

Curriculum Vitae – Dr. rer. nat. Falk J. Tauber, né Esser

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Name: Falk J. Tauber, né Esser
Male or Female: Male
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Present affiliation: Cluster of Excellence Living, Adaptive and Energy-autonomous Materials Systems (*livMatS*) @ FIT - Freiburg Center for Interactive Materials and Bioinspired Technologies
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Employments

2019-present: Project Coordinator of *livMatS* Demonstrators, Laboratory manager and Post-Doc at the Cluster of Excellence Living, Adaptive and Energy-autonomous Materials Systems (*livMatS*) and the Plant Biomechanics Group Freiburg (University of Freiburg).

2015-2019: Research assistant and PhD candidate at the Plant Biomechanics Group Freiburg (University of Freiburg).
Thesis: "Biologische Pumpsysteme als Ideengeber für technische Pumpsysteme"

2014-2015: Research assistant at m2p-labs GmbH, Biotechnology-firm (Baesweiler)

Studies

2019: Dr. rer. nat./PhD at the University Freiburg. Thesis: "Biologische Pumpsysteme als Ideengeber für technische Pumpsysteme"

2015-2019: Research assistant and PhD candidate at the Plant Biomechanics Group Freiburg (University of Freiburg).

2014: Master of Science in Biology at the RWTH Aachen University. Thesis: "The bionic woodpecker tongue: morphological analysis and fiberbased construction of the woodpecker tongue". [Supervisor: T. Gries, Institut für Textiltechnik Aachen, RWTH Aachen University]

2012 – 2014: Master of Science RWTH Aachen University, Master of Science Biology Major subject: Biological Information Processing and Biomimetics

2012: Bachelor of Science in Biology at the RWTH Aachen University. Thesis: „Characterization of water extraction from moist soil by moisture harvesting lizards“ [Supervisor: W. Baumgartner, Institute for Biology II, RWTH Aachen University]

2008 – 2012: Bachelor of Science RWTH Aachen University, Bachelor of Science Biology Major subject: Biological Information Processing

Final school career

- 2007: A-Level (Abitur)
- 2004-2007: High School (Städtische Gesamtschule Eschweiler, „Schule der Zukunft – Bildung für Nachhaltigkeit“, Eschweiler)

Prizes and Awards

- 2020: 2nd place of the International Bionic Award by the Schauenburg-Foundation and awarded by VDLe.V. (Association of German Engineers), for “A biomimetic peristaltic pumping system based on flexible silicone soft robotic actuators as an alternative for technical pumps”

Organization of scientific conferences, sessions and symposia

- 2020: Local host and Organizer (together with Thomas Speck & Sonja Seidel) of the “Living Machines 2020 conference – 9th International conference on Biomimetic and Biohybrid Systems.” (online conference 29th-30th July 2020)
- Workshops chair of the “Living Machines 2020 conference – 9th International conference on Biomimetic and Biohybrid Systems.” (online conference 28th July 2020)

(Co-)Supervision of theses

- SS2020: Peter Kappel: “Biomimetic gripper systems based on living adaptive and energy-autonomous materials systems” [PhD thesis (ongoing), University of Freiburg; Supervisors: T. Speck & F. Esser]
- Laura Riechert: “Geometrical and metamaterial actuators for artificial Venus Flytraps” [Bachelor thesis, University of Freiburg; Supervisors: T. Speck & F. Esser]
- Joscha Teichmann: “Characterization of shape memory and hydrogels actuator systems for a biomimetic artificial Venus flytrap”. [Bachelor thesis, University of Freiburg; Supervisors: T. Speck & F. Esser]
- WS2019: Stefan Conrad: “Development of a multi-material 3D printer for production of biomimetic logical material systems” [PhD thesis (ongoing), University of Freiburg; Supervisors: T. Speck, C. Eberl & F. Esser]
- Philip Auth: “Characterization of actuator systems for a biomimetic artificial Venus flytrap”. [Bachelor thesis, University of Freiburg; Supervisors: T. Speck & F. Esser]
- SS 2017: Julian Kolodziey: „Characterization of a foam-based softrobotics ring actuator for a novel peristaltic pumping system“. [Bachelor thesis, University of Freiburg; Supervisors: T. Speck, T. Masselter & F. Esser]
- WS 2016: Tibor Steger: „Darstellung eines biologischen Förderprinzips durch bioinspirierte Softrobotik Demonstratoren“. [Bachelor thesis, University of Freiburg; Supervisors: T. Speck, T. Masselter & F. Esser]