemistry, Simon Fraser University

Vibrational Structure and Dynamics of Organic Thin Films.
Tom Johansson and Gary Leach
Department of Chemistry, Simon Fraser University

Composites Coatings of Collagen and Hydroxylapatitde by Electrochemical Process.
Yuwei Fan, Eugene Hu, Ke Duan, Rizhi Wang
Department of Metal and Materials Engineering, The University of British Columbia

Synthesis and Phase Diagrams of $Pb(Mg_{1/3}Nb_{2/3})O_3$-$PbTiO_3$-PbO Systems
Jean Gao and Zuo-guang Ye
Department of Chemistry, Simon Fraser University

Growth and Characterization of Abrupt GaSb/GaAs Heterostructures
O. J. Pitts, S. P. Watkins, J. A. H. Stotz, T. A. Meyer, M. L. W. Thewalt
Department of Physics, Simon Fraser University