TMS 2007 ELECTRONIC MATERIALS CONFERENCE *and Exhibition*

June 20-22, 2007
University of Notre Dame
Notre Dame, Indiana

Final Program

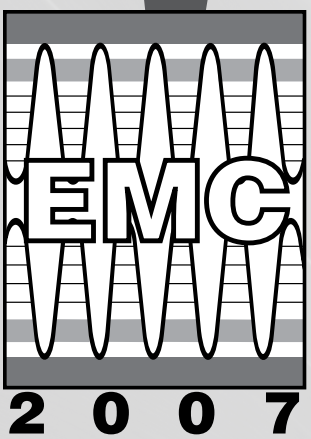
Sponsored by

TMS

Electronic, Magnetic & Photonic Materials Division

TMS 2007 Electronic Materials Conference

June 20-22, 2007 • University of Notre Dame • Notre Dame, Indiana



Welcome to the Premier Annual Forum on the Preparation and Characterization of Electronic Materials

Your registration includes:
Technical Sessions
Exhibition
Welcoming Reception
Coffee Breaks
Thursday Banquet*

**One-day registration does not include Thursday banquet.*

Value for Your Cost
EMC is being coordinated with the Device Research Conference, also held on-site, June 18-20. Badges will be accepted for admittance to both conferences on Wednesday.

Technical Sessions
Technical sessions commence with the plenary session on Wednesday at 8:20 a.m. in the Leighton Concert Hall of the DeBartolo Performing Arts Center. The Center is located off Notre Dame Avenue near the university's main entrance at the south end of DeBartolo Quad. All subsequent technical sessions will be held in DeBartolo Hall.

Refund
The deadline for refunds was June 4, 2007. No refunds are issued at the meeting.

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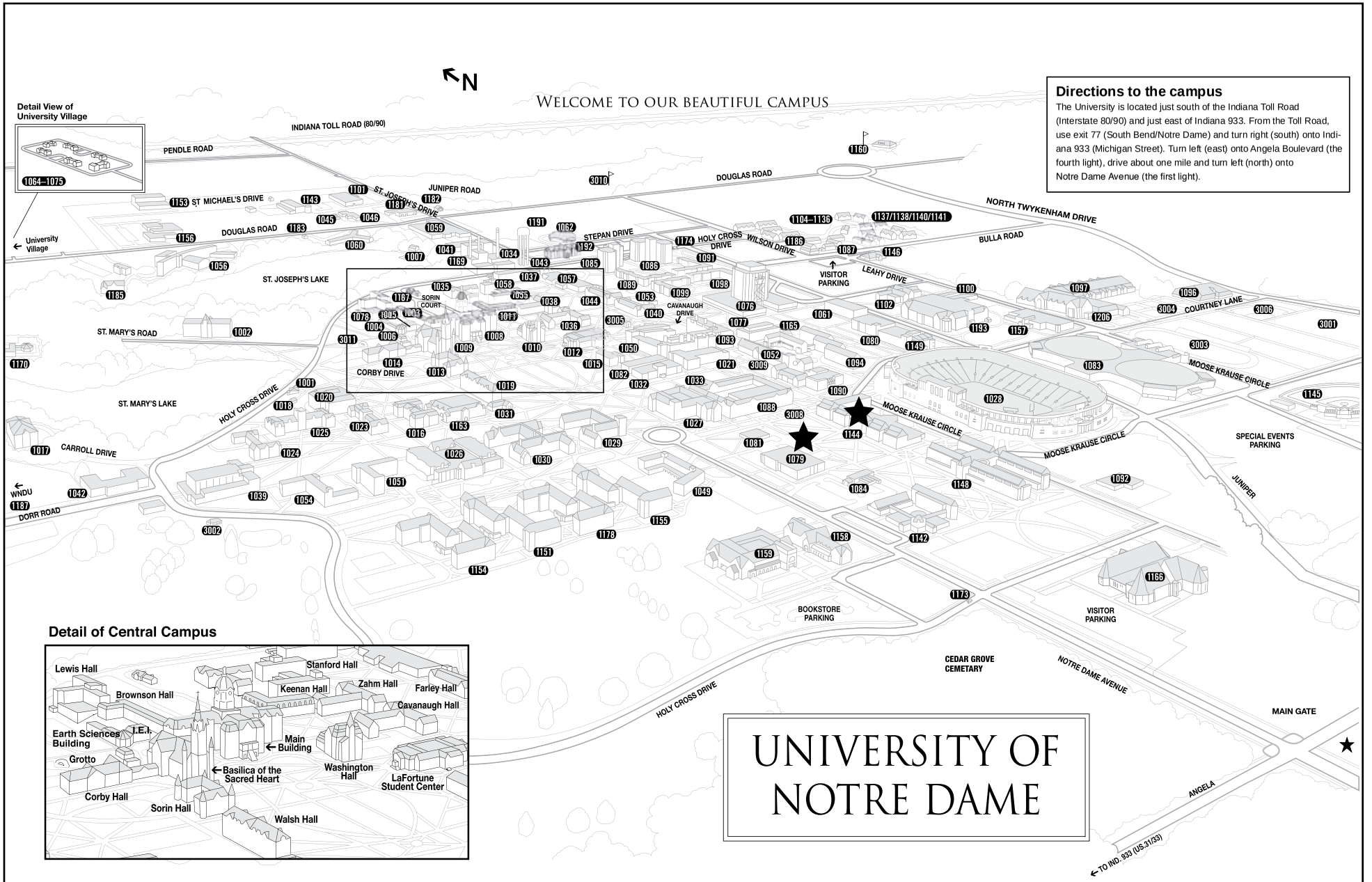

Directions to the campus

The University is located just south of the Indiana Toll Road (Interstate 80/90) and just east of Indiana 933. From the Toll Road, use exit 77 (South Bend/Notre Dame) and turn right (south) onto Indiana 933 (Michigan Street). Turn left (east) onto Angela Boulevard (the fourth light), drive about one mile and turn left (north) onto Notre Dame Avenue (the first light).

Detail of Central Campus

UNIVERSITY OF NOTRE DAME

Map courtesy of Notre Dame Alumni Association

Alphabetical Listing of campus buildings

Admissions (Main Building) 1008
Alumni Association 1158
Alumni Soccer Field 3001
Alumni Hall 1029
Architecture 1020
Art Gallery 1090
Athletic and Convocation Center
(Joyce Center) 1083
Ave Maria Press 1156
Badin Hall 1016
Band Building 1100
Basilica of the Sacred Heart 1009
Boat House 1007
Bond Hall (Architecture) 1020
(Hammes Notre Dame) Bookstore 1159
Breen–Phillips Hall 1040
Brownson Hall 1003
Burke Memorial Golf Course 3002
Cafeteria (LaFortune Student Center/
Huddle) 1012
Cafeteria (North Dining Hall) 1057
Cafeteria (South Dining Hall/Reckers) .. 1026
Campus Computer/Math .....
Carroll Hall 1017
Cartier Field 3003
Cavanaugh Hall 1036
Cedar Grove Cemetery .....
Center for Continuing Education
(McKenna Hall) 1079
Center for Social Concerns 1053
Clarke Memorial Fountain 3005
Coleman Center for Campus Ministry 1163
Coleman-Morse Centers 1163
Columba Hall 1002
Corby Hall 1014
Courtney Tennis Center 3004
(Notre Dame) Credit Union 1181
Crowley Hall of Music 1015
Cushing Hall of Engineering 1033
DeBartolo Center for
the Performing Arts 1166
DeBartolo Hall 1144
Decio Faculty Hall 1094
Dillon Hall 1030
Early Childhood Development Center ... 1146
Earth Sciences Building 1004
East Gate 1174
Eck Baseball Stadium 1145
Eck Center 1158/1159
Notre Dame Alumni Association/
Eck Notre Dame Visitors' Center 1158
Hammes Notre Dame Bookstore 1159
Eck Tennis Pavilion 1096
Facilities Building 1169
Facilities/Maintenance Center 1059
Farley Hall 1044
Fatima Retreat House and Shrine 1170
Fieldhouse Mall 3005
Fire Station 1043
First Year of Studies 1163
Fischer Graduate Community Center 1103
Fischer Graduate Residences 1104-1136
Fischer Visiting Faculty
Apartments 1137/1138/1140/1141
Fisher Hall 1051
Fitzpatrick Hall of Engineering 1088
Flanner Hall 1085
Food Services Support Facility 1153
Freimann Life Science Center 1080
Galvin Life Science Center 1080
Golf Courses
Burke Memorial Golf Course 3002
Warren Golf Course 3010
Grace Hall 1086
Grotto of Our Lady of Lourdes 3011
Guglielmino Athletics Complex 1206
Haggar Fitness Complex 1097
Haggar Hall 1037
Hammes Notre Dame Bookstore 1159
Hammes Mowbray Hall
(Security, Post Office) 1192
Hank Family Center for
Environmental Sciences 1149
Hayes–Healy Center 1082
Hesburgh Center for
International Studies 1142
Hesburgh Library 1076
Hessert Aerospace Research Center 1041
Holy Cross House 1060
Howard Hall 1023
Huddle 1012
Hurley Hall 1032
Information Technology Center 1061
Institute for Educational Initiatives 1005
Isis Gallery (Riley Hall of
Art and Design) 1021
Ivy Softball Field 3006
Joyce Center (Joyce Athletic and
Convocation Center) 1083
Jordan Science Learning Center 1193
Keenan Hall 1055
Keough Hall 1178
Knights of Columbus Council Hall 1031
Knott Hall 1098
LaFortune Student Center 1012
(St. Michael's) Laundry 1143
Laundry Pick-up Center 1167
Law School 1027
Legends 1092
Lewis Hall 1078
(Hesburgh) Library 1076
Loftus Sports Center 1097
Log Chapel 1018
Lyons Hall 1024
Mail Distribution Center 1167
Main Building 1008
Main Gate 1173
Malloy Hall 1165
Mason Support Services Center 1101
McGlinn Hall 1154
McKenna Hall (Center for
Continuing Education) 1079
Mendoza College of Business 1148
Meyo Field 1097
Moreau Seminary 1056
Morse Center for Academic Services 1163
Morris Inn 1049
Morrissey Hall 1025
Nieuwland Science Hall 1050
North Dining Hall 1057
Notre Dame Credit Union 1181
O'Hara-Grace Graduate Residences 1087
Old College 1001
O'Neill Hall 1151
O'Shaughnessy Hall 1052
Pangborn Hall 1054
Paris House (Marital Therapy
and Research Clinic) 1182
Pasquerilla Center (ROTC) 1102
Pasquerilla Hall East 1091
Pasquerilla Hall West 1089
Post Office 1192
Power Plant 1034
Presbytery 1006
Province Archives Center 1183
Radiation Research Building 1077
Reckers/Public Cafeteria 1026
Reyniers Life Annex 1045
Reyniers Life Building 1046
Riley Hall of Art and Design 1021
Rockne Memorial 1039
Rolfs Aquatic Center 1083
Rolfs Sports Recreation Center 1157
(Basilica of the) Sacred Heart 1009
Sacred Heart Parish Center 1185
Security Office 1192
Sesquicentennial Common 3008
Shaheen Mestrovic Memorial 3009
Siegfried Hall 1099
Snite Museum of Art 1090
Solitude of St. Joseph (Columba Hall) ... 1002
Sorin Hall 1013
South Dining Hall 1026
St. Edward's Hall 1011
St. Michael's Laundry 1143
Stadium 1028
Stanford Hall 1058
Stepan Center 1062
Stepan Chemistry Hall 1093
Student Center 1012
Telecommunications/Health Services 1042
Tennis Courts 3004
University Club 1084
University Counseling Center 1081
University Health Services 1035
University Village 1064-1075
(Eck) Visitors' Center 1158
Walsh Hall 1019
Warren Golf Club House 1160
Warren Golf Course 3010
Washington Hall 1010
Water Tower 1191
Welsh Hall 1155
Wilson Commons 1186
WNDU Stations 1187
Zahm Hall 1038

★ The Ernestine Raclin and O.C. Carmichael, Jr. Hall and W.M. Keck Center for Transgene Research

numerical Listing of campus buildings

1001 ..... Old College
1002 ..... Columba Hall
1003 ..... Brownson Hall
1004 ..... Earth Sciences Building
1005 ..... Institute for Educational Initiatives
1006 ..... Presbytery
1007 ..... Boat House
1008 ..... Admissions (Main Building)
1009 ..... Basilica of the Sacred Heart
1010 ..... Washington Hall
1011 ..... St. Edward's Hall
1012 ..... LaFortune Student Center
1013 ..... Sorin Hall
1014 ..... Corby Hall
1015 ..... Crowley Hall of Music
1016 ..... Badin Hall
1017 ..... Carroll Hall
1018 ..... Log Chapel
1019 ..... Walsh Hall
1020 ..... Bond Hall (Architecture)
1021 ..... Riley Hall of Art and Design
1023 ..... Howard Hall
1024 ..... Lyons Hall
1025 ..... Morrissey Hall
1026 ..... South Dining Hall/Reckers
1027 ..... Law School
1028 ..... Stadium
1029 ..... Alumni Hall
1030 ..... Dillon Hall
1031 ..... Knights of Columbus Council Hall
1032 ..... Hurley Hall
1033 ..... Cushing Hall of Engineering
1034 ..... Power Plant
1035 ..... University Health Services
1036 ..... Cavanaugh Hall
1037 ..... Haggar Hall
1038 ..... Zahm Hall
1039 ..... Rockne Memorial
1040 ..... Breen-Phillips Hall
1041 ..... Hessert Aerospace Research Center
1042 ..... Telecommunications/Health Services
1043 ..... Fire Station
1044 ..... Farley Hall
1045 ..... Reyniers Life Annex
1046 ..... Reyniers Life Building
1049 ..... Morris Inn
1050 ..... Nieuwland Science Hall
1051 ..... Fisher Hall
1052 ..... O'Shaughnessy Hall
1053 ..... Center for Social Concerns
1054 ..... Pangborn Hall
1055 ..... Keenan Hall
1056 ..... Moreau Seminary
1057 ..... North Dining Hall
1058 ..... Stanford Hall
1059 ..... Facilities/Maintenance Center
1060 ..... Holy Cross House
1061 ..... Information Technology Center
1062 ..... Stepan Center
1064-1075 ..... University Village
1076 ..... Hesburgh Library
1077 ..... Radiation Research Building
1078 ..... Lewis Hall
1079 ..... Center for Continuing Education
(McKenna Hall)
1080 ..... Galvin Life Science Center
Freimann Life Science Center
1081 ..... University Counseling Center
1082 ..... Hayes-Healy Center
1083 ..... Joyce Athletic/Convocation Center
1084 ..... University Club
1085 ..... Flanner Hall
1085 ..... Sacred Heart Parish Center
1086 ..... Grace Hall
1087 ..... O'Hara-Grace Graduate Residences
1088 ..... Fitzpatrick Hall of Engineering
1089 ..... Pasquerilla Hall West
1090 ..... Snite Museum of Art
1091 ..... Pasquerilla Hall East
1092 ..... Legends
1093 ..... Stepan Chemistry Hall
1094 ..... Decio Faculty Hall
1096 ..... Eck Tennis Pavilion
1097 ..... Haggar Fitness Complex
1097 ..... Meyo Field
1097 ..... Loftus Sports Center
1098 ..... Knott Hall
1099 ..... Siegfried Hall
1100 ..... Band Building
1101 ..... Mason Support Services Center
1102 ..... Pasquerilla Center (ROTC)
1104-1136 ..... Fischer Graduate Residences
1137/1138/1140/1141 ..... Fischer
Visiting Faculty Apartments
1142 ..... Hesburgh Center
1143 ..... St. Michael's Laundry
1144 ..... DeBartolo Hall
1145 ..... Eck Baseball Stadium
1146 ..... Early Childhood Development Center
1148 ..... Mendoza College of Business
1149 ..... Hank Family Center
1151 ..... O'Neill Hall
1153 ..... Food Services Support Facility
1154 ..... McGlinn Hall
1155 ..... Welsh Hall
1156 ..... Ave Maria Press
1157 ..... Rolfs Sports Recreation Center
1158 ..... Alumni Association/
Eck Visitors' Center
1159 ..... Hammes Notre Dame Bookstore
1160 ..... Warren Golf Course Club House
1163 ..... Coleman-Morse Centers
1165 ..... Malloy Hall
1166 ..... DeBartolo Center for
the Performing Arts
1167 ..... Laundry Pick-up Center
1169 ..... Facilities Building
1170 ..... Fatima Retreat House and Shrine
1173 ..... Main Gate
1174 ..... East Gate
1178 ..... Keough Hall
1181 ..... Notre Dame Credit Union
1182 ..... Paris House
1183 ..... Province Archives Center
1185 ..... Sacred Heart Parish Center
1186 ..... Wilson Commons
1187 ..... WNDU Stations
1191 ..... Water Tower
1192 ..... Hammes Mowbray Hall
(Security/Post Office)
1193 ..... Jordan Science Learning Center
1206 ..... Guglielmino Athletics Complex
3001 ..... Alumni Soccer Field
3002 ..... Burke Memorial Golf Course
3003 ..... Cartier Field
3004 ..... Courtney Tennis Center
3005 ..... Clarke Memorial Fountain/
Fieldhouse Mall
3006 ..... Ivy Softball Field
3008 ..... Sesquicentennial Common
3009 ..... Shaheen Mestrovic Memorial
3010 ..... Warren Golf Course
3011 ..... Grotto of Our Lady of Lourdes

About the University of Notre Dame

History and Governance

The University of Notre Dame was founded in 1842 by a young priest of a French missionary order called the Congregation of Holy Cross and seven Holy Cross brothers. Father Edward F. Sorin started his school in the northern Indiana wilderness with about $300 and three log buildings in bad repair, and in 1844 he received a charter from the state legislature. His initial educational program adapted the classic liberal arts curriculum to the needs of the frontier. Science entered the curriculum in 1865, followed by law (1869) and engineering (1873), the last two academic offerings being the first under Catholic auspices in America. A graduate program came in 1918, followed by the College of Business Administration in 1921. The University was governed by the Holy Cross Fathers until 1967, when it became one of the first major Catholic universities to transfer governance to a lay Board of Trustees. Rev. John I. Jenkins, C.S.C., is Notre Dame's 17th president.

Physical Campus and Plant

Notre Dame's 1,250-acre campus, with its twin lakes and wooded areas, is located just north of the city limits of South Bend, Ind., and is part of a metro population area of more than 258,000. The University's physical plant has an insured replacement value of more than $2.2 billion and includes some of the world's most recognized campus landmarks.

Academic Program

Notre Dame's main academic units are the four undergraduate colleges—Arts and Letters, Science, Engineering, and Business—and the School of Architecture. On the post-baccalaureate level, the Graduate School contains 24 doctoral and 43 master's degree programs in and among 30 institutes and departments of the University.

In addition, there are professional programs leading to the M.B.A. in the Mendoza College of Business, the J.D. in the Law School, and the master of divinity in the Department of Theology. The University's Center for Continuing Education offers a wide range of opportunities for lifelong learning at all educational levels.

Research Facilities

The University library system contains about 3 million volumes, 3.2 million microform units, 20,800 audiovisual items, and subscriptions to some 11,200 serials.

Faculty research is supported by grants totaling approximately $73 million annually. Representative major research areas include vector biology and parasitic disease, chemistry of blood proteins, microelectronics-materials science, philosophy of religion, history and philosophy of science, psychology and sociology of the family unit, the ethical dimensions of business decisions, and the impact of the multinational corporation.

Faculty

Notre Dame's faculty numbers 1,110, with an additional 390 professional specialists, research fellows, librarians, and administrative faculty.

Admissions and Enrollment

Admission is highly competitive, with more than five applicants for each freshman class position. A full two-thirds of first-year students graduated in the top 5 percent of their high school classes, and 32 percent of these freshmen were among the top five students in their graduating classes. Undergraduate enrollment is some 8,300, and about 85 percent of undergraduates are Catholic. The University became coeducational in 1972, and women now make up 45 percent of both undergraduate and overall enrollment. Some 1,600 students are enrolled in graduate programs, and another 1,500 are in the Law School and MBA programs.

Tuition and Student Aid

Undergraduate tuition for the 2006-2007 academic year is $33,407 with room and board averaging $8,730. More than three-fourths of Notre Dame undergraduates receive some sort of financial aid which in 2005-2006 totalled more than $155 million from all sources. Graduates received approximately $87.5 million.

Student Body

Notre Dame is one of a handful of truly national universities—its student body comes from all over the country. It is also a residential university, with 80 percent of its undergraduates living in 27 campus halls.

While intercollegiate sports, particularly Notre Dame's legendary football teams, are an important facet of student life, the University's varsity athletes meet the same academic standards required of all students and graduate at about the same rate: 90 percent or better.

Among the top 20 major universities, Notre Dame has the highest percentage of students studying abroad.

Alumni

The University has 118,000 plus Alumni, most of them organized into a worldwide betwork of 264 alumni clubs.

Finances

The current budget totals almost $700 million, and the endowment is about $5 billion at estimated market value. Since 1960, the University has received more than $2.2 billion in gifts and grants.

UNIVERSITY OF NOTRE DAME

Computer/Network Facilities

Registrants have guest access to selected computer workstations, wireless and Ethernet Internet connection points within Notre Dame's information technology infrastructure. Access information with a temporary username and password are provided upon check-in. Notre Dame's NOMAD wireless network provides Internet access in all residence hall rooms, Debartolo Hall classrooms, McKenna Hall and several public areas. Each technical session room has a video projector, a VGA connection for a laptop, and a Windows workstation equipped with Microsoft PowerPoint and Adobe Acrobat software.

Messages

A message board is located near the EMC registration desk in McKenna Hall. Messages will be posted on the board throughout the conference.

South Dining Hall Hours

Breakfast	7 to 8 a.m.
Lunch	11:45 a.m. to 1:15 p.m.
Dinner	5:30 to 7 p.m.

Food facilities on campus close at 7 p.m.; no refunds are made for late arrivals, early departures or missed meals.

Commuter Lunch

Individuals with off-campus housing may buy meals individually at the university's dining hall. Cash only, please.

Parking

Please pay particular attention to any construction on campus. Be prepared for detours and follow instruction signs and security officials.

Visitor Parking

- Parking is restricted to the conference/visitors lot west of the DeBartolo Center for the Performing Arts at the entrance to campus.
- Coupons to exit the lot ($1 each) are available for purchase at the information desk of the Center for Continuing Education (CCE) in McKenna Hall. (price at gate, $2 each)
- Parking fee is not included in the cost of housing.
- Parking for handicapped guests with appropriate license designations or stickers is available directly adjacent to CCE.
- Cars parked in areas not designated for visitors will be ticketed and towed.

Campus Smoking Policy

The university prohibits smoking in all buildings, including residence halls. Smoking is permitted in designated areas outside.

Americans With Disabilities Act

TMS strongly supports the federal Americans with Disabilities Act (ADA) which prohibits discrimination against, and promotes public accessibility for, those with disabilities. In support of, and in compliance with, ADA, we ask those requiring specific equipment or services to indicate their needs at the EMC registration desk.

Welcoming Reception for Attendees

Wednesday, 6 to 8 p.m.
McKenna Hall

Great Hall of the Century

Thursday, 6 to 9 p.m.
Downtown South Bend, Indiana

Spend the evening enjoying the unique Century Center, situated on an 11-acre park on the St. Joseph River in downtown South Bend. A catered dinner will be served to live musical entertainment in the Great Hall, where a three-story window overlooks cascading whitewater rapids. After dinner, participants may visit the attached College Football Hall of Fame, one of the world's major sports shrines, and the South Bend Regional Museum of Art.

Tickets:

- Cost includes dinner, admission to the museum and the Hall of Fame, and bus transportation between the University of Notre Dame and Century Center.
- Free to full conference and student registrants
- $60 for adults (guests and one-day registrants) and $25 for children 12 and under
- Purchase tickets at the EMC registration desk until 5 p.m. on Wednesday.

Informal Coffee Breaks for Attendees

Take a break throughout the day and enjoy coffee, tea or sodas.
Exhibition Area, McKenna Hall

Recreation

Notre Dame's recreational facilities are available to conference guests. Name tags must be worn at all times and room keys must be presented in order to use the recreational facilities:

- Golf
- Swimming
- Racquetball
- Basketball
- Squash
- Weightlifting
- Tennis

Schedules and reservation information are included in your conference packet. Walking and jogging route maps marked with distances are available at the information desk in the Center for Continuing Education, McKenna Hall. For further facility information, visit www.nd.edu/~recsport.

Visit McKenna Hall and find equipment, instrumentation, software, publications and services in these areas:

- Advanced thin-film characterization
- Chemical Vapor Deposition (CVD)
- Compound semiconductor materials
- Failure analysis
- GaAs and InP-based epitaxial wafers, substrates
- High performance purification
- High purity metalorganics
- III-V materials
- Materials characterization
- MOCVD
- Optoelectronics
- Sapphire substrates
- Scanning probe and electron microscopes
- Silicon heterostructures
- Ultra High Purity (UHP) metals, gas and chemical
- Wafer processing equipment
- Wide bandgap semiconductors

Exhibit Dates and Hours

Wednesday	9:30 a.m. to 4 p.m.
	6 to 8 p.m. (in conjunction with Welcoming Reception)
Thursday	10 a.m. to 4 p.m.

Exhibiting Companies (as of May 23)

Akzo Nobel
Andeen-Hagerling Inc.
Cree Inc.
Epichem Group
Evans Analytical Group
Horiba Jobin Yvon Inc.
k-Space Associates Inc.
Lake Shore Cryotronics Inc.
Lehighton Electronics Inc.
MMR Technologies Inc.
Omicron NanoTechnology USA
Park Systems
Riber
SVT Associates Inc.
United Mineral & Chemical Corporation
Vacuum Barrier Corporation
Veeco Instruments Inc.
Wafer Technology Ltd.
WEP-DAGE

EMC thanks the following corporate sponsors:

k-Space Associates Inc. for providing lanyards

United Mineral & Chemical Corporation for providing Wednesday morning's coffee break

John Bardeen Award

Established in 1994, this award recognizes an individual who has made outstanding contributions, and is a leader, in the electronic materials field.

2007 Recipient: Sungho Jin

Citation: *For seminal contributions to the science and technology of electronic materials, from the invention of hard magnetic materials to the practical processing of high-temperature superconductors to the discovery of colossal magnetoresistance.*

Sungho Jin is a professor at the University of California, San Diego. Prior to joining the university in 2002, where he currently serves as director of the materials science and engineering program, Dr. Jin performed research for Bell Labs for 26 years. He earned his doctorate in materials science and engineering from the University of California, Berkley.

Dr. Jin has contributed to the advancement of science and technology with world-class, trend-setting research in the fields of electronic, magnetic, optical, superconducting, electronic packaging and bio materials. He has published more than 260 papers and is a member of the U.S. National Academy of Engineering, a Fellow of the American Physical Society, a TMS Fellow, and a Fellow of the American Society for Metals as well as the recipient of the 2005 Nano 50 Award.

"It is a great honor to be selected as the recipient of the 2007 John Bardeen Award. This recognition means a lot to me. After spending almost three decades of my life working on electronic, magnetic and superconducting materials, receiving this prestigious award, named after the great scientist John Bardeen, is very rewarding and makes me happy." – Sungho Jin

Nominate Your Colleague for the TMS 2009 John Bardeen Award!

About John Bardeen

John Bardeen's career of theoretical and experimental research set the foundation for the current state of understanding of electronic materials. Two areas in which Bardeen had great impact were the invention and development of the solid-state transistor and the theory that developed greater understanding of superconductivity.

For Award Criteria and Additional Information

Pick up a nomination form at the EMC registration desk, or visit the TMS Web site at www.tms.org/Society/honors.html.

2006 Student Paper Awards

Wednesday (Plenary Session)
Leighton Concert Hall

Awards of $500 each are given to the authors of the top 5-percent of student papers presented at EMC. Student papers are judged on both scientific content and oral presentation. Awards are funded by the Electronic Materials Committee and presented at the following year's EMC conference.

Student: Xiaodong Chen, *Cornell University*
Paper: Direct Write Composition Patterning of InGaN during Molecular Beam Epitaxy
Advisor: Dr. William J. Schaff

Student: Shadi Dayeh, *University of California, San Diego*
Paper: Growth Mechanism and Optimization of InAs Nanowires Synthesized by OMVPE
Advisor: Professor Deli Wang and Professor Edward T. Yu

Student: Nathan Yoder, *Northwestern University*
Paper: Investigating the Stability of Organic Molecules Bound to Semiconductor Surfaces with Low Temperature UHV-STM
Advisor: Professor Mark Hersam

EMC does not publish formal conference proceedings; however, conference abstracts are published in the *Journal of Electronic Materials* (*JEM*) throughout the year. *JEM* encourages both presenters and attendees to submit manuscripts of their work.

About *JEM*

JEM is a monthly archival technical journal of TMS and the Institute of Electrical and Electronics Engineers (IEEE). Articles are reviewed, selected and edited by peers who serve as voluntary members of the editorial board, the board of associate editors, or section editors.

JEM's Content

JEM is a forum for the rapid circulation of the results of original research. It contains technical papers detailing critical new developments in the electronic materials field, as well as invited and contributed review papers on topics of current interest. The journal welcomes articles on the preparation of electronic materials and the evaluation of their chemical, physical and electronic properties. Specific areas of interest include electronic device structures, electronic packaging, detectors, emitters, metallization, superconductors, recording media, superlattices, and nanoscale materials and devices.

JEM Subscription

2008 *JEM* issues will include manuscripts of papers presented at the 2007 EMC with a special issue on group III nitrides, SiC and ZnO. Individuals may subscribe to *JEM* by contacting Springer, the journal's publisher, at:

In North America
Telephone (800) 777-4643 / E-mail journals-ny@springer.com

Outside North America
Telephone (212) 460-1500 or +49 (0) 6221-345-4303 / E-mail subscriptions@springer.com

TMS and IEEE members receive a discount!

Manuscript Submission

JEM employs an online manuscript submission and review system. To be considered for publication, authors must submit manuscripts electronically. Detailed submission guidelines are available from the publisher's Web site at http://jems.edmgr.com. If submitting a manuscript for the special issue on group III nitrides, SiC and ZnO, please check the appropriate category during manuscript submission.

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Invited Organizers

EMC thanks the following invited organizers for their support and contribution to this year's technical program:

Harry Atwater, *California Institute of Technology*

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David Janes, *Purdue University*

Thomas Kuech, *University of Wisconsin*

Kei-May Lau, *Hong Kong University of Science & Technology*

Pat Lenahan, *The Pennsylvania State University*

Xinyu Liu, *University of Notre Dame*

Gregory Lopinski, *Steacie Institute for Molecular Sciences*

Yicheng Lu, *Rutgers University*

Charles Lutz, *Kopin Corporation*

Michael Manfra, *Bell Labs, Lucent Technologies*

Suzanne Mohney, *The Pennsylvania State University*

Yasushi Nanishi, *Ritsumeikan University*

Hou T. Ng, *Hewlett-Packard Company*

David Norton, *University of Florida*

Robert Okojie, *NASA Glenn Research Center*

Sarah Olsen, *University of Newcastle-Upon-Tyne*

Nina Orlovskaya, *Michigan Technology University*

Jamie Phillips, *University of Michigan*

Klaus Ploog, *Paul Drude Institute for Solid State Electronics*

Rajeev Ram, *Massachusetts Institute of Technology*

Laura Rea, *Air Force Research Laboratory*

Joan Redwing, *The Pennsylvania State University*

Stephen Ringel, *The Ohio State University*

Stephen E. Saddow, *University of South Florida*

Alberto Salleo, *Stanford University*

Nitin Samarth, *The Pennsylvania State University*

Tae-Yeon Seong, *Korea University*

Ben Shanabrook, *Naval Research Laboratory*

Max Shtein, *University of Michigan*

Alevtina Smirnova, *University of Connecticut*

Invited Organizers Cont.

Jeff Snyder, *California Institute of Technology*

James Speck, *University of California, Santa Barbara*

Susanne Stemmer, *University of California, Santa Barbara*

Alec Talin, *Sandia National Laboratories*

Masaaki Tanaka, *University of Tokyo*

Michael Tischler, *Ocis Technology LLC*

Raymond Tsui, *Motorola*

Charles Tu, *University of California, San Diego*

Lloyd Whitman, *Naval Research Laboratory*

David Wilt, *NASA Glenn Research Center*

Shalom Wind, *Columbia University*

Michael Wraback, *U.S. Army Research Laboratory*

Huili Xing, *University of Notre Dame*

Wednesday AM, June 20, 2007					
8:20 AM		EMC PLENARY LECTURE/STUDENT AWARDS			
Room:		DeBartolo Performing Arts Center, Leighton Concert Hall			
Plenary Speaker:		Alan J. Heeger, University of California, Santa Barbara			
Topic:		"Low Cost 'Plastic' Solar Cells: A Dream or Reality???"			
Break:		9:20 AM–10:00 AM			
Session A: Chemical and Biological Sensors I Room: 126		**Session B: Organic/Inorganic Hybrid Photovoltaic Room: 129**		**Session C: III-Nitride Electronic Devices Room: 102**	
10:00 AM	A1, Gateless GaN/AlGaN BioFETs for Direct Biomolecular Detection .....Kendra McCoy	10:00 AM	B1, (Student), Surface Plasmon Polariton Mediated Energy Transfer in Organic Photovoltaic Devices .....Timothy Heidel	10:00 AM	C1, (Student), High-Mobility Ultrashallow Pseudomorphic AlN/GaN Heterojunctions by MBE .....Yu Cao
10:20 AM	A2, Surface Functionalization of AlGaN for Biosensor Applications .....Xuejin Wen	10:20 AM	B2, Fiber Based Organic Light Emitting Diodes and Photovoltaic Cells .....Brendan O'Connor	10:20 AM	C2, (Student), Properties of GaN Buffer Layers on 6H-SiC Grown by Ammonia Molecular Beam Epitaxy for High Electron Mobility Transistors .....Andrea Corrion
10:40 AM	A3, (Student), Thermodynamic Analysis of Hydrogen Sensing in Pt/AlGaN/GaN Schottky Diodes .....Junghui Song	10:40 AM	B3, (Student), Subwavelength Metal Gratings as Flexible and Transparent Electrodes in Organic Thin-Film Photovoltaic Cells .....Jung-Yong Lee	10:40 AM	C3, Extraction of Transport Dynamics in AlGaN/GaN HFETs through Free Carrier Absorption .....Yuh-Renn Wu
11:00 AM	A4, Performance Enhancement and Sensing Mechanism of Pd/AlGaN/GaN Hydrogen Sensors Subjected to Oxygen Gettering .....Hideki Hasegawa	11:00 AM	B4, Flexible Conjugated Polymer Photovoltaic Cells with Controlled Nanoscale Heterojunctions Fabricated Using Nanoimprint Lithography .....Myung-Su Kim	11:00 AM	C4, Scanning Ion Probe Studies of Silicon Implantation Profiles in AlGaN/GaN HEMT Heterostructures .....Giacinta Parish
11:20 AM	A5, (Student), Effect of Alkaline Treatment on the Characteristics of AlInN/GaN Heterostructures in Electrolytes .....Carsten Pietzka	11:20 AM	B5, Electric-Field-Assisted Aerosol Deposition of Metal Nanoparticles for Surface-Plasmon-Enhanced Organic Photovoltaic Cells .....Shigeo Fujimori	11:20 AM	C5, (Student), A Study of Post-Bombardment Effects of Electronegative Ions on the Two-Dimensional Electron Gas Properties of AlGaN/GaN Heterostructures .....Anirban Basu
11:40 AM	A6, (Student), ZnO Film/ZnO Nanowire Arrays/ZnO Film Hybrid Nanostructures for Sensor Applications .....Min-Chang Jeong	11:40 AM	B6, (Student), Matrix-Assisted Pulsed Laser Evaporation of Hybrid Colloidal Quantum Dot/Conducting Polymer Nanocomposite Heterostructures .....Ryan Pate	11:40 AM	C6, Crystalline SiNX Ultrathin Films Grown on AlGaN/GaN by In-Situ Metalorganic Chemical Vapor Deposition .....Toshiyuki Takizawa

Wednesday AM-PM, June 20, 2007					
Session D: Spin in Low Dimensional Systems Room: 155		**Session E: Non-Destructive Testing Room: 131**		**Session F: Germanium and Silicon Nanowires Room: 126**	
10:00 AM	D1, (Student), Transport in Room-Temperature Ferromagnetic (Ga,Mn)N Nanowires .....Moon-Ho Ham	10:00 AM	E1, GaSb(001) Surface Reconstructions Measured at the Growth Front by Surface X-Ray Diffraction .....Brad Tinkham	1:30 PM	F1, Germanium Nanowires: Growth and Applications .....Eric Garfunkel
10:20 AM	D2, (Student), Calculation of Lande g-Factors and Comparison with Experiment for III-V Nanowhisker Quantum Dots .....Amrit De	10:20 AM	E2, X-Ray Reflectivity Based Metrologies for the Development of Metamorphic Semiconductor Device Structures .....Benjamin Poust	1:50 PM	F2, (Student), Experimental and Theoretical Transport Characterization of Germanium Nanowires .....Paul Leu
10:40 AM	D3, (Student), Exchange Coupling in Quantum Wire Quantum Dots .....Lingxiao Zhang	10:40 AM	E3, (Student), Temperature Dependent Stress Distribution in Heterogeneous Wafer Bonded Structures by Double Crystal X-Ray Diffraction Imaging .....Michael Jackson	2:10 PM	F3, (Student), Manganese-Mediated Growth of Ge/Mn_xGe_{1-x} Nanowire Heterostructures .....Jessica Lensch
11:00 AM	D4, Transport Spectroscopy in a Few-Electron Quantum Dots .....Dmitriy Melnikov	11:00 AM	E4, (Student), Indium Adlayer Kinetics on Gallium Nitride (0001) Surfaces: Monitoring Indium Segregation and Precursor .....Soojeong Choi	2:30 PM	F4, (Student), Synthesis of Epitaxially-Aligned Ge/Si Core-Shell Nanowires .....Irene Goldthorpe
11:20 AM	D5, (Student), Enhanced Spin-Orbit Interaction in Strained InGaAs/ AlGaAs Heterostructure for Spin Transistors .....Takashi Matsuda	11:20 AM	E5, (Student), Fast Corona-Voltage Metrology Characterization of 3C-SiC Oxide Structures .....Eugene Short	2:50 PM	F5, (Student), Size Effects in the Vapor-Liquid-Solid Growth of Si, $Si_{1-x}Ge_x$ and Si/$Si_{1-x}Ge_x$ Heterostructure Nanowires .....Pramod Nimmatoori
11:40 AM	D6, Late News	11:40 AM	E6, Photoluminescence Study of Self-Assembly of Heterojunction Quantum Dots(HeQuaDs) .....Kurt Eyink	3:10 PM	Break
				3:30 PM	F6, (Student), Nano-Imprint Lithography for Nanowire Fabrication .....Fahmida Ferdousi
				3:50 PM	F7, Late News
				4:10 PM	F8, (Student), Does the Catalyst Influence Minority Carrier Diffusion in VLS-Grown Silicon Nanowires? .....Jonathan Allen
				4:30 PM	F9, (Student), Using Real Time Microscopy to Quantitatively Determine Nucleation Mechanisms and Kinetics during the Growth of Si Nanowires on Si_3N_4 Substrates .....Bong Joong Kim
				4:50 PM	F10, Late News

Wednesday PM, June 20, 2007					
Session G: Organic Thin Film and Crystalline Transistors Room: 129		**Session H: III-Nitride: Growth and Characterization of Optical Devices Room: 102**		**Session I: Growth and Processing of Nanostructured Materials Room: 155**	
1:30 PM	G1, Microstructure–Performance Correlation for Solution Processed Small Molecule TFTs .....David Gundlach	1:30 PM	H1, (Student), Nitride Nanorod Arrays for Phosphor-Free White Light Emitting Diodes .....Parijat Deb	1:30 PM	I1, (Student), Selective GaAs Quantum Dot Array Growth Using Diblock Copolymer Nanopatterning .....Joo Hyung Park
1:50 PM	G2, (Student), Ordered and Microstructured Thin Films in Spin Cast F-TES-ADT OTFTs .....Sungkyu Park	1:50 PM	H2, High Brightness and High External Efficiency InGaN/GaN Light Emitting Diodes on Semipolar {10-1-1} Bulk GaN Substrates .....Anurag Tyagi	1:50 PM	I2, Controlled Nucleation of InAs Quantum Dots Using Focused Ion Beams .....Hugh McKay
2:10 PM	G3, (Student), Charge Transport Measurements on Anisotropic Polythiophene Thin Films Fabricated via Directional Crystallization .....Leslie Jimison	2:10 PM	H3, Characterization of Green LED Using p-InGaN and p-InGaN/p-GaN Superlattices as p-Type Layer .....Jianping Liu	2:10 PM	I3, (Student), Controlled Growth of Quantum Dots and Nanopillars on Patterned GaAs Substrate by MOCVD .....Ping-Show Wong
2:30 PM	G4, Nanoscale Measurements of Density of States and Einstein Relation in Molecular Thin Film Transistors .....Yossi Rosenwaks	2:30 PM	H4, Junction Temperature Analysis of GaInN/GaN Multi-Quantum Well Light Emitting Diodes by Micro-Raman Spectroscopy .....Jayantha Senawiratne	2:30 PM	I4, Formation and Coarsening of Ga Droplets on Focused-Ion Beam Irradiated GaAs Surfaces .....Ben Cardozo
2:50 PM	G5, Late News	2:50 PM	H5, (Student), Growth and Characterization of $Al_xGa_{1-x}N$ Ultraviolet Avalanche Photodiodes on GaN Substrates .....Dongwon Yoo	2:50 PM	I5, (Student), Suppression of Phase Transformation in Organic Encapsulated Germanium Nanoparticles .....Suk Jun Kim
3:10 PM	Break	3:10 PM	Break	3:10 PM	Break
3:30 PM	G6, Frequency Response and Transient Phenomena of Pentacene Thin Film Transistors .....Tetsuhiko Miyadera	3:30 PM	H6, (Student), Recombination Dynamics in Ultraviolet Light-Emitting Diodes with Si-Doped $Al_xGa_{1-x}N/Al_yGa_{1-y}N$ Multiple Quantum Well Active Regions .....Kaixuan Chen	3:30 PM	I6, Growth and Characterization of GaAs Quantum Dots in Al0.3Ga0.7As Grown by Molecular-Beam Epitaxy .....Bingyang Zhang
3:50 PM	G7, (Student), Surface Electronic Properties of GaN for Use as a Hole-Injection Contact for Pentacene .....John Uhlrich	3:50 PM	H7, Radiative and Non-Radiative Lifetime Studies of Enhanced UV Emission Mechanisms in AlGaN Containing Nanoscale Compositional Inhomogeneities .....Gregory Garrett	3:50 PM	I7, (Student), Fabrication and Optical Characteristics of Type-II Self-Assembled GaSb Quantum Dots Embedded in InGaAs Quantum Well .....Arezou Khoshakhlagh
4:10 PM	G8, Suppression of Short-Channel Effect in Top-Contact Pentacene Thin Film Transistor .....Kazuhito Tsukagoshi	4:10 PM	H8, (Student), Spectroscopic Cathodoluminescence of V-Defects in GaInN/GaN Quantum Wells .....Yong Xia	4:10 PM	I8, (Student), AlGaAs Microdisk Cavities with InAs Quantum Dots on Si and GaN: Fabrication and Near-Field Scanning Photoluminescence Characterization .....Yaya Chu
4:30 PM	G9, (Student), Macroscopic vs. Microscopic Profile Optimization for Printed OLED Devices by Large-Area Wet Micro-Printing .....Hongzheng Jin	4:30 PM	H9, (Student), Characterization of Homoepitaxial and Heteroepitaxial GaInN/GaN Light Emitting Diodes by Transmission Electron Microscopy .....Mingwei Zhu	4:30 PM	I9, Infrared Plasmon Resonance in Semimetallic Rare Earth-V/III-V Semiconductor Composite Materials .....Michael Scarpulla
4:50 PM	G10, Electrical Characterization, Standards, and Materials Considerations for Printed Electronics Manufacturing .....Paul Brazis	4:50 PM	H10, Late News	4:50 PM	I10, White Light Emitting Solid State Hybrid Device of (CdSe)ZnS Quantum Dot-Near UV GaN LED .....Seonghoon Lee

Wednesday PM, June 20, 2007				
Session J: Thermoelectric and Thermionic Heterostructures and Devices Room: 131		**Session K: Silicon Carbide: Devices and Processing Room: 138**		**NOTES**
1:30 PM	J1, (Invited), Fabrication and Testing of Skutterudite-Based, Thermoelectric Devices for Power Generation Applications .....Jeff Sakamoto	1:30 PM	K1, (Invited), Some Critical Materials and Processing Issues in SiC Power Devices .....Anant Agarwal	
2:10 PM	J2, (Student), Fabrication of Dense, Vertical Bi_2Te_3 Nanowire Array Composites for Thermoelectric Power Generators and Microcoolers .....Kalapi Biswas	2:10 PM	K2, Effects of Threading Screw, Threading Edge, and Basal-Plane Dislocations on the Electrical Properties of 4H-SiC Schottky Diodes .....Brian Skromme	
2:30 PM	J3, (Student), TiN/GaN and ZrN/ScN Metal/Semiconductor Rocksalt Nitride Superlattices for Thermionic Energy Conversion .....Vijay Rawat	2:30 PM	K3, (Student), Evidence of Negative Bias Temperature Instability in 4H-SiC Metal Oxide Semiconductor Capacitors .....Matthew Marinella	
2:50 PM	J4, (Student), Non-Equilibrium Thermoelectric Transport in Thin Film Heterostructures .....Mona Zebarjadi	2:50 PM	K4, The Effects of Implant Activation Anneal on the Effective Inversion Layer Mobility of SiC MOSFETs .....Sarah Haney	
3:10 PM	Break	3:10 PM	Break	
3:30 PM	J5, (Student), Semimetallic Nanoparticles Epitaxially Embedded within III-V Semiconductors for Efficient Thermoelectric Power Generation .....Joshua Zide	3:30 PM	K5, 1200 V 4H-SiC Bipolar Junction Transistors with a Record b of 70 .....Charlotte Jonas	
3:50 PM	J6, Micro Devices for Thermoelectric Figure-of-Merit Measurements of Thin Films .....Zhixi Bian	3:50 PM	K6, (Student), Terahertz Emitting Devices Based on Hexagonal Silicon Carbide .....Guangchi Xuan	
4:10 PM	J7, (Student), High-Temperature ZT of InGaAlAs Thin Films with Embedded ErAs Nanoparticles .....Rajeev Singh	4:10 PM	K7, (Student), Nitrogen Doping for Low-Temperature Halo-Carbon Homoepitaxial Growth of 4H-SiC .....Kritsa Chindanon	
4:30 PM	J8, Thin-Film Power Generator Modules of $(InGaAs)_{1-x}(InAlAs)x$ Embedded with ErAs Nanoparticles .....Gehong Zeng	4:30 PM	K8, Impact of Thickness and Nitrogen Doping on Carrier Lifetime in 4H-SiC Epilayers .....Kok-Keong Lew	
4:50 PM	J9, Late News	4:50 PM	K9, Real-Time, In-Situ Tracking of Gas Phase Carbon-to-Silicon Ratio during Hot-Wall CVD Growth of SiC .....Brenda VanMil	

Thursday AM, June 21, 2007					
Session L: Materials Integration and Flexible Thin Film Electronics Room: 126		**Session M: Oxide Thin Film Integration I Room: 129**		**Session N: Contacts to Wide Bandgap Semiconductors Room: 102**	
8:20 AM	L1, (Student), Fabrication of Transfer-Enhanced Substrates by Wafer Bonding and Hydrogen Exfoliation Techniques .....Monali Joshi	8:20 AM	M1, (Student), Atomic Layer Deposition of Al2O3 and HfO2 Gate Dielectrics on GaAs for MOSFET Applications .....Davood Shahrjerdi	8:20 AM	N1, (Student), Correlation of Bulk Native Point Defects and Metal Reactivity on ZnO Using Depth Resolved Cathodoluminescence Spectroscopy .....Lee Mosbacker
8:40 AM	L2, (Student), Selective Debonding of InN from Sapphire to Form Electronically Active Structures .....Dong Hao	8:40 AM	M2, (Student), Capacitance-Voltage Characterization on GaAs p- and n-MOS Devices with ALD HfO_2/Al_2O_3 Laminates as Gate Dielectrics .....Tian Yang	8:40 AM	N2, First-Principles Studies of Metal (111)/ZnO{0001} Interfaces .....Yufeng Dong
9:00 AM	L3, Low Temperature Wafer Bonding for III-V Si Photonic Integrated Circuits .....Di Liang	9:00 AM	M3, (Student), Observation of Near Interface Trapping Centers in Stressed Metal Gate Hafnium Oxide Field Effect Transistors Using Spin Dependent Recombination .....Patrick Lenahan	9:00 AM	N3, (Student), Improvement of the Light Output of GaN-Based LEDs by Introducing ZnO Nanostructure .....Joon-Ho Oh
9:20 AM	L4, (Student), From (001) Silicon Direct Wafer Bonding to the Surface Nano-Patterning for the Self-Assembled Growth of Nanostructures .....Alexis Bavard	9:20 AM	M4, (Student), Fluorine Incorporation at HfO_2/SiO_2 Interfaces in High-k Metal-Oxide-Semiconductor Gate Stacks .....Jeong-Hee Ha	9:20 AM	N4, (Student), Non-Alloyed Ohmic Contact Using Selective-Area Growth by Plasma-Assisted Molecular Beam Epitaxy .....Huichan Seo
9:40 AM	L5, UHV-Bonding of Si/GaAs p-n Heterojunction Using Hydrogen Ion Beam Surfaces Cleaning .....N. Razek	9:40 AM	M5, Studies on Oxygen Conduction in Rare-Earth Doped Hafnia and Relationship to Electrical Transport Properties .....Shriram Ramanathan	9:40 AM	N5, (Student), V- and Ti-Based Ohmic Contacts to Plasma-Etched n-Al0.58Ga0.42N .....Mary Miller
10:00 AM	Break	10:00 AM	Break	10:00 AM	Break
10:20 AM	L6, (Student), Back-Channel Passivated Amorphous Silicon TFTs Fabricated at 300°C on a Clear Plastic Substrate .....Kunigunde Cherenack	10:20 AM	M6, (Student), Atomic Layer Deposition of HfO_2 on IIIV Semiconductors: Effects of Surface Treatment and Post-Deposition Anneals .....Eunji Kim	10:20 AM	N6, (Student), Ohmic Behavior and Interfacial Reaction of Si/Ti/Al/Mo/Au Ohmic Contacts on AlGaN/GaN High Electron Mobility Transistors .....Liang Wang
10:40 AM	L7, Flexible Polymeric and a-Si:H-Based Image Sensors Fabricated by Digital Lithography .....William Wong	10:40 AM	M7, (Student), Electrical Properties of Thermally Grown TiO_2/SiO_2 Stack MIM Capacitors .....Bing Miao	10:40 AM	N7, (Student), Effects of Mo:Al Ratios on Mo/Al/Mo/Au Ohmic Contacts for GaN-Based HEMTs .....Anirban Basu
11:00 AM	L8, (Student), Amorphous Silicon Thin-Film Transistor Backplanes Deposited at High Temperature on Clear Plastic for Electrophoretic Displays .....Alex Kattamis	11:00 AM	M8, (Student), Electron Spin Resonance Studies of Silicon Nano-Crystal Flash Memory Devices .....Jason Ryan	11:00 AM	N8, AlGaN/GaN FETs with Un-Optimized Source/Drain Contacts for Rapid Extraction of Channel Mobility and Charge Concentration .....Michael Awaah
11:20 AM	L9, (Student), Indium Gallium Zinc Oxide as a Channel Material for Transparent Thin Film Transistors .....Arun Suresh	11:20 AM	M9, Depth-Resolved Cathodoluminescence Spectroscopy Study of Defects in $SrTiO_3$ .....Jun Zhang	11:20 AM	N9, (Student), Electrical Contacts to Undoped and Sulfur-Doped Nanocrystalline Diamond Films .....Pranita Kulkarni
11:40 AM	L10, Late News	11:40 AM	M10, Improved Cell Performance of NO-Based Storage Dielectric by N_2O Treated Nitride Film for Trench DRAM .....Chih-Ming Chang	11:40 AM	N10, (Student), Investigations of UV-Transparent Nanocrystalline Diamond Films as a Type-II Heterojunction to 4H-SiC .....Marko Tadjer

Thursday AM, June 21, 2007					
Session O: Nanostructure Physics and Characterization Room: 155		**Session P: Chemical and Biological Sensors II Room: 131**		**Session Q: Silicon Carbide: Defects and Growth Room: 138**	
8:20 AM	O1, Radiative Recombination of Charged Excitons and Multi Excitons in CdSe Quantum Dots .....Alberto Franceschetti	8:20 AM	P1, (Student), Electrical Characterization of Molecular Interactions via GaAs Junction Field Effect Transistors .....Kangho Lee	8:20 AM	Q1, Recovery of Forward Voltage Drift in 4H-SiC PiN Diodes via Low Temperature Thermal Annealing .....Joshua Caldwell
8:40 AM	O2, Conduction Band and Electronic Properties of AlP-GaP Superlattices .....W. Masselink	8:40 AM	P2, Resistivity Response of Hemin Functionalized InAs to Low ppm Levels of Nitric Oxide Gas .....Michael Garcia	8:40 AM	Q2, Spectral Characteristics of Individual Si- and C-core Partial Dislocations Obtained by Optical Emission Microscopy .....Kendrick Liu
9:00 AM	O3, Anisotropic Tunneling-Mediated Transport in Two-Dimensional Arrays of InAs Nanostructures .....W. Masselink	9:00 AM	P3, Photoelectric Junctions between GaAs and Photosynthetic Reaction Center Protein .....Yossi Rosenwaks	9:00 AM	Q3, (Student), Influence of Threading Dislocations on the Recombination Enhanced Partial Dislocation Glide in 4H-Silicon Carbide Epitaxial Layers .....Yi Chen
9:20 AM	O4, (Student), Infrared Reflectivity Spectroscopy of Optical Phonons in Short-Period AlGaN Superlattices .....Joseph Herzog	9:20 AM	P4, Characteristics of Carbon Nanotube Field-Effect Transistor Biosensor without Top-Gate Metal Electrode .....Masuhiro Abe	9:20 AM	Q4, Ti-Related Photoluminescence in 4H-SiC .....Serguei Maximenko
9:40 AM	O5, (Student), Transport Properties and Applications of Quantum-Wire Solids .....Amol Singh	9:40 AM	P5, (Student), Fabrication and Electrical Properties of Nanoplate Field Effect Devices for Chemical and Biological Molecule Sensing .....Oguz Elibol	9:40 AM	Q5, (Student), Determination of Dislocation Sense of Micropipe via Grazing-Incidence X-Ray Topography in 4H Silicon Carbide .....Yi Chen
10:00 AM	Break	10:00 AM	Break	10:00 AM	Break
10:20 AM	O6, (Student), Nanometer-Scale Measurements of Confined States in and between InAs/GaAs Quantum Dots .....Vaishno Dasika	10:20 AM	P6, (Student), Fabrication and Characterization of Novel Three Terminal Nanochannel Devices for the Detection of Short Biomolecules .....Murali Venkatesan	10:20 AM	Q6, (Student), Step-Induced Stacking Faults in 3C-SiC Heterofilms: Further Motive for Reducing Screw Dislocation Density in 4H-SiC Substrates .....Kevin Speer
10:40 AM	O7, (Student), Composition Analysis of Silicon and Germanium Nanowires Using Pulsed-Laser Atom Probe Tomography .....Daniel Perea	10:40 AM	P7, (Student), Biochemical Functionalization of Semiconductor Devices: Cation Selectivity and Surface Charges .....Samir Iqbal	10:40 AM	Q7, (Student), 3C-SiC Growth on Different Silicon Orientations .....Christopher Frewin
11:00 AM	O8, Nanoscale Strain and Composition Mapping in Quantum Dots Using Kelvin Probe Force Microscopy .....Yossi Rosenwaks	11:00 AM	P8, (Student), Hydrogen Interaction with Liquid Ga Nanoparticles Monitored by the Plasmon Resonance .....Pae Wu	11:00 AM	Q8, (Student), Reduced Temperature 3C-SiC on Si Epitaxial Growth via HCl Additive .....Meralys Reyes
11:20 AM	O9, Detection of Microwave Magnetic Fields on Yttrium Iron Garnet Materials Using Heterodyne Demodulation on a Loop Probe Cantilever .....Charles Paulson	11:20 AM	P9, (Student), Nanoparticle Light-Emitting Sol-Gel-Based Waveguide Formation and Characterization .....Jinlong Zhang	11:20 AM	Q9, Late News
11:40 AM	O10, Late News	11:40 AM	P10, (Student), In Vitro Microfabrication Assembly of Mitotic-Spindle-Like Structures .....Ying-Ming Huang	11:40 AM	Q10, Late News

Thursday AM-PM, June 21, 2007					
Session R: ZnO Growth: Films and Nanostructures Room: 141		**Session S: Metamorphic Materials: Characterization and Devices Room: 126**		**Session T: Semiconductor Processing: Oxidation, Passivation Room: 129**	
8:20 AM	R1, (Student), Growth of Polarity Controlled ZnO Films on (0001) Al_2O_3 .....Jinsub Park	1:30 PM	S1, (Student), Formation of Interfacial Misfit Array for AlSb on Miscut Si Substrate .....Shenghong Huang	1:30 PM	T1, Late News
8:40 AM	R2, (Student), Lattice Strain Evolution in ZnO Films Grown on MgO/c-Sapphire .....Seunghwan Park	1:50 PM	S2, (Student), Preparation and Characterization of Relaxed Si0.08Ge0.92 Surfaces for MBE Growth on Virtual SiGe Substrates .....Katherine Dykes	1:50 PM	T2, Pulse Thermal Processing of Nanomaterials .....Ron Ott
9:00 AM	R3, Electrical and Optical Properties of MgZnO Films Prepared by Pulsed Laser Deposition .....A. Y. Polyakov	2:10 PM	S3, (Student), Strain Induced Surface Reconstruction on Sb/GaAs(001) .....Jessica Bickel	2:10 PM	T3, (Student), Low-Temperature PECVD OLED Encapsulation .....Dalong Zhao
9:20 AM	R4, (Student), Optical and Structural Characterization of ZnO/$Mg_xZn_{1-x}O$ Quantum Wells Synthesized by Pulsed Laser Deposition (PLD) .....Willie Bowen	2:30 PM	S4, Interfacial Structure of Tilted InAs Islands on GaAs .....Xueyan Song	2:30 PM	T4, (Student), Passivation of Surface States for Intersubband Quantum Box (IQB) Laser Structures .....Manish Rathi
9:40 AM	R5, Effect of Buffer Layers on $Mg_xZn_{1-x}O$ Films Grown on c-Sapphire by P-MBE - A Comparison Study .....Zahra Vashaei	2:50 PM	S5, (Student), Lattice-Engineering for Monolithic Visible Yellow-Green Light Emitters .....Michael Mori	2:50 PM	T5, Fabrication of Nanometer-Scale Single Photon Detectors in InGaAsP/InP Heterostructures .....Minjun Yan
10:00 AM	Break	3:10 PM	Break	3:10 PM	Break
10:20 AM	R6, Late News	3:30 PM	S6, (Student), Enhancement-Mode Metamorphic InAlAs/InGaAs HEMTs on GaAs Substrates by MOCVD and Plasma Treatment .....Chak Wah Tang	3:30 PM	T6, (Student), Electrical Characterization of Surface Passivants for InAs/GaSb Strain Layer Superlattice (SLS) MWIR Detectors .....Subhrangshu Mallick
10:40 AM	R7, Late News	3:50 PM	S7, (Student), Simulations of GaP and GaAlAs as the High Band Gap Cell for Multijunction High Efficiency Solar Cell Applications .....Charles Allen	3:50 PM	T7, (Student), Wet Thermal Oxides of Non-Lattice-Matched InAlP on GaAs .....Jing Zhang
11:00 AM	R8, Selective Growth of Single ZnO Nanorod .....Kazunuki Yamamoto	4:10 PM	S8, (Student), Selective Characterization of Deep Levels Defects within Sub-Cells of Dual Junction III-V Solar Cells Grown on Metamorphic SiGe Substrates .....Maria Gonzalez	4:10 PM	T8, Improvement in the Insulating Properties of Native Oxides of InAlP .....Pedro Barrios
11:20 AM	R9, (Student), Optical Properties of ZnO Nanostructures .....Takafumi Yao	4:30 PM	S9, (Student), GaInAs p-Channel HFETs Using Step-Graded AlInAs Metamorphic Buffers .....Mike Morse	4:30 PM	T9, Complete Removal of Fermi Level Pinning at High-k Dielectric/GaAs (001) and (111)B Interfaces by a Silicon Interface Control Layer .....Masamichi Akazawa
11:40 AM	R10, (Student), Integrated ZnO Nanotips on GaN Light Emitting Diodes for Enhanced Emission Efficiency .....Jian Zhong	4:50 PM	S10, (Student), Growth, Fabrication, and Characterization of an InGaN/GaN Solar Cell by MBE .....Kristopher Matthews	4:50 PM	T10, Late News

Thursday PM, June 21, 2007

Session U: Indium Nitride Room: 102		Session V: Thermoelectric Materials Room: 155		Session W: Spin-Dependent (or Spintronic) Electronic Materials Room: 131	
1:30 PM	U1, (Student), Conduction Band Offset and Schottky Barrier Formation at the InN/GaN Heterojunction .....Kejia (Albert) Wang	1:30 PM	V1, (Invited), Stable Nanostructured Thermoelectrics .....Mercouri Kanatzidis	1:30 PM	W1, (Student), Correlation between Zeeman Splitting of Band Edges and Curie Temperature in $Ga_{1-x}Mn_xAs$ .....Raja Chakarvorty
1:50 PM	U2, (Student), Effect of MBE Growth Conditions on Multiple Electron Transport in InN .....Tamara Fehlberg			1:50 PM	W2, (Student), Terahertz to Vacuum UV Generalized Magnetooptic Ellipsometry on Chlorine-Doped ZnMnSe: Giant Kerr Effect, Band-to-Band Transitions and Charge Transport Parameters .....Mario Saenger
2:10 PM	U3, Controlling Carrier Type and Concentration in InN through Doping and Substrate Choice .....Craig Swartz	2:10 PM	V2, (Student), Effects of Fermi Level Pinning by Indium on Thermoelectric Properties of $Pb_{(1-x)}Sn_{(x)}Te$ Alloys .....Vladimir Jovovic	2:10 PM	W3, (Student), Photoinduced Spin Dynamics in Ferromagnetic GaMnAs .....Jingbo Qi
2:30 PM	U4, Remarkable Reduction of Electron Concentration of In-Rich $In_xGa_{1-x}N$ (x~0.7) by Mg Doping .....Akihiko Kikuchi	2:30 PM	V3, Thermoelectric Properties of Nanostructured Bulk Composites in the PbTe-Sb_2Te_3 System .....T. Ikeda	2:30 PM	W4, (Student), Spin Wave Resonances and Surface Spin Pinning in (Ga,Mn)As Films .....YingYuan Zhou
2:50 PM	U5, Optical Hall-Effect in Hexagonal InN .....Tino Hofmann	2:50 PM	V4, Analysis of Thermoelectric Properties of Nanostructured SiGe .....Daryoosh Vashaee	2:50 PM	W5, Electrically Controlled Non-Volatile Spin-Based Memory Devices .....Yuriy Semenov
3:10 PM	Break	3:10 PM	Break	3:10 PM	Break
3:30 PM	U6, Direct Write Patterning of InGaN during Molecular Beam Epitaxy and Its Solar Cell Application .....Xiaodong Chen	3:30 PM	V5, (Student), Temperature Dependence of Enhanced Seebeck Coefficient in Ge-Rich Si-Ge Alloys .....Nathaniel Oster	3:30 PM	W6, (Student), Magnetic Anisotropy of Heavily Mn Doped (Ga,Mn)As Epilayers .....Yong Jin Cho
3:50 PM	U7, (Student), Cross-Sectional Cathodoluminescence Study for 1 ML-InN Wells/GaN Matrix MQW Structures Grown by rf-Plasma-Assisted MBE .....E. S. Hwang	3:50 PM	V6, Thermoelectric Properties Full Heusler Alloys Based on Fe_2VAl .....Donald Morelli	3:50 PM	W7, (Student), Magnetotransport Properties of GaMnAs Ferromagnetic Semiconductor Tri-Layer Structure Grown on ZnMnSe Buffer .....Sanghoon Lee
4:10 PM	U8, (Student), Infrared Cathodoluminescence Measurements of InN Films .....Takanobu Akagi	4:10 PM	V7, (Student), Lanthanum Telluride for High-Temperature TE Applications via Mechanical Alloying .....Andrew May	4:10 PM	W8, (Student), Investigation of the Anomalous Hall Effect for (Ga,Mn)As with Different Hole and Mn Concentrations .....Zhiguo Ge
4:30 PM	U9, Low Temperature Epitaxial Growth of Nonpolar InN on m-ZnO .....Hiroshi Fujioka	4:30 PM	V8, Zintl Phases as Thermoelectric Materials .....Franck Gascoin	4:30 PM	W9, Novel Ferromagnetic Mn-Doped ZnGeAs_2 Chalcopyrite with Curie Point Equal to 367 K .....Liudmila Koroleva
4:50 PM	U10, Late News	4:50 PM	V9, Complex Zintl Phases for Thermoelectric Devices .....G. Jeffrey Snyder	4:50 PM	W10, Late News

Thursday PM, June 21, 2007				
Session X: Graphene and Carbon Nanotubes Room: 138		**Session Y: ZnO: Characterization and Devices Room: 141**		**NOTES**
1:30 PM	X1, Strong Field Effect in Epitaxial Graphene on a SiC Substrate .....Gong Gu	1:30 PM	Y1, (Student), Influence of Surface Polarity on the Electrical and Optical Properties of Bulk ZnO .....Martin Allen	
1:50 PM	X2, (Student), Morphology and Electronic States of Graphene on SiC (0001) Surfaces .....Shu Nie	1:50 PM	Y2, Using the Exciton Band Edge to Assess ZnO Material Quality and the Effects of Internal and Externally Applied Electric Fields .....John Muth	
2:10 PM	X3, Fabrication and Characterization of Graphene Transistor Grown on 6H-SiC .....Kanji Yoh	2:10 PM	Y3, (Student), Polarization Coupled Response of ZnO-$BaTiO_3$ Heterojunctions: A Model Approach .....Venkata Voora	
2:30 PM	X4, (Invited), Charge and Spin Coherent Transport Studies in Graphene .....Barbaros Oezyilmaz	2:30 PM	Y4, (Student), Annealing Studies on Zinc Oxide Thin Films Deposited by Magnetron Sputtering .....Tingfang Yen	
		2:50 PM	Y5, Effects of Electron-Irradiation and Annealing on Deep Centers in Hydrothermal ZnO .....Zhaoqiang Fang	
3:10 PM	Break	3:10 PM	Break	
3:30 PM	X5, (Student), Determination Method of Energy Band Gap of Carbon Nanotube by High Temperature Dependence of Current .....Masatoshi Maeda	3:30 PM	Y6, (Student), Low Temperature PECVD ZnO Thin Film Transistors and Circuits .....Jie Sun	
3:50 PM	X6, (Student), Silicon Supported Porous Anodic Alumina Templates with Long-Range Order for Vertical Nanoscale Devices .....Joshua Smith	3:50 PM	Y7, (Student), Fabrication and Performance of Zinc Oxide Thin Film Transistors .....Yongwoo Jeong	
4:10 PM	X7, (Student), Room Temperature CNT Single Electron Transistor Formed by Plasma Induced Defect Process .....Shin Iwasaki	4:10 PM	Y8, (Student), Interface Study of ZnO Nanowire Transistors Using Low-Frequency Noise and Temperature-Dependent I-V Measurements .....Sanghyun Ju	
4:30 PM	X8, Growth of Single and Double-Walled Carbon Nanotubes on a Substrate Using Catalyst Nanoparticles Size-Classified with an Impactor .....Daiyu Kondo	4:30 PM	Y9, (Student), Photodetection and Electroluminescence from Optoelectronic Devices Based on Sb-Doped p-ZnO .....Leelaprasanna Mandalapu	
4:50 PM	X9, Late News	4:50 PM	Y10, CdZnO/MgZnO Multilayered Structures for Photonic Application: Growth and Devices .....Andrei Osinsky	

Friday AM, June 22, 2007

Session Z: Molecular Electronics: Devices, Materials and Contacts Room: 126		Session AA: Oxide Thin Film Integration II Room: 129		Session BB: III-Nitride Processing and Characterization Room: 102	
8:20 AM	Z1, (Student), Ultra-High Vacuum Scanning Tunneling Microscopy Characterization of Nitroxyl Free Radicals on the Si(111)-7x7 Surface .....Qing Hua Wang	8:20 AM	AA1, (Student), Physical and Electrical Characterization of Nb-W, Ti-W and Pt-Ti Bilayer and Alloy Metal Gate Electrodes for Advanced CMOS Applications .....Gloria Wong	8:20 AM	BB1, Novel Concepts for AlGaN/MgZnO Hetero-Interfaces and Devices .....Andrei Osinsky
8:40 AM	Z2, (Student), Molecular Orbital and Dipole Effects in Metal-Molecule-Silicon Systems .....Adina Scott	8:40 AM	AA2, (Student), Two-Step Annealing Silicidation Process in NiSi-Gated MOSFET .....Jun Liu	8:40 AM	BB2, Inhomogeneous Nucleation of III-Nitride Films on 4H-SiC Mesa Substrates .....Yoosuf Picard
9:00 AM	Z3, (Student), Atomic Resolution Assembly and Characterization of Organohalide Functionalized Silicon Surfaces .....Michael Walsh	9:00 AM	AA3, (Student), Electrical Characterization of Molecular Beam Deposited LaAlO3-GaAs and Annealing Effects .....Donghun Choi	9:00 AM	BB3, GaN Doped with Neodymium by Plasma-Assisted Molecular Beam Epitaxy .....Eric Readinger
9:20 AM	Z4, Electronic Properties of Redox-Active Organic Molecules in Metal-Molecule-Metal Junctions .....Ajit Mahapatro	9:20 AM	AA4, MBE Growth of Ga_2O_3 and $(InGa)_2O_3$ Films with Ultraviolet Optical Functions .....Shizuo Fujita	9:20 AM	BB4, Deep Level Transient Spectroscopy of AlGaN/GaN Heterostructure Treated by Fluoride-Based Plasma .....Liwu Lu
9:40 AM	Z5, (Student), Dramatic Resistance Increase and Magnetic Ordering with Molecular Spin-Valve Electrodes .....Pawan Tyagi	9:40 AM	AA5, (Student), Molecular Beam Epitaxy of $YMnO_3$ on c-Plane GaN .....Cameron Keenan	9:40 AM	BB5, (Student), Characterization of Mg-Doped AlInN Annealed in Nitrogen and Oxygen Ambients .....An-Ting Cheng
10:00 AM	Z6, (Student), Measurement of Tunneling Currents through Alkanes Assembled on Silicon with Aluminum Contacts .....Divesh Kapoor	10:00 AM	Break	10:00 AM	Break
10:20 AM		10:20 AM	AA6, Structure and Ion Conduction Phenomena in Oxide Thin Films and Nanostructures .....Shriram Ramanathan	10:20 AM	BB6, (Student), A Study of MgO and AlN Caps for Protecting the GaN Surface during Ultra-Fast Microwave Annealing .....Siddarth Sundaresan
10:40 AM		10:40 AM	AA7, (Student), Growth of Either (001) or (111) Epitaxial CeO2 on R-Cut Sapphire by Modifying Conditions and an Analysis of the In-Plane Domain Matching Epitaxy Operative for Both Orientations .....Madhana Sunder	10:40 AM	BB7, (Student), Comparative Study of As-Grown AlGaAs/GaAs/GaAs HBTs and Wafer Fused AlGaAs/GaAs/GaN HBTs .....Chuanxin Lian
11:00 AM		11:00 AM	AA8, (Student), High-Resolution Synchrotron X-Ray Studies of Multiferroic $BiFeO_3$ Thin Films .....Jeffrey Klug	11:00 AM	BB8, Chemical Mechanical Polishing of GaN .....Sumiko Hayashi
11:20 AM		11:20 AM	AA9, Epitaxial Growth of Rock Salt Oxides on Perovskite Substrates .....Volker Heydemann	11:20 AM	BB9, Cleaved Nitride Semiconductor Laser Mirrors .....Wei-Li Chen
11:40 AM		11:40 AM	AA10, RF Plasma MBE Growth and Characterization of $BiFeO_3$ and Bi_2FeCrO_6 Multiferroic Thin Films .....Siddhartha Ghosh	11:40 AM	BB10, Late News

Friday AM, June 22, 2007					
Session CC: Compound Semiconductor Nanowires Room: 155		**Session DD: Narrow Gap Materials and Devices Room: 131**		**Session EE: Epitaxy for Devices Room: 138**	
8:20 AM	CC1, III-V Nanowire Growth Mechanism: VLS or VSS .....Shadi A. Dayeh	8:20 AM	DD1, Long-Wavelength Light Emitters on Lattice-Engineered GaAs Substrates .....Kenneth Lee	8:20 AM	EE1, (Student), MBE Grown Multifunctional Heterostructures-Combining Ferromagnets with Insulators and Ferroelectrics .....Swedesh Srivastava
8:40 AM	CC2, (Student), V/III Ratio Effects on the Shape and Optical Properties of InP Nanowires Grown on Silicon .....Michael Moewe	8:40 AM	DD2, Electric Field and Size Dependence of Magnetic Field Sensitivity in an InAs 2-DEG .....Thomas Boone	8:40 AM	EE2, (Student), MOCVD Growth of InAlGaAs-InP Light-Emitting Transistors Operating at ~1.55 mm .....Y. Huang
9:00 AM	CC3, (Student), Photocurrent Polarization Anisotropy of Randomly Oriented Nanowires Network .....Yanghai Yu	9:00 AM	DD3, Comparison of MBE Growth of InSb on Si (001) and GaAs (001) .....W. Masselink	9:00 AM	EE3, The Development of InGaAs Thermophotovoltaic Cells on InP Using Strain-Relaxed InPAs Buffers .....J. G. Cederberg
9:20 AM	CC4, Growth and Characterization of Vertically Aligned III-Nitride Nanowires and Heterostructure Nanowires .....Qiming Li	9:20 AM	DD4, (Student), Capacitance-Voltage Characterization of InSb MOS Structures with ALD High-k Gate Dielectrics .....Tian Yang	9:20 AM	EE4, Enhanced Mobility Delta-Doped p-Channel AlInAs/GaInAs HFETs on InP .....Changhyun Yi
9:40 AM	CC5, Mechanical Properties of C-Axis Oriented Gallium Nitride Nanowires .....Shawn Tanner	9:40 AM	DD5, (Student), Thermally Stable Gate Metallizations for Antimonide-Based High Electron Mobility Transistors with Indium Arsenide Channels .....Trevor Buehl	9:40 AM	EE5, (Student), Stress in Nano-Scale Patterned Strained Silicon/Strained Germanium/Strained Silicon Heterostructures on Insulator .....Pouya Hashemi
10:00 AM	Break	10:00 AM	Break	10:00 AM	Break
10:20 AM	CC6, Correlation of Luminescence, Electrical Transport, and Growth Temperature for Individual GaN Nanowires .....Alec Talin	10:20 AM	DD6, Heavily Strained InGaAsSb/ AlGaAsSb Quantum Well Heterostructures for Optoelectronic Applications .....Dmitri Donetsky	10:20 AM	
10:40 AM	CC7, Time-Resolved and CW Photoluminescence Measurements on Strained and Unstrained GaN Nanowires Grown by Catalyst-Free MBE .....John Schlager	10:40 AM	DD7, (Student), Arsenic-Free Long Wavelength Mid-IR Emitters on GaAs Substrate .....Yaxin Yu	10:40 AM	
11:00 AM	CC8, Persistent Photoconductivity Studies of GaN Nanowires and Nanowire Bridge Structures .....Norman Sanford	11:00 AM	DD8, Extended Wavelength Lattice-Mismatched InP-Based Avalanche Photodiodes .....Christine Wang	11:00 AM	
11:20 AM	CC9, (Student), Effects of Surface Fixed Charges and Interface Trap Charges on Transport Properties of InAs Nanowire Transistors .....Qingling Hang	11:20 AM	DD9, 1.65 mm III-Sb Quantum Well Lasers on GaAs Substrates Enabled by Interfacial Misfit Dislocation (IMF) Based Nucleation .....Ganesh Balakrishnan	11:20 AM	
11:40 AM	CC10, (Student), Enhancement of Carrier Mobility in Semiconductor Nanostructures Using Dielectric Mismatch Effect .....Aniruddha Konar	11:40 AM	DD10, Fabrication and Characterization of a Photonic Crystal DFB Interband Cascade Laser Operating at 3.3 mm .....Jill Nolde	11:40 AM	

Friday AM, June 21, 2007				
Session FF: III-Nitride: Pseudo-Substrates Room: 138		**Session GG: Dilute Nitride Semiconductors Room: 141**		**NOTES**
8:20 AM		8:20 AM	GG1, Optical Properties and Characteristics of Dilute Nitride InN(As)Sb Quantum Well and Quantum Dot Grown by MBE for Infrared Sensors Application .....Seongsin Kim	
8:40 AM		8:40 AM	GG2, (Student), Composition Fluctuation and Carrier Localization in GaAs(In,Sb)N Quantum Wells .....Kai Sun	
9:00 AM		9:00 AM	GG3, Effects of Different Plasma Species on the Optical Properties of Dilute Nitrides Grown by Plasma-Assisted Molecular-Beam Epitaxy .....Michael Oye	
9:20 AM		9:20 AM	GG4, Characteristics of GaAsSbN/InP and GaSbN/GaSb Grown by Metalorganic Chemical Vapor Deposition .....Dapeng Xu	
9:40 AM		9:40 AM	GG5, (Student), High Sb-Content GaAsSb-GaAsN Type-II Quantum Well 'W' Structures for Long Wavelength Emission on GaAs Substrates .....Manish Rathi	
10:00 AM		10:00 AM	Break	
10:20 AM	FF1, Fabrication of 3-Inch Freestanding GaN Substrates by Hydride Vapor Phase Epitaxy with Void-Assisted Separation .....Yuichi Oshima	10:20 AM		
10:40 AM	FF2, Mechanisms of AlGaN Growth with Reduced Dislocation Density on Patterned GaN .....David Follstaedt	10:40 AM		
11:00 AM	FF3, (Student), Microstructural Evolution in the Initial Growth Stage of m-Plane GaN on m-Plane SiC with a High-Temperature Grown AlN Buffer .....Qian Sun	11:00 AM		
11:20 AM	FF4, (Student), Growth and Characterizations of Auto-Roughened LED Grown on Wet-Etched Stripe-Patterned Sapphire Substrate .....Kar Wei Ng	11:20 AM		
11:40 AM	FF5, Low Leakage Current Schottky Diodes Fabricated from Low Defect Density MOCVD GaN Grown by Pendeo - Epitaxy .....Michael Derenge	11:40 AM		