

Scientific Program, Wednesday 11. December 2024

13:00-14:00	Registration
14:00-14:15	Opening
14:15-14:45	Invited Talk 1 (Chair: A. M. Andrews, TU Wien)
	<p>Felix E. V. Hensling (Max Planck Institute Stuttgart) <i>Thermal Laser Epitaxy: Unlocking New Realms of Thin Film Deposition</i> F.V.E. Hensling* Max Planck Institute for Solid State Research, Stuttgart, Germany</p>
14:45-15:15	Session 1 (Chair: A. M. Andrews, TU Wien) Fundamentals 1
14:45	<p>P1.1 Wolfgang Braun (Epiray GmbH Wendlingen am Neckar) <i>Deposition Rates in Thermal Laser Epitaxy: Simulations and Experiments</i> Thomas J. Smart,¹ Bilen Emek Abali,² Hans Boschker,³ and Wolfgang Braun^{3,*} ¹ Peter Grünberg Institute 9, Forschungszentrum Jülich GmbH, Jülich, Germany ² Dept. of Mat. Science and Engineering, Uppsala University, Uppsala, Sweden ³ epiray GmbH, Heinrich Otto Str. 73, 73240 Wendlingen am Neckar, Germany</p>
14:48	<p>P1.2 Tobias Hensmeier (University of Paderborn) <i>Remote epitaxy of III-V films on a universal template</i> T. Hensmeier,^{1,*} P. Mahler,¹ A. Wolff,¹ D. Deutsch,¹ M. Voigt,² L. Ruhm,² D. J. As,¹ G. Grundmeier,² and D. Reuter¹ ¹Paderborn University, Department of Physics, Warburger Str. 100, Paderborn ²Paderborn University, Department of Chemistry, Warburger Str. 100, Paderborn</p>
14:51	<p>P1.3 Nils von den Driesch (Forschungszentrum Jülich) <i>Shadow wall epitaxy for in-situ fabrication of complex compound semiconductor devices</i> Nils von den Driesch,^{1,*} Yurii Kutovyi,² Denny Dütz,³ Christine Falter,² Lars Maier,² Lars R. Schreiber,³ and Alexander Pawlis^{1,2} ¹Peter Grünberg Institut (PGI-10) & JARA-FIT, Forschungszentrum Jülich, Germany ²Peter Grünberg Institut (PGI-9) & JARA-FIT, Forschungszentrum Jülich, Germany ³JARA-Institute for Quantum Information, RWTH Aachen, Germany</p>
14:54	<p>P1.4 Tristan Stiller (Crea-Tec Fischer & Co. GmbH Erligheim) <i>Optimizing thermal management of equipment used in MBE/PVD-processes via simulation</i> T. Stiller,^{1,2,*} I. Nitsche,¹ S. Krinke,¹ A. Ludwig,² and A. Wieck² ¹CreaTec Fischer & Co. GmbH, Erligheim, Baden-Württemberg, Germany ²Ruhr Universität Bochum, Bochum, Nordrhein-Westfalen, Germany</p>
14:57	<p>P1.5 Huaide Zhang (Paul-Drude-Institute Berlin) <i>Accurate Determination of The Substrate Temperature in MBE Using Different In-situ Techniques</i> Huaide Zhang*, Philipp John, Jingxuan Kang, Oliver Brandt, Lutz Geelhaar, YongJin Cho Paul-Drude-Institut für Festkörperelektronik, Leibniz-Institut im Forschungsverbund Berlin e.V., Hausvogteiplatz 5–7, 10117 Berlin, Germany</p>
15:00	<p>P1.6 Peter Kleinschmidt (TU Ilmenau) <i>In situ TRPL measurement in the PEC environment</i> P. Kleinschmidt,^{1,*} Y.-P. Hartmann,¹ L. Krätschmer,¹ D. Ostheimer,¹ and T. Hannappel¹ ¹TU Ilmenau, Inst. of Physics, Fundamentals of Energy Materials, Ilmenau, Germany</p>
15:03	<p>P1.7 Stefan Birner (nextano GmbH München) <i>Automatic optimization of epitaxial heterostructures</i> H. Yehiazarian,¹ L. Leguay,^{1,2} H. S. Mączko,¹ and S. Birner^{1,*} ¹nextnano GmbH, Munich, Germany ²Technical University of Berlin, Berlin, Germany</p>

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15:06	<p>P1.8 R. Bruder (Riber, France) <i>In Situ Curvature Measurement: A Great Breakthrough for MBE Growth Monitoring</i> R. Bruder*, Y. Rousseau RIBER, France</p>
15:09	<p>P1.9 S. Ibrahimkutty (Rigaku Neu-Isenburg) <i>Key Points of Compound Semiconductor Material Evaluation by High resolution XRD</i> *S. Ibrahimkutty,¹ ¹Rigaku Europe SE, Hugentotten alle 167, 63263 Neu-Isenburg, Germany</p>
15:15-16:15	Poster Session 1
16:15-16:45	Coffee Break
16:45-17:15	Session 2 (Chair: J. Schwarzkopf, IKZ) Fundamentals 2 and III-Phosphides
16:45	<p>P2.1 Sebastian Brückner (FAIRmat HU zu Berlin) <i>NOMAD: Enabling FAIR Research Data Management in Experimental Materials Science</i> Sebastian Brückner,^{1,2} Andrea Albino,¹ Hampus Näsström,¹ Sarthak Kapoor,¹ Natasha Dropka,² Martin Albrecht,² Holger von Wenckstern,³ Tamás Haraszti,⁴ Huayna Terraschke,⁵ Jonathan Noky,⁶ Markus Scheidgen,¹ Jose Marquez Prieto,¹ and Claudia Draxl¹ ¹FAIRmat HU Berlin, ZZum Großen Windkanal 2 12489 Berlin, Germany ²IKZ Berlin, Max-Born-Straße 2, 12489 Berlin, Germany ³Universität Leipzig, Linnéstraße 5, 04103 Leipzig, Germany ⁴DWI, Forckenbeckstr. 50, 52074 Aachen, Germany ⁵Christian-Albrechts-Universität zu Kiel, Max-Eyth-Straße 2, 24118 Kiel, Germany ⁶MPI CPFS, Nöthnitzer Str. 40, 01187 Dresden, Germany</p>
16:48	<p>P2.2 Oliver Bierwagen (Paul-Drude-Institute Berlin) <i>FAIR Data Approach for MBE growth using NOMAD</i> O. Bierwagen,^{1,*} H. A. Yildirim,¹ A. Albino,² H. Näsström,² S. Kapoor,² S. Brückner,^{2,3} and Martin Albrecht³ ¹Paul-Drude-Institut für Festkörperelektronik, Leibniz-Institut im Forschungsverbund Berlin e.V., Berlin, Germany. ²Department of Physics, Humboldt-Universität zu Berlin, Berlin, Germany. ³Leibniz-Institut für Kristallzüchtung, Berlin, Germany</p>
16:51	<p>P2.3 Andrea Albino (FAIRmat HU zu Berlin) <i>Enhancing MOVPE Synthesis through FAIR Data and ML Integration in NOMAD</i> Andrea Albino,¹ Ta-Shun Chou,² Hampus Näsström,¹ Sarthak Kapoor,¹ Andreas Popp,² Jutta Schwarzkopf,² Jose Marquez Prieto,¹ Markus Scheidgen,¹ Claudia Draxl,¹ Martin Albrecht,² and Sebastian Brückner,^{1,2} ¹FAIRmat HU Berlin, Zum Großen Windkanal 2 12489 Berlin, Germany ²IKZ Berlin, Max-Born-Straße 2, 12489 Berlin, Germany</p>
16:54	<p>P2.4 Kai Daniel Hanke (TU Ilmenau) <i>Low-temperature RAS of MOVPE-prepared Si(100) surfaces and Si(100)-III-V interfaces</i> Kai Daniel Hanke,^{1,*} Max Großmann,² Chris Yannic Bohlemann,¹ Mohammad Amin Zare Pour,¹ Agnieszka Paszuk,¹ Thomas Hannappel,¹ Erich Runge² ¹Technische Universität Ilmenau, Fundamentals of Energy Materials, Ilmenau, Germany ²Technische Universität Ilmenau, Theoretical Physics I, Ilmenau, Germany</p>
16:57	<p>P2.5 Mohamad Amin Zare Pour (TU Ilmenau) <i>Electronic structure of the TiO₂/AlInP hetero-interface studied by photoemission spectroscopy</i> M. A. Zare Pour,^{1,2,*} S. Shekarabi,¹ J. Diederich,³ N. Moghareabed,² C. Höhn,³ W. Jaegermann,⁴ D. Friedrich,⁴ R. van de Krol,⁴ A. Paszuk,² and T. Hannappel¹ ¹Grundlagen von Energiematerialien, Institut für Physik, Technische Universität Ilmenau ²Paszuk group, Institut für Physik, Technische Universität Ilmenau ³Institut für Solare Brennstoffe, Helmholtz-Zentrum Berlin für Materialien und Energie GmbH ⁴Fachgebiet Oberflächenforschung, Fachbereich Material- und Geowissenschaften, TU, Darmstadt 64287, Deutschland</p>

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17:00	<p>P2.6 Peter Gierss (University of Stuttgart) <i>Towards AlGaInP-based red-emitting VECSELs with grating waveguide structures</i> P. Gierss,^{1,*}, A. Çutuk¹, M. Leyzner,² U. Brauch,² M. Abdou Ahmed,² M. Jetter¹, T. Graf,² and P. Michler¹ ¹<i>Institut für Halbleiteroptik und Funktionelle Grenzflächen, Center for Integrated Quantum Science and Technology (IQST) and SCoPE, University of Stuttgart, Allmandring 3, D-70569 Stuttgart, Germany</i> ²<i>Institut für Strahlwerkzeuge, University of Stuttgart, Pfaffenwaldring 43, D-70569 Stuttgart, Germany</i></p>
17:03	<p>P2.7 David Ostheimer (TU Ilmenau) <i>TiO₂ passivation of GaInP(100) surfaces</i> D. Ostheimer,^{1,*}, J. Kühne,^{2,3}, S. Shekarabi,¹ A. Paszuk,¹ M. A. Zare Pour,¹ I. D. Sharp,^{2,3}, W. Jaegermann⁴ and T. Hannappel,¹ ¹<i>TU Ilmenau, Inst. of Physics, Fundamentals of Energy Materials, Ilmenau, Germany</i> ²<i>TU Munich, Walter Schottky Institute, Garching, Germany</i> ³<i>TU Munich, Physics Department, TUM School of Nat. Sciences, Garching, Germany</i> ⁴<i>TU Darmstadt, Surface Science Lab, Darmstadt, Germany</i></p>
17:06	<p>P2.8 Sahar Shekarabi (TU Ilmenau) <i>Experimental and theoretical characterization of AlInP (100) surfaces: Electronic energy states and ultrafast electron dynamics</i> M. A. Zare Pour,¹ S. Shekarabi,^{1,*}, I. A. Ruiz Alvarado,² J. Diederich,³ Y. Gao,⁴ A. Paszuk,¹ R. van de Krol,³ D. Friedrich,³ W. G. Schmidt,² W. Jaegermann,⁵ and T. Hannappel¹ ¹<i>Technische Universität Ilmenau, Institut für Physik, Ilmenau, Germany</i> ²<i>Universität Paderborn, Paderborn, Germany</i> ³<i>Helmholtz-Zentrum Berlin für Materialien und Energie GmbH, Institut für solare Brennstoffe, Berlin, Germany</i> ⁴<i>Dalian Institute of Chemical Physics, Chinese Academy of Sciences, Dalian National Laboratory for Clean Energy, Dalian, P. R. China</i> ⁵<i>Technische Universität Darmstadt, Surface Science Laboratory, Department of Materials and Earth Sciences, Darmstadt, Germany</i></p>
17:09	<p>P2.9 Carmine Pellegrino (Fraunhofer Institute for Solar Energy Systems Freiburg) <i>InP-on-GaAs Substrates: a Cost-Effective Solution for High-Efficiency Photonic Device Fabrication</i> C. Pellegrino, F. Dimroth, J. Ohlmann, H. Helmers, and D. Lackner <i>Fraunhofer Institute for Solar Energy Systems ISE Heidenhofstra ß e 2, 79110 Freiburg im Breisgau, Germany</i></p>
17:15-18:15	Poster Session 2
18:30-19:30	Panel Discussion (Chair: Oliver Bierwagen, Paul-Drude-Institute Berlin)
	<p>Sebastian Brückner (FAIRmat HU Berlin), Karl Eberl (MBE-Komponenten) Steffen Breuer (Fraunhofer Heirich-Hertz-Institute Berlin), and Faebian Bastiman (Scienta Omicron) <i>Research Data - A Valuable Asset</i></p>

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08:30-09:00	Registration
09:00-09:30 Invited Talk 2 (Chair: S. Chatterjee, University of Gießen)	
	<p>Jutta Schwarzkopf (Leibniz-Institut für Kristallzüchtung) <i>MOVPE of complex oxide thin films and their modification by lattice strain and off-stoichiometry</i> J. Schwarzkopf*, S. Bin Anooz, M. Abdeldayem, C. Liu, M. Albrecht, I. A. Shah, A. Fiedler, D. Braun, L. von Helden and M. Schmidbauer <i>Leibniz-Institut für Kristallzüchtung (IKZ), Berlin, Germany</i></p>
09:30-10:00 Session 3 (Chair: S. Chatterjee, University of Gießen) Other Materials and III-Nitrides 1	
09:30	<p>P3.1 Nicola Gutmann (Paul-Drude-Institute Berlin) <i>SnO / LBSO pn-heterojunction diode</i> Nicola Gutmann,^{1,*}, Georg Hoffmann,¹ and Oliver Bierwagen¹ ¹<i>Paul-Drude-Institut für Festkörperelektronik, Berlin, Germany</i></p>
09:33	<p>P3.2 Songyao Tang (RWTH Aachen) <i>Applications of In-situ Spectral Reflectance Measurements in MOVPE of TMDC Thin Films</i> Songyao Tang,^{1,*} Yibing Wang,¹ Hleb Fiadziushkin,¹ Yingfang Ding,¹ Amir Ghiami,¹ Michael Heuken,^{1,2} Andrei Vescan,¹ and Holger Kalisch¹ ¹<i>Compound Semiconductor Technology, RWTH Aachen University, Aachen, Germany</i> ²<i>AIXTRON SE, Herzogenrath, Germany</i></p>
09:36	<p>P3.3 Michele Bissolo (Walter Schottky Institute and TU München) <i>Mapping the phase diagram of MBE-GaSe on sapphire</i> M. Bissolo,¹, * M. Dembecki,¹ J. Schabesberger,¹ A. S. Ulhe,¹ F. Rauscher,¹ H. Riedl,¹ G. Koblmüller,¹ E. Zallo,^{1,*} and J. J. Finley¹ ¹<i>Walter Schottky Institut and TUM School of Natural Sciences, Technische Universität München, Am Coulombwall 4, 85748 Garching, Germany</i></p>
09:39	<p>P3.4 Joao Marcelo J. Lopes (Paul-Drude-Institute Berlin) <i>MBE growth of the room temperature 2D ferromagnets Fe₅GeTe₂ and Fe₃GaTe₂</i> Joao Marcelo J. Lopes*, H. Lv, T. Shinwari, K. I. A. Khan, A. A. Kassa, M. Hanke, A. Trampert, J. Herfort, R. Engel-Herbert <i>Paul-Drude-Institut für Festkörperelektronik, Leibniz-Institut im Forschungsverbund</i></p>
09:42	<p>P3.5 Moriz N. L. Hansemann (Paul-Drude-Institute Berlin) <i>Limits of solid-phase epitaxy growth of α-FeGe₂ on GaAs(001)</i> M. N. L. Hansemann,^{1,*}, M. Hanke¹, A. Trampert,¹ J. Herfort¹ ¹<i>Paul Drude Institut, Berlin, Berlin, Germany</i></p>
09:45	<p>P3.6 Sebastian Krüger (TU Berlin) <i>Homoepitaxy on AlN bulk substrates with different off cut angles</i> S. Krüger^{1,*}, S. Graupeter,¹ M. Grigoletto,^{1,2} M. Schilling,¹ S. Hagedorn,² C. Hartmann,³ T. Straubinger,³ T. Wernicke,¹ and M. Kneissl,^{1,2} ¹<i>Technische Universität Berlin Institute of Solid State Physics, Berlin, Germany</i> ²<i>Ferdinand Braun Institut (FBH), Berlin, Germany</i> ³<i>Leibniz Institut für Kristallzüchtung, Berlin, Germany</i></p>
09:48	<p>P3.7 Armin Dadgar (Otto-von-Guericke-University Magdeburg) <i>Optimizing MOVPE growth of AlN-on-Si</i> Armin Dadgar*, Jürgen Bläsing, Fabian Großmann, and André Strittmatter <i>Institut für Physik, Fakultät für Naturwissenschaften, Otto-von-Guericke-Universität Magdeburg</i></p>

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09:51	<p>P3.8 Sylvia Hagedorn (Ferdinand-Braun-Institut Berlin) <i>Impact of silicon doping on high-temperature annealed aluminum nitride layers</i> S. Hagedorn,* T. Kolbe, and M. Weyers Ferdinand-Braun-Institut (FBH), Berlin, Germany</p>
09:54	<p>P3.9 Sanowar Alam Gazi (Ferdinand-Braun-Institut Berlin) <i>MOVPE of AIPN barrier layers for HEMTs</i> S.A. Gazi*, F. Brunner, S. Hagedorn, C. Netzel, J. Enslin, E. Richter, T. Tessaro, M. Weyers Ferdinand-Braun-Institut (FBH), Berlin, Germany</p>
09:57	<p>P3.10 Frantisek Hajek (Polish Academy of Sciences Warsaw, Poland) <i>Influence of growth conditions on III vacancy formation in $Al_{0.09}Ga_{0.9}N$ layers grown by MOVPE</i> R. Czernacki,¹ J. Čížek,³ F. Hájek,^{1,2,*} K. Kuldová,² Ewa Grzanka,¹ Mike Leszczynski,¹ and A. Hospodková² ¹Institute of High Pressure Physics "Unipress", Polish Academy of Sciences, Warsaw, Poland ²Institute of Physics of the Czech Academy of Sciences, Prague, Czech Republic ³Faculty of Mathematics and Physics, Charles University, Prague, Czech Republic</p>
10:00	<p>P3.11 Stefan Schmult (TU Dresden) <i>Correlating charge carrier profiles and elemental compositions in ultra-pure MBE-grown</i> ¹TU Dresden, Electrical and Computer Engineering, Institute of Semiconductors and Microsystems, Nöthnitzer Str. 64, 01187 Dresden, Germany ²NaMLab gGmbH, Nöthnitzer Str. 64 a, 01187 Dresden, Germany ³Max-Planck-Institute for Chemical Physics of Solids, 01187 Dresden, Germany</p>
10:05-11:05	Poster Session 3
11:05-11:30	Coffee Break
11:30-12:00	<p>Session 4 (Chair: M. Peter, ams OSRAM Int. GmbH Regensburg)</p> <p>III-Nitrides 2</p>
11:30	<p>P4.1 Filip Dominec (Czech Academy of Sciences Prague, Czech Republic) <i>Non-exponential decay kinetics of InGaN/GaN quantum wells</i> F. Dominec,^{1,*} L. Ondič,¹ V. Jarý,¹ F. Hájek,¹ and A. Hospodková¹ ¹Institute of Physics CAS, Cukrovarnická 10, 162 00 Prague, Czech Republic</p>
11:33	<p>P4.2 Qi Shu (RWTH Aachen) <i>GaN Selective-Area Growth with an Al_2O_3/SiO_2 Double-Layer Mask</i> Q. Shu^{1,*}, A. Brand¹, A. Kirchbrücher¹, H. Kalisch¹, A. Vescan¹ ¹Compound Semiconductor Technology, RWTH Aachen University, Aachen, Germany</p>
11:36	<p>P4.3 Johannes Enslin (Ferdinand-Braun-Institut Berlin) <i>Precise growth temperature control of GaN-based laser diodes with InGaN underlayers</i> J. Enslin*, S. Makhladi, C. Netzel, M. Guttman, E. Freier, F. Brunner, S. Einfeldt, and M. Weyers Ferdinand-Braun-Institut (FBH), Berlin, Germany</p>
11:39	<p>P4.4 Falco Meier (University of Paderborn) <i>Experimental determination of the thermal expansion coefficient of zincblende Gallium Nitride</i> F. Meier*, D.J. As***, C. Meier Department of Physics, Paderborn University, Warburger Str. 100, 33095 Paderborn, Germany</p>

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11:42	<p>P4.5 Alice Hospodovka (Czech Academy of Sciences Prague, Czech Republic) <i>Vacancies, their complexes and clusters in MOVPE grown GaN layers</i> Alice Hospodková,¹ Jakub Čížek,² František Hájek,¹ Karla Kuldová,¹ Tomáš Hubáček,¹ Maciej O. Liedke,³ Eric Hirschmann,³ Maik Butterling,³ Andreas Wagner³ ¹Institute of Physics CAS, Cukrovarnická 10, 162 00 Prague, Czech Republic ²Faculty of Mathematics and Physics, Charles University, V Holešovičkách 2, 180 00 Prague, Czech Republic ³Institute of Radiation Physics, Helmholtz-Zentrum Dresden-Rossendorf Bautzner Landstr. 400, 01328 Dresden, Germany</p>
11:45	<p>P4.6 Irene Manglano Clavero (TU Braunschweig) <i>ELOG as a Method to Develop GaN Pseudosubstrates with Low Density of Dislocations by Means of MOCVD</i> Irene Manglano Clavero^{1,*}, Christoph Margenfeld,¹ Jana Hartmann,¹ and Andreas Waag¹ ¹Nitride Technology Center (NTC), Institute of Semiconductor Technology, Technische Universität Braunschweig, Braunschweig, Germany</p>
11:48	<p>P4.7 Mario F. Zscherp (Justus-Liebig-University Gießen) <i>Growth mechanism of self-assembled cubic InGaN/GaN quantum wells by molecular beam epitaxy</i> Mario F. Zscherp^{1,*}, Silas A. Jentsch,¹ Vitalii Lider,² Matthew Chia^{1,3}, Andreas Beyer,² Anja Henss,¹ Donat J. As,⁴ Kerstin Volz,² Sangam Chatterjee,¹ and Jörg Schörmann¹ ¹Institute of Experimental Physics I and Center for Materials Research, Justus-Liebig-University Giessen, Giessen, Germany ²Materials Science Center and Faculty of Physics, Philipps-University Marburg, Marburg, Germany ³Department of Physics, Cambridge University, Cambridge, United Kingdom ⁴Department of Physics, Paderborn University, Paderborn, Germany</p>
11:51	<p>P4.8 Florian Hörich (Otto-von-Guericke-University Magdeburg) <i>TiN: conductive buffer layers for vertical GaN devices</i> F. Hörich^{1,*}, M. Wieneke,¹ J. Bläsing,¹ A. Strittmatter,¹ and A. Dadgar¹ ¹Otto von Guericke University, Magdeburg, Germany</p>
11:54	<p>P4.9 Duc V. Dinh (Paul-Drude-Institute Berlin) <i>Crack-free Sc_xAl_{1-x}N (0 ≤ x ≤ 0.35) layers grown on Si(111) by PAMBE</i> Duc V. Dinh,¹ Z. Chen,² and Oliver Brandt¹ ¹Paul-Drude-Institut für Festkörperelektronik, Leibniz-Institut im Forschungsverbund Berlin e.V., Hausvogteiplatz 5–7, 10117 Berlin, Germany ²Huawei Technologies Canada Co., Ltd., 303 Terry Fox Drive, Kanata, Ontario, K2K 3J1, Canada</p>
11:57	<p>P4.10 Christoph Berger (Otto-von-Guericke-University Magdeburg) <i>Challenges of Mg acceptor diffusion and activation during MOVPE of cascaded LEDs with GaN:Ge/GaN:Mg tunnel junctions</i> C. Berger,[*] A. Dadgar, G. Schmidt, K. Wein, F. Betram, J. Christen and A. Strittmatter Otto-von-Guericke-University Magdeburg, Germany</p>
12:00	<p>P4.11 Marie-Louise Bilke (NaMLab GmbH Dresden) <i>Suppression of parasitic Conductivity in ultra-pure GaN/AlGaN Heterostructures by Carbon -Doping</i> M.-L. Bilke^{1,*}, S. Wirth,² L. Krückeberg,¹ C. Silva,¹ P. Appelt,^{1,3} A. Großer,¹ T. Mikolajick,^{1,3} and S. Schmult³ ¹NaMLab gGmbH, 01187 Dresden, Germany ²Max-Planck-Institute for Chemical Physics of Solids, 01187 Dresden, Germany ³TU Dresden, Institute of Semiconductors and Microsystems, 01187 Dresden, Germany</p>

12:00-13:00 Poster Session 4

13:00-14:00 Lunch Break

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14:00-14:30		Invited Talk 3 (Chair: D. Reuter, University of Paderborn)
		<p>Christian Heyn (University of Hamburg) <i>Droplet etching during MBE for various self-assembled quantum structures</i> Christian Heyn*, Ahmed Alshaikh, and Robert H. Blick Center for Hybrid Nanostructures (CHyN), University of Hamburg, Luruper Chaussee 149, 22761 Hamburg, Germany</p>
14:30-15:00		Session 5 (Chair: D. Reuter, University of Paderborn) Nanostructures I
14:30		<p>P5.1 Dennis Deutsch (University of Paderborn) <i>Degradation and conservation of droplet etched nano-holes on $In_{0.52}Al_{0.48}As$ layers fabricated under As_2 environment</i> D. Deutsch,^{1,*} V. Zolatanosha,² and D. Reuter^{1,2} ¹Department of Physics, Paderborn University, Paderborn, Germany ²Institute for Photonic Quantum Systems (PhoQS), Paderborn, Germany</p>
14:33		<p>P5.2 Philipp Noack (University of Stuttgart) <i>Droplet Epitaxy of InAs Quantum Dots on GaAs Substrates using MOVPE</i> P. Noack,*, T. Bruggesser, M. Jetter and P. Michler Institut für Halbleitertechnik und Funktionelle Grenzflächen (IHFG), Universität Stuttgart, Integrated Quantum Science and Technology (IQST), Stuttgart Research Center of Photonic Engineering (SCOPE), Stuttgart, Baden-Württemberg, Germany</p>
14:36		<p>P5.3 Chris Yannic Bohlemann (TU Ilmenau) <i>Degradation of nanowires during electrochemical reactions at illuminated III-V semiconductor electrolyte interfaces</i> C. Y. Bohlemann,^{1,*} J. Koch,¹ D. Ostheimer,¹ P. Kleinschmidt,¹ T. Hannappel¹ ¹Technische Universität Ilmenau, Faculty of Mathematics and Natural Sciences, Fundamentals of energy materials group, Gustav-Kirchhoff-Str. 5, 98693 Ilmenau</p>
14:39		<p>P5.4 Adriano Notarangelo (Paul-Drude-Institute Berlin) <i>Molecular beam epitaxy of (Al,Sc)N/AlN axial nanowires: towards Sc-rich hexagonal (Al,Sc)N</i> A. Notarangelo,^{1,*} A. Campbell,¹ I. Florea,² P. Vennéguès,² R. Songmuang,³ N. Buatip,³ L. Geelhaar,¹ H. Tornatzky,¹ O. Brandt,¹ P. John¹ ¹Paul-Drude-Institut für Festkörperelektronik, Hausvogteiplatz 5-7, 10117 Berlin, Germany ²Université Côte d'Azur, CNRS, CRHEA, Valbonne, France ³Université Grenoble Alpes, CNRS, Grenoble INP, Institut Néel, 38000 Grenoble, France</p>
14:42		<p>P5.5 Juliane Koch (TU Ilmenau) <i>Tracking charge carrier paths in freestanding GaN/AlN nanowires on Si(111)</i> J. Koch,^{1,*} P. Häuser,² P. Kleinschmidt,¹ L. Liborius,² N. Weimann,² and T. Hannappel¹ ¹TU Ilmenau, Institute for Physics, Fundamentals of Energy Materials, Ilmenau, Germany ²University of Duisburg-Essen, Components for High Frequency Electronics (BHE), Duisburg, Germany</p>
14:45		<p>P5.6 Maximilian Klonz (TU Berlin) <i>Site-controlled InGaAs quantum dot growth with a buried stressor for the development of microlasers and quantum light sources</i> M. Podhorský,¹ M. Klonz,^{1,*} I. Limame,¹ K. Gaur,¹ P. Mudi,¹ S. Rodt,¹ and S. Reitzenstein¹ ¹Institute of Solid State Physics, Technische Universität Berlin, D-10623 Berlin, Germany</p>
14:48		<p>P5.7 Kartik Gaur (TU Berlin) <i>Scalable integration of site-controlled quantum dots into circular Bragg grating resonators</i> Kartik Gaur, Sarthak Tripathi, Avijit Barua, Sam Baraz, Lukas Dworaczek, Neha Nitin, Aris Koulas-Simos, Imad Limame, Priyabrata Mudi, Sven Rodt and Stephan Reitzenstein Institut für Festkörperphysik, Technische Universität Berlin, D-10623 Berlin</p>

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14:51	<p>P5.8 Michael Zimmer (University of Stuttgart) <i>MOVPE grown InGaAs quantum dots with emission near 1.3 μm for electrically driven single-photon sources</i> M.Zimmer*, A. Trachtmann, M. Jetter, and P. Michler <i>Institut für Halbleiteroptik und funktionelle Grenzflächen (IHFG), Center for Integrated Quantum Science and Technology (IQST) and SCoPE, University of Stuttgart, Allmandring 3, 70569 Stuttgart, Germany</i></p>
14:54	<p>P5.9 Elias Kersting (Ruhr-University Bochum) <i>Shutter synchronized deposition in molecular epitaxy for wafer scale homogeneous quantum emitter growth</i> E. Kersting,^{1,*} H. G. Babin,¹ N. Spitzer,¹ A. D. Wieck,¹ and A. Ludwig¹ ¹<i>Lehrstuhl für Angewandte Festkörperphysik, Ruhr-Universität Bochum, 44801 Bochum, NRW, Germany</i></p>
14:57	<p>P5.10 Phil J. Badura (Ruhr-University Bochum) <i>Energy-Dependent Tunneling: Insights from a Charge-Tunable Quantum Dot Device</i> P. J. Badura,^{1,*} N. F. Brosda,¹ İ. Bölükbaşı,¹ I. Engin,¹ P. Lindner,¹ S. R. Valentin,¹ A. D. Wieck,¹ B. Sothmann,² and A. Ludwig¹ ¹<i>Lehrstuhl für angewandte Festkörperphysik, Ruhr-Universität Bochum, D-44780 Bochum, Germany</i> ²<i>Fakultät für Physik and CENIDE, Universität Duisburg-Essen, Lotharstraße 1, D-47048 Duisburg, Germany</i></p>
15:00-16:00	Poster Session 5
16:00-16:30	Coffee Break
16:30-17:00	Session 6 (Chair: C. Heyn, University of Hamburg) Nanostructures 2 and III-Arsenides
16:30	<p>P6.1 Imad Limame (TU Berlin) <i>Direct epitaxial growth and in-situ EBL integration of high-quality single (In,Ga)As quantum dots emitting at the telecom O-band on silicon</i> I. Limame,¹ P. Ludewig,² C.-W. Shih,¹ A. Koulas-Simos,¹ C. C. Palekar,¹ W. Stolz,² S. Reitzenstein¹ ¹<i>Institute for Solid State Physics, Technical University of Berlin, Hardenbergstraße 36, D-10623 Berlin, Germany</i> ²<i>NAsPIII/IV GmbH, 35041 Marburg, Germany</i></p>
16:33	<p>P6.2 Severin Krüger (Ruhr-University Bochum) <i>Growth success assessment of wafers grown for photonic devices</i> S. Krüger,^{1,2,*} H. G. Babin,¹ E. Kersting,¹ and A. Ludwig¹ ¹<i>Ruhr-University Bochum, Germany</i> ²<i>Sparrow Quantum Aps, Denmark</i></p>
16:36	<p>P6.3 Sarthak Tripathy (TU Berlin) <i>Microcavities for efficient and high-performance room-temperature lasing: the design and performance advantage of photonic-defect microcavities over micropillars</i> Kartik Gaur, Sarthak Tripathi, Floriana Laudani, Avijit Barua, Imad Limame, Aris Koulas-Simos, Sven Rodt and Stephan Reitzenstein <i>Institut für Festkörperphysik, Technische Universität Berlin, D-10623 Berlin</i></p>
16:39	<p>P6.4 Ponraj Vijayan (University of Stuttgart) <i>Growth of telecom C band In(Ga)As quantum dots for silicon quantum photonics</i> P. Vijayan,¹ S. L. Portalupi,¹ M. Jetter,¹ and P. Michler¹ ¹<i>Institut für Halbleiteroptik und funktionelle Grenzfläche n (IHFG), Center for Integrated Quantum Science and Technology (IQ ST) and SCoPE, University of Stuttgart, Allmandring 3, 70569 Stuttgart, Germany</i></p>

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16:42	<p>P6.5 Christian Bruckmann (Otto-von-Guericke-University Magdeburg) <i>Local epitaxy of GaAs on Si substrates by Laser-assisted MOVPE</i> C. Bruckmann,* J. Bläsing, A. Dadgar, and A. Strittmatter <i>Institute of Physics, Otto-von-Guericke-University Magdeburg, Germany</i></p>
16:45	<p>P6.6 Alexander Kleinkamp (Fraunhofer Heinrich-Hertz-Institute Berlin) <i>Unexpected Mobility Increase in Highly Fe-doped InGaAs for Ultrafast Photoconductors</i> Alexander Kleinkamp,^{1,*} Alexander Dohms,¹ Martin Schell,^{1,2} Robert B. Kohlhaas,¹ and Steffen Breuer¹ ¹Fraunhofer Heinrich-Hertz Institut, Einsteinufer 37, 10587 Berlin, Germany ²Technische Universität Berlin, Solid State Physics, Hardenbergstr. 36, 10623 Berlin, Germany</p>
16:48	<p>P6.7 Max H. W. Ziehfrend (Ruhr-University Bochum) <i>Characterization of Arsenic- and Antimony Containing Heterostructures Grown by Molecular Beam Epitaxy</i> M. H. W. Ziehfrend,^{1,*} P. F. Zajac,¹ S. R. Valentin,² T. A. Kurschat,^{1,2} R. Krage,² A. Ludwig,¹ and A. D. Wieck¹ ¹Lehrstuhl für Angewandte Festkörperphysik der Ruhr-Universität Bochum, 44801 Bochum, NRW, Germany ²Gesellschaft für Gerätebau mbH, Klönnestr. 99, 44143 Dortmund, NRW, Germany</p>
16:51	<p>P6.8 Robin Lang (Fraunhofer Heinrich-Hertz-Institute Berlin) <i>High AlGaAs Growth Rates</i> C. Klein,¹ R. Lang,¹ F. Dimroth,¹ J. Ohlmann,¹ and D. Lackner¹ ¹Fraunhofer Institut für Solare Energiesysteme ISE, Freiburg i.Br., Germany</p>
16:54	<p>P6.9 Jonathan Abts (University of Duisburg-Essen) <i>Growth of Carbon Doped p-InGaAs in a CCS-MOVPE</i> A. Possberg,^{1,*} J. Abts,¹ K. Mueller,¹ H. Zhang,¹ and N. Weimann¹ ¹Department for High Frequency Electronic Devices, University of Duisburg-Essen, Duisburg, NRW, Germany</p>
16:57	<p>P6.10 Chrisoph Klein (Fraunhofer Heinrich-Hertz-Institute Berlin) <i>Development of Ultra-Fast Grown GaAs Solar Cells for Low-Cost Tandem Photovoltaics</i> Christoph Klein,^{1,*} Robin Lang,¹ Carmine Pellegrino,¹ Jens Ohlmann,¹ Oliver Höhn,¹ Frank Dimroth,¹ David Lackner¹ ¹Fraunhofer Institute for Solar Energy Systems ISE, Freiburg i.Br., Germany</p>
17:00-18:00	Poster Session 6
19:00-23:00	Conference Dinner

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08:30-09:00	Registration
09:00-09:30 Invited Talk 4 (Chair: T. Hannappel, TU Ilmenau)	
	<p>M. Peter (ams OSRAM International GmbH Regensburg) <i>Challenges for III-V MOCVD Epitaxy in Opto-Electronics Industry</i> M. Peter*, D. Borovac, M. Hoffmann, B. Mayer and U. Strauss ams OSRAM International GmbH, Leibnizstr. 4, 93055 Regensburg, Germany</p>
09:30-10:00 Session 7 (Chair: T. Hannappel, TU Ilmenau) Applications	
09:30	<p>P7.1 Katharina Dahler (University of Stuttgart) <i>MOVPE grown monolithic 850 nm VCSEL array for Quantum Key Distribution via the Decoy State Protocol</i> Katharina Dahler,^{1,*} Michael Zimmer,¹ Michael Jetter,¹ and Peter Michler¹ ¹Institut für Halbleiteroptik und Funktionelle Grenzflächen, Center for Integrated Quantum Science and Technology (IQST) and SCoPE, University of Stuttgart, Allmandring 3, 70569 Stuttgart, Germany</p>
09:33	<p>P7.2 Peter Swekis (imec Leuven, Belgium) <i>New 300 mm CMOS compatible contact approaches for the electrically injected InGaAs/GaAs nano-ridge laser</i> T. P. Swekis,^{1,*} D. Colucci,^{1,2} D. Yudistira,¹ D. Panda,¹ P.-Y. Hsieh,^{1,3} R. Alcotte,¹ Y. Mols,¹ M. Chakrabarti,¹ Y. Ban,¹ F. Ferraro,¹ D. Van Thourhout,^{1,2} J. Van Campenhout,¹ and B. Kunert¹ ¹imec, Kapeldreef 75, 3001 Leuven, Belgium ²Photonics Research Group, INTEC, Ghent University - imec, 9052 Ghent, Belgium ³KU Leuven, Kasteelpark Arenberg 10, 3001 Leuven, Belgium</p>
09:36	<p>P7.3 Jan Wenisch (AIM Infrarot-Module GmbH Heilbronn) <i>MCT MBE Technology for IR Detector Applications at AIM</i> J. Wenisch*, L. Lunczer, L. Fürst, D. Eich, S. Hanna, H. Lutz, and H. Figgemeier AIM Infrarot-Module GmbH, Theresienstr. 2, 74072 Heilbronn, Germany</p>
09:39	<p>P7.4 Johannes Zettler (LayTec AG Berlin) <i>UV spectral reflectance for fast and reliable determination of the critical layer properties in enhancement-mode (Al,Ga)N/GaN HEMT structures</i> J. Zettler,¹ D. Seidlitz,¹ I. Claussen,^{1,*} F. Brunner,² E. Speiser,¹ and M. Weyers² ¹LayTec AG, Seesener Str. 10-13, 10709 Berlin, Germany ²Ferdinand-Braun-Institut (FBH), Gustav-Kirchhoff-Str. 4, 12489 Berlin, Germany</p>
09:42	<p>P7.5 Rebecca Rühle (University of Stuttgart) <i>Optimization of the active region of an InGaAsP-VECSEL around 760 nm for laser operation with a red pump laser</i> R. Rühle,^{1,*} M. Leyzner,² M. Abdou Ahmed,² T. Graf,² M. Jetter,¹ and P. Michler¹ ¹LayTec AG, Seesener Str. 10-13, 10709 Berlin, Germany ²Ferdinand-Braun-Institut (FBH), Gustav-Kirchhoff-Str. 4, 12489 Berlin, Germany</p>
09:45	<p>P7.6 Justus Anton Unfried (University of Stuttgart) <i>Development and Analysis of a VECSEL based on InGaAs Quantum Dots for Emissions in the Telecom O-Band</i> J. A. Unfried,^{1,*} P. Noack,¹ R. Rühle,¹ M. Jetter,¹ and P. Michler¹ ¹Institut für Halbleiteroptik und funktionelle Grenzflächen (IHFG), Center for Integrated Quantum Science and Technology (IQST) and SCoPE, University of Stuttgart, Allmandring 3, 70569 Stuttgart, Germany</p>

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09:48	<p>P7.7 Mahmoud Al Humaidi (AZUR SPACE Solar Power GmbH Heilbronn) <i>Investigation of line defects in a step-graded III-V metamorphic buffer structure for multijunction solar cells</i> M. Al Humaidi,* R. Sittig, P. Schroth, K. Möller, B. Fuhrmann, F. Wolf and M. Meusel AZUR SPACE Solar Power GmbH, Heilbronn, Baden-Württemberg, Germany</p>
09:51	<p>P7.8 Patrick Schygulla (Fraunhofer Heinrich-Hertz-Institute Berlin) <i>Reduction of Series Resistance in MOVPE-Grown Four-Junction Solar Cells</i> P. Schygulla,^{1,2,*} M. Klitzke,¹ O. Höhn,^{1,2} R. Müller,¹ E. Oliva,¹ M. Schachtner,¹ G. Siefer,¹ F. Dimroth,¹ and D. Lackner¹ ¹Fraunhofer ISE, Freiburg, Baden-Württemberg, Germany ²Freiburg University, Freiburg, Baden-Württemberg, Germany</p>
09:54	<p>P7.9 Sebastian Mühlenbruch (Fraunhofer Heinrich-Hertz-Institute Berlin) <i>Pushing AIX2800G4 Planetary Reactor™ towards maximum production efficiency for 6" space solar cells on Germanium</i> S. Mühlenbruch,^{1,*} K. Möller,¹ E. Seger,¹ S. Bauer¹ ¹AZUR SPACE Solar Power GmbH, Heilbronn, Baden-Württemberg, Deutschland</p>
09:54	<p>P7.10 Robert Sittig (AZUR SPACE Solar Power GmbH Heilbronn) <i>Minority-Carrier Lifetime-Investigation of Metamorphic AlInGaAs for 4-Junction Solar Cells</i> R. Sittig,^{1,*} S. Bauer,¹ E. Seger,¹ and M. Meusel¹ ¹AZUR SPACE Solar Power GmbH, Heilbronn, Baden-Württemberg, Germany</p>
10:00-11:00	Poster Session 7
11:00-11:30	Coffee Break
11:30-12:00	Invited Talk 5 (Chair: A. Strittmatter, Otto-von-Guericke-University Magdeburg)
	<p>Aaron Maxwell Andrews (Technical University of Vienna, Austria) <i>Growth of InAs/AlAs_{1-y}Sb_y Quantum Cascade Detectors</i> S. Isceri,¹ A. Windischhofer,¹ M. Giparakis,² W. Schrenk,³ B. Schwarz,¹ G. Strasser,¹ and A. M. Andrews^{1,*} ¹Institut für Festkörperelektronik E362 ²Institut für Photonik E387 ³Zentrum für Mikro- und Nanostrukturen E057-12 Technische Universität Wien, 1040 Wien, Austria</p>
12:00-12:10	Closing