

	NATO OTAN	Photon-Based Nanoscience & Technology: From Atomic Level Manipulation to Materials Synthesis & Nanobiodevice Manufacturing September 19-29, 2005 Sherbrooke, Québec, Canada TENTATIVE PROGRAM

Monday, September 19, 2005

08:00 – 08:30	Registration and Breakfast
08:30 – 09:00	Official Opening
09:00 – 10:15	<i>Photochemistry of Molecules Absorbed at Surfaces of Solids</i> Dr. J.C. Polanyi (Invited), University of Toronto, Canada
10:15 – 10:45	Coffee Break
10:45 – 12:00	<i>Laser Interactions with Inorganic Materials – Fundamentals I</i> Dr. T. Dickinson, University of Washington, USA
12:00 – 14:00	Lunch and Networking
14:00 – 15:15	<i>Laser Interaction with Organic Materials I</i> Dr. B. Wilson, Ontario Cancer Institute, Canada
15:15 – 16:30	<i>Laser Synthesis of Inorganic Materials</i> Dr. F. Traeger, Kassel University, Germany
16:30 – 17:00	Coffee Break
17:00 – 18:15	<i>Diamond Film Nanotechnology I</i> Dr. V. Konov, General Physics Institute, Canada
19:00 – 21:00	Welcome Reception

Tuesday, September 20, 2005

08:30 – 09:00	Breakfast
09:00 – 10:15	<i>Laser Interactions with Inorganic Materials – Fundamentals II</i> Dr. T. Dickinson, University of Washington, USA
10:15 – 10:45	Coffee Break
10:45 – 12:00	<i>Reaction Dynamics of a Single Molecule on Si</i> Dr. J.C. Polanyi (Invited), University of Toronto, Canada
12:00 – 14:00	Lunch and Networking
14:00 – 15:15	<i>Thermo-Responsive Polymeric Nanoshells and Tailoring of Bio-Materials I</i> Dr. D.Cohn
15:15 – 16:30	<i>Nanomaterials Status and Potential Bio-Applications</i> Dr. D. Geohegan, Vanderbilt University, USA
16:30 – 17:00	Coffee Break
17:00 – 18:15	<i>Laser Interaction with Organic Materials II</i> Dr. B. Wilson, Ontario Cancer Institute, Canada
20:30 – 22:00	<i>Surfaces and Bulk Properties of Inorganic Materials</i> Tutorial Session

NATO Advanced Study Institute – September 19-29, 2005, Sherbrooke, Québec, Canada	
Wednesday, September 21, 2005	
08:30 – 09:00	Breakfast
09:00 – 10:15	<i>Introduction to Biophotonics I</i> Dr. P. Prasad, University at Buffalo, USA
10:15 – 10:45	Coffee Break
10:45 – 12:00	<i>Thermo-Responsive Polymeric Nanoshells and Tailoring of Bio-Materials II</i> Dr. D.Cohn
12:00 – 14:00	Lunch and Networking
14:00 – 15:15	<i>UV Lasers – Processing Tools for Bio-MEMS</i> Dr. H. Helvajian, Aerospace Corporation, USA
15:15 – 16:30	<i>Diamond Film Nanotechnology II</i> Dr. V. Konov, General Physics Institute, Canada
16:30 – 17:00	Coffee Break
17:00 – 18:15	<i>Self-Organized Synthesis of Highly Ordered Inorganic Rigid Monolayers</i> Dr. F. Traeger, Kassel University, Germany
20:30 – 22:00	<i>Surfaces and Bulk Properties of Organic Materials</i> Tutorial Session
Thursday, September 22, 2005	
08:30 – 09:00	Breakfast
09:00 – 10:15	<i>Fluorescence Correlation Spectroscopy of a Fluctuation Membrane</i> Dr. M. Elbaum, Weizmann Institute of Science, Israel
10:15 – 10:45	Coffee Break
10:45 – 12:00	<i>Introduction to Biophotonics II</i> Dr. P. Prasad, University at Buffalo, USA
12:00 – 14:00	Lunch and Networking
14:00 – 15:15	<i>Molecular Design of Polymers for Laser Structuring</i> Dr. T. Lippert, Paul Scherrer Institute, Switzerland
15:15 – 16:30	<i>Biomedical Applications of Diamond Films</i> Dr. V. Konov, General Physics Institute, Canada
16:30 – 17:00	Coffee Break
17:00 – 18:15	<i>Processing of Nanoparticles by UV Laser Irradiation in a Field Cage</i> Dr. M. Stuke, Max Planck Institute, Germany
20:30 – 22:00	<i>Nanotechnology of Manipulation at Atomic Level</i> Tutorial Session
Friday, September 23, 2005	
08:30 – 09:00	Breakfast
09:00 – 10:15	<i>Nanophotonics – Fundamental Aspects Related to Bioapplications</i> Dr. P. Prasad, University at Buffalo, USA
10:15 – 10:45	Coffee Break
10:45 – 12:00	<i>Mechanics of Biomaterials</i> Dr. M. Elbaum, Weizmann Institute of Science, Israel
12:00 – 14:00	Lunch and Networking
14:00 – 15:15	<i>Laser-Made and Laser-Driven Nanorobots</i> Dr. M. Stuke, Max Planck Institute, Germany
15:15 – 16:30	<i>Thin Films Produced by PLD as Model System for Electrochemical Applications</i> Dr. T. Lippert, Paul Scherrer Institute, Switzerland

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16:30 – 18:30	<i>Diagnostics at the Atomic and Molecular Level</i> Tutorial Session
20:30 – 22:30	Poster Session I
Saturday, September 24, 2005	
08:30 – 09:00	Breakfast
09:00 – 10:15	<i>From Biomaterials to Biomechanics</i> Dr. M. Elbaum, Weizmann Institute of Science, Israel
10:15 – 10:45	Coffee Break
10:45 – 12:00	<i>Laser Synthesis of Solid Nanoclusters</i> Dr. W. Marine, University of Marseille, France
12:00 – 14:00	Lunch and Networking
14:00 – 15:15	<i>Laser Tuning of Semiconductor Quantum Dot Emission Spectra</i> Dr. J. Dubowski, Université de Sherbrooke, Canada
15:15 – 16:30	<i>Manipulating and Probing Nanoparticles with Lasers</i> Dr. F. Traeger, Kassel University, Germany
16:30 – 18:30	<i>Design and Manufacturing of Nanomaterials</i> Tutorial Session
20:30 – 22:30	Poster Session II
Sunday, September 25, 2005 – A Day to Explore Québec, Canada	
08:00 – 08:30	Breakfast
Monday, September 26, 2004	
08:30 – 09:00	Breakfast
09:00 – 10:15	Dr. N. Petersen, National Insitute for Nanophotonics, NRC, Canada
10:15 – 10:45	Coffee Break
10:45 – 12:00	<i>Single Wall Carbon Nanotube: An Ultimate Biosensor?</i> Dr. D. Geohegan, Oak Ridge National Laboratory, USA
12:00 – 14:00	Lunch and Networking
14:00 – 15:15	<i>Fs Laser Processes for Precise Nanostructuring of Inorganic Materials</i> Dr. K. Sugioka, RIKEN, Japan
15:15 – 16:30	<i>Photo-Excited Processes for Nanodevice Synthesis</i> Dr. A. Peled, Holon Academic Institute of Technology, Israel
16:30 – 18:30	<i>Design and Manufacturing of NEMS and Bio-NEMS</i> Tutorial Session
20:30 – 22:30	Poster Session III
Tuesday, September 27, 2005	
08:30 – 09:00	Breakfast
09:00 – 10:15	<i>Cloning and Expression of F1-ATPase – A Motor Protein</i> Dr. C. Montemagno, University of California, Los Angelas
10:15 – 10:45	Coffee Break
10:45 – 12:00	<i>Free Electron Laser: Bio-Medical Applications</i> Dr. R. Haglund, Vanderbilt University, USA
12:00 – 14:00	Lunch and Networking
14:00 – 15:15	Dr. N. Petersen, National Insitute for Nanophotonics, NRC, Canada

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15:15 – 16:30	<i>Three-Dimensional Micro and Nanochips for Biomedical Applications</i> Dr. K. Sugioka, RIKEN, Japan
16:30 – 18:30	<i>Bio-Intervention and Treatment Techniques</i> Tutorial Session
20:30 – 22:30	Poster Session IV
Wednesday, September 28, 2005	
08:30 – 09:00	Breakfast
09:00 – 10:15	<i>Surface Plasmon Resonance: Fundamentals and Applications</i> Dr. R. Haglund, Vanderbilt University, USA
10:15 – 10:45	Coffee Break
10:45 – 12:00	<i>Aerosol Nanoparticles as Building Blocks for Growing Quantum Dots</i> Dr. A. Peled, Holon Institute Academic Institute of Technology, Israel
12:00 – 14:00	Lunch and Networking
14:00 – 15:15	<i>Laser Removal on Micro or Nanoparticles from Solid Surfaces</i> Dr. W. Marine, University of Marseille, France
15:15 – 16:30	<i>Nanosatellite Diagnostics: Structural and Biological Tests in Space</i> Dr. H. Helvajian, Aerospace Corporation, USA
16:30 – 17:00	Coffee Break
17:00 – 18:30	<i>Nanomaterials and Bio-Nanodevices – What Do We Need and How Well Can We Control their Fabrication?</i> Roundtable Discussion
Thursday, September 29, 2005	
08:30 – 09:00	Breakfast
09:00 – 10:15	<i>Laser-Based Phototherapies</i> Dr. Brian Wilson, Ontario Cancer Institute, Canada
10:15 – 10:45	Coffee Break
10:45 – 12:00	<i>Optical Gas Sensing Properties of Laser-Shaped Nanoparticles</i> Dr. H. Ouacha, Université Moulay Ismail, Morocco
12:00 – 14:00	Lunch and Networking
14:00 – 15:15	<i>Nanocrystals of Vanadium Dioxide for Biodiagnostics Applications</i> Dr. R. Haglund, Vanderbilt University, USA
15:15 – 16:30	<i>Biological Motors and their Hybrids with Inorganic Nanodevices</i> Dr. C. Montemagno, University of California, Los Angeles, USA
16:30 – 17:00	Coffee Break
17:00 – 18:30	<i>Nanomedicine – Will the Photon Source be a Tool of Choice to Offer Groundbreaking Solutions?</i> Roundtable Discussion
18:30 – 19:00	Closing Remarks