

CURRICULUM VITAE



Prof. Dr.-Ing. Christian Cierpka

Institute of Thermodynamics and Fluid Mechanics

Group of Engineering Thermodynamics

Am Helmholtzring 1

98693 Ilmenau

Tel: +49 3677 69 2445, Christian.Cierpka@tu-ilmenau.de

EMPLOYMENTS SINCE UNIVERSITY STUDIES

- 10/2016 – today Full Professor and head of the group of Engineering Thermodynamics at Technische Universität Ilmenau
- 01/2009 – 09/2016 Researcher and team leader at the Institute for Fluid Mechanics and Aerodynamics, Universität der Bundeswehr München
- 08/2005 – 12/2008 Researcher at Forschungszentrum Dresden-Rossendorf, Group of Magnetohydrodynamics

ACADEMIC EDUCATION

- 24.03.2009 Dissertation “Aktive Strömungskontrolle mittels Lorentzkräften in schwach leitfähigen Fluiden” supervised by Prof. R. Grundmann, TU Dresden, referees: Prof. R. Grundmann, Prof. J. Fröhlich, Dr. G. Gerbeth, Grade: summa cum laude, acknowledged with the price for PhD-candidates of Forschungszentrum Dresden-Rossendorf
- 01.07.2005 Post-graduate Diploma Course (Research Master) “Hot water spray characterization by rainbow thermometry and Phase Doppler anemometer”, von Kármán Institute for Fluid Dynamics, Rhode-Saint-Genèse, Belgium, Grade: 81/100 (superior performance)
- 15.09.2004 Diploma thesis “Messungen des Geschwindigkeitsfeldes an einer angestellten Platte unter dem Einfluss zeitlich periodischer Lorentzkräfte”, TU Dresden, Grade: sehr gut
- 10/2001 - 09/2004 Studies of Aerospace Engineering at TU Dresden
- 10/1999 - 09/2001 Studies of Mechanical Engineering, TU Dresden

INTERNATIONAL COLLABORATION / MOBILITY

- 03/2023 – 07/2023 Visiting researcher at Lund University in the Department of Biomedical Engineering in Prof. Per Augustssons Group, Lund Sweden
- 01/2017, 04/2018 Joint experiments and journal publications in preparation on redox magnetohydrodynamically driven flow in microsystems with Prof. Ingrid Fritsch, University of Arkansas, Fayetteville, USA
- 10/2013 - 07/2014 Team member for the organisation and evaluation of the 4th international PIV Challenge for the comparison of recent PIV algorithms <http://www.pivchallenge.org/pivchallenge4.html>
- 01/2011 - 02/2014 Participation in the project management, organisation and reporting for an international workshop in the frame of the EU project 265695: “Advanced Flow Diagnostics for Aeronautical Research”
- 11/2012 - 02/2013 Researcher in the Department of Aeronautics and Astronautics in Prof. Dana Dabiri’s group at University of Washington, Seattle, USA
- 06/2009 - 07/2010 Joint experiments and journal publications on electrokinetically driven microvortices with Prof. Steven Wereley, Purdue University, West Lafayette, USA

CURRICULUM VITAE

- 09/2004 - 07/2005 Post graduate diploma course (with fellowship) at von Kármán Institute for Fluid Dynamics, Rhode-Saint-Genèse, Belgium
- 04/2003 Conducting two-phase fluid dynamic experiments under microgravity during the 34th ESA parabolic flight campaign in Bordeaux, France
- RESEARCH INTERESTS** Energy storage (thermal, electrochemical, chemical), microfluidics, thermally driven flow, optical measurement techniques (PIV, 3D3C PTV, BOS, LIF), multi-phase flows, magneto-hydrodynamics, surface acoustic waves, electrochemistry, flow control, applications of neural networks, spin-hydrodynamics
- PUBLICATIONS** 93 peer-reviewed journal papers, >200 conference proceedings / presentations, 12 reports
H-Index: 32 (accessed 16.08.2023 [Google Scholar](#)), 24 (accessed 20.08.2023 ISI Web of Knowledge, [Researcher ID: C-2725-2011](#), [ORCID: 0000-0002-8464-5513](#))
- REFeree SERVICE** Experimental Thermal and Fluid Science (Editorial Board)
Experiments in Fluids (Editorial Advisory Board)
Microfluidics and Nanofluidics, European Journal of Mechanics B/Fluids, International Journal of Thermal Sciences, Chemie Ingenieur Technik, Langmuir, Optics Express, PLOS One, Applied Mathematics and Computation, International Journal of Hydrogen Energy, Microsystem Technologies, Experimental Thermal and Fluid Science, Sensors & Actuators: B Chemical, Journal of Fluids and Structures, Computers and Geosciences, Chemical Papers, Journal of Power Sources, International Journal of Multiphase Flow, Water Research, Chemical Engineering Journal, Journal of Energy Storage, Journal of Sensors and Sensor Systems, Scientific Reports, Measurement Science and Technology, Machine Learning: Science and Technology, Sensors and Actuators: A. Physical, Journal of Biomechanical Engineering, Chemical Engineering Science, Flow Measurement and Instrumentation

German Science Foundation - Deutsche Forschungsgemeinschaft DFG, Czech Science Foundation - GACR, Austrian Science Foundation - Wissenschaftsfonds FWF, Netherlands Organisation for Scientific Research (NWO), Alexander von Humboldt Foundation (AvH)
- THIRD-PARTY FUNDING**
- since 2016 approx. 4.2 Mio. € with the group of engineering thermodynamics mainly for basic research for projects funded by DFG, participant in two priority programs (PPs 1881, 2045, 2403)
- 2015 AIF joint proposal with ZBT Duisburg "*Development of a heating system for a direct methanol fuel cell*", UniBW approx. 250.000 €
- 2013 DFG Emmy-Noether-Research-Group "*More efficient electrochemical energy conversion through near-wall flow control*", approx. 1.3 Mio. €
- FOREIGN LANGUAGES** English (fluent), French (basic knowledge), Swedish (basic knowledge)
- SOFTWARE** MS-Office, Latex, Fluent, Ansys-CFX, Tecplot 360, Mathcad, Matlab, FORTRAN, Phyton, C, CAD, DaVis

Ilmenau, 26.09.2023