

## PERSONAL INFORMATION

Brigitta Buttari

## WORK EXPERIENCE

2004–Present

**Researcher**

Istituto Superiore di Sanità National Institute of Health, Department of Cardiovascular, Endocrine-metabolic Diseases and Aging, Rome (Italy)

She manages several undergraduate and postgraduate teaching activities:

- Master of "Stress, sport, nutrizione: nuovi approcci diagnostici e terapeutici per wellness, fitness, prevenzione e riabilitazione" Sapienza University of Rome. 2017, 2018.
- Degree course in Chemistry and Pharmaceutical Technologies, Sapienza University of Rome A.A. 2017/2018/2019.

She participates in the project planning, research activity, data sharing, meeting organization and training activity of the following research projects:

- Evaluation of Sodium, Potassium and Iodine in the Italian Adult Population: it is included in the CCM Central Actions 2017 (active from 2018 for 2 years) of the Ministry of Health.
- The CUORE Project population biobank for epidemiological research in Italy, 2008-2019.
- Role of Neuropeptide Y as regulator of macrophage phenotype and functions: a neuroimmune cue in atherosclerosis regression? Immunotools Award 2015.
- Carotid endarterectomy: a multi-parametric approach to identify immunological and inflammatory markers indicating patients at high risk of clinical events. Ateneo Fund - Sapienza University of Rome, 2015.
- Evaluation and pharmacological modulation of the oxidative stress mechanisms involved in different pathological conditions. Ateneo Fund - Sapienza University of Rome, 2015.
- Biomonitoring and toxicity studies of the pollutants in territory of Taranto (South Italy). Italian Ministry of Health, CCM 2013.
- "New therapeutic approaches in the human beta-thalassemia treatment: in vitro and in vivo studies." Rare diseases, Italian Ministry of Health, 2009-present.
- Evaluation of oxidative stress in various pathological conditions and study of possible antioxidant agents. Ateneo Funds - Sapienza University of Rome, 2008-present.
- Study of immunity and infections in immunocompromised hosts for lifestyle: experimental and therapeutic implications evidence. Italy-US agreements, 2009-2011.
- Development of new antioxidant drugs. MAE-MIUR-Italia-India Joint Research Projects, 2007, 2008, 2009, 2010.
- Animal research protocol entitled "Anti-inflammatory properties of parnaparin in the prevention of atherosclerosis". Research Agreement between Sapienza University of Rome and the company ALFA WASSERMAN, 2008-2010.
- Study of autoimmune pathogenetic mechanisms in atherosclerosis and in systemic lupus erythematosus. Italian Ministry of Health, 2006-2009.
- Marie Curie International Reintegration grant (I.J.E.) within the 6<sup>th</sup> European Community Framework Program.
- Study of chronic infections and molecular mimicry in autoimmune processes involved in atherosclerosis: new therapeutic strategies. Italian Ministry of Health, 2005-2008.

- Study of the role of toll-like receptors in the maturation of human dendritic cells induced by b2-glycoprotein I and development of in vitro immunomodulatory approaches on dendritic cells for the prevention and treatment of atherosclerosis. Italian Ministry of Health, 2005-2008.
- Study of the role of advanced glycation end products (AGEs) in the autoimmune mechanisms in atherosclerosis associated with diabetes mellitus, especially with regard to women's health in post-menopausal age. Italian Ministry of Health, 2005-2008.
- Molecular mimicry and chronic infections implicated in autoimmune processes of atherosclerosis: new therapeutic strategies. Operative unit within the project "Strategies to use probiotic bacteria, bacterial and parasitic products for the treatment of autoimmune and allergic diseases. Italian Ministry of Health 2005.
- Characterization of specific cellular responses to self-antigens in the atherosclerotic lesion and their modulation in vitro by tolerogenic dendritic cells. Operative unit within the project "Dysregulation of the immune system: analysis of the cellular mechanisms involved in autoimmune diseases and allergies". Italian Ministry of Health 2003.
- Diagnosis of systemic autoimmune diseases and vasculitis by identifying new immunological markers. ISS fund 2003.
- Production and characterization of native and recombinant autoantigens involved in the pathogenesis of atherosclerosis. Operative unit within the project "Study of molecular and cellular mechanisms in the induction and modulation of chronic inflammatory diseases". Italian Ministry of Health 2002.
- Study of the inflammatory and immune mechanisms in cardiovascular diseases within atherosclerotic aetiology. ISS fund 2001, 2002, 2003.
- Immune response in cystic echinococcosis: diagnosis and immune regulation. ISS funds: 2001, 2002, 2003.
- Development and validation of existing methods in the context of the European Pharmacopoeia, in particular as regards the interferon alpha and gamma. ISS fund 2000.

## EDUCATION AND TRAINING

2003–2008

### PHD in Microbiology, Immunology and Infective diseases

University of Rome Tor Vergata, Rome (Italy)

Thesis title: Chronic and acute alcohol exposure prevents monocyte-derived dendritic cells from maturing in response to microbial stimuli".

Thesis performed at the Istituto Superiore di Sanità.

Sep 2000–Jun 2003

### Post graduate specialization in biotechnology

Sapienza University of Rome, Rome (Italy)

Thesis title: "Phenotypic and functional maturation of dendritic cells induced by carotid atherosclerotic plaque extracts: in vitro model for the study of the immunosuppressive drugs"

Thesis performed at the Istituto Superiore di Sanità

2000

### Italian National Order of Biologists

Elenco Speciale sez. A. Numero iscrizione 018247

Jun 1999–May 2000

### Fellowship at the Immunology laboratory

Istituto Superiore di Sanità, Rome (Italy)

1. Training course for the management of chemical, physical and biological risks. ISS; February 1999.
2. Advanced course for human antigen-specific CD4 T cell line and clone preparation and characterization. Advanced Biotechnology Centre of Genoa; November 1999.
3. Theoretical and practical course for the personnel working with laboratory animals, organized by the Quality and Safety Service for Animal Experimentation. ISS; March 2000.

4. Advanced course on Immunology of Infectious Diseases, University of Rome Tor Vergata; April 2000.
5. Study of Native and recombinant antigens in the immunodiagnosis of human cystic echinococcosis. ISS; 1999-2000.
6. Course on "Cell Cycle and Apoptosis", Cytometry National School GIC, University of Urbino, Urbino; October 2000.
7. Innovative applications in Cytometry ", Cytometry National School GIC, University of Urbino, Urbino; October 2000.
8. The microscopic techniques in the study of structural and functional characteristics of cells in culture, ISS, Rome; October 2000.
9. Advanced course on FACSCalibur/FACStation instrument and software Becton Dickinson, Rome; December 2000.

Sep 1992–May 1999

### Degree in Biological Science, subject Physiopathology

Sapienza University of Rome, Rome (Italy)

Cytokine gene expression in peripheral blood mononuclear cells (PBMC) from patients with pharmacologically treated cystic echinococcosis.

Thesis performed at the Istituto Superiore di Sanità

Sep 1987–Jul 1992

### Bachelor

Liceo Scientifico Leonardo da Vinci, Sora (Italy)

## PERSONAL SKILLS

Mother tongue(s)

Italian

Other language(s) English

Understanding		Speaking		Writing
Listening	Reading	Spoken interaction	Spoken production	
C1	C1	B2	B2	C1

Levels: A1/2: Basic user - B1/2: Independent user - C1/2 Proficient user

Common European Framework of Reference for Languages

Communication skills

Good communication skills developed as researcher, tutor and speaker within the framework of specific projects

Organisational / managerial skills

Good leadership (responsible for undergraduate and PhD students) and good organisational/managerial skills developed within the framework of specific projects.

Job-related skills

Good experience in molecular and cellular biology basic and clinical research in immunological and cardiovascular field.

## ADDITIONAL INFORMATION

### Publications

ResearcherID: I-3030-2014

<http://www.researcherid.com/rid/I-3030-2014>

More than 70 original *in extenso* articles published on international journals with referees; 2 invited chapter book; her publications gained H-index: 21 (Web of Science).

### Most representative peer-reviewed publications (last 5 years):

1. Buttari B, Profumo E, Capozzi A, Saso L, Sorice M, Riganò R. Post-translational modifications of proteins in antiphospholipid antibody syndrome. *Crit Rev Clin Lab Sci*. 2019 Dec;56(8):511-525. doi:10.1080/10408363.2019.1650714.
2. Profumo E, Buttari B, Tinaburri L, D'Arcangelo D, Sorice M, Capozzi A, Garofalo T, Facchiano A, Businaro R, Kumar P, Singh BK, Parmar VS, Saso L, Riganò R. Oxidative Stress Induces HSP90 Upregulation on the Surface of Primary Human Endothelial Cells: Role of the Antioxidant 7,8-Dihydroxy-4-methylcoumarin in Preventing HSP90 Exposure to the Immune System. *Oxid Med Cell Longev*. 2018 Apr 10;2018:2373167.
3. Profumo E, Buttari B, D'Arcangelo D, et al. The nutraceutical dehydrozingerone and its dimer counteract inflammation- and oxidative stress-induced dysfunction of in vitro cultured human endothelial cells: A novel perspective for the prevention and therapy of atherosclerosis. *Oxid. Med. Cell. Longev*. 2016;2016.
4. Sorice M, Buttari B, Capozzi A, et al. Antibodies to age-β2 glycoprotein I in patients with antiphospholipid antibody syndrome. *Clin. Exp. Immunol*. 2016;184(2):174–82.
5. Buttari B, Profumo E, Riganò R. Crosstalk between red blood cells and the immune system and its impact on atherosclerosis. *Biomed Res. Int*. 2015;2015.
6. Profumo E, Buttari B, Saso L, Riganò R. Pleiotropic Effects of Statins in Atherosclerotic Disease: Focus on the Antioxidant Activity of Atorvastatin. *Curr. Top. Med. Chem*. 2014;14(22):2542–2551.
7. Buttari B, Profumo E, Segoni L, et al. Resveratrol counteracts inflammation in human M1 and M2 macrophages upon challenge with 7-oxo-cholesterol: Potential therapeutic implications in atherosclerosis. *Oxid. Med. Cell. Longev*. 2014;2014.
8. Buttari B, Profumo E, Domenici G, et al. Neuropeptide y induces potent migration of human immature dendritic cells and promotes a Th2 polarization. *FASEB J*. 2014;28(7):3038–3049.
9. Conti F, Spinelli FR, Alessandri C, et al. Subclinical atherosclerosis in systemic lupus erythematosus and antiphospholipid syndrome: Focus on β2GPI-Specific T cell response. *Arterioscler. Thromb. Vasc. Biol*. 2014;34(3).
10. Profumo E, Buttari B, Tosti ME, et al. Plaque-infiltrating T lymphocytes in patients with carotid atherosclerosis: An insight into the cellular mechanisms associated to plaque destabilization. *J. Cardiovasc. Surg. (Torino)*. 2013;54(3).
11. Buttari B, Profumo E, Facchiano F, et al. Resveratrol prevents dendritic cell maturation in response to advanced glycation end products. *Oxid. Med. Cell. Longev*. 2013.
12. Arslan F, Smeets MB, Buttari B, et al. Lack of haptoglobin results in unbalanced VEGFa/angiopoietin-1 expression, Intramural hemorrhage and impaired wound healing after myocardial infarction. *J. Mol. Cell. Cardiol*. 2013;56(1):116–128.
13. Buttari B, Segoni L, Profumo E, et al. 7-Oxo-cholesterol potentiates pro-inflammatory signaling in human M1 and M2 macrophages. *Biochem. Pharmacol*. 2013;86(1).

### "on line publishing social media"

1. Buttari B. β2-Adrenergic Receptor Activation Promotes M2 Polarization of Gut Macrophages: How the Brain–Gut Axis Maintains Tissue Homeostasis. Commentary article on Brainimmune.com, 25 October 2016.
2. Buttari B, Profumo E and Riganò R. A hierarchical framework of cytokines defines groups of chronic

inflammatory diseases: learning from cytokine-targeted therapies. Commentary article on Brainimmune.com, June 1 2014

#### Editorial activities

Reviewer for Journal of Immunology, PlosOne, Circulation, Journal Immunology Research;  
2016 Lead Guest Editor for Oxidative Medicine and Cellular Longevity -Special Issue on "Antioxidant and Immunomodulatory Compounds in Cardiovascular Repair"

#### Honours and awards

- 2017 EAS Travel Grant to attend EAS 2017 Prague, Czech Republic, April 23-26.
- 2016 " PEARLS IN AUTOIMMUNITY: TOP CANDIDATES FOR THE MAI AWARD 2016"10th International Congress on Autoimmunity (Autoimmunity 2016) Leipzig, Germany, April 6-10, 2016
- 2015 ImmunoTools special Award 2015
- 2009 IUBMB Advanced Course on "Mechanisms and Consequences of Free Radical-Mediated Oxidative Protein Modifications", Federation of European Biochemical Societies travel fund, Antalya, Turkey.
- 2007 EMBO Conference Young Researcher Travel Grant, Co-Sponsored by European Network of Immunology Institute (ENII) and Società italiana di immunologia, Immunologia Clinica e Allergologia (SIICA); Capo Caccia, Italy.
- 2006 5th International Congress on Autoimmunity travel grant; Sorrento, Italy.
- 2005 4th SIICA National Conference travel grant, Società italiana di immunologia, Immunologia Clinica e Allergologia (SIICA); Brescia, Italy.
- 2005 ERAB Young Investigators Award elected by the European Research Advisory Board of European Society for Biomedical Research on Alcoholism (ESBRA); Canterbury, UK. Award given to reward quality and innovation of basic scientific research as principal investigator in the project entitled: "Ethanol impair the maturation and function of monocyte-derived dendritic cells obtained from alcoholics and healthy subjects".
- 2004 IX European Multicolloquium of Parasitology- EMOP 9 International Fellowship for the project entitled: "Maturation of dendritic cell 2 phenotype by Echinococcus granulosus antigens"; Valencia, Spain.
- 2000 Immunobiology of Infectious Diseases workshop travel grant, Società italiana di immunologia, Immunologia Clinica e Allergologia (SIICA); Massa Marittima, Italy.

#### Memberships

Member of the "Società italiana di immunologia, Immunologia Clinica e Allergologia"; 1999-Present  
Member of European Federation of Immunological Societies; 2009-2010  
Member of The Ruggero Ceppellini Advanced School of Immunology; 2005  
Member of the "Società Italiana di Biochimica e Biologia Molecolare"; 2009-2010.  
Member of the European Biochemical Societies; 2009-2010  
Member of the European Atherosclerosis Society (EAS); 2008-2009; 2017;  
Member of Italian group of Cytometry; 1999-2004.  
Founding member of the Italian Study Group of Biomaterials in Surgery; 2005-Present

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Date of the Curriculum Vitae

April 28<sup>th</sup>, 2020