

# CURRICULUMVITAE

Institute  
Information Systems

Prof. Henning Müller



## Contact

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## Biography

Henning Müller studied medical informatics at the University of Heidelberg, Germany, then worked at Daimler-Benz research in Portland, OR, USA. From 1998-2002 he worked on his PhD degree at the University of Geneva, Switzerland with a research stay at Monash University, Melbourne, Australia. Since 2002 Henning has been working for medical information at the University hospital of Geneva. Since 2007 he has been at the HES-SO Valais and since 2011 he is responsible for the eHealth unit. Henning is coordinator of the Khresmoi project, initiator of the ImageCLEF benchmark has authored over 300 scientific papers and is in the editorial board of several journals.

## Research Interest

Medical image retrieval, Medical informatics, information retrieval, information retrieval evaluation, multimodal retrieval, decision support systems, diagnosis aid, technology assessment

## Skills

Medical informatics, project management, image processing, information retrieval, technology assessment

## Education

- 2008 **Privat Docent in Medicine**  
University of Geneva, Switzerland
- 2002 **PhD in natural sciences (computer science)**  
University of Geneva, Switzerland
- 1997 **Diploma in Medical informatics (5-year degree)**  
University of Heidelberg and technical school of Heilbronn, Germany

## Experience

- Since 2011 **HES-SO Valais, Sierre**  
Responsible for the eHealth unit, direction of the Business Information systems institute
- Since 2007 **HES-SO Valais, Sierre**  
Position as full professor computer science
- Since 2002 **Medical Faculty, University of Geneva, Switzerland**  
Postdoctoral research, since 2008 assistant professor
- 2001 **Monash University, Melbourne, Australia**  
Visiting researcher
- 1998-2002 **Science faculty, University of Geneva, Switzerland**  
PhD student, teaching assistant
- 1997-1998 **Daimler Benz research North America, Portland, OR, USA**  
Software developer
- 1990-1997 **Thode software Entwicklung**  
Software developer in medical informatics

## Teaching activities – Courses

- 2007 – **Information system development (Bachelor HES-SO)**  
Concentrating on management aspect of software development around information systems
- 2008 – **Research Methodologies (Master HES-SO)**  
Development of methodologies for preparing research projects and writing proposals
- 2007 – **Agile and iterative software development (Bachelor HES-SO, Master UNIFR, CFCU UNIGE)**  
2011 Agile development and their use for software projects
- 2004 – **Tutor in problem-based learning (Bachelor medical faculty of the University of Geneva)**  
2007 Course on viruses and mechanisms for viruses
- 2002 – **Medical information search (Bachelor UNIGE)**  
2007 Introduction to search for medical students including exercises
- 2007 **Picture Archival and Information Systems course (Master INSA Lyon)**  
Cours on Image archives

## Teaching activities – Bachelor, Master projects and PhD supervision

- 2011 **Data acquisition setup for image databases**  
Daniel Imhof (Bachelor)
- 2011 **Myography signal database and processing environment**  
Francois Julien Chabbey (Bachelor)
- 2010 **Publication management system**  
Samuel Werner (Bachelor)
- 2010 **Expert search in enterprise repositories**  
Roger Schaer (Bachelor)
- 2010 **Visual medical information retrieval**  
Samuel Duc (Bachelor)
- 2010 **Crawling visual repositories**  
Jonas Cigognini (Bachelor)
- 2006-2011 **Medical image retrieval using grid networks**  
Xin Zhou (PhD)
- 2006-2010 **Machine learning with support vector machines**  
Jimison lavindrasana (PhD)
- 2006-2010 **Multidimensional data analysiss of the lungs**  
Adrien Depeursinge (PhD)

## Publications – Edited Books

Selection, all publications available from <http://publications.hevs.ch>

- 2012 **MICCAI workshop proceedings**

Henning Müller, Hayit Greenspan, Tanveer Syeda Mahmood  
Springer Lecture Notes in Computer Science (LNCS 7075), 2012.

- 2011 **The Future Internet**  
John Domingue, Federico Alvarez, Susana Avesta, Frances Cleary, Petros Daras, Alex Galis, Anastasius Gavras, Stamatis Karnouskos, Srdjan Krco, Dave Lambert, Man-Sze Li, Volkmar Lotz, Henning Müller, Michael Nilsson, Anne-Marie Sassen, Hans Schaffers, Burkhard Stiller, Georgios Tselentis, Theodore Zahariadis  
Springer LNCS 6656, 2011.
- 2010 **ImageCLEF – Experimental evaluation of visual information retrieval**  
Henning Müller, Paul Clough, Thomas Deselaers, Barbara Caputo  
Springer, 2010.
- 2010 **Proceedings of the MICCAI workshop on content-based medical retrieval for clinical decision support**  
Barbara Caputo, Henning Müller, Tanveer Syeda Mahmood, Jayashree Kalpathy-Cramer, Fei Wang, James Duncan  
London, UK, Springer Lecture Notes in Computer Sciences LNCS 5853, 2010.
- 2010 **Multilingual Information Access Evaluation Vol. II Multimedia Experiments**  
Carol Peters, Theodora Tsikrika, Henning Müller, Jayashree Kalpathy-Cramer, Gareth J.F.Jones, Julio Gonzalo, Barbara Caputo  
Springer LNCS 6242, 2010.
- 2009 **GPC 2009 workshop proceedings**  
Henning Müller, Jinjun Chen, Massimo Cafaro, Jong Hyuk Park, Nabil Abdnnadher  
IEEE press, 2009.
- 2009 **Proceedings of the Theseus/ImageCLEF Pre-Workshop**  
Peter Dunker, Judith Liebetrau, Stefanie Nowak, Henning Müller, Panagiotis Vlamos  
Corfu, Grece, 2009.
- 2008 **Proceedings of CLEF 2007**  
Carol Peters, Valentin Jijkoun, Thomas Mandl, Henning Müller, Douglas W. Oard, Anselmo Peñas, Vivien Petras, Diana Santos  
Springer Lecture Notes in Computer Science, LNCS 5152, 2008. (IF 2005=0.402)

## Projects (small selection)

- 2010 – **KHRESMOI (FP7)**  
2014 Medical Information analysis and retrieval
- 2010 – **PROMISE (FP7)**  
2013 Multilingual and multimodal information retrieval evaluation
- 2010 – **Chorus+ (FP7)**  
2012 Multimedia information retrieval
- 2012 – **LaMIA (RCSO)**  
2013 Infrastructures for large scale medical data analysis (clouds, Hadoop/MapoReduce)
- 2012 – **CleanCity (RCSO)**  
2015 Analysis and evaluation of environmental factors on city planning
- 2011 – **ELIAS (ESF)**  
2016 Evaluating information access systems
- 2010 – **MANY (SNF)**  
2012 Medical image retrieval in many dimensions
- 2011 – **NinaPro (SNF)**  
2013 Electromyography for hand amputated persons
- 2011 – **WIDTH (Marie Curie)**  
2014 Researcher exchange between Europe and China on medical image retrieval

## Publications – Book chapters

- 2011 **Content-based medical image retrieval**  
Henning Müller, Thomas M. Deserno  
Biomedical Image Processing - Methods and Applications, Springer, 2011.
- 2011 **Evaluation campaigns in medical imaging**  
Jayashree Kalpathy-Cramer, Henning Müller  
Biomedical Image Processing - Methods and Applications, Springer, 2011.
- 2010 **Creating realistic topics for image retrieval evaluation**  
Henning Müller  
ImageCLEF – Experimental evaluation of visual information retrieval, Book at Springer, pages 45-62, 2010.
- 2010 **The ImageCLEF medical image retrieval task**  
Henning Müller, Jayashree Kalpathy-Cramer, William Hersh  
ImageCLEF – Experimental evaluation of visual information retrieval, Book Springer, pages 221-238, 2010.
- 2010 **Fusion techniques for combining visual and textual information retrieval**  
Adrien Depeursinge, Henning Müller  
ImageCLEF – Experimental evaluation of visual information retrieval, Book Springer, pages 95-116, 2010.
- 2010 **Seven Years of ImageCLEF**  
Paul Clough, Henning Müller  
ImageCLEF – Experimental evaluation of visual information retrieval, Book at Springer, pages 3-18, 2010.
- 2007 **Management und Verarbeitung medizinischer multimedialer Daten**  
Henning Müller, Thomas Deselaers, Thomas Lehmann, Antoine Geissbuhler  
Telemedizinführer 2007, pages 228-235, 2007.
- 2003 **The Reality of Content-based Image Retrieval**  
Stéphane Marchand-Maillet, Henning Müller, Wolfgang Müller and Thierry Pun  
Proceeding of the meeting Suchbilder, pages 86-98 Berlin, Germany, 2003.
- 2001 **Design and Evaluation of a Content-based Image Retrieval System**  
David McG. Squire, Henning Müller, Wolfgang Müller, Stéphane Marchand-Maillet and Thierry Pun  
Syed M Rahman ed., Design and Management of Multimedia Information Systems: Opportunities and Challenges, 7, pp. 125-151, Idea Group Publishing, 2001.

## Publications – Journal articles

Selection, all publications available from <http://publications.hevs.ch>

- 2012 **Building a Reference Multimedia Database for Interstitial Lung Diseases, Computerized Medical Imaging and Graphics**  
Adrien Depeursinge, Alejandro Vargas, Alexandra Platon, Antoine Geissbuhler, Pierre--Alexandre Poletti, Henning Müller. (IF 2010=1.11)
- 2012 **Mobile medical visual information retrieval**  
Adrien Depeursinge, Samuel Duc, Ivan Eggel, Henning Müller  
IEEE Transaction in Information Technology in Biomedicine, volue 16, number 1, pages 53-61, 2012. (IF 2010 = 1.707)
- 2011 **Case--based lung image categorization and retrieval for interstitial lung diseases: clinical workflows**  
Adrien Depeursinge, Frédéric Gaillard, Henning Müller, Alejandro Vargas, Antoine Geissbuhler Alexandra Platon, Pierre--Alexandre Poletti  
International Journal of Computer Assisted Radiology and Surgery, Volume 7, issue 1, pages 97-110, 2011.
- 2011 **Case-based fracture retrieval**  
Xin Zhou, Richard Stern, Henning Müller  
International Journal on Computer assisted Radiology and Surgery, 2011.
- 2011 **Special Section: Grid and Pervasive Computing 2009**  
Massimo Cafaro, Henning Müller, Nabil Abdennadher  
Future Generation Computer Systems, volume 27, number 5, pages 587-589, 2011. (IF 2009 = 2.365)
- 2011 **Signals, Sensors and Imaging Informatics**  
Adrien Depeursinge, Henning Müller  
Yearbook of Medical Informatics 2011, 2011. (IF 2010: 1,707)
- 2011 **Harnessing the Scientific Data Produced by the Experimental Evaluation of Search Engines and Information Access Systems**  
Nicola Ferro, Allan Hanbury, Henning Müller, Guiseppe Santucci  
Elsevier Grand Challenge, 2011.
- 2011 **Prototypes for content-based image retrieval in clinical practice**  
Adrien Depeursinge, Benedikt Fischer, Henning Müller, Thomas M. Deserno  
The Open Medical Informatics Journal (TOMIJ), volume 5, pages 58-72, 2011.
- 2011 **Editorial: Integration of Medical images into the Digital Hospital**  
Xiaohong Gao, Henning Müller, Thomas M. Deserno  
The open medical informatics journal (TOMIJ), volume 5, pages 1-2, 2011.

## Publications – Conference and workshop papers

Selection, all publications available from <http://publications.hevs.ch>

- 2012 **Cerebellum detection using 3D wavelet texture classification**  
Antonio Foncubierta, Adrien Depeursinge, Henning Müller  
SPIE medical imaging, San Diego, USA, 2012.
- 2012 **Multi-scale visual words for hierarchical medical image categorization**  
Dimitrios Markonis, Alba G. Seco de Herrera, Ivan Eggel, Henning Müller  
SPIE medical imaging, San Diego, USA, 2012.
- 2012 **Synchronized slice viewing of similar image series**  
Sharib Ali, Antonio Foncubierta, Adrien Depeursinge, Fabrice Meriaudeau, Osman Ratib,  
Henning Müller  
SPIE medical imaging, San Diego, USA, 2012.
- 2012 **Creating a classification of image types in the medical literature for visual categorization**  
Henning Müller, Jayashree Kalpathy-Cramer, Dina Demner-Fushman, Sameer Antani  
SPIE medical imaging, San Diego, USA, 2012.
- 2012 **Using Visual Words for Texture--Based Lung Image Retrieval**  
Antonio Foncubierta, Adrien Depeursinge, Henning Müller  
MICCAI workshop on MCBR-CDS 2011, Springer Lecture Notes in Computer Science, LNCS  
7075, Toronto, Canada, 2012. . (IF 2005=0.402)
- 2012 **IRMA-Code II: A new concept for classification of medical images**  
Tim Christian Piesch, Henning Müller, Thomas M. Deserno  
BVM Workshop, Berlin, Germany, 2012.
- 2011 **Lung Texture Classification Using Locally--Oriented Riesz Components**  
Adrien Depeursinge, Antonio Foncubierta, Dimitri Van de Ville, Henning Müller  
MICCAI 2011, Springer Lecture Notes in Computer Science (LNCS), pages 231-238, Toronto,  
Canada. (IF 2005=0.402)
- 2011 **Assessing the Scholarly Impact of ImageCLEF**  
Theodora Tsirikika, Alba Garcia Seco de Herrera, Henning Müller  
Springer Lecture Notes in Computer Science (LNCS), CLEF 2011, pages 95-106,  
Amsterdam, The Netherland, 2011. (IF 2005=0.402)
- 2011 **Safe Storage and Multi-modal Search for Medical Images**  
Jukka Kommeri, Marko Niinimäki, Henning Müller  
Medical Informatics Europe 2011, IOS press, Oslo, Norway, 2011.
- 2011 **Overview of the CLEF 2011 medical image classification and retrieval tasks**  
Jayashree Kalpathy-Cramer, Henning Müller, Steven Bedrick, Ivan Eggel, Alba Garcia Seco  
de Herrera, Theodora Tsirikika  
CLEF 2011 working notes, Amsterdam, the Netherlands, 2011.



## Publications – Professional Journals

- 2011 **L'échange des données de santé entre hôpitaux et acteurs de la santé - Le projet MediCoordination**  
Sandine Ding, Henning Müller, Bruno Alves, David Godel, Omar Abou Khaled, François Mooser, Michael Schumacher  
Actuel: le journal de l'Association Suisse des Techniciens en Radiologie Médicale
- 2009 **MediCoordination, un projet de développement de l'interopérabilité entre hôpitaux et fournisseurs de soins externes**  
Sandrine Ding, Henning Müller, Bruno Alves, David Godel, Omar Abu Khaled, Francois Mooser, Michael Schumacher  
Clinicum 2009