2025
International Conference on Compound Semiconductor Manufacturing Technology

May 19th – 22nd, 2025
www.csmantech.org

Hilton New Orleans Riverside
New Orleans, Louisiana, USA

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CONFERENCE AT A GLANCE

SUNDAY, May 18th

6:00 PM – 8:00 PM	**REGISTRATION** *Registration Desk (Level 1)*

MONDAY, May 19th

7:00 AM – 7:00 PM	**REGISTRATION** *Registration Desk (Level 1)*
7:00 AM – 8:15 AM	**BREAKFAST** *Grand Salon C (Level 1)*
8:15 AM – 4:45 PM	**CS MANTECH WORKSHOP** *Grand Salon A (Level 1)*
8:15 AM – 5:00 PM	**ROCS WORKSHOP** *Grand Salon B (Level 1)*
12:00 PM – 1:00 PM	**LUNCHEON FOR WORK-SHOPS** *Grand Salon C (Level 1)*
6:00 PM – 9:00 PM	**EXHIBITOR RECEPTION** *Churchill (Level 2)*

TUESDAY, May 20th

7:00 AM – 5:30 PM	**REGISTRATION** *Registration Desk (Level 1)*
7:00 AM – 8:00 AM	**BREAKFAST** *Churchill (Level 2)*
8:00 AM – 5:00 PM	**EXHIBIT HOURS** *Churchill (Level 2)*
8:00 AM – 8:30 AM	**OPENING CEREMONIES** *Grand Salon A & B (Level 1)*
8:30 AM – 10:00 AM	**SESSION 1: PLENARY I** *Grand Salon A & B (Level 1)*
10:00 AM – 10:30 AM	**BREAK** *Churchill (Level 2)*
10:30 AM – 12:00 PM	**SESSION 2A: POWER DEVICES I** *Grand Salon A (Level 1)*
10:30 AM – 12:00 PM	**SESSION 2B: LASERS** *Grand Salon B (Level 1)*

12:00 PM – 1:10 PM	**EXHIBITS LUNCH** *Churchill (Level 2)*
12:10 PM – 1:00 PM	**EXHIBITOR FORUM A** *Chequers, Prince of Wales, Eglinton, Cambridge (Level 2)*
1:10 PM – 3:00 PM	**SESSION 3A: POWER DEVICES II** *Grand Salon A (Level 1)*
1:10 PM – 3:00 PM	**SESSION 3B: MANUFACTURING CHALLENGES & INNOVATIONS** *Grand Salon B (Level 1)*
3:00 PM – 3:30 PM	**BREAK** *Churchill (Level 2)*
3:30 PM – 5:00 PM	**SESSION 4A: RF DEVICES** *Grand Salon A (Level 1)*
3:30 PM – 5:00 PM	**SESSION 4B: ADVANCED PACKAGING & INTEGRATION** *Grand Salon B (Level 1)*
5:00 PM – 6:00 PM	**STUDENT FORUM** *Chequers (Level 2)*
6:15 PM – 7:00 PM	**PARADE DEPARTS TO INTERNATIONAL RECEPTION** *Hilton Riverside (shuttle will be available starting 6:30 pm to IR location)*
7:00 PM – 10:00 PM	**INTERNATIONAL RECEPTION** *Mardi Gras World* *1380 Port of New Orleans Place, New Orleans, LA 70130*

WEDNESDAY, May 21st

7:00 AM – 7:00 PM	**REGISTRATION** *Registration Desk (Level 1)*
7:00 AM – 8:30 AM	**BREAKFAST** *Churchill (Level 2)*
7:00 AM – 8:30 AM	**WoMANTECH Connect** *Prince of Wales (Level 2)*
7:00 AM – 2:00 PM	**EXHIBIT HOURS** *Churchill (Level 2)*

8:30 AM – 10:00 AM	**SESSION 5: PLENARY II** *Grand Salon A & B (Level 1)*
10:00 AM – 10:30 AM	**BREAK** *Churchill (Level 2)*
10:30 AM – 12:00 PM	**SESSION 6A: HETEROGENEOUS INTEGRATION** *Grand Salon A (Level 1)*
10:30 AM – 12:00 PM	**SESSION 6B: OPTOELECTRONICS I** *Grand Salon B (Level 1)*
12:00 PM – 1:20 PM	**EXHIBITS LUNCH** *Churchill (Level 2)*
12:10 PM – 1:10 PM	**EXHIBITOR FORUM B** *Chequers, Prince of Wales, Eglinton, Cambridge (Level 2)*
1:20 PM – 3:00 PM	**SESSION 7A: SUBSTRATES & MATERIALS** *Grand Salon A (Level 1)*
1:20 PM – 3:00 PM	**SESSION 7B: U.S. MICROELECTRONICS COMMONS HUB SESSION 1** *Grand Salon B (Level 1)*
3:00 PM – 3:20 PM	**BREAK** *Outside Grand Salon A & B (Level 1)*
3:20 PM – 4:50 PM	**SESSION 8A: GALLIUM OXIDE** *Grand Salon A (Level 1)*
3:20 PM – 4:50 PM	**SESSION 8B: U.S. MICROELECTRONICS COMMONS HUB SESSION 2** *Grand Salon B (Level 1)*
5:00 PM – 6:00 PM	**CSM MICROELECTRONICS COMMONS HUB PANEL DISCUSSION** *Jefferson Ballroom (Level 3)*
6:00 PM – 7:00 PM	**CSM MICROELECTRONICS COMMONS HUB NETWORKING** *Jefferson Ballroom (Level 3)*

THURSDAY, May 22nd

7:00 AM – 11:00 AM	**REGISTRATION** *Registration Desk (Level 1)*
7:00 AM – 8:20 AM	**BREAKFAST** *Churchill B (Level 2)*
8:20 AM – 9:50 AM	**SESSION 9: PLENARY III** *Grand Salon A & B (Level 1)*
9:50 AM – 10:20 AM	**BREAK** *Outside Grand Salon A & B (Level 1)*
10:20 AM – 12:00 PM	**SESSION 10A: OPTOELECTRONICS II** *Grand Salon A (Level 1)*
10:20 AM – 12:00 PM	**SESSION 10B: YIELD IMPROVEMENTS IN CS MANUFACTURING** *Grand Salon B (Level 1)*
12:00 PM – 1:20 PM	**LUNCH ON YOUR OWN** *Lunch not provided*
1:20 PM – 3:00 PM	**SESSION 11A: OPTOELECTRONICS III** *Grand Salon A (Level 1)*
1:20 PM – 3:00 PM	**SESSION 11B: WAFER PROCESSING** *Grand Salon B (Level 1)*
3:00 PM – 4:00 PM	**POSTER SESSION** *Churchill B (Level 2)*
4:00 PM – 4:30 PM	**CAPSTONE TALK** *Churchill B (Level 2)*
4:30 PM – 5:00 PM	**CONFERENCE CLOSING** *Churchill B (Level 2)*

MESSAGE FROM THE CONFERENCE CHAIR

The 2025 Technical Program and Executive Committees for the International Conference on Compound Semiconductor Manufacturing Technology (CS MANTECH) welcome you to New Orleans, Louisiana! The "Crescent City", as it is known from the mighty Mississippi River that shapes the shores just outside our conference site, is also known as the "Big Easy" because of the non-stop leisurely and festive atmosphere that we hope you will enjoy during your visit.

Even though we are in the "Big Easy," the hard work and dedication that has gone into building our industry and community has been anything but "Easy." While it might be tempting to look back and imagine it was "Easy" to get here, we are standing on the shoulders of giants that came before us, pioneering and plowing the technical and programmatic way for us to be where we are today. From our roots of standing up the RF communication industry in the 1980's, resulting in the multiple phones we carry with us everywhere we go, we have grown together and expanded from our GaAs-only focus to include all Compound Semiconductors and their applications in Optoelectronics and Power Electronics, without losing our RF roots.

In one sense, this year and moment in time is no different from where this community started, but **we** are now those blazing new trails, overcoming new technical and programmatic challenges. With the addition of new large scale market dynamics through acquisitions, mergers and legal hurdles, this work isn't "Easy," but we have a strong and growing community because it is rewarding work, and you will see the fruits of that work throughout all we have planned at this year's conference. I encourage you to take advantage of this unique opportunity, getting the most out of this conference by visiting our exhibitors, attending the excellent workshop & technical program talks, joining the ME Hub events Wednesday night, and our many excellent social events.

A very special thank you to all who made this conference possible, especially our CS MANTECH Executive Committee member volunteers who put in countless hours of hard work so that we could enjoy this time together in the "Big Easy"!

Shawn Burnham
DCS Corp.
2025 CS MANTECH Conference Chair

2025 CONFERENCE SPONSORS

CS MANTECH is an independent not-for-profit organization whose mission is to promote technical discussion and scientific education in the compound semiconductor manufacturing industry. The continued success of the conference is enabled by donations from corporate sponsors. The 2025 CS MANTECH Conference Committee gratefully acknowledges the support from our 2025 sponsors.

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2025 CONFERENCE HIGHLIGHTS

Welcome to the 2025 Compound Semiconductor Manufacturing Technology (CS MANTECH) International Conference! This year marks the fourth time we are holding our conference in New Orleans, Louisiana (NOLA), a historic city internationally recognized for its vibrant and colorful culture and un-matched rich musical and culinary scene. We are excited to be back in NOLA and harness the energy of the 'Big Easy' to continue the long CS MANTECH tradition of providing you with an exceptional technical and social networking experience. Our Executive and Technical Program Committees have done an outstanding job over the past year to solicit and organize a program that addresses the latest developments in CS manufacturing and technologies. Let me take a moment to describe what is in store for you at the 2025 CS MANTECH conference.

CS MANTECH 2025 kicks off with the **CS MANTECH Workshop** on **Monday, May 19th.** The theme for this year's workshop is "Characterization and Measurement for Success in Compound Semiconductors", providing fundamental understanding of the characterization and measurements techniques critical for high yield CS manufacturing. Please see the CS MANTECH WORKSHOP section for additional details. In parallel, the **Reliability of Compound Semiconductors (ROCS) Workshop** will be held to offer attendees a forum to present the latest results on CS reliability. A unique aspect of ROCS is the collaborative discussions on the latest in CS reliability and how to overcome barriers for wider technology adoption and application. After Monday's workshops, we kick-off the first social and networking event with the **Exhibitor Reception** at 6:00 PM. This is your first opportunity to interact and network with other CS MANTECH attendees, including your customers, suppliers, and collaborators, all while enjoying a great selection of New Orlean's inspired hors d'oeuvres and drinks.

The CS MANTECH technical conference starts on **Tuesday, May 20th,** beginning with the **Opening and Awards Ceremonies,** that will include the 2024 Best Paper awards, Sponsorship Recognition, and a Conference Overview. We will begin each day of the conference with a single-track Plenary session, followed by parallel track technical sessions. Our **first Plenary Session** to kick-off the conference features speakers **Professor Huili Grace Xing** from **Cornell University** and **Professor Steven DenBaars** from the **University of California Santa Barbara.** Professor Xing will speak on "AlN and Ga_2O_3: Materials of the Future or Reality?" and Professor DenBaars will speak on "Development of GaN Based MicroLED Devices for Full Color Projection Displays and High Speed Visible Light Communi-

cation". Following the first plenary session, we will transition to parallel technical sessions on Power Devices, Lasers, Manufacturing Challenges & Innovations, RF Devices, and Advance Packaging & Integration. These sessions are composed of both invited and regular and student contributed talks. Invited speakers featured during the first day of technical sessions represent leaders and technologists from **North Carolina State University, Kyocera LSD, Renesas, Fujitsu, and Radulescu LLP**. Lunch will be provided in the Exhibits Hall, offering attendees additional opportunities to connect with existing and new suppliers. During the Exhibits Lunch, the first of two Exhibitor Forums, **Exhibitor Forum A**, will be held. Following Tuesday's technical sessions, we will hold the **Student Forum** to provide an opportunity for students to explore career opportunities through networking with members of the CS community from industry, academia, and government. Finally, the much-anticipated **CS MANTECH International Reception** will be held at **Mardi Gras World** to close on the first day of the conference, New Orleans style.

On **Wednesday, May 21st,** day two of the conference starts with a second Plenary session, featuring **Mr. Mike Holmes** from the U.S. Defense Advanced Research Projects Agency (**DARPA**) Next Generation Microelectronics Manufacturing (**NGMM**) project and **Dr. Bertrand Parvais** from **IMEC**. Mr. Holmes will speak on the overview of the DARPA NGMM project and Dr. Parvais will speak on an overview of IMEC and compound semiconductor work in Europe. After the second plenary session, we will return to parallel technical sessions on Heterogeneous Integration, Optoelectronics, Substrates and Materials, and Gallium Oxide; featuring invited talks from **Arizona State University, Mojo Vision, and IKE-Berlin**. New for this year is the extension of the final day of the Industry Exhibits through lunch and another opportunity to connect with existing and new suppliers. The second Exhibitor Forum, **Exhibitor Forum B**, will be held during Wednesday's Exhibits Lunch. **CS MANTECH is also excited to offer our attendees with two special topic sessions focused on the U.S. CHIPS and Science Act efforts: Microelectronics Commons (MEC)** and **Natcast,** the operator of the National Semiconductor Technology Center **(NSTC).** These special topic sessions will be held in the afternoon and will kick off with an invited talk from **Dr. Tim Morgan**, **MEC Technical Director**. Following Dr. Morgan's talk, 7 of the 8 MEC regional hubs (NEMC, CLAWS, SCMC, NORDTECH, MMEC™, SWAP, and California DREAMS) will provide overviews of their hub model and activities. The special topic sessions will conclude with an invited talk from **Ms. Susan Feindt, Senior Vice President of Ecosystem Development at Natcast**. Ms. Feindt will provide an update on the NSTC, its

initiatives, and how ecosystem entities can engage. The second day of the conference will conclude with a **CS MANTECH MEC Hub Panel session** at 5:00 PM followed by a **CS MANTECH MEC hub networking event** at 6:00 PM.

On **Thursday, May 22nd**, the final day of the conference, we will start with the final plenary session, featuring **Dr. Hui-Hsin (Anna) Tseng** from **TSMC** and **Mr. GP Gopalakrishnan** from **Wolfspeed**. Dr. Tseng will be speaking on an "Overview of TSMC's Green Manufacturing Initiative" and Mr. Gopalakrishnan will be speaking on Wolfspeed's initiatives for sustainability. Following the final plenary session, we will transition to parallel-track technical sessions on Optoelectronics, Yield Improvement, and Wafer Processing. These sessions will feature invited speakers from **Avicena, Nagoya University, Infinera, and IQE**. Lunch will be on your own to give attendees an opportunity to explore and enjoy the rich culinary offerings of New Orleans. The technical portion of the conference will continue in the afternoon with two final parallel-track sessions and end with the **Poster Session**. This will be a great opportunity to connect and interact with the authors to gain valuable insights into their work.

We will wrap up the 2025 CS MANTECH Conference with a **Capstone Talk** by **Dr. Gregg Harry** from **American University and the LIGO Scientific Collaboration** operated by Caltech and MIT. Dr. Harry will provide a unique talk on "Development of large area substrate transferred aluminum gallium arsenide coated mirrors for future gravitational wave detectors." This Capstone Talk will be followed by our Closing Ceremony, featuring award announcements for Best Poster, Conference Feedback Drawing, and Conference Contest.

We hope this year's conference will inspire you to return to your organizations with fresh ideas and fresh contacts to continue doing great work and excel in our industry. **On behalf of the 2025 Technical Program Committee, we welcome you to New Orleans and we are happy to have you join us for CS MANTECH 2025!**

Jansen Uyeda
Northrop Grumman Corporation
Microelectronics Center (NGMC)
Technical Program Committee Chair

2025 CS MANTECH WORKSHOP

Monday, May 19th, 2025
Hilton New Orleans Riverside, New Orleans, Louisiana
Room: Grand Salon A (Level 1)
8:15 a.m. – 4:45 p.m.

The theme of this year's workshop is "Characterization and Measurement for Success in Compound Semiconductors"

Characterization and measurement are critical to achieving success in manufacturing; without a solid understanding of the materials, processes, and devices being produced, delivering the performance and quality our customers expect is impossible. In the spirit of CS-MANTECH being held in New Orleans, this year our workshop goes on parade, with discussions of metrology and characterization ranging from starting material through devices and final product.

Our parade starts in the morning, with a discussion of physical-level characterization of materials and devices that are essential to CS manufacturing. Led by Mike Salmon and Jeff Serfass from Eurofins/EAG, in-depth discussion of destructive and non-destructive approaches to characterizing materials, impurities, as well as identification of failure modes will be presented. This will be followed by a session on process control monitor (PCM) testing, led by Alan Howsare from MACOM. Including a discussion of PCM test structures, testing methodologies, and the key considerations for implementing a PCM test program including statistical analysis and screening, as well as how PCM meshes with statistical process control (SPC) approaches. The parade continues after lunch with a session, led by William Vilchez of Qorvo on high-volume DC die sort. This includes a description of the key test building blocks of a die sort program, as well as operational considerations critical to high-volume throughput. From die sort, we move to production on-wafer RF testing, with a session led by Eric Tangen of Qorvo. This session focuses on strategies for high-volume testing of RF devices and die using modern vector network analyzer capabilities. Calibration assurance and monitoring, as well as going beyond s-parameter characterization to more advanced measurements will also be discussed. Our tour concludes with a discussion of precision measurements and techniques needed to obtain accurate process design kit (PDK) models, with a focus on challenges associated with GaN HEMTs. Led by Larry Dunleavy of Modelithics, the diverse measurements, fixtures, calibration structures, and testing conditions needed for accurate model development will be described and discussed.

2025 ROCS WORKSHOP

Monday, May 19th, 2025
Hilton New Orleans Riverside, New Orleans, Louisiana
Room: Grand Salon B (Level 1)
8:15 a.m. – 5:00 p.m.

The 39th annual Reliability of Compound Semiconductors (ROCS) Workshop will be held on the first day of the CS MANTECH conference. The objective is to bring together researchers, manufacturers, and users of compound devices with an emphasis on device reliability, test, failure mechanisms, thermal analysis, radiation effects, and environmental effects, to name just a few areas of interest. This year's agenda features an impressive lineup of Subject Matter Experts from industry and academia sharing their expertise. Papers and tutorials showing the latest results and new developments in all phases of Compound Semiconductor Reliability will be presented and discussed. A full day of Compound Semiconductor Reliability Presentations is being offered, along with a luncheon and two breaks.

STUDENT FORUM

Monday, May 20th, 2025
Hilton New Orleans Riverside, New Orleans, Louisiana
Room: Chequers (Level 2)
5:00 p.m. – 6:00 p.m.

The Student Forum provides an opportunity for students to connect with professionals from a variety of fields in Compound Semiconductor, including industry, academia, and government to better understand the wide array of career paths available in compound semiconductors. Students will hear from experienced professionals about their journey in the CS field, ask questions, gain valuable advice, and discuss the evolving landscape of the industry, the future outlook for careers in this sector, and how professional culture and work expectations have changed over the years. Please join us on Tuesday, May 20th at 5-6pm in the Chequers Meeting Room, Level 2.

NEW TO CS MANTECH

2025 WoMANTECH CONNECT

Wednesday, May 21st, 2025
Hilton New Orleans Riverside, New Orleans, Louisiana
Room: Prince of Wales (Level 2)
7:00 a.m. – 8:30 a.m.

CS MANTECH invites you to a special breakfast event designed to foster a supportive environment for women to connect and network. The event aims to:

- **Build community** and mutual support.
- **Foster networking** and professional relationships.
- **Facilitate peer connections** through shared activities.
- **Promote collaboration** and idea sharing.
- **Enhance community spirit** by gathering together.
- **Support growth** by creating a space for women to help each other.

Join us to share, learn, and grow together, both personally and professionally. **Bring your breakfast to** the room and enjoy connecting with others.

SPECIAL TOPIC SESSIONS - U.S. CHIPS AND SCIENCE ACT

The **C**ompound **S**emiconductor **Man**ufacturing **Tech**nology Conference (**CS MANTECH**) is excited to partner with the Microelectronics Commons (**MEC**) and **Natcast,** the operator of the National Semiconductor Technology Center **(NSTC)** for special topic sessions on these U.S. CHIPS and Science Act efforts. The session starts with an invited talk by **Dr. Tim Morgan, MEC Technical Director,** followed by overview talks from seven of the eight Microelectronics Commons Regional Hubs. The special topic sessions will conclude with an invited talk by **Ms. Susan Feindt, Senior Vice President of Ecosystem Development at Natcast**, who will speak about initiatives of the NSTC. These CS MANTECH Special Topic Sessions will be held on the afternoon of Wednesday, May 21, 2025. A CS MANTECH MEC Hub Panel Session and Hub Networking event will follow (see the detailed schedule in this Conference Guide for more details).

INDUSTRY EXHIBITS

The CS MANTECH Exhibition is the premiere annual venue for key CS equipment and material manufacturers and suppliers to showcase their products and technical services. This year we are excited to showcase over 74 companies. Building upon the conference technical focus on CS manufacturing and technology, the Exhibition is an excellent opportunity for participating companies and organizations to meet and interact with both existing and future clients and collaborators involved in today's state-of-the-art manufacturing and tomorrow's innovations. This unique opportunity brings researchers, engineers, managers, and the key decision makers who shape and guide the industry all together for face-to-face interactions. Attendees will gain excellent visibility to a wide range of CS-focused participants from around the world who are critical to ensuring your success in the CS community. You are sure to see major suppliers and collaborators and leverage this unique opportunity to efficiently meet with many of your current contacts as well as engage with new contacts all in one place.

The 2025 CS MANTECH Exhibits Hall will be in the Churchill Ballroom, a short escalator ride from the technical sessions just below in the Grand Salon. Exhibits will kick off with the much-anticipated Exhibits Reception at 6:00 pm on Monday, May 19th. The Exhibits Reception will include food and drinks and is an excellent opportunity to catch up with friends, colleagues, suppliers, and fellow competitors. This is the first evening of the conference, providing a casual social environment to network and meet the attendees who contribute to the advancements and continued success of the CS industry.

The Exhibit Hall will open again Tuesday morning, May 20th, with breakfast at 7:00 am. Following the Plenary Session, the Exhibit Hall will be a focal point for attendees as the location for the morning and afternoon breaks, along with our buffet-style Exhibits Lunch. Attendees will have an opportunity to walk the Exhibits floor and talk to exhibitors throughout the day. The Exhibit Hall will open for a final time on Wednesday morning, May 21st, at 7:00 am with breakfast. A new feature for 2025 is that the Exhibits Hall will remain open through 2:00 pm, with an additional lunch provided in the Exhibits Hall. This time provides an ideal opportunity for both conference attendees and participating Exhibitors to follow up on interest generated during the Exhibits show, exchange business cards, and finalize those last-minute agreements! Finally, at 2:00 pm the Exhibition closes.

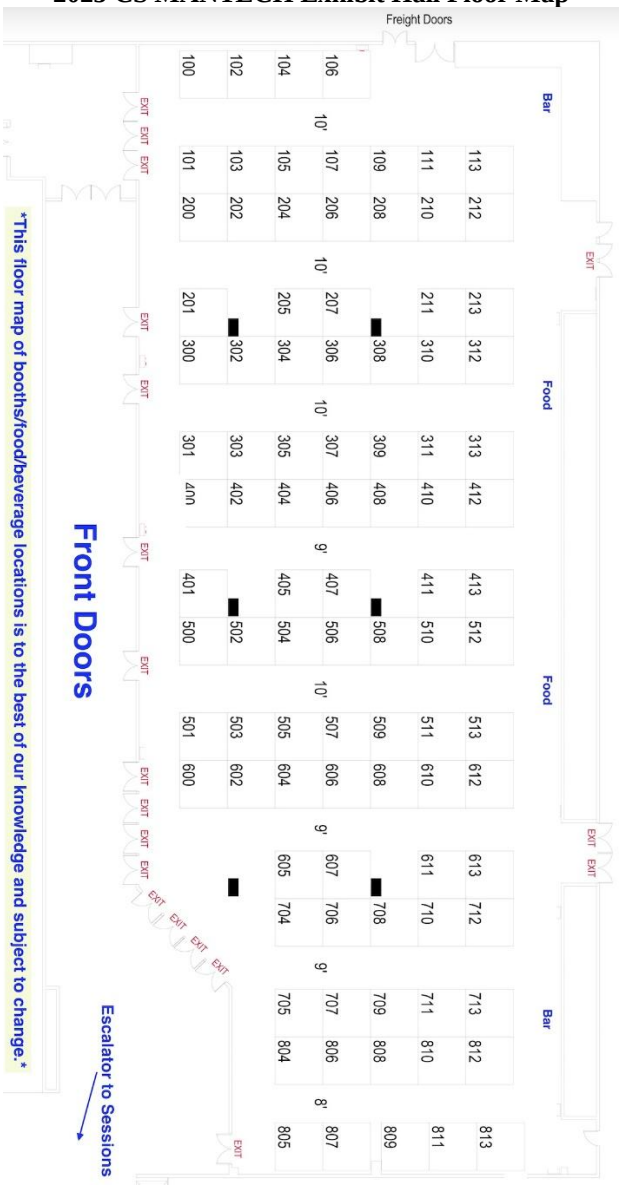
We will also host two Exhibitor Forums to provide an opportunity for participating companies to introduce new products, highlight company strengths, and introduce themselves in a short presentation. These forums will take place just across the hall from the Churchill Ballroom.

- Forum A: Four parallel sessions, Tuesday May 20th, 12:10 pm – 1:00 pm, Chequers, Prince of Wales, Eglinton, Cambridge
- Forum B: Four parallel sessions, Wednesday May 21st, 12:10pm – 1:10 pm, Chequers, Prince of Wales, Eglinton, Cambridge

We are very appreciative and thankful for all our CS MANTECH Exhibitors, who not only make our conference possible, but also make it exceptional! We know you will not only find this a very valuable return-on-investment, but a lot of fun, too!

Eric Stewart
2025 CS MANTECH Exhibits Chair
exhibitor@csmantech.org

2025 CS MANTECH Exhibit Hall Floor Map



2025 EXHIBITORS

Exhibitor Name	Booth #
Accel-RF	205
Adroit Materials Inc.	408
Advanced Furnace Technology Ltd	713
Air Liquide-Balazs NanoAnalysis	710
Aixtron Inc.	804
Amtech Systems Inc.	210
AXT	111
Beneq Inc.	503/505
Brewer Science	600
Bruker	405
C&D Semiconductor	308
Camtek USA, Inc.	200
Canon USA	509
Centrotherm	303
ClassOne Equipment	510
ClassOne Technology	512
CS CLEAN SOLUTIONS Inc	807
CSconnected	309/311
Denton Vacuum	400
Dockweiler Chemicals GmbH	812
DOWA Electronic Materials Co.	504
ECM-Annealsys	704
Efab International Technology Co., Ltd.	410
ElectraMet	106
ePAK International	602/604
Eumetrys	707
Eurofins EAG Laboratories	302
Evatec NA Inc	507
Ferrotec	502
Forge Nano	705
Freiberger Compound Materials	613
Hermes-Epitek Silicon Valley Inc.	202
HORIBA Instruments Inc.	113
Insaco Inc.	811
Intelligent Epitaxy Technology	213
JEOL USA	606
JST	313
Kashiyama	305
Kayaku Advanced Materials	607
KLA Corporation	402/404
k-Space Associates	301

Lam Research	307
Laser Thermal Analysis	406
LayTec AG	611
Matsuda Sangyo Co.,Ltd.	312
Mitsuboshi Diamond Industrial co.	506
MMEC	612
MOSIS 2.0 Prototyping Service	204
NADA technologies	208
NCSU CLAWS	810
Neutronix Quintel	508
NTT Advanced Technology Corporation	711
OAI	306
Oxford Instruments	706
Pallidus, Inc.	412
Plasma-Therm	401/500
Pozzetta	813
Precitec	211
RAITH America, Inc.	407
Raytheon	808
RENA Technologies North America	212
RSC - Reliable Silver Corporation	310
Samco	201
SEMILAB	511/513
Sono-Tek Corporation	103
SPS-America	207
STR US	709
StratEdge Corporation	805
Sumitomo Chemical Advanced Technologies	304
SUSS MicroTec Inc.	413
Taiyo Nippon Sanso	610
Thermo Fisher Scientific	712
Tignis	501
Time Tech Spectra USA Inc.	206
Toho Technology Inc.	100
Tresky GmbH	708
Trymax USA, Inc	101
Vacuum Engineering & Materials Co.	608
Veeco	300
Virginia Diodes, Inc.	605
Wolfspeed	411

2024 BEST PAPERS AWARDS

On Tuesday morning, CS MANTECH will formally recognize the authors of the best paper and best student paper from the 2024 conference. Both awards are based on conference attendee online feedback and ratings. The Best Paper Award is named in honor of Dr. He Bong Kim, the founder of the International Conference on Compound Semiconductor Manufacturing Technology.

The He Bong Kim Award winner for 2024 Conference is:

Paper 2.2.1
High Power Nitrogen-polar GaN/InAlN HEMT with Record Power Density of 12.8 W/mm at 28 GHz
S. Yoshida, K. Makiyama, A. Hayasaka, A., Mukai, I. Makabe, and K. Nakata
Transmission Devices Laboratory, Sumitomo Electric Industries, Ltd., Yokohama, Kanagawa, Japan

Best Paper Honorable Mention:
Paper 6.1.3
SmartSiC™ 150 & 200mm engineered substrate: increasing SiC device current density up to 30%
Daniel Eric Guiot[1], F. Allibert[1], J. Leib[2], T. Becker[2], O. Rusch[2], A. Drouin[1], and W. Schwarzenbach[1]
[1]*SOITEC S.A., Bernin, France*
[2]*Fraunhofer IISB, Erlangen, Germany*

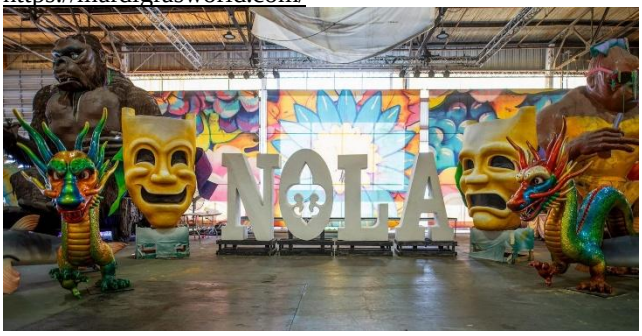
The Best Student Paper for the 2024 Conference is:

Paper 8.1.2
Design, Fabrication, and Characterization of GaN-Based Single Drift Region IMPATT Diodes
Zhongtao. Zhu[1], L. Cao[2], Y. Duan[1], W. Turner[1], J. Xie[3], and P. Fay[1],
[1]*University of Notre Dame, Notre Dame, IN, USA*
[2]*Keysight Technologies, Pasadena, CA, USA*
[3]*Qorvo, Richardson, TX, USA*

Congratulations to these award-winning teams for their excellent presentation and technical contribution to our field.

INTERNATIONAL RECEPTION

Tuesday, May 20th, 2025
Mardi Gras World, New Orleans
https://mardigrasworld.com/



We are thrilled for this year's International Reception (IR) in New Orleans. The IR will be taking place on Tuesday night 7:00 p.m. at the River City Venues and will be one to be remembered. Against the backdrop of multi-cultural decor and fun, colorful, and historical city, attendees will have the opportunity to experience a Mardi Gras carnival evening. We will start with a brass-band lead parade full of excitement to the venue, where we will experience a unique insights on how floats and carnival figures come to life, follow by the reception where you can connect with peers, industry leaders, and international delegates in a southern style mansion with casual and typical New Orleans dishes, handcrafted cocktails, and local brews, while fostering networking opportunities. This year's IR will have plenty of entertainment from music in an enhancing atmosphere to Mardi Gras style surprises that will make it a night to remember.

One IR ticket is included in your registration. Additional tickets will be available for purchase (please see registration site for details). The parade will depart sharply from the hotel at 6:15 p.m., a shuttle will be available for anyone with physical limitations starting at 6:30 p.m. and will run between the venue and the hotel until 10 p.m..

CONFERENCE CLOSING RECEPTION

The Conference Closing Reception draws the 2025 CS MANTECH to an end. Immediately following the technical program, the closing reception allows attendees one last opportunity to make new connections and exchange experiences. It is also an opportunity to reflect on how we can learn from discussions, presentations, and activities which took place during the conference to benefit our organizations and industry. During the reception, winners for Best Poster Presentation, Conference Feedback Form Raffle, and Conference Contest will be announced.

We are honored to have Dr. Gregory Harry, Physics Professor at American University in Washington D.C., provide a Capstone Talk for our Conference Closing on Thursday afternoon. The title of his talk is “Development of Large Area Substrate Transferred Aluminum Gallium Arsenide Coated Mirrors for Future Gravitational Wave Detectors.”

CS MANTECH Capstone Speaker, Gregory Harry, Professor at American University

Abstract: The Laser Interferometer Gravitational-wave Observatories (LIGO) ushered in the era of gravitational astronomy with the first detection of a gravitational wave, GW150914, in September 2015. These waves were predicted by Einstein's theory of general relativity, a result of the motion of astronomically large masses. They are now observed about twice a week by the Advanced LIGO detectors in Louisiana and Washington State, in collaboration with LIGO's sister project, Virgo, in Pisa, Italy. Future observatories, including upgrades to the existing LIGO and Virgo detectors, as well as new detectors in additional locations with upgraded technology, are now under consideration. A key noise source that has plagued these detectors is Brownian thermal noise from the optical coatings that form

the mirrors of the interferometers. One upgrade under development is the use of substrate-transferred compound semiconductor Bragg mirrors, specifically epitaxial gallium arsenide/aluminum gallium arsenide (AlGaAs) multilayers for use as the high-reflectivity mirror stack. Such single-crystal coatings exhibit significantly reduced Brownian thermal noise while also realizing comparable optical performance to the current sputtered mirrors.

The primary challenge lies in scaling up the manufacturing process for these "crystalline coatings" to a diameter of ≥30 cm, entailing high-uniformity and low background molecular beam epitaxy of the semiconductor heterostructure, low-defect direct (fusion) bonding, and selective wet-chemical substrate removal. Given the lack of sufficiently large GaAs base wafers, we are considering heteroepitaxy of AlGaAs on germanium base wafers. Additional areas of exploration include alloying the GaAs/AlGaAs DBR with dilute nitrogen to reduce the slight lattice mismatch (and thus strain-driven birefringence), as well as developing a large custom bonding system to transfer AlGaAs coatings onto the requisite 100 kg fused silica substrates.

CONFERENCE CONTEST

CS MANTECH aims to bring the compound semiconductor community together to collectively exchange and discuss new ideas to benefit our industry. To encourage attendees to share their fun experiences and learnings throughout the conference, we are hosting a contest: "A Prompt-a-Day: Sparking Ideas the CS MANTECH Way!"

Prompts will be posted daily on CS MANTECH's CVENT app. Answer a prompt in a social media post (e.g., LinkedIn, X, Facebook, etc.) and fill out the Microsoft form with a link to your social media post to enter the raffle for a prize. Submit a completed form each day throughout the conference to receive up to 4 raffle entries.

As in previous years, our conference will hold a Feedback Form Raffle. Conference feedback on technical content and venue is valuable to the CS MANTECH committees for structuring the conference and technical program. In addition, conference feedback is used in the selection of the Best Paper and Best Student Paper. Each submitted Feedback Form will be entered into a raffle for a prize. It's as simple as that!

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TECHNICAL PROGRAM

Monday, May 19th

6:00 PM **EXHIBITOR RECEPTION**

Tuesday, May 20th

CONFERENCE OPENING

8:00 AM **Opening Ceremonies**
Shawn Burnham, *DCS Corp*
Conference Chair

8:05 AM **2024 Conference Best Paper Awards**
Shawn Burnham, *DCS Corp*
Conference Chair

8:15 AM **Technical Program Highlights**
Jansen Uyeda, *Northrop Grumman*
Technical Program Chair

SESSION 1: PLENARY I
Chairs: Travis Abshere, *nLight*
Mike Krames, *Arkesso, LLC*

8:30 AM *Plenary Presentation*
1.1 AlN and Ga_2O_3: Materials of the Future or Reality?
Huili Grace Xing
Cornell University, Ithaca, New York, USA

9:15 AM *Plenary Presentation*
1.2 Development of GaN Based MicroLED Devices for Full Color Projection Displays and High Speed Visible Light Communication
Steve DenBaars
University of California, Santa Barbara, Santa Barbara, California, USA

10:00 AM **BREAK**

SESSION 2A: POWER DEVICES I
Chairs: Yoganand Saripalli, *Texas Instruments*
Dilip Risbud, *Renesas Electronics*

10:30 AM *Invited Presentation*
2A.1 Practical N-type Doping in AlN for Power Electronics
Roman Collazo

North Carolina State University, Raleigh, North Carolina, USA

11:00 AM *Student Presentation*
2A.2 Vertical GaN Trench MOSFETs with HfO_2/Al_2O_3 Layered Gate Dielectric
E. Brusaterra, E. Bahat Treidel, P. Paul, I. Ostermay, F. Brunner, and O. Hilt
Ferdinand-Braun-Institut (FBH), Berlin, Germany

11:20 AM **2A.3 1700 V Breakdown Monolithic Bidirectional GaN/AlGaN MISHEMTs with a Thin Buffer Grown on SiC Substrate**
F. Benkhelifa[1], S. Leone[1], R. Reiner[1], M. Basler[1], H. Czap[1], D. Grieshaber[1], L. Kirste[1], Frank Bernhardt[1], S. Moench[1,2] and R. Quay[1,3]
[1]Fraunhofer Institute for Applied Solid Sate Physics (IAF), Freiburg, Germany
[2]Institute of Electrical Energy Conversion IEW, University of Stuttgart, Stuttgart, Germany
[3]Department for Sustainable Systems Engineering INATECH, University of Freiburg, Freiburg, Germany

11:40 AM *Student Presentation*
2A.4 The Effect of Operating Temperature on the On-State Performance of Quasi-Vertical Gallium Nitride MOSFETs
J. Evans[1], F. Monaghan[1], R. Harper[2], A. Withey[3], C. Colombier[4], M. Elwin[1], and M. Jennings[1]
[1]CISM, Swansea University, Swansea, United Kingdom
[2]CSC, Pascal Cl, St. Mellons, Cardiff, United Kingdom
[3]Vishay Newport, Newport, United Kingdom
[4]CSconnected, Cardiff, United Kingdom

SESSION 2B: LASERS
Chairs: Paul Pinsukanjana, *IntelliEPI*
Nitin Kalra, *BAE Systems*

10:30 AM *Invited Presentation*
2B.1 Highly Manufacturable Epitaxial Transfer Process for Novel InGaN Laser Diodes
Philip Chan
Kyocera SLD Laser, Inc., Santa Barbara, California, USA

11:00 AM *Student Presentation*

2B.2 Impurity-Induced Disordering of InGaAs/InAlAs Superlattices by Zinc Diffusion for Electrical Confinement in Quantum Cascade Lasers
R. Kaufman, A. Mazumder, and J. M. Dallesasse
University of Illinois at Urbana-Champaign, Grainger College of Engineering, Department of Electrical and Computer Engineering, Urbana, Illinois, USA

11:20 AM **2B.3 The Oxide Layers Effects on GaAs-Based Multi-Junction Vertical-Cavity Surface-Emitting Lasers**
W. H. Huang[1,2], Z. T. Huang[1], K. L. Chi[1], C. T. Chang[1], T. C. Lu[2], and H. P. Xiao[1]
[1]Department of Opto-Electronic Development Center, WIN Semiconductor Corporation, Taiwan
[2]Department of Photonics, College of Electrical and Computer Engineering, National Yang Ming Chiao Tung University, Hsinchu City, Taiwan

11:40 AM *Student Presentation*
2B.4 Monolithic Dual-Wavelength DFB Laser with Over 140 mW Optical Power and Frequency Noise Floor Below 2.15 × 10^4 Hz^2/Hz for High-Precision THz Systems
T.-H. Liu[1,2], Y.-Y. Tu[3], Y.-H. Lu[4], and C.-H. Wu[1,2,3,4]
[1]Graduate School of Advanced Technology, National Taiwan University, Taipei, Taiwan
[2]Center for Quantum Science and Engineering, National Taiwan University, Taipei, Taiwan
[3]Graduate Institute of Electronics Engineering, National Taiwan University, Taipei, Taiwan
[4]Graduate Institute of Photonics and Optoelectronics, National Taiwan University, Taipei, Taiwan

12:00 PM **EXHIBITS LUNCH**

12:10 PM **EXHIBITOR FORUM A**
Chequers, Prince of Wales, Eglinton, Cambridge (Level 2)

SESSION 3A: POWER DEVICES II
Chairs: Shiva Rai, *Applied Materials*
Martin Huber, *NexGen Wafer Systems*

1:10PM *Invited Presentation*

3A.1 Wide Bandgap Power Switches (GaN HEMT and SiC Power MOSFETs) for Hard-and Soft-Switching Applications, a Long-Term Perspective

Marco Zuniga
Renesas Electronics, San Francisco, California, USA

1:40 PM *Student Presentation*

3A.2 Normally-Off N-Polar GaN/AlN Transistors with p-NiO Gate Stacks

C. Zhang[1], Y. Yin[1], I. Furuhashi[2], M. Pristovsek[2], M. Kuball[1], and M. D. Smith[1]
[1]Center for Device Thermography and Reliability, University of Bristol, Bristol, United Kingdom
[2]Center for Innovative Research of Future Electronics, Institute for Material Science and Systems for Sustainability, Nagoya University, Nagoya, Japan

2:00 PM **3A.3 Vertical GaN-on-Tungsten High Voltage pn-Diodes**

E. Bahat Treidel[1], E. Brusaterra[1], L. Deriks[2], S. Danylyuk[2], E. Brandl[3], J. Bravin[3], F. Brunner[1], and O. Hilt[1]
[1]Ferdinand-Braun-Institut (FBH), Berlin, Germany
[2]Fraunhofer Institute for Laser Technology, Aachen, Germany
[3]EV Group, St. Florian am Inn, Austria

2:20 PM *Student Presentation*

3A.4 High Voltage Design Strategies for Gallium Oxide Power Devices

N. Edwards[1], A. M. Muniz[1], J. Evans[1], J. Mitchell[2], D. Goodwin[1], E. Chikoidze[3], A. Perez-Tomas[4], M. Vellvehi[4], F. Monaghan[1], Owen Guy[1], C. Fisher[1], A. Huma[2], C. Colombier[5], and Mike Jennings[1]
[1]Swansea University, Swansea, United Kingdom
[2]KLA Corporation (SPTS Division), Newport, United Kingdom
[3]GeMAC, Versailles, France
[4]IMB-CNM, Barcelona, Spain
[5]CSconnected, Cardiff, United Kingdom

2:40 PM **3A.5 1000-Hour HTRB Test on 1200 V Lateral HEMTs with Engineered p-GaN Gate**

S. Kumar[1], M. Borga[1], D. Cingu[1], K. Geens[1], A. Vohra[1], B. Bakeroot[1,2], N. Posthuma[1], and S. Decoutere[1]
[1]imec, Leuven, Belgium

[2]*CMST, imec & Ghent University, Gent, Belgium*

SESSION 3B: MANUFACTURING CHALLENGES & INNOVATIONS

Chairs: Eric Stewart, *Northrop Grumman*
Keisuke Shinohara, *Teledyne*

1:10 PM *Invited Presentation*
3B.1 The Next Global GaN Patent Wars
David Radulescu
Radulescu LLP, New York, New York, USA

1:40 PM **3B.2 A Fabrication Process for Airbox Encapsulation of T-Gates**
G. Siddiqi, D. Berkoh, L. Cazares, and A. Chao
HRL Laboratories, Malibu, California, USA

2:00 PM *Student Presentation*
3B.3 Metal Additive Micro-Manufacturing to Achieve Enhanced Air-Bridge Geometry for Coplanar Waveguide mm-wave GaN-on-SiC Integrated Circuits
A. Collier[1], A. Eblabla[1], W. Sampson[1], E. Yadollahifarsi[1], E. Hepp[2], R. Conte[2], and K. Elgaid[1]
[1]*Cardiff University, Cardiff, United Kingdom*
[2]*Exaddon AG, Glattbrugg, Switzerland*

2:20 PM **3B.4 A New Approach to Gold Electron-Beam Evaporation with Improved Process Quality and Throughput**
P. Waduge and P. Vall
MACOM Technology Solutions, Lowell, MA, USA

2:40 PM **3B.5 Stability of 3.3 kV Planar GaN Diodes with Nitrogen Implanted Termination under High Temperature Reverse Bias Stressing**
A. G. Jacobs[1], J. S. Lundh[1], T. J. Anderson[2], G. M. Foster[3], A. D. Koehler[1], J. C. Gallagher[1], B. P. Gunning[4], R. J. Kaplar[4], K. D. Hobart[1], M. A. Mastro[1]
[1]*U.S. Naval Research Laboratory, Washington, D.C., USA*
[2]*University of Florida, Gainesville, Florida, USA*
[3]*Amentum Inc., Residing at U.S. Naval Research Laboratory, Washington, D.C., USA*
[4]*Sandia National Laboratories, Albuquerque, New Mexico, USA*

3:00 PM **BREAK**

SESSION 4A: RF DEVICES

Chairs: Mitsuhiro Nakamura, *Murata manufacturing company*
Justin Parke, *Northrop Grumman*

3:30 PM *Invited Presentation*
4A.1 X-band InAlGaN/GaN HEMT with High-Power and High-Reliability
Atsushi Yamada, Yoichi Kamada, Yuichi Minoura, Toshihiro Ohki, and Masaru Sato
Fujitsu Limited, Atsugi, Kanagawa, Japan

4:00 PM **4A.2 Temperature Effects on DC and RF Characteristics of 140 nm AlGaN/GaN HEMTs with Regrown Contacts**
B. K. Sarker[1], N. P. Sepelak[1], D. E. Walker Jr.[2], K. Nishimura[1], A. Crespo[2], G. Hughes[2], A. J. Green[2], and A. E. Islam[2]
[1]KBR, Inc., Beavercreek, Ohio, USA
[2]Air Force Research Laboratory, Sensors Directorate, Wright-Patterson AFB, Dayton, Ohio, USA

4:20 PM **4A.3 Dual-gate RF HEMT based on P-GaN/AlGaN on Si Technology for Future X-band On-Chip RF and Power Electronics** A. Eblabla, W. Sampson, A. M. Bhat, A. Collier, E. Yadollahifarsi, and K. Elgaid
Centre for High Frequency Engineering, Cardiff University, Cardiff, United Kingdom

4:40 PM **4A.4 High Power Added Efficiency Enhancement-Mode Gamma-Gate RF HEMT with Engineered Mg Doping Profile in p-GaN Layer**
H.-C. Chiu[1,2], C.-R. Huang[1], C.-W. Chiu[1], C.-H. Lin[1], C.-H. Yu[1], H.-L. Kao[1], B. Lin[3]
[1]Department of Electronics Engineering, Chang Gung University, Taoyuan, Taiwan
[2]Department of Radiation Oncology, Chang Gung Memorial Hospital, Taoyuan, Taiwan
[3]Wavetek Microelectronics Corporation, Hsinchu, Taiwan

SESSION 4B: ADVANCED PACKAGING & INTEGRATION

Chairs: Zeina Abdallah, *University of Bristol*
Shiva Rai, *Applied Materials*

3:30 PM *Invited Presentation*
4B.1 Advances in TO Packaging for High Power GaN Device Performance and Reliability
Quinn Martin

MACOM Technology Solutions, Lowell, MA, USA

4:00 PM **4B.2 Cu Bumps with Ni Barrier and On-Wafer Reflow for Improved Reliability & Manufacturability**
S. Pilla, Z. Zhang, Y.-R. Kim, G. Drandova, and V. Li
Qorvo, Inc., Richardson, Texas, USA

4:20 PM **4B.3 Heat Resistance Improvement of Palladium Pre Plated Frames of Semiconductor Packaging with a New Additive for Nickel Plating**
S. Sekiguchi, S. Mizuhashi, Y. Sato, and Y. Shindo
Precious Metals Materials Division, Matsuda Sangyo Co., Ltd., Shinjuku-ku. Tokyo, Japan

4:40 PM **4B.4 Double-Side Diamond Cooling of GaN HEMTs and Progress Towards Further Reductions in Junction to Package Thermal Resistance**
J. S. Lundh[1], F. Vasquez[2], A. J. Cruz Arzón[2], T. Feygelson[1], A. G. Jacobs[1], A. D. Koehler[1], B. Pate[1], K. D. Hobart[1], T. J. Anderson[3], M. A. Mastro[1], G. Pavlidis[2], D. Francis[4], and M. J. Tadjer[1]
[1]U.S. Naval Research Laboratory, Washington, D.C., USA
[2]Department of Mechanical Engineering, University of Connecticut, Storrs, Connecticut, USA
[3]Department of Chemical Engineering, University of Florida, Gainesville, Florida, USA
[4]Akash Systems, Inc., San Francisco, California, USA

5:00 PM **STUDENT FORUM**
Chequers (Level 2)

6:15 PM **PARADE DEPARTS FOR IR**
Hilton Riverside (shuttle will be available starting at 6:30 pm to IR location)

7:00 PM **INTERNATIONAL RECEPTION**
Mardi Gras World
1380 Port of New Orleans Place
New Orleans, LA 70130

Wednesday, May 21st

SESSION 5: PLENARY II
Chairs: David Via, *MMEC*
Shawn Burnham, *DCS Corp*

8:30 AM *Plenary Presentation*
5.1 The Defense Advanced Research Agency's (DARPA) Next Generation Microelectronics Manufacturing (NGMM) Program
Michael Holmes
DARPA Microsystems Technology Office (MTO), Arlington, Virginia, USA

9:15 AM *Plenary Presentation*
5.2 CMOS-Compatible Compound Semiconductors at imec
Bertrand Parvais
IMEC, Leuven, Belgium

10:00 AM **BREAK**

SESSION 6A: HETEROGENEOUS INTEGRATION
Chairs: Alex Smith
Lena Luu, *GCS*

10:30 AM *Invited Presentation*
6A.1 Packaging of Compound Semiconductors - Current Status and Future Challenges
Christopher Bailey
University of Arizona, Phoenix, Arizona, USA

11:00 AM **6A.2 Heterogeneous Integration of Large-Area InGaAs SWIR Photodetectors on 300 mm CMOS-Compatible Si Substrates**
B. Shi, M. Dummer, M. McGivney, S. S. Brunelli, D. Oakley, and J. Klamkin
Aeluma, Inc., Goleta, California, USA

11:20 AM **6A.3 Heterogeneous AIP/SIP for Satcom**
E. Lourandakis, P. Fioravanti, G. Kontogiannopoulos, and C. McMahon
Circuits Integrated Hellas IKE, Attica, Greece

11:40 AM **6A.4 Quantifying Thermal Benefits of Metal Embedded Chip Assembly as a Heterogeneous Integration Approach**
J. Beagle[1], K. DeVore[2], J. Pastrana[1], J. Figueroa[1], G. Morales[3], L. Colón-Santiago[3], F. Ouchen[4], E. Kreit[1], and D. T. Reyes[1]
[1]Air Force Research Laboratory, Sensors Directorate, Wright Patterson-AFB, Ohio, USA

[2]*SOCHE, Dayton, Ohio, USA*
[3]*Michigan State University, East Lansing, Michigan, USA*
[4]*KBR Inc., Beavercreek, Ohio, USA*

SESSION 6B: OPTOELECTRONICS I

Chairs: Michelle Bourke, *LAM Research*
Andrea Corrion, *HRL Laboratories*

10:30 AM *Invited Presentation*
6B.1 Micro-LED Maturation from Beachhead in AR to TAM of Entire Display Market
Paul S. Martin
Mojo Vision, Saratoga, California, USA

11:00 AM *Student Presentation*
6B.2 Design of Novel Long-Wavelength VCSEL Structure with Voltage-Controllable Phase-Matching Layer for Standing Wave Tuning
K. Pikul, L. Espenhahn, J. Flanagan, E. Becher, and J. M. Dallesasse
University of Illinois at Urbana-Champaign, Grainger College of Engineering, Department of Electrical and Computer Engineering, Holonyak Micro and Nanotechnology Laboratory, Urbana, Illinois, USA

11:20 AM **6B.3 Pyramidal MicroLEDs Delivering RGB in the Same Materials Systems**
L. Rullik[1], I. Martinovic[1,2], S.P. Le[1,2], A. Vorobiev[1,3], C.W. Hsu[1,2] and P.O. Holtz[1,2]
[1]*Polar Light Technologies AB, Linköping, Sweden*
[2]*Semiconductor Physics Division, IFM, Linköping University, Linköping, Sweden*
[3]*Department of Microtechnology and Nanoscience, Chalmers University of Technology, Gothenburg, Sweden*

11:40 AM *Student Presentation*
6B.4 Advanced Process Development for Microcavity VCSELs
D. Chaw, H. Wu, Z. Liu, and M. Feng
Department of Electrical and Computer Engineering, University of Illinois at Urbana-Champaign, Holonyak Micro & Nanotechnology Lab, Urbana, Illinois, USA

12:00 PM **EXHIBITS LUNCH**

12:10 PM **EXHIBITOR FORUM B**

Chequers, Prince of Wales, Eglinton, Cambridge (Level 2)

SESSION 7A: SUBSTRATES & MATERIALS

Chairs: Wei Zhang, *AXT*
Yohei Otoki, *Nagoya University*

1:20 PM **7A.1 First Demonstration of InP HBTs on InP-on-Si (InPOSi) Substrate: A Cost-Effective and Sustainable III/V-on-Si Technology for Advanced RF Applications**
A. Vais[1], A. Kumar[1,a], S. Yadav[1], G. Boccardi[1], Y. Mols[1], R. Alcotte[1], B. Vermeersch[1], U. Peralagu[1], C. Roda Neve[2], B. Ghyselen[2], B. Parvais[1,3], B. Kunert[1], and N. Collaert[1,3]
[1]IMEC, Leuven, Belgium
[2]SOITEC, Isere, France
[3]Vrije Universiteit Brussels, Brussels, Belgium
[a]Now with NUS, Singapore

1:40 PM **7A.2 Development of 6-inch Indium Phosphide Substrates**
Y. Oeki[1], K. Aoyama[1], K. Hashio[1], M. Adachi[1], Y. Yoshizumi[1], Y. Hagi[1,2] and T. Morishita[1,2]
[1]Sumiden Semiconductor Materials Co., Ltd., Itami, Hyogo, Japan
[2]Sumitomo Electric Industries, Ltd., Itami, Hyogo, Japan

2:00 PM *Student Presentation*
7A.3 Heteroepitaxial Growth of α-Ga_2O_3 by MOCVD on a, m, r and c-Plane Sapphire
K. D. Ngo, I. Sanyal, M. D. Smith, and M. Kuball
Center for Device Thermography and Reliability (CDTR), University of Bristol, Bristol, United Kingdom

2:20 PM **7A.4 SmartSiC™ 150 & 200mm Engineered substrate: Solving SiC Power Devices Bipolar Degradation**
E. Guiot[1], F. Allibert[1], J. Leib[2], T. Becker[2], R. Bagchi[2], G. Gelineau[3], S. Barbet[3], R. Laviéville[3], P. Godignon[3], W. Schwarzenbach[1]
[1]SOITEC S.A., Bernin, France
[2]Fraunhofer IISB, Erlangen,Germany
[3]Univ. Grenoble Alpes, CEA, Leti, Grenoble, France

2:40 PM *Student Presentation*

7A.5 Crack-Free AlN Thin Films on Si Substrates for Large-Area Ultrawide-Bandgap Semiconductor Template
M. Aqib[1,2], M. Moradnia[1,2], M. Ji[3], V. S. Parameshwaran[3], W. L. Sarney[3], S. Pouladi[1,2], N.-I. Kim[1,2], G. A. Garrett[3], A. V. Sampath[3], R. Forrest[5], and J.-H. Ryou[1,2,4,6]
[1]Department of Mechanical Engineering, University of Houston, Houston, Texas, USA
[2]Texas Center for Superconductivity at UH (TcSUH) and Advanced Manufacturing Institute (AMI), University of Houston, Houston, Texas, USA
[3]DEVCOM Army Research Laboratory, Adelphi, Maryland, USA
[4]Materials Science and Engineering Program, University of Houston, Houston, Texas, USA
[5]Department of Physics, University of Houston, Houston, Texas, USA
[6]Department of Electrical & Computer Engineering, University of Houston, Houston, Texas, USA

SESSION 7B: U.S. MICROELECTRONICS COMMONS HUB SESSION 1

Chairs: Andy Souzis, *Coherent*
Dennis Szymanski, *IQE*

1:20 PM **7B.0 Hub Session Introduction**
Jansen Uyeda
Northrop Grumman

1:30 PM *Invited Presentation*
7B.1 Overview of U.S. DoD Microelectronics Commons
Timothy Morgan
Naval Surface Warfare Center Crane, Crane, Indiana, USA

2:00 PM **7B.2 Northeast Microelectronics Coalition (NEMC) Hub Overview & Capabilities**
Mark Halfman
Massachusetts Technology Collaborative, Westborough, Massachusetts, USA

2:15 PM **7B.3 Commercial Leap Ahead for Wide Bandgap (CLAWS) Hub Overview & Capabilities**
John Muth
North Carolina State University, Raleigh, North Carolina, USA

2:30 PM **7B.4 Silicon Crossroads Microelectronics Commons (SCMC) Hub Overview & Capabilities**

Jalen Rollins
ARI, Bloomington, Indiana, USA

2:45 PM **7B.5 Northeast Regional Defense Technology (NORDTECH) Hub Overview & Capabilities**
Huili Grace Xing
Cornell University, Ithica, New York, USA

3:00 PM **BREAK**

SESSION 8A: GALLIUM OXIDE
Chairs: James Spencer Lundh, *U.S. Naval Research Lab*
Peter Ersland, *MACOM*

3:20 PM *Invited Presentation*
8A.1 Current Status of Bulk Ga_2O_3 and $(Al,Ga)_2O_3$ Crystal Growth
Zbigniew Galazka
IKE-Berlin, Berlin, Germany

3:50 PM **8A.2 kV-Class β-Ga_2O_3 Trench Schottky Barrier Diodes: Double Drift Layer Design and Breakdown Analysis**
V. S. Charan, A. K. Bhat, H. Huang, M. D. Smith, J. W. Pomeroy, and M. Kuball
Center for Device Thermography and Reliability, HH Wills Physics Laboratory, University of Bristol, Bristol, United Kingdom

4:10 PM *Student Presentation*
8A.3 Vertical Schottky Barrier Diodes with Optical Floating Zone Growth of β-Ga_2O_3 Single Crystals and Electrical Defect Study
V.L. Ananthu Vijayan[1,2], V. S. Charan[2], C. A. Dawe[3], V. P. Markevich[3], M. P. Halsall[3], A. R. Peaker[3], S. M. Babu[1], and M. Kuball[2]
[1]Crystal Growth Centre, Anna University, Chennai, Inida
[2]Center for Device Thermography and Reliability, HH Wills Physics Laboratory, University of Bristol, Bristol, United Kingdom
[3]Photon Science Institute and Department of Electrical and Electronic Engineering, The University of Manchester, Manchester, United Kingdom

4:30 PM *Student Presentation*
8A.4 Gallium Oxide Trench Schottky Barrier Diodes with Field Plate Edge-Termination
A. K. Bhat, V. S. Charan, M. Smith, and M. Kuball

University of Bristol, Bristol, United Kingdom

SESSION 8B: U.S. MICROELECTRONICS COMMONS HUB SESSION 2

Chairs: Marty Brophy, *Consultant*
Greg Mills, *ANNEALSYS AXR*

3:20 PM **8B.1 Midwest Microelectronics Consortium (MMEC) Hub Overview & Capabilities**
David Via
Midwest Microelectronics Consortium, Beavercreek, Ohio, USA

3:35 PM **8B.2 Southwest Advanced Prototyping (SWAP) Hub Overview & Capabilities**
Jason Conrad
MacroTechnology Works, Tempe, Arizona, USA

3:50 PM **8B.3 California Defense Ready Electronics and Microdevices Superhub (CA DREAMS) Hub Overview & Capabilities**
Rehan Kapadia
University of Southern California, Los Angeles, California, USA

4:05 PM **8B.4 Microelectronics Commons Closing Remarks**
Timothy Morgan
Naval Surface Warfare Center Crane, Crane, Indiana, USA

4:20 PM *Invited Presentation*
8B.5 Compounding Success: Leveraging Semiconductor Collaboration and Innovation to Advance the Technologies of Tomorrow
Susan Feindt
Natcast, USA

5:00 PM **CSM MICROELECTRONICS COMMONS HUB PANEL DISCUSSION**
Moderator: Timothy Morgan
Jefferson Ballroom (Level 3)

6:00 PM **CSM MICROELECTRONICS COMMONS HUB NETWORKING**
Jefferson Ballroom (Level 3)

Thursday, May 22nd

SESSION 9: PLENARY III
Chairs: Jansen Uyeda, *Northrop Grumman*
Yohei Otoki, *Nagoya University*

8:20 AM *Plenary Presentation*
9.1 Drive Green Manufacturing to Shape a Sustainable Future for the Semiconductor Industry
Hui-Hsin Tseng
TSMC, Hsin-Chu, Taiwan

9:05 AM *Plenary Presentation*
9.2 Empowering a Greener Tomorrow: Sustainable SiC Manufacturing at Wolfspeed
GP Gopalakrishnan
Wolfspeed, Dallas, Texas, USA

9:50 AM **BREAK**

SESSION 10A: OPTOELECTRONICS II
Chairs: Sarang Kulkarni, *Google*
Keith Wieber, *Qorvo*

10:20 AM *Invited Presentation*
10A.1 GaN MicroLEDs for Chip-to-Chip Interconnects
Bardia Pezeshki
Avicena, Sunnyvale, California, USA

10:50 AM *Invited Presentation*
10A.2 Technological Advancements in AlGaN-Based Deep Ultraviolet Laser Diodes
Maki Kushimoto
Nagoya University, Nagoya, Japan

11:20 AM **10A.3 Efficient Front-End Manufacturing of High-Quality VCSEL – Enabled by In-Situ and Ex-Situ Optical Metrology During Epi Growth and Processing**
A. Maaßdorf[1], J. K. Zettler[2], M. Brendel[1], A. Renkewitz[1], R.-S. Unger[1], K. Haberland[2], and M. Weyers[1]
[1]*Ferdinand-Braun-Institut (FBH), Berlin, Germany*
[2]*LayTec AG, Berlin, Germany*

11:40 AM *Student Presentation*

10A.4 Single-Mode, Polarization Stable 2D-VCSEL Arrays via Elliptical Disorder-Defined Apertures
K. Pikul, L. Espenhahn, P. Su, M. Kraman, and J. M. Dallesasse
University of Illinois at Urbana-Champaign, Grainger College of Engineering, Department of Electrical and Computer Engineering, Holonyak Micro and Nanotechnology Laboratory, Urbana, Illinois, USA

SESSION 10B: YIELD IMPROVEMENT IN CS MANUFACTURING

Chairs: Mario Faria, *Tignis*
Steve Mahon, *Feldman Engineering*

10:20 AM **10B.1 Mapping Defects in SiC Wafers Using a Multi-Channel Convolutional Neural Network**
J. C. Gallagher, N. A. Mahadik, R. E. Stahlbush, K. D. Hobart, and M. A. Mastro
U.S. Naval Research Laboratory, Washington, D.C., USA

10:40 AM **10B.2 Macro and Micro-Scale Non-Contact Imaging of Electrically Active Extended Defects in Merged PiN Schottky Diode Devices**
F. Faisal[1], N. Steller[1], R. Karhu[2], B. Kallinger[2], G. Polisski[3], M. Wilson[4], A. Savtchouk[4], L. Gutierrez[4], C. Almeida[4], C. Soto[4], B. Wilson[4], D. Marinskiy[4], A. Wincukiewicz[4], and J. Lagowski[4]
[1]*Nexperia, Hamburg, Germany*
[2]*Fraunhofer IISB, Department Materials, Erlangen, Germany*
[3]*Semilab Germany GmbH, Freital, Germany*
[4]*Semilab SDI, Tampa, Florida, USA*

11:00 AM **10B.3 Determination of 4H-SiC Drift Layer Quality with Mercury Probe Capacitance-Voltage (CV) and Current-Voltage (IV) Measurements**
M. G. Coco Jr.[1], F. Ramos[1], B. Kim[1], S. M. Lee[1], D. Hanser[1], R. J. Hillard[2], S. Frey[2], T. MacRae[2], B. Vigh[3], A. Marton[3], G. Zsakai[3], J. Janicsko-Csathy[3], and P. Horvath[3]
[1]*Veeco Instruments Inc., Somerset, New Jersey, USA*
[2]*Semilab USA, Billerica, Massachusetts, USA*
3Semilab, Budapest, Hungary

11:20 AM **10B.4 Characterizing Capacitor Top Plate Bias for More Accurate Electromagnetic Simulations**

P. J. Zampardi[1], Q. Davenport[2], and L. Hayden[2]
[1]Qorvo Inc., Newbury Park, California, USA
[2]Qorvo Inc., Hillsboro, Oregon, USA

11:40 AM **10B.5 End-to-End Yield Management for Compound Semiconductors Manufacturing**
S. Zamek, D. Huntley, and J. Holt
PDF Solutions Inc, Santa Clara, California, USA

12:00 PM **LUNCH ON YOUR OWN**
Lunch not provided

SESSION 11A: OPTOELECTRONICS III
Chairs: John Carlson, *Uviquity*
Herbert Zull, *ams OSRAM Group*

1:20 PM **11A.1 A Hybrid Electron Beam Lithography Approach to Wafer Scale Up of 150mm InP Ridge Lasers**
T. Peach[1], T. Jones[1], B. Salmond[2], S. Thomas[1], E. Beaumont[1], A. Sobiesierski[1], and S. Shutts[2]
[1]Institute for Compound Semiconductors, School of Physics and Astronomy, Cardiff University, Cardiff, United Kingdom
[2]School of Physics and Astronomy, Cardiff University, Cardiff, United Kingdom

1:40 PM *Invited Presentation*
11A.2 Recent Trends in the Manufacturing of InP Photonic Integrated Circuits
Peter Debackere, S. Stockman, D. Casado, V. Lal, P. Evans, S. Maranowski, M. Ziari, J. Zhang, and F. Steranka
Infinera Optical Modules Group, Infinera Corporation, Sunnyvale, California, USA

2:10 PM *Invited Presentation*
11A.3 High Volume Quantum Dot Epitaxial Wafer Manufacturing to Meet Demands of AI Driven Data Centers
Andrew Clark, K. Sautter, and M. Furlong
IQE, Cardiff, United Kingdom

2:40 PM **11A.4 Vertically Integrated Development of AlGaN Based UV Detectors**
R. Kirste[1], P. Reddy[1], W. Mecouch[1], R. Collazo[2], Z. Sitar[1,2]
[1]Adroit Materials Inc., Cary, North Carolina, USA
[2]North Carolina State University, Department of Materials Science & Engineering, Raleigh, North Carolina, USA

SESSION 11B: WAFER PROCESS

Chairs: Dwarka Geerpuram, *Plasma-Therm*
Rathnait Long, *MACOM*

1:20 PM **11B.1 Use of E-beam Lithography to Optimize Lithography Patterning on SiC Wafers**
K. Chen[1], Z. Feng[1], S. Williams[2], R. Van Art[2], A. Ceballos[2], T. Prescop[2], K. MacWilliams[2], Z. Chen[1]
[1]University of Arkansas
[2]Multibeam Corp

1:40 PM **11B.2 Optimized Resistor Layer Photolithography Scheme with Dose Compensation for High Resistance Uniformity of Reactively Sputtered TaN Thin Film**
S. Y. Chang, T. Brown, R. Bryie, R. Lee, and N. Ebrahimi
Skyworks Solutions, Inc., Newbury Park, California, USA

2:00 PM **11B.3 Evaluation and Modeling of Low Value Comb Resistors**
P. J. Zampardi[1], Q. Davenport[2], and L. Hayden[2]
[1]Qorvo Inc., Newbury Park, California, USA
[2]Qorvo Inc., Hillsboro, Oregon, USA

2:20 PM **11B.4 Towards Determining the Optimal Ion Implantation Temperature & Beam Current, Annealing Temperature & Time, in SiC Device Manufacturing**
V. Boldrini[1], M. Canino[1], M. Pieruccini[1], R. Chebi[2], and J. A. Turcaud[2]
[1]CNR Institute for Microelectronics and Microsystems, Bologna, Italy
[2]Coherent Corp., San Jose, California, USA

2:40 PM *Student Presentation*
11B.5 Emitter Ledge Effect on Current Gain of Sub-Micron Type-II InP DHBT
Z. Liu[1], Y. He[1], H. Wu[1], H. Xu[2], and M. Feng[1]
[1]Department of Electrical and Computer Engineering & Nick Holonyak Micro and Nanotechnology Laboratory, University of Illinois at Urbana-Champaign, Urbana, Illinois USA
[2]Skyworks Solutions, Newbury Park, California, USA

SESSION 12: POSTER SESSION

Chairs: Patrick Holly, *Northrop Grumman*
Marty Brophy, *Consultant*
Chuanxin Lian, *Qorvo*
Winston Parker, *Wolfspeed*
Andy Carter, *Northrop Grumman*

3:00 PM *Student Presentation*
12.1 Impact of P Doping on Properties of ZnCdTe Thin Films Grown by Molecular Beam Epitaxy on GaAs(100) Substrates for Photovoltaic Applications
E. V. Sule, M. Mustofa, K. Saito, Q. Guo, and T. Tanaka.
Saga University, Saga, Japan

Student Presentation
12.2 Crystallographic Dependency of β-Ga_2O_3 Nitridation via RF Nitrogen Plasma for GaN Heteroepitaxy
J. I. Stavehaug[1,2], G. R. Czajkowski[2], M. M. Landi[1], F. P. Kelly[1], and K. Kim[1,2]
[1]*Department of Electrical and Computer Engineering, University of Illinois at Urbana-Champaign, Urbana, Illinois, USA*
[2]*Department of Materials Science and Engineering, University of Illinois at Urbana-Champaign, Urbana, Illinois, USA*

Student Presentation
12.3 Silicon Nitride Shadowed Selective Area Growth as a Device Processing Method for Heteroepitaxy of GaN on β-Ga_2O_3
G. R. Czajkowski[1], J. I. Stavehaug[1,2], F. P. Kelly[2], M. M. Landi[2], K. Kim[1,2]
[1]*Department of Materials Science and Engineering, University of Illinois at Urbana-Champaign, Urbana, Illinois, USA*
[2]*Department of Electrical and Computer Engineering, University of Illinois at Urbana-Champaign, Urbana, Illinois, USA*

12.4 EPD Is More Than a Number – Tackling Dislocation Density Assessment in Low Defect, Large Diameter GaAs and InP Wafers
S. Eichler, T. Milek, U. Kretzer, F. Börner, and D. Deutsch
Freiberger Compound Materials GmbH, Freiberg, Germany

Student Presentation
12.5 Low Ohmic Contact Resistances for RF GaN HEMTs with $Al_{0.36}Ga_{0.64}N$ Barrier
H. Yazdani, H.-J. Würfl, F. Brunner, and O. Hilt

Ferdinand-Braun-Institut für Höchstfrequenztechnik (FBH), Berlin, Germany

12.6 Off-Axis Sputtering Fabrication of ITO Contact Layers for pGaN

L. E. Nistor[1], N. Coudurier[2], A. Lardeau-Falcy[2], J. Simon[2], S. Altazin[2], S. Poncet[2], V. Chambinaud[2], B. Dey[2], J. Machillot[3], H. Boukhalfa[1], and G. Rodriguez[2]
[1]*Applied Materials, Bernin, France*
[2]*CEA LETI, Minatec, Univ. Grenoble Alpes, Grenoble, France*
[3]*Applied Materials, Leuven, Belgium*

Student Presentation

12.7 Regrowth-Free 1st-order Gratings for Photonic Integrated Circuits using Focused Ion Beam Nanofabrication and Electron Beam Lithography

B. Salmond[1], T. Peach[2], S. Thomas[2], S-J. Gillgrass[1], D. D. John[3], W. J. Mitchell[3], B. J. Thibeault[3], M. J. Wale[4], W. Meredith[5], P. M. Smowton[1,2], D. Read[1,3] and S. Shutts[1,2]
[1]*School of Physics and Astronomy, Cardiff University, Cardiff, United Kingdom*
[2]*Institute for Compound Semiconductors, Cardiff University, Cardiff, United Kingdom*
[3]*Department of Electrical and Computer Engineering, University of California Santa Barbara, Santa Barbara, California, USA*
[4]*Department of Electronic and Electrical Engineering, University College London, London, United Kingdom*
[5]*Compound Semiconductor Centre Ltd, Cardiff, United Kingdom*

12.8 Reducing Fluorocarbon Usage in Resistor Layer SiNx Etch

M. J. Miller and A. Zeeshan
Skyworks Solutions Inc., Woburn, Massachusetts, USA

Student Presentation

12.9 Low Damage Chlorine-Based Dry Etch for Fabrication of Ga_2O_3 FinFETs and Trench Diodes

X. Zhai[1], Z. Wen[2], J. Burnett[4], J. Mitchell[4], C. Bolton[4], K. Roberts[4], E. Walsby[4], H. Ashraf[4], R. L. Peterson[1,2] and E. Ahmadi[3]
[1]*Department of Electrical Engineering and Computer Science, University of Michigan, Ann Arbor, Michigan, USA*
[2]*Department of Material Science and Engineering, University of Michigan, Ann Arbor, Michigan, USA*

[3]*Department of Electrical and Computer Engineering, University of California, Los Angeles, Los Angeles, California, USA*
[4]*KLA Corporation (SPTS Division), Newport, United Kingdom*

12.10 Improvements in Photoresist Strip Process in RF Power Transistors
D. Lee, T. N. Walter, G. Castejon Cruz, J. Wu, A. Frimel, S. Harrell, E. Woodard, and P. A. Potyraj
Advanced Technology Laboratory (ATL), Northrop Grumman Mission Systems – Microelectronics Center, Linthicum, Maryland, USA

12.11 Reconfiguration of CMP Tools for BEOL Processing Of Compound Semiconductor (III-V Microsystems) Devices
J. Zabasajja[1], G. Candia[1], E. Osuna[1], K. Miles[1], L. Borucki[2], Y. Sampurno[2], and A. Philipossian[2]
[1]*HRL Microelectronics Laboratory, Malibu, California, USA*
[2]*Araca Incorporated, Tucson, Arizona, USA*

12.12 Enabling High Aspect-Ratio Interconnects for Advanced Packaging of MEMS and Sensors
S. Harris[1], D. Lindblad[1], M. Guilmain[2], X. Gaudreau-Miron[2], A. Wang[1], A. Dameron[1], I. Stateikina[2], and M. Weimer[1]
[1]*Forge Nano, Thornton, Colorado, USA*
[2]*C2MI, Bromont, QC, Canada*

12.13 GaN Epitaxy Dislocation Identification by Molten KOH Etching
Y.-S. Chen, B.-T. Lu, Y.-C. Yeh, C.-J. Lin, and K.-S. Cho
WIN SEMICONDUCTORS, Taoyuan City, Taiwan

12.14 Root-Cause Analysis and Reduction of Crater Defect Formation for GaAs Wafers During Backside Processing
R. Newman, T. Hossain, F. Narcia, T. Ma, and A. Zeeshan
Skyworks Solutions Inc., Woburn, Massachusettes, USA

12.15 Improving Wafer Breakage Through Peak Cooling Rate Reduction on Lithium Niobate Substrates
D. Allen and A. Bharathi
Qorvo US Inc., Greensboro, North Carolina, USA

12.16 Electron-Beam Deposition with Low Spitting Silver Source Material Improved by New Impurity Removal Processes
Y. Fujimoto[1], T. Kobayashi[1], M. Koyama[2], and Y. Shindo[1]
[1]Technical Development Division, Matsuda Sangyo Co., Ltd., Shinjuku-ku, Tokyo, Japan
[2]Nanomaterials Microdevices Research Center, Osaka Institute of Technology, Asahi-ku, Osaka, Japan

12.17 Development of Cap Layers for High Temperature Pulse Annealing of GaN
I. Ostermay, N. Thiele, A. Koyucuoglu, P. Paul, A. Thies, F. Brunner and O. Krueger
Ferdinand-Braun-Institut (FBH), Berlin, Germany

12.18 0.25µm GaN on Silicon HEMT Technology for RF Application
H.-C. Lin, T.-P. Chen, K.-Y. Chen, K.-H. Wang, G.-Y. Lee, A. C.-L. Hou, H.-C. Chiu, and B. J. F. Lin
Wavetek Microelectronics Corp., Hsinchu, Taiwan

Student Presentation
12.19 kV-class Vertical p-n Heterojunction Rectifier Based on ITO/Diamond
H.-H. Wan[1], C.-C. Chiang[1], J.-S. Li[1], F. Ren[1], and S. J. Pearton[2]
[1]Department of Chemical Engineering, University of Florida, Gainesville, Florida, USA
[2]Department of Materials Science and Engineering, University of Florida, Gainesville, Florida, USA

CONFERENCE CLOSING
Chairs: Jansen Uyeda, *Northrop Grumman*
Shawn Burnham, *DCS Corp*

4:00 PM **Development of Large Area Substrate Transferred Aluminum Gallium Arsenide Coated Mirrors for Future Gravitational Wave Detectors**
Gregg Harry
LIGO Scientific Collaboration
American University, Washington DC, USA

4:30 PM **Closing Reception**
Shawn Burnham, *DCS Corp*
Conference Chair

HOTEL INFORMATION

The 2025 conference will be located at the Hilton New Orleans Riverside from Monday, May 19th to Thursday, May 22nd, 2025. The hotel is easily accessible from the Louis Armstrong New Orleans International Airport (MSY), which is about 15 miles or 20 to 30 minutes away.

The hotel offers self- and valet parking for guests and visitors in dedicated lots. Handicap parking is available at the front entrance of the hotel. EV charging is available nearby.

The fitness center at the hotel is called the HealthClub by Hilton. There is a daily fee associated with the HealthClub.

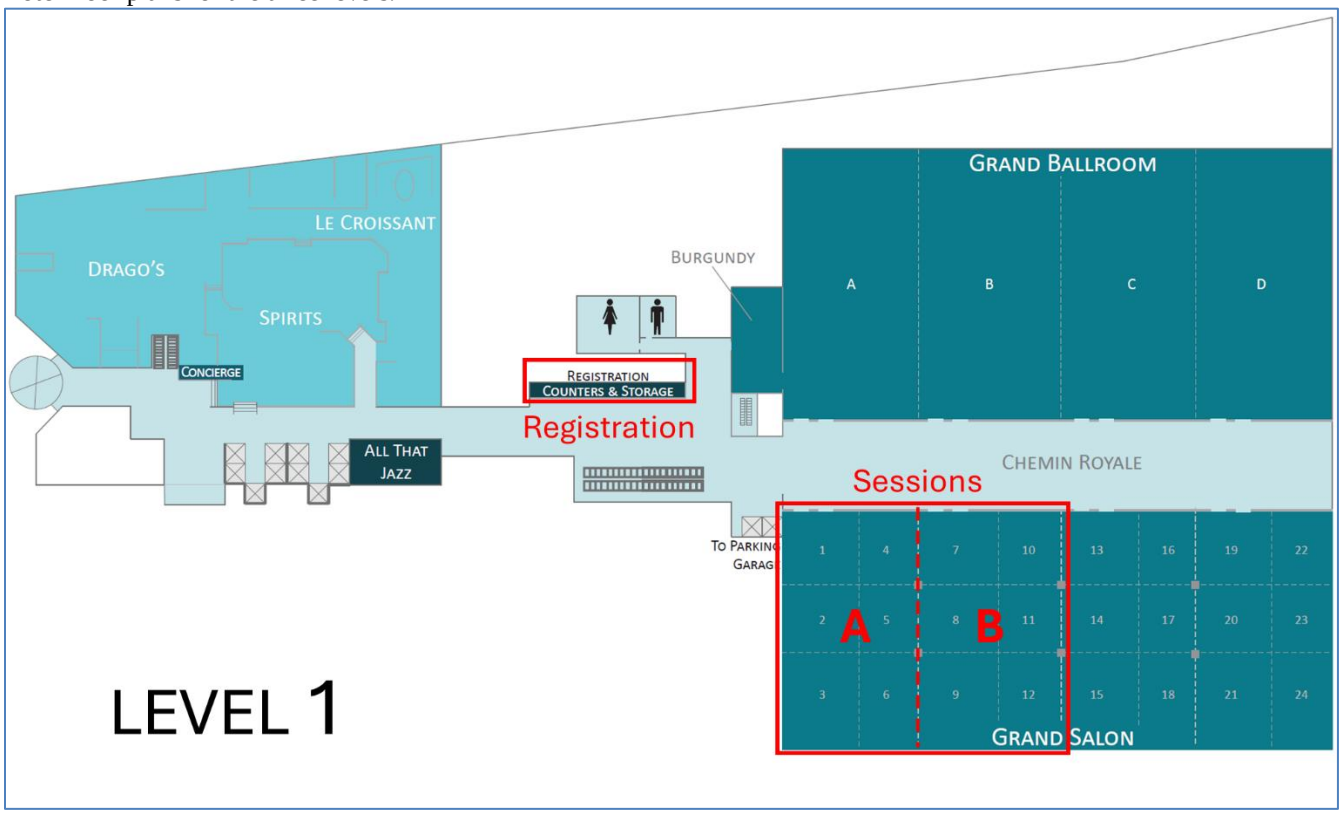
Uber and Lyft pickup and drop off are located right outside the hotel front door.

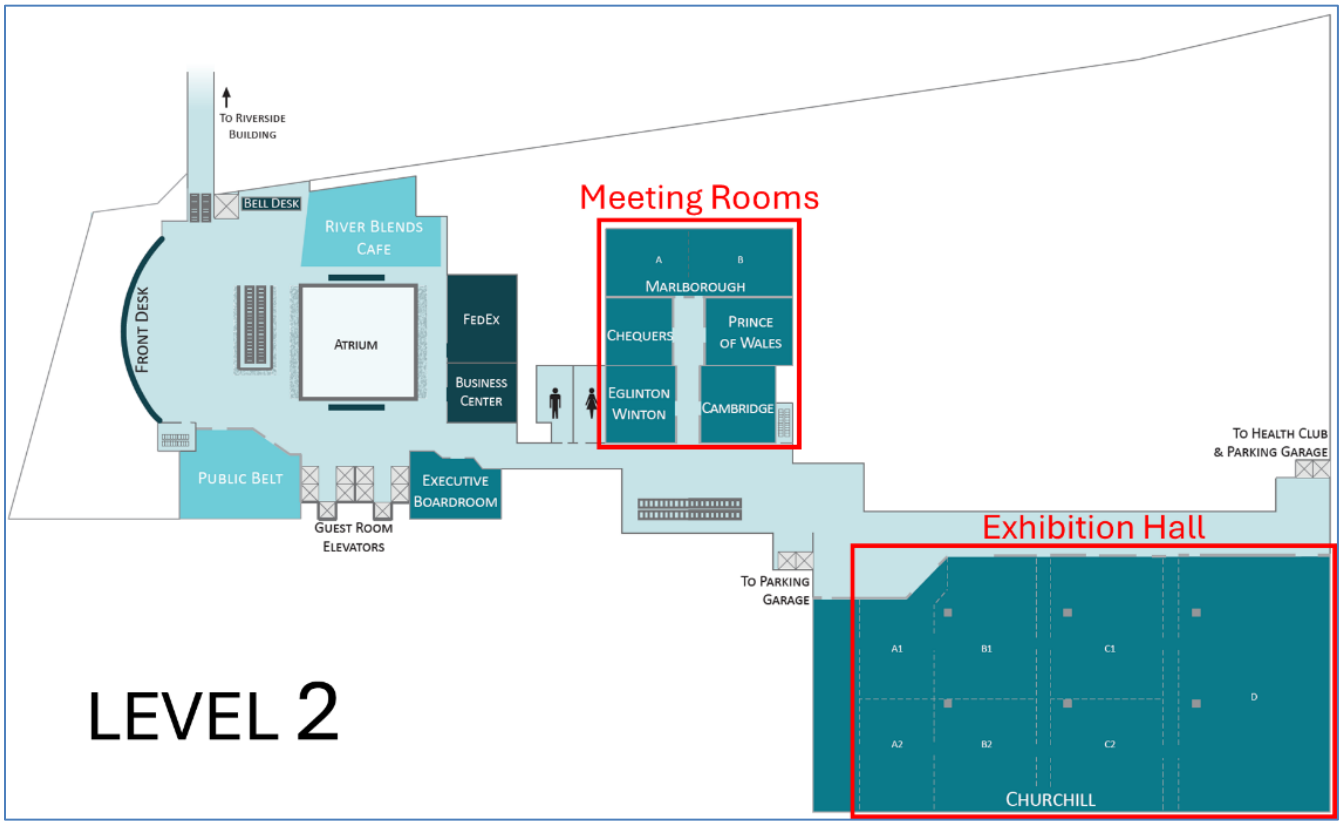
The CS MANTECH hotel registration website is at
The Hilton New Orleans Riverside Welcomes CS MANTECH

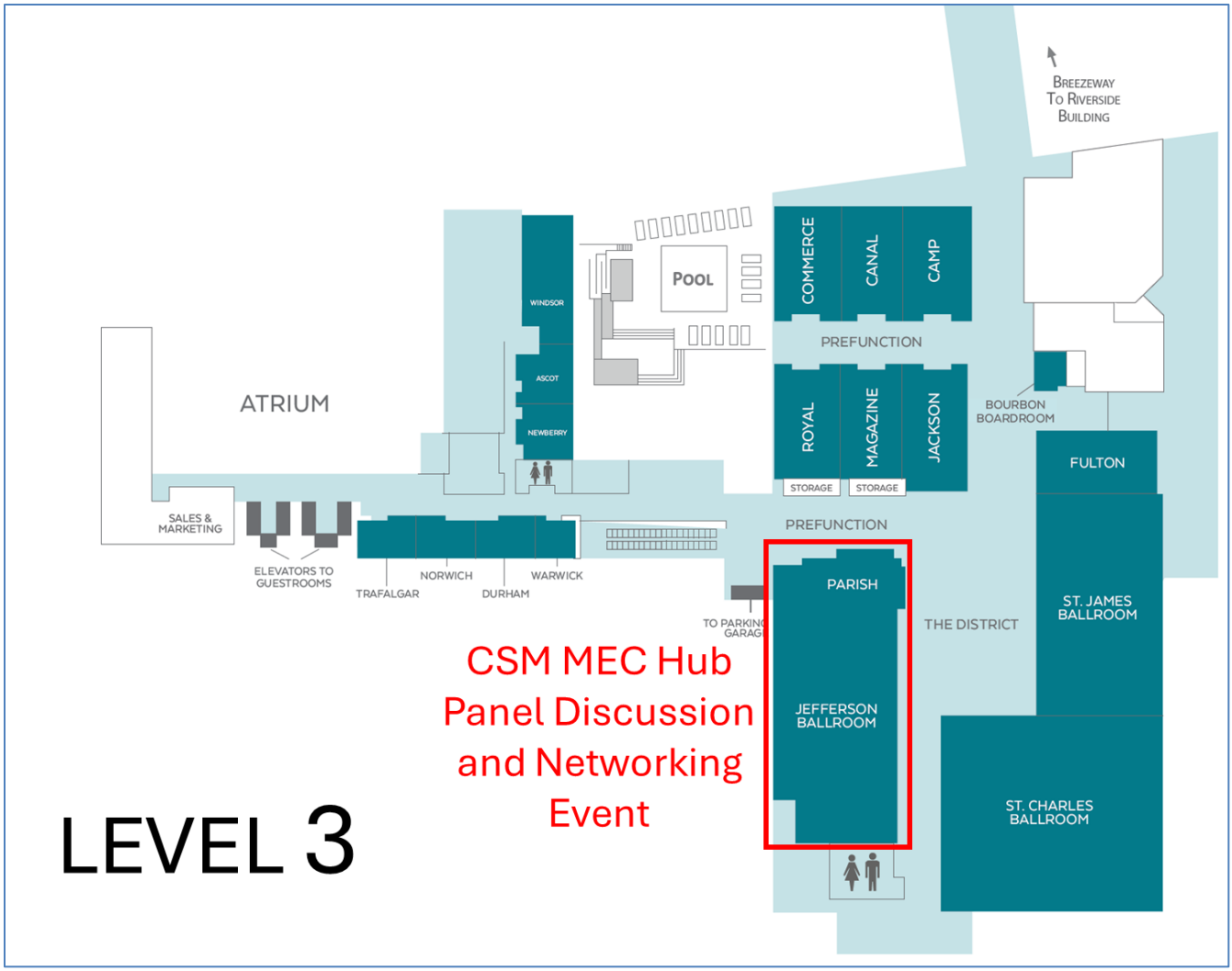
FINANCIAL ASSISTANCE

CS MANTECH encourages presentations and participation by academic delegates. To support this participation, limited funding is available to support travel and conference attendance by student presenters. Requests will be considered on a first-come, first-served basis. Please contact the CS MANTECH University Liaison at student.aid@csmantech.org for details regarding the guidelines and requirements for applying for financial assistance.

Hotel floor plans for the three levels:



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JACKSON
STORAGE
STORAGE
BOURBON
BOARDROOM
FULTON
SALES &
MARKETING
PREFUNCTION
ELEVATORS TO
GUESTROOMS
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