

PERSONAL INFORMATION

Bellosta Paola PhD

Citizenship: Italian and American
<https://www.cibio.unitn.it/657/laboratory-of-metabolism-of-cell-growth-and-neuronal-survival>
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Work:

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EMPLOYMENT

2017-present **Associate Professor of Genetics**, Dept CIBIO, University of Trento, IT.
2015-**Cariplo Independent PI Career Award**, Dept Biosciences, University of Milan, IT.
2010-**Research Associate Professor**, Dept of Genetics & Development, Columbia University
2006-**Associate Professor**, Department of Biology, City College CUNY, NY, USA.
2000-**Research Assistant Professor**, University of Zurich, Zurich, Switzerland.
1995-**Assistant Professor**, Department of Microbiology, NYU Med Center, USA.

OTHER AFFILIATIONS and PROFESSIONAL QUALIFICATIONS:

2013- **Adjunct Associate Professor** at New York University Langone Medical Center
Department of Medicine and Endocrinology New York, NY, USA
2018- Member **European Huntington Disease Network** Scientific Advisory Committee (SBAC)
2009-2017 **Member of the Diabetes and Endocrinology Research Center (DERC)**
"Naomi Berries" at Columbia University, New York, NY, USA

HONORS/AWARDS

2015-2017 **CAREER Award (Cariplo Foundation)** at the University of Milan.
2004-2008 **CAREER Award (Rientro dei Cervelli)** from MIUR at the Department of Medical Science, University of Novara, Italy (resigned in 2006 to moved back to USA).
2000-2002 **Marie Heim-Vögtlin (MHV) Fellowship**. Dept of Zoology University of Zurich, CH.
1991-1994 **Paulette Goddard Scholarship**, to NYU School of Medicine, New York, NY, USA.

Member of the Editorial Board

2019 present BMC Developmental Biology
2018- present: *Genes* (MDPI)

PROFESSIONAL ACTIVITIES.

Ad hoc Reviewer for: Cell, Cell Metabolism, Molecular and Cellular Biology, DMM, Oncogene, BBA, OncoNet, Fly, Intl J. of Dev. Neuroscience, Frontiers in Neuroscience and Frontiers in Genetics, Neuroscience.

Ad hoc Grant-Reviewer for NSF (National Science Foundation-USA), CUNY (Grant Program-USA), SNF (Swiss National Funds), MRC (Medical Research Grant-UK), EDHN.

RESEARCH PROJECTS:

1- To identify the signaling molecules responsible for the cross talk between neurons and glial cells leading to neuronal survival. We are focusing on the function of the glia in neuronal survival in animal model for Huntington diseases where expression of the toxic mHTT induces neuronal degeneration. enzymes that controls its levels. We study how glutamate/glutamine levels affect the survival of neurons expressing mHTT by inducing autophagy. *Funding by Cariplo Foundation.*

2- Characterization of novel components of Myc-induced cell competition and its relation with tumor growth. Developing tumors have nutrient limitations, thus cells reprogram their metabolic pathways to allow a better grow. One of the genes that control these mechanisms is *c-myc*. In *Drosophila* Myc induces cell-

competition a process described first for ribosomal proteins that occurs when “winner” cells, cells that are metabolically better fit (have higher levels of Myc), kills the near wild-type “loser” cells with lower levels of Myc to expand their domain. Using microarrays and proteomics approaches in epithelial cells we identified novel potential Myc’s targets of metabolic pathways that acts as novel Myc’s target in cell competition.

3- To understand the mechanisms that control chronic-inflammation (Adipocyte Tissue Macrophages, ATM) in models for obesity and type-2 diabetes. In obese people, immune cells infiltrate the adipose tissue and promote low-grade chronic inflammation. This status has been also linked to altered adipocyte metabolic function and to perturbations in lipid metabolism. We study the mechanisms that control this inflammation, that also result in T2D and insulin resistance, using the conserved functional relationship in *Drosophila* between the immune cells, called hemocytes (macrophage like cells) and adipocytes. *Funding Ass Trentino Diabetes and CARITRO.*

MAJOR PUBLICATIONS

Glutamine Synthetase-1 induces autophagy-lysosomal degradation of huntingtin aggregates and ameliorates animal motility in a *Drosophila* model for Huntington’s disease. Vernizzi L, Paiardi C, Vitali T, Ranlei M, Mannelli V, Pasini E, Vanoni MA, Rizzetto M, Gellera C, Taroni F, **Bellosta P.** and bioRxiv 618629; doi: <https://doi.org/10.1101/618629> (under revision)

Drosophila melanogaster, a suitable model to study Neurodegenerative Diseases. **Bellosta P** Soldano A, Santarelli S, Zola S, *Frontiers of Physiology* 2019 Aug 7 9:

Drosophila melanogaster as a model organism to study cancer growth. Mirzoyan Z, Allocca MT, Valenza MA, Sollazzo M, Grifoni D, and **Bellosta P.** Review *Frontiers in Genetics.* 2019 Mar 1;10:51.

The Fruit Fly, *Drosophila Melanogaster*: Modeling of Human Diseases Allocca MT, Zola S, **Bellosta P,** 2018 **BOOK TITLE: *Drosophila melanogaster - Model for Recent Advances in Genetics and Therapeutics*** InTech Open ISBN 978-953-51-5484-6

Anthocyanins function as anti-inflammatory agents in a *Drosophila* model for Adipose Tissue Macrophage infiltration. Valenza MA, Bonfanti C, Pasini MA, **Bellosta P.,** *Biomed Res Int.* 2018 Mar 12;2018:6413172

Human Cancer Cells Signal Their Competitive Fitness Through Myc Activity. Di Giacomo S, Sollazzo M, deBiase D, Ragazzi M, **Bellosta P,** Pession A, Grifoni D. *Sci Rep* 2017 Oct 3; 7 (1) 12568

The Stearoyl-CoA Desaturase-1 (Desat1) in *Drosophila* cooperates with Myc to Induce Autophagy and Growth, a Potential New Link to Tumor Survival. Paiardi C, Mirzoyan Z, Zola S, Parisi F, Vingiani A, Pasini ME, **Bellosta P.** *Genes (Basel).* 2017 Apr 28;8(5)

Drosophila Myc: a master regulator of cellular performance. Grifoni D and **Bellosta P.** *Review BBR- Gene Regulatory Mechanisms* 2015 Jul 8. pii: S1874

Super-competitor status of *Drosophila* Myc cells requires p53 as a fitness sensor to reprogram metabolism and promote viability. de la Cova C, Senoo-Matsuda N, Ziosi M, Wu C, **Bellosta P** Quinzii CM and Johnston L. *Cell Metabolism* 2014 19(3):470-83.

dMyc expression in the fat body affects DILP2 release and increases the expression of the fat desaturase Desat1 resulting in organismal growth. Parisi F, Riccardo S, Zola S, Lora C, Grifoni D, Brown L and **Bellosta P.** *Dev Biol.* 2013 379(1):64-75 selected for F1000Prime

Drosophila insulin and target of rapamycin (TOR) pathways regulate GSK3 beta activity to control Myc stability and determine Myc expression in vivo. Parisi F, Riccardo S, Daniel M, Saqcena M, Kundu N, Pession A, Grifoni D, Stocker H, Tabak E, **Bellosta P.** *BMC Biol.* 2011 Sep 27;9:65.

dMyc functions downstream of Yorkie to promote the supercompetitive behavior of hippo pathway mutant cells. Ziosi M, Baena-López LA, Grifoni D, Frolidi F, Pession A, Garoia F, Trotta V, **Bellosta P**, Cavicchi S, Pession A. *PLoS Genet*. 2010 Sep 23;6(9). doi:pii: e1001140.

The lethal giant larvae tumour suppressor mutation requires dMyc oncoprotein to promote clonal malignancy. Frolidi F, Ziosi M, Garoia F, Pession A, Grzeschik NA, **Bellosta P**, Strand D, Richardson HE, Pession A, Grifoni D. *BMC Biol*. 2010 Apr 7;8:33.

Identification of domains responsible for ubiquitin-dependent degradation of dMyc by glycogen synthase kinase 3beta and casein kinase 1 kinases. Galletti M, Riccardo S, Parisi F, Lora C, Saqcena MK, Rivas L, Wong B, Serra A, Serras F, Grifoni D, Pelicci P, Jiang J, **Bellosta P**. *Mol Cell Biol*. 2009 Jun;29(12):3424-34. [Cover](#)

Myc interacts genetically with Tip48/Reptin and Tip49/Pontin to control growth and proliferation during Drosophila development. **Bellosta P**, Hulf T, Balla Diop S, Usseglio F, Pradel J, Aragnol D, Gallant P. *Proc Natl Acad Sci U S A*. 2005 Aug 16;102(33):11799-804.

Whole-genome analysis reveals a strong positional bias of conserved dMyc-dependent E-boxes. Hulf T, **Bellosta P**, Furrer M, Steiger D, Svensson D, Barbour A, Gallant P. *Mol Cell Biol*. 2005 May;25(9):3401-10.

Drosophila myc regulates organ size by inducing cell competition. de la Cova C, Abril M, **Bellosta P**, Gallant P, Johnston LA. *Cell*. 2004 Apr 2;117(1):107-16. [Cover](#)