Name	Position Title
Oliver Paul Prof. Dr. sc. nat.	Head of the Professorship for Microsystem Materials University of Freiburg, Dept. of Microsystems Engineering

EDUCATION/TRAINING

1990	Dr. sc. nat., Physics, ETH Zurich
1981 – 1986	Diploma, Physics, ETH Zurich

POSITIONS

2018 – 2025	Various advisory positions at University of Freiburg: member of the Permanent Tenure Committee and of the Excellency Cluster Advisory Board, deputy member of the Structure Commission
2012 – 2018	Vice Dean (2012-2016), Dean (2016-2018) of the Faculty of Engineering
2009	Visiting professor of the University of Michigan, Ann Arbor
2006 – 2008	Head of the Department of Microsystems Engineering (IMTEK)
2003	Visiting professor of the Ritsumeikan University, Kyoto
1999 – 2001	Dean of Studies, Microsystems Engineering Curricula
1998 – present	Professor for Microsystems Material of the Department of Microsystems Engineering (IMTEK) at the University of Freiburg (until 2007: C4 level; since 2007: W3 level)
1992 – 1998	Senior scientist at the Physical Electronics Laboratory, ETH Zurich, research group of Prof. H. Baltes
1991 – 1992	Postdoctoral fellow at the FhG-ISE, Freiburg, research group of Prof. W. Wettling
1987 – 1991	Research assistant and postdoc at ETH Zurich

HONOURS, AWARDS AND SCHOLARSHIPS

2011	Teaching Award of the Faculty of Engineering, University of Freiburg
2007	Arnold Biber Award of the DGKFO for the smart bracket concept (with Prof. Dr. B. Lapatki, University of Ulm)
1996 – date	Best paper/poster awards: Micromechanics Europe 1996, IEEE ICMTS 1996, IEEE IEDM 1997, IMAPS 1998, IEEE ICMTS 1999, IEEE Sensors 2003, 2008, 2009, 2010, 2012, 2013 (2nd best), InterPack 2009, IEEE BioCAS 2010, IEEE MEMS 2013, MME 2014, Eurosensors 2015
1986	Polya Award of ETH Zurich for the best physics diploma

OTHER SCIENTIFIC ACTIVITIES

1986 – present	500+ scientific/technical publications, 9 patents, 150+ talks
2017 – present	Co-initiator, applicant and member of the board, Center for Machine-Brain Interfacing Technologies (IMBIT): overall funding 36 Mio€
2012 – present	Co-initiator and member of the board (2012-2016), DFG-funded cluster of excellence “BrainLinks–BrainTools”: overall funding 30 Mio€
2012	Co-founder of Atlas Neuroengineering, staff of 4
2007 – 2016	Member of the Editorial Advisory Board of the Transactions IEE Japan
2006 – 2015	Member of the PhD research training program 1322 “Micro Energy Harvesting”
2006 – 2017	Member of the Advisory Board of J. Micromech. Microeng.

2005 – 2014	Speaker (2005-2009) and Vice-Speaker (2009-2014) of the PhD research training program 1103 “Embedded Microsystems”
2004	Co-chair of the IEEE MEMS Conference 2004, Maastricht, with Prof. Dr. P. French, TU Delft
1998	Co-founder of Sensirion, staff of 1150
1995 – 2016	Member of the Editorial Board of Sensors and Actuators A
1992 – present	Ph.D. advisor of 40+ Ph.D. students

TEACHING

B.Sc. level	Solid-State Physics (compulsory, 6 ECTS)
	Semiconductor Physics (compulsory, 6 ECTS)
M.Sc. level	Sensors (compulsory, 4 ECTS), since 2022
	CMOS Sensors (elective, 3 ECTS), until 2022
	Quantum Mechanics for Engineers (elective, 6 ECTS)
	Bayesian Methods for Engineers (elective, 6 ECTS)

SELECTED PUBLICATIONS

1. TS Winter, O Paul, Model Complexity Reduction in Bayesian Sensor Calibration and its Relation to Principal Component Analysis, IEEE Sensors Journal, 2025, accepted, in publication
2. TS Winter, M Cornils, L Osberger, O Paul, TMR Angle Sensor Calibration with 3D Misalignment Compensation, Proc. 2024 IEEE SENSORS Conference, Kobe, Oct. 2024
3. A Fleck, M Cornils, L Osberger, O Paul, Effective Compensation of the Piezo-Hall Effect in CMOS-integrated 3D Hall Sensors, Proc. 2024 IEEE SENSORS Conference, Kobe, Oct. 2024
4. M Berger, C Schott, O Paul, Bayesian sensor calibration of a CMOS-integrated Hall sensor against thermomechanical cross-sensitivities, IEEE Sensors Journal 23 (7), 6976-6989 (2023)
5. M Berger, C Schott, O Paul, Bayesian sensor calibration, IEEE Sensors Journal 22 (20), 19384-19399 (2022)
6. K Sharma, Z Jaeckel, A Schneider, O Paul, I Diester, P Ruther, Multifunctional optrode for opsin delivery, optical stimulation, and electrophysiological recordings in freely moving rats, Journal of Neural Engineering 18 (6), 066013 (2021)
7. R Yanagisawa, N Tsujii, T Mori, P Ruther, O Paul, M Nomura, Nanostructured planar-type uni-leg Si thermoelectric generators, Applied Physics Express 13 (9), 095001 (2020)
8. D Keppeler, M Schwaerzle, T Harczos, L Jablonski, A Dieter, B Wolf, et al., Multichannel optogenetic stimulation of the auditory pathway using microfabricated LED cochlear implants in rodents, Science Translational Medicine 12 (553), eabb8086 (2020)
9. AJ Beinert, M Imm, J Benick, F Becker, S Seitz, M Heinrich, O Paul, et al., Silicon solar cell–integrated stress and temperature sensors for photovoltaic modules, Progress in Photovoltaics: Research and Applications 28 (7), 717-724 (2020)
10. F Larramendy, S Yoshida, D Maier, Z Fekete, S Takeuchi, O Paul, 3D arrays of microcages by two-photon lithography for spatial organization of living cells, Lab on a Chip 19 (5), 875-884 (2019)
11. Klein E; Gossler C, Paul O; Ruther P; (2018) High-density µLED-based optical cochlear implant with improved thermomechanical behavior. Frontiers in Neuroscience 12: 659.
12. Ayub S; Gentet L J; Fiáth R; Schwaerzle M; Borel M; David F; Barthó P; Ulbert I; Paul O; Ruther P; (2017) Hybrid intracerebral probe with integrated bare LED chips for optogenetic studies. Biomedical microdevices 19 (3): 49.

13. Becker F; Jäger R; Schmidt F; Lapatki B; Paul O; (2017) Miniaturized six-degree-of-freedom force/moment transducers for instrumented teeth. IEEE Sensors J. 17 (12): 3644-3655.
14. Schwaerzle M; Paul O; Ruther P; (2017) Compact silicon-based optrode with integrated laser diode chips, SU-8 waveguides and platinum electrodes for optogenetic applications. J. Micromech. Microeng. 27 (6): 65004.
15. Gullo M R; Takeuchi S; Paul O; (2017) Multicellular Biohybrid Materials: Probing the Interplay of Cells of Different Types Precisely Positioned and Constrained on 3D Wireframe-Like Microstructures. Advanced Healthcare Materials 6 (7): 1601053.
16. Barz F; Livi A; Lanzilotto M; Maranesi M; Bonini L; Paul O; Ruther P; (2017) Versatile, modular 3D microelectrode arrays for neuronal ensemble recordings: from design to fabrication, assembly, and functional validation in non-human primates. J. Neural Engineering 14 (3): 36010.
17. Pothof F; Bonini L; Lanzilotto M; Livi A; Fogassi L; Orban G A; Paul O; Ruther P; (2016) Chronic neural probe for simultaneous recording of single-unit, multi-unit, and local field potential activity from multiple brain sites. J.Neural Engineering 13 (4): 46006.
18. Sander C; Vecchi M-C; Cornils M; Paul O; (2016) From three-contact vertical Hall elements to symmetrized vertical Hall sensors with low offset. Sens.Actuators A: Physical 240: 92-102.

PATENTS

Three-dimensional Hall sensor for detecting a spatial magnetic field, EP2806283B1, US9494661B2

Magnetfeldsensor und Verfahren zur Bestimmung der Offsetspannung eines Magnetfeldsensors, EP2546669B1, CN102881817B

Hall sensor, DE102014010547A1, US9709639B2

Magnetfeldsensor, DE102011101604B4

Sensormodul für einen taktilen Tastkopf eines Koordinatenmessplatzes, DE102013215959A1 (pending)

Hall effect sensor, EP2546670B1, US9097753B2, JP5430038B2, CN102881818B

Force sensor, EP2570786B1

Orthodontic bracket, tight-fitting orthodontic appliance and a removable orthodontic appliance, EP1505921A1

Magnetfeldsensor und Verfahren zur Bestimmung der Offsetspannung eines Magnetfeldsensors, EP2546669B1, US9689931B2

THIRD PARTY FUNDING SPECIFIC TO MY RESEARCH GROUP

2012 – present	Total ≈8.8 M€
	DFG: ≈2 M€
	EU: ≈2.3 M€
	BMBF: ≈1.5 M€
	Industry: ≈3 M€
	Fraunhofer: 50 k€
	Alexander von Humboldt Foundation: 21 k€