

## CV vincitori Premio Tarone under 45

### **Caterina Bernacchioni**

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#### *Current position*

Associate Professor, Cellular and Applied Biology, SSD BIOS-10/A  
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#### *Education*

2014 Residency in Clinical Biochemistry, (final Mark 70/70 “cum laude”), University of Florence.  
2011 PhD in Biochemistry and Applied Biology, University of Florence  
2006 Degree in Biological Science (final Mark 110/110 “cum laude”), University of Florence.

#### *Professional Appointments/Previous Positions*

2024-present: member of the “Giunta di Dipartimento”, Department of Experimental and Clinical Biomedical Sciences, University of Florence  
2023-present: Member of the board of professors of the PhD program in Biochemistry and Molecular Biology University of Siena (IT)  
2023-present: Associate Professor, Cellular and Applied Biology, SSD BIOS-10/A, University of Florence  
2020-2023: Researcher (RTDb, SSD BIOS-10/A), University of Florence  
2018-2020: Researcher (RTDa SSD BIOS-10/A), University of Florence  
2016: Experienced Researcher seconded at Affichem S. A. Toulouse (France) for a project granted by European Community-Marie Curie Actions Call: FP7-PEOPLE-2013-IAPP,  
2014-2018: Post-doctoral fellowship, University of Florence  
2014: research collaborator at Giotto Biotech  
2011-2014: Post-doctoral fellowship, University of Florence  
2009: Visiting PhD student at the Department of Biochemistry and Molecular Biology, University of the Basque Country, Bilbao (ES)  
2008-2010: PhD student in Biochemistry and Applied Biology, University of Florence  
2006-2007: Graduate Fellowship at the Inter-university research Center on the molecular basis of neurodegenerative diseases, University of Florence

#### *Ongoing Grants*

PRIN 2022 PNRR: *New insights into endometriosis pathogenesis: role of sphingosine 1-phosphate in neutrophil activation*. Role: Principal Investigator.

Fondo di Beneficenza Intesa Sanpaolo: *Ruolo della segnalazione di sfingosina 1-fosfato nel rilascio di trappole extracellulari dei neutrofili (NET): implicazioni nella fibrosi associata all'endometriosi*. Role: Principal Investigator.

PRIN 2022: *Identification of novel molecular mechanisms affecting spermatogenesis, sperm maturation and epigenetic signature in obesity-related male infertility*. Role: participant.

MUR (Progetto Finanziamento Dipartimenti di Eccellenza 2023-2027-): *Gender differences in the modulation of neutrophil netosis and fibroblast phenotype switch by sphingosine 1-phosphate signalling: implication in pulmonary fibrosis*. Role: Principal Investigator.

#### *Awards and Honors*

2024 Premio Tarone for the Best Under 45 Young Researcher of the "Associazione Italiana di Biologia e Genetica Generale e Molecolare" (AIBG)

2015 FEBS fellowship grant for participating to the 40th FEBS Congress 2015

2014 FEBS fellowship grant for participating to the FEBS EMBO Congress 2014

2012 Best PhD Thesis Award in the Biomedical Area, edition 2011, Firenze University Press. PhD Thesis published ISBN: 978-88-6655-218-5

June 2011 SIB Fellowship grant for participating to the 36th FEBS Congress

### *Invited talks*

September 2024, XV Sphingolipid Club Meetings, Erlangen (DE)  
September 2024, XXII AIBG Congress, Salerno (IT)  
November 2023, 3° Sphingolipid Club National Meeting, Brescia (IT)  
September 2022, XX AIBG Congress, Roma (IT)  
October 2019 XIX AIBG Congress, Milano (IT)  
May 2016 1st Young Scientist Workshop on Stem cell niche: from basic science to clinical application, Pavia (IT)  
June 2015 6th European Conference on Chemistry for Life Sciences, Lisbon (PT)  
October 2010 VII Meeting Istituto Interuniversitario di Miologia, Siena (IT)  
June 2010 Riunione Nazionale "A. Castellani" dei Dottorandi di Ricerca in Discipline Biochimiche, Brallo di Pregola (IT)  
October 2009 VI Meeting Istituto Interuniversitario di Miologia, Siena (IT)  
September 2009 54° congresso SIB 2009, Catania (IT)  
October 2008 V meeting IIM, Istituto Interuniversitario di Miologia, Siena (IT)

### *Publications*

Total number: 53. H-index: 23. (Scopus, 21/02/25).

- 1) Rossi M, Seidita I, Prisinzano M, Raeispour M, Romeo L, Sorbi F, Fambrini M, Ciarmela P, Petraglia F, **Bernacchioni C<sup>§</sup>**, Donati C<sup>§</sup>. Sphingosine 1-phosphate acts as proliferative and fibrotic cue in leiomyoma cells. *F S Sci.* 2024 Dec 4:S2666-335X(24)00080-6. doi: 10.1016/j.xfss.2024.11.003. (**§shared last authorship**)
- 2) Prisinzano M\*, **Bernacchioni C<sup>#</sup>**, Seidita I, Rossi M, Raeispour M, Cencetti F, Vannuccini S, Fambrini M, Petraglia F, Bruni P, Donati C. Sphingosine 1-phosphate signaling axis mediates neuropeptide S-induced invasive phenotype of endometriotic cells. *FEBS J.* 2024 Apr;291(8):1744-1758. doi: 10.1111/febs.17071. Epub 2024 Jan 29. (**\*Shared first authorship, #corresponding author**)
- 3) **Bernacchioni C<sup>#</sup>**, Rossi M, Vannuzzi V, Prisinzano M, Seidita I, Raeispour M, Muccilli A, Castiglione F, Bruni P, Petraglia F, Donati C. Sphingosine-1-phosphate receptor 3 is a non-hormonal target to counteract endometriosis-associated fibrosis. *Fertil Steril.* 2024 Apr;121(4):631-641. doi: 10.1016/j.fertnstert.2023.12.007. (**#corresponding author**)
- 4) Seidita I, Tusa I, Prisinzano M, Menconi A, Cencetti F, Vannuccini S, Castiglione F, Bruni P, Petraglia F, **Bernacchioni C<sup>#</sup>**, Rovida E, Donati C. Sphingosine 1-phosphate elicits a ROS-mediated proinflammatory response in human endometrial stromal cells via ERK5 activation. *FASEB J.* 2023 Aug;37(8):e23061. doi: 10.1096/fj.202300323R. (**#corresponding author**)
- 5) **Bernacchioni C<sup>#</sup>**, Ghini V, Squecco R, Idrizaj E, Garella R, Puliti E, Cencetti F, Bruni P, Donati C. Role of Sphingosine 1-Phosphate Signalling Axis in Muscle Atrophy Induced by TNF $\alpha$  in C2C12 Myotubes. *Int J Mol Sci.* 2021 Jan 28;22(3):1280. doi: 10.3390/ijms22031280. (**#corresponding author**)

### *Research Interests and major collaborations*

Prof. Bernacchioni scientific interest is focused on the study of the biological role of bioactive sphingolipids and, specifically, the signaling and the biochemical action of sphingosine 1-phosphate in different cellular models. At the beginning her scientific activity, Prof. Bernacchioni's studies were focused on investigating the role of bioactive sphingolipids in skeletal muscle biology. More recently, her knowledge has been applied to the understanding of the molecular mechanisms implicated in the pathogenesis of different benign uterine disorders such as endometriosis, uterine fibroids and adenomyosis.

Major Collaborations: Prof. Felice Petraglia, Prof. Roberta Squecco, Prof. Paola Turano, Dr. Francesco De Logu, Prof. Romina Nassini, Prof. Andrea Galli, University of Florence, Italy; Prof. Paola Piomboni, University of Siena, Italy; Prof. Rosanna Chianese, Università degli studi della Campania, Italy; Prof. Pasquapina Ciarmela, Università Politecnica delle Marche, Italy; Prof. A. Gomez Munoz, University of Leioa, Spain; Prof. Bodo Levkau, University Hospital Düsseldorf, Germany; Prof.ssa Dagmar Meyer zu Heringdorf, Goethe-Universität, Frankfurt, Germany; Prof. Burkhard Kleuser, Freie Universität Berlin, Germany; Prof.ssa Luisa Cigliano, Università degli Studi di Napoli Federico II, Italy; Prof.ssa Chiara Giacomelli, University of Pisa, Italy; Dr. Vittorio Maglione, Neuromed, Pozzilli, Italy.