

Emidio Capriotti PhD

CURRICULUM VITÆ

Name: Emidio Capriotti
Nationality: Italian
Date of birth: February, 1973
Place of birth: Roma, Italy
Languages: Italian, English, Spanish

Positions

Oct 2019 Associate Professor: Department of Pharmacy and Biotechnology (FaBiT). University of Bologna, Bologna, Italy

2016-2019 Senior Assistant Professor (RTD type B): Department of Pharmacy and Biotechnology (FaBiT) and Department of Biological, Geological, and Environmental Sciences (BiGeA). University of Bologna, Bologna, Italy.

2015-2016 Junior Group Leader: Institute of Mathematical Modeling of Biological Systems, University of Düsseldorf, Düsseldorf, Germany

2012-2015 Assistant Professor: Division of Informatics, Department of Pathology, University of Alabama at Birmingham (UAB), Birmingham (AL), USA.

2011-2012 Marie-Curie IOF: Contracted Researcher at the Department of Mathematics and Computer Science, University of Balearic Islands (UIB), Palma de Mallorca, Spain.

2009-2011 Marie-Curie IOF: Postdoctoral Researcher at the Helix Group, Department of Bioengineering, Stanford University, Stanford (CA), USA.

2006-2009 Postdoctoral Researcher in the Structural Genomics Group at Department of Bioinformatics and Genetics, Prince Felipe Research Center (CIPF) Valencia, Spain.

2004-2006 Contract researcher at Department of Biology, University of Bologna, Bologna, Italy.

2001-2003 Ph.D student in Physical Sciences at University of Bologna, Bologna, Italy.

Education

Sep 2004 Master in Bioinformatics (first level)
University of Bologna, Bologna (Italy).

Jun 2004 Ph.D. in Physical Sciences
University of Bologna, Bologna (Italy).

Jul 1999 *Laurea* (B.S.) Degree in Physical Sciences, score 106/110
University of Bologna, Bologna (Italy).

Research funding

May 2023 Funding institution: Italian Ministry of Health. PNRR 2022 – Rare Disease
Project: Multiomic strategies to implement the diagnostic workflow of rare diseases (PNRR-MR1-2022-12376067).
Role: Unit Coordinator. PI: Alfredo Brusco.

- Jan 2022 -** Funding institution: ELIXIR Europe – Implementation Studies
Project: Commissioned Service on Rare Disease and Federated European Phenome-Genome Archive (EGA).
Role: WP co-leader and participant.
- Sep 2019 -** Funding institution: Italian Ministry of Education Research and University (MIUR). – PRIN 2017
Project: Integrative tools for defining the molecular basis of the diseases: computational and experimental methods for protein variant interpretation (PRIN-201744NR8S).
Role: Unit Coordinator. PI: Piero Fariselli
- 2018-2020** Funding institution: National Institute of Health (USA)
Project: Role of VpreB in immunoglobulin antigen binding site selection (1R21AI134027-01A1)
Role: Consultant. PI: Harry Schroeder.
- 2016-2018** Funding institution: Spanish Ministry of Science and Innovation.
Project: Bioinformatics applications in phylogenetics, metagenomics, systems biology and cancer genomics. (MEC: DPI2015-67082-P)
Role: Investigator. PI: Francesc Andreu Rossello’.
- 2015-2017** Funding institution: National Institute of Health (USA)
Project: The pre-BCR CDR-H3 sensing site and H chain selection (1R21AI117703-01A1).
Role: Co-Investigator. PI: Harry Schroeder.
- 2009-2012** Funding institution: European Union - Marie Curie International Outgoing Fellowships.
Project: New methods to evaluate the impact of single point protein mutation on human health (PIOF-GA-2009-237225).
Role: Beneficiary
- 2006-2008** Funding institution: European Union - Marie Curie Reintegration Grant - European Union.
Project: RNA Comparative Modeling. (IRG39722)
Role: Postdoc. PI: Marc A. Marti-Renom.
- 2004-2006** Funding institution: European Union - VI Framework Programme -
Project: Biosapiens Network of Excellence, A European Virtual Institute for Genome Annotation.
Role: Postdoc. PI: Janet Thornton.
- 2003-2004** Funding institution: Italian Ministry of Education Research and University (MIUR) -: FISR2002
Project: Hydrolases from Thermophiles: Structure, Function and Homologous and Heterologous Expression.
Role: Research fellow. PI: Rita Casadio.

Other grants and fellowships

- Sep 2017 – Sep 2018** Project: Study and development of computational methods for cancer genome interpretation.
Funding institution: University of Bologna - International Cooperation Grant UNIBO-UCSD.
Role: Coordinator
- Dec 2017** Italian Ministry of Education, Universities and Research: Fondo per il finanziamento delle attività base di ricerca 2017.
- Jun 2012 – Jul 2012** Project: Computational methods to predict the functional impact of protein variations on alpha-galactosidase and the efficacy of pharmacological chaperone therapy.
Funding institution: EMBO - Short Term Fellowship for visiting KU Leuven, Leuven (Belgium)
Role: Recipient
- Jul 2008 – Aug 2008** Project: Development of a method for RNA structure prediction using MODELLER program.
Funding institution: Valencian Government (Spain) - Short-term travel fellowship supervised by Prof. Andrej Sali, Departments of Biopharmaceutical Sciences and Pharmaceutical Chemistry, University of California, San Francisco (UCSF).
Role: Beneficiary
- Aug 2005 - Dec 2005** Project: Implementation of new software for protein structure prediction.
Funding institution: University of Bologna - Marco Polo short-term travel fellowship supervised by Prof. Jeffrey Skolnick, Center of Excellence in Bioinformatics University at Buffalo (NY)
Role: Beneficiary

Sep 2001 - Sep 2002 SPINNER Consortium (Regione Emilia-Romagna) Research Fellowship for Technology Transfer through a grant to the BioDec project.

Awards

Mar 2023 National Scientific Habilitation (ASN) for Full Professor in Fisica Applicata (FIS/07).

Oct 2022 Included in the list of top-cited scientists by John P.A. Ioannidis - Updated science-wide author databases of standardized citation indicators. DOI:10.17632/btchxktzyw.4

Sep 2018 National Scientific Habilitation (ASN) for Full Professor in Biochemistry (BIO/10)

Apr 2017 National Scientific Habilitation (ASN) for Associate Professor in Molecular Biology (BIO/11)

Mar 2017 National Scientific Habilitation (ASN) for Associate Professor in Biochemistry (BIO/10)

Apr 2016 Direct recruitment from abroad (*Chiamata diretta*) - Senior Assistant Professor (RTD B) at the University of Bologna cofounded by the Italian Ministry of the University and Research (MIUR)

Visiting

Jun 2012 – Jul 2012 Prof. Frederic Rousseau and Prof. Joost Schymkowitz, VIB Switch Laboratory, KU Leuven, Leuven (Belgium)

May 2009 Prof. Francisco Melo group. Department of Molecular Genetics and Microbiology. Pontificia Universidad Catolica de Chile, Santiago de Chile (Chile).

Jul 2008 - Aug 2008 Prof. Andrej Sali group, Departments of Biopharmaceutical Sciences and Pharmaceutical Chemistry, University of California at San Francisco (UCSF), San Francisco (CA).

Aug 2005 - Nov 2005 Prof. Jeffrey Skolnick group. Center of Excellence in Bioinformatics University of New York at Buffalo, Buffalo (NY)

Teaching activity

At the University of Bologna, I am coordinator of the International Master in Bioinformatics and teacher of the second module of *Laboratory of Bioinformatics 1* and *Elements of Biophysics* (since October 2022). In the Bachelor in Genomics, I was teacher of the course *Proteomes, Interactomes and Biological Networks*. I am also member of the committee of the PhD program in Data Science and Computation. I am responsible for the ERASMUS exchange program with 7 foreigner universities. The teaching material of my courses is available at <https://biofold.org/training.html>

Previously, from 2015 to 2016, at the University of Düsseldorf I taught two modules as part of the master courses *Introduction to Molecular Systems Biotechnology* and *Biological Networks*. From 2014 to 2015 at the University of Alabama at Birmingham, in collaboration with Dr. Malay Basu, I was teacher of two courses in the Graduate Biomedical Science program at UAB and organizer of the CB2 (Computational Biology and Bioinformatics) Journal Club at UAB. The list of courses given during last few years is reported below.

2022 Elements of Biophysics (68469), International Master in Bioinformatics (32 hours/year). University of Bologna.

2016-2023 Module 2: Laboratory of Bioinformatics 1 (66563), International Master in Bioinformatics (60 hours/year). University of Bologna.

2019-2021 Proteomes, Interactomes and Biological Networks (85306), Bachelor in Genomics (62/year hours). University of Bologna.

2015-2016 Module: Introduction to Computational Biology and Bioinformatics. Introduction to Molecular Systems Biotechnology course (M4453). Molecular Systems Biotechnology Master (20 hours). University of Düsseldorf.

2014-2015 Module: Introduction to Protein-Protein Interaction Network. Biological Networks course (M4424). GBSC 703-01E Computational Biology and Bioinformatics, Graduate Biomedical Science Program (40 hours). University of Alabama at Birmingham (USA).

2014-2015 GBSC 703-01A - Introduction to Scientific Computing, Graduate Biomedical Science Program (48 hours). University of Alabama at Birmingham (USA).

2013-2014 GBSC 703-01A - Introduction to Scientific Computing, Graduate Biomedical Science Program (30 hours). University of Alabama at Birmingham (USA).

I was also tutor for the following courses held by Prof. Rita Casadio at the University of Bologna (Italy):

2004-2005 Bioinformatics - Degree in Biotechnology (30 hours)
2003-2004 Laboratory of Biophysics II - Degree in Biotechnology
Models for Biological Systems - Degree in Biotechnology (90 hours total)
2002-2003 Structural Biochemistry - Degree in Biotechnology (70 hours)
2001-2002 Laboratory of Biophysics II - Degree in Biotechnology (25 hours)

Mentoring activity

At the University of Bologna, I am member of the committee of the PhD program in Data Science and Computation. Currently, I was supervisor of the research activity of Andrea Cicconardi, research assistant in our group (Mar 2001 – Oct 2022). I co-mentored the research activity Jaume Sastre Tomàs, PhD student at the Department of Mathematics and Informatics, University of Balearic Islands (Spain).

In the past, I directed the master thesis of the following students:

Cecilia Foglini	Title: Predicting the effect of mutations on protein-protein interactions International Master in Bioinformatics at the University of Bologna (Italy). Bologna 29 September 2022
Riccardo Ottalevi	Title: Predicting the effect of single point mutations on protein-protein interactions International Master in Bioinformatics at the University of Bologna (Italy). Bologna 28 February 2022
Tommaso Mosca	Title: Impact of protein modeling on the prediction of protein stability change upon mutation. International Master in Bioinformatics at the University of Bologna (Italy). Bologna 28 February 2022
Lucrezia Valeriani	Title: Predicting the functional impact of single nucleotide variants in rare disease associated genes. International Degree in Genomics at the University of Bologna (Italy). Bologna 11 September 2020
Alessandro Vinceti	Title: Development of new tools for predicting the impact of genetic variants in the cancer genome. International Master in Bioinformatics at the University of Bologna (Italy). Bologna, 25 September 2019.
Emina Merdan	Title: Characterizing the impact of mutations at functional and network levels in Lung Adenocarcinoma. International Master in Bioinformatics at the University of Bologna (Italy). Bologna, 26 September 2018.
Oronzo Tassiello	Title: Computational methods for scoring genomes of Lung Adenocarcinoma International Master in Bioinformatics at the University of Bologna (Italy). Bologna, 9 March 2018.
Luigi Chiricosta	Title: Detecting cancer causing genes and variants in Colon Adenocarcinoma. International Master in Bioinformatics at the University of Bologna (Italy). Bologna, 26 September 2017.

At the University of Alabama at Birmingham, I was supervising the research activity of one postdoc (Dr. Rui Tian) and one master student (Shivani Viradia).

Previously, I collaborated with Prof. Rita Casadio, Dr Mario Compiani and Dr Marc A. Marti-Renom to mentor the research activity of the following students:

Alberto Stizza	BS thesis in Physical Sciences, Catholic University of Brescia (Italy)
Daniela Danesi	BS thesis in Physical Sciences, Catholic University of Brescia (Italy)
Maria Procopio	BS thesis in Physical Sciences, University of Bologna (Italy)

Remo Calabrese	PhD thesis in Biotechnology, University of Bologna (Italy)
Giulia Gentile	MS thesis in Bioinformatics, CRS4 Bioinformatics Laboratory Cagliari (Italy)
Stefania Bosi	PhD student, University La Sapienza, Roma (Italy)
Miquel Oltra Sastre	Master thesis, Open University of Catalonia (Spain)

Reviewer and editorial activities

I am faculty member of the Faculty Opinions in the section of Bioinformatics, Biomedical Informatics & Computational Biology / Translational Bioinformatics. I am reviewer for the following journals: Nature Communications, Bioinformatics, Briefings in Bioinformatics, Nucleic Acids Research, The American Journal of Human Genetics, PLOS Computational Biology, Scientific Reports, Cancer Research, Oncotarget, BMC Bioinformatics, PLOS ONE, BMC Genomics, Proteins, Human Mutation, Human Genetics, Human Genomics, Amino Acids, BMC Structural Biology, Database, Current Bioinformatics, Current Protein and Peptide Science, Journal of Bioinformatics and Computational Biology, Neurocomputing, Information Fusion, IEEE/ACM Transactions on Computational Biology and Bioinformatics. I was reviewer of projects for the Medical Research Council of the United Kingdom and for the Austrian Academy of Sciences.

I am also member of the editor board of the following journals:

- Frontiers in Bioinformatics (Protein Bioinformatics section)
- Computation MDPI (Computational Biology section)

Other scientific activities

As a member of the International Society of Computational Biology (ISCB). I served as co-chair in the organization of the Personal Genomics session at the Pacific Symposium of Biocomputing (PSB) 2011. Since 2011, in collaboration with Yana Bromberg, Hannah Carter and Antonio Rausell, I organized 12 editions of the VarI-COSI meeting (formerly SNP-SIG) in Vienna (Austria), Long Beach, (California), Berlin (Germany), Boston (Massachusetts), Dublin (Ireland), Orlando (USA), Prague (Czech Republic), Chicago (USA), Basel (Switzerland), Madison (Wisconsin). With Yana Bromberg and Hannah Carter, I was co-editor of 6 special issues on BMC Genomics which published the selected works presented at the VarI-SIG meetings from 2011 to 2018. More information about the VarI-SIG meeting is available at <http://varisig.biofold.org>. In 2013, I was member of the Proceedings Papers Committee for the ISMB/ECCB Conference. In 2015 I was member of the Late Breaking Research Committee for the ISMB/ECCB Conference. In 2016 I was co-chair of the Disease track for the ISCB Latin American Conference in Buenos Aires (Argentina). In 2020 I was also member of the proceeding committee of the ISMB Conference for the "Genomic Variation Analysis" track.

In 2010, I was member of the Data Committee in the first edition of the Critical Assessment of Genome Interpretation (CAGI), an international community effort for the assessment of computational methods for genome interpretation (<https://genomeinterpretation.org/>). Later in the 2018 and 2021 edition of CAGI, I was organizer of the Frataxin, Calmodulin and MAPKs challenges.

Since 2020 I am co-coordinator of the Service Bundle 1 (<https://amp4rd.github.io>) of the Rare Disease Community of the ELIXIR leading European infrastructure for life science organizations (<https://elixir-europe.org/>).

Research Interests

- Analysis and interpretation of human genome.
- Genome interpretation and prediction of disease-related protein mutations.
- Machine learning approaches in molecular biology.
- Protein-protein interactions.
- RNA structure comparison and prediction.
- Protein folding kinetics.
- Prediction of protein stability changes upon mutation.
- Protein structural prediction by threading methods and building by homology.
- Molecular dynamics of protein systems.

Developed Web Servers, Tools and Databases

- **ContrastRank**: probabilistic method for cancer gene prioritization and cancer sample classification.
WEB: <http://snps.biofold.org/contrastrank>
- **DrCancer**: predictor of cancer causing non-synonymous single nucleotide polymorphisms.
WEB: <http://snps.biofold.org/drcancer>
- **DDGun**: untrained method for predicting of protein stability upon single and multiple site mutations .
WEB: <http://folding.biofold.org/ddgun>
- **Fido-SNP**: predicts the impact of genetic variants in coding and non-coding regions of the dog genome.

- WEB: <http://snps.biofold.org/fido-snp>
- **I-Mutant1.0:** Neural Network based method to predict the sign of free energy change of proteins upon single point mutation.
WEB: <http://gpcr2.biocomp.unibo.it/cgi/predictors/I-Mutant/I-Mutant.cgi>
- **I-Mutant2.0:** Support Vector Machine based method to predict the sign and the value of free energy change of proteins upon single point mutation.
WEB: <http://folding.biofold.org/i-mutant>
- **K-Fold:** Support Vector Machine based method to predict the mechanism and rate of protein folding kinetic.
WEB: <http://folding.biofold.org/k-fold>
- **Meta-SNP:** Meta-predictor of disease-causing variants that uses PANTHER, PhD-SNP, SIFT and SNAP.
WEB: <http://snps.biofold.org/meta-snp>
- **Omidios:** Omidios, a database of pre-calculated likely impact of a Single Nucleotide Polymorphism in the human genome.
WEB: <http://sgt.cnag.cat/services/Omidios/>
- **PhD-SNP:** Support Vector Machine based Method to discriminate between disease-related and neutral mutations in proteins.
WEB: <http://snps.biofold.org/phd-snp>
- **PhD-SNP9:** A gradient boosting-based method for predicting the impact of genetic variants in coding and non-coding regions.
WEB: <http://snps.biofold.org/phd-snp9>
- **SARA:** a tool for Structural Alignment of Ribonucleic Acids.
WEB: <http://structure.biofold.org/sara>
- **SARA-Coffee:** tool for RNA multiple structural alignment obtained merging SARA and T-Coffee.
WEB: <http://www.tcoffee.org/Projects/saracoffee/>
- **ThermoScan:** tool for scanning biomedical publications to retrieve protein thermodynamic data.
WEB: <https://folding.biofold.org/thermoscan>
- **WebRASP:** statistical potential for scoring the quality of RNA three-dimensional structure.
WEB: <http://melolab.org/webrasp>
- **WS-SNPs&GO:** predictor of human disease related mutations in proteins with functional annotation.
WEB: <http://snps.biofold.org/snps-and-go>

International conferences meetings and schools

- XXI European Conference on Computational Biology (ECCB), Sitges (Spain), 18-21 September 2022.
- XXX Intelligent Systems for Molecular Biology meeting (ISMB), Madison, WI (USA), 10-14 July, 2022.
- VI Critical Assessment of Genome Interpretation. Berkeley CA (USA) 14-16 May, 2022.
- VIII ELIXIR All Hands meeting, Amsterdam (Netherlands), 7-10 June 2022.
- Moscow Conference on Computational Molecular Biology (MCCMB), Moscow (Russian Federation), 30 July - 2 August 2021.
- XXIX Intelligent Systems for Molecular Biology meeting and XX European Conference on Computational Biology (ECCB). Virtual Conference, 35-30 July 2021.
- XXVIII Intelligent Systems for Molecular Biology meeting (ISMB). Virtual Conference, 13-16 July 2020.
- Bologna Winter School 2020: *What can we learn from protein structure?* Bologna (Italy), 17-21 February 2020.
- Bologna Winter School 2019: *Data Science for Bioinformatics*. Bologna (Italy), 18-22 February 2019.
- XXVI Intelligent Systems for Molecular Biology meeting (ISMB), Chicago, (USA), 6-10 July 2018.
- V Critical Assessment of Genome Interpretation (CAGI). Chicago, (USA), 5-7 July 2018.
- The molecular basis of diseases: Can we infer phenotypes from protein variant analysis? FEBS Advanced Course. 23-25 May 2018, Bologna, Italy
- Bologna Winter School 2018: *Big Data and Bioinformatics*. Bologna (Italy), 12-16 February 2018.
- XXV Intelligent Systems for Molecular Biology meeting (ISMB) and XVI European Conference on Computational Biology (ECCB), Prague, (Czech Republic), 21-25 July 2017
- Bologna Winter School 2017: *Revisiting Bioinformatics Foundations*. Bologna (Italy), 13-17 February 2017.
- XIV Intelligent Systems for Molecular Biology meeting (ISMB), Orlando, FL (USA), 8-12 July 2016
- Bologna Winter School 2016: *In Silico Markers for Precision Medicine*. Bologna (Italy) 22-26 February 2016.
- EMBL Conference on Cancer Genomics, Heidelberg (Germany), 1-4 November 2015.
- XXIII Intelligent Systems for Molecular Biology meeting (ISMB) and XIV European Conference on Computational Biology (ECCB), Dublin (Ireland), 12-14 July 2015
- UAB NHGRI IV Short Course on Next-Generation Sequencing; Technology and Statistical Methods. Birmingham (AL), 15-18 December 2014.
- XIII European Conference on Computational Biology (ECCB), Strasbourg (France), 7-10 September 2014.
- XXII Intelligent Systems for Molecular Biology meeting (ISMB), Boston, Massachusetts (USA), 13-15 July 2014.
- VarI-SIG meeting. Identification and annotation of genetic variants in the context of structure, function, and disease. Boston, Massachusetts (USA), 12 July 2014.

- XXI Intelligent Systems for Molecular Biology meeting (ISMB) and XII European Conference on Computational Biology (ECCB), Berlin (Germany), 21-23 July 2013
- SNP-SIG meeting. Identification and annotation of SNPs in the context of structure, function, and disease. Berlin (Germany), 19 July 2013
- Critical Assessment of Genome Interpretation (CAGI). Berlin (Germany), 17-18 July 2013.
- ESHG Course in Next Generation Sequencing, Bertinoro di Romagna (Italy), 17-20 May 2013
- Summit on Translational Bioinformatics (TBI), San Francisco, California (USA), 18-20 March 2013.
- XX Intelligent Systems for Molecular Biology meeting (ISMB), Long Beach, California (USA), 15-17 July 2012.
- SNP-SIG meeting. Identification and annotation of SNPs in the context of structure, function, and disease. Long Beach, California (USA), 14 July 2012.
- Bologna Winter School 2012 *Proteins and their variants: structure and function prediction*. Bologna (Italy) 13-17 February 2012.
- XIX Intelligent Systems for Molecular Biology meeting (ISMB) and X European Conference on Computational Biology (ECCB), Vienna (Austria), 17-19 July 2011.
- SNP-SIG meeting. Identification and annotation of SNPs in the context of structure, function, and disease. Vienna (Austria), 15 July 2011.
- EMBO Young Scientist Forum. International Institute of Molecular and Cell Biology (IIMCB), Warsaw (Poland), June 30th – July 1st 2011.
- Pacific Symposium on Biocomputing (PSB) 2011. Big Islands, Hawaii January 3-7 2011.
- Critical Assessment of Genome Interpretation (CAGI). University of California at Berkeley. Berkeley, California (USA), 10 December 2010.
- Biomedical Computation at Stanford (BCATS). Stanford University. Palo Alto, California (USA), 6 November 2010.
- Exploring the functional consequences of genomic variation (HGVS meeting), Washington DC (USA), 2 November 2010
- II Workshop on Annotation, Interpretation and Management of Mutations (AIMM) and IX European Conference on Computational Biology (ECCB), Ghent (Belgium), 26-29 September 2010.
- 4th Comprehensive Cancer Research Training Program (CC RTP) at Stanford University, Palo Alto California (USA), 13-17 September 2010.
- 9th International Conference on Computational Systems Bioinformatics (CSB). Stanford, Palo Alto, California (USA), 16-18 August 2010.
- XVIII Intelligent Systems for Molecular Biology meeting (ISMB), Boston (USA), 11-13 July 2010.
- Biomedical Computation at Stanford (BCATS). Stanford University. Palo Alto, California (USA), 7 November, 2009.
- Lipari International Summer School on Bioinformatics and Computational Biology. RNAs: structure, function and therapy. Lipari (ME) 13-20 June, 2009.
- VII European Conference on Computational Biology (ECCB), Cagliari (Italy), 22-26 September 2008.
- Workshop on Applications of Protein Models in Biomedical Research, University of California San Francisco (UCSF), San Francisco (CA) 11-12 July, 2008
- III Course on Molecular Evolution, Phylogenetics and Phylogenomics, Valencia (Spain) 12-16 May 2008.
- Non-Coding RNAs: Computational Challenges and Applications. Antalya (Turkey) 28-30 April 2008.
- XV Intelligent Systems for Molecular Biology meeting (ISMB) and VI European Conference on Computational Biology (ECCB), Vienna (Austria), 21-25 July 2007.
- ISMB 3DSig Satellite Meeting - Structural Bioinformatics and Computational Biophysics, Vienna (Austria), 19-20 July 2007.
- EMBO Workshop: Viral RNA: Structure Function and Targeting. EMBL Heidelberg (Germany) 5-7 March 2007.
- Bologna Winter School 2006. Applied Bioinformatics: The test case of Human Genome. Bologna (Italy), 13-17 February, 2006.
- Bologna Winter School 2005: *How Complex is Functional Genomics?* Bologna (Italy), 13-19 February 2005.
- XII Intelligent Systems for Molecular Biology (ISMB) and III European Conference on Computational Biology meeting (ECCB), Glasgow (Scotland) 31 July – 4 August 2004.
- Bologna Winter School 2004: *The State of the Art of Protein-Protein Interaction Networks. The role of the "in silico" approach*, Bologna (Italy) 8-14 February 2004.
- Meeting Galileo Project. Marseille (France) 27-28 June 2003.
- Bologna Winter School 2003: *Hot Topics in Structural Genomics* Bologna (Italy) 9-15 February 2003.
- Bologna Winter School 2002: *Predicting 3D Structure of Difficult Proteins*. Bologna (Italy) 3-9 February 2002.
- Bologna Winter School 2001: *In Silico Biomolecular Recognition*. Bologna (Italy) 4-10 February 2001.
- Bologna Summer School: *Biotechnology Protein Sequence Analysis in the Genomic Era*. Bologna (Italy) 10-16 October 1999.

National conferences meetings and schools

- SIB 2019, 60th Congress, Lecce 18-20 September 2019.
- Computational and Translational Methods for Cancer Genomics, Bologna 29 May, 2018.
- German Conference on Bioinformatics (GCB) 2015, Dortmund (Germany), 27-30 September 2015.

- UAB Comprehensive Cancer Center, 15th Annual Research Retreat and Research Competition, Birmingham, Alabama (USA), October 29 2012.
- VIII Jornadas de Bioinformatica. Valencia (Spain), 13-15 February 2008.
- VI Meeting on Nucleic Acids and Nucleotides (RANN07), Valencia (Spain), 22-23 November 2007.
- VII Jornadas de Bioinformatica. Zaragoza (Spain), 20-22 November 2006.
- Bioinformatics Italian Society (BITS) Annual Meeting 2006. Bologna (Italy), 28-29 April 2006.
- Bioinformatics Italian Society (BITS) Annual Meeting 2004 Padova (Italy), 26-27 March 2004.
- Workshop Staminal Cells: *Properties and Perspectives*. Bressanone (Italy), 11-13 September 2003.
- XI National School of Biophysics: Biophysics of the Cell. Bressanone (Italy), 8-10 September 2003.
- IX National School of Biophysics: *Biophysics and Biomaterials*. Bressanone (Italy), 3-5 September 2001.
- XXXI National Congress of Physical Chemistry, Padova (Italy), 19-23 June 2001.

Invited talks

- 07 Aug 2006** Centro de Investigacion Principe Felipe (CIPF), Valencia (Spain)
23 Oct 2007 Centro Nacional de Investigaciones Oncológicas (CNIO), Madrid (Spain)
06 May 2008 Département d'Informatique, Université Libre de Bruxelles (ULB), Bruxelles (Belgium)
23 Apr 2009 Departament de Ciències Matemàtiques i Informàtica, Universitat de les Illes Balears (UIB), Palma de Mallorca (Spain)
27 May 2010 Buck Institute, Novato (California, USA)
02 Jul 2010 Luxembourg Centre for System Biomedicine, Luxemburg University, Luxembourg
20 Sep 2010 Department of Genetics and Bioengineering, Yeditepe University, Istanbul (Turkey)
25 Jan 2011 Department of Medicinal Chemistry and Molecular Pharmacology, Purdue University, Lafayette (Indiana, USA).
18 Feb 2011 Lawrence Berkeley National Laboratory, Berkeley (California, USA).
21 Mar 2011 Department of Computer Sciences, Wayne State University, Detroit (Michigan, USA).
06 Apr 2011 J. Craig Venter Institute, San Diego (California, USA)
22 Apr 2011 Department of Bioengineering, University of Texas at Dallas (Texas, USA)
17 May 2011 Department of Pathology, University of Alabama at Birmingham (Alabama, USA)
26 May 2011 Department of Computer Science, Université Pierre et Marie Curie, Paris (France)
16 Jun 2011 Instituto Gulbenkian de Ciencia, Oeiras (Portugal)
29 Jun 2011 International Institute of Molecular and Cell Biology, Warsaw (Poland)
04 Oct 2011 Institut de Cancerologie Gustave Roussy, Villejuif (France)
06 Oct 2011 Karlsruhe Institute of Technology, Karlsruhe (Germany)
12 Jun 2012 Switch Lab, KU Leuven, Leuven (Belgium)
30 Apr 2013 Biomedical Informatics Day, Adelaide (SA, Australia)
16 Jul 2013 Institute for Medical and Human Genetics, Charité University, Berlin (Germany)
07 Oct 2013 CCNR, Northeastern University, Boston (Massachusetts, USA)
10 Dec 2013 Macromolecular Biochemistry Research Center (CRBM), CNRS, Montpellier (France)
14 Dec 2013 Computational Biology Institute (IBC), CNRS, Montpellier (France)
12 Feb 2014 Institute of Genetics and Molecular and Cell Biology (IGBMC), Strasbourg (France)
22 May 2014 Montpellier Cancer Research Institute, University of Montpellier, Montpellier (France)
06 Aug 2014 Izmir Biomedicine and Genome Center (IBG), Izmir (Turkey)
18 Sep 2014 Technical University of Munich (TUM), Munich (Germany)
26 Sep 2014 Pontificia Universidad Catolica de Chile, Santiago de Chile (Chile)
12 Sep 2016 Adam Mickiewicz University (AMU), Poznan (Poland)
17 Jul 2019 Department of Computer Science, University of Lisboa, Lisboa (Portugal)
02 Aug 2021 Moscow Conference on Computational Molecular Biology, Moscow (Russian Federation)
20 Jul 2022 Genomic Medicine Institute, Cleveland Clinic, Cleveland OH (USA)

Invited lectures

- 01 Sep 2011** Statistics and Genomics Seminar, University of California, Berkeley (California, USA)
17 Feb 2012 Bologna Winter School 2012, Bologna (Italy)
08 Feb 2013 Anatomical Pathology Didactic Conference. University of Alabama at Birmingham (Alabama, USA)
15 Feb 2013 Genetics and Genomics Seminar Series. University of Alabama at Birmingham (Alabama, USA)
04 Mar 2013 GBM-722 Bioinformatics Course. University of Alabama at Birmingham (Alabama, USA)
07 Mar 2013 Biotechnology Professional Master. University of Alabama at Birmingham (Alabama, USA)
22 Apr 2013 GBS Structural Biology Course. University of Alabama at Birmingham (Alabama, USA)
14 May 2013 Laboratory Medicine Seminar. University of Alabama at Birmingham (Alabama, USA)
17 May 2013 European School of Genetic Medicine. European School of Genetic Medicine, Bertinoro (Forlì, Italy)
02 Feb 2014 GBM-722 Bioinformatics Course. University of Alabama at Birmingham (Alabama, USA)
06 Mar 2014 Biotechnology Professional Master. University of Alabama at Birmingham (Alabama, USA)

03 Jul 2014	GBS-758 New Perspectives in Cardiovascular Biology. University of Alabama at Birmingham (Alabama, USA)
08 Oct 2014	Biotechnology Professional Master. University of Alabama at Birmingham (Alabama, USA)
18 Dec 2014	UAB NHGRI IV Short Course on Next-Generation Sequencing; Technology and Statistical Methods. University of Alabama at Birmingham (Alabama, USA)
25/26 Feb 2016	Bologna Winter School 2016, University of Bologna (Italy).
09 Jun 2017	PhD Program in Biochemistry, "La Sapienza" University, Roma (Italy)
06 Sep 2017	Special course on NGS data analysis. CRO National Cancer Institute, Aviano (Italy)
17 Jan 2019	Winter School University of Verona, Canazei (Italy)
7 Jul 2022	Pathology and Laboratory Medicine Grand Rounds, University of Kansas Medical Center, (Kansas, USA)

Publications

I published 65 research articles and 13 reviews in international peer-reviewed journals with impact factor. I also published 19 between book chapters/proceedings (11) and meeting reports (8). Using Google Scholar my papers received about 7,100 citations corresponding to an h-index of 31. According to Scopus, my papers received ~5,000 citations corresponding to an h-index of 28. Using Web of Science my articles received more than 4,500 citations corresponding to h-index of 28.

Impact Factor (JCR 2021)

Total IF 526,9 from 65 publications

First author or equivalent IF: 220,9 from 25 publications

Last or corresponding author IF: 170.0 from 24 publications

Google Scholar: <http://bit.do/ecapriotti-scholar>

Scopus: <http://bit.do/ecapriotti-scopus>

ORCID: <http://bit.do/ecapriotti-orcid>

WOS: <http://bit.do/ecapriotti-wos>

ResearchGate: <http://bit.do/ecapriotti-rgate>

Papers on international journals with impact factor

Capriotti E, Fariselli P, Rossi I, Casadio R (2004). A Shannon entropy-based filter detects high-quality profile-profile alignments in searches for remote homologues. **Proteins** 54:351-360. (IF: 4.088, Q3, Scopus Citations:10)

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Capriotti E, Fariselli P, Casadio R (2004). A neural network-based method for predicting protein stability changes upon single point mutations. **Bioinformatics**. 20 (Suppl 1):I63-I68. (IF: 6.931, Q1, Scopus Citations: 147)

Stizza A, Capriotti E, Compiani M (2005). A minimal model of three-state folding dynamics of helical proteins. **Journal of Physical Chemistry B**, 109: 4215-4226. (IF: 3.466, Q3, Scopus Citations: 3)

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Capriotti E, Fariselli P, Calabrese R, Casadio R (2005). Predicting protein stability changes from sequences using support vector machines. **Bioinformatics**, 21 Suppl 2:ii54-ii58. (IF: 6.931, Q1, Scopus Citations:136)

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Casadio R, Calabrese R, **Capriotti E**, Compiani M, Fariselli P, Marani P, Montanucci L, Martelli PL, Rossi I, Tasco G Machine learning and the prediction of protein structure: the state of the art. **X International Conference on Information Processing and Management of Uncertainty in Knowledge-Based Systems (IPMU 2004)**. July 4-9 2004, Perugia Italy, Publisher: La Sapienza, Roma, pag 933-940.

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