Curriculum Vitae

Name: Prof. Dr. Thomas Schröder

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Position: Director IKZ / Professor ´Crystal Growth` at Institute of Physics / HU Berlin: since February 2018

Education

- Studies in Chemistry (1988 – 1996), B.Sc. & M.Sc. at Eberhardt-Karls-University, Tübingen (Germany), **Degree Chemistry Diploma**; Research Stay in Pisa / Italy
- Studies in Physics (1993 – 1998), B.Sc & M.Sc at Eberhardt-Karls-University, Tuebingen (Germany), **Degree: Physics Diploma**; Research Stay in Madrid / Spain
- PhD thesis in the area of Physical Chemistry of Dielectrics (1998 – 2001) at Humboldt-University / Fritz-Haber Institute of Max Planck Society, Berlin (Germany), **Degree: Dr. rer. nat**

Appointments

- W3 Professor in Crystal Growth since 2018, Humboldt-Universität zu Berlin, Department of Physics, crystal growth (HU Berlin, Germany)
- Scientific Director since 2018, Leibniz-Institut für Kristallzüchtung (IKZ, Berlin, Germany)
- W2-Professorship on Semiconductor Materials & Devices: 2012 – 2017, Brandenburg University of Technology (BTU, Cottbus-Senftenberg, Germany),
- Head of Joint Lab: 2014 – 2017, IHP: Leibniz-Institute for High Performance Microelectronics and Technical University of Poznan (Frankfurt/O., Germany/Poland); Guest Professorship at TU Poznan
- Department Head: 2009 – 2017 of Materials Research at IHP GmbH (Frankfurt/O., Germany)
- Group Leader: 2004 – 2009; Leader "Heteroepitaxy" IHP Department „Materials Research" (Frankfurt/O., Germany)
- PostDoc: 2002 – 2004; Head of Surface Characterization in Surface & Interface Division, European Synchrotron Radiation Facility (Grenoble, France)

Fields of activity

Research & development activities are focused on modern materials research in the area of innovations *in* and *by* crystalline materials for solutions in society (communication, energy, health, quantum applications etc.):

- *Innovations in crystalline materials* cover plant and automatic process control engineering, numerical simulations and growth development of specialized crystal systems.
- *Innovations by crystalline materials* address the reliable benchmarking and evaluation of innovative crystalline materials for future electronic and photonic applications.

Important offices & functions

since 2026: Chairman of Deutsche Gesellschaft für Kristallwachstum und -züchtung (DGKK) (served as Deputy Chairman from 2021 to 2025)

since 2026: Member of the Scientific Advisory Board of ´Excellence Research Center for High Efficiency in Energy Use` at the University of Timisoara (Romania) (2026-2029)

since 2025: Speaker of Leibniz Section D Institutes ´Mathematics, Natural Sciences & Engineering and Member of Leibniz Association President Steering Committee Board

since 2022: Coordinator of the European Network of Crystal Growth (ENCG)

2021 – 2025: Chairman Leibniz-Strategy Forum ´Tech Sovereignty´ advising Leibniz President

since 2021: Deputy Chairman of "Deutsche Gesellschaft für Kristallzüchtung" (DGKK)

2018 – 2025: Member of DESY Photon Science Council (PSC) at Hamburg / DESY

2016 – 2025: Member of ´International Semiconductor Technology & Device Meeting (ISTDM)`

2020 – 2023 Deputy Chairman & Chairman of the Board of Forschungsverbund Berlin e.V.

2020 – 2022 Co-Chairman of Leibniz-Equal Opportunity Group advising Leibniz President

Selected publications (more than 10.300 citations / h = 55 / i = 195 (January 2026)

1. **Model Catalysis R & D**: T. Schroeder, M. Adelt, B. Richter, M. Naschitzki, M. Bäumer and H.-J. Freund, Epitaxial Growth of Silica on Mo (112), Surface Review and Letters 7 (1 & 2), 7 (2000).

2. **Neuromorphic Materials & Device R & D**: Ch. Walczyk, Ch. Wenger, R. Sohal, J. Dabrowski, A. Fox, B. Tillack, H.-J. Müssig and T. Schroeder, Pulse-induced low power resistive switching in HfO2 metal-insulator-metal diodes for non-volatile memory applications, Journal of Applied Physics 105, 114103 (2009).

3. **Heteroepitaxy Materials & Device R & D**: F. Montalenti, P. Zaumseil, M. Salvalaglio, A. Marzegalli, G. Capellini, T. U. Schülli, M. A. Schubert, Y. Yamamoto, B. Tillack and T. Schroeder, Misfit dislocation-free Ge nanostructures on compliant Si (001): Experiment and Theory, Physical Review B 89, 014101 (2014).

4. **Volume Crystal R & D**: Z. Galazka, S. Ganschow, K. Irmscher, D. Klimm, M. Albrecht, R. Schewski, M. Pietsch, T. Schulz, A. Dittmar, A. Kwasniewski, R. Grueneberg, S. Bin Anooz, A. Popp, U. Juda, I. M. Hanke, T. Schroeder, M. Bickermann, Bulk single crystals of β-Ga_2O_3 and Ga-based spinels as ultra-wide bandgap transparent semiconducting oxides, Progress in Crystal Growth and Characterization of Materials 67, 100511 (2021).

5. **2D Materials R & D**: Liyan Dai, Jinyan Zhao, Jingrui Li, Bohan Chen, Shijie Zhai, Zhongying Xue, Zengfeng Di, Boyuan Feng, Yanxiao Sun, Yunyun Luo, Ming Ma, Jie Zhang, Sunan Ding, Libo Zhao, Zhuangde Jiang,Wenbo Luo, Yi Quan, Jutta Schwarzkopf, Thomas Schroeder, Zuo-Guang Ye, Ya-Hong Xie, Wei Ren, Gang Niu: Highly heterogeneous epitaxy of flexoelectric $BaTiO_{3-\delta}$ membrane on Ge; Nature Communications, 13.2990 (2022).