Curriculum Vitae

Personal Details

Name:	Christoph Held
Business Address:	TU Dortmund University, Laboratory of Thermodynamics,
	Emil-Figge-Str. 70, D-44227 Dortmund, Germany
Phone:	+49 (231) 7552086, +49 (151) 56946084
Email address:	christoph.held@tu-dortmund.de

Professional Experience

2023	(Independent) Group Leader and Lecturer (“Akadem. Oberrat”), at TU Dortmund University, Laboratory of Thermodynamics
2020 – 2023	Substitute professor of Laboratory of Fluid separations at TU Dortmund University, Germany
2018 – 2020	(Independent) Group Leader and Lecturer (“Akadem. Oberrat”), at TU Dortmund University, Laboratory of Thermodynamics
2012 - 2017	Scientific Assistant (“Habilitand”) at TU Dortmund University, Laboratory of Thermodynamics
2007 - 2012	Scientific Coworker (PhD student) at TU Dortmund University

Education

2017	Habilitation at TU Dortmund University Thesis: “Thermodynamics of bioreactions”
2012	PhD in Chemical Engineering (*summa cum laude*) at TU Dortmund University, Laboratory of Thermodynamics Thesis: “Thermodynamics of biological solutions” Mentor: Prof. Gabriele Sadowski
2007	Master’s degree (Diploma) in Chemical Engineering at TU Dortmund University, Germany, Department of Biochemical and Chemical Engineering

Main awards

2018	Arnold Eucken Award of the VDI-GVC
2017	Max Buchner Scholarship
2016	Hochschullehrernachwuchs-Award
2015	Teaching award of the Department of BCI, TU Dortmund University
2013	EFCE excellence award for the best PhD Thesis in Thermodynamics and Transport Properties (Europe, 2011-2012)

Supervision of Graduate Students and Postdoctoral Fellows

actually	12 PhD students in Thermodynamics and Fluid Separations under my supervision (theses unfinished)
2012 – 2021	8 PhD students under my supervision, Thermodynamics
2012 -	> 10 Master students (direct supervision), > 10 Master and Bachelor students in my groups per year in average
2007 - 2012	4 Diploma (master equivalent) students

Institutional Responsibilities

2018 -	Member of several PhD boards of BCI, Dortmund
2018 -	Invited Member of PhD boards of external universities: Carin Dietz (TU Eindhoven), Michael Keppler (Uni Freiburg), Kun Xin (TU Eindhoven), Dawid Zawadzki (TU Lodz), Jerzy Pela (TU Lodz), Sindi Baco (Uni Rouen)
2017	Member of the Habilitation Committee of Dr. Andreas Vorholt, BCI, Dortmund
2014 – 2018	Member of the Faculty Committee BCI, Dortmund
2008 – 2014	Member of the Committee “Teaching and Study”, BCI, Dortmund
2007 –	Faculty member, BCI, Dortmund

Scientific memberships and responsibilities

2023 –	Topic Editor of *Journal of Chemical & Engineering Data*
2020 –	Task Force Member on *Research Data Management*, TU Dortmund University, led by Prof. Stefan Kast
2019 –	Editorial Board *Fluid Phase Equilibria*

Reviewing Activities

2017 –	Reviewer of DFG Research Proposals (German Research Foundation) on basic science foundation in Germany and for international research proposals
2010 –	Reviewer of more than 100 papers in international journals

Teaching Experience at the TU Dortmund University

2007 – 2020	Direct supervision of more than 20 student theses (Studien-/Diplomarbeiten, bachelor's and master's theses)
2007 – 2011	Tutor for lectures (“Thermodynamik I”, “Thermodynamik II”, “Biothermodynamik”) and tutor for lab courses
2012 – 2020	Leading tutor of the “Thermodynamics II – Praktikum” (mandatory in the 4th semester of Bachelor BIW/CIW)
	Lecturer „Biothermodynamik“ (elective in Master BIW/CIW)
2018 - 2022	Lecturer „Transportprozesse“, Energie- und Stofftransportvorgänge (mandatory in the 4th semester of Bachelor BIW/CIW)
2020 - 2023	Lecturer „Thermische Verfahrenstechnik 1“ (mandatory in the 5th semester of Bachelor BIW/CIW)
	Lecturer „Thermische Verfahrenstechnik 2“ (mandatory in the 1st semester Master BIW/CIW)
	Lecturer „Introduction to Fluid Separations“ (mandatory in the presemester Master PSE)
	Lecturer „Fluid Separations“ (mandatory in the 1st semester Master PSE)
2023	Lecturer „Polymerthermodynamik“ (elective in Master BIW/CIW)

Major collaboration partners

INTERNAL: Collaborators from my host institute TU Dortmund (Department of Chemistry and Chemical Biology and Department of Biochemical and Chemical Engineering):
Prof. Gabriele Sadowski, Prof. Roland Winter, Prof. Markus Nett, Prof. Dieter Vogt, Prof. Stefan Kast, Prof. Gerhard Schembecker, Prof. Stephan Lütz, PD Christoph Brandenbusch, PD Kerstin Wohlgemuth, Dr. Thomas Seidensticker

EXTERNAL: Julien Legros, INSA Rouen, FR; Sébastien Leveneur, INSA Rouen, FR; Gangqiang Yu, Beijing University of Technology, CN; Jennifer Andexer, Univeristy Freiburg, DE; Ana Rita Duarte, Nova University Lisbon, PT; Alexandre Paiva, Nova University Lisbon, PT; Christoph Schick, University Rostock, DE; Dmitry Zaitsau, University Rostock, DE; Sergey Verevkin, University Rostock, DE; Thomas Maskow, UFZ Leipzig, DE; Roberto I. Canales, Pontificia Universidad Católica de Chile, CHL; José Matías Garrido, Universidad de Concepción, CHL; Christoph Janiak, HHU Düsseldorf, DE; Eugenia Macedo, University of Porto, PT; Isabel M Marrucho, Universidade de Lisboa, PT; Fausto Gallucci, TU Eindhoven, NED; Martin vant Sint Annaland, TU Eindhoven, NED; Joan F Brennecke, University of Texas, USA; Simao Pinho, Instituto Politécnico de Bragança, PT; Joao Coutinho, Aveiro University, PT; Xiaoyan Ji, Univeristy of Lulea, SWE; Ardila Hayu Tiwikrama, National Taiwan University of Science and Technology, TWN; Mirko Skiborowski TUHH; Jakob Albert, TUH.

Funding (last five years, total individual sum: ca. 1.7 Mio €)

Principal Investigator (PI) „Einfluss Ionischer Flüssigkeiten auf Enzym-katalysierte Reaktionen“ 2016-2020, DFG, GZ: HE 7165/2-1, ca. 297k€

Principal Investigator (PI) „Glykolyse: Thermodynamik und Vorhersagen von Stoffwechselwegen“ 2017-2020, DFG, GZ: HE 7165/5-1, ca. 176k€

Principal Investigator (PI) „Experimentelle Bestimmung von Schmelzeigenschaften biologischer Stoffe für Löslichkeitsvorhersagen mit thermodynamischen Modellen“ 2017-2020, DFG, GZ: HE 7165/6-1, ca. 279k€

Principal Investigator (PI) „SPP 1708 Teilprojekt: Solubility of molecular and ionic precursors in ionic liquids“ 2017-2020, DFG, GZ: HE 7165/7-1, ca. 175k€

Principal Investigator (PI) „New thermodynamic method for next generation simulation“ 2018-2020, Research Award from AVEVA, ca. 100k€

Principal Investigator (PI) „MUST: MircoflUidik zur Bestimmung von Struktur-Reaktivitätsbeziehungen“ 2021-2024, DFG-ANR, GZ: HE 7165/10-1, ca. 313k€

Principal Supervisor (PS) „Nachhaltiges chemisches Recycling von PET-Flaschen“ 2021-2024, DBU, ca. 80k€.

Principal Investigator (PI) HE 7165/15-1 „Combined impact of pH, catalyst, and strongly non-ideal solvent mixtures (SNISMs) towards boosting acid-catalyzed reactions“ DFG, GZ: HE 7165/15-1, 325k€

submitted (2023) to DFG: SFB DeLiSys, PI in projects B2, B6, S1

Conference contributions

Since 2008: > 150 contributions national/international conferences

5 most important contributions:

“Solubility of Biomolecules“ Invited Talk, ISSP, 4-9 September 2022, Portugal

“Thermodynamics of Bioreactions: The greener the better?” Invited Talk, PPEPPD 2019, May 12-16 2019, Vancouver, Canada

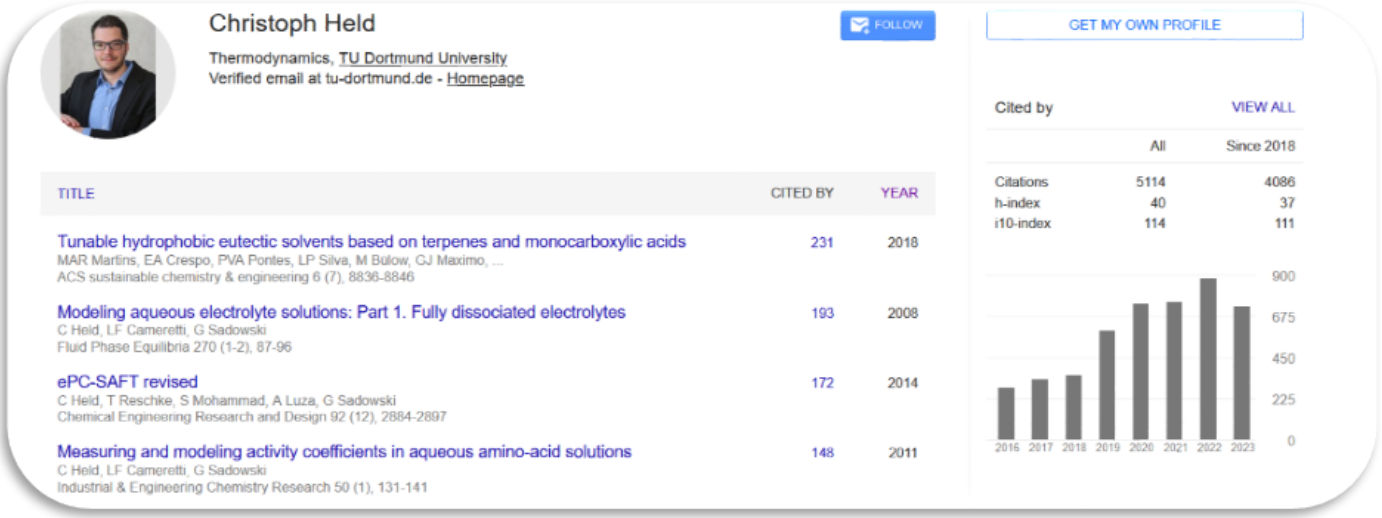
“Optimizing reaction media for biocatalysis” Invited Talk, ProcessNet-Jahrestagung und 33. DECHEMAJahrestagung der Biotechnologen 2018, 10. - 13. September 2018, Aachen

“Predicting partition and reaction in biosystems: How far can we go with PC-SAFT?” Invited Talk, SAFT Conference, 11.-13. May 2017, Heidelberg, Germany

“Reaktionsgleichgewichte biologisch relevanter Reaktionen“ Invited Talk, Thermodynamik-Kolloquium 22.-24. September 2014, Stuttgart, Germany

Publications | until 2023

Summary of Publications: Since 2008 I have published **>150 publications** in international journals and several book chapters. The H-factor is actually **H=40** with **>5,000 citations**. By far the majority of these were submitted with me as either corresponding author or last author. I am member of the editorial board of *Fluid Phase Equilibria* and **Topic Editor of *JCED***. Here you find a screenshot of my google scholar profile:



My 10 most important publications in international journals:

1. D. Schick, L. Bierhaus, A. Strangmann, P. Figiel, G. Sadowski, **C. Held**, Predicting CO2 solubility in aqueous and organic electrolyte solutions with ePC-SAFT advanced, *Fluid Phase Equilib.* **2023** 567, 113714.
2. D. Pabsch, P. Figiel, G. Sadowski, **C. Held**, Solubility of electrolytes in organic solvents: Solvent-specific effects and ion-specific effects, *JCED* **2022** 67, 2706.
3. M. Klinksiek, S. Baco, S. Leveneur, J. Legros, **C. Held**, Activity-based models to predict kinetics of levulinic acid esterification, *ChemPhysChem* **2022**, e202200729.
4. M. Bülow, M. Ascani, **C. Held,** ePC-SAFT advanced-Part I: Physical meaning of including a concentration-dependent dielectric constant in the born term and in the Debye-Hückel theory, *Fluid Phase Equilib.* **2021,** 535, 112967.
5. T. Greinert, K. Vogel, T. Maskow, **C. Held,** New thermodynamic activity-based approach allows predicting the feasibility of glycolysis, *Sci. Reports* **2021**, 11, 6125.
6. YZ. Chua, HT. Do, C. Schick, D. Zaitsau, **C. Held,** New experimental melting properties as access for predicting amino-acid solubility, *RSC Adv.* **2018**, 8, 6365.
7. M. Voges, C. Fischer, D. Wolff, **C. Held**, Influence of natural solutes and ionic liquids on the yield of enzyme-catalyzed reactions: Measurements and predictions, *OPRD* **2017**, 21, 1059.
8. S. Mohammad, G. Grundl, R. Müller, W. Kunz, G. Sadowski, **C. Held,** Influence of electrolytes on liquid-liquid equilibria of water/1-butanol and on the partitioning of 5-hydroxymethylfurfural in water/1-butanol, *Fluid Phase Equilib.* **2016,** 428, 102.
9. **C. Held**, G. Sadowski, Thermodynamics of Bioreactions, *Annu. Rev. Chem. Biomol. Eng.* **2016**, 7, 395.
10. **C. Held**, L. Cameretti, G. Sadowski, Modeling of Aqueous Electrolyte Solutions. Part1 Fully Dissociated Electrolytes, *Fluid Phase Equilib.* **2008**, 270, 87.