

Fraunhofer IAF

Fraunhofer Institute for Applied Solid State Physics IAF

Epitaxy Workshop 2026 Preliminary Program

November 25–27, 2026

Epitaxy Workshop Freiburg 2026

www.dgkk-dembe2026.de

Program Overview

Wednesday, November 25, 2026

09:00	Exhibitor Setup				
11:00	Registration & Welcome Coffee				
12:30	Welcome & Information	AK103			
13:00	**Invited Speaker: Steffen Breuer** — Overcoming Growth Bottlenecks: High-Performance 1050 nm GaAs SESAMs via Ex Situ Ion Implantation	**AK103**			
	Session 1: MOVPE of III-Vs 1	**AK103**		**Session 1: Sputter Epitaxy 1**	**AK215**
13:40	A1.1:	Enabling As/P Epitaxy at Scale for Photonics, Opto-electronics, and Solar *(J. Gessler)*	B1.1:	AlN-on-Si templates grown by low-temperature Magnetron Sputter Epitaxy for AlGaN/GaN HEMTs *(V. Garbe)*
14:00	A1.2:	Process Control During and Beyond MOVPE for InP based Laser Structures *(I. Claussen)*	B1.2:	Sputtered HfN Templates for Direct N-polar GaN Growth on Si(111) *(Y. Wang)*
14:20	A1.3:	Controlling catalyst agglomeration in high-density unordered III-V nanowire growth using Au colloid solutions *(C. Y. Bohlemann)*	B1.3:	Epitaxial growth of wurtzite AlHfN on AlN-buffered Si(111) *(M. Kathiresan)*
14:40	Coffee Break & Exhibition	AK218			
	Session 2: MBE for Optoelectronics	**AK103**		**Session 2: PAMBE of Nitrides**	**AK215**
15:40	A2.1:	Influence of Amorphous Carbon Thickness on Remote Epitaxy by MBE of GaAs/AlAs Multiple Quantum Wells *(B. Shrestha)*	B2.1:	ScGaN pseudo-substrates for the epitaxial growth of lattice-matched InGaN with high indium content *(D. Filippozzi)*
16:00	A2.2:	Molecular beam epitaxy of high quality $Hg_{1-x}Cd_xTe$ layers on InSb(001) substrate *(A. Antony)*	B2.2:	Molecular Beam Epitaxy of atomically smooth Mn_4N thin films *(A. Notarangelo)*
16:20	A2.3:	Delayed Epitaxial Breakdown in MBE-Grown GeSn Epitaxial Layers by High Deposition Rate and Temperatures *(S. Gougam)*	B2.3:	Growth Window and Wurtzite Phase Stability of Molecular-Beam-Epitaxial ScInN Thin Films with Composition-Dependent Photoluminescence *(S.A. Jentsch)*
16:40	A2.4:	Development, Growth and Applications of Sb-based T2SLs using Molecular Beam Epitaxy *(M. Wagstaffe)*	B2.4:	Development of an Optical Multichannel Sensor for Plasma Diagnostics in Nitride Molecular Beam Epitaxy (M. Kaya)
17:00	Exhibition	AK218			
18:00	Optional: Wine Tasting				

Thursday, November 26, 2026

08:30	Welcome & Information	AK103		
	Session 3: Quantum Dots 1	**AK103**	**Session 3: MOVPE of Nitrides**	**AK215**
08:40	A3.1: Monitoring and Improvement of AlAs quality for MBE growth – a crucial step to achieve near-transform-limited quantum dots emitting in the telecom O-band *(S. Krüger)*		B3.1: Tunable High-Temperature MOCVD Growth for High-Quality AlN-Based RF GaN HEMT Epitaxy *(J. Jang)*	
09:00	A3.2: Rapid Thermal Annealing of LDE-Grown InAs Quantum Dots: Peculiarities from Geometry and a Strain Reduction Layer *(E. Kersting)*		B3.2: AlGaN p-n diodes with distributed polarization doping grown by MOVPE *(F. Brunner)*	
09:20	A3.3: Optimized quantum dot emitters for telecom applications: from growth to diode integration *(T. Bruggesser)*		B3.3: MOCVD Growth Engineering of GaN/AlN Heterostructures for Thin-Channel HEMTs *(M. Kim)*	
09:40	A3.4: Electrically tunable orbital coupling in MBE-grown InAs QD-molecules emitting from NIR to telecom O-band *(P. Avdienko)*		B3.4: Carry-over effect of Mn in GaN layers grown by MOCVD *(T. Duarte)*	
10:00	Coffee Break & Exhibition	AK218		
	Session 4: Advanced Methodologies in MBE	**AK103**	**Session 4: MOVPE of III-Vs 2**	**AK215**
10:50	A4.1: Surface treatment of Zn(Mg)Se buffers for epitaxy of II-VI-semiconductor devices *(N. von den Driesch)*		B4.1: Photoluminescence study of hot carriers in MOVPE-grown GaAs double heterostructures *(P. Schygulla)*	
11:10	A4.2: Shadow Wall Epitaxy of ZnSe-based Field Effect Transistors *(C. Falter)*		B4.2: Chasing the Microsecond: Ultra-Long Minority Charge Carrier Lifetimes in III-V Solar Cell Absorbers *(M. Klitzke)*	
11:30	A4.3: Gd Incorporation in β-Ga_2O_3 Grown by Suboxide MBE: Progress Towards Optical Activation and Crystal-Field Probing *(M. Alonso-Orts)*		B4.3: Porosified Ge as a Platform for III–V MOVPE and Epitaxial Lift-Off *(J. Ohlmann)*	
11:50	A4.4: In-situ Analysis of MBE-grown 2D Indium Selenide *(J. Schabesberger)*			
12:10	Lunch at SICK SIA Restaurant			
13:30	**Invited Speaker: Tim Wernicke** Growth of AlGaN by MOVPE for UV optoelectronics			**AK103**
	Session 5: Machine Learning	**AK103**		
14:10	A5.1: Machine-learning-guided GaN buffer optimization through in-situ monitoring of Ga desorption kinetics *(J. Kang)*			
14:30	A5.2: AI-driven recognition of RHEED pattern features for real-time MBE monitoring *(V. Gorshanov)*			
14:50	A5.3: From Molecules to Multilayers: An End-to-End Computational Framework for Predicting van der Waals Epitaxy *(N. Nayir)*			
15:10	Group Photo			
15:20	Coffee Break & Exhibition	AK218		

15:45	**Session 6: Posters**		**2nd Floor**
	P1	Metamorphic $In_xGa_{1-x}As$ Buffers as Templates for Remote Epitaxy *(A. Anvari)*	
	P2	Local degradation of PEC devices during in situ TRPL Measurement *(P. Kleinschmidt)*	
	P3	MBE growth of GaAs nanocrystals on amorphous carbon layers *(P. Mahler)*	
	P4	High-quality $HgTe/Hg_{1-x}Cd_xTe$ heterostructures grown by molecular beam epitaxy using elemental sources *(S. Koche)*	
	P5	First steps towards InAs(001) remote homoepitaxy by MBE *(C. Schuster)*	
	P6	Carbon Incorporation Study on AlGaAs grown via MOVPE for Optimisation of the Design of Edge Emitting Laser Diodes *(P. Noack)*	
	P7	Machine learning driven multi-scale modeling of $SrTiO_3$ and TiO_2 thin film growth *(C. Sanga)*	
	P8	Towards hybrid integration of tunable telecom C-band emitting InAs/InGaAs quantum dots onto a silicon photonic platform *(S. Oberle)*	
	P9	Investigation of Post-Growth Zinc Diffusion for the Optimization of InGaAs Quantum Dot-Based PIN Diodes in the Telecom C-Band *(J. Unfried)*	
	P10	Chemistry at Buried Ga_2O_3/AlInP Heterointerfaces and Water Interaction with the Ga_2O_3 Surface *(S. Shekarabi)*	
	P11	Growth Mechanisms Governing Pattern Fidelity in Au-Catalyzed GaAs Nanowire Arrays *(J. Koch)*	
	P12	Development and Characterization of a new Plasma Source for MBE and UHV Applications *(H. Schuler)*	
	P13	(Al)GaN-based buried gratings for blue distributed feedback laser diodes *(J. Enslin)*	
	P14	Systematic Investigation of Photoelectrochemical Performance and Stability of III–V Nanowires for Solar-Driven Water Splitting Applications *(P. Manoharan)*	
	P15	Redox-controlled growth of ultrathin Fe and Hf on oxide substrates: from interface-confined to bulk-like oxidation *(P. M. Düring)*	
	P16	Surface-Sensitive Study of As-modified Si(100) *(H. Reichel)*	
	P17	Metal Intercalation beneath Graphene by Molecular Beam Epitaxy: A Route toward Half-Van der Waals Group-III Nitrides *(D. Agarwal)*	
	P18	Metal-Organic Vapor Phase Epitaxial Growth of Ga(As,Bi)/GaAs Quantum Dots *(D. Shishangiya)*	
	P19	Magnetism and Magnetization Dynamics in Gd/Fe Bilayers *(G. S. Kshetry)*	
	P20	Influence of Carrier-Blocking Layers on Color Purity of MOCVD-grown Red InGaN LEDs *(T. Kuruoglu)*	
	P21	Development of Quandela's Epitaxy Facilities in Germany and High-Performance Quantum Dots for Single-Photon Emission at Telecommunication Wavelengths *(B. Scaparra)*	
18:00	Workshop Dinner in the entrance area of the SICK SIA Campus		
22:00	End of Day 2		

Friday, November 27, 2026

08:30	Welcome & Information	AK103		
08:40	**Invited Speaker: Arne Ludwig** Towards coherent and scalable O-band quantum emitters	**AK103**		
	Session 7: Quantum Dots 2	**AK103**	**Session 7: MBE Equipment**	**AK215**
09:20	A7.1: Is the Capture Zone Model Valid for Low-Density Local Droplet Etched-GaAs Nanoholes? *(N. Hense)*		B7.1: Fast and Robust Controller Tuning for Molecular Beam Epitaxy *(D. Schmidt)*	
09:40	A7.2: Voronoi Capture Zone Analysis of Stranski–Krastanov-Grown InAs Quantum Dots *(P. J. Badura)*		B7.2: In Situ Determination of Growth Conditions for Ga(As,Bi) alloys *(E. Luna)*	
10:00	A7.3: Towards lateral alignment of self-assembled quantum dots *(S. Satya Parkash)*		B7.3: Building a Smarter and Versatile Molecular Beam Epitaxy System for High Volume Manufacturing – A case study with quantum dots *(Xi Dong)*	
10:20	A7.4: Growth of site-controlled InAs QDs on InP substrates for single photon emission *(M. Sauer)*		B7.4: Establishing an Organic MBE Platform from an Existing Oxide MBE System *(F. Marín)*	
10:40	Coffee Break & Exhibition	AK218		
	Session 8: III-V on Si	**AK103**	**Session 8: Sputter Epitaxy 2**	**AK215**
11:20	A8.1: Characterization of high-quality InP microridges grown directly on on-axis Si (001) substrates *(T. Meyer)*		B8.1: The state of the art in diamond heteroepitaxy *(J. Weippert)*	
11:40	A8.2: Influence of Al-containing nucleation layers on GaPN growth on Si (100) *(H. Haridas)*		B8.2: Mapping the Phase Diagram of Epitaxial TiAlN Thin Films *(E. Kaynar)*	
12:00	A8.3: Kinetics of AlP and GaP Nucleation on Silicon *(J. Grutke)*			
12:20	Closing and Goodbye	AK103		
12:30	Lunch at SICK SIA Restaurant			