

Virtual component of the CIVIS Blended Intensive Program: D₃HT₅

3rd BIP Drug Design and Discovery: Hot Topics, Tools, Technologies, and Translation @ Tübingen 2024



Planned Program (as of 19th Oct. 2023)

		Time slots (CEST)	Lectures, Speakers
Week 1	Tuesday, 30th April	14:00-17:00	<p>From Charges to π-systems: Classical Molecular Interactions – Familiar, yet still Surprising</p> <p>Non-Classical Molecular Interactions: New Tools, New Rules</p> <p>Prof. Dr. Frank M. Böckler Molecular Design & Pharm. Biophysics, Department of Pharmacy and Biochemistry, Eberhard Karls University Tübingen</p>
	Friday, 3rd May	14:00-17:00	<p>The Drug Discovery Process & Technologies - Strategies, Issues, Costs, Outlook</p> <p>Thermodynamics in Drug Discovery (in Hit2Lead / LeadOpt)</p> <p>Molecular Complexity & Fragment-based Drug Discovery</p> <p>Hit-to-Lead optimization, Co-optimizing Ligand Properties, Avoiding late Attrition</p> <p>Prof. Dr. Frank M. Böckler Lab for Molecular Design & Pharm. Biophysics, Department of Pharmacy and Biochemistry, Eberhard Karls University Tübingen</p>

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Week 2	Wednesday, 8 th May	14:00-15:30	<i>In Vitro</i> Cell Culture Models and Evaluation of Drug Effects Dr. Miruna Stan , Faculty of Biology, Bucharest University
		15:30-17:00	Neurodegenerative Diseases and Drug Discovery Prof. Dr. Maria Cano-Abad , Facultad de Medicina, Universita Autonoma Madrid
	Friday, 10 th May	14:00-15:00	Immunomodulation and Drug Impact on Cytokine Production and on the M1/M2 Macrophage Phenotype Dr. Gratiela Gradisteanu , Research Institute of Bucharest University
		15:00-17:00	Evaluation Drug-induced Responses in Cultured Cells at Specific Time Points (Cell Cycle Analysis and Apoptosis). Screening of Drug-induced Reactive Oxygen Species Production in Leukocytes Subpopulations in Whole Blood (<i>Ex-vivo</i>) Prof. Dr. Luminita Marutescu , Faculty of Biology, Bucharest University
Week 3	Wednesday, 15 th May	14:00-17:00	Microcalorimetry (ITC, DSC) and NanoDSF : Application to Anticancer Drugs Screening and Thermodynamic Characterization Prof. Dr. Francois Devred , Faculty of Pharmacy, Aix-Marseille Université
	Friday, 17 th May	14:00-17:00	Introduction to NMR Spectroscopy and Related Screening Methods Prof. Dr. Emmanuel Mikros , Faculty of Pharmacy, National Kapodistrian University of Athens
Week 4	Wednesday, 22 th May	14:00-17:00	Pharmacokinetics in Drug Discovery and Development: Physiologically-based PK (PBPK) Models Prof. Dr. Florence Gattacceca , Faculty of Pharmacy, Aix-Marseille Université
	Friday, 24 th May	14:00-17:00	Facts and Principles in Drug Discovery and Development: the Molecular Drug Space Selection and Optimization Prof. Dr. Sandrine Alibert , Faculty of Pharmacy, Aix-Marseille Université
Week 5	Wednesday, 29 th May	14:00-15:00	Animal Models (Ethical Considerations, Experimental Design, <i>In vivo</i> Analysis of Drug Effects) Dr. Gratiela Gradisteanu , Research Institute of Bucharest University
		14:00-17:00	Visualizing K ⁺ Ion Signaling Pathways in Cell Metabolism Prof. Dr. Robert Lukowski , Experimental Pharmacology, Department of Pharmacy and Biochemistry, Eberhard Karls University Tübingen
	Friday, 31 st May	14:00-15:30	Nanobody Technology Platform Prof. Dr. Ulrich Rothbauer , Pharm. Biotechnology, Department of Pharmacy and Biochemistry, Eberhard Karls University Tübingen
		15:30-17:00	Mass Spectrometry and Bioanalytics Prof. Dr. Michael Lämmerhofer , Pharm. Analytics, Department of Pharmacy and Biochemistry, Eberhard Karls University Tübingen

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Week 6	Wednesday, 5 th June	14:00-15:30	Peptides by Design – RiPP Engineering Technology JProf. Dr. Silja Mordhorst , Pharm. Biology, Department of Pharmacy and Biochemistry, Eberhard Karls University Tübingen
		15:30-17:00	Genome Mining Enables a Renaissance of Natural Product Drug Discovery Prof. Dr. Harald Groß , Pharm. Biology, Department of Pharmacy and Biochemistry, Eberhard Karls University Tübingen
	Friday, 7 th June	14:00-15:30	Targeted Covalent Inhibitors in Drug Discovery JProf. Dr. Matthias Gehringer , Medicinal Chemistry, Department of Pharmacy and Biochemistry, Eberhard Karls University Tübingen
		15:30-17:00	Academic Drug Discovery: Fiction, Facts or Fantasy Prof. Dr. Stefan Laufer , Medicinal Chemistry, Department of Pharmacy and Biochemistry, Eberhard Karls University Tübingen
Week 7	Wednesday, 12 th June	14:00-15:30	Introduction to Epigenetics and Related Drugs Prof. Dr. Antonello Mai , Faculty of Pharmacy, La Sapienza University
		15:30-17:00	Introduction to Ligand-based Methods: Pharmacophore Modeling, (3D) QSAR Prof. Dr. Rino Ragno Faculty of Pharmacy, La Sapienza University, Rome
	Friday 14 th June	14:00-15:30	Introduction to Structure-based Methods in Drug Design: Molecular Docking Prof. Dr. Rino Ragno Faculty of Pharmacy, La Sapienza University, Rome
		15:30-17:00	Machine Learning and Artificial Intelligence in Drug Discovery Dr. Markus Zimmermann , Molecular Design & Pharm. Biophysics, Department of Pharmacy and Biochemistry, Eberhard Karls University Tübingen
Week 8	Wednesday, 19 th June	14:00-15:30	Case Studies in Industrial Anti-cancer Drug Discovery: KRAS G12C and HIF2 α Dr. Rainer Wilcken , Director, Computational Chemistry / Computer-Aided Drug Design at Flare Therapeutics
		15:30-17:00	Fragment-based Approaches towards PROTAC Development and Free Energy Methods in Industry Dr. Matthias R. Bauer , Senior Expert II Data Science at Novartis Institutes for BioMedical Research (NIBR)



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	Friday 21 st June	14:00-15:30	Embedding of Nanoparticles in Solid (Orodispersible) Matrices Prof. Dr. Denise Steiner , <i>Pharmaceutical Technology, Department of Pharmacy, Westfälische Wilhelms-Universität-Münster (previously: Eberhard Karls University Tübingen)</i>
		15:30-17:00	Clinical Trials Prof. Dr. Evangelos Terpos , <i>School of Medicine, National Kapodistrian University of Athens</i>