PERSONAL INFORMATION

Erika Salvi

📍 Fondazione IRCCS Istituto Neurologico Carlo Besta
Neuroalgology and Headache Operative Unit
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WORK EXPERIENCE

16th Apr 2022 – 15th Apr 2027

Health Researcher - Italian Health Ministry

Neuroalgology and Headache Unit. Fondazione IRCCS Istituto Neurologico Carlo Besta

Coordination of bioinformatic data analysis applied to genomics and transcriptomics, using genome-wide genotyping, target or exome, RNA and miRNA sequencing approaches. Activities within the Data Science Center to support the data analysis of the entire Institute.

5th Sept 2018 – 31st Dec 2021

Italian Ministry of Health, Collaborator in the research program (co.co.co.)

Neuroalgology and Headache Unit, Fondazione IRCCS Istituto Neurologico Carlo Besta

Bioinformatic analysis applied to both genomics and transcriptomics, using target or exome sequencing in chronic painful neuropathy. Active collaboration with other UO providing bioinformatic expertise in the study of different diseases such as Myasthenia Gravis, Amyotrophic Lateral Sclerosis, Spinal Muscular Atrophy and Dementia

1st Dec 2016 – 31st March 2018

Research fellow (type B)

Dept. of Health Sciences, University of Milan, Milan, Italy

Identification of transcriptomic signatures (Colorectal Cancer). Exome and targeted sequencing data analysis (Monoclonal Gammopathies, neuropathic pain). Pharmacogenomic studies (International Consortium of Pharmacogenomics Studies for hypertension-ICAPS).

1st Jan 2012 – 30th Nov 2016

Research fellow (type A)

Dept. of Health Sciences, University of Milan, Milan, Italy

Bioinformatic data analysis applied to Genome-wide association studies (Hypertension, Frontotemporal Dementia), pharmacogenomics (International Consortium of Pharmacogenomics Studies for hypertension-ICAPS) or nutrigenomics (European Project ATHENA). Identification of genetic profiles for a personalized medicine approach. Active participation to the analyst group of CKDGen Consortium.

1st March 2010 – 31st Dec 2011

Research fellow (type B)

Dept. of Medicine, Surgery and Dentistry, University of Milan, Milan, Italy

Statistical analyses to identify the common genetic variants for the pathogenesis of essential hypertension and organ damages. Genetic risk scores identification. Active participation to the analyst group of CKDGen Consortium. Development of an information system dedicated to the conservation and management of genomic data through a relational database.

1st Dec 2006 – 30th Nov 2009

PhD student in Molecular Medicine

Dept. of Sciences and biomedical Technologies, University of Milan, Milan, Italy

Data analysis in pharmacogenomics studies and GWAS for cardiovascular and psychiatric disorders.

1st Sept 2006 – 30th Oct 2007

Independent contractor (co.co.pro)

Institute of Biomedical Technologies (I.T.B.), National Research Council (CNR), Segrate (MI), Italy
Molecular modelling and protein-ligand interaction analysis applying docking and molecular dynamics techniques.

1st Dec 2005 – 31st Aug 2006

Fellowship

Dept. of earth and environmental sciences – disat. University of Milano-Bicocca, Milano, Italy.

Molecular modeling for the characterization and manipulation of 3-D protein structures.

1st Jan 2003 – 30th April 2003	**Stage**

Unità di anatomia patologica. Ospedali Riuniti Bergamo - Bergamo

Experimental genotype-phenotype correlation for the molecular diagnosis of Alagille Syndrome

EDUCATION AND TRAINING

30th Jan 2021 — 2nd level Master degree

Genetic and Molecular Epidemiology, University of Pavia, Pavia, Italy

Thesis: "Incidence of Hypertension and Blood Pressure Changes in Relation to eNOS polymorphism — A Prospective Population Study". Acquire skills for genetic epidemiological analyses.

October 2011 — Visiting fellow

Dept. of Cardiovascular Diseases, Sint Rafaël Campus (Leuven, Belgium), mentor Prof. Jan Staessen. Acquired skills for genetic epidemiology analysis applied to longitudinal data of large population studies.

15th Dec 2009 — PhD in Molecular Medicine

Curriculum: Genomics, Proteomics and Related Technologies. University of Milano, Milano, Italy

Thesis :"Case-control an pharmacogenomics studies in hypertension. Genome-wide and candidate gene strategies". Acquired skills for genetic epidemiology of complex diseases and pharmacogenomics.

8th Nov 2005 — Master's degree in Bioinformatics (110 with honors)

Class 8/S of the master's degrees in industrial biotechnology
University of Milano-Bicocca, Milano, Italy
Thesis: "Modelling the interaction of steroid receptors with endocrine disrupting chemicals"
Acquired in-depth knowledge of biological systems and the integration of computer science and chemical-biological disciplines. Bioinformatics skills related to the in-silico docking and molecular dynamics approaches

5th Nov 2003 — Bachelor's Degree in Molecular Biotechnology (107/110)

University of Milano-Bicocca, Milano, Italy
Thesis: Genetic Analysis on Alagille Syndrome. Genotype-phenotype correlation for the molecular diagnosis of Alagille Syndrome

July 2000 — Diploma at the Scientific High School

Liceo Scientifico "Lorenzo Mascheroni", Bergamo (Italy)

ACHIEVEMENTS AND AWARD

Awards — *Lodewikk Sandkuijl Prize* for a presentation judged outstanding in the field of complex disease genetics and statistical genetics at the European Human Genetics Conference 2008

Editorial activity — From 2011 to present – Reviewer of papers for scientific journals: Frontiers in genetics, Frontiers in neurology, Journal of the Peripheral Nervous System, Ophthalmic Research, Neurological Sciences, Scientific reports, Journal of hypertension, Journal of human hypertension, Gene reports

Grants — Funds 5XMILLE 2018 - RC 2018 project: "PAIN RISK - Risk stratification of painful peripheral neuropathies" (Principal Investigator) - (Ref. Int. RC18.4), 1/10/2021-30/09/2024

TEACHING ACTIVITY

11st Sept 2018 — Bioinformatica at Summer School BIO.TRA.IN, Dip. DETO, Università degli Studi di Bari

28th Nov 2017- 29th Nov 2017 — "Next Generation Sequencing: data-analysis, bioinformatics tools and databases" Laurea Magistrale in Computer Science, Università Ca' Foscari (Venezia)

7th March 2017 — Farmacogenomica: razionale, metodologia e applicazioni, Dottorato medicina molecolare, Università degli Studi di Milano (Milano)

3rd Oct 2016 – 04th Oct 2016	" SNP Data Analysis Training Course" - Istituto di Neuroscienze, CNR, (Padova)
30th April 2013	Pharmacogenomics: Personalized Medicine. Translational research from bench to bedside, Dottorato in Biotecnologie, Università degli Studi dell'Insubria, (Varese)
31st Jan 2011	Genome Wide Association Studies, Scuola di specialità in genetica medica, Università degli studi di Milano (Milano)
12th Apr 2010	Pharmacogenomic study in Hypertension using Genome-Wide and Candidate genes Strategies, Scuola di Specialità di Nefrologia, Università degli studi di Milano (Milano)

TECHNICAL SKILLS

- Statistical and epidemiological knowledge for genome-wide association or pharmacogenomics studies
- Expertise in the implementation of next generation sequencing (NGS) data analysis pipelines (NGS) for target or exome sequencing approaches: quality control, alignment, variant calling and annotation
- Expertise in the implementation of NGS data analysis pipelines for RNA or miRNA sequencing approaches
- Database querying capabilities for in-silico annotation of genetic variants and for the analysis of molecular ontologies or pathways
- Experience in handling large amounts of data from genotyping or NGS technologies
- Expertise with molecular docking methodologies
- Use of linux computing clusters ICP
- Programming: good knowledge of R and unix