

GaN Marathon 2.0, April 18-19, 2018, Padova (Italy) – TECHNICAL PROGRAM

Wednesday, April 18 2018

Keynote session

13:30	Welcome and opening		
13:45	Stacia Keller	UCSB	High power and high efficiency N-polar MISHEMTs operating between 4 and 94 GHz
14:15	Huili Grace Xing	Cornell	Vertical GaN-on-GaN Power Diodes and Resonant Tunneling Diodes
14:45	Tomas Palacios	MIT	Fin-based GaN RF and Power Devices

GaN: growth and RF devices

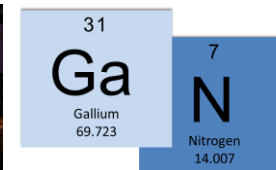
15:15	Oliver Ambacher	Fraunhofer IAF	ScAlN: a novel piezoelectric material?
15:35	Farid Medjdoub	iemn-Lille	Current status and challenges of millimeter-wave GaN transistors

15:55 Coffee break

16:20	Alessio Pantellini	Leonardo	Modern and Future Gallium Nitride Technologies for High Power, High Frequency and High Reliability Radar Applications
16:40	Marianne Germain	EPIGAN	Large Diameter GaN-on-Si and GaN-on-SiC wafers enabling 5G
17:00	James Pomeroy	Univ. Bristol	GaN-on-diamond for next generation high power microwave electronics
17:20	Piero Gamarra	III-V LABS	InAl(Ga)N/GaN HEMTs on SiC Technology for Ka and Q band Applications
17:40	Michael Heuken	AIXTRON	Current Status of GaN MOCVD Production Technology

18:15 Visit of Botanical Garden

19:30 Poster session & Dinner (Sala delle Colonne, Conference Center)



Thursday, April 19 2018 -MORNING

Power GaN devices I

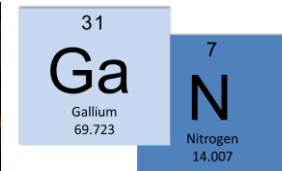
08:30	Herbert Pairitsch	Infineon	Power GaN from PowerBase: ready for take off
08:50	Oliver Haeberlen	Infineon	GaN Power Technology – Enabling Ultimate Efficiency and Power Density in Power Conversion
09:10	Steve Stoffels	imec	GaN device architectures enabled by next generation substrates
09:30	Frank Altmann	Fraunhofer IMWS	Failure analysis methods and use cases for GaN devices
09:50	Matteo Meneghini	Univ. Padova	Challenges towards highly reliable GaN transistors
10:10	Marc Plissonnier	LETI	Performance enhancement of Gold-free / CMOS compatible AlGaN/GaN Schottky Barrier Diodes on 200mm Silicon wafers

10:30 Coffee break

High performance/high reliability devices

10:50	Peter Moens	ON Semiconductor	A Physical-Statistical Approach to pGaN Gate Reliability
11:10	Elke Meissner	Fraunhofer IISB	Possibilities and challenges in investigating materials defects and their influence on electrical performance of GaN devices
11:30	Joachim Wuerfl	FBH	Mechanical Strain Engineering for Optimizing mm-Wave GaN Devices
11:50	Giorgia Longobardi	Cambridge University	On the stability of GaN High Voltage devices: a review of the work done at Cambridge Univ.
12:10	Jr-Tai Chen	Swegan	A revolutionary GaN-on-SiC epitaxy for high-frequency power transistors

12:30 Lunch & Poster session



Thursday, April 19 2018 - AFTERNOON

GaN Optoelectronics

14:00	Roland Zeisel	OSRAM OS	Challenges along the efficiency curve of InGaN LEDs
14:20	Sven Einfeldt	FBH	Improving the efficiency and reliability of UV LEDs
14:40	Lutz Gelhaar	Paul Drude Institute	Molecular beam epitaxy of GaN nanowires on flexible metallic substrates
15:00	Carlo De Santi	Univ. Padova	Electrically- and Optically-driven Degradation Processes in InGaN-based Photodetectors
15:20	Ulrich Schwarz	TU Chemnitz	(Al,In)GaN Laser Diode Dynamics
15:40	Piotr Perlin	Unipress	Nitride superluminescent diodes and optical amplifier

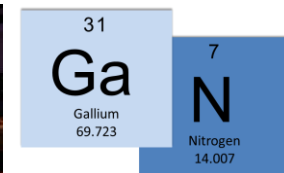
16:00 Coffee break

Power GaN devices II

16:20	Iain Thaine	Univ. Glasgow	The UK PowerGaN Project
16:40	Andreas Waag	TU Braunschweig	3D GaN architectures: from microLEDs to vertical electronics
17:00	Alessandro Chini	Univ. Modena Reggio Emilia	Experimental and numerical evaluation of VTH and RON drifts in GaN HEMTs during pulsed-mode operation
17:20	Ferdinando Iucolano	ST Microelectronics	Normally-off GaN MOS-HEMTs on 150mm Si substrates
17:40	Benoit Bakeroot	Univ. Gent	TCAD Methodology for Simulation of GaN Power Devices: A Review

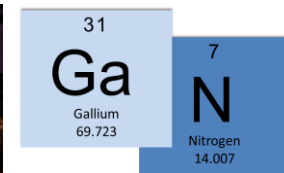
18:00 Wrap-up

20:00 Speaker's dinner

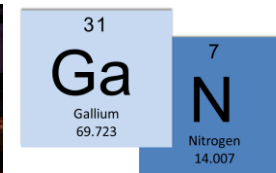


Poster session

Alessandro Barbato Mamadou Lamine Beye	Univ. di Padova INSA Lyon	On-Wafer Application Testing for 600 V E-mode GaN HEMTs in Boost Regime Toward an active gate driver for current speed control of GaN Transistor during Turn-on
Matteo Borga	Univ. of Padova	Analysis of the Drain-to-Substrate Leakage of Power HEMTs Grown on Highly Resistive Silicon Substrate
Gabriele Calabrese	Paul-Drude-Institut für Festkörperelektronik, Leibniz-Institut	Control of Interfacial Reactions During the Molecular Beam Epitaxy of GaN Nanowires on Ti Layers Sputtered on Al ₂ O ₃ (0001)
Lina Cao Aleš Chvála	University of Notre Dame Slovak University of Technology	Low-Loss Coplanar Waveguides on GaN-on-Si Substrates for MMICs 3-D Device Electrothermal Simulation for Analysis of Multifinger Power HEMTs
Malika Elharizi	SATIE, IFSTTAR	Investigations on Dynamic On-Resistance of GaN Power Transistors during Switching Cycles
Mariam El-Khatib	INSA Lyon	Deep traps in normally-off AlGaIn/GaN MIS-high electron mobility transistor structures grown on Si substrates
Muhammad Fahlesa Fatahilah	LENA IHT TU Braunschweig	Nanomechanical characterization of vertically aligned GaN nanopillars
Valentin Garbe	Institute of Experimental Physics, TU Bergakademie Freiberg	Contact formation of Au-free ohmic Ti/Al/TiN contacts to UID n-GaN
Asier Garcia-Bediaga	IK4-IKERLAN Technological Research Center	Performance Analysis of GaN Devices in Compact Power Applications
Filip A. Geenen	Ghent University	Ti/Al/TiN Ohmic contacts formation on GaN-based heterostructures with different nitride barriers
Dagmar Gregušová	Institute of Electrical Engineering Slovak Academy of Sciences	Threshold voltage controllability and stability in InGaIn/AlGaIn/GaN MOS HEMTs
Sayak Dutta Gupta	Indian Institute of Science	Approaches Towards High Performing E-Mode GaN HEMTs and GaN Schottky Diodes
Rico Hentschel	Namlab gGmbH	(Pseudo-) vertical GaN MOSFETs fabricated on different substrates



Jorge Herrero	University of Zaragoza, 4Fores	GaN Devices and Transformer Design in High Frequency Power Applications
Lars Heuken	IMS CHIPS	Localization and modelling of surface charging effects in AlGaIn/GaN HEMTs using sub- μm multi gates
C.W. Hsu	Linköping University	Polarization controlled photon emitters from elongated III-nitride pyramidal quantum dots
Xavier Jordà	Centre Nacional de Microelectrònica of CSIC	Thermal Characterization of SMD Packaged 650V GaN HEMTs Assembled in PCB Board
Simon Liebing	TU Bergakademie Freiberg	Fermi-Löwdin-orbital-SIC calculations of finite size GaN clusters
Liverios Lymperakis	Max-Planck-Institut für Eisenforschung GmbH	Effect of surface reconstruction and rehybridization on the compositional limits of III-Nitride ternary alloys
Juraj Marek	Slovak University of Technology in Bratislava	Degradation of p-GaN HEMTs exposed to clamped inductive switching
Luca Maresca	Univeristà di Napoli Federico II	Analysis of Field Plate technique applied to enhance Breakdown Voltage in β -Ga ₂ O ₃ MOSFETs
Franklin L Nouketcha	University of Maryland College Park	Simulation Aided Detailed Analysis of GaN HEMTs
Bartłomiej K. Paszkiewicz	Wrocław University of Science and Technology	Novel piezoelectric transducer fabricated in AlGaIn/GaN heterostructure for acoustic field forming
Georges Pavlidis	Georgia Institute of Technology	Thermal characterization of GaN HEMTs via optical and electrical methods
Michele Riccio	University of Napoli Federico II - DIETI	Short-circuit electrothermal behavior of new generation E-mode pGaIn power HEMTs
Jean Rottner	Univ. Grenoble Alpes, CEA- LETI, Minatec Campus	<i>Field effect UV m-LEDs: a new concept</i>
Maria Ruzzarin	Univ. of Padova	Study of the stability of GaN-HEMTs with p-type Gate under Forward Gate Bias
Dario Schiavon	TopGaN s.p.z o.o.	Matrix of multi-color light-emitting diodes for compact displays
Tom Schneider	TU Bergakademie Freiberg	High temperature vapor phase epitaxy for the growth of GaN layers on sapphire substrates
Bhawani Shankar	Indian Institute of Science, DESE, IISc-Bangalore	What All We Understand About Safe Operating Area Reliability of GaN HEMT



Pirouz Sohi	EPFL SB IPHYS LASPE	Alloy disorder limited electron mobility of InGaN based two-dimensional electron gases
Ankit Soni	Indian Institute of Science, Bangalore, India	Advances in Computational Modeling and TCAD Analysis of AlGaIn/GaN HEMT
Arno Stockman	ON Semiconductor, Universiteit Gent - CMST	Conduction Mechanisms in p-Gate AlGaIn/GaN High-Electron-Mobility Transistors
Klaas Strepel	Technische Universität Braunschweig Institut für Halbleitertechnik	3D GaN fin arrays for vertical field-effect transistors
Lukas Uhlig	TU Chemnitz	Characterization of longitudinal mode dynamics during short pulse operation of green laser
Peng Xiang	Enkris Semiconductor	Growth of III-Nitrides PIN Diodes on Large Size Si Substrates for Power and Display
Hady Yacoub	Compound Semiconductor Technology	Dynamic Characterization of GaN-on-Si HFET Structures Using Back-Gate Measurements
Feng Yu	Technische Universität Braunschweig	Vertical GaN nanowire field-effect transistors

