

1. Personal information:

Henning Müller

<https://scholar.google.ch/citations?user=UEZ9RIUAAAAJ&hl=en>

<https://orcid.org/0000-0001-6800-9878>

2. Education

- 2002-2008 Habilitation for the title of privat-docent at the medical faculty of the University of Geneva, 2014 nomination as titular professor
- 1998-2002 PhD in Image Processing, University of Geneva, Switzerland on User Interaction and Performance evaluation in content-based visual information retrieval; thesis nominated for the Latsis price of the best PhD thesis of the University of Geneva
- 1992-1997 Diploma Studies in Medical Informatics, Technical School Heilbronn and University of Heidelberg, Germany

3. Current positions

- since 2007 Full professor at the University of Applied Sciences in Sierre, Switzerland, in business informatics (2007-2010 at 80%, since 2010 at 100%)
- since 2015 Titular professor at 10% at the medical faculty of the University of Geneva
- since 2020 Member of the National Research Council of the Swiss National Science Foundation (SNF) in Division 4

Professional and academic experience (extracts)

- 2016-2017 Teaching a course at the Harvard, MIT Health Sciences and Technology (HST) program
- 2015-16 Visiting professor for a sabbatical at the Martinos Center for Biomedical Imaging, part of Harvard Medical School and Massachusetts General Hospital (MGH), Boston, MA, USA
- 2002-2008 Postdoctoral research and teaching position at the service for medical informatics at the University Hospitals of Geneva and the University of Geneva (initiator and leader of the *medGIFT* project) with Prof. Geissbuhler, (reduction to 20% since November 2007)
- 1998-2002 Research and teaching assistant at the University of Geneva with Prof. Pun, development of a content-based image retrieval system (*GIFT*) in a research project (*Viper*), teaching of computer science courses for adults and life science students
- 2001 Research exchange with Monash University in Melbourne, Australia on learning from user behavior for content-based image retrieval with Dr. Squire
- 1997-1998 Internship at the Daimler Benz Research and Technology North America in Portland, Oregon, Development of CAN communication routines for trucks in a project for a radar-based cruise control
- 1996-1997 Research Assistant at the German Cancer Research Center (DKFZ) in Heidelberg, Germany, planning and development of DICOM routines for the teleradiology system CHILI on various platforms (Prof. Meinzer and Dr. Engelmann)

4. Institutional tasks

- 2011- Head of the eHealth unit, involved in the research institute management

5. Funded projects as leading investigator (limited extracts)

- 2020-2024 AI4Media project funded under H2020 on AI use for the media domain (5 million Euro budget, 300'000 Euros for the HES-SO)
- 2019-2022 ExaMode project funded by H2020 on histopathology image analysis (4.5 million Euro budget, 980'000 Euros for the HES-SO), project obtained as project coordinator
- 2019-2021 SPHN project QA4IQI on CT image standardization for texture feature extraction (500'000 Euro budget, 160'000 for the HES-SO Valais)
- 2018-2020 Exchange project with Belarus on deep learning for lung image analysis (10'000 CHF)
- 2017-2020 PROCESS project H2020 on research infrastructures (overall funding 3 millions, 350'000 Euros for the HES-SO)
- 2017-2019 HT4D 2 project if the Swiss National Science Foundation (120'000 CHF budget)
- 2016-2017 Hasler Stiftung grant for a Gaze tracker and its implementation, EdgarPro (44'600 CHF)
- 2016-2019 SNF Sinergia project Megane-Pro project on prosthesis analysis (950'000 F funding, 380'000 for the HES-SO)
- 2015-2018 Eurostars project with ContextVision (1.3 Million Euros, 580'000 Euros for the HES-SO)
- 2014-2019 C-BIBOP NCI project with Harvard Univ., (budget \$3.5 Mio, \$15'000 for the HES-SO)
- 2013-2017 FP7 project MD-Paedigree (total budget 12'000'000 Euros, 600'000 for the HES-SO)
- 2011-2013 NinaPRO Sinergia project on prosthesis analysis (950'000 CHF, 420'000 CHF for HES-SO)
- 2011-2015 FP7 Marie Curie action WIDTH (500'000 Euros total, 94'000 Euros for HES-SO)
- 2010-2014 Khresmoi FP7 IP on medical information retrieval (8'100'000 €, 1'700'000 for HES-SO)
- 2010-2013 Promise FP7 NoE on IR evaluation (Budget of 3'200'000 € and 320'000 for HES-SO)
- 2010-2012 MANY SNF project on texture analysis (334'000 CHF)
- 2009-2012 Chorus FP7 project on multimedia retrieval (1'100'000 in total with 97'000 for HES-SO)
- 2008-2009 Talisman 2 SNF project on lung data analysis (100'480 CHF)

- 2006-2009 KnowARC FP6 project on creation of a grid middleware (2'900'000 Euro, 248'000 UNIGE)
- 2006-2009 Multimatch FP6 project on retrieval in cultural heritage (3'100'000 Euro, 230'500 UNIGE)
- 2006-2007 Talisman SNF project on lung texture retrieval (86'600 CHF)

6. Supervision of students (summary)

- Currently, supervision of 4 PhD students, 9 own PhDs have finished (Adrien Depeursinge, Jimison Iavindrasana, Xin Zhou, Dimitrios Markonis, Antonio Foncubierta, Alba Garcia Seco de Herrera, Oscar Jimenez del Toro, Yashin Dicente Cid, Matteo Cognolato), external expert for over 30 PhD students
- Supervisor for several (20+) Bachelor, (10+) Master, Diploma theses as well as (30+) interns in several data science areas.
- Work with several postdoctoral researchers.

7. Teaching activities (extracts)

- 2016-2017 Course at MIT/Harvard HST program on clinical imaging informatics (2 block courses)
- Since 2014 Course on clouds for Business Informatics Bachelor students (3 ECTS)
- Since 2013 Course in an MBA on advanced research methods
- 2013-2020 Course for the FMH exam in radiology on 3D imaging and PACS
- Since 2008 Master course in Research methodology in a Master in Business Administration program of the HES SO (3 ECTS)

8. Participation in panels (extracts)

- Member of the digitization panel for the French-speaking Universities in the world
- Prize committee member of the Dalle Molle foundation
- National Cancer Institute (NCI), reviewer in several calls for the Quantitative Imaging Network (QIN)
- Participation in several evaluation panels for projects, professor positions, as well as in conferences

9. Membership in scientific societies

- Member in the IEEE, ACM SIGIR, ACM SIGMON and MICCAI

10. Organization of conferences, member in program committees (extracts)

- Member in over 400 scientific conference committees over the past 15 years
- Program committee chair CLEF 2021, Bucharest, Romania
- Conference co-chair CBMI 2016, Bucharest, Romania
- Program chair CLEF 2013, Valencia, Spain
- Local Organization Committee member of CARS 2010, Geneva, Switzerland
- Co-organizer of a workshop on medical content-based retrieval at MICCAI 2009, London, UK, 2011 Toronto, Canada, 2012, Nice, France, on medical computer vision at 2013 Nagoya, Japan, 2014, Cambridge, MA, USA, 2014, Munich, Germany, 2015, Athens, Greece, 2016
- Organizer of ImageCLEF 2004-2020, member of the steering committee of CLEF since 2010
- Section editor of the IMIA Yearbook of Medical Informatics 2008-2011

11. Prizes, fellowships, distinguished memberships (extracts)

- Several (10+) best paper awards at conferences and workshops
- Invited speaker at many scientific conferences (30+), 10 invited talks in 2021
- Security and ethics committee member in the CARA foundation
- National Science Foundation (NSF) Fellowship program
- Czech National Science foundation reviewer
- Netherlands Organization for scientific research, and for health research and development
- Swiss national science foundation (SNF) reviewer
- National science foundation of Singapore
- Reviewer for over 50 different conferences, reviewer for over 35 different journals, and several institutional project agencies
- Editorial Board member of Methods of Information in Medicine, 2009-2015
- Editorial Board member of the open medical informatics journal since 2008
- Associate Editor of the Journal Computerized Medical Imaging and Graphics since 2008

Major scientific achievements:

1. Important scientific impact in terms of publications and citations of the work done

- Large number of over 19'000 **citations** in Google scholar showing the scientific reputation and impact of the work done, with an important increase in the past five years
- First author of the most cited article ever in the International Journal of Medical informatics (published in 2004, almost 2000 citations in Google scholar)
- Over 500 scientific articles published in peer-reviewed journals, conferences and as book chapters
- Several best paper awards obtained at conferences
- Invited speaker at several international conferences

2. Important achievement in terms of acquired funding, technology transfer and translational activities

- Acquisition of **important amounts of funding** for the HES-SO Valais and University of Geneva as principal investigator, over 10 million Swiss Francs of own funding since 2002 in projects with a total project funding exceeding 70 Million francs including national and many international projects, among them two EU projects as coordinator and one as scientific coordinator
- Involvement in several **startup companies** and SMEs, namely Zebra Medical Vision, ranked by Forbes as one of the most innovative AI companies in the world in 2017, and also ContextVision and DotPhoton
- Collaborations on translational work in several hospitals (CHUV, HUG, SUVA, MGH, ...) including the development of working prototypes tested on clinical data
- Large experience in **multidisciplinary work** between medical sciences, machine learning, information retrieval, pattern recognition and other disciplines
- Core member in the Image Biomarker Standardization Initiative (IBSI)

3. Important achievements in terms of Open Science

- Creation of many publicly available data sets, notably on interstitial lung diseases, multi-organ segmentation in CT and MRI with and without contrast, on sEMG data acquisition from hand-amputees and also healthy controls with standard grasping tasks
- Creation of many openly accessible **scientific data analysis benchmarks** (open data science) in the medical field and beyond with important scientific impact (such as frequent data reuse, citations)
- Member of the MICCAI working group on scientific challenges
- Leader and initiator the ImageCLEF image retrieval benchmark from 2004-2022, adapting it to current research requirements with a very large impact and with many groups reusing the created data sets
- Creation of the **Evaluation-as-a-Service** paradigm with a group of researchers in the VISCERAL project, which relies on moving the algorithms to the data instead of moving the data to the algorithms; this paradigm allows use of confidential data sets and has several other advantages over more classical approaches, and it allows for a full reproducibility of the results in data science
- Work on **ethics** in medical big data analysis and participation in a medical big data ethics project at the University of Basel in the PNR 75