Christine Nardini, Ph.D.

Born: June 8th 1973 in Bologna, Italy

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Nationality: Italian and French

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KNOWN LANGUAGES

- Italian: mother-tongue;
- French: mother-tongue;
- English: fluent;
- Chinese: beginner-intermediate (spoken).

EDUCATION

- 2002-2006 PhD in Electronics and Informatics at the University of Bologna, Italy. Thesis Title: "Statistical-Computational Techniques for Extraction of Functional Genomic Units from Microarray Experiments", prof B. Riccò.
- 1999 EE Master Degree in Electrical Engineering – Biomedical specialization at the University of Bologna, Italy. Thesis title: "Identification of non-linear dynamics through space and time dependent neural networks", prof M. Ursino.
- 1992 – BS Degree at Istituto N. Copernico in Bologna.

PROFESSIONAL EXPERIENCES

- 2017-now Associate to the Department of Laboratory Medicine, Division of Chemical Chemistry Karolinska Institute, Sweden
  - Research project design, presentation, fund raising, dissemination
- 2015-now Scientific Coordinator – area biomed at Personal Genomics spin-off University of Bologna and Verona, SOL Group Lab S.r.l., Italy;
  - Research group management
  - Research project design, presentation, fund raising, dissemination and management
  - Research strategies design
- 2008-2014. Principal Investigator and Full Professor at Max Planck Institute- Chinese Academy of Science - Partner Institute for Computational Biology CAS-MPG PICB, Shanghai, China.
  - Independent research group management
  - Research project design, presentation, fund raising, dissemination and management
- 2006- 2007. Post-doc at the Department of Electronic Informatics and Systems (DEIS) at the University of Bologna.
- 1999 - 2002. Field Engineer in the Cardiac Rhythm Management Division at Medtronic S.p.A. Assistance during implant and follow-up of patients with implantable devices for brady/tachy-arrhythmias. Education activity on brady/tachy arrhythmias and cardiac stimulation for nurses and medical doctors in hospitals in Emilia Romagna and Marche (Italy).

FELLOWSHIPS - CONSULTANT
- 2018 Consultant for the Office of University and Research of the Catalan Government, ES
- 2016-now Associate CNR IAC Rome
- 2016-2017 of Counsel member at ICT Legal Consulting – Studio Legale Associato Balboni, Bolognini & Partners, Bologna Italy
- 2007 Collaborator at the Telethon Institute for Genetics and Medicine (TIGEM) in Naples, Project on gene-network reverse-engineering.
- 2005 Visiting Researcher at The Center for Translational Medical Systems at University of California San Diego (UCSD, USA), with Michael D. Kuo, MD, development of Radiogenomics.
- 2003-2004 – Visiting researcher at the Computer Science Department at Stanford University (CA, USA), with Prof Giovanni de Micheli. Development of data mining approaches applied to microarrays for gene expression analyses.

QUALIFICATIONS
- 2018 Italian National Scientific Habilitation for Settore Concorsuale 05/E1, Fascia: 2
- 2017 Italian National Scientific Habilitation for Settore Concorsuale 02/D1, Fascia: 2
- *Italian National Scientific Habilitation for Settore Concorsuale 01/B1, Fascia: 2 under re-evaluation according to "sentenza del Consiglio di Stato n.5287/2017"*
- 1999 Italian National Habilitation to Engineers Professional Activity.

PUBLICATIONS - JOURNALS

- X. Zhou, V. Devescovi, Y. Liu, J. E. Dent, C. Nardini*, Host microbiome synergistic control on sphingolipid metabolism by mechanotransduction in model arthritis, BMC Bioinformatics, *accepted*
- Ciabattini A.*, Nardini C.*, Santoro F., Garagnani P., Franceschi C., Medaglini D., Vaccination in the elderly: The challenge of immune changes with aging, Seminars in Immunology, 2018 *in press*
- Nardini C., Moreau JF, Gensous N, Ravaioli F, Garagnani P, Bacalini MG, The epigenetics of inflammaging – heterochromatin loss, gene-specific remodelling, environmental stimuli, Seminars in Immunology, 2018 *in press*
- Bacalini, MG; Franceschi, C; Gentilini, D; Ravaioli, F; Zhou, X; Remondini, D; Pirazzini, C; Giuliani, C; Marasco, E; Gensous, N; Di Blasio, AM; Ellis, E; Gramignoli, R; Castellani, G; Capri, M; Strom, S; Nardini, C; Cescon, M; Grazi, GL; Garagnani, P, Molecular Aging of Human Liver: An Epigenetic/Transcriptomic Signature, The journals of gerontology. Series A, gly048, 2018, https://doi.org/10.1093/gerona/gly048
- Y. Lu, X. Zhou, C. Nardini*, Dissection of the Module Networks Implementation "LemonTree": Enhancements towards Applications in Metagenomics and Translation in Autoimmune Maladies, *Molecular BioSystems*, 2017, DOI: 10.1039/C7MB00248C

- X. Zhou, G. Meng, C. Nardini*, H. Mei*, Systemic Evaluation of Cellular Reprogramming Processes exploiting a novel R-tool: *eegc. Bioinformatics* 2017 btx205. doi: 10.1093/bioinformatics/btx205

- D Fernandes Durso, M G Bacalini, C Sala, C Pirazzini, E Marasco, M. Bonafé, Í Faria do Valle, D Gentilini, G Castellani, A M Caetano Faria, C Franceschi*, P Garagnani*, C Nardini*, Acceleration of leukocytes' epigenetic age as an early tumor- and sex-specific marker of breast and colorectal cancer, Oncotarget, 8:23237-23245. doi: 10.18632/oncotarget.15573 2017

- D Fernandes Durso, MG Bacalini, I Faria do Valle, C Pirazzini, G Castellani, AM Caetano Faria, C Franceschi*, P Garagnani*, Christine Nardini*, Aberrant methylation patterns in colorectal cancer: a meta-analysis, Oncotarget, 2017, doi: 10.18632/oncotarget.14590

- MG Bacalini, P D'Aquila, E Marasco, C Nardini, A Montesanto, C Franceschi, G Passarino, P Garagnani, D Bellizzi, The methylation of nuclear and mitochondrial DNA in ageing phenotypes and longevity, Mechanisms of Ageing and Development 165PB (2017) pp. 156-161, MAD10919, http://dx.doi.org/10.1016/j.mad.2017.01.006

- C. Nardini*, V. Devescovi, Y. Liu, X. Zhou, Y. Lu, JE Dent, Systemic Wound Healing Associated with local sub-Cutaneous Mechanical Stimulation, Scientific Reports, 2016, 6:39043,DOI: 10.1038/srep39043

- Zhou Xiaoyuan, C. Nardini* A method for automated pathogenic content estimation with application to rheumatoid arthritis. *BMC systems biology*, doi:10.1186/s12918-016-0344-6, 2016,

- Jean-Francois MOREAU, Thomas PRADEU, Andrea GRIGNOLIO, Christine NARDINI, Filippo Castiglione, Paolo TIERI, Miriam Capri, Stefano SALVIOLI, Jean-Luc TAUPIN, Paolo GARAGNANI, Claudio Franceschi, The emerging role of ECM crosslinking in T cell mobility as a hallmark of immunosenescence in humans, Ageing Research Reviews, 2016, Volume 35, May 2017, Pages 322–335

- D. Lai, X. Shu, C. Nardini, Link prediction in complex networks via modularity-based belief propagation, Chinese Physics B, Volume 26, Issue 3, March 2017, Article number 038902, 10.1088/1674-1056/26/3/038902

- Darong Lai, Xin Shu and Christine Nardini,
  Correlation enhanced modularity-based belief propagation method for community detection in networks, Journal of Statistical Mechanics-Theory and Experiment, Volume 2016, Issue 5, 11 May 2016, Article number 053301

- Darong Lai and Christine Nardini,
  A corrected normalized mutual information for performance evaluation of community detection, Journal of Statistical Mechanics-Theory and Experiment, Volume 2016, Issue 9, 2016, Article number 093403, DOI: 10.1088/1742-5468/2016/09/093403

- C. Nardini, J.E.Dent, P. Tieri,   Editorial: Multi-omic Data Integration, Front. Cell Dev. Biol. 2015,   doi: 10.3389/fcell.2015.00046

- Jennifer E Dent; Valentina Devescovi; Han Li; Pietro Di Lena; Youtao Lu; Yuanhua Liu; Christine Nardini*, Mechanotransduction Map: Simulation Model, Molecular Pathway, Gene Set Bioinformatics 2015; doi: 10.1093/bioinformatics/btu776

- C. Nardini, S. Carrara, Y. Liu, V. devescovi, Y. Lu, X. Zhou, I-needle: detecting the biological mechanisms of acupuncture Science 346 (6216 Suppl), S21-S22 (2014).

- Paolo Tieri*, XiaoYuan Zhou and Lisha Zhu Christine Nardini*, Multi-omic landscape of Rheumatoid Arthritis: re-evaluation of drug adverse effects, Front. Cell Dev. Biol., 2014, | doi: 10.3389/fcell.2014.00059

- Youtao Lu, Yi Cheng, Weili Yan, Christine Nardini, Exploring the Molecular Causes of Hepatitis B Virus Vaccination Response: an approach with Epigenomic and Transcriptomic Data. BMC Medical Genomics, 2014, 7:12 DOI: 10.1186/1755-8794-7-12

- Jennifer E. Dent, Yang Xinyi, Christine Nardini, SPNConverter: a new link between static and dynamic complex network analysis, Bioinformatics, 2013, 2013 Oct 1;29(19):2507-8. doi: 10.1093/bioinformatics/btt421.

- Paolo Tieri, Christine Nardini, Signaling Pathway Database Usability: Lesson Learned, Molecular BioSystems July 2013, 9, 2401, DOI: 10.1039/c3mb70242a

- Pietro Di Lena, Gang Wu, Pier Luigi Martelli, Rita Casadio and Christine Nardini MIMO: an efficient tool for Molecular Interaction Maps Overlap, BMC Bioinformatics, 2013, BMC Bioinformatics 2013, 14:159 doi:10.1186/1471-2105-14-159

- Yang Li, Wei Gang, Tang Kun, Nardini Christine, Han Jing-Dong J.* Understanding human diseases with high-throughput quantitative measurement and analysis of molecular signatures, Science China, Springer, 2013, Vol.56 No.3: 1–7, doi: 10.1007/s11427-013-4445-9

- Yuanhua Liu, Valentina Devescovi, Suning Chen and Christine Nardini, Multilevel Omic Data Integration in Cancer Cell Lines: Advanced Annotation and Emergent Properties, BMC Systems Biology, 2013 Feb 19;7(1):14.

- J E Dent* and C Nardini*, From desk to bed: Computational simulations provide indication for rheumatoid arthritis clinical trials, BMC Systems Biology 2013, 7:10, doi:10.1186/1752-0509-7-10

- Y. Xinyi, J. E. Dent, C. Nardini, An S-System Parameter Estimation Method for Biological Networks –SPEM, Journal of Computational Biology, 2012, 19(2): 175-187. Doi:10.1089/cmb.2011.0269

- R. Fronza, M. Tramonti, W. R Atchley and C. Nardini*, Brain Cancer Prognosis: Independent Validation of a Clinical Bioinformatics Approach, Journal of Clinical Bioinformatics 2012, 2:2

- Zhu L., del Vecchio G., Liu Y. De Micheli G., Carrara S., Calza L., Nardini C*. Biochip for regenerative medicine: real time stem cell continuous monitoring as inferred by high-throughput Gene Analysis, Springer Bionanoscience Volume 1, Issue 4 (2011), Page 183-191 10.1007/s12668-011-0028-z

- D. Lai*, X. Wu, H Lu, C Nardini Learning overlapping communities in complex networks via non-negative matrix factorization, International Journal of Modern Physics C (IJMPC), Issue 2210 2011

- R. Fronza, M. Tramonti, W. R Atchley and C. Nardini*, Joint Analysis of Transcriptional and post- Transcriptional Data: Searching Emergent Properties in Brain Tumor Samples, BMC Bioinformatics, 2011, 12:86doi:10.1186/1471-2105-12-86

- D.Lai*, C. Nardini, H. Lu, Partitioning networks into communities by message passing, Physical Review E, 2011, 83 016115.

- D. Lai, X. Yang, G. Wu, Y. Liu, C. Nardini*, Inference of Gene Networks – application to Bifidobacterium, Bioinformatics, 2010, doi: 10.1093/bioinformatics/btq629
- D.Lai*, H. Lu, and C. Nardini Enhanced modularity-based community detection by random walk network preprocessing, Physical Review E, 81(6 Pt 2):066118
- D. Lai*, H. Lu, C. Nardini, Extract weights from edge directions to find communities in directed networks, JSTAT, 2010, doi: 10.1088/1742-5468/2010/06/P06003
- Y. Liu, C. Zhang, L, Zhao and C. Nardini*, Adapting Functional Genomic Tools to Metagenomic Analyses: Investigating the Role of Gut Bacteria in the Onset of Obesity, Briefings in Functional Genomics and Proteomics, 2010, doi: 10.1093/bfgp/elq011
- G. Wu, L. Zhu, J. E. Dent, C. Nardini*, A Comprehensive Molecular Interaction Map for Rheumatoid Arthritis, PloS ONE, 2010, 5(4): e10137. Doi:10.1371/journal.pone.0010137
- D. Lai*, H. Lu, C. Nardini, Finding Communities in Directed Networks by PageRank Random Walk Induced Network Embedding, Physica A, 2010, 389(12), p. 2443-2454, doi:10.1016/j.physa.2010.02.014
- D. Lai, H. Lu, M. Lauria, D. di Bernardo, C. Nardini*, MANIA: A Gene Network Reverse Algorithm for Compounds Mode-of-Action and Genes Interactions Inference, Advances In Complex Systems (ACS) 2010, 10(1),
- M. Diehn, C. Nardini, D.S. Wang, S. McGovern, M. Jayaraman, Y. Liang, K. Aldape, S. Cha, M. D. Kuo* Identification of non-invasive imaging surrogates for brain tumor gene expression modules, PNAS, 2008, 105(13), p. 5213-5218.
- C. Nardini*, H. Peng, L. Wang, L. Benini, M.D. Kuo, MM-Correction: Meta-analysis-Based Multiple Hypotheses Correction in Omic StudiesSpringer CCIS, Vol 25, pp 242-255, 2008.
- C. Guiducci, C. Nardini, High Parallelism, Portability and Broad Accessibility: Technologies for Genomics, ACM Journal on Emerging Technologies in Computing Systems, 2008, 4(1), Article 3.
- C. Nardini*, M. D. Kuo and L. Benini, Statistical Significance in omic data analyses, Proceedings of International Conference on bio-inspired systems and signal processing Biosignals2008, Portugal, 2008.
- D. Masotti*, C. Nardini, S. Rossi, E. Bonora, G. Romeo, S. Volinia and L. Benini, TOM: enhancement and extension of a tool suite for in silico approaches to multigenic complex disorders, Bioinformatics, 24(3), 2008, pp. 428-429, doi: 10.1093/bioinformatics/btm588.
- C. Nardini*, L. Benini and G. de Micheli, Circuits and Systems for High-Throughput Biology, IEEE Circuits and Systems Magazine, 2006, 6(3), pp.10-20.
- C. Nardini*, D. Masotti, S. Yoon, E. Macii, M.D. Kuo, G. de Micheli and L. Benini, Mining gene sets for measuring similarities, Proceedings of IEEE Symposium on Computers and Communications (ISCC), 2006.
- M. Diehn, C. Nardini, D.S. Wang, A. Hsiao, S. Cha and M.D. Kuo* Characteristics Reflect Tumor Gene Expression Signatures and Predict Survival in Glioblastoma Multiforme, International Journal of Radiation Oncology Biology Physics, Volume 66, Issue 3, Supplement 1, 2006, Page S18
- S. Rossi-D. Masotti, C. Nardini, E. Bonora, G. Romeo, E. Macii, L. Benini and S. Volinia, TOM: a web-based integrated approach for efficient identification of candidate disease genes, 2006, Nucleic Acids Res., 34: W285 – W292; doi:10.1093/nar/gkl340.
- S. Yoon*, C. Nardini, L. Benini and G. de Micheli, Discovering coherent biclusters from

gene Expression Data Using Zero-Suppressed Binary Decision Diagrams, The IEEE/ACM Transaction on Computational Biology and Bioinformatics, 3(2), pp. 339-354, 2005.

Conference Full paper

- S. Yoon*, C. Nardini, L. Benini and G. de Micheli. Enhanced pClustering and its applications to gene expression data, In Proceedings of IEEE Symposium on BIBE (Bioinformatics and Bioengineering), pp. 275-282, 2004.

Book Chapter

- C. Nardini, Chapter 7: Translational Research: Novel Technologies, Impact on Sciences and Potential in Alternative Medicines, Synthetic and Integrative Biology: Parts and Systems, Design Theory and Applications , NOVA Publisher, pp. 93-103, 2010

Bioinformatics Conferences Abstracts

- X. Zhou, V. Devescovi, Y. Liu, J. Dent, C. Nardini, Host-microbiome synergistic control on sphingolipid metabolism by mechanotransduction in model arthritis, full presentation, DTMBIOKMH2018 Conference

- X. Zhou, V. Devescovi, Y. Liu, Y. Lu, C. Nardini, **Host-microbiome interaction: exploring blood-microbiome crosstalk**, poster, ISCB 2016

- Lu Youtao, Chen Y., Yan **W., Nardini C., Differential methylation analysis for the identification of epigenomic factors in HBV vaccination responses**, RECOMB 2013

- Y. Xinyi, J. E. Dent, C. Nardini, **An S-System Parameter Estimation Method for Biological Networks -SPEM**, RECOMB 2012.

- D. Lai, G. Wu, C. Nardini, **Gene Networks & Perturbations Co-Inference**, (ICMSB) 2009, Poster.

- G. Wu, C. Nardini, **Rheumatoid Arthritis Gene Network Reconstruction**, (ICMSB) 2009, Poster.

- F. Ceroni, A. Pasini, C. Nardini, E. Giordano, S. Cavalcanti, **A Synthetic Switch for Gene Expression Control in E. Coli**, Advances in Synthetic Biology, 2008, Cambridge, Wellcome Trust Conference Centre.

- M. Lauria, C. Nardini, D. di Bernardo, **Simultaneous gene network and mode of action inference with mNlr**, International Conference on Systems Biology (ICSB) 2007, Poster.

- S. Rossi, D. Masotti, C. Nardini, E. Bonora, E. Macii, S. Volinia, L. Benini, **Integrated web-based approach to multigenic disease**s, *Consortium for Post Genome Science Conference, Manchester, 2006.*

- S. Volinia, S. Rossi, D. Valentini, G. Gamberoni, S. Storari, L. Benini, C. Nardini, D. Masotti, C. Camaschella, P. Gasperini, **TOM: Transcriptomics of OMIM**, *Microarray Gene Expression Data Society Conference, 2005*.

Medical Conferences Abstracts

- DS Wang, C Nardini, M Diehn, S Cha, S McGovern, M D. Kuo, K Aldape, Integrative Radiogenomic Analysis of Glioblastoma Multiforme to Identify a MR Imaging Biomarker for EGFR Overexpression, Radiological Society of Nord America, Book of Abstracts.

- M.D. Kuo, M. Diehn, C. Nardini, D. Wang, S. Cha, Integrative Radiogenomic Analysis to Identify a Non-Invasive Imaging Phenotype Associated with EGFR Overexpression in Glioblastoma Multiforme, American Society Of Neuro Radiology, Book of Abstracts, 2006.

- C. Nardini, M. Diehn, L Benini, M. D. Kuo, Degree of mass effect by MRI in glioblastoma multiforme can predict the gene expression level of a cell proliferation gene expression

program, European Congress of Radiology, Book of Abstracts, Vol, 16, Suppl.1, pag. B-100, 2006.

- C. Nardini, M. Diehn, L Benini, M. D. Kuo, A method for extracting sets of genes related to Magnetic Resonance Imaging (MRI) features significantly enriched for known biological function, International Oncology Symposium, Radiological Society of North America, 2005, p. 88.
- M. D. Kuo, C. Nardini, D. Wang, L Benini, G De Micheli, S. Cha, M. Diehn, MRI Guided Feature Evaluation of Characteristic Gene Expression Signatures in Glioblastoma Multiforme, European Congress of Radiology, Book of Abstracts, Vol, 15, Suppl.1, pag. B-439, 2005.
- C. Nardini, M. Diehn, B. K. Chan, G. De Micheli, L. Benini, M. D. Kuo, Imaging Correlation with Alterations in Global Gene Expression for Functional Radiogenomic Analysis, Radiological Society of Nord America, Book of Abstracts, p. 403, 2004.
- M. D. Kuo, D. S. Wang, C. Nardini, M. Diehn, B. K. Chan, Identification of Alterations in Global Gene Expression in Glioblastoma Multiforme with Magnetic Resonance Imaging, Radiological Society of Nord America, Book of Abstracts, p. 533, 2004.
- C. Nardini, S. Cha, D. Wang, M. Diehn, L. Benini, G. De Micheli, M. Kuo, A Non-Invasive Approach for Molecular Characterization of Glioblastoma Multiforme: Magnetic Resonance Imaging Correlation with cDNA Microarray Expression Profiles, American Association of Neurological Surgeons, Article ID: 22678, 2004.
- D. S. Wang, S. Cha, C. Nardini, M. Diehn, B. K. Chan, L. Benini, G. De Micheli, M. D. Kuo, Correlation between global gene expression patterns and magnetic resonance imaging findings in glioblastoma multiforme; Society for Neuro Oncology, Book of Abstracts, p. 340, 2004.

FUNDED PROJECTS

- 2016-now Scientific coordinator for partner Personal Genomics in "Propag-Ageing", H2020-ID 634821.
- 2013-2016: PI in the project MoST International Cooperation Program n. 2013DFA30790 "Nano-Structured Acupuncture Needle Application in Rheumatoid Arthritis ".
- 2013-2014: Principal Investigator for the research sponsored by the Visiting Fellowship for International Scientists, "Identification of mechanisms of action of RA therapies in model animals" awarded to Dr. Valentina Devescovi. Chinese Academy of Sciences, grant n. 2013Y1SA0008, 2013
- 2012-2015: co-PI in the project n. 294935 "KEPAMOD—Knowledge exchange in processing and analysis of multi-omic data" funded under the Marie Curie Actions—International Research Staff Exchange Scheme (IRSES)
- 2011- entered the consortium BP-TCM (http://www.gp-tcm.org/) funded by FP7 EU, Work Package 8 - Functional genomics in studies of acupuncture-moxibustion (Grant No. 223154, non-beneficiary member)
- 2011-2012 co-Principal investigator in the Nanotera Sino Swiss Science and technology Consortium Pilot grant "Intelligent needle with wireless connection to internet for biophysical bases of acupuncture".
- 2012-2015 Principal Investigator for the research entitled "Autoimmune Disease Therapies:

variations on the microbiome in rheumatoid arthritis" funded by the National Sciences Foundation of China (NSFC) (grant n. 31171277).

- 2011 Principal Investigator for the research entitled "Systems biology, computational immunology" sponsored by the Visiting Professor Fellowship for International Scientists, awarded to Dr. Paolo Tieri from University of Bologna. Chinese Academy of Sciences, grant n. 2011Y1SA04, 2011
- 2011-2013 Participant in the project, "Systems Biology approach for genotype to phenotype modeling" Funded by Chinese Academy of Sciences (CAS) (grant n. KSCX2-EW-J-15)
- 2011-2013 Principal investigator of the project "Molecular Interaction Reconstruction of Rheumatoid Arthritis Therapies Using Clinical Data", funded by the National Science Foundation of China (NSFC) (grant n. 31070748),
- 2009-2011 Principal investigator "Nano-structured Bio-Chip development for Stem Cells Monitoring" Funded by the Sino-Swiss Science and Technology Cooperation Project (SSSTC) (grant n. IZLCZ2 123967).
- 2009-2011 Principal investigator for the research entitled "Applying network analysis methods to reverse-engineering of gene-networks" awarded to J. E. Dent and Funded by Science and Technology Fellowship Programme (SSTC), FP7, European Community ID. STF13#168615.

SEMINARS AND TALKS

- November 6th-7th 2018, invited talk to COST Action Open Multiscale Systems Medicine (OpenMultiMed)in Leiden
- May 29th 2018, Workshop UNIBO-UCSD Cooperation Project on Cancer Genomics, Department of Pharmacy and Biotechnology (FaBIT), University of Bologna, 'Epigenomics and cancer – methylation as a marker in oncology'
- May 18th 2017, seminar, Nanjing South-West University, 'Computational Biology, Mechanotransduction and Autoimmune Diseases'
- May 17th 2017, seminar, Institut Pasteur Shanghai, 'Computational Biology, Mechanotransduction and Autoimmune Diseases'
- February 17th 2017, seminar, Centro Interdipartimentale Galvani, University of Bologna, 'Computational Biology, Mechanotransduction and Autoimmune Diseases'
- October 4th 2015, invited talk, International Symposium on research in acupuncture, Bologna.
- May 2013, CNR IAC Rome, Seminar in the frame of IRSES KEPAMOD exchange "Mechanotransduction: Map and Simulations allow to Investigate the Effects of Therapeutic Manipulations"
- April 2013, CNR IAC Rome, Seminar in the frame of IRSES KEPAMOD exchange "Complex Networks: Application to Rheumatoid Arthritis"
- April 2012, seminar at the IFOM-IEO in Milan, Italy "Computational Biology applied to autoimmune diseases"
- May 2011, EPFL, Switzerland, seminar "Multiomic Data Integration Method & Case Study".
- June 2010, EPFL, Switzerland, seminar "From bio-chips to bio-medicine and back".
- September 2009, Max Plank Institute for Informatics, Saarbrücken, Germany "Metabolic

and Autoimmune Syndromes as test case diseases for the application of computational biology in healthcare".

- September 2008 - Invited talk at the Lecture Series in Synthetic Biology, University of Cesena, "Gene Network Approaches".
- Academic Year 2006-2007 – Seminar on introduction to Systems Biology in the course "Integrated Course on Nanobiotechnologies and Biosensors" of Professor B. Riccò at the University of Bologna for the degree in Molecular and Industrial Biotechnologies.
- Academic Year 2006-2007 – Seminar on introduction to Systems Biology in the course "Hardware Software Project Methodologies" of Professor L. Benini at the University of Bologna for the Electronic Degree at the Engineering Faculty.
- Academic Year 2005-2006 – Seminar on statistics applied to Microarray in the course "Hardware Software Project Methodologies" of Professor L. Benini at the University of Bologna for the Electronic Degree at the Engineering Faculty.
- Academic Year 2004-2005 -   Seminar on Data Mining applied to Microarray in the course "Hardware Software Project Methodologies" of Professor L. Benini at the University of Bologna for the Electronic Degree at the Engineering Faculty.
- Academic Year 2002-2003 – Seminar on Data Mining applied to Microarray   in the course: "Information systems" of professor P. Ciaccia at the University of Bologna for the Electronic Degree at the Engineering Faculty.

Conferences Presentations & Abstracts

- April 2012 GP-TCM Congress, Leiden, NL,"Testing and Generating Hypotheses on Manipulative Traditional Therapies: Exploring WHO Recommendation on Rheumatoid Arthritis",
- October 2011, Oral presentation "Transcriptomic and post-transcriptomic data integration: emerging properties", International Symposium of Developmental Systems Biology on Gene Regulation and Aging, Shanghai, China.
- 28th May 2010, PICB-Institut Pasteur Shanghai Joint mini-Symposium, Shanghai, "Computational Biology - Applications to Metabolic and Autoimmune Syndromes".
- September 2009, The future of Computational Biology, CAS-MPG, Potsdam, Germany, "Translational Research with Applications to Metabolic and Autoimmune Diseases"
- December 2008, Invited talk for the Formal Cooperation Agreement with PICB, University of Bologna "MPG-CAS PICB and CGN Group research".
- June 2008 – Speaker and co-organizer of the Symposium on Cancer and Gene Regulation, PICB Shanghai, invited speaker prof. P.O. Brown from Stanford University.
- November 2007 – Speaker at the meeting on 'Nanotechnologies and Biomedical Application's, organized by ScienzaE, no-profit association for the diffusion of scientific and technological culture, with a talk on 'Synthetic biology for Community Service'.
- December 2005 – Presentation on "Overview on high-throughput devices in the post-genomic era. Focus on microarrays current applications and data mining tools" at the 3 days meeting Focus on Biotechnologies held in Milan 14-15-16 December.

THESES SUPERVISOR

- PhD Thesis, Zhou Xiaoyuan, "Multi-omic approaches towards translational medicine: focus on rheumatoid arthritis and cellular engineering", Supervisor: Christine Nardini, May 2017

- PhD Thesis, Lu Youtao, "Omic Data Integration Applied to Biomedical Studies", Supervisor: Christine Nardini, October 2015
- Master Thesis, Li Han, "Mechanotrasduction: a map reconstruction and validation through dynamic simulations", Supervisor: Christine Nardini, May 2013
- PhD thesis, Lisha Zhu, "Biological data integration: application in stem cells and complex diseases.", Supervisor: Christine Nardini, March 2013
- PhD Thesis, Xinyi Yang, "Novel Algorithms and Tools for Gene Network Reconstruction", Supervisor: Christine Nardini, March 2013
- PhD Thesis, Jennifer E. Dent "A network analysis approach to investigating disease contact structures at the cell and the population level". Supervisors: Mark Arnold, Christine Nardini, George Gettinby, Louise Kelly. November 2011.
- PhD thesis, Raffaele Fronza, "BIOINFORMATIC METHODS IN APPLIED GENOMIC RESEARCH", Supervisors, Rita Casadio, Santi Mario Spampinato, Christine Nardini, May 2011.
- Master Thesis, Michele Tramonti "Analisi di dati di tumori del sistema nervoso centrale". Supervisors Stefano Severi, Christine Nardini March 2011.

TEACHING

- February 23rd 2016, lecturer Winter School of Bologna on Biomarkers for Precision Medicine, "Biomarkers for Nanobiochips", (3 ECTS credits)
- 2015 Lecturer for Advanced teaching at the International Master of Bioinformatics at the University of Bologna. Course title: "Omics & Multi-omics", (2 ECTS credits)
- February 2015, lecturer Bologna Winter School on Bioinformatics and New Molecular Scenarios, "Are clustering and association rules enough for inferring causation" (3 ECTS credits)
- February 2014, lecturer Bologna Winter School on complexity in Biology, "The added complexity of the gut intestinal microbiome" (3 ECTS credits)
- 2012 Lecturer for a module of the "Bioinformatics Algorithms" 1st year CAS-MPG PICB course
- 2011 Lecturer for a module of the "Bioinformatics Algorithms" 1st year CAS-MPG PICB course.
- 2011 Lecturer for the school Advanced Computational Biology, CAS-MPG PICB
- 2009 Lecturer for a module of the "Bioinformatics Algorithms" 1st year CAS-MPG PICB course.
- 2006 –Faculty for the refresher course 'Integrating Cancer Genomics and Radiological Imaging: Practical Answers to Complex Problems (How-to Workshop)', Conference RSNA Radiological Society of North America, (85 AMA PRA category 1 credits)
- 2007-2008 – Lecturer for the course 'Biosensors' at the University of Bologna for the Bioinformatics Degree in the Faculty of Mathematics Physics and Natural Sciences (5 ECTS credits).
- 2006-2007 – Lecturer for the course 'Biosensors' at the University of Bologna for the Bioinformatics Degree in the Faculty of Mathematics Physics and Natural Sciences (5 ECTS credits).

ORGANIZATION & PROMOTION OF INTERNATIONAL SCIENTIFIC EVENTS

- 2017 April. Organization of the mini-symposium on the genomics of ageing, leading speaker A. Navarro Secretary of Universities and Research in the Catalan government. Former Director of the Department of Experimental and Health Sciences at the University Pompeu Fabra (UPF) in Barcelona
- 2009 January. Definition and Completion of the Official Agreement for the Exchange of Researchers and Students between MPI-CAS PICB and University of Bologna.
- 2008 June. Organization of the Symposium on Cancer and Gene Regulation leading speaker P. O Brown from Stanford, CA, USA.

OTHER SCIENTIFIC ACTIVITIES

- 2015-now Scientific Consultant at Geeppies, start-up CAS
- 2009-now Member of the Editorial Board of PLoS ONE and BioNanoScience, Springer Publication
- 2009-now Associate Editor for BMC Bioinformatics
- Grant Proposal Reviewer: Reviewer for National Italian projects Ministero dell'Istruzione, Università e Ricerca (MIUR), Progetti di Ricerca di Interesse Nazionale (PRIN) 2017; Cancer Research UK; NSFC National Science Foundation of China; NIMAD National Institute for medical research Development of Iran
- Editor for Frontiers in Cell and developmental biology on the topic Multi-omic data integration
- Member of the International Program Committee of ISMB/ECCB 2015, BIOINFORMATICS 2012, BIOINFORMATICS 2011,
- Chair Session Complex Biological Systems-I for Complex 2009, Shanghai
- Journals Reviewer: ISMJ, Nature Medicine, Science, Scientific Reports, International Journal of Rheumatic Diseases, Arthritis research & therapy, PNAS, PLoS Genetics, PLoS computational Biology, Annals of the Rheumatic Diseases, Frontiers in Physiology, Bioinformatics, Theoretical Biology and Medical Modeling, BMC Systems Biology BMC Research Notes.
- Conferences Reviewer: ISMB 2018, ISCAS 2016 IEEE international symposium on Systems and circuits European Conference on Computational Biology (ECCB08); International Conference on the Digital Society (ICDS08), IEEE and Engineering in Medicine and Biology Society (EMBS) co-sponsored Conference
- TPC member in the Conference on the Digital Society ICDS 2008
- Faculty Lead at WebmedCentral (www.webmedcentral.com)
- Gold Medal at the iGEM competition in MIT (2007) with the University of Bologna Team, for the project "Modeling of a Synthetic Schmitt Trigger"

ADDITIONAL TRAINING

Communication & Project Management Courses:

- Efficient Project Management, Pd For Consultant Firm, 2007.
- Communication Course: Gustav Kaeser Training International 2001

Computer Sciences:

- March 2007 – 'Advanced Course of R and Bioconductor' The Wellcome Trust Institute, UK.
- June 2004 –"Applied Bayesian Statistic School, 2004", Istituto di Matematica Applicata and Tecnologie Informatiche at Consiglio Nazionale delle Ricerche (CNR-IMATI) and Università di Pavia (DEPMQ).

Life Sciences & Systems Biology

- May 2007 – Attended the lectures of the course 'Medical genetics' of the European Genetic Foundation.
- January 2007 – Attended the course 'Open Door Workshop: Working with the Human Genome Sequence' at The Wellcome Trust Institute, UK.
- February 2005 – Attended the School "How Complex is Functional Genomics", Bologna, Organized by Bologna Biocomputing Unit, Prof. R. Casadio.
- Systems Biology:
- February 2007 – Winter School 'Systems and synthetic biology', ", Bologna, Organized by Bologna Biocomputing Unit, Prof. R. Casadio in collaboration with DEIS.
- November 2006 – 'Introduction to Systems Biology' Insitute for Systems Biology in Seattle, WA, USA.