



Curriculum vitae

- Born:** 3rd October 1962 in Dresden.
- Marital status:** married, one daughter
- Private address:** Jahnstr. 15, 07743 Jena.
- Institute:** Helmholtz-Institut Jena, Fröbelstieg 3 &
Theoretisch-Physikalisches Institut, Friedrich-Schiller-Universität Jena,
Max-Wien-Platz 1, D-07743 Jena.
E-mail: s.fritzsche@gsi.de,
<http://www.uni-jena.de/atomic-theory/>
- School:** Elementary school, Dresden, 1969–1977;
High school 'Bertolt Brecht', Dresden, 1977–1981;
High school graduation, Dresden, June 1981.

Military service in Weißenfels, November 1981 – April 1983.
- Study:** Study of Physics at the Technical University of Dresden, 1983 – 1988;
Aggregation mark "sehr gut".
Diploma: *Evaluation of Atomic Data for the X-ray Fluorescence Spectroscopy*.
PhD student at the Technical University of Dresden,
June 1988 – July 1990.
PhD student at the University of Kassel, **August 1990 – January 1992**,
PhD thesis: *Influence of Relaxation and Correlation Effects on Nonradiative Atomic Transitions*, January 1992 with Professor B. Fricke;
Grade "mit Auszeichnung".
- Habilitation:** *Relativistic Theory of Open-Shell Atoms*, University of Kassel,
April 1997.
- Work:** University of **Kassel**, *post-doc* in the group of Professor B. Fricke,
January – August 1992.
Mathematical Institute, University of **Oxford** (Great Britain), *post-doc* in
the group of Professor I. P. Grant, **September 1992 – October 1993.**
Department of Physics, Chalmers University of Technology, **Göteborg**,
post-doc in the group of Professor I. Lindgren and Dr. A.-M. Mårtensson-
Pendrill, **November 1993 – July 1995.**
University of Kassel, Lecturer (C1) in the group of Professor B. Fricke,
1995 – 2001.

- Work (contn'd):** University of **Kassel**, Senior Lecturer (Docent, C2), **2002 – April 2007**.
University of **Kassel**, Apl. Professur, **since 2006**.
MPI für Kernphysik **Heidelberg**, Division Professor J. Ullrich, **2007/2008**.
Frankfurt Institute of Advanced Studies (FIAS) and
Helmholtzzentrum für Schwerionenforschung (GSI) **Darmstadt**,
Atomic Physics Division, Professor T. Stöhlker, **2008-2012**.
Department of Physics, **Oulu** University (Finland),
Distinguished Professorship of the Finnish Academy (FiDiPro) &
Physikalisches Institut, Ruprecht-Karls-Universität **Heidelberg**,
2009-2012 .
- Fellowships:** Fellowship of the NATO Research Council (1992);
Fellowship of European Science Foundation and Swedish Institute (1993);
Fellowship of the Swedish Natural Science Research Council (1994).
- Awards:** Honory Professor of the Northwest University of Lanzhou (China);
October 2003.
Distinguished Professorship of the Finnish Academy of Science,
Oulu University, 2008–2012.
Honory Professorship of the Northwest University of Lanzhou (China).
2012–2014.
- Research interests:**
1. Relativistic and correlation effects in atoms and molecules (MCDF, MBPT, Coupled-Cluster approximation, atomic basis sets).
 2. Properties and dynamics of highly-charged, heavy ions.
 3. Decoherence and entanglement in atomic and N -qubit systems.
 4. Computer-algebraic methods and applications for many-particle problems (group theory, Racah algebra, Feynman-Goldstone expansions).
 5. Calculation of atomic ionization and decay properties concerning applications in astro and plasma physics (autoionization, dielectronic recombination, inner-shell processes, photoionization).
- Software for Theoretical Physics:**
1. Development of computer-algebraic packages RACAH, DIRAC and FEYNMAN for describing quantum many-particle systems (CPC-Library).
 2. Development and maintenance of relativistic atomic and molecular structure programs (CPC).
- Detailed Applications:**
1. Calculation of atomic energies and properties for the design and interpretation of (laser-)spectroscopic experiments.
 2. Accurate data for plasma and astro physics.
- Editor:** Editor of *Computer Physics Communications*, **since 2009**.
- Referee work:** 'Studienstiftung des Deutschen Volkes',
Finnish Academy of Science.
Marie-Curie Fellowship Program der EU.
Deutsche Forschungsgemeinschaft (DFG).