



EUROPEAN
CURRICULUM VITAE
FORMAT

PERSONAL INFORMATION

Name **ALFIERI, ROBERTA**
Nationality **Italian**

WORK EXPERIENCE

- *Dates (from – to)* **DECEMBER 2017-TODAY**
- *Name and address of employer* Institute of Molecular Genetics, IGM – CNR,
Via Abbiategrosso 207, Pavia
National Research Institute
- *Type of business or sector* Staff scientist, bioinformatician.
- *Occupation or position held* Analysis of Next Generation Sequencing (NGS) data: RNA-seq; ATAC-seq, ChIP-seq, HI-C.
Implementation of cloud computing systems for bioinformatics analysis on Amazon Web Services platform.
- *Main activities and responsibilities* Development of bioinformatics tools for the study of lncRNAs in human disease.
Functional characterization of genes in different biological contexts.

- *Dates (from – to)* **APRIL 2015-DECEMBER 2017**
- *Name and address of employer* National Institute of Molecular Genetics (INGM),
Via Francesco Sforza 35, Milan
Foundation and National Research Institute
- *Type of business or sector* Staff scientist, bioinformatician
- *Occupation or position held* Analysis of Next Generation Sequencing (NGS) data, such as RNA-seq and ribo-seq.
Analysis of proteomic and metabolomic data.
Multi-omic data integration and mining.
Analysis of microarray gene expression data.
- *Main activities and responsibilities* Functional characterization of genes, mRNAs and miRNAs in different biological contexts.
Statistical analysis on biological data.

- *Dates (from – to)* **APRIL 2010-MARCH 2015**
- *Name and address of employer* Institute for Biomedical Technologies, National Research Council
Bioinformatics Unit
Via Fratelli Cervi 93, 20090, Segrate (Mi)
National Research Institute
- *Type of business or sector* PostDoc Bioinformatician
- *Occupation or position held*

- *Main activities and responsibilities*

Bioinformatics and statistical analysis of biological data related to complex diseases.
Transcriptomics data analysis.
Design, development and simulation of mathematical models to simulate molecular mechanisms related to human diseases.
Scientific consultant within the Italian FIRB-MIUR “HIRMA” (Hepatocarcinoma Innovative Research Markers) project: consultant for the development of the project portal and database for the collection of clinical data of patients enrolled in the study; technical support for the portal users; advisor for clinical data entering; validation and testing of the portal functionality.
Development and testing of software system for the management of research data.

- *Dates (from – to)*
- *Name and address of employer*

JUNE 2006-MARCH 2010
Institute for Biomedical Technologies, National Research Council
Bioinformatics Unit
Via Fratelli Cervi 93, 20090, Segrate (Mi)
National Research Institute
Bioinformatician
- *Type of business or sector*
- *Occupation or position held*
- *Main activities and responsibilities*

Integration of biological data related to complex diseases.
Biological database design and implementation.
Design, development and simulation of mathematical models in systems biology studies.
Development and testing of software system for the management of clinical research data related to hepatitis and hepatocellular carcinoma.

- *Dates (from – to)*
- *Name and address of employer*

NOVEMBER 2006-DECEMBER 2006
Computational Systems Biology Group - Max Plank Institute for Molecular Genetics
Berlin, Germany
Research Institute
Visiting researcher
- *Type of business or sector*
- *Occupation or position held*

EDUCATION AND TRAINING

- *Dates (from – to)*

JANUARY 2007-MARCH 2010
- *Title of qualification awarded*
- *Thesis title*
- *Name and type of organization providing education and training*

PhD in Information Science and Complex Systems
“Computational approaches to model the cell cycle, a biological complex system”.
School of Advanced Studies, Doctoral course of Information Science and complex systems (XXII cycle) University of Camerino, Macerata, Italy
- *Dates (from – to)*

MARCH 2004-APRIL 2006
- *Title of qualification awarded*
- *Level in national classification*
- *Thesis title*
- *Name and type of organization providing education and training*

Master of Science in Bioinformatics
110/110 CUM LAUDE
“Development of a Data Mining System for Human Cell Cycle Data Analysis”
University of Milano Bicocca Piazza Ateneo Nuovo, Milan, Italy
- *Dates (from – to)*

SEPTEMBER 2000-FEBRUARY 2000
- *Title of qualification awarded*
- *Level in national classification*
- *Thesis title*

Bachelor in Biotechnology
99/110
“Planning a gene silencing experiment to identify the function of a novel human transcript”

• *Name and type of organization providing education and training*

University of Milano Bicocca Piazza Ateneo Nuovo, Milan, Italy

PERSONAL SKILLS AND COMPETENCES

Acquired in the course of life and career but not necessarily covered by formal certificates and diplomas.

MOTHER TONGUE

ITALIAN

OTHER LANGUAGES

- *Reading skills*
- *Writing skills*
- *Verbal skills*

ENGLISH

EXCELLENT

GOOD

GOOD

SOCIAL SKILLS AND COMPETENCES

Good attitude to team working acquired during the experience as Research Assistant at CNR; ability to adapt to multicultural environments acquired during work and travel periods abroad; ability to write with clarity and to transmit information also in public speaking acquired thanks to lectures in international conferences and seminars.

Good ability to adapt in multiethnic and multicultural environments acquired through the participation to international conferences and schools and personal and work experiences abroad.

ORGANIZATIONAL SKILLS AND COMPETENCES

Strong motivation for scientific work and strong passion for science.

Strong sense of organization acquired through the educational period, work trainings and paper/thesis/ projects writing

TECHNICAL SKILLS AND COMPETENCES

Excellent knowledge of Microsoft, Linux and Mac operating systems.

Excellent knowledge of Microsoft Office Suite.

Good ability in database development and content management system; good knowledge of HTML and PHP; good ability in development and management of web sites and portals.

Good programming skills in bash, R, MySQL, Perl.

Good ability in design, development and simulation of mathematical models of molecular processes.

Excellent knowledge of the databases and software used in bioinformatics.

Strong motivation for scientific work and strong passion for science.

Excellent knowledge of cellular, molecular biology and human genetics.

Strong sense of organization and excellent attitude to team working.

Excellent ability in writing research projects, scientific papers and lectures.

Excellent ability in systematic review of scientific literature.

Excellent knowledge of the most common technologies used in molecular and cellular biology.

DRIVING LICENCE(S)

Driving licence, category B

ANNEXES

A1. Peer-reviewed publications

Annex A.1

Peer-reviewed publications

H-index: 11 according to Scopus

1. Manfrini N, Mancino M, Miluzio A, Oliveto S, Balestra M, Calamita P, Alfieri R, Rossi RL, Sassoè-Pognetto M, Salio C, Cuomo A, Bonaldi T, Manfredi M, Marengo E, Ranzato E, Martinotti S, Cittaro D, Tonon G, Biffo S. FAM46C and FNDC3A Are Multiple Myeloma Tumor Suppressors That Act in Concert to Impair Clearing of Protein Aggregates and Autophagy. *Cancer Res.* 2020 Nov 1;80(21):4693-4706.
2. Manfrini N, Ricciardi S, Alfieri R, Ventura G, Calamita P, Favalli A, Biffo S, Ribosome profiling unveils translational regulation of metabolic enzymes in primary CD4+ Th1 cells, *Developmental and Comparative Immunology* (Accepted)
3. Alfieri, R., Vassalli, M., Viti, F., Flow-induced mechanotransduction in skeletal cells, *Biophys Rev.* 2019 Oct;11(5):729-743.
4. Russo A, Gatti G, Alfieri R, Pesce E, Soanes K, Ricciardi S, Mancino M, Cheroni C, Vaccari T, Biffo S, Calamita P, Modulating eIF6 levels unveils the role of translation in ecdysone biosynthesis during *Drosophila* development, *Dev Biol.* 2019 Nov 1;455(1):100-111.
5. Ricciardi S, Manfrini N, Alfieri R, Calamita P, Crosti MC, Gallo S, Müller R, Pagani M, Abrignani S, Biffo S. The Translational Machinery of Human CD4(+) T Cells Is Poised for Activation and Controls the Switch from Quiescence to Metabolic Remodeling. *Cell Metab.* 2018 Dec 4;28(6):961.
6. Oliveto S, Alfieri R, Miluzio A, Scagliola A, Seci RS, Gasparini P, Grosso S, Cascione L, Mutti L, Biffo S. A Polysome-Based microRNA Screen Identifies miR-24-3p as a Novel Promigratory miRNA in Mesothelioma. *Cancer Res.* 2018 Oct 15;78(20):5741-5753.
7. Cento V, Nguyen THT, Di Carlo D, Biliotti E, Gianserra L, Lenci I, Di Paolo D, Calvaruso V, Teti E, Cerrone M, Romagnoli D, Melis M, Danieli E, Menzaghi B, Polilli E, Siciliano M, Nicolini LA, Di Biagio A, Magni CF, Bolis M, Antonucci FP, Di Maio VC, Alfieri R, Sarmati L, Casalino P, Bernardini S, Micheli V, Rizzardini G, Parruti G, Quirino T, Puoti M, Babudieri S, D'Arminio Monforte A, Andreoni M, Craxi A, Angelico M, Pasquazzi C, Taliani G, Guedj J, Perno CF, Ceccherini-Silberstein F. Improvement of ALT decay kinetics by all-oral HCV treatment: Role of NS5A inhibitors and differences with IFN-based regimens. *PLoS One.* 2017 May 18;12(5):e0177352..
8. Calamita P, Miluzio A, Russo A, Pesce E, Ricciardi S, Khanim F, Cheroni C, Alfieri R, Mancino M, Gorrini C, Rossetti G, Peluso I, Pagani M, Medina DL, Rommens J, Biffo S. SBDS-Deficient Cells Have an Altered Homeostatic Equilibrium due to Translational Inefficiency Which Explains their Reduced Fitness and Provides a Logical Framework for Intervention. *PLoS Genet.* 2017 Jan 5;13(1):e1006552.
9. Miluzio A, Ricciardi S, Manfrini N, Alfieri R, Oliveto S, Brina D, Biffo S. Translational control by mTOR-independent routes: how eIF6 organizes metabolism. *Biochem Soc Trans.* 2016 Dec 15;44(6):1667-1673.
10. Mosca E, Alfieri R, Milanese L. Diffusion of information throughout the host interactome reveals gene expression variations in network proximity to target proteins of hepatitis C virus. *PLoS One.* 2014 Dec 2;9(12):e113660.
11. Mosca E, Alfieri R, Maj C, Bevilacqua A, Canti G, Milanese L. Computational modeling of the metabolic States regulated by the kinase akt. *Front Physiol.* 2012 Nov 21;3:418. doi: 10.3389/fphys.2012.00418.
12. Mosca E, Barcella M, Alfieri R, Bevilacqua A, Canti G, Milanese L, Systems biology of the metabolic network regulated by the Akt pathway, *Biotechnol Adv.* Jan;30(1):131-41 (2012).
13. Viti, F., Merelli, I., Calabria, A., Cozzi, P., Mosca, E., Alfieri, R. and Milanese, L. 'Ontology-based resources for bioinformatics analysis', *Int. J. Metadata, Semantics and Ontologies*, Vol. 6, No. 1, pp.35–45 (2011).
14. Alfieri R, Bartocci E, Merelli E, Milanese L. Modeling the cell cycle: From deterministic models to hybrid systems. *BioSystems* Jul;105(1):34-40 (2011).

15. Mosca E, Alfieri R, Merelli I, Viti F, Calabria A, Milanesi L, A multilevel data integration resource for breast cancer study, *BMC Syst Biol.* Jun 3;4(1):76. (2010).
16. Alfieri R, Barberis M, Chiaradonna F, Gaglio D, Milanesi L, Vanoni M, Klipp E, Alberghina L. Towards a systems biology approach to mammalian cell cycle: modeling the entrance into S phase of quiescent fibroblasts after serum stimulation. *BMC Bioinformatics.* 15;10 Suppl 12:S16. (2009).
17. Mosca E, Merelli I, Alfieri R, Milanesi L, A distributed approach for parameter estimation in systems biology models, *Il nuovo Cimento C*, Vol 32, pp165-168, (2009).
18. Alfieri R, Merelli I, Mosca E, Milanesi L. The cell cycle DB: a systems biology approach to cell cycle analysis. *Nucleic Acids Res.* 2008 Jan;36(Database issue):D641-5. (2008).
19. Alfieri R, Merelli I, Mosca E, Milanesi L. A Data Integration Approach for Cell Cycle Analysis oriented to Model Simulation in Systems Biology. *BMC Syst Biol.* 1;1(1):35. (2007).
20. Alfieri R, Mosca E, Merelli I, Milanesi L. Parameter Estimation for Cell Cycle Ordinary Differential Equation (ODE) Models using a Grid Approach. *Stud Health Technol Inform.* 126:93-102. (ISBN:9781586037383) (2007).

Book Chapters

1. Alfieri R, Milanesi L, Handbook of Research on Systems Biology Applications in Medicine, Chapter "Multi-level Data Integration and Data Mining in Systems Biology" (ISBN: 9781605660769) (2008)
2. L. Milanesi, R. Alfieri, E. Mosca, F. Viti, P. D'Ursi, and I. Merelli, Sys-Bio Gateway: a Framework of Bioinformatics Database Resources Oriented to Systems Biology, Proc. of 1st Workshop IWPLS'09, Edinburgh, UK, September 14-15, 2009, CEUR Workshop Proceedings, ISSN 1613-0073, (2009)
3. F. Viti, E. Mosca, I. Merelli, A. Calabria, R. Alfieri and Luciano Milanesi, Metadata and Semantic Research, Ch. Ontological Enrichment of the Genes-to-Systems Breast Cancer Database, Springer Series Communications in Computer and Information Science, Springer Berlin Heidelberg, ISBN 978-3-642-04589-9 (2009)

Technical Reports

1. Alfieri R, Bartocci E, Merelli E, Milanesi L, *Hybrid automata* for the R-point transition in mammalian cells, Technical report 2009/02, Dipartimento di Matematica e Informatica, Universita' di Camerino. (2010)

I authorise the processing of my personal data for personnel research and selection purposes under D.Lgs. n.196 of 30/06/2003.