

# Fabio Rinaldi: Curriculum Vitae

November 2020

## Employment History

2019-	Dalle Molle Institute for Artificial Intelligence Research (IDSIA), Lugano, Switzerland, <i>senior researcher, head of NLP research</i>
2005-2019	Institute of Computational Linguistics, University of Zurich, Switzerland, <i>senior researcher, lecturer, principal investigator</i>
2000-2005	Institute of Computational Linguistics, University of Zurich, Switzerland, <i>project manager, team leader</i>
1996-1999	UMIST (now part of the Univ. of Manchester), Manchester, UK, <i>research assistant</i>
1995	GMD/IPSII (now closed), Darmstadt, Germany, <i>guest researcher</i>
1993-1995	ITC/IRST (now FBK), Trento, Italy, <i>student assistant</i>

## Other affiliations and temporary visits

2019-	Fondazione Bruno Kessler (FBK), Trento (IT), <i>fellow</i>
2016-	Swiss Institute of Bioinformatics (SIB), <i>group leader</i> (this position does not involve funding from the SIB)
2017-2019	Fondazione Bruno Kessler (FBK), Trento (IT), <i>researcher</i> (temporary position at 30%)
2015-2018	Center for Computational Genomics, National Autonomous University of Mexico (UNAM), <i>visiting research professor</i>
2010-2011	Center for Computational Pharmacology, University of Colorado, Denver, <i>visiting researcher</i> , 2 months
2009-2010	Institute of Computational Linguistics, University of Tokyo, Japan, <i>visiting researcher</i> (SNF <sup>1</sup> fellowship), 10 months
2009	National Center for Text Mining Technologies (NaCTeM), Manchester, <i>visiting researcher</i> , 3 months

## Research funding

Since the beginning of my research activity in Zurich I have obtained about 2.5 M CHF in research funding, from the following sources: Swiss National Science Foundation (920 kCHF), Industry (620 kCHF), EU (390 kCHF), InnoSuisse (220 kCHF), other (360 kCHF). Projects where I am/was principal investigator are marked with **PI**. In other projects I have been co-PI or co-proposer. Projects with dates in boldface are presently active. Only projects since 2010 are listed. For a complete list see [here](#).

<b>2020</b>	<i>Two projects in collaboration with a major Swiss Bank. Funding (indicative): 500 kCHF</i>
<b>2019</b>	<i>Collaboration with the Human Resources team at Novartis. Funding for my group: 150 kCHF.</i>
<b>2018-2019</b>	<i>MedMon – Monitoring of Internet Resources for Pharmaceutical Research and Development, <b>PI</b>. Collaboration with Roche AG and HTW-Chur, funded by CTI. Total budget: 881 kCHF. Funding for my group: 249 kCHF.</i>
<b>2017-2019</b>	<i>Mapping of clinical data from cattle to data from pathology reports to gain information for surveillance of animal diseases through text- and data-mining. Collaboration with the Veterinary Public Health Institute, University of Bern, funded by the Swiss Federal Veterinary Office. Total funding: 269 kCHF. Funding for my group 155 kCHF.</i>
<b>2017-2020</b>	<i>Automated detection of adverse drug events from older inpatients' electronic medical records using structured data mining and natural language processing. Total funding: 610 kCHF. Funding for my group: 110 kCHF.</i>
<b>2016-2019</b>	<i>MelanoBase: large-scale text mining for database integration, with the use-case scenario of Melanoma, <b>PI</b>. Funding: 420 kCHF (SNF), entirely for my group.</i>
2016-2018	<i>Text Mining for Competitive Intelligence. PostDoc position entirely funded by Roche Pharmaceuticals. Additional funding for supervision: 30 kCHF.</i>
2015-2018	<i>High-Throughput Literature Curation of Genetic Regulation in Bacterial Models</i> Funding Agency: NIGMS-NIH. Funding: 1,6 M USD. PI: Dr. Julio Collado-Vides (CCG-UNAM, Mexico). My role is to provide text mining technologies for assisted curation.
2015-2017	<i>PsyMine: Text mining in support of psychiatric research: overcoming fragmented knowledge. Collaboration the Institute of Epidemiology, UZH. Funding: 188 kCHF (COGITO Foundation). Funding for my group: 115</i>

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1 Swiss National Science Foundation

- kCHF.
- 2015 *Organization of a large scale evaluation of biomedical text mining software in the context of a shared task*, **PI**. Funding (by PMI R&D): 120 kCHF.
- 2014-2015 *Development and application of a text mining tool for the monitoring and early recognition of animal diseases*. Collaboration with the Veterinary Public Health Institute, University of Bern, funded by the Swiss Federal Veterinary Office. Total budget: 252 kCHF. Funding for my group: 88 kCHF.
- 2013-2014 *Detection of Protein Interactions in large-scale document collections*, **PI**, project funded by Roche AG. Funding: 50 kCHF.
- 2012-2013 *Answer retrieval for Requests for Proposals*, (with Professor Dr. Martin Volk), project funded by Finnova AG (70 kCHF).
- 2010-2014 *Semi-Automated Semantic Enrichment of the Biomedical Literature (SASEBio)*, **PI**. SNF Funding: 278 kCHF. Additional funding (100 kCHF) provided by Novartis Pharma AG.

## **Academic qualifications**

- 2008 PhD in Computational Linguistics (University of Zurich, Switzerland)
- 1995 BSc+MSc (“Laurea”) in Computer Science (University of Udine, Italy)

## **Awards, personal grants**

- 2010 ARE-BM “*Advanced Relation Extraction in Biomedicine*” (Marie-Curie advanced fellowship). Main author of the proposal, with Dr. Dietrich Rebholz-Schuhmann (EBI, UK) and Prof. Larry Hunter (University of Colorado at Denver). Total funding: 335,453 EUR, 36 months. DECLINED, due to incompatibility with my position as leader of the SASEBio project, and risk of not being able to apply for Swiss citizenship.
- 2009 *A Comparative Study of Syntactic Parsers and their Applications in Biomedical Text Mining* (SNF Fellowship). Author of the project proposal. SNF funding: 70,000 CHF

## **Teaching**

At the University of Zurich I taught two full courses per year from 2005 to 2019 (with a couple interruptions due to periods abroad), involving at least 12 lectures of 90 minutes each. All courses are in English.

- Language Technology and Web Applications (2019)
- Information Extraction and Text Mining (2012, 2013, 2014, 2016, 2017, 2018)
- XML and Semantic Web (2012, 2013, 2014, 2016, 2017, 2018, 2019)
- PCL3: Database fundamentals and Web Interfaces (2016)
- Logic Programming for Knowledge Representation (2015)
- XML: Fundamentals and Applications (2005, 2006, 2007, 2008, 2010, 2011)
- Corpus Linguistics (2007, 2008, 2009, 2011)
- Text Mining (2006, 2007, 2008)
- Question Answering Research Seminar (2005)

## **Invited presentations**

- Feb 4, 2020. Keynote presentation at the 6<sup>th</sup> Biomedical Linked Annotation Hackathon, Tokyo.
- May 24, 2018. Panel discussion on text mining tools integrated in the OpenMinted platform, Brussels.
- Apr 18, 2018. Panel discussion on veterinary applications of text mining. HealTAC Conference, Manchester.
- Dec 13, 2017. Invited presentation, Swiss Institute of Bioinformatics, Génopode, Lausanne.
- Sep 12, 2017. Gene Ontology Workshop. BC2 Conference, Basel
- Jun 26, 2017. Inst. of Social and Preventive Medicine (IUMSP), Lausanne Univ. Hospital
- Dec 1, 2016. Zürich meeting of the Swiss Institute of Bioinformatics
- May 18, 2016. Text Mining Services, Novartis
- May 12, 2016. Epidemiology, Biostatistics and Prevention Institute of the Univ. of Zürich
- Sep 17, 2015. HTW Chur, Schweizerische Institut für Informationswissenschaft (SII)
- Sep 4, 2015. Insight research center, Galway, Ireland.
- Jun 17, 2015. sbvIMPROVER, Barcelona, Spain.
- Jan 20, 2015. CNIO (Spanish National Cancer Research Center), Madrid, Spain.
- Feb 18, 2014. Instituto Politecnico Nacional (Polytechnic University), Mexico City.
- Feb 14, 2014. Information Sciences Institute, Marina del Rey, California, US.
- Feb 11, 2014. Centro de Ciencias Genómicas (Genomic Sciences Center), UNAM, Mexico.

- Dec 16, 2013. KAIST, Daejeon, South Korea.
- Nov 7, 2013. EnterpriseSearch, Roche Pharmaceuticals
- Feb 13, 2013. Instituto de Ingeniería, UNAM, Mexico (DF).
- Jan 24, 2013. Centro de Ciencias Genómicas (group Collado-Vides), Cuernavaca, Mexico
- Jul 17, 2012. NIBR-IT, Novartis Pharma AG, Basel, Switzerland
- Jun 12, 2012. SwissProt/NextProt, Geneva, Switzerland.
- Apr 6, 2012. National Library of Medicine (group Wilbur), Bethesda, MD, USA.
- Jan 17, 2012. National Institute of Informatics, Tokyo, Japan

## Professional Services

I have been a reviewer for several conferences, workshops and journals since 2003. In this list I provide only events since 2008. A list of older events is available upon request.

**Evaluation of project proposals:** Swiss National Science Foundation; Research Foundation Flanders (Belgium); German Federal Ministry of Education and Research; CHIST-ERA.

**Member of PhD Dissertation Committee:** Qi Wei, National Instit. of Informatics, Tokyo, Japan, December 2011 (supervisor: Prof. Nigel Collier). Fah Sarafraz, Univ. of Manchester, UK, February 2012 (supervisor: Dr. Goran Nenadic). Jari Björne, Univ. of Turku, Finland, June 2014 (supervisors: Dr. Filip Ginter, Prof. Tapio Salakoski), Dante degli Innocenti, Univ. Udine, Italy, 2017 (supervisor: Prof. Carlo Tasso).

**Journal editorial committee:** Journal of Biomedical Semantics (**associate editor**)

**Journal reviewer:** ACM Computing Surveys, Artificial Intelligence in Medicine, Briefings in Bioinformatics, BMC Bioinformatics, Computational Linguistics, Expert Systems, Language Resources and Evaluation, Natural Language Engineering, Journal of Biomedical Informatics (Elsevier), Computational Intelligence, IEEE/ACM Transactions on Computational Biology and Bioinformatics, ACM Transactions on Management Information Systems, The Journal of Databases and Curation, Computer Speech and Language, Journal of Biomedical Semantics, Journal of Cheminformatics, Science of Computer Programming.

**Scientific committee member (conferences and workshops):** BLAH (2017-2019), CICLING (2006 – 2018), NoDaLiDa 2015, ECCB 2008, Bioinformatics 2010, WIMS 2011, BioNLP (2011-2016), LBM (2011-2013), PSB (2012-2013), AAAI 2012 Fall Symposium on IR and Knowledge Discovery in Biomedical Text, NLDB (2008-2012), KDIR 2014, LREC (2004 – 2018), EMNLP (2015-2018).

**Conference organization:** SMBM 2010 (organizing co-chair), SMBM 2012 (chair of local organization committee), LBM 2013 (**scientific co-chair**). SMBM 2014 and 2016 (**scientific co-chair**), LOUHI 2018 (co-organizer).

## Languages

**Full professional proficiency:** Italian, English, German, Spanish. **Basic/Intermediate:** French, Japanese.

## Membership

Association for Computational Linguistics (ACL), Association for the Advancement of Artificial Intelligence (AAAI), Association for Computing Machinery (ACM), International Society for Biocuration (ISB), Swiss Institute of Bioinformatics (SIB).

## Supervised students (recent)

**PostDoc:** Dina, Vishnyakova (2016-2018), Gerold Schneider (2009-2013), Simon Clematide (2009-2014), Gintaré Grigonyté (2012); **PhD:** Tilia Ellendorff (2013-2019), Lenz Furrer (2015-2020); **Master:** Michal Koltonik (2014), Parijat Ghoshal (2016-2017), Nico Colic (2015-2016). **Other:** Anna Jancso (2017), Marco Basaldella (2016), Hernani Marques Madeira (2013-2014), Adrian van der Lek (2015-2016), Zhu Yi (2014), Simon Hafner (2012), Kaarel Kaljurand (2005-2009).

## **Selected Publications**

I have published more than **100 peer-reviewed papers**, including more than **30 journal papers**. My publications have more than **3000 citations (h-index: 27<sup>2</sup>)**. Below a selection of my most representative journal publications.

- Fabio Rinaldi, Oscar Lithgow, Socorro Gama-Castro, Hilda Solano, Alejandra López-Fuentes Luis José Muñoz Rascado, Cecilia Ishida-Gutiérrez, Carlos-Francisco Méndez-Cruz, Julio Collado-Vides; Strategies towards digital and semi-automated curation in RegulonDB. *Database (Oxford)* 2017; 2017 (1): bax012. [doi:10.1093/database/bax012](https://doi.org/10.1093/database/bax012)
- Fabio Rinaldi, Simon Clematide, Simon Hafner, Gerold Schneider, Gintare Grigonyte, Martin Romacker, Therese Vachon. Using the OntoGene pipeline for the triage task of BioCreative 2012, *The Journal of Biological Databases and Curation, Database* 2013: bas053, Oxford Journals. [doi:10.1093/database/bas053](https://doi.org/10.1093/database/bas053)
- Fabio Rinaldi, Simon Clematide, Gerold Schneider. Fabio Rinaldi, Gerold Schneider, Simon Clematide. Relation Mining Experiments in the Pharmacogenomics Domain. *Journal of Biomedical Informatics*, 2012. [doi:10.1016/j.jbi.2012.04.014](https://doi.org/10.1016/j.jbi.2012.04.014)
- Fabio Rinaldi, Kaarel Kaljurand, Rune Saetre. Terminological resources for Text Mining over Biomedical Scientific Literature. *Journal of Artificial Intelligence in Medicine*. Volume 52, Issue 2, June 2011, Pages 107-114. [doi:10.1016/j.artmed.2011.04.011](https://doi.org/10.1016/j.artmed.2011.04.011)
- Fabio Rinaldi, Gerold Schneider, Kaarel Kaljurand, Simon Clematide, Therese Vachon, Martin Romacker. OntoGene in BioCreative II.5. *IEEE/ACM Transactions on Computational Biology and Bioinformatics*, vol. 99, no. 1, 2010. [doi:10.1109/TCBB.2010.50](https://doi.org/10.1109/TCBB.2010.50)
- Fabio Rinaldi, Thomas Kappeler, Kaarel Kaljurand, Gerold Schneider, Manfred Klenner, Simon Clematide, Michael Hess, Jean-Marc Allmen, Pierre Parisot, Martin Romacker, Therese Vachon. OntoGene in BioCreative II. *Genome Biology*, 2008, 9:S13. [doi:10.1186/gb-2008-9-s2-s13](https://doi.org/10.1186/gb-2008-9-s2-s13)
- Fabio Rinaldi, Gerold Schneider, Kaarel Kaljurand, Michael Hess, Martin Romacker. An environment for relation mining over richly annotated corpora: the case of GENIA. *BMC Bioinformatics* 2006, 7(Suppl 3):S3. [doi:10.1186/1471-2105-7-S3-S3](https://doi.org/10.1186/1471-2105-7-S3-S3)