

# ***Alberto Riva, PhD***

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## ***CURRICULUM VITAE***

### ***General Information***

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**Current Position:** Scientist  
DiBiG, Bioinformatics Core,  
Interdisciplinary Center for Biotechnology Research (ICBR)  
University of Florida

**Other affiliations:** UF Genetics Institute, University of Florida  
UF Informatics Institute, University of Florida

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**Citizenship:** US, Italian.

## Education

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- 1995** Ph.D., Bioengineering,  
University of Pavia, Italy.
- 1992** Laurea, Electrical Engineering (*Cum laude*),  
University of Pavia, Italy.

## Technical skills

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- Programming languages:** Python, Common Lisp, C, Java, SQL.
- Scripting languages:** Javascript, PHP, Bash.
- Databases:** MySQL, Postgres, AllegroCache.
- Operating systems:** Linux, MacOS, Windows, Solaris.
- Cluster environments:** SLURM, SGE
- Web authoring:** HTML, CSS, XML, SOAP, AJAX, HTTP, Wordpress.
- Semantic networks:** RDF, SPARQL, AllegroStore.
- Data analysis and visualization:** R, gnuplot, Matlab, SAS/JMP Genomics, Galaxy.
- Version control:** Git, Subversion, CVS.
- Miscellaneous:** Latex.

## Academic Appointments:

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- 2018-present** Scientist, ICBR Bioinformatics, University of Florida, Gainesville, FL.
- 2014-2018** Associate Scientist, ICBR Bioinformatics, University of Florida, Gainesville, FL.
- 2006-2014** Assistant Professor, Department of Molecular Genetics and Microbiology,  
University of Florida, Gainesville, FL.
- 2000-2005** Instructor in Pediatrics, Harvard Medical School, Boston, MA.
- 2005** Member of the Affiliated Faculty of the Harvard-MIT Division of Health Sciences  
and Technology, Massachusetts Institute of Technology, Cambridge, MA.

### *Previous Positions:*

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<b>2000-2005</b>	Research Associate, Informatics Program, Children's Hospital Boston, Boston, MA
<b>1999-2000</b>	Research Fellow in Pediatrics, Children's Hospital Boston, Boston, MA
<b>1995-1998</b>	Postdoctoral researcher, Medical Informatics, University of Pavia, Italy.

### *Other Professional Positions and Major Visiting Appointments:*

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<b>2014-2016</b>	Visiting Scientist, Biomedical Informatics Laboratory University of Pavia, Italy
<b>2007-2008</b>	Visiting Researcher, ITB/CNR University of Bari, Italy
<b>2002</b>	Visiting Researcher, DIBIT, San Raffaele Hospital, Milan, Italy
<b>1999-2000</b>	Research Fellow, Boston University Medical Center, Boston, MA
<b>1997</b>	Visiting Researcher, Open University, Milton Keynes, UK.

### *Awards and Honors:*

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<b>1992</b>	<i>Laude</i> , University of Pavia, Italy.
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### *Professional Societies:*

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<b>2007-present</b>	Italian Bioinformatics Society (BITS), Member
<b>2006-present</b>	International Society for Computational Biology (ISCB), Member.
<b>2002-present</b>	Association of Lisp Users (ALU), Member.

## *Editorial Boards:*

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- 2011-present**      *ISRN Biomathematics*, Editorial Board member.
- 2008-2016**      *Genetic Testing*, Editorial Board member.
- 2001-present**      Ad-Hoc Reviewer for: *Journal of Biomedical Informatics*, *Artificial Intelligence in Medicine Journal*, *Bioinformatics*, *Nucleic Acids Research*, *IEEE Transactions on Information Technology in Biomedicine*, *BMC Bioinformatics*, *AMIA*.

## *Program Committees*

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- 2001**      Bayesian Models in Medicine Workshop, AIME 2001, Cascais (Portugal).
- 2003**      2003 International Lisp Conference  
New York, NY
- 2004**      Course on Bioinformatics and Computational Biology  
Institute for Advanced Studies at University of Pavia  
International M.Sc. degree in "Complexity and its Interdisciplinary Applications"
- 2007**      Biotechnology and Bioinformatics Symposium (BIOT 2007), Colorado Springs, CO.
- 2008**      Biotechnology and Bioinformatics Symposium (BIOT 2008), Arlington, TX.
- 2009-2010**      Scientific Mentor, MEDINFO 2010.
- 2011**      AIME 2011 Workshop on Probabilistic Problem Solving in Biomedicine, July 2<sup>nd</sup> 2011, Bled, Slovenia.
- 2011-2012**      2nd ACM SIGHIT International Health Informatics Symposium (IHI 2012), January 28-30, 2012, Miami, Florida, USA.
- 2012**      Seventh Conference on Prestigious Applications of Intelligent Systems (PAIS 2012), August 29-30, 2012, Montpellier, France.
- 2012**      Ninth Biotechnology and Bioinformatics Symposium (BIOT 2012), Provo, UT, October 2012.
- 2012**      Genome Sequencing and Annotation Symposium, University of Florida, April 2012 (co-organizer).
- 2017**      10<sup>th</sup> European Lisp Symposium, Vrije Universiteit Brussel, Belgium, April 2017 (Program Committee Chair).

## *Invited Lectures*

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- 1998** A Knowledge-Based Web Server as a Development Environment for Web-Based Knowledge Servers,  
*IEE Colloquium on Web-Based Knowledge Servers*, London, UK
- 2001** SNP Identification and Analysis using SNPper,  
*4th International Meeting on Single Nucleotide Polymorphism and Complex Genome Analysis*, Stockholm (Sweden)
- 2002** Implementation and usage of the CL-DNA library,  
*International Lisp Conference 2002*, San Francisco, CA.

## *Teaching*

- 2009-2013** “Genomics and Bioinformatics” (graduate level) - Bioinformatics module, mainly devoted to manipulation and analysis of next-generation sequencing data.
- 2010-2013** “Advanced Applications of Bioinformatics in Genetic Research” (graduate level) – Python programming for bioinformatics.
- 2013** “Next-Generation Sequencing” course, University of Catania, Italy, and Nerviano Medical Sciences. One-week training course on NGS technologies and analysis.
- 2014** Bioinformatics Seminar Series, University of Florida Genetics Institute.
- 2013-present** “Introduction to Bioinformatics” sessions for incoming graduate students of the UF Genetics & Genomics PhD Program.
- 2017** CFIA Genomic Virology Workshop, McGill University, Montreal, Canada.
- 2017** “Basic Python for Bioinformatics Applications”. University of Pavia, Pavia, Italy.

## *Other roles and responsibilities*

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- 2012-present** Member of the UF Research Computing Advisory Committee.
- 2008-2013** Member of the University of Florida Computational Biology Committee.
- 2008-2012** Member of the University of Florida Biomedical Informatics Academic Planning Group.
- 2008-2013** Member of the IDP (Interdisciplinary PhD Program, UF College of Medicine) Admissions Committee.
- 2012-2013** Member of the University of Florida CTS-IT Advisory Committee.

- 2012-2013** Member of the ICBR Bioinformatics Advisory Group.
- 2014-present** Director of the Digital Biology Group (DiBiG).
- 2017-present** Member of the Scientific Board for the “Health Technologies, Bioengineering and Bioinformatics” PhD Program, Higher Education School for Doctoral Studies, University of Pavia, Italy.

## Bibliography

### Original Articles

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1. Ramoni M, Riva A, Stefanelli M, Patel V. An ignorant belief network to forecast glucose concentration from clinical databases. *Artif Intell Med*. 1995; 7(6):541-59.
2. Riva A, Ramoni M. LispWeb: a specialized HTTP server for distributed AI applications. *Computer Networks and ISDN Systems*. 1996; 28(711):953-961.
3. Riva A, Bellazzi R. Learning temporal probabilistic causal models from longitudinal data. *Artif Intell Med*. 1996; 8(3):217-34.
4. Ramoni M, Riva A. Basic Science in Medical Reasoning: An Artificial Intelligence Approach. *Adv Health Sci Educ Theory Pract*. 1997; 2(2):131-140.
5. Riva A, Bellazzi R, Stefanelli M. A Web-based system for the intelligent management of diabetic patients. *MD Comput*. 1997; 14(5):360-4.
6. Bellazzi R, Riva A. Learning Bayesian Networks Conditional Probabilities from Longitudinal Data. *IEEE Transactions on Systems, Man and Cybernetics*. 1998; (28):629-636.
7. Bellazzi R, Riva A, Larizza C, Fiocchi S, Stefanelli M. A distributed system for diabetic patient management. *Comput Methods Programs Biomed*. 1998; 56(2):93-107.
8. Riva A, Bellazzi R, Lanzola G, Stefanelli M. A development environment for knowledge-based medical applications on the World-Wide Web. *Artif Intell Med*. 1998; 14(3):279-93.
9. Montani S, Bellazzi R, Larizza C, Riva A, d'Annunzio G, Fiocchi S, Lorini R, Stefanelli M. Protocol-based reasoning in diabetic patient management. *Int J Med Inf*. 1999;53(1):61-77.
10. Bellazzi R, Riva A, Montani S, Larizza C, Bestazza M, Fiocchi S, d'Annunzio G, Lorini R, Stefanelli M. Application report: preliminary evaluation of the T-IDDM project in Pavia. *Stud Health Technol Inform*. 1999; 68:99-101.
11. Bellazzi R, Montani S, Riva A, Stefanelli M. Web-based telemedicine systems for home-care: technical issues and experiences. *Comput Methods Programs Biomed*. 2001; 64(3):175-87.
12. Riva A, Mandl KD, Oh DH, Nigrin DJ, Butte A, Szolovits P, Kohane IS. The personal internetworked notary and guardian. *Int J Med Inf*. 2001; 62(1):27-40.
13. Bellazzi R, Larizza C, Montani S, Riva A, Stefanelli M, d'Annunzio G, Lorini R, Gomez EJ, Hernando E, Brugues E, Cermenio J, Corcoy R, de Leiva A, Cobelli C, Nucci G, Del Prato S, Maran A, Kilkki E, Tuominen J. A telemedicine support for diabetes management: the T-IDDM project. *Comput Methods Programs Biomed*. 2002; 69(2):147-61.
14. Lazarus R, Vercelli D, Palmer LJ, Klimecki WJ, Silverman EK, Richter B, Riva A, Ramoni M, Martinez FD, Weiss ST, Kwiatkowski DJ. Single nucleotide polymorphisms in innate immunity genes: abundant variation and potential role in complex human disease. *Immunol Rev*. 2002; 190:9-25.

15. [Riva A](#), Kohane IS. SNPper: retrieval and analysis of human SNPs. *Bioinformatics*. 2002; 18(12):1681-5.
16. [Riva A](#), Kohane IS. A SNP-Centric Database for the Investigation of the Human Genome. *BMC Bioinformatics*. 2004; 5(33).
17. Cai Z, Tsung EF, Marinescu VD, Ramoni MF, [Riva A](#), Kohane IS. Bayesian approach to discovering pathogenic SNPs in conserved protein domains. *Human Mutation*. 2004; 24(2):178-184.
18. Santagata S, Demichelis F, [Riva A](#), Varambally S, Hofer MD, Kutok JL, Kim R, Tang J, Montie JE, Chinnaiyan AM, Rubin MA, Aster JC. JAGGED1 expression is associated with prostate cancer metastasis and recurrence. *Cancer Research*. 2004; 64(19):6854-7.
19. Marinescu VD, Kohane IS, [Riva A](#). The MAPPER database: a multi-genome catalog of putative transcription factor binding sites. *Nucleic Acids Res*. 2005; 33 (Database issue):D91-7.
20. Marinescu VD, Kohane IS, [Riva A](#). MAPPER: a search engine for the computational identification of putative transcription factor binding sites in multiple genomes. *BMC Bioinformatics*. 2005; 6(79).
21. Agresti A, Scaffidi P, [Riva A](#), Caiolfa VR, Bianchi ME. GR and HMGB1 interact only within chromatin and influence each other's residence time on functioning promoters. *Molecular Cell*. 2005;18:109-121.
22. Kim R, Demichelis F, Tang J, [Riva A](#), Shen R, Gibbs DF, Mahavishno V, Chinnaiyan AM and Rubin MA. Internet-based Profiler system as integrative framework to support translational research. *BMC Bioinformatics*. 2005; 6 (304).
23. Marinescu VD, Kohane IS and [Riva A](#). START: an automated tool for serial analysis of chromatin occupancy data. *Bioinformatics*, 2006; 22(8):999-1001.
24. Samols MA, Skalsky RL, Maldonado AM, [Riva A](#), Lopez MC, Baker HV, Renne R. Modulation of cellular gene expression by KSHV microRNAs. *PLoS Pathogens*. 2007; 3(5):e65.
25. Skalsky RL, Samols MA, Plaisance KB, Boss IW, [Riva A](#), Lopez MC, Baker HV, Renne R. Kaposi's Sarcoma-associated Herpesvirus Encodes an Ortholog of miR-155. *J Virol*. 2007 Sept 19; .
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30. Nuzzo A, Riva A. Genephony: a knowledge management tool for genome-wide research. *BMC Bioinformatics* 10 (2009): 278.
31. Nuzzo A, Riva A, and Bellazzi R. Phenotypic and genotypic data integration and exploration through a web-service architecture. *BMC Bioinformatics* 10 Suppl 12 (2009): S5.
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35. Giongio A, Crabb DB, Davis-Richardson AG, Chauliac D, Mobberley JM, Gano KA, Mukherjee N, Casella G, Roesch LFW, Walts B, Riva A, King G, Triplett EW. PANGEA: pipeline for analysis of next generation amplicons. *ISME Journal*, 4, 852-861 (2010). doi: 10.1038/ismej.2010.16.
36. Riva A. The MAPPER2 Database: a multi-genome catalog of putative transcription factor binding sites. *Nucleic Acids Research*, 2011; 40(D1):D155-D161.
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40. Tang S, Riva A. PASTA: Splice Junction Identification from RNA-Sequencing Data. *BMC Bioinformatics*, 2013, 14:116. doi:10.1186/1471-2105-14-116.
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47. Ianov L, [Riva A](#), Kumar A, Foster TC. DNA Methylation of Synaptic Genes in the Prefrontal Cortex is Associated with Aging and Age-Related Cognitive Impairment. *Frontiers in Aging Neuroscience*. 2017 August 02; 9:249. doi: 10.3389/fnagi.2017.00249. PubMed PMID: 28824413. PMCID: PMC5539085.
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### *Proceedings of Meetings*

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1. Ramoni M, [Riva A](#). Belief Maintenance with Probabilistic Logic. In: Proceedings of the AAAI Fall Symposium on Automated Deduction in Non Standard Logics; 1993. p. 142-148.
2. Ramoni M, [Riva A](#), Patel VL. Probabilistic Reasoning Under Ignorance. In: Proceedings of the Sixteenth Annual Conference of the Cognitive Science Society; .1994. p. 733-738.
3. Ramoni M, [Riva A](#), Stefanelli M, Patel VL. Forecasting Glucose Concentration in Diabetic Patients using Ignorant Belief Networks. In: Proceedings of the AAAI Spring Symposium on Artificial Intelligence in Medicine; Stanford, CA; 1994.

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5. Ramoni M, Riva A. Integrating causal and clinical knowledge in medical reasoning. In: Selecta Gaussiana: Proceedings of the Gauss Symposia; Institutum Gaussianum; 1994. p
6. Riva A, Bellazzi R. High level control strategies for diabetes therapy. In: P. Barahona, M. Stefanelli, J. Wyatt. Proceedings of the Fifth Conference on Artificial Intelligence in Medicine Europe (Lecture Notes in Computer Science); Pavia, Italy. Springer; 1995. p. 185-196.
7. Bellazzi R, Riva A. Learning Conditional Probabilities with Longitudinal Data. In: Workshop on "Building Probabilistic Networks", IJCAI-95; Montreal, Quebec, Canada; 1995. p. 7-15.
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9. Riva A, Bellazzi R. Intelligent analysis techniques for diabetes data time series. In: G. Lasker, X. Liu. Advances in Intelligent Data Analysis; IAS Press; 1995. p. 144-148.
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13. Riva A, Bellazzi R. Distributed AI technologies for patient management. In: Proceedings of the AAAI Spring Symposium on Artificial Intelligence in Medicine; Stanford, CA. AAAI; 1996. p. 144-148.
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15. Larizza C, Bellazzi R, Riva A. Temporal abstractions for diabetic patients management. In: Keravnou E, Garbay C, Baud R, Wyatt J. Proceedings of AIME 1997 (Lecture Notes in Artificial Intelligence); Grenoble, France. Springer; 1997. p. 319-330.
16. Bellazzi R, Magni P, Larizza C, De Nicolao G, Riva A, Stefanelli M. Mining biomedical time series by combining structural analysis and temporal abstractions. In: Proc AMIA Symp; Orlando, FL; 1998. p. 160-164.
17. Montani S, Bellazzi R, Riva A, Larizza C, Portinale L, Stefanelli M. Integrating different decision support tools in a distributed environment for diabetes management. In: "Hospital without Walls"; London, UK; 1999. p. 89-90.

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19. Montani S, Bellazzi R, Portinale L, [Riva A](#), Stefanelli M. Multi-modal reasoning in diabetic patients management. In: Horn W, Shahar Y, Lindberg G, Adreassen S, Wyatt J. Proceedings of AIMDM '99 (Lecture Notes in Artificial Intelligence); Aalborg, Denmark; 1999. p. 113-123.
20. Bellazzi R, Montani S, Portinale L, [Riva A](#). Integrating rule-based and case-based decision making in diabetic patient management. In: Proceedings of ICCBR '99; Munich, Germany; 1999.
21. [Riva A](#), Smigelski C, Friedman R. WebDietAID: an interactive Web-based nutritional counselor. In: Proc AMIA Symp; Los Angeles, CA; 2000. p. 709-713.
22. Oh DH, [Riva A](#), Mandl KD, Kohane IS. Collating of a distributed XML-based medical record into a relational database. In: Proc AMIA Symp; Los Angeles, CA; 2000. p. 1104.
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24. [Riva A](#), Kohane IS. A web-based tool to retrieve human genome polymorphisms from public databases. In: Proc AMIA Symp; Washington, DC; 2001. p. 558-562.
25. [Riva A](#), Kohane IS. Accessing genomic data through XML-based remote procedure calls. In: Proc AMIA Symp; San Antonio, TX; 2002. p. 662-666.
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27. Nuzzo A, [Riva A](#). High-throughput annotation of genomic datasets with Genephony. In: Proceedings of BIOT07, Colorado Springs, CO, October 2007.
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29. Nuzzo A, [Riva A](#), Bellazzi R. Phenotypic and Genotypic Data Integration and Exploration through a Web Services Architecture. In: Proceedings of Network Tools and Applications in Biology (NETTAB 2008), Varenna, Italy, May 2008.
30. Nuzzo A, [Riva A](#), Bellazzi R. A Web Service for molecular and clinical data integration and analysis. In: Proceedings of the Annual Meeting of the National Bioengineering Society, Bressanone, Italy, September 2008.
31. Nuzzo A, [Riva A](#), Bellazzi R. A Web-based System for Phenotypic and Genotypic Data Integration and Exploration. In: Proceedings of BIOT08, Arlington, TX, October 2008. p. 121-127.
32. Riva A. Computational identification of candidate regulatory SNPs. In: Proceedings of the 2009 Summit on Translational Bioinformatics, San Francisco, CA, March 2009.

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2. Alberto Riva. Biological Databases. In: “*Computational Genomics: Current Methods*”, Nikola Stojanovic, editor. Horizon Press, 2007.
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4. Alberto Riva. Information Processing at the Cellular Level: Beyond the Dogma. In: “*Springer Handbook of Bio- and Neuro-informatics*”, Kasabov N, editor. Springer, 2013. p. 17-27.

## Abstracts

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1. Bellazzi R, D'Annunzio G, De Nicolao G, Lorini R, Ramoni M, Riva A, Siviero C, Stefanelli M. The project of an adaptive intelligent control system for diabetic out-patients. Proceedings of the Symposium on Diabetes Care, Heinrich Heine University, Dusseldorf. 1994.
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