

Thomas E. Winkler

Curriculum Vita

Franz-Liszt-Straße 35a:419
Technische Universität Braunschweig
D-38106 Braunschweig, Germany
☎ +1 (510) 423 3046
✉ thomas.winkler@tu-braunschweig.de
🌐 lab.winkler.site
🔗 [WjJFsBUAAAAJ](https://www.linkedin.com/in/WjJFsBUAAAAJ)

Education

- 08/2011– **Ph.D. in Bioengineering**, University of Maryland, College Park, USA
05/2017 Fulbright Foreign Fellow & Future Faculty Fellow
Thesis *Microsystems Integration Towards Point-of-Care Monitoring of Clozapine Treatment for Adherence, Efficacy, and Safety*
Advisor *Prof. Reza Ghodssi (ghodssi@umd.edu)*
- 10/2005– »Diplomingenieur« (B.S./M.S.) in Biophysics, Johannes Kepler Universität, Linz, Austria
01/2011 Nanoscience & -technology Focus; ERASMUS semester at Københavens Universitet, Denmark
Thesis *Dilute Magnetic Semiconductors: Manipulation of the Carrier Concentration in Ga-Mn-Pnictides*
Advisor *Prof. Alberta Bonanni (alberta.bonanni@jku.at)*

Appointments

- since **Head of Junior Research Group**, *Microsystems for Life Sciences (μ 4Life) lab*, Technische Universität Braunschweig, Germany
07/2021
Affiliations *Institut für Mikrotechnik & Zentrum für Pharmaverfahrenstechnik*
Entitled to supervise & award doctorates at the Faculty of Mechanical Engineering and Faculty of Life Sciences
- 04/2017– **Postdoctoral Fellow (MSCA-IF)**, *In-vitro Neural Systems lab*, Kungliga Tekniska Högskolan, Stockholm, Sweden
05/2021
NEUROVU: REAL-TIME SENSING IN MICROFLUIDIC MODELS OF THE NEUROVASCULAR UNIT
Advisor *Prof. Anna Herland (aberland@kth.se)*
- 04/2012– **Graduate Research Assistant**, *MEMS Sensors and Actuators Laboratory (MSAL)*, University of Maryland, College Park, USA
03/2017
MiND: MICROSYSTEMS DEVELOPMENT FOR NEUROPSYCHIATRIC DISORDERS
Advisor *Prof. Reza Ghodssi (ghodssi@umd.edu)*
- 03/2010– **Research Assistant**, *Quantum Materials group*, Johannes Kepler Universität, Linz, Austria
07/2011
LOW-TEMPERATURE FERROMAGNETISM IN $\text{Ga}_{1-x}\text{Mn}_x\text{N}$
Advisor *Prof. Alberta Bonanni (alberta.bonanni@jku.at)*
- 09/2009– **Visiting Researcher**, *Advanced Semiconductor Research group*, University of California & Lawrence Berkeley National Laboratory, Berkeley, USA
01/2010
THE INTERPLAY BETWEEN MAGNETISM AND VACANCIES IN $\text{Ga}_{1-x}\text{Mn}_x\text{P}$
Advisor *Prof. Oscar Dubon (oddubon@berkeley.edu)*
- 07/2008– **Research Assistant**, *Molecular Bioelectronics group*, Forschungszentrum Jülich, Germany
08/2008
Contributed to research into Graphene-Based biosensors
Supervisor *Dr. Dirk Mayer (dirk.mayer@fz-juelich.de)*
- 07/2007– **Research Assistant**, *ATLAS MDT group*, Max Planck Institut für Physik, Munich, Germany
08/2007
Contributed to R&D on the ATLAS upgrade for CERN's High Luminosity LHC project
Supervisor *Dr. Oliver Kortner (kortner@mppmu.mpg.de)*

Projects & Grants

- CHIPzophrenia – Feedback-control of the Microenvironment: Modular Organ-on-Chip Technology to elucidate the role of Neurovascular Stress in Schizophrenia, *European Research Council*, Starting Grants (ERC StG)
- Status Interviewed; Results expected in September
- 2023** Low-cost “barrier-on-a-chip” tissue models for in-vitro toxicity studies, *University of Strathclyde and TU Braunschweig*, Joint Seed Funding
- Funding €10,000 over six months (*co-applicants: Dr. Fiona Murphy & Dr. Karla Neves, 50%*)
- 2023** Teaching Engineering Skills for Health – across Borders, *Stiftung Innovation in der Hochschullehre*, ProDiGI-Projektfonds
- Funding €2,500 over one semester
- 2022/23** CHIPzophrenia, *MWK Niedersachsen*, Europa-Programm: BEREIT
- Funding €7,000 over one year
- 2021–2023** in-vitro model systems, and beyond, *TU Braunschweig*, Studienqualitätsmittel
- Funding €13,000 over four semesters
- 2021–2025** **Cell-Based Assays in Drug Research**, *TU Braunschweig*, Exzellenzstrategie-Fonds – Junior Research Groups
- Funding €900,000 over four years
- 2020** Biomimetic cell culture platform based on cellulose nanofibrils and integrated sensing capabilities, *KTH Life Science Technology Platform*, Young Researcher Collaboration Grant
- Funding SEK 50,000 over four months (*co-applicant: Dr. Tobias Benselfelt, 40%*)
- 2018–2020** **NeuroVU: Real-time Sensing in Microfluidic Models of the Neurovascular Unit**, *European Commission*, Marie Skłodowska-Curie Actions – Individual Fellowships (MSCA-IF)
- Funding €186,000 over two years under Grant #797777 (*Advisor: Prof. Anna Herland*)
- 2016/17** Microsystems Integration Towards Point-of-Care Monitoring of Clozapine Treatment, *University of Maryland Graduate School*, Ann G. Wylie Dissertation Fellowship
- Funding \$11,000 over six months (*Advisor: Prof. Reza Ghodssi*)
- 2014–2016** **Microsystem Development for Clozapine Monitoring in Schizophrenia**, *National Institutes of Health*, High Priority, Short-Term Project Award
- Funding \$750,000 over two years under Grant R56MH105571 (*PIs: Profs. Deanna L. Kelly & Reza Ghodssi*)
- Role Led & coordinated formulation of research strategy and grant writing; led research in the Ghodssi team (3-4 people); coordinated research between the microsystems, biochemistry, and clinical teams
- 2009/10** Gallium Manganese Phosphide synthesized by Ion Implantation and Pulsed-Laser Melting, *Austrian Marshall Plan Foundation*, Research Scholarship
- Funding €5,000 over six months (*Advisors: Profs. Alberta Bonanni & Oscar Dubon*)

Honors & Awards

- 2023** Top Downloaded Article in Small, *Wiley*
Shortlist #2 for W1 Position (~Asst. Prof.; Tenure Track W3), *University of Stuttgart*.
- 2021** Select Oral presentation (“Top-8 abstract”), *European Organ-on-Chip Society Conference*
- 2020** Travel Grant, *Karl Engvers Stiftelse*
- 2019** **Best Paper/Presentation**, *European Organ-on-Chip Society Conference*
Travel Stipend, *Nils and Hans Backmark Stiftelse*.
- 2017** Student/Young Researcher Grant, *Chemical and Biological Microsystems Society (CBMS)*

- 2016 **Russell & Sigurd Varian Award (“Highest Student Honor”)**, *American Vacuum Society Dean’s Doctoral Research Award (“Best Thesis”)*, *Clark School of Engineering @ UMD*. Best Poster Runner-Up, *Mid-Atlantic Micro/Nano Alliance Spring 2016 Workshop*.
- 2015 **Future Faculty Fellowship**, *Clark School of Engineering @ UMD*
3-Minute Thesis Competition Runner-Up, *University of Maryland*.
First Place for Research in Bioengineering, *Bioscience Day, University of Maryland*.
Best Poster Award, *Mid-Atlantic Micro/Nano Alliance Spring 2015 Workshop*.
- 2014 **Outstanding Graduate Assistant Award (“Top 2%”)**, *University of Maryland*
- 2011 **Fulbright Foreign Student Scholarship**, *Austrian American Educational Commission*
Wilhelm Macke Thesis Recognition Prize (“Top Thesis”), Department of Physics @ JKU.
- prior** Multiple State & University Merit Awards

Journal Articles (asterisks* for equal contributions)

- D. Yogev, T. Goldberg, A. Arami, S. Tejman-Yarden, T.E. Winkler*, and B.M. Maoz*. Current State of the Art and Future Directions for Implantable Sensors in Medical Technology: Clinical Needs and Engineering Challenges. (in minor revision).
- 07/2023 T. Bensefelt, J. Shakya, P. Rothemund, S.B. Lindström, A. Piper, T.E. Winkler, A. Hajian, L. Wågberg, C. Keplinger, and M.M. Hamed. Electrochemically controlled hydrogels with electro-tunable permeability and uniaxial actuation. *Advanced Materials* doi:10.1002/adma.202303255
- 01/2023 I. Matthiesen*, M. Jury*, F. Rasti Borojani, S.L. Ludwig, M. Holzreuter, S. Buchmann, A. Träger, R. Selegård, T.E. Winkler, D. Aili, and A. Herland. Astrocyte 3D Culture and Bioprinting using Peptide Functionalized Hyaluronan Hydrogels. *Science and Technology of Advanced Materials*. doi:10.1080/14686996.2023.2165871
- 10/2022 I. Matthiesen, R. Nasiri, A.T. Orrego, T.E. Winkler*, and A. Herland*. Metabolic assessment of iPSC-derived astrocytes and fetal primary astrocytes: lactate and glucose turnover. *Biosensors*. doi:10.3390/bios12100839
- 07/2022 T.S. Last, T.E. Winkler, G. Stemme, and N. Roxhed. Self-sealing MEMS spray-nozzles to prevent bacterial contamination of portable inhalers for aqueous drug delivery. *Biomedical Microdevices*. doi:10.1007/s10544-022-00628-w
- 02/2022 M. Jury*, I. Matthiesen*, F.R. Borojani, S.L. Ludwig, L. Civitelli, T.E. Winkler, R. Selegård, A. Herland, and D. Aili. Bioorthogonally Cross-Linked Hyaluronan-Laminin Hydrogels for 3D Neuronal Cell Culture and Biofabrication. *Advanced Healthcare Materials*. doi:10.1002/adhm.202102097
- 09/2021 T.E. Winkler and A. Herland. Sorption of neuropsychopharmaca in microfluidic materials for in-vitro studies. *ACS Applied Materials & Interfaces*. doi:10.1021/acsami.1c07639 **Highlighted in UK Organ-Chip society newsletter**.
- 08/2021 I. Matthiesen, D. Voulgaris, P. Nikolakopoulou, T.E. Winkler*, and A. Herland*. Continuous monitoring reveals protective effects of N-acetylcysteine amide on an isogenic microphysiological model of the neurovascular unit. *Small*. doi:10.1002/smll.202101785 **Featured on Cover. 12-month Top Downloaded Article**.
- 07/2020 F. Elhami Nik, I. Matthiesen, A. Herland, and T.E. Winkler. Low-cost PVD shadow masks with sub-millimeter resolution from laser-cut paper. *Micromachines*. doi:10.3390/mi11070676

- 03/2020 **T.E. Winkler**, M. Feil, E.F.G.J. Stronkman, I. Matthiesen, and A. Herland. Low-cost microphysiological systems: Feasibility study of a tape-based barrier-on-chip for small intestine modeling. *Lab on a Chip*. doi:10.1039/D0LC00009D **Featured on Cover. Featured in Alternatives to Laboratory Animals (ATLA) journal News & Views.**
- 03/2019 E. Zeglio, A.L. Rutz, **T.E. Winkler**, G.G. Malliaras, and A. Herland. Conjugated Polymers for Assessing and Controlling Biological Functions. *Advanced Materials*. doi:10.1002/adma.201806712
- 03/2018 **T.E. Winkler**, F.O. Stevenson, E. Kim, M. Kang, G.F. Payne, D.L. Kelly, and R. Ghodssi. The Role of Microsystems Integration Towards Point-of-Care Clozapine Treatment Monitoring in Schizophrenia. *IEEE Sensors Letters*. doi:10.1109/lens.2017.2782883 **Featured on Cover.**
- 01/2018 S. Chu, **T.E. Winkler**, A.D. Brown, J.N. Culver, and R. Ghodssi. Localized 3-D Functionalization of Bionanoreceptors on High-Density Micropillar Arrays via Electrowetting. *Langmuir*. doi:10.1021/acs.langmuir.7b02920
- 08/2017 S. Subramanian, E.I. Tolstaya, **T.E. Winkler**, W.E. Bentley, and R. Ghodssi. An Integrated Microsystem for Real-Time Detection and Threshold-Activated Treatment of Bacterial Biofilms. *ACS Applied Materials and Interfaces*. doi:10.1021/acsami.7b04828
- 08/2017 G.E. Banis, **T.E. Winkler**, P. Barton, S.E. Chocron, E. Kim, D.L. Kelly, G.F. Payne, H. Ben-Yoav, and R. Ghodssi. The Binding Effect of Proteins on Medications and Its Impact on Electrochemical Sensing: Antipsychotic Clozapine as a Case Study. *Pharmaceuticals*. doi:10.3390/ph10030069
- 05/2017 **T.E. Winkler**, S.L. Lederer, E. Kim, H. Ben-Yoav, D.L. Kelly, R. Ghodssi, and G.F. Payne. Molecular Processes in an Electrochemical Clozapine Sensor. *Biointerphases*. doi:10.1116/1.4982709
- 04/2017 **T.E. Winkler***, R. Dietrich*, E. Kim, H. Ben-Yoav, D.L. Kelly, G.F. Payne, and R. Ghodssi. The Interplay of Electrode- and Bio-materials in a Redox-cycling-based Clozapine Sensor. *Electrochemistry Communications*. doi:10.1016/j.elecom.2017.04.009
- 04/2017 M. Kang, E. Kim, **T.E. Winkler**, G.E. Banis, Y. Liu, C. Kitchen, D.L. Kelly, G.F. Payne, and R. Ghodssi. Reliable Clinical Serum Analysis with Reusable Electrochemical Sensor: Toward Point-of-Care Measurement of the Antipsychotic Medication Clozapine. *Biosensors and Bioelectronics*. doi:10.1016/j.bios.2017.04.008
- 12/2016 E. Kim, **T.E. Winkler**, C. Kitchen, M. Kang, G.E. Banis, W.E. Bentley, D.L. Kelly, R. Ghodssi, and G.F. Payne. Redox Probing for Chemical Information of Oxidative Stress. *Analytical Chemistry*. doi:10.1021/acs.analchem.6b03620
- 09/2016 **T.E. Winkler**, H. Ben-Yoav, and R. Ghodssi. Hydrodynamic Focusing for Microfluidic Impedance Cytometry: A System Integration Study. *Microfluidics & Nanofluidics*. doi:10.1007/s10404-016-1798-y
- 09/2016 E. Kim*, Y. Liu*, H. Ben-Yoav, **T.E. Winkler**, K. Yan, X. Shi, J. Shen, D.L. Kelly, R. Ghodssi, W.E. Bentley, and G.F. Payne. Fusing Sensor Paradigms to Acquire Chemical Information: An Integrative Role for Smart Biopolymeric Hydrogels. *Advanced Healthcare Materials*. doi:10.1002/adhm.201600516
- 07/2015 D.L. Kelly*, H. Ben-Yoav*, G.F. Payne, **T.E. Winkler**, S.E. Chocron, E. Kim, V. Stock, G. Vyas, R.C. Love, H.J. Wehring, K.M. Sullivan, S. Feldman, F. Liu, R.P. McMahon, and R. Ghodssi. Blood Draw Barriers for Treatment with Clozapine and Development of Point-of-Care Monitoring Device. *Clinical Schizophrenia & Related Psychoses*. doi:10.3371/csrp.kebe.070415
- 03/2015 S.E. Chocron, B.M. Weisberger, H. Ben-Yoav, **T.E. Winkler**, E. Kim, D.L. Kelly, G.F. Payne, and R. Ghodssi. Multidimensional Mapping Method using an Arrayed Sensing System for Cross-Reactivity Screening. *PLoS ONE*. doi:10.1371/journal.pone.0116310

- 02/2015 E. Kim*, S.E. Chocron*, H. Ben-Yoav, **T.E. Winkler**, Y. Liu, M. Glassman, C. Wolfram, D.L. Kelly, R. Ghodssi, and G.F. Payne. Programmable “Semismart” Sensor: Relevance to Monitoring Antipsychotics. *Advanced Functional Materials*. doi:10.1002/adfm.201403783
- 02/2015 H. Ben-Yoav, S.E. Chocron, **T.E. Winkler**, E. Kim, D.L. Kelly, G.F. Payne, and R. Ghodssi. An Electrochemical Micro-System for Clozapine Antipsychotic Treatment Monitoring. *Electrochimica Acta*. doi:10.1016/j.electacta.2015.02.112
- 11/2014 **T.E. Winkler***, H. Ben-Yoav*, S.E. Chocron, E. Kim, D.L. Kelly, G.F. Payne, and R. Ghodssi. Electrochemical Study of the Catechol-Modified Chitosan System for Clozapine Treatment Monitoring. *Langmuir*. doi:10.1021/la503529k
- 03/2014 H. Ben-Yoav*, **T.E. Winkler***, S.E. Chocron, E. Kim, D.L. Kelly, G.F. Payne, and R. Ghodssi. Redox cycling-based amplifying electrochemical sensor for in situ clozapine antipsychotic treatment monitoring. *Electrochimica Acta*. doi:10.1016/j.electacta.2014.03.045
- 07/2011 A. Bonanni, M. Sawicki, T. Devillers, W. Stefanowicz, B. Faina, Tian Li, **T.E. Winkler**, D. Szentkiel, A. Navarro-Quezada, M. Rovezzi, R. Jakiela, A. Grois, M. Wegscheider, W. Jantsch, J. Suffczynski, F. D’Acapito, A. Meingast, G. Kothleitner, and T. Dietl. Experimental Probing of Exchange Interactions Between Localized Spins in the Dilute Magnetic Insulator (Ga,Mn)N. *Physical Review B*. doi:10.1103/PhysRevB.84.035206
- 01/2011 **T.E. Winkler**, P.R. Stone, T. Li, K.M. Yu, A. Bonanni, and O.D. Dubon. Compensation-dependence of magnetic and electrical properties in $Ga_{1-x}Mn_xP$. *Applied Physics Letters*. doi:10.1063/1.3535957

Patents & Applications

- 2019 E. Kim, G.F. Payne, M. Kang, R. Ghodssi, **T.E. Winkler**, G.E. Banis, C. Kitchen, D.L. Kelly, and W.E. Bentley. Redox Probing for Chemical Information. *U.S. Patent Application* 16/465,243.
- 2017 H. Ben-Yoav, R. Ghodssi, G.F. Payne, D.L. Kelly, E. Kim, S.E. Chocron, and **T.E. Winkler**. Analytical Micro-devices for Mental Health Treatment Monitoring. *United States Patent* 9,581,536.

Invited Talks

- 08/2023 Enabling Materials for Microphysiological Systems: from Microfluidics to Hydrogels. *Cell Biology Seminar @ HZI Braunschweig*, Germany.
- 06/2023 Microfabrication of Organs-on-Chips. *EUROoCS Academy @ MPS World Summit*, Berlin, Germany.
- 05/2023 Enabling Materials for Brains-on-Chips: from Microfluidics to Hydrogels. *Brains on Chips Symposium*, Braunschweig, Germany.
- 10/2022 Bio/Microsystems Engineering to Facilitate Management and Biomolecular Understanding of Neuropsychiatric Disorders. *Biomedical Systems Seminar @ University of Stuttgart*, Germany.
- 05/2022 On-chip technology towards improved care and understanding of neuropsychiatric disorders. *IMTEK Seminar @ University of Freiburg*, Germany.
- 05/2022 Microfluidics beyond Glass and PDMS: Examples from the Realm of Organs-on-Chips. *Biophysics Seminar @ University Magdeburg*, Germany.
- 03/2022 Bio-Microengineered Cellular Systems towards a better Understanding of Neuropsychiatric Disorders. *CCB/CBI Seminar @ TU Dortmund*, Germany.
- 06/2021 Addressing Neuropsychiatric Disorders using Bio-Microengineered Interfaces. *Electrical Engineering Seminar @ RWTH Aachen & FZ Jülich*, Germany.
- 05/2021 Organs-on-Chips: the Better Lab Rats? *LIT Focus Lecture @ Johannes Kepler Universität Linz*, Austria. Watch the video at: youtu.be/VZ5sno0c7Pg
- 05/2021 Organs-on-Chips: An Engineer’s Primer. *Seminar @ Spiber Technologies*, Stockholm, Sweden.

- 04/2021 Tape-based Barrier-on-Chip for Small Intestine Modeling. *Seidler Research Group Seminar @ Medizinische Hochschule Hannover, Germany.*
- 11/2020 Addressing Neuropsychiatric Disorders using Microsystems Engineering. *Human & Biotechnology Seminar @ Technische Universität, Austria.*
- 09/2020 Next-generation Microphysiological Systems to recapitulate Human Physiology in-vitro. *New Updates in Drug Formulation & Bioavailability, Copenhagen, Denmark.*
- 12/2019 Beyond PDMS: New Integration Strategies for Barrier-on-Chip Systems. *international MicroNanoConference (iMNC), Utrecht, The Netherlands.*
- 12/2019 Study of nitrosative stress in a hiPSC-derived neurovascular unit-on-chip (as an example of challenges and opportunities in microphysiological models of biological barriers). *Biomedical Engineering and Physics Seminar @ Amsterdam Medical Center, The Netherlands.*

Selected Conference Contributions (out of 43 total; asterisks* if not presented by first author)

full list available at thomas.winkler.site/cv/conferences

- 06/2022 T.E. Winkler, I. Matthiesen, F. Buck, J. Bugter, D. Voulgaris, P. Nikolakopoulou, and A. Herland. Modeling Nitrosative Stress and Antioxidant Prophylaxis using an On-Chip Isogenic Blood-Brain Barrier. *Stem Cell Meeting. Tübingen, Germany. Oral presentation.*
- 07/2021 T.E. Winkler and A. Herland. Non-specific Sorption of Small Molecules in Organ-on-Chip Systems. *European Organ-on-Chip Society (EUROoCS) Conference. Virtual (COVID-19). Select Oral presentation. Top-8 abstract.*
- 10/2020 T.E. Winkler, I. Matthiesen, D. Voulgaris, P. Nikolakopoulou, and A. Herland. Continuous Monitoring of Isogenic Blood-Brain Barrier Integrity in a PDMS-Free Microphysiological System. *International Conference on Miniaturized Systems for Chemistry and Life Sciences (μ TAS). Virtual (COVID-19). Watch my 1-minute pitch here: bit.ly/microtas2020*
- 07/2019 T.E. Winkler, I. Matthiesen, D. Voulgaris, L. Delsing, A. Lundin, P. Nikolakopoulou, and A. Herland. Continuous barrier integrity monitoring in a microphysiological hiPSC model of the BBB. *European Organ-on-Chip Society (EUROoCS) Conference, Graz, Austria. Select Oral presentation. Best Paper/Presentation.*
- 10/2017 T.E. Winkler, E. Kim, M. Kang, G.F. Payne, D.L. Kelly, and R. Ghodssi. Systems Integration of Cellular and Molecular Sensing towards Point-of-Care Treatment Monitoring in Schizophrenia. *International Conference on Miniaturized Systems for Chemistry and Life Sciences (μ TAS), Savannah, Georgia. Oral presentation.*
- 06/2017 A. Herland, T.E. Winkler*, D. Voulgaris, B.M. Maoz, K.K. Parker, and D.E. Ingber. Metabolic coupling between the endothelium and neurons in the neurovascular unit revealed using human organs-on-a-chips. *Joint EMBEC/NBC Conference on Biomedical Engineering and Medical Physics, Tampere, Finland. Oral presentation.*
- 06/2015 T.E. Winkler, H. Ben-Yoav, D.L. Kelly, and R. Ghodssi. Osmotic Erythrocyte Lysis for Chemical- and Label-free Impedance Cytometry. *International Conference on Solid-State Sensors, Actuators and Microsystems (Transducers), Anchorage, Alaska. Proceedings at doi:10.1109/transducers.2015.7180933. Oral presentation.*
- 06/2014 T.E. Winkler, H. Ben-Yoav, D.L. Kelly, and R. Ghodssi. Microsystem for Particle Counting and Sizing with Tunable Sensitivity and Throughput. *Solid-State Sensors, Actuators and Microsystems Workshop, Hilton Head, South Carolina. Proceedings at doi:10.31438/trf.bh2014.67. Poster presentation.*

- 04/2013 H. Ben-Yoav, **T.E. Winkler***, E. Kim, D.L. Kelly, G.F. Payne, and R. Ghodssi. Catechol-modified chitosan system as a bio-amplifier for schizophrenia treatment analysis. *Materials Research Society (MRS) Spring Meeting*, San Francisco, California. *Proceedings at doi:10.1557/opl.2013.879*. *Oral presentation*.
- 04/2011 **T.E. Winkler**, P.R. Stone, T. Li, R. Jakieła, K.M. Yu, A. Bonanni, and O.D. Dubon. Effects of compensation in $\text{Ga}_{1-x}\text{Mn}_x\text{P}$. *IEEE International Magnetics Conference (Intermag)*, Taipei, Taiwan. *Oral presentation*.

Advisees (asterisks* denote co-supervision)

- Ph.D.** Franziska Buck (Life Sciences, TU Braunschweig, exp. 2025)
 Jeroen Bugter (Mechanical Engineering, TU Braunschweig, exp. 2025)
 Isabelle Matthiesen* (Micro- and Nanosystems, KTH Stockholm, 04/2022)
 George E. Banis* (Bioengineering, UMD College Park, 08/2019)
- M.Sc.** Saskia Ludwig* (Cognitive and Clinical Neuroscience, Maastricht U, 07/2021)
 Farzad Elhami Nik (Biomedical Engineering, Politecnico di Milano, 04/2021)
 Elin Hedberg (Biomedical Engineering, Linköpings Universitet, 06/2020)
 Michael Feil (Molecular Biotechnology, FH Campus Wien, 12/2019)
 Gabriele Bongiovanni* (Micro & Nano Technologies, PoliTo / PhElMa / EPFL, 11/2018)
 Sheryl E. Chocron* (Bioengineering, UMD College Park, 01/2014)

- Interns** Ziyuan Fan (TU Braunschweig, Winter 2022/23)
 Wei Ying Lieu (KTH Stockholm, Fall 2019)
 Simon Feillée (Mines ParisTech, Summer 2018)
 Eva Stronkman (U Twente, Spring 2018)
 Eugene Froimchuk (UMD College Park, Spring 2016)
 Florence Stevenson (UMD College Park, Fall 2015–Spring 2016)
 Stephen Semick (UMD College Park, Summer 2015–Spring 2016)
 Sukriti Ghosh (UMD College Park, Summer 2015)
 Ashlyn Lee (UMD College Park, Summer 2015)
 Delaney Jordan (UMD College Park, Spring 2015)
 Sarah Brady (East Carolina U, Summer 2013)
 Robert Dietrich (UMD College Park, Spring 2013–Spring 16)
 Gillian Costa* (George Washington U, Summer 2012)

Teaching

- since** **Instructor**, *Technische Universität Braunschweig*, Braunschweig, Germany
- Winter 2022** in-vitro model systems: from petri dish biology to organoid-on-chip microengineering
- since** **Guest Lecturer & Project Facilitator**, *University of Maryland*, College Park, USA
- Fall 2016** EnEE 605 – Design and Fabrication of Micro-electromechanical Systems (10–15 graduate students)
Instructor *Prof. Reza Ghodssi (ghodssi@umd.edu)*
- Spring 2021 & 2019** **Guest Lecturer**, *Kungliga Tekniska Högskolan*, Stockholm, Sweden, *Karolinska Institutet*, Solna, Sweden, and *Tel Aviv University*, Tel Aviv, Israel
 FJQ3110 – Microphysiological systems (~20 graduate students)
Instructors *Prof. Anna Herland (aherland@kth.se)* & *Prof. Ben Maoz (bmaoz@tauex.tau.ac.il)*
- Spring 2015–Spring 2016** **Future Faculty Fellow**, *University of Maryland*, College Park, USA
 Competitive three-semester program encompassing seminars focused on skills for effective teaching as well as for developing and funding a successful faculty research program.
- Spring 2016** **Co-Instructor**, *University of Maryland*, College Park, USA
 BioE 431/631 – Biosensor Techniques, Instrumentation, and Applications (22 graduate & 18 undergraduate)
Instructor *Prof. Ian White (ianwhite@umd.edu)*

- Spring 2013** **Teaching Assistant**, *University of Maryland*, College Park, USA
BioE 232 – Thermodynamics for Bioengineers (64 undergraduate)
Instructor *Prof. Keith Herold (herold@umd.edu)*
- Fall 2012** **Teaching Assistant**, *University of Maryland*, College Park, USA
BioE 120 – Biology for Engineers (66 undergraduate)
Instructor *Prof. Adam Hsieh (hsieh@umd.edu)*

Outreach, Service, & other Activities

- since 2022** **European Organ-on-Chip Society**
Founding Member of Training Committee, involved in organizing the Academy and Summer School events.
- since 2022** **Biosensors Collection Editor**, *MDPI*
“Microsystems for Cell Cultures” Topical Collection, alongside Prof. Iordania Constantinou.
- since 2021** ***In vitro models* Editorial Board**, *Springer Nature*
Selected as one of currently ten Early-Career Board Members.
- 05/2021** **LIT Focus Lecture on Marie Skłodowska-Curie Actions**, *Johannes Kepler Universität Linz*
Co-organized the program and speaker line-up.
- 07/2020** **European Organ-on-Chip Society Conference**, *online due to COVID-19*
Member of “Best Presentation” jury.
- Spring 2020** **Sting Test Drive: DeepTech**, *Stockholm, Sweden*
Selected as one of 15 teams for hands-on training program providing support to translate ideas into start-ups.
- 09/2019** **MSCA Falling Walls Lab**, *Brussels, Belgium*
Selected as one of 30 finalists to pitch my research to a non-specialist audience in 150 seconds at the European Research & Innovation Days. Watch the video at: bit.ly/FallingWallsLab2019
- 02/2019** **Nordic Organ on a Chip Symposium**, *Oslo, Norway*
Organization Committee for the Student/Postdoc session with speed date networking.
- 2018–2020** **MST Poster Session**, *KTH Royal Institute of Technology*
Started a new annual event for the Department consisting of Research Pitch Presentations and Posters (including Awards) to facilitate internal collaboration.
- 2017–2019** **Annual MST Planning Conference**, *various locations, Sweden*
Organized & moderated webinar with *Adv. Mater.* editor and Career Development Planning workshop.
- 2012–2016** **Maryland Day**, *University of Maryland*
Annual “Open University” event, with the MSAL lab opening up to the public for the day. Co-organized lab activities & designed new Jell-O microfluidics “station” to explain microfabrication and laminar flow.
- 2012–2016** **Bioscience Day & Fischell Festival**, *University of Maryland*
Annual events open to the public featuring research talks, poster sessions, and more, highlighting research within the broader Biosciences or within the Department of Bioengineering.
- 09/2015** **3-Minute Thesis Competition**, *University of Maryland*
Produced a video summarizing my doctoral thesis research in 3 minutes to a non-academic audience. Awarded second place. Watch the video at: youtu.be/7guLm0pFG5k
- Reviewer** FUNDING PROGRAMS: NWO (The Netherlands), UKRI MRC (United Kingdom), DFG (Germany)
- Reviewer** JOURNAL PUBLICATIONS: *Advanced Materials*; *Microsystems & Nanoengineering*; *Lab on a Chip*; *Biomedical Microdevices*; *Journal of Microelectromechanical Systems*; *Sensors*; *Biosensors*; ...
- Reviewer** CONFERENCES: *MPS World Summit*; *IEEE Sensors*; *Transducers*
- Thesis Committees** Sarah-Sophia Carter, *Uppsala Universitet*, Microsystems Technology, Ph.D. defense 09/2022.
Josephine Haake, *Leibniz Institute DSMZ*, Life Sciences, Ph.D. defense 2024/25.