Curriculum Vitae

Last name, First name: **Geschwentner, Dirk** **Gender**: **male**

Nationality/ies: **…German**

Overall Scientific Expertise:
As an electrical engineer with education in radio frequency engineering and knowledge of mobile communication antenna design and EMF health effects in humans, I started working as a scientific officer at the German Federal Office for Radiation Protection (BfS) in 2004. Since then, I am engaged in health and environmental risk assessments of EMF exposures at frequencies from 0 Hz (static fields) up to the terahertz region of the electromagnetic spectrum. In the first years at the BfS I also worked on health risk assessment of optical radiation, i.e. (visible) light, infrared and ultraviolet radiation, with focus on exposure assessment and regulations.

Professional Experience

Years employed from – to	Title of position	Employer – name and location	Areas of professional specialisation♠
2004 – now	Scientific officer	Bundesamt für Strahlenschutz (engl.: Federal Office for Radiation Protection)	EMF Exposure assessment, EMF Dosimetry, EMF radiation.
1997 - 2003	Scientific officer	Ruhr-Universität Bochum, Institute for high-frequency engineering, working group “antennas and electromagnetic waves propagation”	Antenna development, numerical characterization and optimization of conformal antenna structures;

Specific expertise in the field of the call

(Please refer additionally to the section “**Overall Scientific Expertise**”.)

About ten years ago I was involved in the review of the national EMF regulation (General Public) in Germany, the technical content of which is based on ICNIRP2009 (static electric and magnetic fields), ICNIRP2010 (low frequency electric and magnetic fields) and ICNIRP1998 or EU recommendations 1999/519/EU (high / radio frequency electromagnetic fields), and which is still in place today.

Based on many years of professional experience (as outlined above), I am part of the interdisciplinary BfS team that continuously evaluates new scientific publications on EMFs (health effects, exposure) in all frequency ranges. If there are (new) indications of biological or health effects or identified gaps in knowledge, for example with regard to exposure data or exposure assessment methods applicable to new EMF sources (3G, 4G, 5G, security scanners etc.), I specify the technical content of BfS funded research projects on EMF exposure assessment, characterization and dosimetry, e.g.

– “Consideration of current mobile radio antenna technology for RF-EMF exposure assessment”, 2022, http://nbn-resolving.de/urn:nbn:de:0221-2022112435660,

– "Investigation of the influence of intra-corporal field components at tissue interfaces during numerical determination of induced field strength distributions in realistic high resolution body models for testing compliance with safety limits", 2014, http://nbn-resolving.de/urn:nbn:de:0221-2014111011874,
– "Exposure to non-ionising radiation with frequencies in the terahertz range - development and application of exposure assessment methods", 2014, http://nbn-resolving.de/urn:nbn:de:0221-2014111011856,
– "Determination of general public exposure to novel cellular mobile radio technologies", 2013, http://nbn-resolving.de/urn:nbn:de:0221-2013041610546.

I am an active member of various standardization committees (please refer to the next but one section for details) dealing with exposure assessment methods for RF-EMFs from sources such as cellular base stations, broadcast transmitters, or portable [cellular] communication devices (smartphones, walkie-talkies, etc.).

Educational Background

Year	Degree awarded	Educational Institution – name and location	Areas of educational specialisation*
1996	Diplom-Ingenieur	Ruhr-Universität Bochum (Bochum, Germany)	Electrical engineering (with focus on high-frequency technology, communications and bio-medical engineering)

Memberships in Scientific Advisory Bodies/Committees/Panels:

Member of the German standardisation body **DKE K 764** "Sicherheit in elektromagnetischen Feldern" (engl.: Safety in electromagnetic fields, https://www.dke.de/de/ueber-uns/dke-organisation-auftrag/dke-fachbereiche/dke-gremium?id=2000305&type=dke%7Cgremium)

Within the international standardisation body **IEC TC 106** "Methods for the assessment of electric, magnetic and electromagnetic fields associated with human exposure", https://www.iec.ch/dyn/www/f?p=103:7:111547216882923:::FSP_ORG_ID,FSP_LANG_ID:1303,25:

- member of maintenance team **MT 3** "Maintenance of IEC 62232: Determination of RF field strength, power density and SAR in the vicinity of base stations for the purpose of evaluating human exposure",
- member of joint working group **JWG 11** "Computational Methods to assess the power density in close proximity to the head and body",
- member of joint working group **JWG 12** "Measurement Methods to assess the power density in close proximity to the head and body",
- member of joint working group **JWG 13** "Measurement Procedures to Determine the Specific Absorption Rate (SAR)",
- member of joint maintenance team **JMT 62209-3** "Maintenance of IEC 62209-3: "Measurement procedure for the assessment of specific absorption rate of human exposure to radio frequency fields from hand-held and body-mounted wireless communication devices - Part 3: Vector measurement-based systems (Frequency range of 600 MHz to 6 GHz)"",
- member of working group **WG 9** "Addressing methods for assessment of Wireless Power Transfer (WPT) related to human exposures to electric, magnetic and electromagnetic fields".

Within the European standardisation body **CENELEC TC 106X** "Electromagnetic fields in the human environment":

- member of working group **WG 01** "Mobile phones and base stations",
- member of working group **WG 21** "Basic standards and generic standards".

Memberships in Learned Societies:

Member of "Verein Deutscher Ingenieure e.V. (VDI)".

Memberships in Editorial Boards:

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List of Publications:

Kuhne J, Deser A, Geschwentner D, Hofmann P. Assessing exposure to low frequency magnetic fields in a broad frequency range using fft-based personal exposimeters: The issue of spectral noise. *Bioelectromagnetics (**BioEM**)*, 26.09.-01.10.2021, Ghent

Schmidt J, Pophof B, Geschwentner D, Kuhne J, Böhmert C, Henschenmacher B, Ziegelberger G,… Research program "Radiation Protection in the Process of Power Grid Expansion". *Bioelectromagnetics (**BioEM**)*, 26.09.-01.10.2021, Ghent, Belgien **(Poster)**

Geschwentner D. Strahlenbelastung durch 5G. 15. ***ITG**-Fachkonferenz* „Breitbandversorgung in Deutschland", 02.-03.03.2021

Kuhne J, Schmidt JA, Geschwentner D, Pophof B, Ziegelberger G. Thermoregulatory Stress as Potential Mediating Factor in the NTP Cell Phone Tumor Study. *Bioelectromagnetics* 2020; 41:471-479. doi: 10Kuhne J, Schmidt JA, Geschwentner D, Pophof B, Ziegelberger G. Thermoregulatory Stress as Potential Mediating Factor in the NTP Cell Phone Tumor Study. Bioelectromagnetics 2020; 41:471-479. doi: 10.1002/bem.22284

Geschwentner D. 2. **BfS-Fachgespräch** zum „Forschungsprogramm Strahlenschutz beim Stromnetzausbau", Dosimetrie, 05.02.2020, Berlin (Vortrag)

Kuhne J, Schmidt J-A, Geschwentner D, Pophof B, Ziegelberger G. Commentary on the recent findings of the NTP cell phone bioassay: Has thermal stress been underestimated? *Bioelectromagnetics Confrence (**BioEM**)*, 23.-28.06.2019, Montpellier/France.

Geschwentner D. Radiofrequency electromagnetic field exposure from fixed installations like broadcast stations or (5G) mobile radio base stations. *International **Workshop** "Environmental effects of electric, magnetic and electromagnetic fields: Flora and Fauna"*, 05.11.2019, München

Geschwentner D. Perspective of a radiation protection authority. *International Technical **Workshop** on 5G and EMF Exposure for Administrations*, 17.04.2019, Maisons-Alfort/Frankreich

Geschwentner D. Radiofrequency electromagnetic fields exposure. ***WHO** Electromagnetic Fields Mission Bahrain*, 05.02.2019, Manama/Bahrain

Geschwentner D. Strahlenschutz beim Mobilfunk / 5G. ***Workshop** der ITG-Fachgruppe Access and Home Networks*, 12.09.2019, Berlin. **(Eingeladener Vortrag)**

Geschwentner D, Bodendorf C, Matthes R. Computational study on absorption of RF energy from TETRA radio transceivers used close to the body. BioEM 2015; 14.-19.06.2015; Pacific Grove/USA. **(Poster)**