

Duccio Medini, PhD

Curriculum Vitae

+39 347 1146959 (mobile)
email: duccio.medini@gmail.com
web: <https://www.linkedin.com/in/ducciomedini/>



Career Highlights

Senior Director, with 15+ years of growing responsibilities in Pharmaceutical R&D.

Leading a global team of 350+ associates responsible for Exploratory Data Analytics, Data Management and Standards, Clinical Systems for Vaccine R&D: Pre-clinical, Clinical and Epidemiology.

Leading by example and people engagement across Europe, USA and Asia. Success record in team building, talent development, change management and outsourcing strategy optimization.

PhD in Computational Biophysics, consistent focus on scientific and technical innovation. Quantitative Scientist with strong publication record in Data Science and Vaccine Discovery.

Internationally recognized thought leadership and collaboration network. Key scientific advice for major vaccine programs. ISI Research Fellow.

Core Competences

Modeling & Simulation; Biostatistics; Bioinformatics; Systems Vaccinology; Population Genomics; Data Standardization & Management; fluent with ICH E6, E9 and Q2(R1).

Strategy development and implementation; Leadership of large-scale cross-functional international teams and projects; Team building and change management.

Citizenship: Italian; **Languages:** Italian (mother tongue); English (fluent); French (basic)

Current Positions

2015 – present: **Director, Head Data Science and Clinical Systems,**

GlaxoSmithKline Vaccines R&D Wavre, Belgium

(Global Pharmaceutical Industry, 100.000+ employees, world leader in vaccines)

- *Built and engaged global team (350+) in 6 sites across Europe, US, India.*
- *Reorganized Data Sciences, Advanced Analytics and Bioinformatics for Vaccine R&D.*
- *Innovated Information Management Systems for fully integrated data landscape.*
- *Streamlined Data Management with effective end-to-end outsourcing.*

2011 - present: **ISI Research Fellow**

Institute for Scientific Interchange, Turin (Italy)

(Public international scientific research institute, top 100 SIR scientific institutions worldwide)

- *Complex Systems, Computational Epidemiology, Network Vaccinology Research.*
- *Developed high-power methodology to estimate vaccine effectiveness based on simulations and field data*

Previous Positions

2013 – 2015: **Director, Head Quantitative Sciences, Head Exploratory Biostatistics & Data Management,**

GlaxoSmithKline Vaccines R&D Siena, Italy (Legacy Novartis org.)

- *Designed and implemented Quantitative Sciences in Vaccines R&D: Biostatistics, Bioinformatics, Data Sciences, Systems Vaccinology and Population Genomics. Built and led the team (20+ associates), managed change effectively and integrated in the broader organization (reporting to the Head of Research).*
- *Created and led the global, cross-functional Exploratory Biostatistics and Data Management team for Early Clinical Vaccine Development (reporting to the Head of Clinical Development)*
- *Led the Meningococcal Antigen Typing System, MATS platform (60+ scientists and PH experts) worldwide.*
- *Interacted with regulatory agencies (FDA, EMA, Health Canada, TGA) and public health/recommending bodies (CDC, PH England, ATAGI, QPID, JCVI).*

2010 - 2015: **Adjunct Professor of Biostatistics and Bioinformatics** **University of Perugia** (Italy), School of Medicine & Faculty of Sciences

2011 - 2013 **Global Head, Quantitative Biology Unit**

Novartis Vaccines & Diagnostics, Research Division, Siena, Italy

(Global Pharmaceutical Industry, 100.000+ employees, fifth largest vaccine manufacturer)

- *Led innovation by integrating Data Science in Vaccine R&D (Biostatistics, Bioinformatics, Translational Modeling).*
- *Managed a global team of 10+ statisticians and scientists, plus external consultants.*
- *Developed the Meningococcal Antigen Typing System (MATS) worldwide and redesigned team leadership. Led the Quantitative team to support the Bexsero® registration.*
- *Represented the Research Division in Global Project Teams to inform strategic decisions.*

2008 - 2011: **Head, Genomics II Laboratory**

Novartis Vaccines & Diagnostics, Research Division, Siena, Italy

- *Led international genome sequencing project: 6 partners, 2M USD budget.*
- *Designed and managed immunoassay development, qualification and inter-laboratory standardization across an international network including 6 academic and public health partners.*
- *Biostatistics and Modeling for clinical development and regulatory interactions: Bexsero® vaccine (Phase I to III clinical studies, registration) and pandemic influenza vaccine.*
- *Developed a predictive framework for long-term vaccine efficacy based on short-term estimates.*
- *Supervised, mentored and coached 7 scientists/statisticians.*

2005 - 2008: **Staff Scientist**

Novartis Vaccines and Diagnostics, Systems Biology Unit, Siena, Italy

- *Developed, validated and patented a novel algorithm for unsupervised classification of proteins into Families, the PHN-Families database.*
- *Developed the pan-genome concept for Streptococcus agalactiae and other bacterial species.*

2001 - 2004: **Research scientist**

Chiron Vaccines Siena, Italy

(Multinational biotech company, 1.000 - 5.000 employees)

- *Designed and deployed an SRS-based network of biological databases.*
- *EU IST Project: "BIOwulf, Speeding-up Biocomputing applications using a commodity-based parallel computer", collaboration Chiron SpA – CIRB (University of Bologna, Italy).*

Other Projects and Collaborations

- Collaboration with the “Istituto Zooprofilattico Sperimentale Umbria e Marche”: biostatistics solutions for animal species genotyping, 2008-2010.
- Post-doctoral collaboration, Advanced Scientific Computation Center (ASCC), Northeastern University, Boston, MA, 2000.
- Experimental sessions, Institute Laue Langevin, Grenoble (France), 1998-1999.
- Registered beta-tester for Linux porting of the Alpha-Tru64 Fortran compiler and Alpha-Linux benchmarking (HP-Compaq), 1998.
- Studentship, International School for Advanced Studies, SISSA/ISAS, Trieste (Italy) 1997.

Education

- **PhD, Biophysics**, 2001, University of Perugia (Italy) / Northeastern University (USA)
Dissertation: *Neutron Scattering and Molecular Dynamics of Biological Macromolecules*.
Advisor: Prof. Allan Widom (Northeastern University)
- **MSc, Physics**, 1997, University of Perugia (Italy)
Thesis: *Dark Matter in supersymmetric extensions of the standard model*.
Advisor: Prof. Antonio Masiero (SISSA, Trieste, Italy)

Certifications, Honors, Services

- ICH E6 - Good Clinical Practice (GCP) Compliance Certificate, 2015
- Novartis R&D Award “Excellence in Achievement” 2014
- Leadership for Scientists, Haas School of Business, UCSF 2013
- Honorary Member of the Cuban Society for Immunology, 2013
- Referee for Microbiology, FEBS Letters, PLoS ONE, BMC Bioinformatics, Genomic Biology and Evolution, Database, Clinical and Vaccine Immunology.

Teaching and Mentoring

- Mentored four PhD- and three undergrad- students, University of Siena (Italy) 2007-2010, University of Perugia (Italy) 2008-2011, University of Turin (Italy) 2012-present.
- Member of international PhD school committees at the Perugia and Turin Universities.
- Teaching and coordinating courses in Information Technology for Master School 2000, Consorzi ITER and COTER, (Perugia and Terni, Italy), P.C.S. (Roma, Italy) 1999-2000.
- Teaching assistant in General Physics I and II, Physics Lab II; Physics and Chemistry Dept., Perugia University (Italy) 1998-2000.

Computational Skills

- Statistical analysis and data visualization tools (R, S+, StatLia, Origin, Gnu-plot, basic SAS).
- Programming in Perl, BioPerl, C, C++, Java, Icarus, FORTRAN 77, FORTRAN 90; Unix Shell scripting, JavaScript; Markup Languages: LaTeX, HTML.
- Operating Systems: GNU/Linux, Digital Unix (and Tru64-Unix), HP-UX, Irix, Solaris, Win NT-2000-XP-9x, Mac-OSX, IBM-AIX, Open VMS, VMS, on Intel x86 (32 and 64 bit), Alpha, PA-RISC, Silicon Graphics, Sparc Architectures.
- Parallel computing on Linux Beowulf Clusters (Parallel Molecular-Dynamics Simulations of bio-molecules); design and administration of Integrated Computer Networks.

Scientific Publications

- 30+ publications in international refereed journals & patents, h-index: 19, citations: 3500+
- Complete list at [Google-Scholar: Duccio Medini](#)