

Duccio Cavalieri

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Computational Biology Department
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Areas of scholarly contributions to the science

Duccio Cavalieri (DC-<http://www.duccioknights.org/>) started his career in 1995 applying molecular biology to ecological and evolutionary genomics of microorganisms. After obtaining his PhD in Genetics from the University of Pavia in 1998, DC moved to Harvard as a postdoc with professor Daniel Hartl. In 2000 he applied for the first time DNA microarrays to study gene expression variation in wine strains of *Saccharomyces cerevisiae*. From 2001 to 2004 he was group leader and principal investigator of the Yeast comparative functional genomics unit at the Harvard Center for Systems Biology, where he pioneered the application of functional genomics to yeast population genetics. His work on pathway analysis in 2002 was seminal to the application of bioinformatics to the interpretation of large “omics” datasets. In 2004 DC became group leader, researcher and “professore aggregato” at Florence University, in these years he applied genomics and bioinformatics to the analysis of symbioses between humans, insects, plants and their microbiota, to study the boundaries between commensalism and pathogenicity. Since April 2012 as coordinator of the computational biology department at FEM (<http://www.fmach.it/Centro-Ricerca-e-Innovazione/info-general/organizzazione/Biologia-Computazionale/Cavalieri-Duccio>) he has taken up a novel challenge, apply next generation sequencing and pathway analysis to study host microbe interaction at the systems level, with a special focus on interaction between fungi and immune function. DC has been active in NUGO, DC-THERA, SYBARIS and other EU funded initiatives in nutrigenomics, metagenomics and immunogenomics, his lab is currently funded by a Computational Biology Centre grant from Provincia Autonoma di Trento (PAT). The main interests of Duccio Cavalieri range from comparative, ecological and evolutionary genomics of fungi and plants, to metagenomics, host microbe interaction and immune systems biology.

The common theme between all these fields is development and application of bioinformatic tools, based on pathway and network analysis to genomics.

| Publication Records – 1989-2010 | |
|--|-----|
| Papers in international peer-reviewed journals (ISI-JCR) | 84 |
| Other-reviewed publications | 10 |
| Papers in Workshop/Congress proceedings | 133 |
| Book chapters | 11 |

As of November 2013, the 84 papers published on JCR Journals (ISI-Web of Science) have been cited 2577 times. The most cited paper as main author has currently 449 citations in 36 months, Cavalieri’s H-index is currently equal to 25.

(<http://scholar.google.it/citations?hl=it&user=L51E9GgAAAAJ>).

Cavalieri’s work has been widely presented on the international press, below a selection of the websites presenting his work.

<http://www.npr.org/blogs/thesalt/2012/08/02/157606554/thank-the-simple-wasp-for-that-complex-glass-of-wine>, http://www.nytimes.com/2012/08/07/science/dont-swat-that-bug-it-may-be-working-on-next-years-vintage.html?_r=0,

<http://www.winespectator.com/webfeature/show/id/47188>,

<http://www.lagazzettaitaliana.com/wasp.aspx>,

http://www.cellarviewines.com/wine/media_item.html?cr_i=33167

Studies and Academic record

| | |
|--|------------------|
| Maturità Scientifica, Liceo N.Rodolico, Firenze | 1984 |
| Graduated in Biological Sciences, Università di Firenze | 1994 (cum laude) |
| PhD in Genetics and Molecular Biology University of Pavia, Italy. | 1998 |
| Post-graduate fellowship Consorzio Catania Ricerche, Catania | 1998-99 |
| Post-graduate fellowship OEB-FAS, Harvard University, USA | 1999-2000 |
| Harvard Fellow-Group Leader, PI FAS, Harvard University, USA | 2001-2004 |
| Research Scientist-Group leader (University of Florence, Firenze) | 2003-2012 |
| Adjunct Professor of Microbiology (University of Florence, Firenze) | 2004-2012 |
| Head-Department of Computational Biology (FMach) | 2012-2015 |

Membership and major commitments (international level)

| Activity/Nomination | Year |
|--|-----------|
| Harvard Genomics Fellow-Bauer Center of Genomics Research-Harvard Society of Fellows. | 2001-2004 |
| Master Lecturer and Lecturer of the PhD School of Nutrigenomics, training initiative of the Wageningen University, NUGO, EU 7 th framework NOE. | 2005-2010 |
| Member and advisor of EMDS (European Macrophage and Dendritic Cells Society) | 2010-2013 |
| Member of the Governing Council of DC-Thera (Dendritic Cells for Novel Immunotherapies) NOE | 2007-2010 |
| Member of the Directive council board of the Italian branch of FEMS, (Società Italiana di Microbiologia e Genetica dei Microorganismi). | 2010-2013 |

Top ten most impacting publications (Impact factor-citations-social media).

1. De Filippo C., **Cavaliere D.**, Di Paola M., Ramazzotti M., Pouillet J.B., Massart S., Pieraccini, G., Collini S., and Lionetti P. "Impact of diet in shaping gut microbiota revealed by a comparative study in children from Europe and rural Africa". Proc Natl Acad Sci U S A. 2010 Aug 17;107(33):14691-6. Epub 2010 Aug 2. IF=9.737. 449 citations
2. Leung, JF., **Cavaliere D.**, Fundamentals of Microarray Data Analysis, (2003). Trends in Genetics, 19 (11):649-659. IF.9.95. 300 citations.
3. Ball CA, Sherlock G, Parkinson H, Rocca-Sera P, Brooksbank C, Causton HC, **Cavaliere D**, Gaasterland T, Hingamp P, Holstege F, Ringwald M, Spellman P, Stoeckert CJ Jr, Stewart JE, Taylor R, Brazma A, Quackenbush J; Microarray Gene Expression Data (MGED) Society. Standards for microarray data. Science. 2002 Oct 18;298(5593):539. IF= 30.028. 164 citations.
4. **Cavaliere D.**, Townsend, J. P. & Hartl, D. L. (2000) Manifold anomalies in gene expression in a vineyard isolate of *Saccharomyces cerevisiae* revealed by DNA microarray analysis. Proc Natl Acad Sci USA.; 97:12369-12374. IF=9.737. 162 citations.
5. Townsend JP, **Cavaliere D**, Hartl DL. Population genetic variation in genome-wide gene expression. Mol Biol Evol. 2003 Jun;20(6):955-63. IF 10.353. 163 citations.
6. Kandror O, Bretschneider N, Kreydin E, **Cavaliere D**, Goldberg AL. Yeast adapt to near-freezing temperatures by *STRE/Msn2,4*-dependent induction of trehalose synthesis and certain molecular chaperones. Mol Cell. 2004 Mar 26;13(6):771-81. IF 14.44. 119 citations.
7. Grosu P, Townsend JP, Hartl DL, **Cavaliere D**. Pathway Processor: a tool for integrating whole-genome expression results into metabolic networks. Genome Res. 2002 Jul;12(7):1121-6. IF=10.176. 113 citations.

8. Marchini S & **Cavaliere D**, Fruscio R., *et al.* Association between miR-200c and the survival of patients with stage I epithelial ovarian cancer: a retrospective study of two independent tumour tissue collections. *Lancet Oncol.* 2011 Mar;12(3):273-85. Epub 2011 Feb 21. IF 17.64. 50 citations.
9. Santarasci V, Maggi L, Capone M, Querci V, Beltrame L, **Cavaliere D**, D'Aiuto E, Cimaz R, Nebbioso A, Liotta F, De Palma R, Maggi E, Cosmi L, Romagnani S, Annunziato F. Rarity of human T helper 17 cells is due to retinoic acid orphan receptor-dependent mechanisms that limit their expansion. *Immunity.* 2012 Feb 24;36(2):201-14. Epub 2012 Feb 9. IF: 22.13. 20 citations.
10. Stefanini I, Dapporto L, Legras JL, Calabretta A, Di Paola M, De Filippo C, Viola R, Capretti P, Polsinelli M, Turillazzi S, **Cavaliere D**. Role of social wasps in *Saccharomyces cerevisiae* ecology and evolution. *Proc Natl Acad Sci U S A.* 2012 Aug 14;109(33):13398-403. Epub 2012 Jul 30. IF: 9.737 8 scientific citations-30 web sites, one radio and one tv show, 6 press articles.

Twenty last author publications (ISI records) in the past 10 years.

1. Rizzetto L., Giovannini G., Bromley M, Bowyer P., Romani L., **Cavaliere D**., Strain dependent variation of immune responses to *A. fumigatus*: definition of pathogenic species. *PLoS One.* 2013;8(2):e5665. IF: 4.41.
2. Rizzetto L, De Filippo C, Rivero D, Riccadonna S, Beltrame L, Cavaliere D. Systems biology of host-mycobiota interactions: Dissecting Dectin-1 and Dectin-2 signalling in immune cells with DC-ATLAS. *Immunobiology.* 2013 Nov;218(11):1428-37. Epub 2013 Jul 13. IF 3.46.
3. De Filippo C., Ramazzotti M., Fontana P., **Cavaliere D**. Bioinformatic approaches for functional annotation and pathway inference in metagenomics data. *Briefings in Bioinformatics* 2012 Nov;13(6):696-710. IF 9.283.
4. Stefanini I, Dapporto L, Legras JL, Calabretta A, Di Paola M, De Filippo C, Viola R, Capretti P, Polsinelli M, Turillazzi S, **Cavaliere D**. Role of social wasps in *Saccharomyces cerevisiae* ecology and evolution. *Proc Natl Acad Sci U S A.* 2012 Aug 14;109(33):13398-403. IF 9.737
5. Ramazzotti M, Berná L, Stefanini I, **Cavaliere D**. A computational pipeline to discover highly phylogenetically informative genes in sequenced genomes: application to *Saccharomyces cerevisiae* natural strains. *Nucleic Acids Res.* 2012 May;40(9):3834-48. IF 8.728
6. Rizzetto L, Buschow SI, Beltrame L, Figdor CG, Schierer S, Schuler G, **Cavaliere D**. The modular nature of dendritic cell responses to commensal and pathogenic fungi. *PLoS One.* 2012;7(8):e42430. Epub 2012 Aug 3. PMID: 22879980 IF: 4.41.
7. Tierney L, Kuchler K, Rizzetto L, **Cavaliere D**. Systems Biology of Host-Fungus Interactions: Turning Complexity into Simplicity. *Curr Opin Microbiol.* 2012 Aug;15(4):440-6. Epub 2012 Jun 19. IF: 8.25.
8. Rizzetto L, **Cavaliere D**. Friend or foe: using systems biology to elucidate interactions between fungi and their hosts. *Trends Microbiol.* 2011 Oct;19(10):509-15. [Epub 2011 Aug 24] IF: 8.
9. Beltrame L, Calura E, Popovici RR, Rizzetto L, Guedez DR, Donato M, Romualdi C, Draghici S, **Cavaliere D**. The Biological Connection Markup Language: a SBGN-compliant format for visualization, filtering and analysis of biological pathways. *Bioinformatics.* 2011 Aug 1;27(15):2127-33. Epub 2011 Jun 7 (IF 6.325).
10. Stefanini I, Trabocchi A, Marchi E, Guarna A, **Cavaliere D**. A systems biology approach to dissection of the effects of small bicyclic peptidomimetics on a panel of *Saccharomyces cerevisiae* mutants. *J Biol Chem.* 2010 May 25. IF=5.52
11. Rizzetto L, Kuka M, De Filippo C, Cambi A, Netea MG, Beltrame L,

- Napolitani G, Torcia MG, D'Oro U, **Cavalieri D**. Differential IL-17 Production and Mannan Recognition Contribute to Fungal Pathogenicity and Commensalism. *J Immunol*. 2010 Apr 15;184(8):4258-68. Epub 2010 Mar 12. IF=6.0.
12. Buschow SI, Lasonder E, van Deutekom HW, Oud MM, Beltrame L, Huynen MA, de Vries IJ, Figdor CG, **Cavalieri D**. Dominant Processes during Human Dendritic Cell Maturation Revealed by Integration of Proteome and Transcriptome at the Pathway Level. *J Proteome Res*. 2010 Apr 5;9(4):1727-37. IF=5.68.
 13. **Cavalieri D**. Evolution of transcriptional regulatory networks in yeast populations 2010. *Wiley Interdiscip Rev Syst Biol Med*. 2010 May;2(3):324-35. IF 3.726.
 14. Rizzetto L. and **Cavalieri D**., A systems biology approach to the mutual interaction between yeast and the immune system. *Immunobiology*. 2010 Sep-Oct;215(9-10):762-9. Epub 2010 Jun 9. IF 3.46.
 15. Beltrame L, Rizzetto L, Paola R, Rocca-Serra P, Gambineri L, Battaglia C, **Cavalieri D**. Using pathway signatures as means of identifying similarities among microarray experiments. *PLoS One*. 2009;4(1):e4128. IF 4.41.
 16. Marchi E, **Cavalieri D**. Yeast as a model to investigate the mitochondrial role in adaptation to dietary fat and calorie surplus. *Genes Nutr*. 2008 Dec;3(3-4):159-66. IF 3.05.
 17. Brown K.M., Landry C.R., Hartl D.L. and **Cavalieri D**. Cascading transcriptional effects of a naturally occurring frameshift mutation in *Saccharomyces cerevisiae*. *Mol Ecol*. 2008 Jun;17(12):2985-97. IF 6.275.
 18. Christian R. Landry, Jeffrey P. Townsend, Daniel L. Hartl and **Cavalieri D**. Ecological and Evolutionary Genomics of *Saccharomyces cerevisiae* (2006) *Mol Ecol*. 2006 Mar;15(3):575-91. IF. 6.275.
 19. Landry CR, Oh J, Hartl DL, **Cavalieri D**. Genome-wide scan reveals that genetic variation for transcriptional plasticity in yeast is biased towards multi-copy and dispensable genes. *Gene*. 2006 Feb 1;366(2):343-51. IF 2.371.
 20. Leung, JF., **Cavalieri D**., *Fundamentals of Microarray Data Analysis*, (2003). *Trends in Genetics*, 19 (11):649-659. IF.9.95.

Funding ID

| Project awarded | Role | Year |
|---|------------------------|-----------|
| PROJECTS IN EUROPE | | |
| VI° FP- NUGO Project | Participant | 2003-2009 |
| VI° FP –2003-LIFESCIHEALTH-DC-Thera | Co-PI Participant | 2003-2009 |
| VII° FP –HEALTH Sybaris | Co-PI-Participant | 2009-2013 |
| University of Erlangen Research Contract-Bioinformatics | Contractor | 2010-11 |
| TNO-Research contract-Bioinformatics analysis | Contractor | 2010 |
| University of Oxford | Contractor | 2010 |
| University of Njmegen | Contractor | 2011-13 |
| ASI –ESA | | |
| DAMA Mission (Keyser) | Participant | 2011 |
| PROJECTS OUTSIDE EUROPE | | |
| CGR Genomics Fellows Program Startup Grant NIH 2000 Center Grant, Harvard-USA | Co-Proponent-recipient | 2000-2004 |
| National Science Foundation Arabidopsis 2010 grant 0313473,Harvard-USA | Co-PI-Partecipant | 2002-2003 |
| NATIONAL PROJECTS | | |
| University of Firenze Young Investigator | Proponent | 2001-02 |

| Grant | | |
|--|-------------|-----------|
| Istituto Toscano Tumori ITT starting grant | Participant | 2005 |
| PRIN-MIUR. Min. of University & Science | Participant | 2007-09 |
| Istituto Toscano Tumori ITT Research grant | Participant | 2008 |
| APBRIA-“Use of algae for biofuel production- Min. of Agriculture | Participant | 2009-2012 |
| Fondazione Tomasello research grant | Participant | 2009 |
| Cassa di Risparmio di Firenze-Research grant | Proponent | 2011-12 |
| PATT -FEM Computational Biology infrastructure grant-ADP | Recipient | 2012-13 |
| PATT -FEM Research Programme”Metafoodbook | Proponent | 2012-13 |
| RESEARCH NETWORKS | | |
| NUGO-Nutrigenomics Organization | Participant | 2003-2011 |
| DC-Thera | Participant | 2003-09 |

2) Selection of 20 invited presentations internationally established conferences and courses since 2003.

1. D.Cavaliere. “Evolution of regulatory networks in natural populations of *S.cerevisiae*” Symposium on The Evolution of Gene Regulation, IGERT, Eugene Oregon, “Evolutionary and environmental genomics of yeast”, 13/03/2004
2. Duccio Cavaliere. Everything you always wanted to know about wine yeasts but were afraid to ask. XXII International Conference on Yeast Genetics and Molecular Biology, Bratislava, 22/08/05.
3. Duccio Cavaliere, Evolution of transcriptional regulatory networks in yeast populations International Meeting “Microarray and Gene Expression Data Society”, Riva del Garda, Italy 1-4/09/08.
4. Duccio Cavaliere, “An ecological perspective to the investigation of the Evolution and Variation of the yeast transcriptome”. EMBO Workshop on Evolutionary and Environmental Genomics of Yeasts, EMBL Heidelberg, 1-5 October 2008.
5. DC-ATLAS: Dissecting signal transduction in the Dendritic cell With a System Biology Approach, Istituto Humanitas, Milano, PhD training course, 19/4/2009.
6. Duccio Cavaliere: A systems biology approach to dissect genomic responses of dendritic cells to fungi. 23rd annual meeting of the European Macrophage and Dendritic Cells Society, EMDS. Regensburg, Germany, 24-26 September 2009.
7. Duccio Cavaliere: “Role of transposable elements in shaping the wine yeast Transcriptome”, GDRE “Comparative Genomics” Amphiteatre du CNRS,Universite Lyon 1 La Doua, 16/10/09.
8. Duccio Cavaliere: “Evolution of transcriptional Regulatory Networks in Yeast Populations”. European Society of Evolutionary Biology, “ESEB” Meeting, 26-28/08/2009 Torino.
9. Duccio Cavaliere, Invited Speaker “Of yeast and men: dissecting the interaction between fungi and immune response”, Advanced Functional Genomics Course. Wellcome Trust Advanced Courses and Scientific Conferences. June 22-23, 2010
10. Duccio Cavaliere, University of Florence, Italy - The mutual interaction between yeast and immune cells as a tool to study */S.cerevisiae/* evolution: Experimental approaches to evolution and ecology using yeast, EMBO Conference Series, Heildeberg 29/09-3/10-2010 (1st).
11. Duccio Cavaliere, Workshop 9 Systems Biology of Infectious Disease and Immunity, Pathogenic fungi and the human immune system “Yeast Proceedings of the 11th International Conference on Systems Biology, (ICSB) Edinburgh 12-16 October 2010.

12. Duccio Cavalieri “A Systems Biology approach to the dissection of the pathways regulating immune discrimination of fungi.” Gordon Research Conference 2011 – Immunology of Fungal Infections (16-21 January 2011, Galveston Island, Texas)
13. Duccio Cavalieri, “The impact of diet on gut microbiota of children from Europe and rural africa” ASM General Meeting, New Orleans 19-23 May 2011.
14. Duccio Cavalieri, Friend or Foe: Systems Biology Approaches to elucidate the interaction between fungi and their hosts. In Candida Infection Biology-Fungal Armoury, battlefields and host defences. FINSysB Marie Curie Initial Training network Conference, 10-14 ottobre 2011, Acquafredda di Maratea.
15. Duccio Cavalieri: Friend or Foe, strain and species specific variation in immune responses of dendritic cells. Conference on Systems biology of innate immunity and infectious fungal disease, Sybaris Conference, Centre d’Immunologie, Marseille, Parc Scientifique De Lumini, Marseille (CNRS).
16. Duccio Cavalieri: “Systems Biology Approaches to Improve Dendritic Cells Based Immunotherapy” The 7th International Cancer Vaccine Symposium, September 9-11, 2012, Convitto Della Calza Firenze, Italy.
17. Duccio Cavalieri: Complexity and dynamics of host-fungal interactions. British Society of Medical Micology Annual Meeting, (BSMM) Newcastle Upon Thyne, April 14th – 16th, 2013.
18. Duccio Cavalieri: “Nutrigenomics meets metagenomics: bioinformatics approaches to interpret heterogeneous high throughput data”. 3rd International Conference on FoodOmics, 22-24 may 2013, Cesena Italy.
19. Duccio Cavalieri: Systems Biology of Host Fungal Interactions. Fifth FEBS Advanced Lecture Course Human Fungal Pathogens, May 25-31 2013, La Colle Sur Loup, Nice.
20. Duccio Cavalieri: Systems Biology Approaches to DC-based Melanoma Immunotherapy. Cancer Bio-Immunotherapy in Siena-XI NIBIT Meeting, Siena (Italy) October 17th-19th 2013.

3) Selection of Conferences organized since 2002

1. Duccio Cavalieri, Chair-Session Phenotypic Analysis of Eukaryotes: Florence Conference on Phenotype Microarray Analysis of Microorganisms, The environment, Agriculture and Human Health, Firenze, Italy, 19-21 2008.
2. Duccio Cavalieri Pathway analysis, an overview, and Chair Parallel Workshop, Bioinformatics and Genomics, FISV 2008 X annual congress 24-25 Sept. 2008.
3. Chair and member of the scientific committee, Convegno AGI, SIBV, SIGA, Assisi Mercoledì 21 sept 2011, Session V - Systems biology.
4. Chair of the Metagenomics Workshop and member of the organizing committee 29th meeting SIMGBM Pisa 21-23 sept 2011.
5. Chair and member of the organizing committee, XI congresso FISV, 24-27 sept 2012, Chair-Synthetic and Systems Biology.
6. Symbiomes-Systems Biology of Host Microbe Interaction, Trento, 11-13 March 2013 International Workshop and Winter School, Sponsored by Sybaris, 7th framework EU program.
7. British Society of Medical Micology Annual Meeting, (BSMM) Newcastle Upon Thyne, April 14th – 16th, 2013. Chair of the Session 7-Host Fungal Interactions.

4) Research contracts in international research institutes of high qualification.

| Type | Structure | From | to |
|----------|--|---------|---------|
| Rsearch | Organismic and Evolutionary Biology (OEB), Faculty of Arts and Sciences (FAS), Harvard University | 10/1999 | 09/2001 |
| Research | Center for Genomics Research (CGR), Bauer Labs, Faculty of Arts And Sciences (FAS), Harvard University | 09/2001 | 09/2004 |

5) Prizes and recognition of research activity.

September 2001-2004, recipient of the Harvard Genomics Fellow Startup Grant, NIH center Grant to the Bauer Center for Genomics Research-Harvard University.

September 2013-Premio G. Magni best scientific paper published by an Italian Research in the field of microbial genetics in 2012, attributed to the work: I. Stefanini, L. Dapporto, JL. Legras, A. Calabretta, M. Di Paola, C. De Filippo, R. Viola, P. Capretti, M. Polsinelli, S. Turillazzi, D. Cavalieri (2012). Role of social wasps in *Saccharomyces cerevisiae* ecology and evolution. PNAS, vol. 109 (33), p. 13398-13403, ISSN: 1091-6490.

Member of the Directive council board of the Italian branch of FEMS, (Società Italiana di Microbiologia Generale e Biotecnologie Microbiche-(SIMGBM), 2010-2013.

Member of the Italian Genetics Society (AGI), 2009-2013.

Member of EMDS (European Macrophage and Dendritic Cells Society), 2009-2013.

Member of the NUGO Nutrigenomics Organization, 2009-2011.

6)-Other awards-outreach.

The work titled “Impact of diet in shaping gut microbiota revealed by a comparative study in children from Europe and rural Africa” (De Filippo C et al., PNAS. 2010, 107(33):14691-6) had a great impact both on the scientific community and on society in general. The Natural History Museum of New York created a short movie describing the results of the work, the movie was screened during the month of September 2010, in the rooms of Human

Evolution(http://www.amnh.org/sciencebulletins/?SID=H.S.NEOLITHIC_DIET.20100823&SRC=B; Human SnapShot 08.23.2010, Have Humans Adapted to the Western Diet?), the paper was in the list of the most downloaded papers of PNAS for 4 months.

This highly cited PNAS paper was largely cited by Science Now, The new Scientist, The Economist, El Mundo, La Repubblica and a number of blogs and web sites around the world and resulted in 2013 in one long interview on “Il Venerdì di Repubblica, on the role of microorganisms on human health (Quei piccolissimi complici).

A more recent work from our team, Stefanini I, Dapporto L, Legras JL, Calabretta A, Di Paola M, De Filippo C, Viola R, Capretti P, Polsinelli M, Turillazzi S, Cavalieri D. Role of social wasps in *Saccharomyces cerevisiae* ecology and evolution. *Proc Natl Acad Sci U S A*. 2012 Aug 14;109(33):13398-403, is also having a significant impact on ecology and wine biotechnology, Duccio Cavalieri has been interviewed by National Public Radio (NPR, <http://www.npr.org/blogs/thesalt/2012/08/02/157606554/thank-the-simple-wasp-for-that-complex-glass-of-wine>) and The Wine Spectator Online (<http://www.winespectator.com/webfeature/show/id/47188>), by Radio televisione Italiana, RAI, Leonardo, and A come Alpi RRTR. The implications of this research have been profoundly discussed in the news, including a one page article on the scientific section of the New York Times, Sunday edition of the 06/08/2012

(http://www.nytimes.com/2012/08/07/science/dont-swat-that-bug-it-may-be-working-on-next-years-vintage.html?_r=0).

7)-Peer reviewed Publications in International Journals

11. Aldinucci A, Turco A, Biagioli T, Toma FM, Bani D, Guasti D, Manuelli C, Rizzetto L, Cavalieri D, Massacesi L, Mello T, Scaini D, Bianco A, Ballerini L, Prato M, Ballerini C. Carbon nanotube scaffolds instruct human dendritic cells: modulating immune responses by contacts at the nanoscale. *Nano Lett.* 2013 Nov 13. [Epub ahead of print] IF 13.025.
12. Ferrarini M, Moretto M, Ward JA, Urbanovski N, Stevanovi V, Giongo L, Viola R, Cavalieri D, Velasco R, Cestaro A, Sargent DJ. An evaluation of the PacBio

- RS platform for sequencing and de novo assembly of a chloroplast genome. *BMC Genomics*. 2013 Oct 1;14(1):670. IF 4.40.
13. Baur AS, Lutz MB, Schierer S, Beltrame L, Theiner G, Zinser E, Ostalecki C, Heidkamp G, Haendle I, Erdmann M, Wiesinger M, Leisgang W, Gross S, Pommer AJ, Kämpgen E, Dudziak D, Steinkasserer A, Cavalieri D, Schuler-Thurner B, Schuler G. Denileukin diftitox (ONTAK) induces a tolerogenic phenotype in dendritic cells and stimulates survival of resting Treg. *Blood*. 2013 Sep 26;122(13):2185-94. doi: 10.1182/blood-2012-09-456988. Epub 2013 Aug 19. IF 9.60.
 14. Rizzetto L, De Filippo C, Rivero D, Riccadonna S, Beltrame L, Cavalieri D. Systems biology of host-mycobiota interactions: Dissecting Dectin-1 and Dectin-2 signalling in immune cells with DC-ATLAS. *Immunobiology*. 2013 Nov;218(11):1428-37. Epub 2013 Jul 13. IF 3.46.
 15. Bezerra AR, Simões J, Lee W, Rung J, Weil T, Gut IG, Gut M, Bayés M, Rizzetto L, Cavalieri D, Giovannini G, Bozza S, Romani L, Kapushesky M, Moura GR, Santos MA. Reversion of a fungal genetic code alteration links proteome instability with genomic and phenotypic diversification. *Proc Natl Acad Sci U S A*. 2013 Jul 2;110(27):11079-84 IF: 9.737.
 16. Calura E, Fruscio R, Paracchini L, Bignotti E, Ravaggi A, Martini P, Sales G, Beltrame L, Clivio L, Ceppi L, Di Marino M, Fuso Nerini I, Zanotti L, Cavalieri D, Cattoretti G, Perego P, Milani R, Katsaros D, Tognon G, Sartori E, Pecorelli S, Mangioni C, D'Incalci M, Romualdi C, Marchini S. miRNA landscape in Stage I Epithelial Ovarian Cancer defines the histotype specificities. *Clin Cancer Res*. 2013 Jun 13. IF 7.837.
 17. Beltrame L, Bianco L, Fontana P, Cavalieri D. Pathway Processor 2.0: a web resource for pathway-based analysis of high-throughput data. *Bioinformatics*. 2013 Jun 8. IF 5.323.
 18. Nikiforova SV, Cavalieri D, Velasco R, Goremykin V. Phylogenetic analysis of 47 chloroplast genomes clarifies the contribution of wild species to the domesticated apple maternal line. *Mol Biol Evol*. 2013 May 14. IF 10.353.
 19. Beltrame L, Bianco L, Fontana P, Cavalieri D. Pathway-based analysis of microarray and RNAseq data using Pathway Processor 2.0. *Curr Protoc Bioinformatics*. 2013 Mar;Chapter 7:Unit 7.6. IF 2.1.
 20. Ometto L, Cestaro A, Ramasamy S, Grassi A, Revadi S, Siozios S, Moretto M, Fontana P, Varotto C, Pisani D, Dekker T, Wrobel N, Viola R, Pertot I, Cavalieri D, Blaxter M, Anfora G, Rota-Stabelli O. Linking genomics and ecology to investigate the complex evolution of an invasive *Drosophila* pest. *Genome Biol Evol*. 2013;5(4):745-57. IF 4.759.
 21. Rizzetto L., Giovannini G., Bromley M, Bowyer P., Romani L., Cavalieri D., Strain dependent variation of immune responses to *A. fumigatus*: definition of pathogenic species. *PLoS One*. 2013;8(2):e5665. IF: 4.41.
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