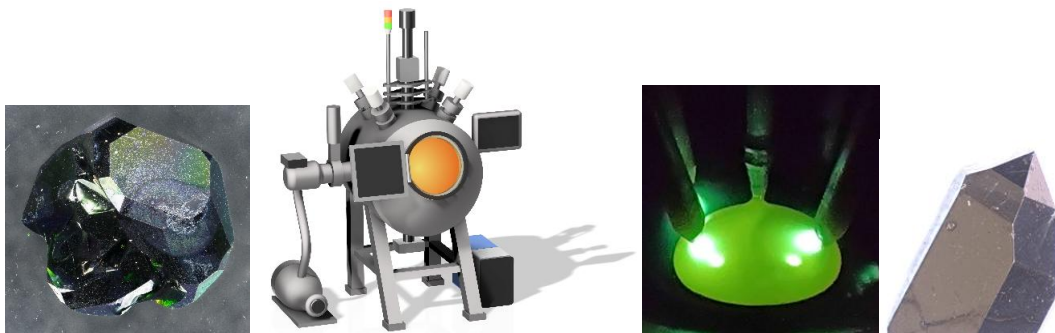




Karlsruhe Institute of Technology, Campus South,  
March 4 - 6th 2026



**Organized by Institute for Quantum Materials and  
Technologies, KIT**

<https://www.dgkk.de/en/conference/dkt-2026/home>

## General information

### Venue

The Campus South is located in the city centre of Karlsruhe. You can find the site plan (PDF) of the lecture hall building (Otto-Lehmann Lecture Hall Nr. 7 (30.22) on Campus South map via the following link ([https://www.kit.edu/kit/english/campus\\_south\\_car.php](https://www.kit.edu/kit/english/campus_south_car.php)). You can find the hall in Engesserstraße 7 E 5/6. For Those arriving by car, there are parking lots along the Adenauerring with a approx. 10 minutes walk to reach Otto-Lehmann-Lecture-Hall.

### Registration

The registration is possible via the conference website:  
<https://www.dgkk.de/en/conference/dkt-2026/registration>

### Conference office

There will be a desk in the foyer of the Otto-Lehmann Lecture Hall Nr. 7 (30.22), which will be open on Wednesday 4<sup>th</sup> of March from 12:00 to 16:00, on Thursday 5<sup>th</sup> of March from 9:00 to 16:00 and Friday 6<sup>th</sup> of March from 9:00 to 12:00.

### Industry exhibition

DKT 2026 will be accompanied by an industry exhibition in the foyer of the Otto-Lehmann Lecture Hall Nr. 7 (30.22).

### Poster Session

Posters will be presented on Thursday afternoon in the foyer of the Otto-Lehmann Lecture Hall Nr. 7 (30.22).

### Lunch on Thursday 5<sup>th</sup> of March

There is a list of restaurants and cafes nearby where the conference is held. The list can be found following the link:  
<https://www.dgkk.de/en/conference/dkt-2026/programme>

### Conference dinner

The conference dinner will take place in Badisch Brauhaus on Thursday 5<sup>th</sup> of March, 2026 (Stefanienstrasse 38-40, 76133 Karlsruhe) starting from 19:00 o'clock.

### Lab Tours

We offer a lab tour to the Crystal and Materials Lab on Friday afternoon from 13:30-15:00 in Campus North, IQMT, Building 425. Transportation by bus has been arranged.

### Website

The conference website is  
<https://www.dgkk.de/en/conference/dkt-2026/home>

## How to Reach Campus South

The campus south is located in the city centre of Karlsruhe and can easily be reached by public transport and car. You will find more information using the following link:

[https://www.kit.edu/kit/english/campus\\_south\\_car.php](https://www.kit.edu/kit/english/campus_south_car.php)

For the map of the Campus you can use the following link:

<https://www.kit.edu/downloads/campus-sued.pdf>

## Invited Speakers

- Prof. Balaji Raghothamachar (Stony Brook, USA) – *Application of X-ray Topography to the Development of Wide Bandgap Semiconductors*
- Prof. Lorenz Romaner (Montan Uni. Leoben) - *A Hybrid Modeling Approach for SiC Crystal Growth Combining Simulation and Machine Learning*
- Dr. Stefano Leone (Fraunhofer IAF) - *Growth and Application of AlScN/GaN-Heterostructures and new perspectives in the MOCVD of nitrides*
- Mr. Lean Ting Jin (Uni. Tübingen) - *Crystal growing as a tool for chemistry education and public engagement: insights from hobbyist communities*
- Dr. Christian Kränkel (IKZ) - *Laser transitions in  $Tm^{3+}$  doped fluoride crystals*
- Prof. Peer Schmidt (BTU Cottbus-Senftenberg) - *If solids could fly – crystal growth by vapor transports*
- Dr. Holger Kalisch (RWTH Aachen) - *Challenges in 2D TMDC Synthesis via MOCVD*
- Dr. Matthias Müller (TU-Freiberg) - *Metamodeling in crystal growth using the example of HVPE based GaN synthesis*
- Dr. Masahiko Isobe (Max Planck Institute Stuttgart) - *High-Pressure Crystal Growth and Exotic Metal-Insulator Transition of Hollandite Chromate  $K_2Cr_8O_{16}$*

## Programme Committee

- Matthias Bickermann, IKZ, Berlin (AK Optische Kristalle)
- Sebastian Schwung, EOT GmbH, Idar-Oberstein (AK Optische Kristalle)
- Peter Wellmann, FAU Erlangen (AK Massive Halbleiter)
- Michael Heuken, Aixtron SE, Herzogenrath (AK Epitaxie)
- Sabine Wurmehl, IFW, Dresden (AK Intermetallika)
- Lev Kadinski, Siltronic AG, Burghausen (AK Simulation)
- Ludwig Stockmeier, Siltronic AG, Freiberg (AK Simulation)
- Wolfram Miller, IKZ, Berlin (AK Kinetik & 2D)
- Anton Jesche (Uni. Augsburg)

## Organizing Committee

- Amir-Abbas Haghighirad (DKT2026) (Conference Chair)
- Merve Kabukcuoglu (JDGKK)

## Organizing Institution

- Institute for Quantum Materials and Technologies, Karlsruhe Institute of Technology

# 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, Wettenberg**

*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 Eu<sup>3+</sup>-Doped Bi<sub>12</sub>GeO<sub>20</sub> Single Crystals*

**Coffee Break**

### Prize talk of the young DGKK award winner

17:25-18:00 **Moritz Badtke, IKZ Berlin, Fraunhofer IOSB Ettlingen**

*Visible and Near-infrared Solid-state Lasers based on Tb<sup>3+</sup> and Tm<sup>3+</sup>*

**Wednesday, 04.03.2026**

**DGKK Assembly (18.30)**

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**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 Pupal, 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  $\text{EuT}_2\text{P}_2$  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  $\text{Ce}_4\text{Sb}_3$  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  $\text{CsMn}_2\text{P}_2$  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  $\text{KNbO}_3$  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  $\text{CsM}_6\text{Sb}_6$  ( $M = \text{V}, \text{Cr}$ ) 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  $\text{LnMn}_2\text{Ge}_2$  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  $\text{BaMgF}_4$  single crystals

**F. Walther**, Goethe-Uni., Frankfurt, Growth of  $\text{MnSe}_2$  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 (Badisch Brauhaus, 19:00)**

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**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 MoS<sub>2</sub> 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 Tm<sup>3+</sup>-doped fluoride crystals*

11:55 – 12:15 **Christo Gugushev, IKZ Berlin**  
*Novel diamagnetic garnet-type substrate single crystals for yttrium iron garnet Y<sub>3</sub>Fe<sub>5</sub>O<sub>12</sub> 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)**

## Notes

DKT 2026 gratefully acknowledges supports from:



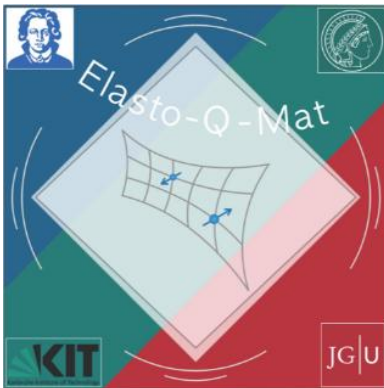
**Carbon Technology**  
Germany



**epistromo**



**Rigaku**



**Malvern  
Panalytical**

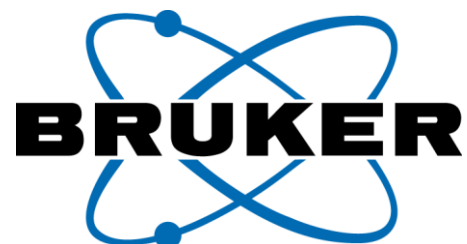


**SciAps**

**a powerful combination**



Karlsruher Institut für Technologie



Wednesday, March 4th	Thursday, March 5th	Friday, March 6th
<b>Registration &amp; Get together</b>	<b>Session 3: Quantum</b>	<b>Session 6: Simulation of</b>
12:00 – 12:50	<i>Materials 1</i>	<i>crystal growth processes</i>
	(09.00 – 10.35)	(09:00 – 11:00)
<b>Opening</b>	<b>P. Schmidt</b>	<b>L. Romaner</b>
12:50 – 13:00	P. Puphal	M. Zenk
<b>Session 1: Growth methods</b>	A. Böhmer	<b>M. Müller</b>
<i>for optical crystals</i>	D. Peets	W. Miller
(13:00 – 14:35)		
<b>L.T. Jin</b>	<b>Coffee break</b>	<b>Coffee break</b>
P. Sass	10:35 – 11:05	11:00 – 11:20
C. Chèz	<b>Session 4: Quantum</b>	<b>Session 7: Oxide, semi-</b>
S. Schimmel	<i>Materials 2</i>	<i>conducting and laser single</i>
	(11:05 – 13:05)	<i>Crystals</i>
<b>Coffee break</b>	<b>M. Isobe</b>	(11:00 – 12:35)
14:35 – 15:00	K. Kliemt	<b>C. Kränkel</b>
<b>Session 2: Fabrication and</b>	E. Svanidze	C. Guguschev
<i>characterisation of bulk semi-</i>	F. Walther	V. Frederiksen
<i>conductors</i>	M. Y. Akbar	
(15:00 – 17:05)	N. Gräßler	
<b>B. Raghthamachar</b>		
P. Keller	<b>Lunch break</b>	<b>Closing</b>
A. Subramanian	13:05 – 14:00	12:35 – 12:45
G. Lukin		
A. Padmanaban	<b>Postersession (with coffee)</b>	<b>Lab Tours</b>
	14:00-15:30	13:30 – 15:00
	<b>Session 5: Epitaxy &amp; layered</b>	
<b>Coffee break</b>	<i>systems</i>	
17:05 – 17:25	(15.30 – 17.35)	
	<b>S. Leone</b>	
	R.T. Mittireddi	
<b>Young DGKK Award</b>	<b>Coffee break</b>	
17:25-18:00	17:05 – 17:25	
<b>DGKK – Assembly</b>	<b>H. Kalisch</b>	
18:30 – 20:30	O. Schneider	