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14. ABSTRACT The objectives of ICNS10 were to: (1) Present the latest advances on both fundamental research and application, focusing on topics such as epitaxial deposition, bulk crystal growth, theory and simulation, optoelectronics and electronic devices, nano-structured materials, material properties and development. This meeting also focused on new devices such as solar cells and sensors; (2) Implement and increase information exchange and collaboration among academic, industrial, and government scientists and policy makers to accelerate scientific and technological advances; and (3) Provide to young scientists, graduate students, postdoctoral fellows, and junior faculty member, a great opportunity to present their most recent research results and to interact with worldwide recognized experts in the nitride research area.					
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Final Report
ONR Grant N00014-13-1-0599
10th International Conference on Nitride Semiconductors
Washington, DC / August 25-30, 2013

Conference Organizers

Chairs:

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- Christian Wetzel, Rensselaer, US

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Program Chair - Russell Dupuis, Georgia Institute of Technology, US

- Subject Chair - Bulk and Film Growth: Alan Doolittle, Georgia Institute of Technology, USA
- Subject Chair - Optical Properties and Optoelectronic Devices: Michael Wraback, ARL, US
- Subject Chair - Electronic Devices and Detectors: Debdeep Jena, Univ. of Notre Dame, USA

Rump Session Chair: Zlatko Sitar, North Carolina State University, US

- Bulk and Film Growth: Stacia Keller, University of California, Santa Barbara, US
- Optical Devices - Visible: Werner Goetz, Phillips Lumiled Lighting Co., US
- Optical Devices - UV: Leo Schowalter, Crystal IS, Inc., US
- Electronic Devices - T. Paul Chow, Rensselaer, US

Introduction

The III-V nitride semiconductor material system comprised of AlN, GaN, InN, and their ternary and quaternary compounds have gained an unprecedented interest as result of their wide range of applications encompassing green, blue, violet, and ultraviolet emitters and detectors, sensors, solar cells, and high-power and high-frequency electronic devices. Considering this large variety of application and versatility of this material system is crucial that the scientific community involved in this research area have the opportunity to congregate periodically to exchange new ideas and to start new research collaborations. The International Conference on Nitride Semiconductors has demonstrated, for about two decades, capable of providing such opportunity.

ICNS-10 objectives

- Present the latest advances on both fundamental research and application, focusing on topics such as bulk crystal growth, epitaxial deposition, theory and simulation, optoelectronics and electronic devices, nano-structured materials, material properties and development. This meeting will also focus in new devices such as solar cells and sensors.
- Implement and increase information exchange and collaboration among academic, industrial, and government scientists and policy makers to accelerate scientific and technological advances.

- Provide to young scientists, graduate students, postdoctoral fellows, and junior faculty member, a great opportunity to present their most recent research results and to interact with worldwide recognized experts in the nitride research area.

ICNS-10 overview

Despite the ongoing global economic slump, the conference was very well attended with 893 (from 31 countries) participants. The steady attendance is testament to the continuing development of III-nitrides as a material for a wealth of applications, including those needed for a 'greener' world, with applications in both more powerful and efficient lighting, electrical power transmission, and electrical vehicles.

932 abstracts were submitted to the conference, leading to 271 oral and 504 poster presentations. The field continues to grow and diversify, and as a result, for the first time, the conference series ran four parallel sessions. The meeting was divided into 12 different symposia, covering the entire spectrum of III-nitride semiconductor research and application, extending to cover newer, or less developed concepts such as solar cells and sensor applications.

We received 184 submissions for the conference proceedings to be published in *Physica Status Solidi*. Of these, 177 have been accepted for publication in special volume, with 37 being accepted for the special sections: *Phys. Status Solidi A* and *B*.

ICNS-10 Program

The five-day symposium started with two plenary talks addressing the state of the art of solid state lighting and high frequency applications. A total of 18 invited talks addressing important topics were delivered during the 45 oral presentation Sessions. The Conference scientific program was closed with three additional plenary presentations addressing critical aspects of III-V nitrides science and technology. Details of the scientific program are highlighted below.

The **Bulk and Thin Film Growth Subject** had 9 sessions. Namely, Planar, Alternative Nitrides and Growth Methods I, Doping and Defects I, Optical Structure and Measurements, Polar and Semi-Polar, Structure, Strain and Defects, Bulk, Doping and Defects II, Nanostructures, Planar, and Alternative Nitrides and Growth Methods II.

There were 341 abstracts received in the materials section, far more than any other topical area. 83 papers were accepted for oral presentation and 135 were accepted for posters making the oral acceptance rate fairly selective at 24% and the overall acceptance rate 64%. Several highlights included developments in the growth of semi-polar bulk and epitaxial materials via MOCVD and greatly improved p-type conduction via MBE. Integration with other 2D materials including grapheme were reported and significant improvement in the materials for solar cells were reported including several MBE groups having InGaN materials without phase separation at all In compositions. Nanostructures, particularly nanowires for light emitters continued to be well represented with many talks/posters focusing on the difficulties of p-doping and surface depletion effects in these high surface area structures. While the majority of

participants focused on materials topics for traditional LEDs, Lasers and HEMTs, significant focus emerged in non-traditional transistors (power in particular), solar cells, photodiodes, acoustic devices, and several novel structures. The discussion in each session was vibrant and lively showing that Nitride Materials science remains an area of great interest with an enormous growth potential.

The **Optoelectronic Device Subject** of the program was separated into two tracks: one for visible devices and one for ultraviolet devices, which ran concurrently in parallel sessions for some portion of the conference program. The visible optoelectronic device section had 14 oral sessions that covered the following topics: Visible LEDs on silicon, Nano LEDs and Lasers, High Brightness/Efficiency Visible LEDs, Visible LED Physics and Characterization, Visible LED Fabrication and Intergration, Solar Cells, Visible Nanostructures, Next Generation Visible LEDs, Visible Lasers, IR Materials and Devices, Characterization of Nitrides, Optical Properties of Nitrides, Optical Properties of Quantum Wells, and Visible Quantum Dots.

There were 7 invited presentations, 81 contributed presentations and 143 contributed posters. The invited presentations addressed areas of high technical interest, including 2 invited presentations in visible LEDs on silicon (including one on 8 inch diameter substrates), III-Nitride photonic cavities, recent developments in green and blue laser diodes, realization of high conversion efficiency solar cells using nitride semiconductors, high brightness/high efficiency LEDs, and high performance nanowire III-N LEDs.

The ultraviolet optoelectronic device section had 5 oral sessions that covered the following topics: Mid UV Lasers and Photodetectors, UV Quantum Effects, Mid-UV LEDs, UV Optical Properties, and UV Nanostructures.

There were 2 invited presentations, 34 contributed presentations, and 57 contributed posters. The invited presentations addressed areas of high technical interest in UV LEDs, including improvement of light extraction efficiency of deep UV LEDs using transparent p-AlGaIn layers, and deep UV LEDs fabricated on HVPE-AlIn substrates. There were also several presentations on optically pumped UV lasers, primarily on bulk AlIn substrates, as well as several presentations on improved optical properties of AlGaIn and GaIn materials and heterostructures, many of which were enabled by growth on bulk substrates or defect-reduced templates.

The **Electrical Devices Subject** sessions were well attended, featuring a range of excellent invited speakers of international stature, and a number of high-quality contributed talks and posters. The highly attended and discussed invited talks featured **30-minute** presentations by *M. Micovic, HRL Laboratories, K. Chen, Hong Kong Univ. Sc. Tech., R. Dwilinski, CEO, Ammono, Poland, U. Mishra, UCSB and Transphorm, F. Medjdoub, IEMN, France.*

In addition to the high-quality invited talks, 56 contributed oral presentations, each 15 minutes in duration were presented by an international mix of researchers from academic institutions and industrial and national laboratories. These talks featured several record-high speed and high-voltage GaIn transistors, pushing the state of the art of the field, and generated a vigorous discussion of the current limitations and innovative solutions. In addition to the oral presentations, about 100 posters were presented. The poster sessions were well attended; the

electrical devices presenters won 4 best poster awards. The progress in the field was very well represented by the electrical devices invited talks, contributed talks, and posters. The sessions were attended and chaired by several researchers from federal laboratories (e.g. NRL), industry (e.g. Transphorm, HRL), and academia.

Rump Sessions:

Rump session on **Bulk and Film Growth** was centered on a “best” substrate for LED, LD, or transistor applications, addressing substrate related device performance limitations and how the current status in bulk substrate technology compares to device requirements. Issues related to opto-electronic devices were addressed by speakers Drs. Adrian Avramescu (Osram) and Mike Krames (Soraa). Dr. Krames pointed out the special importance of bulk GaN substrates for non- and semi-polar devices, including the expected reduction in price as the growth on bulk substrates becomes more typical. This argument of price reduction as a result of a higher usage of bulk substrates was supported by R. Dwilinski from Ammono. A summary of the substrate efforts in Poland was given by speaker M. Bockovski (Unipress, Poland). Most rump session attendees agreed upon intermixing substrate technologies, such as HVPE growth on ammonothermal GaN substrates in search of the best performance/price ratio for substrates. The current status of Na-flux growth of GaN substrates was reviewed by speaker M. Imade (Osaka University) including the use of selective area growth and overgrowth for the fabrication of large area substrates. Substrate needs for lateral and vertical transistors were addressed by speaker S. Chowdhury (ASU), who specifically highlighted the need for high quality GaN substrates for future vertical transistor applications. The field of UV-LEDs and LDs was covered by speaker R. Gaska (SET), and speaker B. Moody discussed the recent progress in bulk AlN growth at Hexatech.

The Rump Session on **Optical Devices** focused on technological breakthroughs needed (or are pending) for efficient and cost-effective LEDs. The format was 5 min presentations around the rump session topics by the panelists. This was followed by an open discussion based audience questions of the panelists. The first topic addressed was “The status of efficiency improvement for UV LEDs”, introduced by L. Schowalter, and discussed in detail by M. Wraback (Army Research Laboratory; “Current standing and opportunities for improving the efficiency of UV-C LEDs”) and H. Amano (U. Nagoya, Japan, “What controls the internal efficiency of UV LEDs? How much lower do defects densities need to go?”). The second highlighted topic, Cost reduction opportunities for visible LEDs in Illumination applications, was introduced by T. Mihopoulos, and overviewed by A. Krost (U. Magdeburg, Germany; “GaN on Si; is this the future?”), C. Van de Walle (UCSB, US, “What causes current droop? Are the narrow quantum wells the problem?”), F. Schubert (RPI, US, “What cause current droop? Will better designs solve the problem?”), M. Pattison (representing J. Brodrick and the DOE SSL program, “DOE opportunities for new research on reducing the cost of LEDs”), and J. Speck (UCSB, US, “Will bulk GaN lead to more cost-effective LEDs?”). The audience participation was excellent at this rump session. The hottest topic was the cause of current droop. There was an interesting and entertaining discussion of the recent experiments by the UCSB and French team demonstrating Auger electrons while other participants continued to argue that alternative explanations were more likely the cause of the drop in nitride LED efficiency at high currents. This discussion was extended to UV LEDs as well. The different

approaches to achieving higher efficiency more cost effectively also drew lively debate. Audience members and the panelists did not reach complete agreement by the end of the session but there did seem to be general agreement that the Rump Session had been informative and successful.

The Rump Session on **Electronic Devices** was introduced by T.P. Chow with an overview of the potential power device markets that SiC and GaN can impact. The selected topics “Can GaN power devices augment silicon power devices?”, “Can GaN challenge and compete with SiC power devices? In what blocking voltage range are the GaN power devices most competitive?”, “What are the main obstacles for large-scale GaN power device commercialization (cost, reliability, avalanche capability)?”, “What are the potentials and challenges for monolithic integration (with Si CMOS, GaN photonic and rf devices)?” were addressed by the panelists T. Kikkawa (Fujitsu, Japan), U. Mishra (UCSB, US), C. Eddy (Naval Research Laboratory, US), M. Briere (IR, US), and S. Stouffels (imec, Belgium). All the panelists agree that GaN power devices will occupy an important niche and augment silicon from 30 to at least 600V. At present, all the device structures are lateral, building on the rf HEMTs. However, there are important distinct device features, such as avalanche breakdown characteristics, which are unique to the high voltage power devices. Dr. Kikkawa emphasized the importance of profit margin in GaN power device commercialization, so as it can sustain future device development. Prof. Mishra and Dr. Briere felt that the cascaded pair of Si MOSFET-GaN HEMT is their present commercialization device approach. Prof. Chow has brought up the development of vertical GaN power devices and their potentials, and Prof. Mishra concurred on its importance for future demonstrations. Dr. Stouffels of IMEC presented the structural and electrical properties of their GaN epi on large diameter (6-8 inch) Si wafers. Prof. Chow brought up the possibilities of monolithic integration of GaN power devices with photonic and other type of devices, such as his recent demonstration of integrated GaN HEMT/LED. Dr. Eddy presented detailed reliability procedure and facilities available at Naval Research Laboratory that can be used to assess and ascertain GaN power device reliability. Everyone concurs that while present cost and reliability of GaN power devices have not yet approached the silicon level, it has made significant strides and GaN on Si devices has satisfied the JEDEC standards. Finally, all the panelists agree that GaN and SiC power devices appear to be addressing different segments of the power semiconductor device market – GaN for heterogeneous integration with Si and lower power discrete (<1kW) and SiC for higher power discrete (> 10kW). Promisingly, both are expected to grow substantially over the next decade.

Financial Support

ONR funds were allocated to invited speakers’ and graduate / undergraduate students’ registration fees and travel reimbursements.

Proceedings

In continuation of the ICNS tradition, the ICNS-10 proceedings will be published in a special volume of *Physica Status Solidi*. Charles “Chip” Eddy (U.S. Naval Research Laboratory) is chair of the publications committee and is assisted by three regional chairs: Dan Koleske (Americas), Hiroshi Amano (Asia) and Martin Kuball (Europe). Regular conference registration includes a copy of the Conference Proceedings. Students, retired or unemployed attendees need to purchase a copy.

All registered regular conference attendees and those who purchase a copy will receive the completed proceedings in May 2014.

Papers can be submitted online via the **Wiley-PSS website**. The published articles will be restricted to four journal pages for contributed papers and six journal pages for invited papers.

All papers will be considered as submissions to *pss (c) – current topics in solid state physics*, an international scientific journal. The publications committee will nominate outstanding papers for elevation to *pss (a) – applications and materials science* or *pss (b) – basic solid state physics*.

The Publications Committee,

Charles “Chip” Eddy, Jr., U.S. Naval Research Laboratory

Daniel D. Koleske, Sandia National Laboratory

Hiroshi Amano, Nagoya University

Martin Kuball, University of Bristol



WELCOME TO THE CONFERENCE!

On behalf of the Conference Chairs and committee members, it is with great pleasure that we welcome you to the **10th International Conference on Nitride Semiconductors (ICNS-10)**. The ICNS Conference series is the premier forum for reporting research in group III-nitride semiconductors, and we are proud to continue in that long tradition of communicating, educating and celebrating outstanding research.

With great gratitude, we would like to acknowledge our Conference sponsors, exhibitors, committee members and invited speakers for their commitment to the success of the Conference.

With the spectacular National Harbor and Washington, DC as our backdrop, a superb technical program, engaging exhibits and numerous networking opportunities, we know this will be one exciting week.

Thank you for participating in ICNS-10!

Jaime A. Freitas Jr. U.S. Naval Research Laboratory
Christian Wetzel Rensselaer

CONFERENCE HIGHLIGHTS

THE ICNS-10 PROGRAM

Scientists from around the world will converge in Washington, DC this week to share ideas, present technical information and contribute to the advancement of nitride semiconductors. Featuring over **700 oral and poster presentations**, ICNS-10 will offer a strong program with **36 technical sessions** focused on bulk and film growth, optical devices—both visible and UV—and electrical devices.

WELCOME RECEPTION

ICNS-10 kicks off Sunday evening with a **Welcome Reception** from 6:00 pm – 7:30 pm in the Potomac Foyer. Before a full day of technical sessions, this is a great time to enjoy refreshments, meet with old colleagues, make new connections and share information.

PLENARY SESSIONS

Don't miss the five Plenary Sessions held on Monday and Friday. Monday morning, **Mike Krames**, Soraa, Inc., starts us off with his talk, *Solid-State Lighting with Native Substrate GaN-based LEDs*. **Miroslav Micovic**, HRL Laboratories, LLC, follows with his presentation, *Highly Scaled GaN Transistor for Sub-millimeter Wave and High Efficiency Applications*. On Friday, *Uncovering and Surmounting Loss Mechanisms in Nitride Light Emitters* is presented by **Chris Van de Walle**, University of California, Santa Barbara. Then **Hiroshi Amano**, Akasaki Research Center, Japan, gives his presentation, *Reduction of Parasitic Reaction and Realization of High-quality In-rich InGaN-based Multiple-quantum-well Structures by High-pressure Metalorganic Vapor Phase Epitaxy*. **Jürgen Christen**, Otto von Guericke University of Magdeburg, Germany, rounds out the Conference Friday afternoon with *Advanced Luminescence Nano-characterization of III-N Semiconductors*.

EXHIBIT

Be sure to visit the **ICNS-10 exhibitors** Monday evening through Wednesday afternoon in Potomac C/D. Learn more about the latest products and services of interest to you. See the Daily Schedule of Events on page 6 for exhibit hours.

POSTER SESSIONS

Authors will be available for **in-depth discussions** on Monday and Tuesday evenings and Wednesday afternoon in Potomac C/D. These popular sessions feature complimentary refreshments and are open to all Conference attendees. Lunch will be provided during the Wednesday session/reception.

RUMP SESSIONS

Rump sessions addressing key challenges in the field of nitride semiconductors will be held on Wednesday evening. These sessions start with short talks by panelists intended to frame the problem statement, followed by an open discussion with all attendees. See page 7 for specific topics.

TWO OPTIONAL WASHINGTON, DC TOURS

Thursday afternoon, Conference attendees and companions are invited to participate in one of two optional tours of Washington, DC—**The Monument Tour** and **The Museum Tour**. Take time out of the busy Conference week to explore some of America's most historical sites. Subject to availability, tour tickets may be purchased at the Registration Desk for \$65. See page 4 for details.

CONFERENCE BANQUET

Make time for this year's **Conference Banquet** on Thursday evening from 7:00 pm – 9:00 pm, held in Potomac C/D. Subject to availability, additional Banquet tickets may be purchased at the Registration Desk for \$75 per person.



For more program information visit
www.mrs.org/icns-10

TOPIC LISTING

A: BULK AND FILM GROWTH D: ELECTRICAL DEVICES
 B: OPTICAL DEVICES, VISIBLE E: PLENARY
 C: OPTICAL DEVICES, UV

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Optical Devices, UV

Leo Schowalter Crystal IS, Inc.

Electronic Devices

T. Paul Chow Rensselaer

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Ulrich Steegmueller OSRAM Opto Semiconductors GmbH, Germany

PLENARY SPEAKERS

Monday



8:30 am – 9:15 am

Mike Krames
Soraa, Inc.

Solid-State Lighting with Native Substrate GaN-based LEDs



9:15 am – 10:00 am

Miroslav Micovic
HRL Laboratories, LLC

Highly Scaled GaN Transistor for Sub-millimeter Wave and High Efficiency Applications

Friday



10:45 am – 11:30 am

Chris Van de Walle
University of California, Santa Barbara

Uncovering and Surmounting Loss Mechanisms in Nitride Light Emitters



11:30 am – 12:15 pm

Hiroshi Amano
Akasaki Research Center, Japan

Reduction of Parasitic Reaction and Realization of High-quality In-rich InGaN-based Multiple-quantum-well Structures by High-pressure Metalorganic Vapor Phase Epitaxy



12:15 pm – 1:00 pm

Jürgen Christen
Otto von Guericke University of Magdeburg, Germany

Advanced Luminescence Nano-characterization of III-N Semiconductors

Conference Banquet

THURSDAY

7:00 pm – 9:00 pm
Potomac C/D

One banquet ticket is included in registration fee. Additional tickets may be purchased at the Registration Desk for \$75 per person.

MONDAY

Potomac C/D and 1-6	National Harbor 12-13	National Harbor 4-5	Chesapeake 1-3	Chesapeake 4-6		
E: PLENARY						
E1: PLENARY I						
Welcome						
8:15 am – 8:30 am						
E1.01	Mike Krames*					
8:30 am – 9:15 am						
E1.02	Miroslav Micovic*					
9:15 am – 10:00 am						
BREAK 10:30 am – 10:30 pm						
»»»						
A: BULK AND FILM GROWTH A2: DOPING AND DEFECTS I		A: BULK AND FILM GROWTH A1: PLANAR, ALTERNATIVE NITRIDES AND GROWTH METHODS I	C: OPTICAL DEVICES, UV C1: MID UV LASERS AND PHOTODETECTORS			
A2.01	Ke Wang 10:30 am – 10:45 am	A1.01	Mark Durniak 10:30 am – 10:45 am	C1.01	Thomas Wunderer 10:30 am – 10:45 am	
A2.02	Iulian Gherasoiu 10:45 am – 11:00 am	A1.02	Troy Baker 10:45 am – 11:00 am	C1.02	Ramon Collazo 10:45 am – 11:00 am	
A2.03	Brendan Gunning 11:00 am – 11:15 am	A1.03	Arne Knauer 11:00 am – 11:15 am	C1.03	Theeradetch Detchprohm 11:00 am – 11:15 am	
A2.04	Evan R. Glaser 11:15 am – 11:30 am	A1.04	Rie Togashi 11:15 am – 11:30 am	C1.04	Martin Martens 11:15 am – 11:30 am	
A2.05	Xingqiang Wang 11:30 am – 11:45 am	A1.05	Naoto Fujita 11:30 am – 11:45 am	C1.05	Bjoern Albrecht 11:30 am – 11:45 am	
A2.06	Boris Feigelson 11:45 am – 12:00 pm			C1.06	L. Rodak 11:45 am – 12:00 pm	
LUNCH 12:00 pm – 1:00 pm						
»»»						
A: BULK AND FILM GROWTH A3: OPTICAL STRUCTURES AND MEASUREMENTS		B: OPTICAL DEVICES, VISIBLE B1: VIS LEDs ON SI	C: OPTICAL DEVICES, UV C2: UV QUANTUM EFFECTS	D: ELECTRICAL DEVICES D1: HIGH-SPEED AND HIGH-PERFORMANCE NITRIDE HEMTS AND MODELING		
A3.01	E. Monroy* 1:30 pm – 2:00 pm	B1.01	Yongjo Tak* 1:30 – 2:00 pm	C2.01	Mark Holmes 1:30 pm – 1:45 pm	
				C2.02	Sylvain Sergent 1:45 pm – 2:00 pm	
A3.02	Jonas Laehnemann 2:00 pm – 2:15 pm	B1.02	Martin Albrecht* 2:00 pm – 2:30 pm	C2.03	Satoshi Kako 2:00 pm – 2:15 pm	
A3.03	Valentin N. Jmerik 2:15 pm – 2:30 pm			C2.04	Gordon Callsen 2:15 pm – 2:30 pm	
A3.04	Tobias Meisch 2:30 pm – 2:45 pm	B1.03	Pengfei Tian 2:30 pm – 2:45 pm	C2.05	Jai Verma 2:30 pm – 2:45 pm	
A3.05	Marc Landmann 2:45 pm – 3:00 pm	B1.04	Stephan Lutgen 2:45 pm – 3:00 pm	C2.06	Chalermchai Himwas 2:45 pm – 3:00 pm	
					D1.01	David J. Meyer* 1:30 pm – 2:00 pm
					D1.02	Bo Song 2:00 pm – 2:15 pm
					D1.03	Brain P. Downey 2:15 pm – 2:30 pm
					D1.04	Xing Lu 2:30 pm – 2:45 pm
					D1.05	Raphael Brown 2:45 pm – 3:00 pm
BREAK 3:00 pm – 3:30 pm						
»»»						
A: BULK AND FILM GROWTH A3: OPTICAL STRUCTURES AND MEASUREMENTS (CONTINUED)		B: OPTICAL DEVICES, VISIBLE B2: NANO LEDs AND LASERS	C: OPTICAL DEVICES, UV C3: MID-UV LEDs	D: ELECTRICAL DEVICES D1: HIGH-SPEED AND HIGH-PERFORMANCE NITRIDE HEMTS AND MODELING (CONTINUED)		
A3.06	F. Massabuau 3:30 pm – 3:45 pm	B2.01	Nathan Gardner* 3:30 pm – 4:00 pm	C3.01	Hideki Hirayama* 3:30 pm – 4:00 pm	
A3.07	Carsten Netzel 3:45 pm – 4:00 pm					
A3.08	Stefan Mohn 4:00 pm – 4:15 pm	B2.02	Rick Smith 4:00 pm – 4:30 pm	C3.02	Toru Kinoshita* 4:00 pm – 4:30 pm	
A3.09	Gerd Kunert 4:15 pm – 4:30 pm	B2.03	Johannes Ledig 4:15 pm – 4:30 pm			
A3.10	Ross Powell 4:30 pm – 4:45 pm	B2.04	George Wang 4:30 pm – 4:45 pm	C3.03	James Grandusky 4:30 pm – 4:45 pm	
A3.11	Benjamin Gaddy 4:45 pm – 5:00 pm	B2.05	Che-Hao Liao 4:45 pm – 5:00 pm	C3.04	Craig Moe 4:45 pm – 5:00 pm	
A3.12	Liang Chen 5:00 pm – 5:15 pm	B2.06	S. Lis 5:00 pm – 5:15 pm	C3.05	Jens Rass 5:00 pm – 5:15 pm	
A3.13	Michael Reschchikov 5:15 pm – 5:30 pm	B2.07	Huiwen Xu 5:15 pm – 5:30 pm	C3.06	Peng Dong 5:15 pm – 5:30 pm	
					D1.06	Kevin Chen* 3:30 pm – 4:00 pm
					D1.07	Ujwal Radhakrishna 4:00 pm – 4:15 pm
					D1.08	Elison Matioli 4:15 pm – 4:30 pm
					D1.09	Yuhao Zhang 4:30 pm – 4:45 pm
					D1.10	Michael Shur 4:45 pm – 5:00 pm
POSTER SESSION Potomac C/D and 1-6 6:00 pm – 7:30 pm						
»»»						

*Invited

Potomac C/D and 1-6	National Harbor 12-13	National Harbor 4-5	Chesapeake 1-3	Chesapeake 4-6
	A: BULK AND FILM GROWTH A4: POLAR AND SEMI-POLAR	B: OPTICAL DEVICES, VISIBLE B3: HIGH BRIGHTNESS/ EFFICIENCY VISIBLE LEDS	C: OPTICAL DEVICES, UV C4: UV OPTICAL PROPERTIES	D: ELECTRICAL DEVICES D2: CHARACTERIZATION OF NITRIDE ELECTRONIC DEVICES
	A4.01 James S. Speck* 8:30 am – 9:00 am	B3.01 Hua-Shuang Kong* 8:30 am – 9:00 am	C4.01 Ryota Ishii 8:30 am – 8:45 am	D2.01 Feng Gao 8:30 am – 8:45 am
	A4.02 Alexei E. Romanov 9:00 am – 9:15 am	B3.02 Rei Hashimoto 9:00 am – 9:15 am	C4.02 Shigefusa F. Chichibu 8:45 am – 9:00 am	D2.02 Drew Cardwell 8:45 am – 9:00 am
	A4.03 Frank Bertram 9:15 am – 9:30 am	B3.03 Anna Kafar 9:15 am – 9:30 am	C4.03 Martin Feneberg 9:00 am – 9:15 am	D2.03 Ting-Hsiang Hung 9:00 am – 9:15 am
	A4.04 Cyrus E. Dreyer 9:30 am – 9:45 am	B3.04 Leah Kurtzky 9:30 am – 9:45 am	C4.04 Konstantinos S. Daskalakis 9:15 am – 9:30 am	D2.04 Anup Sasikumar 9:15 am – 9:30 am
	A4.05 Takashi Hanada 9:45 am – 10:00 am	B3.05 Yaxin Wang 9:45 am – 10:00 am	C4.05 Georg Rossbach 9:30 am – 9:45 am	D2.05 Joel T. Asubar 9:30 am – 9:45 am
			C4.06 Karsten Lange 9:45 am – 10:00 pm	D2.06 Miguel Montes Bajo 9:45 am – 10:00 am
BREAK 10:00 am – 10:30 am	»»»			
	A: BULK AND FILM GROWTH A4: POLAR AND SEMI-POLAR (CONTINUED)	B: OPTICAL DEVICES, VISIBLE B4: VISIBLE LED PHYSICS AND CHARACTERIZATION	C: OPTICAL DEVICES, UV C4: UV OPTICAL PROPERTIES (CONTINUED)	D: ELECTRICAL DEVICES D2: CHARACTERIZATION OF NITRIDE ELECTRONIC DEVICES (CONTINUED)
	A4.06 Filip Tuomisto 10:30 am – 10:45 am	B4.01 Roman Vaxenburg 10:30 am – 10:45 am	C4.07 Seiji Mita 10:30 am – 10:45 am	D2.07 Marta Gladysiewicz 10:30 am – 10:45 am
	A4.07 Hideto Miyake 10:45 am – 11:00 am	B4.02 E. Fred Schubert 10:45 am – 11:00 am	C4.08 Juras Mickevicius 10:45 am – 11:00 am	D2.08 Jie Hu 10:45 am – 11:00 am
	A4.08 Soudes Bauer 11:00 am – 11:15 am	B4.03 Russel D. Dupuis 11:00 am – 11:15 am	C4.09 Wei Guo 11:00 am – 11:15 am	D2.09 Ronghua Wang 11:00 am – 11:15 am
	A4.09 Fabrice P. Oehler 11:15 am – 11:30 am	B4.04 Andrew Armstrong 11:15 am – 11:30 am	C4.10 Greg Rupper 11:15 am – 11:30 am	D2.10 Mikhail Gaevski 11:15 am – 11:30 am
	A4.10 Caroline Cheze 11:30 am – 11:45 am	B4.05 Michael Binder 11:30 am – 11:45 am	C4.11 Yoichi Yamada 11:30 am – 11:45 am	D2.11 Bumho Kim 11:30 am – 11:15 am
	A4.11 Junichi Nishinaka 11:45 am – 12:00 pm	B4.06 Marco Ulises Lopez Diaz 11:45 am – 12:00 pm	C4.12 Gwenole Jacopin 11:45 am – 12:00 pm	D2.12 H. Rusty Harris 11:45 am – 12:00 pm
LUNCH 12:00 pm – 1:30 pm	»»»			
	A: BULK AND FILM GROWTH A5: STRUCTURE, STRAIN AND DEFECTS	B: OPTICAL DEVICES, VISIBLE B5: VISIBLE LED FABRICATION AND INTEGRATION	C: OPTICAL DEVICES, UV C5: UV NANOSTRUCTURES	D: ELECTRICAL DEVICES D3: SUBSTRATES AND EPITAXIAL INTEGRATION FOR NITRIDE ELECTRONIC DEVICES
	A5.01 Armin Dadgar* 1:30 pm – 2:00 pm	B5.01 Eiji Kishikawa 1:30 pm – 1:45 pm	C5.01 Bernard Gil 1:30 pm – 1:45 pm	D3.01 Masanobu Hiroki 1:30 pm – 1:45 pm
		B5.02 Danti Chen 1:45 pm – 2:00 pm	C5.02 Matthias Buerger 1:45 pm – 2:00 pm	D3.02 Piotr Kruszewski 1:45 pm – 2:00 pm
	A5.02 Juerfen Daeubler 2:00 pm – 2:15 pm	B5.03 Manish Mathew 2:00 pm – 2:15 pm	C5.03 Ana Cros 2:00 pm – 2:15 pm	D3.03 Quanzhong Jiang 2:00 pm – 2:15 pm
	A5.03 Elaheh Ahmadi 2:15 pm – 2:30 pm	B5.04 Chih-Chung (C. C.) Yang 2:15 pm – 2:30 pm	C5.04 Christopher Durand 2:15 pm – 2:30 pm	D3.04 Glen David Via 2:15 pm – 2:30 pm
	A5.04 Guillaume Perillat-Merceroz 2:30 pm – 2:45 pm	B5.05 Jian Wei Ho 2:30 pm – 2:45 pm	C5.05 Christian Tessarek 2:30 pm – 2:45 pm	D3.05 Zhongda Li 2:30 pm – 2:45 pm
	A5.05 Shuhei Ichikawa 2:45 pm – 3:00 pm	B5.06 Hojun Chang 2:45 pm – 3:00 pm	C5.06 Shunsuke Ishizawa 2:45 pm – 3:00 pm	D3.06 Roland Baranyai 2:45 pm – 3:00 pm
BREAK 3:00 pm – 3:30 pm	»»»			
	A: BULK AND FILM GROWTH A5: STRUCTURE, STRAIN AND DEFECTS (CONTINUED)	B: OPTICAL DEVICES, VISIBLE B6: SOLAR CELLS	B: OPTICAL DEVICES, VISIBLE B7: VISIBLE NANOSTRUCTURES	D: ELECTRICAL DEVICES D3: SUBSTRATES AND EPITAXIAL INTEGRATION FOR NITRIDE ELECTRONIC DEVICES (CONTINUED)
	A5.06 Yoichi Kawakami* 3:30 pm – 4:00 pm	B6.01 Motoaki Iwaya* 3:30 pm – 4:00 pm	B7.01 Atsushi Takahashi 3:30 pm – 3:45 pm	D3.07 Casey Kirkpatrick 3:30 pm – 3:45 pm
			B7.02 Dominik Heinz 3:45 pm – 4:00 pm	D3.08 Kenji Shiojima 3:45 pm – 4:00 pm
	A5.07 Marc P. Hoffmann 4:00 pm – 4:15 pm	B6.02 Chloe A. Fabien 4:00 pm – 4:15 pm	B7.03 Xiang Zhou 4:00 pm – 4:15 pm	D3.09 Zenji Yatabe 4:00 pm – 4:15 pm
	A5.08 Jie Song 4:15 pm – 4:30 pm	B6.03 Sergey Y. Karpov 4:15 pm – 4:30 pm	B7.04 Christopher J. Lewis 4:15 pm – 4:30 pm	
	A5.09 Guangxu Ju 4:30 pm – 4:45 pm	B6.04 Liwen Sang 4:30 pm – 4:45 pm	B7.05 Yamina Andre 4:30 pm – 4:45 pm	
	A5.10 Alec Fischer 4:45 pm – 5:00 pm	B6.05 Jumpei Kamimura 4:45 pm – 5:00 pm	B7.06 Hideaki Murotani 4:45 pm – 5:00 pm	
	A5.11 Toni Markurt 5:00 pm – 5:15 pm	B6.06 Naoteru Shigekawa 5:00 pm – 5:15 pm	B7.07 Steven Albert 5:00 pm – 5:15 pm	
	A5.12 Oliver Schulz 5:15 pm – 5:30 pm	B6.07 Kurokawa Hironori 5:15 pm – 5:30 pm	B7.08 James R. Riley 5:15 pm – 5:30 pm	
POSTER SESSION Potomac C/D and 1-6 6:00 pm – 7:30 pm	»»»			

WEDNESDAY

Potomac C/D and 1-6	National Harbor 12-13	National Harbor 4-5	Chesapeake 1-3	Chesapeake 4-6
	A: BULK AND FILM GROWTH A6: BULK	B: OPTICAL DEVICES, VISIBLE B8: NEXT GENERATION VISIBLE LEDS		D: ELECTRICAL DEVICES D4: NOVEL NITRIDE ELECTRONIC DEVICES AND CONCEPTS
	A6.01 Robert Dwilinski* 8:30 am – 9:00 am A6.02 Mark D'Evelyn 9:00 am – 9:15 am A6.03 Matthias Bickerman 9:15 am – 9:30 am A6.04 Mikolaj Amilusik 9:30 am – 9:45 am A6.05 Keisuke Yamane 9:45 am – 10:00 am	B8.01 Kazuhide Kumakura 8:30 am – 8:45 am B8.02 Sriram Krishnamoorthy 8:45 am – 9:00 am B8.03 Masahiro Watanabe 9:00 am – 9:15 am B8.04 Kevin O'Donnell 9:15 am – 9:30 am B8.05 Horng-Shyang Chen 9:30 am – 9:45 am B8.06 Dennis Van Den Broeck 9:45 am – 10:00 am		D4.01 Digbijoy N.Nath 8:30 am – 8:45 am D4.02 Benjamin Reuters 8:45 am – 9:00 am D4.03 Sirona Valdueza-Felip 9:00 am – 9:15 am D4.04 Douglas Yoder 9:15 am – 9:30 am D4.05 Tyler A. Growden 9:30 am – 9:45 am D4.06 Bin Lu 9:45 am – 10:00 am
BREAK 10:00 am – 10:30 am	>>>			
	A: BULK AND FILM GROWTH A6: BULK (CONTINUED)	B: OPTICAL DEVICES, VISIBLE B9: VISIBLE LASERS		D: ELECTRICAL DEVICES D4: NOVEL NITRIDE ELECTRONIC DEVICES AND CONCEPTS (CONTINUED)
	A6.06 Masayuki Imanishi 10:30 am – 10:45 am A6.07 Mike Seacrist 10:45 am – 11:00 am A6.08 Tomasz Sochacki 11:00 am – 11:15 am A6.09 Makorto Saito 11:15 am – 11:30 am A6.10 Tanja Kuittinen 11:45 am – 12:00 pm	B9.01 Adrian Avramescu* 10:30 am – 11:00 am B9.02 Matthew Hardy 11:00 am – 11:15 am B9.03 Grzegorz Muziol 11:15 am – 11:30 am B9.04 Christoph Berger 11:30 am – 11:45 am B9.05 Szymon Stanczyk 11:45 am – 12:00 pm B9.06 Katarzyna Holc 12:00 pm – 12:15 pm B9.07 Jonathan J. Wierer 12:15 pm – 12:30 pm		D4.07 Umesh K. Mishra* 10:30 am – 10:45 am D4.08 Eng Fong Chor 10:45 am – 11:00 am D4.09 Pierre Tchouffian 11:15 am – 11:30 am D4.10 Akihiro Makamura 11:30 am – 11:45 am D4.11 Andrei Vescan 11:45 am – 12:00 pm D4.12 Ye Shao 12:00 pm – 12:15 pm D4.13 Edwin W. Lee 12:15 pm – 12:30 pm
POSTER SESSION Potomac C/D AND 1-6 1:00 pm – 2:30 pm	>>>			
	A: BULK AND FILM GROWTH A7: DOPING AND DEFECTS II	B: OPTICAL DEVICES, VISIBLE B10: IR MATERIALS AND DEVICES		D: ELECTRICAL DEVICES D5: NOVEL ELECTRONIC CONCEPTS
	A7.01 Frank Mehnke 2:45 pm – 3:00 pm A7.02 Sergei V. Novikov 3:00 pm – 3:15 pm A7.03 Erin C. Kyle 3:15 pm – 3:30 pm A7.04 M. Sultana 3:30 pm – 3:45 pm A7.05 Ronny Kirste 3:45 pm – 4:00 pm A7.06 Zachary Bryan 4:00 pm – 4:15 pm A7.07 Jae-Hyun Ryou 4:15 pm – 4:30 pm	B10.01 Nicolas Grandjean* 2:45 pm – 3:15 pm B10.02 Izabela Gorczyca 3:15 pm – 3:30 pm B10.03 Oana Malis 3:30 pm – 3:45 pm B10.04 Shmuel Schacham 3:45 pm – 4:00 pm B10.05 Hiroyuki Yaguchi 4:00 pm – 4:15 pm B10.06 Daniel Feezell 4:15 pm – 4:30 pm		D5.01 Lei Shao 3:00 pm – 3:15 pm D5.02 Zihao Yang 3:15 pm – 3:30 pm D5.03 Ligia M. Amorim 3:30 pm – 3:45 pm D5.04 Anna Mukhtarova 3:45 pm – 4:00 pm D5.05 Parijat Sengupta 4:00 pm – 4:15 pm
BREAK 4:30 pm – 5:00 pm	>>>			
RUMP SESSIONS 5:00 pm – 7:00 pm	>>>			

THURSDAY & FRIDAY

ORAL PRESENTATIONS AT-A-GLANCE

THURSDAY

Potomac C/D and 1-6	National Harbor 12-13	National Harbor 4-5	Chesapeake 1-3	Chesapeake 4-6
	A: BULK AND FILM GROWTH A8: NANOSTRUCTURES	B: OPTICAL DEVICES, VISIBLE B11: CHARACTERIZATION OF NITRIDES		D: ELECTRICAL DEVICES D6: GAN ON SILICON ELECTRONIC DEVICES & PROCESS INNOVATIONS
	A8.01 Martin Heilmann 8:30 am – 8:45 pm	B11.01 Ja-kyung Lee 8:30 am – 8:45 am		D6.01 Bong-Ryeol Park 8:30 am – 8:45 am
	A8.02 Hubert Renevier 8:45 am – 9:00 am	B11.02 Emanuele Pollani 8:45 am – 9:00 am		D6.02 Farah Khir 8:45 am – 9:00 am
	A8.03 Songrui Zhao 9:00 am – 9:15 am	B11.03 Nicola Trivellin 9:00 am – 9:15 am		D6.03 Satyaki Ganguly 9:00 am – 9:15 am
	A8.04 Bruno Daudin 9:15 am – 9:30 am	B11.04 Stefan Schultze 9:15 am – 9:30 am		D6.04 Yvon Cordier 9:15 am – 9:30 am
	A8.05 Hiroaki Hayashi 9:30 am – 9:45 am	B11.05 Kamal Baloch 9:30 am – 9:45 am		D6.05 Tongde Huang 9:30 am – 9:45 am
	A8.06 Christian Hauswald 9:45 am – 10:00 am	B11.06 Joel Eymery 9:45 am – 10:00 am		D6.06 Shu Yang 9:45 am – 10:00 am
BREAK 10:00 am – 10:30 am				
	A: BULK AND FILM GROWTH A8: NANOSTRUCTURES (CONTINUED)	B: OPTICAL DEVICES, VISIBLE B12: OPTICAL PROPERTIES OF NITRIDES		D: ELECTRICAL DEVICES D6: GAN ON SILICON ELECTRONIC DEVICES & PROCESS INNOVATIONS (CONTINUED)
	A8.07 Lutz Geelhaar 10:30 am – 10:45 am	B12.01 Blair Connolly 10:30 am – 10:45 am		D6.07 Farid Medjdoub* 10:30 am – 11:00 am
	A8.08 Emmanuel Le Boulbar 10:45 am – 11:00 am	B12.02 M. Mohajerani 10:45 am – 11:00 am		
	A8.09 Richard Webster 11:00 am – 11:15 am	B12.03 Takuya Ozaki 11:00 am – 11:15 am		D6.08 Omair Saadat 11:00 am – 11:15 am
	A8.10 Zhaoxia Bi 11:15 am – 11:30 am	B12.04 Ashish Arora 11:15 am – 11:30 am		D6.09 Tadahiro Imada 11:15 am – 11:30 am
	A8.11 Ian Griffiths 11:30 am – 11:45 am	B12.05 Nathaniel Woodward 11:30 am – 11:45 am		D6.10 Matteo Meneghini 11:30 am – 11:45 am
	A8.12 Wen-Cheng Ke 11:45 am – 12:00 pm	B12.06 Daichi Imai 11:45 am – 12:00 pm		D6.11 Andrew D. Koehler 11:45 am – 12:00 pm
TOURS (optional) 1:00 pm – 6:00 pm				
BANQUET 7:00 pm – 9:00 pm				

FRIDAY

Potomac C/D and 1-6	National Harbor 12-13	National Harbor 4-5	Chesapeake 1-3	Chesapeake 4-6
	A: BULK AND FILM GROWTH A9: PLANAR, ALTERNATIVE NITRIDES AND GROWTH METHODS II	B: OPTICAL DEVICES, VISIBLE B13: OPTICAL PROPERTIES OF QUANTUM WELLS		B: OPTICAL DEVICES, VISIBLE B14: VISIBLE QUANTUM DOTS
	A9.01 Virginia Wheeler 8:30 am – 8:45 pm	B13.01 Andreas Hangleiter 8:30 am – 8:45 am		B14.01 Lei Zhang 8:30 am – 8:45 am
	A9.02 Hongxing Jiang 8:45 am – 9:00 am	B13.02 Thomas Lehnhardt 8:45 am – 9:00 am		B14.02 Robert M. Emery 8:45 am – 9:00 am
	A9.03 Liverios Lymperakis 9:00 am – 9:15 am	B13.03 Lukas Schade 9:00 am – 9:15 am		B14.03 Je-Hyung Kim 9:00 am – 9:15 am
	A9.04 Tsutomu Araki 9:15 am – 9:30 am	B13.04 Axel Hoffman 9:15 am – 9:30 am		B14.04 Benjamin P. Reid 9:15 am – 9:30 am
	A9.05 Robert Martin 9:30 am – 9:45 am	B13.05 Saulius Marcinkevicius 9:30 am – 9:45 am		B14.05 Su-Hyun Gong 9:30 am – 9:45 am
	A9.06 Stefan Krischok 9:45 am – 10:00 am	B13.06 Tom Badcock 9:45 am – 10:00 am		B14.06 Brandon Demory 9:45 am – 10:00 am
	A9.07 Tomoyuki Suzuki 10:00 am – 10:15 am	B13.07 Maki Kushimoto 10:00 am – 10:15 am		B14.07 Laura Monteagudo-Lerma 10:00 am – 10:15 am
BREAK 10:15 am – 10:45 am				
E: PLENARY				
E1: PLENARY II				
E2.01 Chris Van de Walle*				
10:45 am – 11:30 am				
E2.02 Hiroshi Amano*				
11:30 am – 12:15 pm				
E2.03 Jurgen Christen*				
12:15 pm – 1:00 pm				
Closing				
1:00 pm – 1:15 pm				

*Invited

MONDAY

Poster Authors Set-up

3:00 pm – 6:00 pm

General Viewing | Potomac C/D and 1-6

6:00 pm – 7:30 pm

A: BULK AND FILM GROWTH

PAPER #	PRESENTER
AP1.01	Boleslaw Lucznik
AP1.02	Masataka Imura
AP1.03	F. C. Massabau
AP1.04	Govind Gupta
AP1.05	Jeff Leathersich
AP1.06	Abheek Bardhan
AP1.07	Siyuan Zhang
AP1.08	Charles R. Eddy
AP1.09	Neeraj Nepal
AP1.10	Kyu-Seung Lee
AP1.11	Chi-Chin Wu
AP1.12	Wojciech Linhart
AP1.13	Benjamin Leung
AP1.14	Quanzhong Jiang
AP1.15	Prem Kumar Kandaswamy
AP1.16	Michael Mastro
AP1.17	Ming Zhao
AP1.18	Michal Bockowski
AP1.19	Stephan M. Knoll
AP1.20	Lindsay Hussey
AP1.21	Jennifer K. Hite
AP1.22	Zeng Zhang
AP1.23	Zachary Bryan
AP1.24	Nikolaus Dietz
AP1.25	Min Ting
AP1.26	Iman S. Roqan
AP1.27	Michael E. Rudinsky
AP1.28	Yoshihiro Ichinohe
AP1.29	Todd L. Williamson
AP1.30	Kohei Ueno
AP1.31	Przemyslaw Witczak
AP1.32	Stephen K. O'Leary
AP1.33	Shaoxin Zhu
AP1.34	Qing Paduano
AP1.35	Nagarajan Subramaniyam
AP1.36	Lang Niu
AP1.37	Mohan Nagaboopathy
AP1.38	Ian P. Seetoh
AP1.39	Tomonobu Tsuchiya
AP1.40	Jarod c. Gagnon
AP1.41	Kanako Shojiki
AP1.42	Xu Qiang Shen
AP1.43	Jiejun Wu
AP1.44	Jose Fernando D. Chubaci
AP1.45	Hae-Yong Lee

A: BULK AND FILM GROWTH (CONTINUED)

AP1.46	Sneha Pandya
AP1.47	Mahesh Pandikunta
AP1.48	Mahesh Pandikunta
AP1.49	Koshi Nakamura
AP1.50	Young Kuk Lee
AP1.51	Mahesh Kumar
AP1.52	S. B. Krupanidhi
AP1.53	S. B. Krupanidhi
AP1.54	Gleb Lukin
AP1.55	Radoslaw Zwierz
AP1.56	Sergei V. Novikov
AP1.57	Rytis Dargis
AP1.58	Ke Wang
AP1.59	Kenji Ishikawa
AP1.60	Roland Tomasiusas
AP1.61	Makoto Sekine
AP1.62	Juan G. Lozano
AP1.63	Ichiro Yonenaga
AP1.64	Antoni Ciszewski
AP1.65	Xiang Gao
AP1.66	Yuriy Danylyuk
AP1.67	Li Zhang
AP1.68	Toshinari Nukaga
AP1.69	Hareesh Chandrasekar
AP1.70	Akihiro Mihara
AP1.71	Arunas Kadys
AP1.72	Agne Zukauskaite
AP1.73	Yvon Cordier
AP1.74	Theodoros Karakostas
AP1.75	Ronny Kirste
AP1.76	Toni Markurt
AP1.77	Philomela Komninou

B: OPTICAL DEVICES, VISIBLE

PAPER #	PRESENTER
BP1.01	Weijie Chen
BP1.02	Junjun Wang
BP1.03	Ray Hua Horng
BP1.04	Kiran Dasari
BP1.05	Ding Li
BP1.06	Zhuang Zhe
BP1.07	Yue Lin
BP1.08	JongHak Kim
BP1.09	Yu-Tong Chen
BP1.10	Kyeong Heon Kim
BP1.11	M. J. Davies

B: OPTICAL DEVICES, VISIBLE (CONTINUED)

BP1.12	Kun-Yu A. Lai
BP1.13	Soo Jin Chua
BP1.14	Wei Yang
BP1.15	Saulius Nargelas
BP1.16	Chun-Han Lin
BP1.17	Horng-Shyang Chen
BP1.18	Shumin He
BP1.19	Modestos Athanasiou
BP1.20	Taeki Kim
BP1.21	Hideaki Murotani
BP1.22	Hooyoung Song
BP1.23	Liang Zhao
BP1.24	Kyusang Kim
BP1.25	Tae-Soo Kim
BP1.26	Xiaoli Ji
BP1.27	Der-Yuh Lin
BP1.28	Koji Okuno
BP1.29	Sneha Rhode
BP1.30	Ki-Nam Park
BP1.31	Szymon Stanczyk
BP1.32	Young Jae Park
BP1.33	Kwang Jae Lee
BP1.34	Young Chul Leem
BP1.35	Su Jin Kim
BP1.36	Jae-Joon Kim
BP1.37	Hiroto Sekiguchi
BP1.38	Agata Bojarska
BP1.39	Miao-Chan Tsai
BP1.40	Hao Jiang
BP1.41	Ty J. Prosa
BP1.42	Jeremy B. Wright
BP1.43	Leah Y. Kuritzky
BP1.44	Jochen Bruckbauer
BP1.45	Xue Wang
BP1.46	Danny Sutherland
BP1.47	Munsik Oh

C: OPTICAL DEVICES, UV

PAPER #	PRESENTER
CP1.01	Michael Kunzer
CP1.02	Vinod Adivarahan
CP1.03	Masafumi Yamaguchi
CP1.04	Jianchang Yan
CP1.05	Baijun Zhang
CP1.06	Andrea Knigge
CP1.07	Benjamin Neuschl
CP1.08	Lauri Riuttanen

C: OPTICAL DEVICES, UV (CONTINUED)

CP1.09	Gintautas Tamulaitis
CP1.10	Russell D. Dupuis
CP1.11	Mickael Lapeyrate
CP1.12	Konstantin S. Zhuravlev
CP1.13	Hyun Jeong
CP1.14	John B. Schlager
CP1.15	Yoshiya Iwata
CP1.16	Sergey Kurin
CP1.17	Bernard Gil
CP1.18	Robert Kudrawiec
CP1.19	Kestutis Jarasiunas

D: ELECTRICAL DEVICES

PAPER #	PRESENTER
DP1.01	Kestutis Jarasiunas
DP1.02	Bongmook Lee
DP1.03	H. Jackson
DP1.04	Bahadir Kucukgok
DP1.05	Shlomo Mehari
DP1.06	Digbijov N. Nath
DP1.07	Daming Wei
DP1.08	Namcheol Jeon
DP1.09	Fang YuLong
DP1.10	Yujin Hori
DP1.11	Di Meng
DP1.12	Karl D. Hobart
DP1.13	Marko Tadjer
DP1.14	Defeng Lin
DP1.15	Abdullah Al-Khalidi
DP1.16	TingTing Yuan
DP1.17	Kazushige Horio
DP1.18	Shinya Takashima
DP1.19	Joshua R. Smith
DP1.20	Hiroko Iguchi
DP1.21	Ahmed Chakroun
DP1.22	Zhang Jihong
DP1.23	Peng Liu
DP1.24	Jiechen Wu
DP1.25	Takuma Nakano
DP1.26	Xin Kong
DP1.27	Weijun Luo
DP1.28	Sen Huang
DP1.29	Ashu Wang
DP1.30	Marcel A. Py
DP1.31	Ng Geok Ing
DP1.32	Alexander Y. Polyakov

Poster Authors Set-up

1:00 pm – 6:00 pm

General Viewing | Potomac C/D and 1-6

6:00 pm – 7:30 pm

A: BULK AND FILM GROWTH

PAPER #	PRESENTER
AP2.01	Vladimir Nikolaev
AP2.02	Michael A. Derenge
AP2.03	Alexana Roshko
AP2.04	Konstantin Zhuravlev
AP2.05	Carol Trager-Cowan
AP2.06	Philomela Komninou
AP2.07	Adam Bross
AP2.08	Julita Smalc-Koziorowska
AP2.09	Peter W. Binsted
AP2.10	Takeji Itoh
AP2.11	Ana M. Bengoechea Encabo
AP2.12	Samir M. Hamad
AP2.13	Masao Matsuoka
AP2.14	Vitaly Z. Zubialeovich
AP2.15	Miguel A. Caro
AP2.16	Albert Davydov
AP2.17	Xianzhe Jiang
AP2.18	Laura Monteagudo-Lerma
AP2.19	Frank Brunner
AP2.20	Joerg Schoermann
AP2.21	Ernst R. Buss
AP2.22	Ross Miller
AP2.23	Nikolaus Dietz
AP2.24	Nirupam Hatui
AP2.25	Cao Miao
AP2.26	Milena R. Bobea
AP2.27	Chu-An Li
AP2.28	Dmitrii Nechaev
AP2.29	Thomas Kure
AP2.30	Atsushi Kobayashi
AP2.31	Jiaming Wang
AP2.32	Yingda Chen
AP2.33	Neeraj Nepal
AP2.34	Lindsay Hussey
AP2.35	Masahiko Matsubara
AP2.36	Kentaro Furusawa
AP2.37	Haiding Sun
AP2.38	Toru Sugiyama
AP2.39	Jialing Yang
AP2.40	Jeonghwan Jang
AP2.41	Seohwi Woo
AP2.42	Isaac Bryan
AP2.43	Sergio Fernandez Garrido
AP2.44	Woei-Tyng Lin
AP2.45	Marian D. Caliebe

A: BULK AND FILM GROWTH (CONTINUED)

AP2.46	Chia-Hung Lin
AP2.47	Toshiki Hikosaka
AP2.48	JongJin Jang
AP2.49	Tomoaki Sumi
AP2.50	Toni Markurt
AP2.51	Wen-Cheng Ke
AP2.52	Pei-Yin Lin
AP2.53	Gangadhara R. Yaddanapudi
AP2.54	Vera Prozheeva
AP2.55	Matthias Wieneke
AP2.56	Hu Liang
AP2.57	Peter Parbrook
AP2.58	Tobias Meisch
AP2.59	Danny Sutherland
AP2.60	Takumi Hatakeyama
AP2.61	Arata Watanabe
AP2.62	Takuji Arauchi
AP2.63	Juan G. Lozano
AP2.64	R. Radhakrishnan Sumathi
AP2.65	Theodoros Karakostas
AP2.66	Tomoyuki Tanikawa
AP2.67	Dmitry Artemiev
AP2.68	Tadashi Mitsunari
AP2.69	Jiayi Shao
AP2.70	Govind Gupta
AP2.71	Haoning Li
AP2.72	Alex Zhang
AP2.73	Henryk Turski
AP2.74	Jr-Tai Chen
AP2.75	Robert Kudrawiec
AP2.76	Andreas Kraus
AP2.77	F. C. Massabuau

B: OPTICAL DEVICES, VISIBLE

PAPER #	PRESENTER
BP2.01	Joy McNamara
BP2.02	Tak Jeong
BP2.03	Binh H. Le
BP2.04	Hyung-Jo Park
BP2.05	Xinbo Zou
BP2.06	Dong-Sing Wu
BP2.07	Min Joo Park
BP2.08	JongHak Kim
BP2.09	Ching-Wen Chang
BP2.10	Grzegorz Staszczak

B: OPTICAL DEVICES, VISIBLE (CONTINUED)

BP2.11	Lukas Schade
BP2.12	Kim Sang-Jo
BP2.13	Kenjo Matsui
BP2.14	Kisu Joo
BP2.15	Masahiro Yamagishi
BP2.16	Ewa Grzanka
BP2.17	Seul-Kee Moon
BP2.18	Martin Mandl
BP2.19	Shunfeng Li
BP2.20	Silvia Schwyn Thoeny
BP2.21	Michael J. Wallace
BP2.22	Yen-Hsiang Fang
BP2.23	Kenji Shiojima
BP2.24	Ramunas Aleksiejunas
BP2.25	Agata Bojarska
BP2.26	Martin Albrecht
BP2.27	Robert Koester
BP2.28	Daehong Min
BP2.29	Lise Lahourcade
BP2.30	Tomas Grinys
BP2.31	Jochen Bruckbauer
BP2.32	Marcus Mueller
BP2.33	Ronald A. Arif
BP2.34	Tom Badcock
BP2.35	Jack Severs
BP2.36	Hoi Wai Choi
BP2.37	Brian Corbett
BP2.38	Matthias Finken
BP2.39	Damien Salomon
BP2.40	Alexander Khachapuridze
BP2.41	Yuh-Renn Wu
BP2.42	Zarko Gacevic
BP2.43	James Riley
BP2.44	M. J. Davies
BP2.45	Xue Wang

C: OPTICAL DEVICES, UV

PAPER #	PRESENTER
CP2.01	Shiro Toyoda
CP2.02	Sergey Kurin
CP2.03	Noritoshi Maeda
CP2.04	Yi-Keng Fu
CP2.05	Tae Hoon Seo
CP2.06	Yuan-Ting Lin
CP2.07	Tommaso Brazzini
CP2.08	Takao Oto

C: OPTICAL DEVICES, UV (CONTINUED)

CP2.09	Martin Eickhoff
CP2.10	Stefan Schulz
CP2.11	Joerg Teubert
CP2.12	Gunnar Kusch
CP2.13	Rahul Jayaprakash
CP2.14	Michael Kunzer
CP2.19	Andrew A. Allerman
CP2.16	Puneet Suvama
CP2.17	Kayo Koike
CP2.18	Gintautas Tamulaitis

D: ELECTRICAL DEVICES

PAPER #	PRESENTER
DP2.01	Jin Wei
DP2.02	Weiwei Chen
DP2.03	Feng Zhihong
DP2.04	Lorenzo Lugani
DP2.05	Milan Tapajna
DP2.06	Brianna Eller
DP2.07	Steve Stoffels
DP2.08	Randy P. Tompkins
DP2.09	Min Sun
DP2.10	Russell D. Dupuis
DP2.11	Shenglei Zhao
DP2.12	Paul Blanchard
DP2.13	Geok I. Ng
DP2.14	Yao Yao
DP2.15	Munsik Oh
DP2.16	Wen-Ti Hsu
DP2.17	Wen-Chia Liao
DP2.18	Alexander Y. Polyakov
DP2.19	Yan-Lun Chen
DP2.20	Yusuke Kumazaki
DP2.21	Kei Sakamoto
DP2.22	Hayao Kasai
DP2.23	Hiroki Ogawa
DP2.24	Ogyun Seok
DP2.25	Jaroslav Dzuba
DP2.26	Shinhyuk Choi
DP2.27	Anna Malmros
DP2.28	Hyojung Bae
DP2.29	Baikui Li
DP2.30	Anna Podolska
DP2.31	Andrei Osinsky
DP2.32	Albert Minj
DP2.33	Jieqin Ding
DP2.34	Zhang Kai

WEDNESDAY

Poster Authors Set-up

8:30 am – 1:00 pm

General Viewing | Potomac C/D and 1-6

1:00 pm – 2:30 pm

A: BULK AND FILM GROWTH

PAPER #	PRESENTER
AP3.01	Masanori Nambu
AP3.02	Yohei Sugiyura
AP3.03	Narihito Okada
AP3.04	Kazuhiko Hara
AP3.05	Ichiro Yonenaga
AP3.06	Yasuhiro Hashimoto
AP3.07	Masayoshi Adachi
AP3.08	Michal Bockowski
AP3.09	Ke Wang
AP3.10	JunZe Lee
AP3.11	Denis Martin
AP3.12	Motohisa Ueno
AP3.13	Juergen Daeubler
AP3.14	Stephan Figge
AP3.15	Michael Jetter
AP3.16	Kentaro Onabe
AP3.17	Lars Grieger
AP3.18	Vanya Darakchieva
AP3.19	Suk-Min Ko
AP3.20	Robert Kudrawiec
AP3.21	Benjamin Leung
AP3.22	Mid Tashfin Z. Hossain
AP3.23	Satoru Uchimura
AP3.24	Masahiro Sakamoto
AP3.25	Vijay K. Narasimhan
AP3.26	Young-Ho Ko
AP3.27	Rytis Dargis
AP3.28	Jie Song
AP3.29	Edward B. Stokes
AP3.30	Ke-Xun Sun
AP3.31	Dong-Seok Kim
AP3.32	HyoSang Yu
AP3.33	Fatih Akyol
AP3.34	Louis J. Guido
AP3.35	Yuan Bu
AP3.36	Sang-Min Jeon
AP3.37	Liverios Lymerakis
AP3.38	Nadeemullah A. Mahadik
AP3.39	Stephan M. Knoll
AP3.40	Deon Bharat
AP3.41	Baozhu Wang
AP3.42	Isaac Bryan
AP3.43	SeongJin Bak
AP3.44	Daniel D. Koleske
AP3.45	Matthew Highland
AP3.46	Matt Brubaker
AP3.47	Joshua Williams

A: BULK AND FILM GROWTH (CONTINUED)

AP3.48	Stefan Mohn
AP3.49	Hae-Yong Lee
AP3.50	Antonio Ferreira da Silva
AP3.51	Adam Moldawer
AP3.52	Kris Bertness
AP3.53	Mark Oliver
AP3.54	W. R. Willoughby
AP3.55	Siyuan Zhang
AP3.56	Haoran Li
AP3.57	F. C. Massabauu
AP3.58	Jeff Leathersich
AP3.59	Jingzhou Wang
AP3.60	Jian Wei Ho
AP3.61	Andriy Zakutayev
AP3.62	Wei-Li Chen
AP3.63	Paritosh Wadekar
AP3.64	Shaul Aloni
AP3.65	Cai Liu
AP3.66	Valentine Jmerik
AP3.67	Jing Lu
AP3.68	Edward Preble
AP3.69	Hao Fang
AP3.70	Norman A. Sanford
AP3.71	Mark A. Hoffbauer
AP3.72	Hongbo Wang
AP3.73	Faiza A. Faria
AP3.74	Konstantin Zhuraviev
AP3.75	Frank Bertram

B: OPTICAL DEVICES, VISIBLE

PAPER #	PRESENTER
BP3.01	Michael Mastro
BP3.02	Ada Wille
BP3.03	Pan-Ju Choi
BP3.04	Lise Lahourcade
BP3.05	Wenting Hou
BP3.06	Stefan Schulz
BP3.07	Noemi Garcia-Lepetit
BP3.08	K. Scott Butcher
BP3.09	Zarko Gacevic
BP3.10	Tadas Malinauskas
BP3.11	Dimitar Alexandrov
BP3.12	Tyler Hill
BP3.13	Lucja Marona
BP3.14	Duk-jo Kong
BP3.15	Marco Rossetti

B: OPTICAL DEVICES, VISIBLE (CONTINUED)

BP3.16	Mohsen Nami
BP3.17	Eleonora Secco
BP3.18	Mark Beeler
BP3.19	Chia-Hung Lin
BP3.20	Seonock Kim
BP3.21	Alexander J. Woolf
BP3.22	Yuchen Yang
BP3.23	YongHoon Cho
BP3.24	Nam Han
BP3.25	Dong-Soo Shin
BP3.26	Hoi Wai Choi
BP3.27	Toshiyuki Kondo
BP3.28	Kaddour Lekhal
BP3.29	Xue Wang
BP3.30	Kota Nakao
BP3.31	Chu-Hsiang Teng
BP3.32	Qing Paduano
BP3.33	Kazuhide Kusakabe
BP3.34	Michael Kunzier
BP3.35	David Browne
BP3.36	Rahul Jayaprakash
BP3.37	Ding Li
BP3.38	Hyun Jeong
BP3.39	YangSeok Yoo

C: OPTICAL DEVICES, UV

PAPER #	PRESENTER
CP3.01	Chalermchai Himwas
CP3.02	Gwenole Jacopin
CP3.03	Santino D. Carnevale
CP3.04	Szymon Grzanka
CP3.05	Thomas F. Kent
CP3.06	Jong-Yoon Ha
CP3.07	Georg Rossbach
CP3.08	Ramunas Aleksiejunas
CP3.09	Sara Shishehchi
CP3.10	Douglas Yoder
CP3.11	Abhishek Motayed
CP3.12	Ronny Kirste
CP3.13	Abu Zafar Muhammad Islam
CP3.14	Haiding Sun
CP3.15	Tsubasa Nakashima
CP3.16	Wei Guo
CP3.17	Mitsuaki Kaneko
CP3.18	Renchun Tao

D: ELECTRICAL DEVICES

PAPER #	PRESENTER
DP3.01	Jonas Hennig
DP3.02	S. B. Krupanidhi
DP3.03	S. B. Krupanidhi
DP3.04	Jiejie Zhu
DP3.05	Ben Ruck
DP3.06	Wanjun Chen
DP3.07	Tohru Honda
DP3.08	Toshihide Ide
DP3.09	Helmut Jung
DP3.10	Michal Jurkovic
DP3.11	Chengyu Hu
DP3.12	Bahadir Kucukgok
DP3.13	Yuji Wang
DP3.14	Haidong Zhang
DP3.15	Po-Tsung Tu
DP3.16	Digbijoy N. Nath
DP3.17	Zhihong Liu
DP3.18	Shu Yang
DP3.19	Jae-Hoon Lee
DP3.20	Cheng Liu
DP3.21	JunShuai Xue
DP3.22	Sara Martin Horcajo
DP3.23	Przemyslaw Witczak
DP3.24	Ye Wang
DP3.25	Jae-Gil Lee
DP3.26	Tetsuo Narita
DP3.27	Chia-Lung Tsai
DP3.28	Roman Stoklas
DP3.29	Zhang Kai
DP3.30	Ning Tang
DP3.31	Akinori Ubukata
DP3.32	Bongmook Lee
DP3.33	Di Meng
DP3.34	Travis Anderson
DP3.35	Alexander Y. Polyskov