

## Curriculum Vitae

# Niko Stephan Münzenrieder

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Date of birth: 17.06.1983  
Place of birth: Neu-Ulm, Germany (nationality: German)  
Affiliation: University of Sussex, Sensor Technology Research Centre  
Richmond 3A7, Brighton BN1 9QT, United Kingdom  
Phone: +44 (0)1273 872631 E-mail: n.s.munzenrieder@sussex.ac.uk

## Research activities

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Niko Münzenrieder is working on the design, fabrication and characterization of electronics on deformable substrates for imperceptible sensor systems. His research focuses on three main topics:

**Flexible thin-film devices and analog circuits:** Mechanical and electrical performance of thin-film oxide based transistors and realization of analog circuits for sensor conditioning and transceivers.

**Smart textiles:** Functionalization of fibers, and integration of flexible electronics into textiles to create unobtrusive sensor systems for telemedicine or orthotics applications.

**Novel technologies for electronics and sensor systems:** Customizable electronics using pen and paper, 3D printing and new materials to realize implants and soft robots with integrated sensors.

## Education

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September 2015 - August 2016	Post graduate certificate in higher education: University of Sussex (UK) Certificate: PGCertHE
August 2009 - November 2013	PhD in electrical engineering: ETH Zürich (Switzerland) Certificate: Dr. sc. ETHZ (PhD), awarded the ETH medal
November 2007 - October 2008	Diploma thesis: Walter Schottky Institute TU Munich (Germany)
October 2003 - November 2008	Studies in physics: Technical University Munich (Germany) Certificate: Dipl. Phys. Univ., Grade: 1.3
September 1999 - June 2002	Gymnasium: Gewerbliche Schule Tübingen (Germany) Certificate: Abitur (university-entrance diploma), Grade: 1.5

## Work experience

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July 2019 onwards	Associate Professor, Physics of Matter: Faculty of Science and Technology Free University of Bozen/Bolzano (Italy)
July 2019 onwards	Honorary Senior Lecturer, Sensor Technology Research Centre: University of Sussex (United Kingdom)
January 2015 – June 2019	Senior Lecturer (Lecturer until 04.2018) in Sensor Technology: Head of the Flexible Electronics Laboratory Sensor Technology Research Centre University of Sussex (United Kingdom)
January 2015 – July 2018	Oberassistent, 15% part time (Postdoctoral research fellow until 08.2016): Electronics Laboratory, Swiss Federal Institute of Technology (ETH) Zürich (Switzerland)

November 2013 – December 2014      Postdoctoral research fellow (flexible electronics):  
 Electronics Laboratory, ETH Zürich (Switzerland)

August 2009 – November 2013      Research and teaching assistant:  
 Electronics Laboratory, ETH Zürich (Switzerland)

## **Additional professional activities and skills**

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Teaching:                      Lecturer and module conveyor (University of Sussex):

- Sensor Systems and Applications (year 3) [since 2017]
- Smart Interactive Systems (year 3) [since 2019]
- Electrical Circuits and System Design (year 2) [since 2015]
- Applied Technology (foundation year + year 1) [2016]

Student projects:

- Supervision and Co-Supervision of 7 PhD students (University of Sussex)
- Supervision of 16 Master students (ETH Zürich and University of Sussex)
- Supervision of 22 Bachelor students (University of Sussex)

Publications:                • >90 peer reviewed papers (h-index: 25), ORCID ID: [0000-0003-4653-5927](https://orcid.org/0000-0003-4653-5927)

- >30 scientific conference and seminar presentations (8 invited)

Reviewer:                    • >30 scientific journals e.g.: ACS Appl. Mater. & Inter.; Appl. Phys. Lett.; Adv. Mater.; Adv. El. Mater.; IEEE Electron Device Lett.; IEEE Trans. Electron Devices; Nature El.; Nature Mat.; Nature Commun.; NPG Flex. El.; Opt. Express; Phys. Status Solidi A; Small; Thin Solid Films; *etc.*

- Funding bodies: European Commission, Dutch research council

Memberships:                • IEEE Member (since 6/2012)

- Fellow of the Higher Education Academy UK (since 10/2016)
- Member of the German Physical Society (since 7/2002)
- Advisory board member Swiss Innovation Valley AG (since 7/2017)
- Editorial board member of Technologies (since 11/2017)

Research grants:            • *SmartSensOptics*, EPSRC/GCRF, PI (2018-2021) [744k€]

- *WISDOM II*, DFG, External partner (2018-2022) [my share: 49.8k€]
- *Smart hybrid bandage integrated with wireless sensor for chronic wound management and healing*, Sussex RDF-10, Co-I (2019) [my share: 7k€]
- *Soft 3D printed robots with a monolithically integrated artificial nervous system*, EPSRC-DTP PhD studentship, PI (2018-2021) [141.6k€]
- *ECR Capital Award*, EPSRC, Partner (2018) [100k€]
- *Hybrid electronics*, Sussex Research opportunity fund, PI (2016) [1.3k€]
- *Flexible electronics: Innovative new sensing and fabrication technologies*, EPSRC-DTP PhD studentship, PI (2016-2020) [130k€]

Additional projects:        Work package responsible or involvement into: *WISDOM* (DFG/SNF project: 2015-2018), *TecInTex* (Nano-Tera project: 2009-2013), *FLEXIBILITY* (EU FP7 project: 2011-2015), *3D-SensTex* (Nano-Tera project: 2013-2015)

Public engagement:        >10 Magazine, TV and Radio appearances: e.g. Chemical and Engineering News (2018); IEEE Spectrum (2017), Deutschlandfunk (2014), BBC (2014)

Civil service:                09.2002 – 06.2003:      Kirnbach Schule (School for mentally disabled children)

Languages:                    • German (native)

- English (fluent)

Areas of expertise:         • Thin-film electronics, semiconductor technology, cleanroom processing

- Low temperature processing, plastic electronics, oxide semiconductors
- Analog thin-film circuits, sensor conditioning
- Sensors (design, fabrication and characterization), systems integration
- Smart textiles, integration of electronics into fabrics