

# 1 Curriculum vitae

## 1.1 School

1960 - 1964	Martin-Luther Volksschule, Kempen, Nordrhein-Westfalen (NRW), D
1964 - 1965	Fichte Gymnasium, Krefeld, Nordrhein-Westfalen, D
1965 - 1972	Alexander-von-Humboldt Gymnasium, Neuss, Nordrhein-Westfalen, D

## 1.2 Military

1973 - 1974	2. Sanitätsbatallion 11, Leer, Niedersachsen, D
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## 1.3 Education

1974 - 1979	Studies of Civil Engineering at the Ruhr-University Bochum (RUB), Nordrhein-Westfalen, D
01/16/1980	Degree of Diplom-Ingenieur (Dipl.-Ing.) of Civil Engineer
12/02/1983	Promotion to Doktor-Ingenieur (Dr.-Ing.), RUB Bochum, D
07/02/1996	Habilitation (“Privat Dozent”), School of Medicine, University of Bern, CH

## 1.4 Positions Held

12/1975 - 12/1979	Student Assistant, Institute for Mechanics, RUB, Bochum, NRW, D
12/1979 - 01/1984	Research Assistant, Institute for Mechanics, RUB, Bochum, NRW, D
02/1984 - 12/1990	Group Head “Nonlinear Shell theories”, RUB, Bochum, D
11/1986 - 12/1990	Founder and Group Head “Biomechanics Research”, Institute for Mechanics, RUB Bochum, NRW, D
01/1991 - 04/1993	Associate Professor of Mechanical Engineering, Bioengineering Center, Wayne State University (WSU), Detroit, MI, USA
01/1991 - 04/1993	Adjunct Associate Professor of Neurological Surgery, University Health Center, WSU, Detroit, MI, USA
01/1993 - 12/1996	Senior Partner, NOVITECH, L.L.C., Grosse Point Park, MI, USA
05/1993 - 12/2001	Head “Orthopaedic Biomechanics Division”, Maurice E. Müller Institute for Biomechanics, University of Bern, CH
01/1996 - 12/1999	Adjunct Professor of Mechanical Engineering, Faculty of Applied Science, Queen’s University, Kingston, ON, CAN
01/1997 - 12/2007	Director “Research Center for Computer Assisted Surgery”, Maurice E. Müller Institute for Biomechanics, University of Bern, Switzerland
Since 12/1998	Founder and Senior Partner, Orthopaedic Services FNG GmbH, Thun, CH
03/2000 - 12/2002	Associate Professor at the Maurice E. Müller Institute for Biomechanics, University of Bern, CH

- 5/2000-6/2012 Founder and Senior Partner of Ronalab GmbH (later renamed ConCoord GmbH), Thun, CH
- 1/2003 - 12/2008 Co-director of the MEM Research Center for Orthopaedic Surgery
- Since 1/2003 Full Professor and Director of the Institute for Surgical Technology and Biomechanics ([www.istb.unibe.ch](http://www.istb.unibe.ch)) at the Medical Faculty of the University of Bern, CH
- 1/2007 - 3/2012 Director of the Artificial Organ (ARTORG) Center for Biomedical Engineering Research ([www.artorg.unibe.ch](http://www.artorg.unibe.ch)) at the Medical Faculty of the University of Bern, CH

## 1.5 Honors and Awards

- 12/1980 Ruhr-University Bochum Scientific 1980 Award for Outstanding Research in Structural Mechanics
- 10/1990 German Society for Orthopaedics and Traumatology (DGOT), Zürich, Award for Outstanding Basic Research
- 05/1992 1992 Award for Outstanding Resident Paper, Cervical Spine Research Society, Palm Desert, CA, USA
- 06/1993 Third Poster Award, International Society for the Study of the Lumbar Spine, Marseilles, F
- 02/1994 Award for the Best Paper of the Meeting, 5th Sicot Trainees Meeting, Wien, A
- 05/1995 Swiss Technology Award 1995 Project 82: A System for Computer Assisted Spine Surgery
- 05/1995 Third Poster Award, International Society for the Study of the Lumbar Spine, Helsinki, FIN
- 04/1997 Annual Award of the Finish Society of Spinal Research
- 06/1997 Best Basic Science Paper Award, International Society for the Study of the Lumbar Spine, Singapore
- 06/1997 Third Poster Award, International Society for the Study of the Lumbar Spine, Singapore
- 05/1998 The Göran Selvik Award on Imaging Technology in Biological, Technical, and Medical Research within the Musculo-Skeletal System, European Orthopaedic Research Society, Amsterdam, NL
- 02/2001 Maurice E. Müller Award for Excellence in Computer Assisted Surgery, 1<sup>st</sup> Annual Meeting of the International Society for Computer Assisted Orthopaedic Surgery, Davos, CH
- 09/2001 HAP Paul Award of the International Society for Technology in Arthroplasty, Hawaii, USA
- 01/2008 Ypsomed Innovation Award 2007: "Development and Clinical Validation of a Computer Assisted Device for Cement Injection at the Spine" (PI - M. Löffel), Bern, CH
- 01/2010 Ypsomed Innovation Award 2009: "A Novel Cost-effective System for High Precision Placement of Acetabular Cups in Total Hip Arthroplasty (THA)" (PI - G. Zheng), Bern, CH
- 01/2013 Honorary, lifetime full Member of ISTA in honour of the contribution to technology in arthroplasty and to ISTA ([www.istaonline.org](http://www.istaonline.org))

## 1.6 Patents

Since 1993                      Inventor and co-inventor of 15 patents and patent applications pending in the fields of surgical tools and technologies with special focus on image guided therapy.

## 1.7 Memberships in Professional Societies

1984 - 2000                      Society of Applied Mathematics and Mechanics (GAMM)  
 Since 1989                        European Society of Biomechanics (ESB)  
 1992 - 2006                      The American Society of Mechanical Engineers (ASME)  
 1992 - 1995                        American Standards for Material Testing (ASTM)  
 1994 - 2008                      International Society for the Study of the Lumbar Spine (ISSLS)  
 1994 - 2002                        European Society for Engineering and Medicine (ESEM)  
 Since 1994                        Swiss Society for Biomedical Technology (SGBT)  
 Since 1994                        European Spine Society (ESS)  
 Since 1995                        The Institute of Electrical and Electronics Engineers, Inc. (IEEE)  
 1997 - 2003                      International Society for Computer Aided Surgery (ISCAS)  
 1997 - 2011                      Orthopaedic Research Society (ORS)  
 Since 1997                        European Orthopaedic Research Society (EORS)  
 Since 1998                        German Society for Biomechanics  
 Since 2000                        International Society for Computer Assisted Orthopaedic Surgery  
 Since 2001                        German Society for Computer and Robot Assisted Surgery (CURAC)  
 Since 2001                        Swiss Orthopaedic and Traumatology Society (SGOT)

## 1.8 'Advisory Board Member' for Professional Journals

2001 - 2011                      Computer Aided Surgery – Associate Editor - Musculoskeletal

## 1.9 'Editorial Board Member' for Professional Journals

1996 - 2011                      Computer Aided Surgery  
 Since 1997                        Technology and Health Care

## 1.10 Reviewer and Research Advisor

Since 1992                        German Research Association (Deutsche Forschungsgemeinschaft)  
 Since 1993                        Swiss National Science Foundation  
 Since 1994                        Swiss Federal Office for Professional Education and Technology, Department for Technology and Innovation – today Innosuisse  
 Since 1994 - 2001                Research Commission of the AO/ASIF Foundation, Bern, CH  
 2010 - 2012                      Member of the International Advisory Committee of the Center for Medical System Innovation (CMSI), The University of Tokyo, Tokyo, Japan

## 1.11 Other Professional Activities

1987-1989                        Consulting Engineer for Siemens AG, UB KWU, Offenbach, Germany

- 1991 - 1995 Member of the ASTM Subcommittee on Spinal Implants
- 1997 - 2018 Co-Founder and Member of the Board of Directors of the “Medical Cluster” (Network for the promotion of medical technology)
- 1998 - 2005 Co-Founder and member of the committee “Computer assisted Surgery” of the German Society for Traumatology (DGU)
- 1998 - 2001 Member of the task force to develop guidelines for spine surgery of the German Society for Spine Surgery
- 1999 - 2005 Member of the Academic Council of the AO/ASIF Foundation, Davos, Switzerland
- 2000 - 2013 Member of the Advisory Board (Life Sciences Expert) of the Swiss Confederation's Innovation Promotion Agency CTI Commission for Technology and Innovation, Bern, CH
- 02/2000 – 02/2001 Founder and first President of the International Society for Computer Assisted Orthopaedic Surgery, Zurich
- 2000 - 2015 Member of the board of the International Society for Computer Assisted Orthopaedic Surgery
- 2001 - 2009 Member of the Expert Group “Computer Assisted Surgery” AO/ASIF Foundation, Davos, CH
- 2001 - 2013 Co-Director of the National Center for Competence in Research (NCCR) “Computer Aided and Image Guided Medical Interventions
- 2006 - 2011 Founder and Program Director of the Master of Science in Biomedical Engineering Program, University of Bern, CH
- 2008 - 2014 Co-founder and Member of the Board of Directors of the Competence Center for Medical Technology ([www.ccmmedtech.ch](http://www.ccmmedtech.ch)), Bern, Switzerland
- 2009 - 2013 Head of CTI Medtech Initiative, Federal Office for Professional Education and Technology OPET, Bern, CH
- Since 2011 Co-founder and Vice President of SICAS – Swiss Institute for Computer Assisted Surgery
- Since 2012 Member of the Swiss Academy of Engineering Sciences (SATW)
- 2013 - 2017 Federal Department of Economic Affairs, Education and Research EAER, Commission for Technology and Innovation CTI, Vice-president & President Start-up & Entrepreneurship
- Since 2017 Expert of Innosuisse (Suisse Innovation Agency)