GaN marathon 2026

UNIVERSITÀ DI PADOVA
Dipartimento
di Ingegneria
dell'Informazione

GaN Marathon 2026

June 7th - 10th, Florence, Italy

FULL TABLE PROGRAM

MONDAY 8th, JUNE 2026

9:00	9:30	**Opening (Matteo Meneghini, General Chair)**					
		Innovation on III-N device fabrication and characterization					
9:30	10:00	KN01	Keynote Talk	Hiroshi	Amano	Nagoya University	Emerging Functionalities in Nitride Semiconductors Enabled by Ferroelectric Materials
10:00	10:30	KN02	Keynote Talk	Umesh	Mishra	UCSB	The many faces of GaN
10:30	10:50	IN19	Invited Talk	Nicolas	Grandjean	EPFL	TBD
10:50	11:00	CR28		Jonas	Lähnemann	Paul-Drude-Institut für Festkörperelektronik	The UV-C challenge: Insights from spatio- and time-resolved cathodoluminescence spectroscopy
11:00	11:10	OP03		Rintaro	Kobayashi	Meijo University	Growth-Temperature Dependence and Physical Origin of Optical Gain in AlGaN-Based UV-B Laser Diodes
11:10	11:30	**Coffee Break + POSTER SESSION 1**					
		Advanced research in III-Nitrides (including ASPIRE session)					
11:30	11:40	CR37	ASPIRE Talk	Manuel	Fregolent	Università degli Studi di Padova	Development and characterization of p-channel FETs on low-doped p-GaN with advanced Ohmic contacts
11:40	12:00	IN15	ASPIRE Invited Talk	Tomas	Palacios	MIT	GaN Technologies to Enable Back-Side Power Delivery
12:00	12:20	IN21	ASPIRE Invited Talk	Martin	Kuball	Bristol University	Pathways for >3kV power devices: Opportunities in AlGaN and Gallium Oxide
12:20	12:40	IN09	ASPIRE Invited Talk	Matteo	Meneghini	Università degli Studi di Padova	Impact Ionization in GaN HEMTs: Experimental Analysis and Reliability Implications
12:40	12:50	GF36	ASPIRE Talk	Jimy	Encomendero	Cornell University	Resonant Tunneling Transport in GaN/AlN Multiple Barrier Heterostructures
12:50	13:00	GF14	ASPIRE Talk	Aias	Asteris	Cornell University	High Mobility Multiple-Channel AlScN/GaN Heterostructures
13:00	13:20	IS01	Invited Talk	Kolja	Haberland	LayTec AG	Connected metrology - in-situ and ex-situ metrology during front-end fabrication of GaN based vertical and lateral transistor structures
13:20	14:20	**Lunch Break 1 + POSTER SESSION 1**					
		Novel/optimized material properties and device structures					
14:20	14:30	GF03		Enrico	Brusaterra	Ferdinand Braun Institut	Vertical GaN Trench MOSFETs Under Dynamic Switching Stress
14:30	14:50	IN04	Invited Talk	Stefano	Leone	Fraunhofer IAF; Epitaly	Beyond Conventional MOCVD: precursor chemistry unlocks next-generation nitrides HEMTs
14:50	15:10	IN12	Invited Talk	Simon	Fichtner	University Kiel	Spontaneous Polarization and Ferroelectrictiy in III-N Semiconductors
15:10	15:20	GF23		Shumeng	Yan	Nagoya university	High-Gain AlGaN/InGaN DHBTs Enabled by Mg/GaN Annealing-induced Suppression of Surface Recombination
15:20	15:40	IN13	Invited Talk	Åsa	Haglund	Chalmers University	Are photonic crystal surface emitting lasers perfect lasers or lasers for perfectionists?
15:40	16:00	IN07	Invited Talk	Motoaki	Iwaya	Meijo University	AlGaN UV-B Laser Diodes for Industrial Applications: Realization of Sharp Heterointerfaces via Low-Temperature MOVPE Growth
16:00	16:20	IN14	Invited Talk	Mitsuru	Funato	Kyoto University	Blue to red micro-LEDs
16:20	16:40	**Coffee Break + POSTER SESSION 1**					
		Industrial perspective and advanced characterization					
16:40	17:00	IN09	Invited Talk	Shigefusa	Chichibu	Tohoku University	Causes and countermeasures for the operation-induced power degradation issues in 275-nm-band AlGaN-based MQW LEDs
17:00	17:20	IN03	Invited Talk	Ulrich	Schwarz	TU Chemnitz	Far-field and mode prediction in photonic crystal surface emitting lasers (PCSELs)
17:20	17:30	OP12		Sven	Gerhard	ams OSRAM	Next-Gen high-power blue and green GaN lasers
17:30	17:50	IS06	Invited Talk	Ferdinando	Iucolano	STMicroelectronics	Impact of a C-related Buffer traps on 650V GaN HEMTs: Correlation between dynamic RON drift and COSS/QOSS behavior
17:50	18:10	IS05	Invited Talk	Nicola	Modolo	Infineon Technologies Austria AG	From Regression Analysis in GaN HEMTs towards Voltage Proliferation and Aging Models
18:10	18:30	IS03	Invited Talk	Raoul	Joly	Beneq	Impact of Atomic Layer Deposition Surface Passivation on the Electrical Performance of p-GaN HEMT Devices

TUESDAY 9th, JUNE 2026

		Exploiting III-N properties for improved performance and reliability 1 (including ASPIRE session)					
8:30	8:40	OP13		Francesco	Piva	Università degli Studi di Padova	Origin of the positive ageing in 265 nm UV-C LEDs and its TCAD modeling
8:40	9:00	IN18	Invited Talk	Tim	Wernicke	TU Berlin	TBD
9:00	9:20	IN17	Invited Talk	Maki	Kushimoto	Nagoya University	Recent Progress in AlGaN-Based Deep UV Laser Diodes
9:20	9:40	IS07	Invited Talk	Thomas	Filz	ams OSRAM	µLED-applications in automotive, visualization and communication
9:40	10:00	IN23	ASPIRE Invited Talk	Debdeep	Jena	Cornell University	TBD
10:00	10:10	GF16	ASPIRE Talk	Yidi	Yin	University of Bristol	Temperature dependent electrical characteristics of ultrawide bandgap high Al-content AlGaN electronics
10:10	10:20	CR40	ASPIRE Talk	Ambra Maria	Vianello	Università degli Studi di Padova	Characterization and Modeling of Vertical Diodes with AlGaN-Based p-type Distributed Polarization Doping
10:20	10:30	GF26	ASPIRE Talk	Yingying	Lin	Nagoya University	Study of Beryllium Acceptor States in Aluminum Nitride Through Cathodoluminescence Analysis
10:30	10:40	GF20	ASPIRE Talk	Yu-Hsin Cindy	Chen	Cornell University	Shubnikov-de Haas oscillations of two-dimensional electron gases in AlYN/GaN and AlScN/GaN heterostructures
10:40	11:00	**Coffee Break + POSTER SESSION 2**					
		High efficiency/high frequency devices and modeling					
11:00	11:10	MS13		Pierpaolo	Palestri	University of Modena and Reggio Emilia	Modeling AlGaN/GaN HEMTs degradation due to hot carrier injection in the passivation layer
11:10	11:30	IN16	Invited Talk	Elison	Matioli	EPFL	Leading edge roadmap for GaN devices
11:30	11:50	IN06	Invited Talk	Nadine	Collaert	imec	RF GaN Today: Maturity, Momentum, and What Comes Next
11:50	12:00	CR09		Nicolò	Zagni	University of Modena and Reggio Emilia	Dispersion Effects in 0.25µm GaN RF HEMTs Integrating Ultra-Thin InGaN Back-Barrier
12:00	12:20	IN08	Invited Talk	Chris	Van de Walle	UCSB	Role of defects and impurities in efficiency and degradation of nitride devices
12:20	13:20	**Lunch Break 2 + POSTER SESSION 2**					
		Innovation on Wide and Ultra Wide Bandgap Devices					
13:20	13:30	MS14	ASPIRE Talk	Jia	Wang	Nagoya University	Thickness-Dependent Thermal Annealing of Magnesium on Gallium Nitride: Mechanisms on Barrier Modulation and Carrier Transport
13:30	13:50	IN22	ASPIRE Invited Talk	Huili Grace	Xing	Cornell University	AlN XHEMTs – a new kid on the block
13:50	14:10	IN11	Invited Talk	Siddharth	Rajan	Ohio State University	High-Performance Ultra-Wide Bandgap AlGaN Transistors
14:10	14:20	CR13		Luca	Mazzone	EPFL	A 3.9 kV GaN-on-Si Polarization Superjunction SBD with Low Specific On-Resistance and Repeatable OFF-State up to 150°C
14:20	14:30	CR39		Agnieszka	Corley-Wiciak	European Synchrotron Radiation Facility	Operando and multimodal X-ray microscopy of strain and electromechanical coupling in GaN-on-Si HEMTs
14:30	14:40	RF03		Hakan Cankat	Gur	EPFL	Displacement-Field-Enhanced GaN HEMTs with fT/fMAX = 220/420 GHz for Efficient Amplification at W-Band and Beyond
16:40	19:00	**POSTER SESSION 3 (Fornace Sammontana)**					
20:00	-	**CONFERENCE NETWORKING DINNER (Fornace Sammontana)**					

WEDNESDAY 10th, JUNE 2026

		Exploiting III-N properties for improved performance and reliability 2 (including ASPIRE session)					
9:00	9:10	CR02	ASPIRE Talk	Minyeong	Kim	University of Bristol	Post-Etch H3PO4 Surface Treatment for Reliability Enhancement in β-Ga2O3 Trench Schottky Barrier Diodes
9:10	9:30	IN20	ASPIRE Invited Talk	Srabanti	Chowdhury	Stanford University	GaN power electronics for new applications
9:30	9:50	IN02	ASPIRE Invited Talk	Samuel	Graham	University of Maryland	Thermal Management of AlGaN UWBG Devices for Next-Generation RF Applications
9:50	10:10	IN01	Invited Talk	Tetsuo	Narita	Toyota Central R&D Labs., Inc.	Control of Positive and Negative Bias Instability in GaN MOSFETs Using Crystalline AlN Interfacial Layer Technology
10:10	10:30	IN05	Invited Talk	Patrick	Fay	University of Notre Dame	Impact Ionization in Ultra-Wide Band Gap III-Ns: Measurement and Device Implications
10:30	10:50	**Coffee Break**					
		Optimizing and exploiting material properties for advanced reliability					
10:50	11:00	OP05	ASPIRE Talk	Pierce	Lonergan	Cornell University	AlScN as an Electron Blocking Layer in Blue Light-Emitting Diodes: A First Look
11:00	11:20	IS04	Invited Talk	Kazutada	Ikenaga	Taiyo Nippon Sanso	Enhancing Nitride Epitaxy Through Integrated MOCVD Technology
11:20	11:40	IS02	Invited Talk	Thorsten	Zweipfennig	Aixtron SE	Enabling GaN HEMT manufacturing on 300 mm Si substrates
11:40	12:00	IN10	Invited Talk	Enrico	Zanoni	Università degli Studi di Padova	Novel results in RF GaN Reliability
12:00	12:20	IS08	Invited Talk	Tania	Hemakumara	Oxford Instruments	Innovative Plasma Processing Solutions for High Volume Manufacturing of GaN devices
12:20	12:30	GF34		Yuji	Zhao	Rice University	Selective Area Diamond Growth on GaN for Thermal Management of High Power Devices
12:30	13:00	**Closure (Matteo Meneghini, General Chair)**					