

Paolo Sonego

Personal Data

Date of Birth: 31 May 1974

Citizenship: Italian

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Fondazione Edmund Mach
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Education

Laurea in Physics, University of Bologna

2003

Research Experience

RNA-SEQ and NGS data analyst
Fondazione Edmund Mach
Analysis of High-Throughput biological data:
RNA-Seq Statistical Analysis.
Advisor: Kristof Engelen, Ph.D.

2013 - Present
San Michele all'Adige, Trento, Italy

Bioinformatician
CBM, Cluster in Biomedicine
Analysis of High-Throughput biological data:
Microarray and RNA-Seq Statistical Analysis.
Advisor: Remo Sanges, Ph.D.

2008 - 2013
Trieste, Italy

PhD course in Molecular Genetics
ICGEB, Protein Structure and Bioinformatics
Performance assessment and Benchmarking of protein structure
prediction algorithms.
Advisor: Sándor Pongor, Ph.D., D.Sc.

2005 - 2008
Trieste, Italy

Bioinformatician, Microarray Analysis
CRO - Centro di Riferimento Oncologico
cDNA microarray statistical analysis.
Supervisor: Dr. Valter Gattei

2003 - 2005
Aviano, Italy

Abroad Research Experience

Marie Curie Fellowship at Dept. of Hematology
and Oncology, University Medical Center
Göttingen, Germany, University

July 2010 - August 2010

Teaching Experience

Instructor, METHADA 2020, Training school in
transcriptomics, Valencia

Spring 2020

Instructor, Statistics Applied to Biological Problems, ICGB, Trieste

Summer 2011

Instructor, Bioinformatics II, Università di Trieste

Spring 2011

Lecturer, Introduction to the Analysis of Microarray Data, SynBiosis, Brno

Summer 2010

Research and Professional Interests

Data mining and machine learning techniques applied at high-throughput data from biology.

Publications

Moretto Marco, Sonego Paolo, Pilati Stefania, Matus José Tomás, Costantini Laura, Malacarne Giulia, Engelen Kristof. 2022. COMPASS for VESPUCCI: A FAIR Way to Explore the Grapevine Transcriptomic Landscape. *Front. Plant Sci.* — doi: 10.3389/fpls.2022.815443.

Nicola Busatto, Alice Tadiello, Marco Moretto, Brian Farneti, Francesca Populin, Urska Vrhovsek, Mauro Commisso, Elisa Sartori, Paolo Sonego, Franco Biasioli, Guglielmo Costa, Flavia Guzzo, Paolo Fontana, Kristof Engelen, Fabrizio Costa. 2021. Ethylene-auxin crosstalk regulates postharvest fruit ripening process in apple. *Fruit Research.* — doi: 10.48130/FruRes-2021-0013.

Zeraye M. Haile, Giulia Malacarne, Stefania Pilati, Paolo Sonego, Marco Moretto, Domenico Masuero, Urska Vrhovsek, Kristof Engelen, Elena Baraldi and Claudio Moser. 2020. Dual transcriptome and metabolic analysis of *Vitis vinifera* cv. Pinot Noir berry and *Botrytis cinerea* during quiescence and egressed infections. *Front. Plant Sci.* — doi: 10.3389/fpls.2019.01704.

Zeraye H. Mehari, Ellaine G. Nagpala-De Guzman, Marco Moretto, Paolo Sonego, Kristof Engelen, Lisa Zoli, Claudio Moser and Elena Baraldi. 2019. Transcriptome profiles of strawberry (*Fragaria vesca*) fruit interacting with *Botrytis cinerea* at different ripening stages. *Front. Plant Sci.* — doi: 10.3389/fpls.2019.01131.

Marco Moretto, Paolo Sonego, Ana B. Villaseñor-Altamirano, and Kristof Engelen. 2019. First Step toward Gene Expression Data Integration: Transcriptomic Data Acquisition with COMMAND. *BMC Bioinformatics* 20. doi.org/10.1186/s12859-019-2643-6.

Matteo Buti, Marco Moretto, Elena Barghini, Flavia Mascagni, Lucia Natali, Matteo Brilli, Alexandre Lomsadze, Paolo Sonego, Lara Giongo, Michael Alonge, Riccardo Velasco, Claudio Varotto, Nada Šurbanovski, Mark Borodovsky, Judson A Ward, Kristof Engelen, Andrea Cavallini, Alessandro Cestaro, Daniel James Sargent; The genome sequence and transcriptome of *Potentilla micrantha* and their comparison to *Fragaria vesca* (the woodland strawberry), GigaScience, doi.org/10.1093/gigascience/giy010

Malacarne, Giulia, Stefania Pilati, Samuel Valentini, Francesco Asnicar, Marco Moretto, Paolo Sonego, Luca Maserà, Valter Cavecchia, Enrico Blanzieri, and Claudio Moser. 2018. “Discovering Causal Relationships in Grapevine Expression Data to Expand Gene Networks. A Case Study: Four Networks Related to Climate Change.” *Frontiers in Plant Science* 9. doi.org/10.3389/fpls.2018.01385.

Tomada, S., Sonego, P., Moretto, M., Engelen, K., Pertot, I., Perazzolli, M. and Puopolo, G. (), Dual RNA-Seq of *Lysobacter capsici* AZ78 - *Phytophthora infestans* interaction shows the implementation of attack strategies by the bacterium and unsuccessful oomycete defense responses. *Environmental Microbiology*. Accepted Author Manuscript. doi:10.1111/1462-2920.13861

Pilati Stefania, Bagagli Giorgia, Sonogo Paolo, Moretto Marco, Brazzale Daniele, Castorina Giulia, Simoni Laura, Tonelli Chiara, Guella Graziano, Engelen Kristof, Galbiati Massimo, Moser Claudio, Absciscic Acid Is a Major Regulator of Grape Berry Ripening Onset: New Insights into ABA Signaling Network, *Frontiers in Plant Science*, Vol.8, 2017, Pages 1093, doi:10.3389/fpls.2017.01093

Mehari, Z. H., Pilati, S., Sonogo, P., Malacarne, G., Vrhovsek, U., Engelen, K., Tudzynski, P., Zottini, M., Baraldi, E., and Moser, C. 2017. Molecular analysis of the early interaction between the grapevine flower and *Botrytis cinerea* reveals that prompt activation of specific host pathways leads to fungus quiescence. *Plant, Cell Environment*, doi: 10.1111/pce.12937.

Leida Carmen, Dal Rì Antonio, Dalla Costa Lorenza, Gómez Maria D., Pompili Valerio, Sonogo Paolo, Engelen Kristof, Masuero Domenico, Ríos Gabino, Moser Claudio, Insights into the Role of the Berry-Specific Ethylene Responsive Factor VviERF045, *Frontiers in Plant Science*, Volume 7, 2016, Pages 1793, doi: 10.3389/fpls.2016.01793

Giulia Molinatto, Gerardo Puopolo, Paolo Sonogo, Marco Moretto, Kristof Engelen, Carlo Viti, Marc Ongena, Ilaria Pertot, Complete genome sequence of *Bacillus amyloliquefaciens* subsp. *plantarum* S499, a rhizobacterium that triggers plant defences and inhibits fungal phytopathogens, *Journal of Biotechnology*, Volume 238, 20 November 2016, Pages 56–59, doi: 10.1016/j.jbiotec.2016.09.013

Marco Moretto, Paolo Sonogo, Stefania Pilati, Giulia Malacarne, Laura Costantini, Lukasz Grzeskowiak, Giorgia Bagagli, Maria Stella Grando, Claudio Moser and Kristof Engelen, VESPUCCI: Exploring Patterns of Gene Expression in Grapevine, *Front. Plant Sci.*, 10 May 2016 , <http://dx.doi.org/10.89/fpls.2016.006>

Puopolo Gerardo, Tomada Selenia, Sonogo Paolo, Moretto Marco, Engelen Kristof, Perazzolli Michele, Pertot Ilaria The *Lysobacter capsici* AZ78 genome has a gene pool enabling it to interact successfully with phytopathogenic microorganisms and environmental factors, *Frontiers in Microbiology* Vol 7 2016. doi=10.3389/fmicb.2016.00096

Marco Moretto, Paolo Sonogo, Nicolas Dierckxsens, Matteo Brilli, Luca Bianco, Daniela Ledezma-Tejeida, Socorro Gama-Castro, Marco Galardini, Chiara Romualdi, Kris Laukens, Julio Collado-Vides, Pieter Meysman, and Kristof Engelen, COLOMBOS v3.0: leveraging gene expression compendia for cross-species analyses, *Nucl. Acids Res.* first published online November 19, 2015 doi:10.1093/nar/gkv1251

López-Fernández Sebastian, Sonogo Paolo, Moretto Marco, Pancher Michael, Engelen Kristof, Pertot Ilaria, Campisano Andrea, Whole-genome comparative analysis of virulence genes unveils similarities and differences between endophytes and other symbiotic bacteria, *Frontiers in Microbiology* 2015 May doi:10.3389/fmicb.2015.00419

Gerardo Puopolo, Paolo Sonogo, Kristof Engelen, Ilaria Pertot, Draft Genome Sequence of *Lysobacter capsici* AZ78, a Bacterium Antagonistic to Plant-Pathogenic Oomycetes, *Genome Announc.* 2014 Apr 24;2(2). pii: e00325-14. doi: 10.1128/genomeA.00325-14

Pieter Meysman, Paolo Sonogo, Luca Bianco, Qiang Fu, Daniela Ledezma-Tejeida, Socorro Gama-Castro, Veerle Liebens, Jan Michiels, Kris Laukens, Kathleen Marchal, Julio Collado-Vides, and Kristof Engelen, COLOMBOS v2.0: an ever expanding collection of bacterial expression compendia, *Nucl. Acids Res.* first published online November 8, 2013 doi:10.1093/nar/gkt1086

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Sigalotti L, Covre A, Fratta E, Parisi G, Sonogo P, Colizzi F, Coral S, Massarut S, Kirkwood JM, Maio M., Whole genome methylation profiles as independent markers of survival in stage iiic melanoma patients. *J Transl Med.* (September 5, 2012);10(1):185.

Sonogo, Paolo, András Kocsor, and Sándor Pongor, ROC analysis: applications to the classification of biological sequences and 3D structures. *Brief Bioinform* (January 18, 2008).

Sonogo, Paolo, Mircea Pacurar, Somdutta Dhir, Attila Kertész-Farkas, András Kocsor, Zoltán Gáspári, et al., A Protein Classification Benchmark collection for machine learning. *Nucleic acids research* 35, no. Database issue (January 2007): 232-6.

Kertész-Farkas, Attila, Somdutta Dhir, Paolo Sonogo, Mircea Pacurar, Sergiu Netoteia, Harm Ni-jveen, et al., Benchmarking protein classification algorithms via supervised cross-validation. *Journal of Biochem Biophys Methods* (May 31, 2007).

Zucchetto, Antonella, Riccardo Bomben, Michele Dal Bo, Paolo Sonogo, Paola Nanni, Maurizio Rupolo, et al., A scoring system based on the expression of six surface molecules allows the identification of three prognostic risk groups in B-cell chronic lymphocytic leukemia. *Journal of cellular physiology* 207, no. 2 (May 2006): 354-63.

Zucchetto, Antonella, Paolo Sonogo, Massimo Degan, Riccardo Bomben, Michele Dal Bo, Pietro Bulian, et al., Surface-antigen expression profiling of B cell chronic lymphocytic leukemia: from the signature of specific disease subsets to the identification of markers with prognostic relevance. *Journal of translational medicine* 4 (2006): 11.

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Bomben, R, M Dal Bo, A Zucchetto, E Zaina, P Nanni, P Sonogo, et al., Mutational status of IgV(H) genes in B-cell chronic lymphocytic leukemia and prognosis: percent mutations or antigen-driven selection?. *Leukemia : official journal of the Leukemia Society of America, Leukemia Research Fund, U.K* 19, no. 8 (August 2005): 1490-2.

Zucchetto, Antonella, Paolo Sonogo, Massimo Degan, Riccardo Bomben, Michele Dal Bo, Stefania Russo, et al., Signature of B-CLL with different prognosis by Shrunk centroids of surface antigen expression profiling. *Journal of cellular physiology* 204, no. 1 (July 2005): 113-23.

Zucchetto, Antonella, Paolo Sonogo, Massimo Degan, Riccardo Bomben, Michele Dal Bo, Stefania Russo, et al., Surface-antigen expression profiling (SEP) in B-cell chronic lymphocytic leukemia (B-CLL): Identification of markers with prognostic relevance. *Journal of immunological methods* 305, no. 1 (October 20, 2005): 20-32.