

German Crystal Growth Conference (DKT 2026)

Karlsruhe, Campus Süd, 04.03.2026-06.03.2026

Wednesday, 04.03.2026

Registration (12:00-12:50)

12:50-13:00 Opening, Crystal Growth in Karlsruhe (*past to present*)

Session 1: Growth methods for optical crystals

13:00-13:35 **Lean Ting Jin (invited), University of Tübingen**
Crystal growing as a tool for chemistry education and public engagement: insights from hobbyist communities

13:35-13:55 **Paul Sass, SciDre – Scientific Instruments Dresden GmbH**
Optical floating zone crystal growth under high pressure atmospheres-advantages, applications and corresponding instruments

13:55-14:15 **Caroline Chèze, Scientific Visual SA, Switzerland**
3D defect mapping in semiconductors crystals: Volumetric inspection for enhanced growth feedback

14:15-14:35 **Saskia Schimmel, FAU Erlangen-Nürnberg (LEB)**
Thermal Boundary Conditions in Ammonothermal Crystal Growth – Developing an Experimentally Validated Numerical Model to Evaluate Effects of Reactor Materials, Thermal Surrounding, and Active Cooling

Coffee Break

Session 2: Fabrication and characterisation of bulk semiconductors

15:00-15:45 **Balaji Raghothamachar (keynote), Stony Brook University, USA**
Application of X-ray Topography to the Development of Wide Bandgap Semiconductors

15:45-16:05 **Philip Keller, PVA Technology Hub, Wettengel**
Value-added metrology for rapid SiC growth process development

16:05-16:25 **Arvind Subramanian, IKZ Berlin**
On the tuneability of the plasma edge in heavily doped Czochralski-grown p-type germanium bulk crystals

16:25-16:45 **Gleb Lukin, Fraunhofer Institute IISB, Erlangen**
PVT growth of 2-inch AlN bulk crystals using floating seed approach

16:45-17:05 **Arvinthkumar Padmanaban, Centre of Excellence ENSEMBLE3, Warsaw**
Growth and Characterization of Eu³⁺-Doped Bi₁₂GeO₂₀ Single Crystals

Coffee Break

Prize talk of the young DGKK award winner

17:25-18:00 **Moritz Badtke, IKZ Berlin, Fraunhofer IOBS, Ettlingen**
Visible and Near-infrared Solid-state Lasers based on Tb³⁺ and Tm³⁺

Wednesday, 04.03.2026

DGKK Assembly (18.30)

German Crystal Growth Conference (DKT 2026)

Karlsruhe, Campus Süd, 04.03.2026 - 06.03.2026

Thursday, 05.03.2026

Session 3: Quantum Materials 1

- 09:00 – 09:35 **Peer Schmidt (invited), BTU Cottbus-Senftenberg**
If solids could fly – crystal growth by vapor transports
- 09:35 – 09:55 **Pascal Puphal, Max Planck Institute SSR, Stuttgart**
Superconductivity in Infinite-layer and Ruddlesden-Popper Nickelates
- 09:55 – 10:15 **Anna Böhmer, Ruhr-Uni. Bochum**
Phase formation and stability of transition-metal chalcogenides of the pyrite marcasite and the half-Heusler family
- 10:15 – 10:35 **Darren Peets, IFM TU Dresden**
Hydrothermal Growth and Magnetic Phase Diagrams of Antlerite, $\text{Cu}_3\text{SO}_4(\text{OH})_4$

Coffee Break

Session 4: Quantum Materials 2

- 11:05 – 11:40 **Masahiko Isobe (invited), Max Planck Institute SSR, Stuttgart**
High-Pressure Crystal Growth and Exotic Metal-Insulator Transition of Hollandite Chromate $\text{K}_2\text{Cr}_8\text{O}_{16}$
- 11:35 – 11:50 **Kristin Kliemt, Goethe-Uni., Frankfurt**
From weak Mn order to colossal magnetoresistance in trigonal EuT_2P_2 compounds
- 11:50 – 12:10 **Eteri Svanidze, Max Planck Institute CPfS, Dresden**
Emergent phases in f-electron materials
- 12:10 – 12:30 **Franziska Walther, Goethe-Uni., Frankfurt**
Single crystal growth of the altermagnetic candidate Ce_4Sb_3 by the quasi-crucible free Czochralski method in a high-pressure setup
- 12:30 – 12:45 **Mochammad Yan Akbar, Max Planck Institute SSR, Stuttgart**
Crystal Growth, Structure, and Magnetism of $\beta\text{-Na}_{1+x}\text{FeO}_2$ ($x = 0, 0.1, 0.2$)
- 12:45 – 13:05 **Nico Gräßler, IFW Dresden**
Oscillating CVT Growth of 2D Janus RhSe

Thursday, 05.03.2026

Poster Session (14:00 – 15:30) with coffee

M. Lang, IISB Erlangen, 3D adaptive modelling of diamond crystal growth in the High-Pressure-High-Temperature (HPHT) process

B. Kramm, PVA TePla, Analysis and Control Strategies of the Orbiting Phenomenon in the Czochralski Process

J.A. George, IFW Dresden, Single-Crystal Growth and Structural Characterization of $\text{La}_2\text{O}_3\text{Fe}_2\text{Se}_2$

P. Sass, SciDre Dresden, Expanding the Toolbox for OFZ Crystal Growth: New Devices and Process Enhancements

P. Sass, SciDre Dresden, Optical floating zone crystal growth under high pressure atmospheres – advantages and applications

B. Raghathamachar, Stony Brook Uni., USA, Consortium for Wide Bandgap Materials and Onsemi Research Center for Wide Bandgap Materials

A. Henschel, SciDre, Dresden, The Dresden Materials Lab: An Open and Accessible Platform for Crystal Growth Research

L. Essich, Goethe-Uni., Frankfurt, Towards 1144 phosphides: 122 precursors and a new alkali-metal-setup

I. Tsiapkinis, IKZ Berlin, In-situ measurements of melt flows during crystal growth processes

B. Kallinger, IISB Erlangen, Minority charge carrier lifetime for evaluating 4H-SiC epitaxial growth by Microwave detected Photoconductivity Decay

M. Kostka, Ruhr-Uni. Bochum, Synthesis of CsMn_2P_2 single crystals and study of its low temperature electrical resistance

A. Kunzmann, EMPI Uni. Duisburg-Essen & Ruhr-Uni. Bochum, Synthesis and characterization of Mo-doped KNbO_3 single crystals by micro-pulling-down method

M. Ocker, Goethe-Uni., Frankfurt, Fine tuning $\text{EuPd}_{2-x}\text{Si}_{2+x}$ and $\text{Eu}(\text{Pd}_{1-x}\text{Pt}_x)_2\text{Si}_2$ towards the critical endpoint

I. Rajput, IQMT KIT, Crystal Growth of Kagome CsM_6Sb_6 ($M = \text{V}, \text{Cr}$) with Distinct Electronic Correlations

P. Palleti, IKZ Berlin, Single-crystalline high-purity Ge bars by the zone refining technique

J. Strahl, Goethe-Uni, Frankfurt, Mn-based magnets: Crystal growth and magnetic properties of the LnMn_2Ge_2 series

V. Tran, IKZ Berlin, First results of 4"-VGF-GaSb crystal growth development

J. Zöcklein, Crystal Growth Lab. FAU Erlangen-Nuremberg, Analysis of mixed type dislocations by KOH defect etching on strongly off-axis 4H-SiC wafers

L. Vieira, IKZ Berlin, Novel Finite Element Model for Coupled Simulation of Floating Zone Silicon Growth

M. Kabukcuoglu, LAS KIT, X-ray Diffraction Imaging for Defect Characterization in Semiconductor Materials

G. Bonetti, IKZ Berlin, Growth of UV-transparent BaMgF_4 single crystals

F. Walther, Goethe-Uni., Frankfurt, Growth of MnSe_2 Single Crystals as a Candidate for Supercell Altermagnets

Session 5: Epitaxy and layered systems

15:30 – 16:05 **Stefano Leone (invited), Fraunhofer Institute IAF, Freiburg**
Growth and Application of AlScN/GaN-Heterostructures and new perspectives in the MOCVD of nitrides

16:05– 16:25 **Ravi Teja Mittireddi, TU Bergakademie, Freiberg**
Microstructure of intrinsic interlayer and its impact on quality of functional GaN layers fabricated using HTVP

Coffee Break

16:40 – 17:15 **Holger Kalisch (invited), RWTH Aachen**
Challenges in 2D TMDC Synthesis via MOCVD

17:15 – 17:35 **Ole Schneider, FAU Erlangen-Nuremberg**
Origin of 4H-SiC polytype stability of bulk-like epitaxial layers grown by CS-PVT on Si-face 4H-SiC wafer seeds

Conference Dinner (Badische Brauhaus, 19:00)

Friday, 06.03.2026

Session 6: Simulation of crystal growth processes

09:00 – 09:35 **Lorenz Romaner (invited), Montanuniversität Leoben, Austria**
A Hybrid Modeling Approach for SiC Crystal Growth Combining Simulation and Machine Learning

09:35 – 09:55 **Markus Zenk, Fraunhofer Institute IISB, Erlangen**
Towards an optimal strategy for cooling down a single crystal from growth to room temperature not exceeding the critical resolved shear stress

09:55 – 10:30 **Matthias Müller (invited), TU Bergakademie Freiberg**
Metamodeling in crystal growth using the example of HVPE based GaN synthesis

10:30 – 11:00 **Wolfram Miller, IKZ Berlin**
Some first results for the growth MoS₂ by atomistic calculations

Coffee Break

Session 7: Oxide, semiconducting and laser single crystals

11:20 – 11:55 **Christian Kränkel (invited), IKZ Berlin**
Laser transitions in Tm³⁺-doped fluoride crystals

11:55 – 12:15 **Christo Gugushev, IKZ Berlin**
Novel diamagnetic garnet-type substrate single crystals for yttrium iron garnet Y₃Fe₅O₁₂ films with ultralow-damping at cryogenic temperatures

12:15 – 12:35 **Valdemar Frederiksen, IKZ Berlin**
Formation and stability of noses during float zone silicon growth

12:35-12:45 **Closing --- Lab-Tour (optional, 13:30 – 15:00)**