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Dominik Lungerich

Currently: YSF Principal Investigator (IBS, Center for Nanomedicine) &
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RESEARCH PROFILE

Chemistry of Dynamic Processes: *Physical Organic Chemistry • Operando Electron Microscopy • Molecular Materials Chemistry • Sustainable Chemistry • Nanoscience*

EDUCATIONAL PATHWAY

04/2017 **Dissertation**: Dr. rer. nat. (*summa cum laude*); Friedrich-Alexander-University Erlangen-Nürnberg (FAU), Germany; Supervisor: Prof. Norbert Jux, Prof. Andreas Hirsch.
Thesis title: *Fragments of Graphyrin*.

08 – 09/2014 **Research Visit**: University of Oxford, United Kingdom; Supervisor: Prof. Harry L. Anderson;
Topic: "*Synthesis of alkynyl-bridged HBC-porphyrin conjugates for single-molecule conductance studies*".

01/2012 – 10/2016 **Doctoral Studies**: Friedrich-Alexander-University Erlangen-Nuernberg.

09 – 11/2011 **Research Visit**: University of Georgia (UGA), Athens, GA, USA;
Supervisor: Prof. Paul von Ragué Schleyer† and Prof. George Majetich;
Topic: *"Re-visiting the synthesis and structure properties of [18]annulene*".

10/2009 – 11/2011 **Master of Science** in Chemistry (*grade: 1.3*) at FAU;
Focus: Synthetic molecular materials and supramolecular chemistry.

08/2010 – 06/2011 **Study Abroad**: University of Georgia, Athens, GA, USA.
Master Thesis (*grade: 1.0*) at UGA: "*A Modern Approach Towards the Synthesis of [18]Annulene*"; Supervisor: Prof. Norbert Jux (FAU), Prof. Paul v. Ragué Schleyer† (UGA).

10/2006 – 09/2009 **Bachelor of Science** in Chemistry (*grade: 2.4*) at FAU.
Bachelor Thesis (*grade: 1.0*): "Synthesis and characterization of a novel porphyrin-chlorin dyad ". Supervisor: Prof. Norbert Jux.

09/1996 – 06/2005 **Grammar School**: Labenwolf Gymnasium Nuernberg, Germany.

ACADEMIC WORK HISTORY

2024 Tenure-track **Assistant Professor, Yonsei University** – *offer declined*.

Since 07/2020 **Research Professor:** Advanced Science Institute, Yonsei University, Seoul, South Korea.

Since 03/2020 **YSF Principal Investigator:** Center for Nanomedicine, Institute for Basic Science (IBS), Seoul, South Korea.

05/2019 – 02/2020 **Alexander von Humboldt Independent Postdoctoral Researcher:** FAU,
Host: Prof. Andreas Hirsch.

05/2017 – 05/2019 **JSPS/AvH Postdoctoral Researcher**: University of Tokyo, Japan,
Supervisor: Prof. Eiichi Nakamura.

11/2016 – 05/2017 **Postdoctoral Researcher**: FAU, Supervisor: Prof. Konstantin Amsharov.

01/2012 – 10/2016 **Research Assistant:** Department of Chemistry and Pharmacy, FAU.

08/2010 – 06/2011 **Research Assistant**: Department of Chemistry, University of Georgia, Athens, GA, USA.

HONORS • AWARDS • GRANTS

2020 – 2025 **Young Scientist Fellowship** (YSF) (Grant No.: IBS-R026-Y1; ₩ 1.500M ≈ EUR 1.2M).

2019 **Best Poster Award**: "5th International Symposium on Synthetic Carbon Allotropes", Erlangen, Germany.

2019 – 2020 **Feodor-Lynen Return Fellowship** from the **Alexander von Humboldt** Foundation.

2018 **Best Poster Award**: "2nd From Carbon-Rich Molecules to Carbon-Based Materials", Nassau, Bahamas.

2017 – 2019 **Alexander von Humboldt** and **Japan Society for the Promotion of Science** (JSPS) **Postdoctoral Fellowship** (24 months).

2017 **Zerweck Prize for Best Doctoral Thesis** awarded by the Department of Chemistry (FAU).

2013 **Best Research Proposal**, awarded by the Graduate School Molecular Science.

2012 – 2017	Admission to the **"Graduate School Molecular Science"** (GSMS) at FAU.
2010 – 2011	**Full Scholarship** of the University of Georgia, Athens, GA, USA.
2010 – 2011	**Graduate Research Assistantship** of the University of Georgia, Athens, GA, USA.
2010	**Travel Stipend** of the "Ilse und Dr. Alexander Mayer" Foundation.

INSTITUTIONAL RESPONSIBILITIES

Head of the Electron Microscopy Facility (responsible for 3 (AC)-TEM & *in situ* equipment) • **Member of the Safety Committee** (responsible for compliance with safety standards in the laboratories, carrying out regular checks) • **Member of the Equipment Committee** (procurement of equipment).

ACADEMIC SOCIETY MEMBERSHIPS

German Chemical Society (GDCh) • Liebig-Association for Organic Chemistry • American Chemical Society (ACS) • Korean Chemical Society (KCS) • Alexander von Humboldt Society (AvH) • Japan Society for the Promotion of Science (JSPS).

CONTRIBUTIONS TO THE RESEARCH COMMUNITY

Co-organizer of the symposium on "Cinematic Molecular Science and Nanoscience Explored by Electron Microscopy" at the **Pacifichem 2025** [Honolulu, Hawaii, USA].

Actively engaged in the **promotion of diversity and equity** in science and technology. Invited to the roundtable with leaders in science and technology, as organized by the delegation of the European Union at the Republic of Korea.

Reviewer activities for common journals in the field (*J. Am. Chem. Soc.* • *Acc. Chem. Res.* • *Phys. Chem. Lett.* • *Eur. J. Org. Chem.* • *Chem. Asian. J.* • *Nanoscale* • *Beilstein J. Org. Chem.* • *Sig. Transduct. Target Ther.* • *etc.*)

RESEARCH NETWORK

International Collaborators: ***Japan:*** Eiichi Nakamura (University of Tokyo); Koji Harano (NIMS) • ***South Korea:*** Jinwoo Cheon, Jae-Hyun Lee, Minsuk Kwak (Yonsei University); Andreas Heinrich, Luciano Colazzo (Center for Quantum NanoScience, Institute for Basic Science) • ***Germany:*** Konstantin Amsharov (Halle University); Norbert Jux, Thomas Drewello, Dirk Guldi, Sabine Maier, Bernd Meyer (Erlangen University); Prince Ravat (Würzburg University); Joachim Spatz, Senne Seneca (MPI Medical Research, Heidelberg) • ***France:*** Clément Cabanetos (Moltech Anjou, CNRS) • ***Spain:*** Kasper Moth-Poulsen, Helen Hoelzel (UPC Barcelona Tech); Araceli Campaña (Universitat de Granada) • ***United Kingdom:*** Harry L. Anderson (Oxford University).

Partner of CNRS International Research Projects (IRPs): ***2BFUEL*** (Building Blocks for FUture Electronics) • ***MAPLE*** (MAterial for Printed and Lightweight Electronics) • ***LEGEND*** (Light Emitting Electrochemical Energy Storage Devices).

RESEARCH ACHIEVEMENTS

I have published 50 research articles in peer-reviewed journals • h-index: 20 • 1122 citations (Google Scholar, as of January 2025). I communicated my research in form of 50 presentations (24 invited talks) at international and national meetings, conferences and institutions.

THIRD-PARTY FUNDING ACQUISITION

I successfully acquired a "**Young Scientist Fellowship**" (YSF) (comparable to ERC StG), to conduct independent research with my team at the Institute for Basic Science (IBS) Center for Nanomedicine (CNM) for five years. This includes free use of the existing infrastructure at IBS CNM and full administrative support.

• **YSF** (05.2020 – 04.2025); Proposal-ID: IBS-R026-Y1; Amount: (2020-2025: ₩1.500M ≈ EUR 1.2M).

Project title: ***Nanoscopic machines with quantum chemical precision***
Ultrashort Summary: With the manipulation of precise quantum chemical events at the atomistic level for tailored molecular–nanomaterials interfaces, the understanding and control of processes at the nanoscale is targeted, to advance nano-electronic and nano-biological health technologies.

SUPERVISION

Since 2020 I have supervised as independent group leader students with diverse backgrounds (physics, chemistry, nanoscience, and materials science) in doing interdisciplinary research at Yonsei University.

Current group size: 3 (1/1/1/0/0) (Postdoc/Researcher/PhD/Master/Bachelor students);
Past group members: 18 (6/0/4/2/6); Dept. NanoBME, Yonsei University.

• I supervised 7 Bachelor/Master theses and co-supervised 3 Ph.D. theses (Yonsei University), and co-supervised 18 Bachelor/Master theses (FAU, Germany).