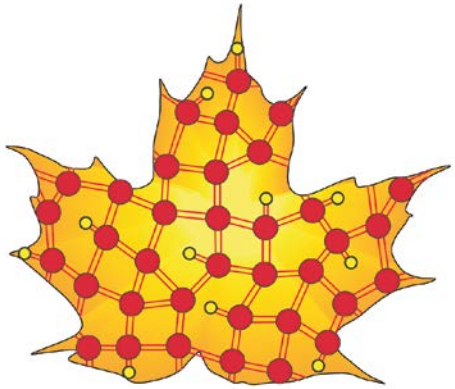
PROGRAM BOOKLET

Last updated on 24 August 2013



ICANS 25

The 25th International Conference on Amorphous and Nanocrystalline Semiconductors

August 18–23, 2013 Toronto, Ontario Canada

Plenaries: 45 minutes **Invited Papers: 30 minutes** **Regular Papers: 20 minutes** **This is the total time and includes the questions and comments at the end; as well as 2 minutes for the exchange of speakers**
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ICANS25

The 25th International Conference on Amorphous and Nanocrystalline Semiconductors continues the series of biennial conferences that has become the principal international gathering of researchers in the field of amorphous and nanocrystalline semiconductors; and related materials. The conference has a long tradition and history dating to the first meeting held in Prague in 1965. The early meetings focused on the fundamental physics of amorphous semiconductors, principally formed from chalcogens and group IV elements as well as liquid semiconductors. In recent years, the scope of the conference has broadened to include oxide and organic semiconductors as well as the related nano- and micro-crystalline semiconductors. As these materials found uses in electronics and other technologies, sessions on devices and applications were organized and are now a significant part of the conference.

HISTORY

	Year	Location	Plenary speaker
ICALS1	1965	Prague, Czechoslovakia	
ICALS2	1967	Bucharest, Romania	
ICALS3	1969	Cambridge, U.K.	
ICALS4	1971	Ann Arbor, MI, USA	Sir Nevill Mott
ICALS5	1973	Garmisch-Partenkirchen, Federal Republic of Germany	
ICALS6	1975	Leningrad, USSR	
ICALS7	1977	Edinburgh, Scotland	
ICALS8	1979	Cambridge, MA, USA	
ICALS9	1981	Grenoble, France	David Adler
ICALS10	1983	Tokyo, Japan	Walter Spear
ICALS11	1985	Rome, Italy	Robert Street
ICALS12	1987	Prague, Czechoslovakia	Josef Stuke
ICALS13	1989	Asheville, NC, USA	Hellmut Fritzsche
ICAS14	1991	Garmisch-Partenkirchen, Federal Republic of Germany	Kazunobu Tanaka
ICAS15	1993	Cambridge, England	William Paul
ICAS16	1995	Kobe, Japan	Ted Davis
ICAMS17	1997	Budapest, Hungary	Gerry Lucovsky
ICAMS18	1999	Snowbird, UT, USA	Martin Stutzmann
ICAMS19	2001	Nice, France	Lothar Ley
ICAMS20	2003	Campos do Jordão, Brazil	Akihisa Matsuda
ICANS21	2005	Lisbon, Portugal	P. Craig Taylor
ICANS22	2007	Breckenridge, CO, USA	Walther Fuhs
ICANS23	2009	Utrecht, The Netherlands	Sigurd Wagner
ICANS24	2011	Nara, Japan	Jan Kočka

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Ralph Whaley, Ohio University, Athens, USA
Spyros Yannopoulos, University of Patras and Foundation for Research and Technology Hellas, Greece

Sunday (August 18)

8.30 – 16.15	**ICANS25 Workshop and Tutorials, Bahen Building (BA in the map).** **Room BA 1130 (First floor), A in BA 1200, B in BA 1210, C in BA 1220** **If you have already registered for the Tutorials, you can go straight to the Tutorials**
14.00 – 18.00	**Registration, Bahen Building foyer (BA in the map). Tutorial registration opens at 07.45**
17.00 – 21.00	**Reception and Welcome at Hart House. Drinks and BBQ at the Hart House (Quadrangle Area - HH in the map)**

Bahen Building on St. George Street (From http://map.utoronto.ca)

Hart House (Reception will be inside) (From http://map.utoronto.ca)

The Mott Lecture and 25th Anniversary Plenary Lectures

MOTT LECTURE (Monday)
Hideo Hosono
Frontier Research Center, Tokyo Institute of Technology, Japan, *Amorphous Electrides: A Novel Class of Oxide Semiconductors*

25TH APL (Tuesday)
Robert Street
Palo Alto Research Center, USA
Disorder Effects in the Electronic Properties of Organic Solar Cells

25TH APL (Monday)
Koichi Shimakawa
Gifu University, Japan
Electrical Properties of Nanocrystalline Media: Optical Conductivity and Non-Drude Behavior

25TH APL (Thursday)
Martin Stutzmann
Technische Universität München, Germany
Substitutional Doping of Amorphous and Nanocrystalline Semiconductors

25TH APL (Monday)
John Robertson
University of Cambridge, United Kingdom
Silicon vs. the Rest

25TH APL (Friday)
Sergei Baranovski
Philipps Universität Marburg, Germany
Theory of Charge Transport in Disordered Materials

NOTE: No need to register beforehand. You can register after the Mott Lecture or during the lunch break. Registration in Bahen Building foyer from 07.30

Monday (August 19)	**07.15 – 08.15 Breakfast - coffee and pastries in the foyer outside Medical Sciences JJR Macleod Auditorium**
Time	**Session P: Plenary (Medical Sciences JJR Macleod Auditorium; subject to change)**
08.15 – 9.00	**Opening: Safa Kasap, Nazir Kherani, Alla Reznik, John A. Rowlands, Andrei Sazonov, Stefan Zukotynski, Zhenghong Lu and Sigurd Wagner (IAC Chair)** *Amorphous semiconductors in the service of humankind* Sigurd Wagner, Princeton University, USA
09.00 – 9.30	**In Memoriam** Chair, Safa Kasap David Cohen (by Eric Schiff), Arun Madan (by Arokia Nathan), Stanford Ovshinsky (by Boil Pashmakov), and David Redfield (by Vikram Dalal and Noble Johnson)
09.30 – 10.30	**MOTT LECTURE** *Amorphous Electrides: a Novel Class of Oxide Semiconductors* **Hideo Hosono,** Tokyo Institute of Technology, Japan Chair: Safa Kasap

10.30 – 11.00	**Coffee**		
11.00 – 11.45	**25th Anniversary Plenary Lecture 1** *Electrical Properties of Nanocrystalline Media: Optical Conductivity and Non-Drude Behavior* **Koichi Shimakawa,** Gifu University, Japan Chair: Hideo Hosono		
11.45 – 12.30	**25th Anniversary Plenary Lecture 2** *Silicon vs. the Rest* **John Robertson,** Cambridge University, UK Chair: Hideo Hosono		
12.30 – 14.00	**Lunch (Hart House, Great Hall)**		
	Session Mo-A1 **Bahen Building 1170**	**Session Mo-B1** **Bahen Building 1130**	**Session Mo-C1** **Bahen Building 1160**
14.00 –15.30	**Chalcogenides: Electronic Structure, Defects, Metastability and Transport I** **Chair: Tomas Wagner, Pardubice University**	**TFT and Large Area Electronics I** **Chair: Karim S. Karim (University of Waterloo, Canada)**	**a-Si related Photovoltaics I** **Chair: Jean-Paul Kleider (CNRS/Supélec, France)**
14.00 –14.30	**Mo-A1.1 Invited** Expansion of the Application of Chalcogenide Glasses for Establishment of Radiation Doses through Electrical Measurements *Maria Mitkova***,** Boise State University, USA	**Mo-B1.1. Invited** Oxide TFTs for Displays and Imaging *Arokia Nathan***,** Cambridge University, UK	**Mo-C1.1 Invited** Ultrathin Silicon Films and Device Architectures for Transparent Photovoltaics *Siva Sivoththaman*, CAPDS, Waterloo, Canada
14.30 – 14.50	**Mo-A1.2** Surface Relief Grating Formation in Amorphous $As_{40}S_{15}Se_{45}$ and As_2S_3 Films Under 0.532 μm Illumination [164], *Mara Reinfelde*, Institute of Solid State Physics, Latvia (M. Reinfelde, J. Teteris, E. Potanina)	**Mo-B1.2** Toward a Digital Radiology Roadmap, *John A. Rowlands*, Thunder Bay Regional Research Institute (TBRRI), Canada (J.A. Rowlands, W. Zhao)	**Mo-C1.2** High Deposition Rate Amorphous Silicon Solar Cells [15]*, Boil Pashmakov*, Ovshinsky Innovation LLC, USA (S. Ovshinsky, D. Strand, P. Klersy, P. Gasiorowski, M. Hennessey, B. Pashmakov)
14.50 – 15.10	**Mo-A1.3** A Comparison of the Phenomena of Photoluminescence and Carrier-Type Reversal in Bi- and Pb-Doped Glasses [63], *Mark A. Hughes*, Advanced Technology Institute, UK (M. A. Hughes, R.M. G. William, K. Homewood, B. Gholipour D. W. Hewak, Tae-Hoon Lee, S. R. Elliott, T. Suzuki, Y.Ohishi, T. Kohoutek, and R. J. Curry)	**Mo-B1.3** High Mobility Thin Film Transistors Based on Zinc Oxynitride Semiconductors [19], *Joon Seok Park*, Samsung Advanced Institute of Technology, Republic of Korea (J. Seok Park, H.-S. Kim, T. Sang Kim, E. S. Kim, K. S. Son, J.-B. Seon, S. Lee, S.-J. Seo, S.-J. Kim, M. Ryu, S.-H. Cho, and Y. Park)	**Mo-C1.3** Role of a Disperse Carbon Inter-Monolayer on the Performances of Tandem a-Si Solar Cells [17], *Andreia Araújo*, Universidade Nova de Lisboa and CEMOP-UNINOVA, Portugal (A. Araújo, R.Barros, T. Mateus, D. Gaspar, N. Neves, A..Vicente, S..A. Filonovich, E. Fortunato, A.M. B. do Rego, A. Bicho, H. Águas, R. Martins)
15.10 – 15.30	**Mo-A1.4** Photo-Induced Structural Changes in a-Se Triggering Its Crystallization [271], *Julia Berashevich*, Thunder Bay Regional Research Institute, Canada (J. Berashevich, A. Mishchenko, A. Reznik)	**Mo-B1.4** Three Dimensional Thin Film Integrated Circuits Using Atomic Layer Deposition [158], *Feyza B. Oruc*, Bilkent University, Turkey (F. B. Oruc, A. K. Okyay) **[CANCELLED]**	**Mo-C1.4** Progress in Processing of Hydrogenated Amorphous Silicon Thin Film Solar Cells Using the Expanding Thermal Plasmas [47], *Takehiko Nagai*, Delft University of Technology, The Netherlands (T. Nagai, M. Fischer, J. Melskens, A. H. M. Smets, M.

			Zeman, M. Kondo)
15.30 – 16.00	**Coffee**		
	Mo-A2	**Mo-B2**	**Mo-C2**
16.00 –18.20	**Chalcogenides: Electronic Structure, Defects, Metastability and Transport II** **Chair: Maria Mitkova, Boise State University**	**TFT and Large Area Electronics II** **Chair: Joon Seok Park (Samsung Advanced Institute of Technology, Korea)**	**a-Si related Photovoltaics II** **Chair: Mehmet Günes (University of Mugla Sitki Kocman University)**
16.00 – 16.20	**Mo-A2.1** Relationship Between Photo-Induced Surface Relief Formation and Birefringence in Soft Materials [234], *Janis Teteris*, University of Latvia, Latvia (J.Teteris)	**Mo-B2.1** Readout from Amorphous Silicon Thin-Film Transistor-Based Strain Sensing Sheets Over Non-Contact Interfaces Using a TFT Gilbert-Type Modulator [231], Warren Rieutort-Louis, Princeton University, USA (W. R.-Louis, J. S.-Robinson, Y. Hu, L. Huang, J. C. Sturm, N. Verma, S. Wagner)	**16.00 – 16.30: Mo-C2.1 Invited** Charge Carrier Transport In amorphous and Microcrystalline Silicon Based Materials, *Reinhard Carius*, Forschungszentrum Jülich, Germany (R. Carius, O. Astakhov, F. Finger, T. Bronger, C. Sellmer, T. Chen, S. Reynolds, V. Smirnov, W. Beyer)
16.20 – 16.40	**Mo-A2.2** Electrochemical Metalization Cells – Nanoscale Memories in Chalcogenide Glass Films, [269], *Tomas Wagner*, University of Pardubice, Czech Republic (T. Wagner, K.Kolar, S.Valkova, I.Voleska, M.Krbal, J.Macak, M.Frumar, K.Terabe)	**Mo-B2.2** Atomic Layer Deposited ZnO TFT With a Tunable Photoresponse in the Visible Regime [157], *Ali Kemal Okyay*, Bilkent University, Turkey (A. K. Okyay, F. B. Oruc, L. E. Aygun)	**16.30– 16.50**: **Mo-C2.2** Lightweight Amorphous Silicon Photovoltaic Modules on Flexible Plastic Substrate [101], *Andrei Sazonov*, University of Waterloo, Canada (Y. Vygranenko, R. Yang, A. Sazonov, A. Kosarev, A. Abramov, E. Terukov)
16.40 – 17.00	**Mo-A2.3** Temperature Dependence of Photodarkening Kinetics in a-Se [272], *Anastasia Mishchenko*, Thunder Bay Regional Research Institute, Canada (A. Mishchenko, J. Berashevich, A. Reznik)	**Mo-B2.3** Comparative Study of Pbs Thin Films Deposited from Modified Chemical Bath Solutions With Ammonia-Hidrazine and Ammonia-Hidrazine Free Precursors on TFTs Applications [46], *Roberto Ambrosio*, Universidad Autónoma de Ciudad Juárez, México (A. Carrillo, R. Ambrosio, A. Jiménez, M. Quevedo)	**16.50– 17.10**: **Mo-C2.3** Variation of the Defect Density in the Absorber Layer of a-Si:H and µc-Si:H Solar Cells Over Two Orders of Magnitude: Influence on Solar Cell Performance [104], *Oleksandr Astakhov*, Forschungszentrum Jülich, Germany (O. Astakhov, V. Smirnov, B. E. Pieters, R. Carius , Yu. Petrusenko, V. Borysenko, F.Finger)
17.00 – 17.20	**Mo-A2.4** Raman and AFM Mapping Studies of Photo-Induced Crystallization a-Se Films: Substrate-Strain and Thermal Effects [286], *George Lindberg*, SUNY at Buffalo, USA (G. P. Lindberg, B. A. Weinstein, A. Reznik, S. Abbaszadeh, K.S. Karim, T.O.Loughlin, G. Belev, M. J. Yaffe, D. M. Hunter)	**17.00 – 17.30 Mo-B2.6 Invited** Bias-stress effect in dual gate a-IGZO TFTs, *Jin Jang*, Kyung Hee University, South Korea	**17.10 – 17.30**: **Mo-C2.4** Influence of Post-Deposition Annealing, B Grading and Ion Bombardment on Stability of a-Si Solar Cells [108], *Vikram Dalal*, Iowa State University, USA (B. Modtland, V. L. Dalal)
17.20 – 17.40	**Mo-A2.5** Thermo-Analytical, Thermal Transport, Dielectric and Mechanical Properties of Chalcogenide $Se_{98-X}Ag_2In_x$ (x = 0, 2, 4, 6) System [76], *Chandrabhan Dohare*, Banaras Hindu University,		**17.30 – 17.50: Mo-C2.5** High Efficiency Amorphous Silicon Based Solar Cells: Towards an Objective Comparison of Various Absorber Materials [127], *Michael Stuckelberger,* Ecole Polytechnique Fédérale de

	India (C. Dohare, N. Mehta)		Lausanne, Switzerland (M. Stuckelberger, M. Despeisse, F.-J. Haug, C. Ballif)
17.40 – 18.10			**17.50 – 18.20**: **Mo-C2.6 Invited** Towards high-efficiency polycrystalline Si thin film solar cells on glass: tailoring 3-dimensional architectures, *Christiane Becker and Tobias Sontheimer,* Helmholtz-Zentrum Berlin, Germany
18.10 – 20.40	**Posters (Bahen Building, Second Floor) Drinks and Snacks Poster Chairs: Drs Robert Johanson and Stephen O'Leary**		

Tuesday (August 20)			
Time	**Session Tu-A1**	**Session Tu-B1**	**Session Tu-C1**
08.30 –10.10	**Chalcogenides: Photoinduced Changes and Devices I** **Chair: Spyros Yannopoulos (University of Patras and the Foundation for Research and Technology Hellas)**	**Nano-and Microcrystalline Silicon: Growth and Characterization I** **Chair: Pere Roca i Cabarrocas (École Polytechnique)**	**a-Si Related Photovoltaics III** **Chair: Christiane Becker (Helmholtz-Zentrum Berlin)**
08.30 – 08.50	**Tu-A1.1** Optical Properties of Photoconductor Using Crystalline Selenium [49], *Shigeyuki Imura*, NHK Science and Technology Research Laboratories, Japan (S. Imura, K. Kikuchi, K. Miyakawa, M. Kubota)	**Tu-B1.1** Investigation of Porosity and Atmospheric Gas Indiffusion in Microcrystalline Silicon Fabricated at High Growth Rates [53], *Stephan Michard*, Forschungszentrum Jülich, Germany (S. Michard, M. Meier, U. Zastrow, O. Astakhov, A. Gordijn and F. Finger)	**Tu-C1.1** Development of a-Si Solar Cells Using "Liquid Si Printing" [96], *Hiroko Murayama*, Device Solutions Center, Japan (H. Murayama, T. Ohyama, A. Terakawa, H. Takagishi, T. Masuda, K. Ohdaira and T. Shimoda)
08.50 – 09.10	**Tu-A1.2** High Sensitivity Photodetector Made of Amorphous Selenium and Diamond Cold Cathode [169], *Ichitaro Saito*, International Chrisitian University, Japan (T. Masuzawa, I. Saito, M. Onishi, T. Ebisudani, A. T.T. Koh, D. H.C. Chua, T. Yamada, S. Ogawa, Y. Takakuwa, T. Shimosawa, K. Okano)	**Tu-B1.2** Material and Growth Mechanism Studies of Microcrystalline Silicon Deposited Using Tailored Voltage Waveforms [73], *Erik V. Johnson*, Ecole Polytechnique, France (B. Bruneau, J.-C. Dornstetter, E. Johnson)	**Tu-C1.2** Towards High-Efficiency Thin-Film Silicon Solar Cells on Nanopillar-Based Superstrates [138], *Mathieu Boccard*, Ecole Polytechnique Fédérale de Lausanne, Switzerland (M. Boccard, C. Battaglia, N. Blondiaux, R. Pugin, M. Stuckelberger, M. Despeisse, F. Meillaud, C. Ballif)
09.10 – 09.30	**Tu-A1.3** Studies of Silver Photo-Diffusion Dynamics in Ag/Ge_xS_{1-x} (x = 0.2 and 0.4) Films by Means of Neutron Reflectometry [98], *Yoshifumi Sakaguchi*, Research Center for Neutron Science and Technology, Japan (Y. Sakaguchi, H. Asaoka, Y. Uozumi, Y. Kawakita, T. Ito, M. Kubota, D. Yamazaki, K.Soyama M. Ailavajhala and M. Mitkova)	**Tu-B1.3** in-Situ Detection of Powder Formation Via Optical Emission Spectroscopy and Bias-Voltage Measurements for High-Depletion Mc-Si:H Deposition Regimes [59], *Björn Grootoonk*, Forschungszentrum Jülich, Germany (B. Grootoonk, J. Woerdenweber, M. Meier and A. Gordijn)	**Tu-C1.3** Light Absorption and Carrier Separation in Radial *p-i-n* Junction Solar Cells [175], *Linwei Yu*, Ecole Polytechnique, France (L. Yu, J. Wang, S. Misra, J. Xu, Y.Shi, M. Foldyna, P. R. Cabarrocas)
09.30 – 09.50	**Tu-A1.4** Enhanced Mid Infrared Emission in	**Tu-B1.4** Probing Periodic Oscillations in a Silane Dusty	**Tu-C1.4** High Performance Solar Cell Fabricated on

	Chalcogenide Glass-Ceramics [156], *Rong-Ping Wang,* The Australian National University (R.-P. Wang, Z.-Y. Yang, S.-W. Xu, X. Shen, B. L.-Davies)	Plasma in VHF PECVD Process [238], *Akshatha Mohan*, Utrecht University, The Netherlands (A. Mohan, C. van der Wel, R.E.I. Schropp and J.K. Rath)	Flattened SnO_2/ZnO Substrate for Full Spectrum Splitting Solar Cell Application [185], *Sinae Kim*, Tokyo Institute of Technology, Japan (S. Kim, P. Sichanugrist, M. Konagai)
09.50 – 10.10	**Tu-A1.5** Meyer-Neldel Rule and Poole-Frenkel Effect in Chalcogenide Glasses [84], *Arthur Yelon*, École Polytechnique, Montréal, Canada (F. Abdel-Wahab, A. Yelon)		
10.00 – 10.40	**Coffee**		
	Session Tu-A2	**Session Tu-B2**	**Session Tu-C2**
10.40 –12.30	**Chalcogenides: Photoinduced Changes and Devices II** **Chair: Julia Berashevich (Thunder Bay Regional Research Institute and Lakehead University, Canada)**	**Nano-and Microcrystalline Silicon: Growth & Characterization II** **Chair: Kunji Chen (Nanjing University, China)**	**Oxide Glasses** **Chair: Jin Jang (Kyung Hee University, Korea)**
10.40 – 11.00	**Tu-A2.1** Investigation of Electrical Conduction in Polyimide/Amorphous Selenium Films Under High Electric Fields [25], *Shiva Abbaszadeh*, University of Waterloo, Canada (S. Abbaszadeh, S. Ghaffari, K. S. Karim)	**Tu-B2.1** Microcrystalline Silicon Deposited from $SiF_4/H_2/Ar$ Gas Mixtures: Material Properties and Growth Mechanisms Studies [61], *Jean-Christophe Dornstetter*, Ecole Polytechnique, France (J.-C. Dornstetter, B. Bruneau, E. Johnson, P. R. Cabarrocas)	**Tu-C2.1** ALD-Grown ZnO Layers on a-Si:H: Initial Growth Stages and Band Line-Up, [129] *Lars Korte*, Helmholtz-Zentrum Berlin, Germany (Lars Korte, Robert Rößler and Christian Pettenkofer)
11.00 – 11.20	**Tu-A2.2** Amorphous Selenium Mamographic Detector Modulation Transfer Function Energy Dependence Measured With Monochromatic X-Rays at the Canadian Light Source [258], *George Belev*, Canadian Light Source Inc., Saskatoon, Canada (T. Meyer, G. Belev, D. Hunter, O. Tousignant, S. Kasap)	**Tu-B2.2** Tailored Voltage Waveform Deposition of Microcrystalline Silicon-Carbon Alloys from Hydrogen-Diluted Silane and Methane Gas Mixtures [88], *Sofia Gaiaschi*, Ecole Polytechnique, France (S. Gaiaschi, R. Ruggeri, E. Johnson, M.-E. Gueunier-Farret, C. Longeaud, P. Bulkin, P. Chapon, G. Mannino, J.-P. Kleider)	**Tu-C2.2** Ohmic and Schottky Contacts to Atomic Layer Deposited ZnO [192], *Sami Bolat,* Bilkent University, Turkey (S. Bolat, A. K Okyay)
11.20 – 11.40	**Tu-A2.3** Measured Electron-Hole Pair Creation Energy in Amorphous Selenium (a-Se) at High Electric Fields [137], *Oleksandr Bubon*, Thunder Bay Regional Research Institute, Canada, (O. Bubon, G. DeCrencenzo, J. A. Rowlands and A. Reznik)	**Tu-B2.3** Formation of Nanocrystalline Silicon Thin Film at Low Temperature by Inductively Coupled Plasma (LCP) Assisted CVD Techique and Its Electrical Characterization [162], *Gizem Nogay*, Middle East Technical University, Turkey (G. Nogay, E. Ozkol, Z. Selah, M. Gunes, R. Turan)	**Tu-C2.3** Study on Textured ZnO:Al Thin Films Prepared by RF Magnetron Sputtering With Water Steam [36], *Shuhei Miura*, Gifu University, Japan (S. Miura, M. Tashiro, K. Suzuki, S. Nonomura)
11.40 – 12.00	**Tu-A2.4** Simplification of Amorphous Selenium Based Photovoltaic Device Fabrication Through Aerosol Deposition Method and Electrochemical	**Tu-B2.4** Plasma-Surface Interaction During μc-Si:H Thin Film Growth in Low and High Pressure Regimes [118], *Jurgen Palmans,* Eindhoven University of Technology, The	

	Doping [168], *Ichitaro Saito*, International Chrisitian University, Japan (I. Saito, M. Onishi, K. Komiyama, T. Masuzawa, A. T.T. Koh, D. H.C. Chua, T. Yamada, M. Overend, K. Soga, Y. Mori, N. Sano, G. A.J. Amaratunga, K. Okano)	Netherlands (J.Palmans, E. Kessels, M. Creatore)	
12.00 – 12.30		**Tu-B2.5 Invited** Silane Plasmas: A Wonderful Toolbox For Silicon Thin Films and Nanostructured Materials, *Pere Roca i Cabarrocas*, École Polytechnique, France	
12.30 – 14.00	**Lunch (12.30 – 15.00: IAC Committee Meeting in South Dining Room in Hart House , second floor, west wing)**		
	Session Tu-A3	**Session Tu-B3**	**Session Tu-C3**
14.00 –15.40	**Phase Change I** **Chair: Tomas Wagner (University of Pardubice, Czech Republic)** **14.20 – 15.40**	**Nano-and Microcrystalline Silicon: Growth and Characterization III** **Chair: Ruud Schropp (Energy research Center of the Netherlands (ECN) and Eindhoven University of Technology (TU/e))**	**a-C and related compounds** **Chair: Nazir Kherani (University of Toronto)**
14.00 – 14.20		**Tu-B3.1** Co Heavily Doped Silicon-The Possible Intermediate Band Material for PV Application [243], *Fengzhen Liu*, University of Chinese Academy of Sciences, China (Y. Zhou, F. Liu, M. Zhu)	**Tu-C3.1** Amorphous Carbon Nitride Films Prepared by Hybrid Deposition Technique [3], *Masami Aono*, National Defense Academy, Japan (M. Aono, T. Takeno, T. Takag, N. Kitazawa, Y. Watanabe)
14.20 –14.40	**Tu-A3.1** On the Steady-State Photoconductivity in Amorphous $Ge_2Sb_2Te_5$ Phase Change Material [5], *N. Qamhieh*, United Arab Emirates University (N. Qamhieh, S. T. Mahmoud, A. I. Ayesh)	**Tu-B3.2** Surface-Doping and Quantum Confinement Effects in Si Nanocrystals Observed by Scanning Tunneling and Photocurrent Spectroscopy [2], *Omri Wolf*, The Hebrew University of Jerusalem, Israel (O. Wolf, M. Dasog, Z. Yang, I. Balberg, J.G.C. Veinot and O. Millo)	**Tu-C3.2** Why Such High Electrical Resistivity in PECVD-Grown Amorphous Hydrogenated Boron Carbide? [254], *Michelle M. Paquette*, University of Missouri-Kansas City, USA (M. M. Paquette, C. L. Keck, B. J. Nordell, T. D. Nguyen, S. Karki, P. Rulis, N. A. Oyler, S. W. King, A. N. Caruso)
14.40 – 15.00	**Tu-A3.2** Effect of Annealing on Carrier Density in $Ge_2Sb_2Te_5$ Films [100], *Tamihiro Gotoh*, Gunma University, Japa	**Tu-B3.3** Charge Injection and Retention in Sic/Si-Nanocrystals/Sic Sandwiched Structures Prepared by Laser Crystallization Technique [273], *Jun Xu,* Nanjing University, China (J. Xu, X. Xu, W. Mu, X. Qian, J. Xu, W. Li, K. Chen)	**Tu-C3.3** Excimer Laser Crystallization of Amorphous SiC_x on Glass [202], *Sven Kühnapfel*, Helmholtz-Zentrum Berlin, Germany (S. Kühnapfel, D. Amkreutz, C. Klimm, M. Reiche and N. H. Nickel)
15.00 – 15.20	**Tu-A3.3** Strong Phonon Scattering in Phase-Change Thin Films [148], *Karl Simon Siegert*, RWTH Aachen University, Germany (K. S. Siegert, F.R.L. Lange and M. Wuttig)	**Tu-B3.4** Structural Fingerprints in Temperature-Dependent Hall Measurements after Ion Implantation Amorphization and Recrystallization of InGaAsP/InP [252], *André Fekecs*, Université de Sherbrooke, Québec, Canada	**Tu-C3.4** X-Ray Photoelectron Spectroscopy Studies on Silicon Carbide Thin Films Prepared by HWCVD [126], *Pratima Agarwal*, Indian Institute of Technology Guwahati, India

		(A. Fekecs, B. Ilahi, M. Chicoine, F. Schiettekatte, D. Morris, R. Arès)	(H. S. Jha, A. Yadav, M. Singh, S. Kumar, P. Agarwal)
15.20 – 15.40	**Tu-A3.4** Nature of Gap States in GeSbTe Phase Change Memory Materials, [265], *John Robertson*, Cambridge University, UK (J Robertson, X Yu)	**Tu-B3.5** Crystallized Silicon Quantum Dots and Nanocrystalline Structures – Experimental Characterization and Atomistic Simulations [105], *Solomon Agbo*, University of West Bohemia, Czech Republic (S. Agbo, P. Sutta, P. Calta, R. Biswas, B. Pan)	
15.40 – 16.10	**Coffee**		
	Session Tu-A4	**Session Tu-B4**	**Session Tu-C4**
16.10 –17.10	**Phase Change II** **Chair: John Robertson (University of Cambridge, UK)**	**Nano-and Microcrystalline Silicon: Growth and Characterization IV** **Chair: Zahangir Kabir, Concodia University, Canada**	**Materials for MEMS and CMOS** **Chair: Asim Ray, Brunel University, UK**
16.10 – 16.30	**Tu-A4.1** Simulation of the Structure and Switching Properties in Chalcogenide Systems [229], *Mihai Popescu*, National Institute R&D of Materials Physics, Romania (M. Popescu, F. Sava, I.-D. Simandan, A. Velea)	**Tu-B4.1** Preparation and Testing of the Silicon Nanowires, *Jan Kočka*, Institute of Physics, Czech Republic [43], (J. Kočka, M. Muller, H. G. El Gohary, J. Stuchlik, H. Stuchlikova, B. Rezek, M. Ledinsky, A. Fejfar)	**Tu-C4.1** Deposition and Characterization of AlN Thin Films by R.F. Reactive Magnetron Sputtering [12], *Maria A. Alvarado*, Universidade de São Paulo,, Brazil (M. V. Pelegrini, M. A. Alvarado, M. Alayo, I. Pereyra)
16.30 – 16.50	**Tu-A4.2** Changes in Electrical Transport of Amorphous Phase Change Materials Upon Annealing [14], *Daniel Krebs*, IBM Zurich Research Laboratory, Switzerland (D. Krebs, T. Bachmann, J. L. M. Oosthoek, P. Jonnalagadda, L. Dellmann, S. Raoux, J. Luckas, C. Longeaud, B. J. Kooi, R. Spolenak)	**Tu-B4.2** High-Performance Heterojunction Devices Enabled by Low-Temperature PECVD of Hydrogenated Crystalline and Amorphous Silicon [35] *Bahman Hekmatshoar*, IBM T. J. Watson Research Center, USA (B. Hekmatshoar, D. Shahrjerdi, T. H. Ning, J. A. Ott, M. Hopstaken and K. Fogel)	**Tu-C4.2** AlN Pedestal-Type Optical Waveguide: Fabrication and Characterization [55], *Maria A. Alvarado*, Universidade de São Paulo, Brazil (M. A. Alvarado, M. V. Pelegrini, I. Pereyra, M. I. Alayo)
16.50 – 17.10	**Tu-A4.3** Phase-Change Materials: Varying Charge Transport through Disorder [147] *Karl Simon Siegert*, RWTH Aachen University, Germany (H. Volker, T. Schäfer, A. Poitz, K. S. Siegert, M. Wuttig)	**Tu-B4.3** Fabrication of High Gauge Factor Piezoresistive Nanocrystalline Si Film Using Aluminum Induced Crystallization of HWCVD Deposited a-Si:H [240], *R. O. Dusane*, IIT Bombay, India (V. Pandey, L. Sanagavarapu, R. O. Dusane)	**Tu-C4.3** (PE)ALD TaCN Film Nucleation and Growth on TiN_x: Influence of Nitrogen Content [95], *Fabien Piallat*, STMicroelectronics, France (F. Piallat, R. Gassilloud, P. Caubet, B. Pélissier, C. Vallée) **[CANCELLED]**
	Session P: Plenary (Bahen Building, Room 1160)		
17.30– 18.15	**25th Anniversary Plenary Lecture 3** Disorder Effects in the Electronic Properties of Organic Solar Cells **Robert A. Street**, Palo Alto Research Center, USA Chair: Sergei Baranovski, Philipps Universität Marburg, Germany		
18.15 – 20.45	**Posters (Bahen Building, Second Floor) Drinks and Snacks Poster Chairs: Drs Robert Johanson and Stephen O'Leary**		

Wednesday (August 21)			
Time	**Session We-A1**	**Session We-B1**	**Session We-C**
08.20 –10.10	**a-Si/a-Ge, Alloys and Clathrates I** **Chair: Gurinder K. Ahluwalia (College of the North Atlantic, Labrador City)**	**Nano-Micro-Poly-Silicon and Multilayers - Transport and Electronic Properties I** **Chair: Seiichi Miyazaki (Nagoya University, University)**	**New Nano-Materials: Photovoltaics I** **Chair: Elvira Fortunato (Universidade Nova de Lisboa, Portugal)**
08.20 – 08.40	**We-A1.1** A Method to Evaluate Explosive Crystallization Velocity of Amorphous Silicon Films During Flash Lamp Annealing [170], *Keisuke Ohdaira*, Japan Advanced Institute of Science and Technology, Japan (K. Ohdaira)	**We-B1.1** Quantifying Order at Different Length Scales in Solid Materials: Implications for Semiconductors [214], *Kristin M. Poduska*, Memorial University of Newfoundland, Canada (B. Xu, V. Grandy, I. Saika-Voivod, K. M. Poduska)	**We-C1.1** Local (Photo)Electronic Properties in Nanostructured Solar Cells [230], *Antonín Fejfar*, Academy of Sciences of the Czech Republic, Czech Republic (A. Fejfar, M. Hývl, M. Ledinský, A. Vetushka, J. Kočka S. Misra, M. Foldyna, L. Yu, P. R. Cabarrocas)
08.40 – 09.00	**We-A1.2** Rectifying and Schottky Characteristics of a-$Si_xGe_{1-X}O_y$ With Metal Contacts [32], *Mukti Rana*, Delaware State University, USA (M. Muztoba, D. Butler, M. Rana)	**We-B1.2** Electronic Transport in Boron Doped Solid Phase Crystallized Poly-Silicon [172], *N. H. Nickel*, Helmholtz-Zentrum Berlin für Materialien und Energie, Germany (M. Moser, L.-P. Scheller, N. H. Nickel)	**We-C1.2** Towards a Perfect System for Solar Hydrogen Production: An Example of Synergy on the Atomic Scale [191], *Ramy Nashed*, Georgia Institute of Technology, USA (R. Nashed, F. M. Alamgir, S. Soon Jang, Y. Ismail, M. A. El-Sayed, N. K. Allam)
09.00 – 09.20	**We-A1.3** Crystallization of Silicon-Germanium Induced by Aluminum-Induced Layer Exchange [66], *Masao Isomura*, Tokai University, Japan (M. Isomura, M. Yajima, I. Nakamura)	**We-B1.3** Structural and Optoelectronic Properties of Si Quantum Dots/Sic Multilayers Embedded in *pin* Structures [274], *Jun Xu*, Nanjing University, China (X. Xu, Y. Cao, J. Xu, P. Lu, W. Li and K. Chen)	**We-C1.3** Intrinsic Doping and Band Gap Control Mechanisms of Crystalline Cu_2ZnSnS_4 Revealed by in-Depth Study of Amorphous/Disordered Cu_2SnS_3-CZTS-Zns Alloys [216], *Pete Erslev*, National Renewable Energy Laboratory, USA (P. T. Erslev, M. R. Young, H. Du, J. Li, R. Lad, S. Cheng Siah, R. Chakraborty, R. Jaramillo, T. Buonassisi, G.Teeter)
09.20 – 09.40	**We-A1.4** Electron-Spin Resonance Studies on Na-Doped Type II Si Clathrates [93], *Mitsuo Yamaga*, Gifu University, Japan (M. Yamaga, M. Aoki, T. Kishita, S. Sunaba, F. Ohashi, T. Ban, T. Kume, K. Goto, G. Shimizu, S. Nonomura)	**We-B1.4** Investigation of Metastability Effects on the Minority Carrier Transport Properties of Microcrystalline Silicon Thin Films by Using the Steady-State Photocarrier Grating (SSPG) Technique [83], *Hamza Cansever*, Mugla Sitki Kocman University, Turkey (H. Cansever, G. Yilmaz, M. Günes, V. Smirnov, F. Finger R. Brüggemann)	**We-C1.4** Semiconductorless Photovoltaic Device [236], *Kemal Okyay*, Bilkent University, Turkey (F. B. Atar, E. Battal, L. E. Aygun, B. Daglar, M. Bayindir, A. K. Okyay)
9.40 – 10.10	**9.40 – 10.00: We-A1.5** Synthesis of Si Clathrate Films Via Thermal Decompositions of Zintl Phase Nasi on Si Substrates [112], *Fumitaka Ohashi*, Gifu University, Japan	**09.40 – 10.10**: **We-B1.5 Invited** 45th Anniversary of Nanocrystalline Silicon: from the Past towards the Future, *Stan Veprek*, Technical University Munich, Germany	**09.40 – 10.10**: **WeC1.5 Invited** Solar Cells on Paper to Power Paper Electronics *Rodrigo Martins*, New University of Lisbon, Portugal

	(F. Ohashi, M. Hattori, Y. Iwai, T. Ogura, A. Noguchi, T. Kume, T. Ban, S. Nonomura)		
10.10 – 10.40	**Coffee**		
	Session We-A2	**Session We-B2**	**Session We-C2**
10.40 –11.40	**a-Si/a-Ge, Alloys and Clathrates II** **Chair: Jun Xu (Nanjing University, China)**	**Nano-Micro-Poly-Silicon and Multilayers - Transport and Electronic Properties II** **Chair: Antonin Fejfar (Academy of Sciences of the Czech Republic)**	**New Nano-Materials: Photovoltaic II** **Chair: Siva Sivoththaman (University of Waterloo, Canada)**
10.40 – 11.00	**We-A2.1** Germanium Thin-Film on Glass: Amorphous-to-Nanocrystalline Phase [261], *A. R. Middya*, Indian Association for Cultivation of Science, India (R. Middya, Swati Ray, S. C. De, A. K. Barua)	**We-B2.1** Is the Concept of Electronic Band Structure Valid for Si Nanocrystals of Few nm in Size [44], *Prokop Hapala*, Academy of Sciences of the Czech Republic, Czech Republic (P. Hapala, K. Kůsová, I. Pelant, P. Jelínek)	**We-C2.1** Molecular Derived Metal Oxide and Chalcogenide Materials With High Potential as Semiconductors, Conductors and Dielectrics for Thin Film Transistor and Solar Cell Applications [48], *Joerg J. Schneider*, Technische Universität Darmstadt, Germany (J. J. Schneider, R. C. Hoffmann, M. Paschchanka)
11.00 – 11.20	**We-A2.2** Low Temperature Formation of Crystalline Si/Ge Heterostructures by Plasma Enhanced CVD in Combination With Ni-Nds Seeding Nucleation [155], *Yimin Lu*, Nagoya University, Japan (Y. Lu, K. Makihara, D. Takeuchi, K. Sakaike, M. Akazawa, M. Ikeda, S. Higashi, S. Miyazaki)	**We-B2.2** Role of Temperature on the Optical and Electronic Properties of Nano-Crystals: An Ab-Initio Molecular Dynamics and Electronic Structure Study [54], *Nancy C. Forero-Martinez*, Ecole Polytechnique, France (N. C. Forero-Martinez, H.-Ch. Weissker, N. Ning, H.-L. Thi Le, H. Vach)	**We-C2.2** Effect of Graphene on Photocatalysis of Titanium Dioxide Thin Films [224], *Haroon Mahmood*, National University of Sciences and Technology, Islamabad (H. Mahmood, A. Habib)
11.20 – 11.40	**We-A2.3** Preferential Crystal-Growth of Germanium by Solid Phase Crystallization [81], *Mikuri Kanai*, Tokai University, Japan (M. Kanai, T. Yamaguchi, Y. Kojima, M. Isomura)		
12.30	**Conference Excursion (Prebooked)**		

Thursday (August 22)			
Time	**Session Th-A1**	**Session Th-B1**	**Session Th-C1**
08.20 –10.00	**New Nano-Materials: Growth & Characterization I** **Peyman Servati (UBC, Canada)**	**Organic Semiconductors I** **Chair: Zheng-Hong Lu (University of Toronto)**	**a-Si: Electronic Structure, Defects, Metastability I** **Chair: Stephen O'Leary (UBC, Kelowna, Canada)**
08.20 – 08.40	**Th-A1.1** Synthesis of Carbon Nanotubes on Ni/Si-Ni/SiO2 Substrates by Thermal CVD [30], *Diego Lopez, Universidade de São Paulo, Brazil* (D. López, I. Abe, I. Pereyra)	**Th-B1.1** Influence of Annealing to Mobility of Holes in Layers of Derivatives of Diphenylethenyl Substituted Triphenylamines [217], *Kestutis Arlauskas*, Vilnius University, Lithuania (K. Arlauskas, G. Juska Jr., S. Tumenas, R. Juskenas, V. Getautis)	**Th-C1.1** Evidence of Two-Step Processes in the Structural Relaxation of Amorphous Silicon [45], *Leonardus B. Bayu Aji*, ANU, Australia (L. B. Bayu Aji, B. Haberl, S. Wong, H. Karl, J. E. Bradby, J. S. Williams)
08.40 – 09.00	**Th-A1.2** Design of a Nano-Structured Pyroelectric Detector With Low Thermal Conductivity [33], *Mukti Rana*, Delaware State University, USA (M.Muztoba, D. Butler, N. Melikechi, M. Rana)	**Th-B1.2** ReRAM Based on Switching in Metal Particles Doped Polymer Films [152], *Mikhail Dronov*, A.M. Prokhorov General Physics Institute, Russian Federation (M. Dronov, M. Kotova, I. Belogorohov)	**Th-C1.2** Improved Modulated Photocarrier Grating Technique and Determination of the Density of Acceptor States in Hydrogenated Amorphous Silicon [52], *Federico Ventosinos*, Laboratoire de Génie Electrique de Paris, France (F. Ventosinos, C. Longeaud, J. Schmidt)
09.00 – 09.20	**Th-A1.3** Transparent and Conducting Graphene-RNA Nanocomposites and Their Transport Properties [50], *Faranak Sharifi*, University of Western Ontario, Canada (F. Sharifi, M. S. Ahmed, R. Bauld, A. Akbari-Sharbaf, G. Fanchini)	**Th-B1.3** Extraordinary Broad Band Light Enhancement Near the Lambertian Limit in Organic Solar Cells, Using a Photonic Crystal Architecture [106], *Rana Biswas*, Ames Laboratory and Microelectronics Center, USA (Rana Biswas , Erik Timmons , Stephen Bergeson)	**Th-C1.3** Correlation Between Preparation Condition and Recombination Rates at Radiative Defects in a-Si:H [97], *Chisato Ogihara,* Yamaguchi University, Japan (C. Ogihara, K. Yamaguchi, Y. Shintoku and K. Morigaki)
09.20 – 09.40	**Th-A1.4** Laser-Assisted Growth of *T*-Te Nanotubes and Their Controlled Photo-Induced Unzipping to Ultrathin Core-Te/Sheath-TeO_2 Nanowires [80], *Spyros N. Yannopoulos*, University of Patras, Greece (T. Vasileiadis, V. Dracopoulos, M. Kollia, S. N. Yannopoulos)	**Th-B1.4** Fundamental Studies of Degradation of Organic Solar Cells [22], *Vikram Dalal*, Iowa State University, USA (V. Dalal, J. Bhattacharya, M. Samiee, P. Joshi)	**Th-C1.4** The Network Environment of Light Induced Defects in Hydrogenated Amorphous Silicon Revealed: The Role of Hydrogenated Volume Deficiencies [119], *Arno H.M. Smets*, Delft University of Technology, The Netherlands (A. H.M. Smets, J. Melskens, M. Fischer, M. Zeman)
09.40 – 10.00		**09.40 – 10.10**: **Th-B1.5 Invited** Photocarrier Recombination Kinetics in a Bulk-Heterojunction Solar Cell Studied by photoinduced absorption spectroscopy, *Hiroyoshi Naito and Takashi Kobayashi*, Osaka Prefecture University, Japan	
10.00 – 10.30	**Coffee**		

	Session Th-A2	Session Th-B2	Session Th-C2
10.30 –12.30	**New Nano-Materials: Growth & Characterization II** **Chair: Asim Ray (Brunel University, UK)**	**Organic Semiconductors II** **Chair: Eric Schiff (Syracuse University, USA)**	**a-Si: Electronic Structure, Defects, Metastability II** **Chair: Rana Biswas (Rana Biswas, Ames Laboratory and Microelectronics Center, USA)**
10.30 – 10.50	**Th-A2.1** Structures of Amorphous Te and Te Nanoparticles Deposited at Liquid Nitrogen Temperature [109], *Hiroyuki Ikemoto*, University of Toyama, Japan (H. Ikemoto, S.Fujita, T. Watanabe, T. Miyanaga)	**Th-B2.1** Characterization Limit on Charge Injection Barriers in Organic Semiconductor Devices [251], *Liang-Sheng Liao*, Soochow University, China (L.-S. Liao)	**Th-C2.1** Spatial Defect Creation Profile in a-Si:H Solar Cells Following Light-Induced Degradation [171], *René van Swaaij*, Delft University of Technology, The Netherlands (R. A. C. M. M. van Swaaij, K. S. Oppedal, J. Melskens, A. H. M. Smets, M. Zeman)
10.50 – 11.10	**Th-A2.2** Electronic Properties of Hybrid Cu_2S/Ru Semiconductor/Metallic-Cage Nanoparticles [4], *Oded Millo*, The Hebrew University of Jerusalem, Israel (O. Millo, Y. Bekenstein, K. Vinokurov, U. Banin)	**Th-B2.2** Exciton Dissociation in P3HT:PCBM Bulk-Heterojunction Organic Solar Cell [16], *Monishka Rita Narayan*, Charles Darwin University. Australia (M. R. Narayan, J. Singh)	**Th-C2.2** Revealing the Complexity of the Staebler-Wronski Effect in Hydrogenated Amorphous Silicon Films and Solar Cells [136], *Jimmy Melskens*, Delft University of Technology, The Netherlands (J. Melskens, M. Schouten, S. W. H. Eijt, H. Schut, A. Mannheim, M. Zeman, A. H. M. Smets)
11.10 – 11.30	**Th-A2.3 NEW** Tunnel Optical radiation in $In_xGa_{1-x}N$/GaN Heterostructures [301], *Dimiter Alexandrov,* Lakehead University, Canada (D. Alexandrov, R. Gergova, P. Binsted) **[NEW]**	**Th-B2.3** Fundamental Material Physics of PTB7 Solar Cells [222], *Vikram Dalal*, Iowa State University, USA (M. Samiee, P. Joshi, D. Aidarkhanov, V. L. Dalal)	**Th-C2.3** Impact on Thin Film Silicon Solar Cell Electrical Performance of Substrates Fabricated Using the LatexT Process: Light Trapping and Reduction of the Stabler-Wronski Effect [72] *, Erik Johnson*, Ecole Polytechnique, France (E. Johnson, R. Boukhicha, P. R. i Cabarrocas, J.-F. Lerat, T. Emeraud)
11.30 – 11.50	**Th-A2.4** Chemical Aspects Driving Silicon Nanowire Growth on Sn Nanotemplates below the Eutectic Temperature [187], *Rajiv Dusane*, Indian Institute of Technology Bombay, India (N. Meshram, A. Kumbhar, R.O. Dusane) **[CANCELLED]**	**Th-B2.4** Investigation of the Degradation of Bulk Heterojunction Polymer Solar Cells by Low-Frequency Noise Spectroscopy [135], *Heinz-Christoph Neitzert*, Università di Salerno, Italy (G. Landi, C. Barone, A. De Sio, S. Pagano, and H. C. Neitzert)	**Th-C2.4** Crystalline Silicon Surface Passivation Using Microcrystalline Silicon Oxide Layers [89], *Kaining Ding*, Forschungszentrum Jülich, Germany (K. Ding, U. Aeberhard, A. Lambertz, B. Holländer, F. Finger, U.Rau)
11.50 – 12.10	**Th-A2.5 (We-B2.3)** Quasicrystalline Phase of Silicon Thin-Film: New Era in Microelectronics [260], *A.R. Middya*, Syracuse University, USA (A. R. Middya, K. Ghosh) **[RESCHEDULED]**	**11.50 – 12.20**: **Th-B2.5 Invited** Charge carriers transport in organic field effect transistors *Gytis Juška*, Vilnius University, Lithuania	**Th-C2.5** Solid-Phase Crystallization of High Growth Rate Amorphous Silicon Films Deposited by Gas-Jet Electron Beam Plasma CVD Method [226], *Evgeniy Baranov*, Institute of Thermophysics, Russia (E.A. Baranov, S.Ya. Khmel, A.O. Zamchiy, I.V. Cheskovskaya)
12.10 – 12.30			**Th-C2.6** Metastability Effects After Oxygen Exposure in Thick Silicon Films Deposited by VHF-PECVD on Glass

			Substrates Investigated by Dual Beam Photoconductivity [178], *Gökhan Yilmaz*, Mugla Sitki Koçman University, Turkey (G. Yilmaz, H. Cansever, M. Günes, V. Smirnov, F. Finger, R. Brüggemann)
12.30 – 14.00	**Lunch (Hart House)**		
	Session Th-A3	**Session Th-B3**	**Session Th-C3**
14.00 –15.20	**New Nano-Materials: Growth & Characterization III** **Chair: Andrei Sazonov (University of Waterloo)**	**Organic/Inorganic Heterojunction Solar Cells** **Chair: Eric Schiff (Syracuse University, USA)**	**a-Si: Electronic Structure, Defects, Metastability III** **Chair: Robert Johanson (University of Saskatchewan, Canada)**
14.00 – 14.20	**Th-A3.1** Structural and Optical Properties of DLC Thin Films Deposited by Pld Technique [196], *Indrajeet Kumar*, Indian Institute of Technology Guwahati, Guwahati (I. Kumar, A. Khare)	**Th-B3.1** Self-Assembled Silver Nanowires Mesh as Top Electrode for Organic-Inorganic Hybrid Solar Cell [115], *Ishwor Khatri*, Saitama University, Japan (I. Khatri, Q. Liu, R. Ishikawa, K. Ueno, H. Shirai)	**Th-C3.1** Metastability in Hydrogenated Amorphous Silicon Revisited [262], *A. R. Middya*, Silicon Solar, Inc., Fremont, CA, USA (A. R. Middya)
14.20 – 14.40	**Th-A3.2** Characterization of Mechanically Synthesized $AgInSe_2$ Quantum Dots [139], *Dinesh Pathak*, University of Pardubice, Czech Republic (D. Pathak, T. Wagner)	**Th-B3.2** Self-Assemble Ferroelectric Nanoarray and Its Application in C-Si/Pedot:Pss Heterojunction Solar Cells [110], Qiming Liu, Saitama University, Japan (Q. Liu, N. Miyauchi, R. Ishikawa, I. Khatri, K. Ueno, H. Shirai)	**Th-C3.2** Influence of Hydrogen Concentration on Void-Related Microstructure in Low Hydrogen Amorphous and Crystalline Silicon Materials [198], *Wolfhard Beyer*, Helmholtz-Zentrum Berlin, Germany (W. Beyer, U. Breuer, R. Carius, D. Lennartz, F.C. Maier, N.H. Nickel, F. Pennartz, P.Prunici, U. Zastrow)
14.40 – 15.00	**Th-A3.3** Synthetic Strategies for Shape Directing Nanomaterials: a Brief Review [37], *Gurinder Kaur Ahluwalia*, Materials and Nanotechnology Research Laboratory, NL, Canada. (Gurinder K. Ahluwalia, M. S. Bakshi)	**Th-B3.3** Improved Photovoltaic Response by Incorporating Green-Tea Modified Multiwalled Carbon Nanotubes in Organic/Inorganic Hybrid Solar Cell [114], *Ishwor Khatri*, Saitama University, Japan (I. Khatri, Q. Liu, R. Ishikawa, K. Ueno, H. Shirai)	**Th-C3.3** Atmospheric Aging and Light-Induced Degradation of Amorphous and Nanostructured Silicon Using Photoconductivity and Electron Spin Resonance [189], Zaki M. Saleh, *Middle East Technical University, Turkey* (Z. M. Saleh, G. Nogay, E. Ozkol, G. Yilmaz, M. Gunes, R. Turan)
15.00 –15.20	**Th-A3.4** pH Dependence Study of Zinc Oxide Nanorods Grown on Indium Tin Oxide Coated Substrate [249], *Kevin Farmer*, The University of Tulsa, USA (K. Farmer, P. Hari, K. Roberts)	**Th-B3.4** Efficient Tandem Junction Organic/Inorganic Hybrid Solar Cells [29], *Vikram Dalal*, Iowa State University, USA (Vikram Dalal, Mehran Samiee, Siva Konduri , Pranav Joshi, Rana Biswas)	**Th-C3.4** Ultrafast Dispersive Transport in a-$Si_{1-X}Ge_x$:H Investigated by Time-Resolved Near-Infrared and Terahertz Spectroscopy [235], Susan L. Dexheimer, Washington State University, USA (J. J. Felver, C. R. Hamner and S. L. Dexheimer) **[CANCELLED]**
15.20 – 15.50	**Coffee**		
	Session Th-A4	**Session Th-B4**	**Session Th-C4**
15.50 –16.30	**New Nano-Materials: Growth & Characterization IV** **Chair: Chair: Andrei Sazonov (University of Waterloo)**	**Medical Imaging Devices** **Chair: John Rowlands (TBRRI, Canada)**	**a-Si :H Heterostructures and Solar Cells** **Chair: Stephen O'Leary (UBC, Kelowna, Canada)**
15.50 – 16.10	**Th-A4.1** Inhomogeneous Magnetic Order in a	**15.50- 16.20 Th-B4.1 Invited** Towards Low Cost X-Ray	**Th-C4.1** Ultra High Quality Amorphous-Crystalline

	Superconductor/D^0 Ferromagnet Nanocomposite [77], *Takashi Uchino*, Kobe University, Japan (T. Uchino, K. Takahashi, Y. Uenaka, H. Soma, T. Sakura, H. Ohta)	Imaging Devices using a-Se, *Sorin Marcovici*, XLV Diagnostics, Thunder Bay, Canada	Silicon Heterostructures Prepared by Grid-Biased Triode RF PECVD [149] *Pratish Mahtani*, University of Toronto, Canada (P. Mahtani, K. R. Leong, B. Jovet, D. Yeghikyan, N. P. Kherani)
16.10 – 16.30	**Th-A4.2** Magneto-Electrical Analyses of ZnO Thin Films Depending on Cobalt Amount in Lattice [91], *Musa Mutlu Can*, Sabancı University, Turkey (Musa Mutlu Can, Tezer Fırat, S. Ismat Shah, Ahmet Oral)		**Th-C4.2** Nano and Microcrystalline Si Heterojunctions with Si by Opto-Thermal Processes [ooo] *Christopher Baldus-Jeursen*, University of Waterloo, Canada (Christopher Baldus-Jeursen and Siva Sivoththaman)
	Session P: Plenary (Bahen Building Room 1160)		
16.45 –17.30	**25th Anniversary Plenary Lecture 4** Substitutional Doping of Amorphous and Nanocrystalline Semiconductors **Martin Stutzmann**, Technische Universität München, Germany Chair: Reinhard Carius (Jülich Forschungszentrum, Germany)		
18.30 – 21.30	**Conference Dinner (Banquet, Hart House, Great Hall): 18.30 Cocktails, Hors d'Oeuvres 19.15 Dinner Seating 19.30 Dinner Poster Prizes Next ICANS (Reinhard Carius) Local News and Weather Arrivederci**		

Friday (August 23)

Time	Session Fr-A1	Session Fr-B1	Session Fr-C1
08.10 –10.00	**Amorphous Oxides I** **Chair: Rodrigio Martins (Universidade Nova de Lisboa, Portugal)**	**a-Si:H/c-Si Interface I** **Chair: Rene van Swaaij (TU Delft, The Netherlands)**	**Nano-and Microcrystalline Silicon: Photovoltaics I** **Chair: Arno Smets (Delft University of Technology, The Netherlands)**
08.10 – 08.40	**Fr-A1.1 Invited NEW** Band Edge and mid-band-gap electronic states: Chemical Bonding and Ligand Field Splittings *Gerald Lucovsky, North Carolina State University, USA*	**Fr-B1.1 Invited** Atomic structure of interface states in a-Si:H /c-Si heterojuction solar cells, *Klaus Lips*, Helmholtz-Zentrum Berlin, Germany	**Fr-C1.1 Invited** Investigation of metastability effects in hydrogenated microcrystalline silicon thin films by the steady-state measurement methods, *Mehmet Güneş*, Muğla University, Turkey
08.40 – 09.00	**Fr-A1.2** Electrical Characteristics of a Non-Volatile MIM Based Memory ($Al/Al_2O_3/Al$) Fabricated on Glass at 300°C for BEOL Processing [13], *Javier de la Hidalga and Joel Molina,* National Institute of Astrophysics, Optics and Electronics, Mexico (J. Molina, R. Valderrama, C. Zuniga, P. Rosales, W. Calleja, A.Torres, J. Hidalga, E.Gutierrez)	**Fr-B1.2** Interface Defect Monitoring Using Surface Photovoltage Spectroscopy in Amorphous/Crystalline Silicon Heterojunction Solar Cell [194], *Xiangbo Zeng*, Chinese Academy of Sciences, Beijing, China (H. Li, X. Zeng , X. Xie, P. Yang, J. Li, X. Zhang, Q. Wang)	**Fr-C1.2** Improvement of Light Trapping in Thin-Film Silicon Solar Cells by Combining Periodic and Random Interfaces [134], *Karsten Bittkau*, Forschungszentrum Jülich, Germany (K. Bittkau, A. Hoffmann, R. Carius)
09.00 – 09.20	**Fr-A1.3** Optical and Electrical Properties of Nanocrystalline Si Doped SiO_x Thin Films Formed by Co-Sputtering [177], *Katsuya Hirata*, Meiji University, Japan (K. Hirata, H. Katsumata)	**Fr-B1.3** Amorphous/Crystalline Silicon Interfaces: Correlation Between Infrared Spectroscopy and Electronic Passivation Properties [176], *Jakub Holovsky*, École Polytechnique Fédérale de Lausanne, Switzerland (J. Holovský, S. De Wolf, B. Demaurex, A. Descoeudres, E. M. E.	**Fr-C1.3** Light-Management Schemes for *n-i-p* Thin-Film Silicon Solar Cells [27], *Karin Söderström*, Ecole Polytechnique Fédérale de Lausanne, Switzerland (K. Söderström, R. Biron, G. Bugnon, A. Naqavi, J. Escarré, C. Pahud, F. Meillaud, F.-J. Haug, C. Ballif)

		Mhamdi, J. Geissbühler , S. M. De Nicolás, C. Ballif)	
09.20 – 09.40	**Fr-A1.4** The Role of Biasing Electric Field in Intrinsic Resistive Switching Characteristics of Silicon Highly Rich a-SiO_x (x = 0.73) Films [117], *Kunji Chen*, Nanjing University, China (Y. Wang, K. Chen, X. Qian, Z.i Fang, W. Li, J. Xu)	**Fr-B1.4** Facile Grown Oxide Based Passivation for Silicon Heterojunction PV Cells [244], Zahidur Chowdhury, University of Toronto, Canada (Z. R. Chowdhury, N. P. Kherani)	**Fr-C1.4** Influence of Plasma Conditions on Properties of the Window Layer and Solar Cell Performance [103], *Sergej Filonovich*, Universidade Nova de Lisboa, Portugal (S.A. Filonovich, T.P. Mateus, H. Aguas, A. Vicente, J.P. Leitão, E. Fortunato and R.Martins)
09.40 – 10.00	**Fr-A1.5** Roles of Hydrogen in Amorphous In-Ga-Zn-O [179], *Hideo Hosono*, Tokyo Institute of Technology, Japan (T. Kamiya, H. Kumomi, H. Hosono)	**Fr-B1.5** a-Si:H/C-Si Interface Degradation Upon Ito Sputtering. Influence of the Doping [68], *Igor Paul Sobkowicz*, TOTAL New Energies, Paris La Défense, France (I. P. Sobkowicz, J. Nassar, G. Courtois, A. Salomon, P. R. i Cabarrocas)	**Fr-C1.5** The Indium-Tin Oxide Films by Dc Magnetron Sputtering for Improved Heterojunction Solar Cell Applications [123], *Jinhua Gu*, Zhengzhou University, China (J. Gu, J. Wang, Y. Feng Yuan Xue, X. Gao, J. Lu)
10.00 – 10.30	**Coffee**		
	Session Fr-A2	**Session Fr-B2**	**Session Fr-C2**
10.00 –12.40	**Amorphous Oxides II** **Chair: Gurinder K. Ahluwalia, College of the North Atlantic, Labrador City**	**a-Si:H/c-Si Interface II** **Chair: Nazir Kherani (University of Toronto, Canada)**	**Nano-and Microcrystalline Silicon: Photovoltaics II** **Chair: Ruud Schropp (Energy research Center of the Netherlands (ECN) and Eindhoven University of Technology (TU/e))**
10.30 – 10.50	**Fr-A2.1** Strong Blue-Green Photoluminescence from a-SiN_xO_y Films with Internal Quantum Efficiency Exceeding 62 % [116], *Kunji Chen*, Nanjing University, China (P. Zhang, K. Chen, P. Zhang, H. Dong, W. Li, J. Xu, X. Huang)	**Fr-B2.1** Thin Microcrystalline Layers for Application in Silicon Heterojunction Solar Cells [23], *Johannes Peter Seif*, Ecole Polytechnique Fédérale de Lausanne, Switzerland (J. P. Seif, A. Descoeudres, Z. C. Holman, S. De Wolf, C. Ballif)	**Fr-C2.1** Development of PECVD Microcrystalline Silicon Oxide as a Replacement for *n*-Type and Back TCO Layers in Amorphous Silicon Thin-Film Solar Cells [263], *Shin-Wei Liang*, National Chiao Tung University, Taiwan (S.-W. Liang, H.-J. Hsu, L.-S. Chang, C.-H. Hsu, C.-C. Tsai)
10.50 – 11.10	**Fr-A2.2** Control of Growth Process for Obtaining High Quality a-SiO:H [71], *Yasushi Sobajima*, Osaka University, Japan (Y. Sobajima, S. Kinoshita, S. Kakimoto, R. Okumoto, C. Sada, A. Matsuda, H. Okamoto)	**Fr-B2.2** Temperature and Bias Dependence of Hydrogenated Amorphous Silicon/Crystalline Silicon Heterojunction Capacitance: the Link to Band Bending and Band Offsets [143], *Jean-Paul Kleider*, CNRS/Supélec, France (O. Maslova, A. Brézard-Oudot, M.E. Gueunier-Farret, J. Alvarez, W. Favre, D. Muñoz, A.S. Gudovskikh, E. Terukov, J. P. Kleider)	**Fr-C2.2** p- and n-Type Microcrystalline Silicon Oxide (μc-SiO_x:H) for Applications in Thin Film Silicon Tandem Solar Cells [146], *Vladimir Smirnov*, Forschungszentrum Jülich GmbH, Germany (V. Smirnov, A. Lambertz, S. Tillmanns, F. Finger)
11.10 – 11.30	**Fr-A2.3** Fabrication of SiO_x Thin Films by Pulsed Laser Deposition [213], *Alika Khare*, Indian Institute of Technology Guwahati, India (P. P Dey, A. Khare)	**Fr-B2.3** Hydrogenated Amorphous Silicon and Quasimorphous Silicon Thin-Film for Solar Cells Application [259], *A.R. Middya*, Silicon Solar, Inc., Fremont, CA (A. R. Middya)	**Fr-C2.3** Light Trapping in Silicon Thin Films Measured by Raman Spectroscopy [186], *Martin Ledinsky*, Academy of Sciences of the Czech Republic, Czech Republic (M.Ledinský, K.Ganzerová, A. Fejfar, F. Meillaud, G. Bugnon, C. Ballif)
11.30 – 11.50	**Fr-A2.4** Quantum Confinement Effects in Amorphous In-Ga-Zn-O [62], *Katsumi Abe*, Tokyo Institute of	**Fr-B2.4** Stability of (n-) c-Si Passivation Properties by a-Si:H Layers During Thermal Treatments [182], *Wilfried*	**Fr-C2.4** Improved Light Trapping Effect for Thin-Film Silicon Solar Cells by New White Glass [227], *Hidetoshi*

	Technology, Japan (K. Abe, T. Kamiya, H. Hosono)	*Favre*, CEA-INES, France (W. Favre, R. Champory, R. Varache, T, Desrues, D. Muñoz)	*Wada*, Tokyo Institute of Technology, Japan (H. Wada, B. Janthong, P. Sichanugrist, M. Konagai)
11.50 – 12.10	**Fr-A2.5** Silicon Oxide Interlayers in Hot Wire Chemical Vapor Deposition of a Silicon Nitride/Polymer Thin Film Moisture Barrier [228], *Diederick Spee*, Debye Institute for Nanomaterials Science, The Netherlands (D. Spee, K. van der Werf, J. K. Rath, R. E.I. Schropp)	**Fr-B2.5** Optical Enhancement in a-Si:H/a-SiGe:H Tandem and a-SiGe:H Single-Junction Solar Cells [264], *Hung-Jung Hsu*, National Chiao Tung University, Taiwan (H.-J. Hsu, S.-W. Liang, C.-H. Hsu, C.-C. Tsai)	**Fr-C2.5** Thermodynamic Behavior of Periodic and Random Light-Trapping Structures in Thin-Film Silicon Solar Cells [250], *Eric A. Schiff*, Syracuse University, USA (B. Maynard, H. Zhao, E. Schiff)
12.10 – 12.40		**Fr-B2.6 Invited** High-Efficiency Amorphous/Crystalline Silicon Heterojunction Solar Cells, *Stefaan De Wolf*, École Polytechnique Fédérale de Lausanne, Switzerland,	**Fr-C2.6 Invited** Nanophotonic Light Trapping In Ultra-Thin Film Solar Cells, *Vivian Ferry*, University of California Berkeley, USA
12.40 – 14.00	**Lunch**		
	Session Fr-A3	**Session Fr-B3**	**Session Fr-C3**
12.40 –15.10	**Amorphous Oxides III** **Chair: Andrei Sazonov (University of Waterloo)**	**a-Si:H/c-Si Interface III** **Chair: Stephen O'Leary (UBC, Kelowna, Canada)**	**Nano-and Microcrystalline Silicon: Photovoltaics III** **Chair: Stefan Zukotynski (University of Toronto)**
14.00 – 14.20	**Fr-A3.1** Boron Doping in a-SiO:H [79], *Yoshihiko Kitani*, Osaka University, Japan (Y. Kitani, T. Maeda, S. Kakimoto, K. Tanaka, R. Okumoto, Y. Sobajima, C. Sada, A. Matsuda, H. Okamoto)	**Fr-B3.1** Stabilizing Amorphous Silicon Against Photodegradation Using Nanocrystalline Silicon [161], *Satish Chandra Agarwal*, Indian Institute of Technology, India (N. P. Reddy, V. K. Vishwakarma, R. Gupta, S.C. Agarwal)	**Fr-C3.1** Intensive Luminescence from Laser Heated Freestanding Silicon Nanocrystals [74], *Lihao Han*, Delft University of Technology, The Netherlands (L. Han, A. H.M. Smets, M. Zeman)
14.20 – 14.40	**Fr-A3.2** Electronic Structure Within the Mobility Gap and Photoinduced Instability of Amorphous IGZO [188], *Kousaku Shimizu*, Nihon University, Japan (K. Shimizu, M. Nagai)	**Fr-B3.2** High Current Density, Hybrid Nanocrystalline / Amorphous Silicon Schottky Diodes [247], *Josue Sanz-Robinson*, Princeton University, USA (J. Sanz-Robinson, W. Rieutort-Louis, Y. Hu, L. Huang, N. Verma, S. Wagner, J. C. Sturm)	**Fr-C3.2** Fundamental Limits of High-Efficiency Microcrystalline Silicon Thin-Film Solar Cells: The Role of Interfaces [132], *Simon Hänni*, Ecole Polytechnique Fédérale de Lausanne, Switzerland (S. Hänni, G. Bugnon, G. Parascandolo, J. Escarré, M. Boccard,M. Despeisse, F. Meillaud, C. Ballif)
14.40 –15.00	**1440 – 15.10: Fr-A3.3 Invited** Thin film, uncooled micro-bolometers based on plasma deposited materials, *Andrey Kosarev*, INAOE, Electronics, Mexico **[NEW SCHEDULE]**	**Fr-B3.3** A Comprehensive Model for Injection-Dependent Charge Carrier Lifetime Curves [201], *Caspar Leendertz*, Helmholtz-Zentrum Berlin für Materialien und Energie GmbH, Germany (C. Leendertz, L. Korte, A. Töfflinger, T. Schulze, B. Rech)	**14.40 – 15.10: Fr-C3.3 Invited** 3D Morphologies for Back-Scattering Contacts of a-Si:H And µc-Si:H Thin Film Solar Cells, *Ruud Schropp,* Energy research Center of the Netherlands (ECN) and Eindhoven University of Technology (TU/e)
15.10 – 15.40	**Coffee**		
	Session P: Plenary (Bahen Building Room 1160)		
15.45 – 16.30	**25th Anniversary Plenary Lecture 5** *Theory of Charge Transport in Disordered Materials*		

	Sergei Baranovski, Philipps Universität Marburg, Germany Chair: Alla Reznik, Lakehead University, Canada
16.30 – 17.00	**Closing** **Next ICANS26 (Reinhard Carius, Jülich, Germany), ICANS27 (TBA)** **Proceedings Papers and the Canadian Journal of Physics, Alla Reznik (Coordinating Editor)** **und, Auf Wiedersehen** Chair: Safa Kasap, University of Saskatchewan, Canada

Poster Sessions

Monday and Tuesday

Posters can be put up starting noon on Sunday and must be taken down by Thursday noon. All presenters should put up their posters by Monday noon (including Tuesday posters) and then remove them before noon on Thursday.

Bahen Building (Second Floor)

Chairs: Robert Johanson (University of Saskatchewan) and Stephen O'Leary (UBC, Kelowna)

Best Poster Prize Committee: Robert Johanson (University of Saskatchewan), Coordinator, Stephen O'Leary (UBC, Kelowna), Alla Reznik (Lakehead University)

Rana Biswas (Ames Lab and Iowa State University) and Peyman Servati (UBC)

Monday, August 19 ((Bahen BA 2145, 2155, 2165)

	TFT and Large Area Electronics		
PM01	Charge Transport in solution processed thin films of Zinc Oxide [285] *Asim K Ray*, Brunel University, UK (P. Harris, S. Paul, C. Pal, A. K. Sharma, Asim K. Ray)	PM23	Determination of density of defect states of n-type amorphous Selenium in multilayer X-ray Detectors, [199] *M. Zahangir Kabir*, Concordia University, Canada (M. Z. Kabir, S.-Al Imam)
PM02	Photocurrent Analysis of IGZO film [282] *Ju-Yeon Kim*, Hoseo University, Korea (J.-Y. Kim, K.-M. Yu, S.-H. Jeong, E.-J. Yun, B. S. Bae)	PM24	Effect of As and Cl Doping on the Valence Band States of a-Se [233] *Mohammed Loutfi Benkhedir*, Université d'Oran es sénia Algeria (M. Mansour, F. Djefaflia, F. Serdouk, M. L. Benkhedir)
PM03	Local Area Transfer and Simultaneous Crystallization of Amorphous Si Films with Midair Structure Induced by Near-Infrared Semiconductor Diode Laser Irradiation [256] *Kohei Sakaike*, Hiroshima University, Japan	PM25	Photo-induced Changes in Amorphous Selenium [232] *Mohammed Loutfi Benkhedir*, Université d'Oran es sénia Algeria (F. Djefaflia, C. Mebarkia, A. Hafdallah, M. L. Benkhedir, A. Belfedal)

	(K. Sakaike, Y. Kobayashi, S. Nakamura, M. Akazawa, S. Hayashi, S. Morisaki, M. Ikeda, S. Higashi)		
PM04	A study of the density of states in polycrystalline TFTs fabricated by SPC and excimer laser [239] *Boudiaf Hafida*, AMEL, université Djillali Liabès, Algérie (H. Boudiaf, F. Le Bihan, Z. Benamara, L. Pichon, M. Amrani)	PM26	Rapid Thermal Processing of Cu_2ZnSnS_4 Thin Films for Photovoltaics [197] *António Ferreira da Cunha*, Universidade de Aveiro, Portugal (M. G. Sousa, A. F. da Cunha, P. A. Fernandes)
PM05	Simulation Model for Au/n-GaN Device [190] *A. Sertap Kavasoğlu*, Mugla Sitki Kocman University, Turkey (B. Metin, N. Kavasoglu, A. S. Kavasoglu)	PM27	Photodarkening vs. Photobleaching In Amorphous Ge_xSe_{x-1} Films [286] *A. Mishchenko*, Thunder Bay Regional Research Institute, Canada (A. Mishchenko, K. Wolf, M. Mitkova, A. Reznik)
PM06	Fabrication and Characterization of Photoconductive Ag/p-Si/Ag Device for Photodiode Applications [195] *Nese Kavasoglu*, Mugla Sitki Kocman University, Turkey (N. Kavasoglu, A. S. Kavasoglu, A. E. Mamuk)		**New Nano-Materials**
PM07	Resistive switching assisted active broadband optical tunability using metal-oxide semiconductors ZnO [237] *Ali Kemal Okyay*, Bilkent University, Turkey (E. Battal, A. Ozcan, A .K. Okyay)	PM28	Aqueous synthesis and characteristic of highly stable CdTe/CdS core/shell quantum dots with widely tunable emission covering the full visible spectrum [86] *Ling Xu*, Nanjing University, People's Republic of China (H. Wang, L. Xu, J. Chen, N. Liu, F. Yang, J. Xu, W. Su, Y. Yu, Z. Ma, K. Chen)
PM08	Tuning optical properties of ALD ZnO at infrared wavelengths by growth temperature [133] *Ali Kemal Okyay*, Bilkent University, Turkey (E. Battal, A. K. Okyay)	PM29	Improved Efficiency of ZnSe-QDs/Si Hybrid Solar Cell System by Down-shifting Process [85] *Ling Xu*, Nanjing University, People's Republic of China (N. Liu, L. Xu, H. Wang, J. Xu, W. Su, Y. Yu, Z. Ma, K. Chen)
PM09	Solution Processable of Nanostructured Organic-Inorganic Hybrid Thin Films Based in HfO_2/PVP as Dielectric in Flexible Electronic Applications [41] *Roberto Ambrosio*, Universidad Autónoma de Ciudad Juárez (UACJ), México (R. Ambrosio, O. Cano, C. Martinez, A. Carrillo, M. Moreno, A. Heredia)	PM30	Thermal Treatments and Characterization of CZTS Thin Films Deposited Using Nanoparticle Ink [150] *Xavier Mathew*, Universidad Nacional Autónoma de México, México (A. Martinez-Ayala, M. Pal, N. R. Mathews, X. Mathew)
PM10	Numerical Simulations of p-type PbS Thin Film Transistor Electrical Characteristics [56] *Abimael Jiménez Pérez*, Universidad Autónoma de Ciudad Juárez, Mexico (A. Jiménez-Pérez, A. Carillo-Castillo, R. C. Ambrosio-Lázaro, E. E. R. Hernández, J. Mireles-García, A. S. Carvajal)	PM31	Physics of Dye-sensitized Solar Cells Photo-anodes with TiO2/MWCNT Composites [218] *Simone Quaranta*, University of Ontario, Ottawa, Canada (S. Quaranta, F. Gaspari, L. Trevani, D. McGillivray)
	Materials for MEMS and CMOS	PM32	Effect of buffer layers on surface potencial of Cu_3BiS_3 thin films measured by KPFM [144] *Dalila Fajardo, Universidad del Rosario, Bogotá-Colombia* (F. Mesa, D. Farjado)
PM11	Deposition and Characterization of BST Thin Films by RF Reactive Magnetron Sputtering Aiming RF MEMS Applications [11] *Marcus V. Pelegrini*, Universidade do Estado de São Paulo, Brazil (M. V. Pelegrini, I. Pereyra)	PM33	Vibration Analysis of Multi-Layered Graphene Sheets [26] *X. Q. He*, City University of Hong Kong, Hong Kong (K. Q. He)

	Chalcogenides	PM34	Solution -based Metal-Oxide Semiconductor Film And Its Properties [75] *Juan Li*, Nankai University, China (J. Li, M. Yang, S. Xiong)
PM12	Photolithography-Free Ge-Se Based Memristive Arrays; Materials Characterization and Devices Testing [138] *István Csarnovics*, Boise State University, USA (M. R. Latif, I. Csamovics, S. Kökényesi, A. Csik, M. Mitkova)	PM35	Influence of Au film thickness on the morphology of ZnO nanostructures grown on Silicon substrates [130] *Katerina Govatsi*, University of Patras, Greece (K. Govatsi, V. Dracopoulos, S. N. Yannopoulos)
PM13	Temperature Studies of Optical Properties of As-deposited and Annealed $(Ag_3AsS_3)_{0.45}(As_2S_3)_{0.55}$ Thin Film [9] *Sandor Kokenyesi*, University of Debrecen, Hungary (I. Studenyak, Y. Neimet, R. Buchuk, M. Trunov, S. Kökényesi)	PM36	Multilayer Thick-film Structures Based on Spinel Ceramics [163] *Halyna Klym*, Lviv Polytechnic National University, Ukraine (H. Klym, I. Hadzaman, O. Shpotyuk)
PM14	Thickness Dependence of Electron Transport in Pure a-Se Photoconductive Films [57] *Cyril Koughia*, University of Saskatchewan, Canada (D.Mortensen, G. Belev, C. Koughia, R. Johanson, S. Kasap)	PM37	Composite Materials Based on Nanostructured Zinc Oxide [221] *Alpysbayeva Balausa*, Kazakh National Technical University, Kazakhstan (Kh. A. Abdullin, B.E. Alpysbayeva , N. B. Bakranov, D. V. Ismailov, J. K. Kalkohoza, S. E. Kumekov, L. V. Podrezova, G. Cicero)
PM15	Temperature Dependence of Charge Carrier Ranges in a-Se Based X-ray Photoconductors [58] *Cyril Koughia*, University of Saskatchewan, Canada (B. Fogal, C. Koughia, S. Kasap)	PM38	CVD Synthesis of Carbon Nanostructures and Composites [223] *Alpysbayeva Balausa*, Kazakh National University, Kazakhstan (Kh. A. Abdullin, B. E. Alpysbayeva, D. G. Batryshev, Y. V. Chikhray, M. T. Gabdullin, D. V. Ismailov, A. K. Togambaeva)
PM16	Electron Lifetime and Its Dependence on Temperature and Dose in a-Se Photoconductors [64] *Michael Walornyj*, University of Saskatchewan, Canada (M. Walornyj, S. Kasap)	PM39	Production of nanoporous alumina by two-step anodization and study their structural properties by AFM and SEM [257] *Alpysbayeva Balausa Erbolatovna*, al-Farabi Kazakh National University, Kazakhstan (Alpysbayeva B. E., Abdullin Kh. A., Sazonov A. Yu.)
PM17	Dispersion of Dielectric Characteristics in the $Ge_{20}As_{20}S_{60}$ Chalcogenide Glasses [113] *Vachagan Avanesyan*, Herzen State Pedagogical University, Russia (V. Avanesyan, D. Arsova)	PM40	Conductivity of Carbon Nanowalls in Different Atmosphere [267] *Takashi Itoh*, Gifu University, Japan (T. Itoh, Y. Nakanishi, T. Ito, Y. Bannno, S. Nonomura)
PM18	Peculiarities of Bi Doping of Ge-Sb-Te Thin Films for PCM Devices [128] *Oleg Prixodko/ Sergey Kozyukhin*, Kurnakov Institute of General and Inorganic Chemistry, Russia (S. Kozyukhin, A. Sherchenkov, A. Babich, P. Lazarenko, H. P. Nguyen, O. Prikhodko)	PM41	Effect of Thermal Annealing in a-$In_XGa_{1-X}N$ Films Prepared by Reactive RF-Sputtering [268] *Takashi Itoh*, Gifu University, Japan (T. Suzuki, R. Katayama, S. Hibino, Y. Kato, F. Ohashi, T. Itoh, S. Nonomura)
PM19	Modification of Structure and Electronic Properties of Amorphous $As_{40}Se_{30}S_{30}$ Films [183] *Oleg Prikhodko*, al-Farabi Kazak National University, Kazakhstan (O. Prikhodko, N. Almasov, S. Dyusembayev, S. Maximova, V. Ushanov, S. Kozyukhin, N. Altynnikova)	PM42	Study of the Mechanical Properties of as Deposited Multilayer Graphene Films on Ni Substrate [174] *Pratima Agarwal*, Indian Institute of Technology Guwahati, India (M. Singh, H. S. Jha, P. Agarwal)

PM20	Growth and structural characterization of $Cu_2ZnSnSe_4$ compound for solar cells [145] *Fredy Giovanni Mesa*, Universidad del Rosario, Bogotá-Colombia (N. Seña, F. Mesa, A. Dussan, G. Gordillo)	PM43	Effect of Substrate Temperature on the Structural and Optical Properties of CdTe Films Prepared by Thermal Evaporation [173] *Pratima Agarwal*, Indian Institute of Technology Guwahati, India (L. Zuala, P. Agarwal)
PM21	Investigation of Zn diffusion and grain growth in $Cu_2ZnSn(S,Se)_4$ absorber using a CuSnS/Zn/Mo precursor structure [181] *Hung Ru Hsu*, Industrial Technology Research Institute, Taiwan (H. R. Hsu, T. S. Wu, C. W. Chang, H. M. Chen, Y. Y. Wang, S. H. Wu)	PM44	Microscopy investigation of the multi-walled carbon nanotube interconnection geometry [276] *Heinz-Christoph Neitzert*, Università di Salerno, Italy (R. Di Giacomo, H. Wegner, C. Boit, A. De Girolamo, V. Speranza, H. C. Neitzert)
PM22	Formation mechanism of $Cu_2ZnSnSe_4$ absorber layers prepared using a sputtering CuZnSn ternary target [180] *Hung Ru Hsu*, Industrial Technology Research Institute, Taiwan (H. R. Hsu, C. W. Chang, T. S. Wu, C. C. Li, Y. Y. Wang, H. M. Chen, S. H. Wu)	MP45	Indium Tin Oxide Nanoparticle Deposition by Reverse Micelles [219] *Hyeonghwa Yu*, McMaster University, Canada (H. Yu, A. Turak)

Tuesday, August 20 (Bahen BA 2175, 2185, 2195)

	a-Si and related compounds	PT25	Defect Formation Mechanisms and Disorder in Molecular-beam-epitaxy Grown Silicon Epilayers [42] *Arash Akbari-Sharbaf*, University of Western Ontario, Canada (A. Akbari-Sharbaf, J.-M. Baribeau, X. Wu, D. J. Lockwood, G. Fanchini)
PT01	Light-induced degradation of multijunction α-Si:H/μc-Si:H solar cells [39] *Andrey I. Kosarev*, National Institute of Astrophysics, Mexico (O. I. Chesta, V. M. Emelyanov, A. I. Kosarev, D. L. Orekhov, M. Z. Shvarts, E. I. Terukov)	PT26	Investigation of the Structure of the Nitride Silicon Layers by Raman Spectroscopy [131] *Balausa Alpysbayeva*, Al-Farabi Kazakh National University, Kazakhstan (F. Komarov, A. Togambayeva, L. Vlasukova, I. Parkhomenko, N. Ankusheva, M. Makhavikov and B. Alpysbayeva)
PT02	Photo-Electronic Characteristics of a-Si:H/a-$Ge_{0.97}Si_{0.03}$:H Photovoltaic Devices and Their Relation to the Device Configuration [82] *Francisco Temoltzi Avila*, National Institute of Astrophysics Optics and Electronics, Mexico (F. T. Avila, A. Kosarev, O. Malik)	PT27	Optoelectronic properties and microstructure of Al-doped microcrystalline silicon carbide [278] *Florian Köhler*, Forschungszentrum Jülich GmbH, Germany (F. Köhler, T. Chen, C. Sellmer, T. Bronger, A. Heidt, F. Finger, and R. Carius)
PT03	Effect of Hydrogen Concentration on Structure and Photoelectric Properties of a-Si:H Films Modified by Femtosecond Laser Pulses [140] *Mark Khenkin*, M.V. Lomonosov Moscow State University, Russia (M. Khenkin, A. Emelyanov, A. Kazanskii, P. Forsh, M. Beresna, M. Gecevicius, P. Kazansky)	PT28	Photoluminescence Properties of Er and Nanocrystalline-Si in SiO_2 Films and Aqueous Solutions [279] *Hiroshi Katsumata*, Meiji University, Japan (H. Katsumata, Y. Komori, K. Hirata, H. Hara)
PT04	Now an oral paper. See Th-C4.1	PT29	Experiment And Simulation Study Of The Effect Of The Crystalline Fraction On The Electronic Properties Of μc-Si:H [92] *SIB Jamal Dine*, Université d'Oran, Algérie

			(J. D. Sib, M. Chahi, A. Chemi, D. Benlakehal, A. Kebbab, Y. Bouizem, L. Chahed)
PT05	Electronic properties of undoped microcrystalline silicon oxide films [242] *Vladimir Smirnov*, Forschungszentrum Jülich, Germany (S. Reynolds, S. Michard, S. Wang, V. Smirnov)	PT30	Effect of film thickness on electrical properties of nc-3C-SiC:H/c-Si heterojunction diodes prepared by HW-CVD [241] *Yoshikazu Imori*, Nagoya University, Nagoya, Japan (Y. Imori, A. Tabata)
PT06	Bifacial microcrystalline silicon solar cells with improved performance due to μc-SiOx:H doped layers [281] *Vladimir Smirnov*, Forschungszentrum Jülich, Germany (V. Smirnov, A. Lambertz, F. Finger)		**Organic Semiconductors**
PT07	Radial p-n Junction Solar Cells Based on Oriented Silicon Nanowire Arrays with Low Temperature Phosphorus doping [253] *Fengzhen Liu*, University of Chinese Academy of Sciences, China (G. Dong, F. Liu, H. Zhang, M. Zhu)	PT-31	Exciton-induced Interfacial Degradation in Organic Light-Emitting Devices [287] *Yingjie Zhang*, University of Waterloo, Canada (Yingjie Zhang, Qi Wang , Mina M. A. Abdelmalek and Hany Aziz)
PT08	Local Surface Potential on Microcrystalline Silicon Films [266] *Takashi Itoh*, Gifu University, Japan (T. Itoh, T. Sakai, T. Ito, H. Kuriyama, T. Suzuki, S. Nonomura)	PT32	Dielectric Characteristics of a New Organometallic Nanostructured Polymer Structure Based on the Cu(II) Complex [114] *Vachagan Avanesyan*, Herzen State Pedagogical University, Russia (V. Avanesyan, C. Vodkailo)
PT09	A-Si:H n-i-p Solar Cells Fabricated at 100 ^{o}C for High V_{oc} Top Cell of Spectrum Splitting Solar Cells [283] *Dong-Won Kang*, Tokyo Institute of Technology, Japan (D.-W. Kang, S. Kim, P. Sichanugrist, M. Konogai)	PT33	Nanophotonic Analysis of Doping Organic Semiconductors [151] *Fredy Giovanni Mesa Rodriguez*, Universidad Libre, Bogotá –Colombia (B. A. Paez-Sierra, H. Rodríguez-Hernández, F. Mesa)
PT10	The Role of N_x-Si-O_y Bonding Configuration in Yielding Strong Blue to Red Photoluminescence from Amorphous SiN_xO_y Film [120] *Hengping Dong*, Nanjing University of Science and Technology, China (H. Dong, K. Chen, P. Zhang, W. Li, J. Xu, Z. Liu, Z. Sun)	PT34	Direct Surface Relief Pattering of Azo-polymers Films via Holographic Recording [165] *Jelena Aleksejeva*, University of Latvia, Latvia (J. Aleksejeva, M. Reinfelde, J. Teteris)
PT11	Photothermal Radiometry for Estimation of Defect Density of Silicon Thin Films with Large Area for Solar Cells [184] *Norimitsu Yoshida*, Gifu University, Japan (N. Yoshida, Y. Fukaya, K. Ishii, Y. Matsuda, S. Nonomura)	PT35	High field-effect mobility of poly(3-alkylthiophene)-based organic transistor with top-gate configuration [166] *Kenichiro Takagi*, Osaka Prefecture University, Japan (K. Takagi, T. Nagase, T. Kobayashi, H. Naito)
PT12	Light Induced Changes in Hydrogenated Polymorphous Silicon Solar Cells: Beyond the Staebler-Wronski Effect [99] *Pere Roca i Cabarrocas*, Ecole Polytechnique, Palaiseau, France (K.-H. Kim, E. V. Johnson, P.R. i Cabarrocas)	PT36	Energy Level alignment of MoO_3 on Organic Semiconductors [275] *Robin White*, University of Toronto, Canada (R. T. White, L. Chai, M. T. Greiner, Z. H. Lu)
PT13	Applying a Dimensionless Joint Density of States Formalism to the Analysis of the Optical	PT37	High efficient blue fluorescent organic light-emitting diodes with high doped concentration

	Response of Hydrogenated Amorphous Silicon, [122] *Stephen K. O'Leary*, The University of British Columbia, Canada (J. J. Thevaril, S. K. O'Leary)		[277] *Nan Jiang*, , Yunnan University, China (T. Zhang, S. J. He, Z. B. Wang, D. K. Wang, N. Jiang, Z. H. Lu)
PT14	Hydrogen kinetics in a-Si:H and a-SiC:H thin films investigated by Real-time ERD [284] *Sylvain Halindintwali*, University of the Western Cape, South Africa (S. Halindintwali, J. Khoele, B. Julies, C. M. Comrie)	PT38	Energy Transfer in Organic Light Emitting Diodes [280] *Grayson L. Ingram*, University of Toronto, Canada (G. L. Ingram, Z. Lu)
PT15	Amorphous Silicon-Nitride Films Prepared By Reactive Sputtering [65] *Makoto Nozawa*, Tokai University, Japan (M. Nozawa, M. Isomura)	PT39	Modeling of current-voltage characteristics of bulk heterojunction Organic Solar Cells [200] *M Zahangir Kabir*, Concordia University, Canada (S. M. Amab, M. Z. Kabir)
PT16	Infrared Detector Based on Germanium Thin Films Fabricated at Low Temperature (200°C) [69] *Roberto Ambrosio*, Universidad Autónoma de Ciudad Juárez (UACJ), México (R. Jimenez, M. Moreno, A. Torres, R. Ambrosio, A. Kosarev, P. Rosales, C. Zuniga)	PT40	Effects of molybdenum oxide molecular doping on the chemical structure of poly(3,4-ethylenedioxythiophene):poly(stylenesulfonate) and on carrier collection efficiency of c-Si/PEDOT:PSS heterojunction solar cells [111] *Qiming Liu*, Saitama University, Japan (Q. Liu, I. Khatri, R. Ishikawa, K. Ueno, H. Shirai)
PT17	A Comparative Study of the Infrared-Sensing Properties of Silicon and Germanium Based Thin Films [70] *Roberto Ambrosio*, Universidad Autónoma de Ciudad Juárez (UACJ), México (M. Moreno, T. Torres, R. Ambrosio, A. Kosarev, R. Jimenez, A. Perez, P. Rosales, C. Zuniga)		**Oxide Glasses and Amorphous Oxides**
PT18	The mechanisms behind the enhancement of the near-infrared light emission due to Er+Yb ions in an optical microcavity [141] *Ivan Braga Gallo*, Universidade de São Paulo, SP – Brasil (I. B. Gallo, A. R. Zanatta, A. Braud, R. Moncorgé)	PT41	Physical and Optical Characterization of TiO_2 Nanoparticles Embedded in SOG-Based SiO_2 Films, [90] *Francisco Javier De la Hidalga Wade*, National Institute for Astrophysics, Optics and Electronics, México (J. Molina, C. Zúñiga, M. Moreno, W. Calleja, P. Rosales, R. Ambrosio, F. J. de la Hidalga-W, A. Torres, C. Reyes, E. Gutierrez, E. R. Bandala, J. L. Sánchez)
PT19	Experimental determination of the thermo-optic coefficient of amorphous silicon nitride films in the visible and near-infrared energy ranges [142] *Ivan Braga Gallo*, Universidade de São Paulo, SP – Brasil (A. R. Zanatta, I. B. Gallo)	PT42	Characteristic of Fluorine-Doped Tin Oxide Films Deposited by Pulsed Spray Technique, [102] *Javier de la Hidalga-Wade*, National Institute for Astrophysics, Optics and Electronics, México (O. Malik, F. J. De la Hidalga-W., R. Ramírez-A.)
	Nano-and Microcrystalline Silicon	PT43	Ternary amorphous metal oxides: Structural, electronic and optical properties of amorphous $Ti_xSi_{1-x}O_2$ [153] *Marc Landmann*, Universität Paderborn, Germany (M. Landmann, T. Köhler, E. Rauls, T. Frauenheim, W. G. Schmidt)
PT20	c-Si/nc-3C-SiC:H heterojunction diodes with buffer layer [255]	PT44	Nitrogen-Doped p-ZnTeO Films and ZnTeO/ZnO Heterojunction Diodes [24]

	Ryohei Ushikusa, Nagoya University, Nagoya (R. Ushikusa, A. Tabata)		*A.E. Rakhshani*, Kuwait University, Kuwait (A. E. Rakhshani)
PT21	Correlations between the Material Structure and the Solar Cell Device Performance of Hydrogenated Nanocrystalline Silicon based Solar Cells [121] *Kathrin Schmidt*, The University of British Columbia, Canada (K. J. Schmidt, S. K. O'Leary, Y. Lin, G. Xia, M. Beaudoin, G. Yue, B. Yan)	PT45	Production and Characterization of Tm^{3+}/Yb^{3+} codoped Pedestal type PbO-GeO_2 Waveguides [67] *Maria Armas Alvarado*, Escola Politécnica da Universidade de São Paulo, SP – Brazil (T. A. A. de Assumpção, L. R. P. Kassab, M. A. Alvarado, M. I. Alayo)
PT22	Investigating the Size-Dependent Properties of Silicon Nanocrystals for Tailoring Optoelectronic Applications [246] *Junho Jeong*, University of Toronto, Canada (M. L. Mastronardi, J. Jeong, N. P. Kherani, G. A. Ozin)		**a-C and related compounds**
PT23	Optical property of B-doped silicon nanocrystals embedded in silicon oxide film [87] *Dongsheng Li*, Zhejiang University, China (D. Li, M. Xie, D. Yang)	PT46	In-Situ Erbium Metal-Organic Doped Hydrogenated Amorphous Carbon Film by Low Temperature MO-RFPECVD [248] *Hui-Lin Hsu*, University of Toronto, Canada (H.-L. Hsu, M. Halamicek, K. R. Leong, I-Ju Teng, P. Mahtani, L. Qian, N. P. Kherani)
PT24	Hydrogenated Nanocrystalline Silicon Films Prepared at High Deposition Rate by Hot Wire Chemical Vapor Deposition Technique [125] *Pratima Agarwal*, Indian Institute of Technology Guwahati, India (H. S. Jha, A. Yadav, M. Singh, P. Agarwal)		

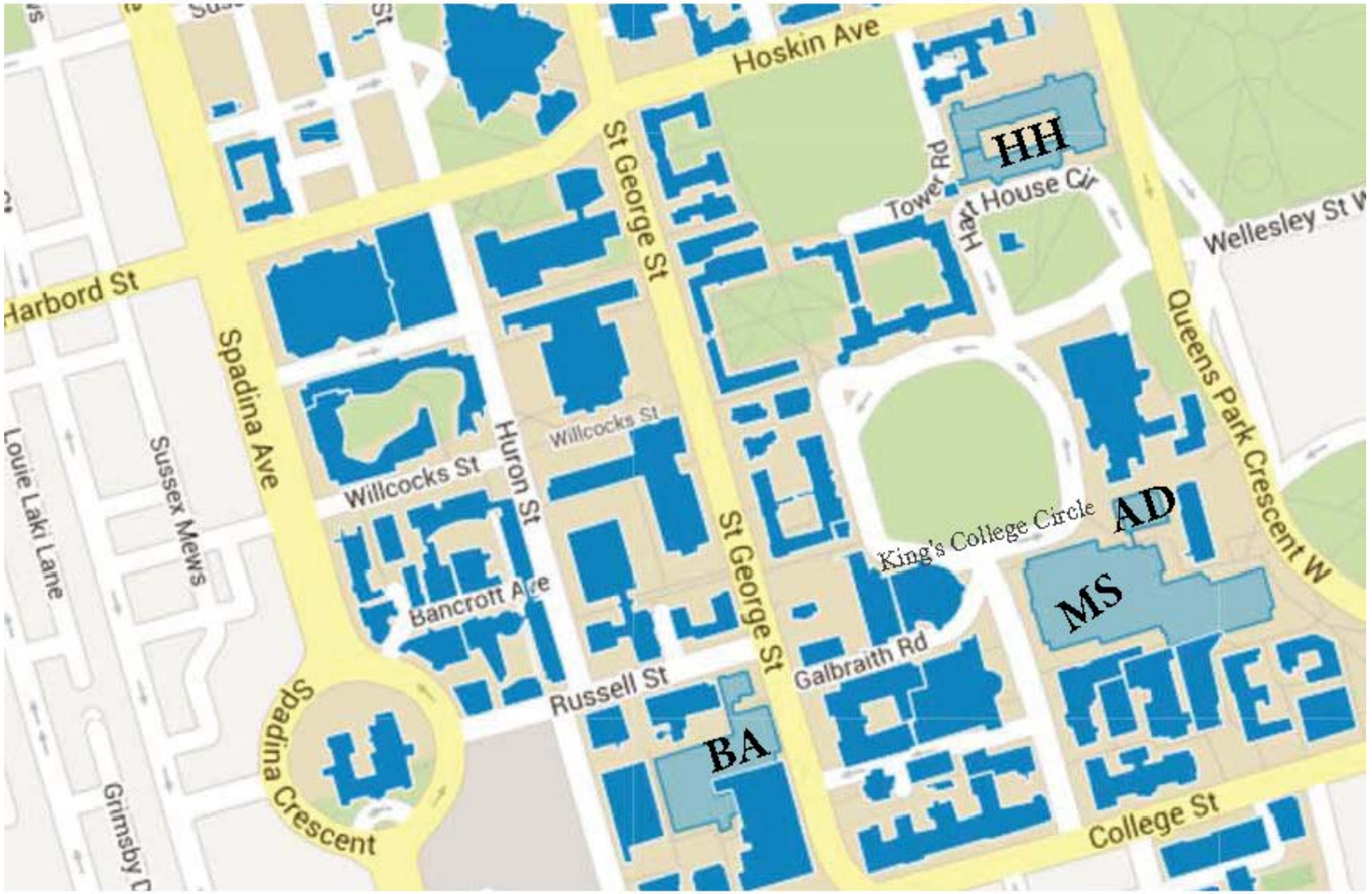
CHAIR'S MESSAGE

We are delighted to host The 25th International Conference on Amorphous and Nanocrystalline Semiconductors (ICANS25) in Toronto during August 18 to 23, 2013. This is the first time ICANS is being held in Canada, which added to our excitement. The ICANS conference series started in 1965 in Prague almost half a century ago and since then it has managed to survive, morph, grow and incorporate numerous phase changes in the field. One can perhaps reflect for a few seconds on the evolution of ICANS over nearly five decades. It is not hard to see that the current ICANS content is very different from the types of papers that were being presented in those early years during the 1960s which included liquid semiconductors. Most of the papers in those early years were on chalcogenide semiconductors, a-Se alloys and a-As_2Se_3 were among the favorites. The title of the conference even contained the word "liquid" in it. One major significant quantum jump came with the advent of doped hydrogenated a-Si; and the eighties saw an enormous growth on a-Si:H related work. ICANS became almost dominated by papers devoted to a-Si:H and its alloys; from preparation to characterization to devices. One could dope a-Si:H and fabricate devices. Devices meant potential commercial applications and hence viable products. Anyone who was working on a-Si:H couldn't wait to present their work at ICANS. And, it wasn't just amorphous silicon but nanocrystalline and microcrystalline silicon also became part of the conference. The last two decades also saw oxide and organic semiconductors find their way into the conference; but these were either amorphous or nanocrystalline and therefore fitted naturally well with the general scientific interest of the conference. The most important common theme that still threads together the diverse material systems in the conference is, obviously, *disorder*. All the material systems in ICANS have some degree of disorder and it is this disorder, the extent of disorder, and properties associated with disorder within the given material system that serves as the scientific adhesive. Last but not least, another important marked change in the conference has been the incredible increase in the number of technologically-oriented papers. One cannot think of ICANS without photovoltaics, TFTs, photodetectors and sensors, to name a few. On this special 25th anniversary we are very pleased to have Professor Hideo Hosono give The Mott Lecture on novel amorphous electrides, something that is relatively new (reported in 2003) and certainly exciting; and highlights how ICANS manages to evolve and stay up-to-date. The organizers took the liberty of marking the 25th anniversary of this meeting by having five 25^{th} APLs (25^{th} Anniversary Plenary Lectures) given by Koichi Shimakawa, John Robertson, Robert Street, Martin Stutzmann and Sergei Baranovski. The speakers were chosen not only for their distinct contributions to the field but also for their contributions to ICANS over many years. I would like to extend my special thanks to Nazir Kherani (Local Chair, Toronto), who, with Joanne Kearney, meticulously looked after the local organization in Toronto. Without Nazir and his fine team, we would not be here to enjoy ICANS. I'm grateful to my co-chairs Alla Reznik and Andrei Sazonov both of whom worked hard to put the program together not only for the conference but also for the tutorials. Everyone listed under the Local Organizing Committee, from my co-chairs to conference assistants, did something, big and small, and no one ducked their duties, from chairing sessions first thing in the morning to stuffing conference bags, or running to the printers. I would like to thank them all for their part in making this happen. Everyone had an indispensable role to play, be it large or small. It was team work in its true sense and a once-in-a-lifetime experience.

Safa Kasap

General Chair, ICANS25

MAP FOR ICANS25 VENUE

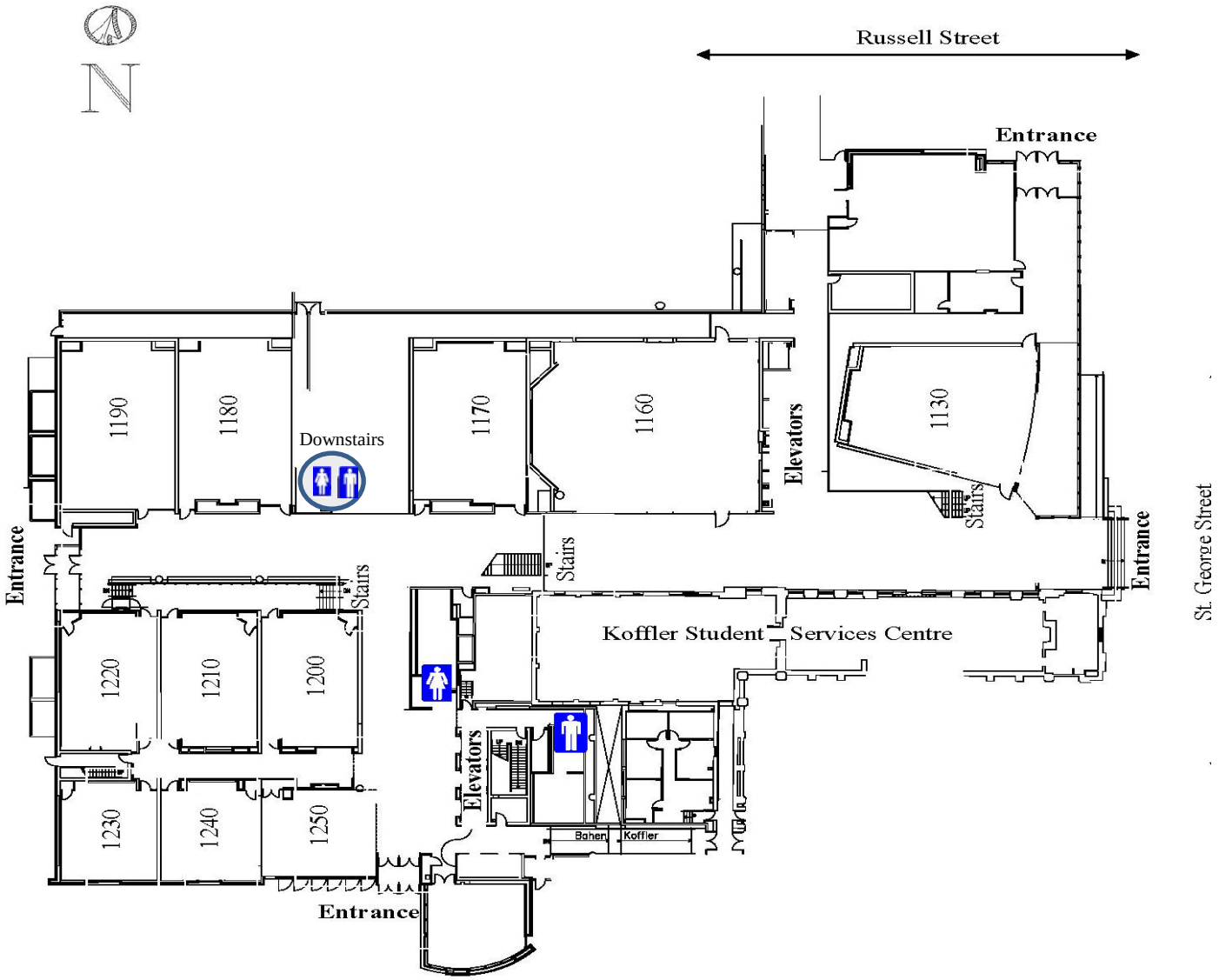


BA: Bahen Centre for Information Technology
AD: JJR Macleod Auditorium
HH: Hart House
MS: Medical Science Building

Normal Sessions/Lectures (A, B and C) and Posters in the Bahen Building (BA)

Session A in BA 1170 Session B in BA 1130 Session C in BA 1160

Plenaries on Tuesday, Thursday and Friday in BA 1160



PLENARY SESSION

Monday Only

Monday morning 08:15 AM to 12:30 PM

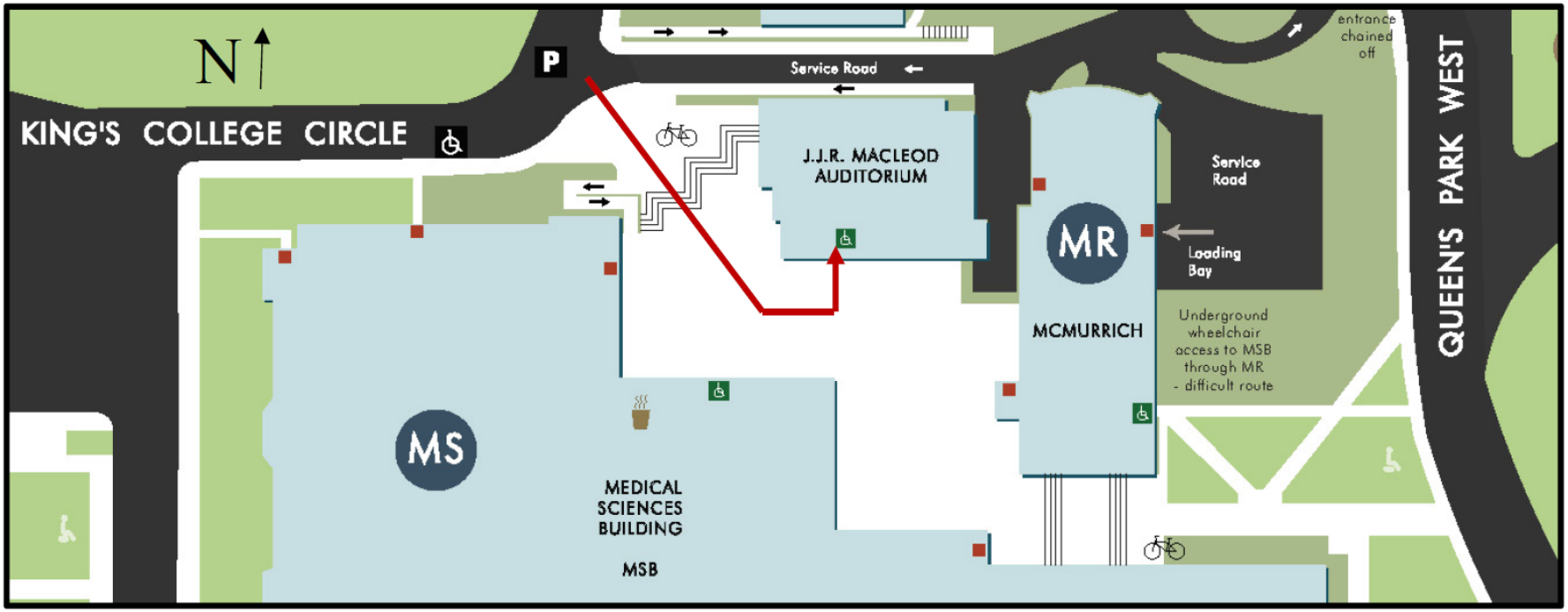
JJR Macleod Auditorium

Medical Science Building: MS 2158

Enter Medical Sciences Building and use the walkway

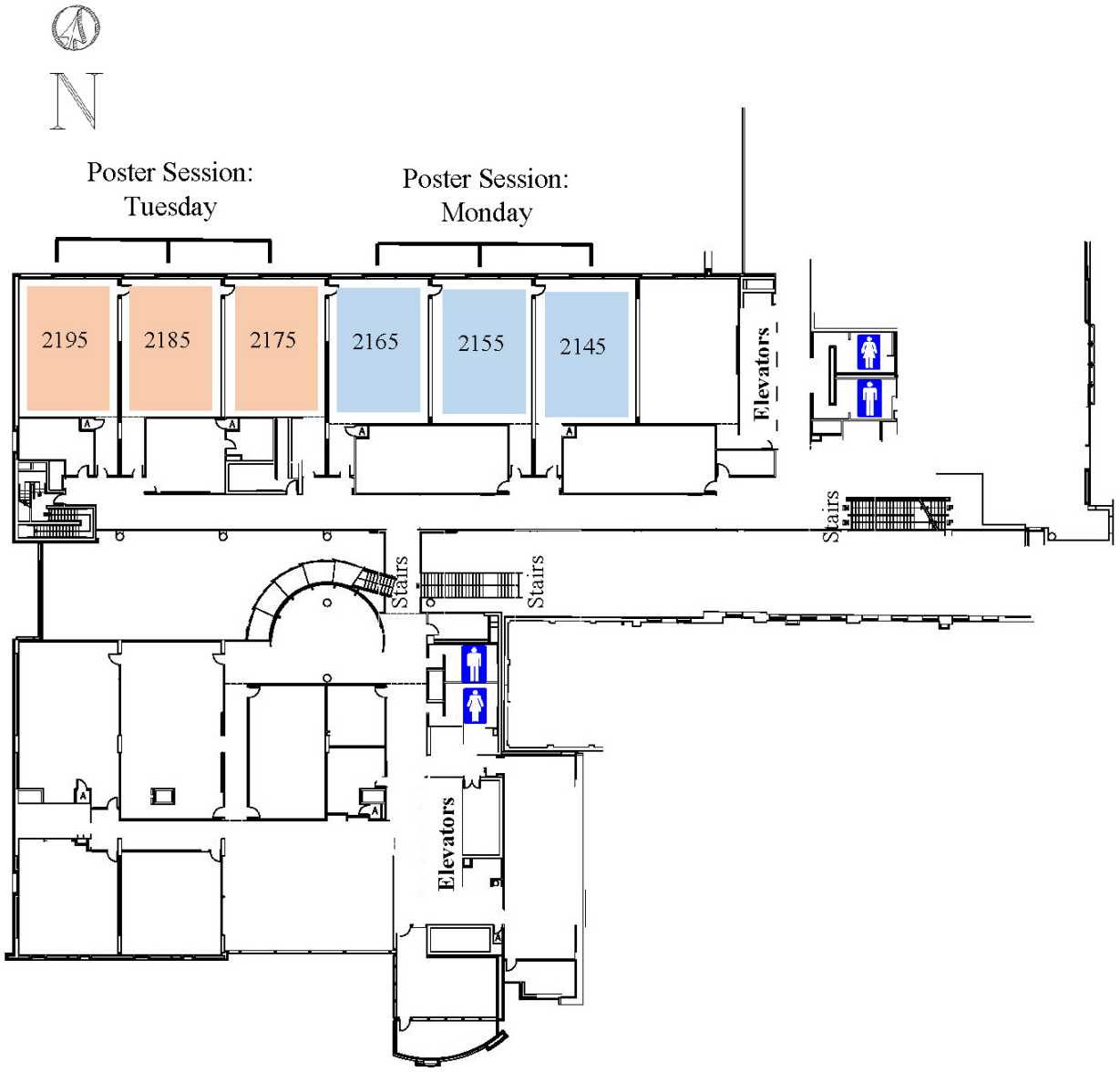
(From http://map.utoronto.ca)

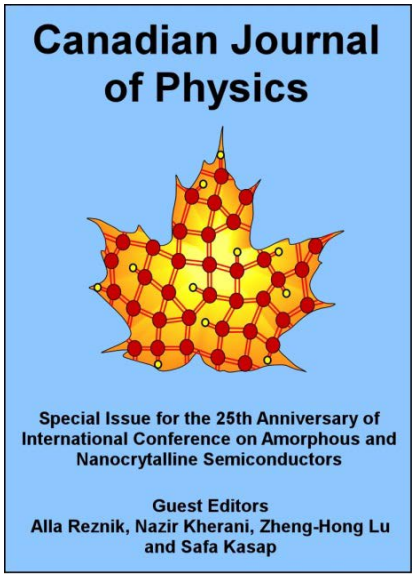
The JJR Macleod Auditorium is directly adjacent to the Medical Sciences (MS) Building which is situated on the South East corner of King's College Circle. To enter the JJR Macleod Auditorium, walk up the stairs that lead towards the main entrance of the Medical Science Building and then head east on the walkway as shown on the map below.



POSTER SESSIONS

Bahen Building, Second Floor





The Proceedings of ICANS25 will be published in a special issue of the Canadian Journal of Physics as "Special Issue for the 25th Anniversary of the International Conference on Amorphous and Nanocrystalline Semiconductors". All submitted papers will be rigorously reviewed by two independent referees and only those that meet the journal's high standard will be accepted. The Canadian Journal of Physics was founded in 1929, and is a well known and well respected peer-reviewed journal.





Guest Editors (left to right):

Alla Reznik (Coordinating Editor, Lakehead University)
Nazir Kherani (University of Toronto)
Andrei Sazonov (University of Waterloo)
Zheng-Hong Lu (University of Toronto)
Safa Kasap (University of Saskatchewan)

ICANS25 WORKSHOP AND TUTORIALS

(AUGUST 18, 2013)

07.30 – 10.00	Registration. Bahen Buildin Foyer		
08.30 – 10.00	Generation, Transport, and Recombination of Charge Carriers in Amorphous Semiconductors *Sergei Baranovski*, Philipps Universität Marburg, Germany Chair: Alla Reznik Bahen: BA 1130		
10.00 – 10.30	**Cofee**		
10.30 – 12:00	Thin-film Photovoltaics *Sigurd Wagner*, Princeton University, USA Chair: Andrei Sazonov / Safa Kasap Bahen: BA 1130		
12.00 – 13:00	**Lunch (Provided)**		
	A **Chalcogenides** **BA 1200**	**B** **Thin Silicon and TCO** **BA1210**	**C** **Organic Electronics** **BA1220**
13.00 – 14:30	Chalcogenide Semiconductors: Fundamental Physics *Koichi Shimakawa*, Gifu University, Japan Chair: Gurinder K. Ahluwalia	Amorphous Oxide Semiconductor TFTs and Applications *Arokia Nathan* University of Cambridge, UK Chair: Stephen O'Leary	Optical and Electronic Properties of Organic Semiconductors *Robert A. Street* Palo Alto Research Center, USA Chair: Robert Johanson
14.30 – 14:45	**Coffee**		
14.45 – 16:15	Phase Change Memory Materials *John Robertson*, University of Cambridge, UK Chair: Alla Reznik	Thin Film Silicon Electronic Devices *Jin Jang,* Kyung Hee University Republic of Korea Chair: Stephen O'Leary	Organic Optoelectronic Devices *Hany Aziz*, University of Waterloo, Canada Chair: Peyman Servati

Canadian ICANS25 Team at the Conference

								
Safa Kasap (General Chair) University of Saskatchewan	Nazir Kherani (Co-Chair, and Local Chair) University of Toronto	John A. Rowlands (Co-Chair) Toronto and Thunder Bay	Alla Reznik (Co-Chair and Proceedings Editor) TBRRI and Lakehead University	Andrei Sazonov (Co-Chair) University of Waterloo	Stefan Zukotynski (Co-Chair) University of Toronto	Zheng-Hong Lu (Vice-Chair for Organics) University of Toronto	Julia Berashevich (Abstracts Editor, Assistant Editor, Program and Proceedings)	Robert Johanson Web-Master and Editor, Abstracts Book University of Saskatchewan

									
Joanne Kearney Conference Manager and Secretary University of Toronto	Dmitri Stepanov (Conference Assistant Manager), University of Toronto	Pratish Mahtani (Conference Assistant Manager), University of Toronto	A Kitty Kumar (Conference Assistant Manager), University of Toronto	Mallory Fitz-Ritson (Conference Assistant Manager), University of Toronto	Peyman Servati, Canadian Program Committee, University of British Columbia	Stephen O'Leary, Canadian Program Committee, University of British Columbia	Gurinder K. Ahluwalia, Canadian Program Committee, College of the North Atlantic, Labrador City	Karim S. Karim, Canadian Program Committee, Univrsity of Waterloo	Zahangir Kabir, Canadian Program Committee, Concordia University, Montreal