

BILIANA LOZANOSKA-OCHSER

Curriculum Vitae

Personal Information

Full Name	Biliana Lozanoska-Ochser
E-mail	biliana.lozanoskaochser@unicamillus.org
ORCID	0000-0002-9347-5886

Education

INSTITUTION AND LOCATION	DEGREE	Completion Date	FIELD OF STUDY
King's College London, UK	PhD	07/2007	Immunology
University College London, UK	MSc	09/2003	Medical Immunology
University of Aberdeen, UK	MSc	06/2000	Human metabolism
University of Westminster, London, UK	BSc	06/1998	Biomedical Sciences

Academic Appointments

- 2025 – present Associate Professor, UniCamillus University, Rome, IT
- 2022 – 2025 Assistant Professor (RTD-B), LUM University, Bari, IT
- 2021 – 2022 Researcher type A (RTD-A), Sapienza University of Rome, IT
- 2014 – 2020 Research Fellow, Sapienza University of Rome, IT
- 2012 – 2013 Post-Doctoral Associate, Calibr Institute, San Diego, US
- 2009 – 2011 Post-Doctoral Associate, Yale University School of Medicine, US,
- 2007 – 2009 Post-Doctoral Fellow, Kings College London, UK

Teaching experience

2025 – present **Associate Professor of Histology and Embryology** (SSD BIOS/13-A), Course in Medicine and Surgery at UniCamillus University, Rome

2022- 2025 **Assistant Professor of Histology and Embryology** (SSD BIOS/13-A), Course in Medicine and Surgery at University of LUM, Bari, Italy.

2021-2022 **Lecturer in Histology** (SSD BIOS/13-A), Course in Medicine and Surgery "F" – at Sapienza University of Rome.

2020- 2025 **Expert's Lecture (ADE)** “Macrophages in tissue injury and repair”, Course in Medicine and Surgery, Sapienza University of Rome.

2015- present **Tutor or Co-Tutor** of PhD students at the PhD course in morphogenesis, homeostasis and engineering, Sapienza University of Rome.

Society memberships

Member of the Interuniversity Institute of Myology since 2014.

Member of the Academic board of teachers of Histology and Embryology since 2022.

Awards and Honors

National scientific qualification (ASN) in Italy, for the role of university professor, second level, in the sector of 05/H2 –Histology (SSD BIOS/13A). (MIUR, Italy) 05/11/2024

Research fellowship, Sapienza University of Rome, Department of Anatomy, Histology and Legal Medicine (SAIMLAL) for the project entitled: "Dissecting the inflammatory milieu in Duchenne Muscular Dystrophy". 2020-2021

Research fellowship, Sapienza University of Rome, Department of Anatomy, Histology and Legal Medicine (SAIMLAL) for the project entitled: "A comprehensive study of the quality and kinetics of the immune response in heart and diaphragm muscle during the early and late stages of muscular dystrophy". 2019-2020

Research fellowship, Sapienza University of Rome, Department of Anatomy, Histology and Legal Medicine (SAIMLAL) for the project entitled: "Protein kinase C theta as a novel molecular target to counteract inflammation in muscular dystrophy". 2014-2017

Postdoctoral Associate, California Institute for Biomedical Research, San Diego, US. Project: "The role of macrophages in the formation of atherosclerotic plaques". 2012-2013

Postdoctoral Associate, Yale University School of Medicine, Department of Pulmonary medicine, New Haven, US. Project: "The role of macrophages in lung inflammation". 2009-2011

Post-Doctoral Fellowship, Juvenile Diabetes Research Foundation (JDRF), USA, Department of Immunology, King's College London, UK. Project: "The role of plasmacytoid dendritic cells in Type 1 Diabetes". 2007-2009

Participation at scientific conferences:

Session chair, 'Muscle function, muscle stem cells and regenerative medicine'. XX Annual Conference of the Myology Institute, Assisi, Italy, 2023.

Selected speaker, XVI Annual Conference of the Myology Institute, Assisi, Italy, 2019. Talk title: "Splenic Ly6Chi monocytes are critical players in dystrophic muscle injury and repair".

Selected poster, title: "Ly6Chi inflammatory monocytes accumulate in mdx mouse spleen and contribute to muscle pathology". Gordon Research Conference on Myogenesis, Building, Maintaining and Regenerating Skeletal Muscle, Lucca, Italy, 2019.

Selected poster: "Targeting early PKC theta dependent T cell infiltration of dystrophic muscle reduces disease severity in a mouse model of muscular dystrophy". Parent Project international conference, Rome, Italy, 2019.

Selected speaker, Scientific Session of the academic board of teachers of Histology and Embryology. Talk title: "Inhibition of PKC theta reduces inflammation", Rome, Italy 2016.

Selected poster: "Characterization of the PKC theta dependent immune response in muscular dystrophy". Gordon Conference on "Myogenesis", Molecular and Cellular Networks, Lucca, Italy, 2015.

Selected Speaker, XII International Congress of Immunology and 4th Annual Conference of FOCIS: Montreal, Québec, Canada. Talk title: "Expression of co-stimulatory molecules by pancreatic islet endothelial cells".

Contributions to scientific journals in the capacity of Editor or Reviewer

Reviewer for numerous scientific journals, among which: Frontiers in Physiology, Cell Death and Disease, Cells, International Journal of Molecular sciences. 2009 – present.

Member of the Review Board at Frontiers in Bioscience Scholar: Skeletal muscle, tissue regeneration, immune response to muscle injury, muscle stem cells. 2021 – present.

Guest Editor for the Special Issue, "Signaling Pathways in Striated Muscle Differentiation, Histogenesis and Repair" for the journal "International Journal of Molecular Sciences", 30-04-2021 al 30-04-2022

Funding Information [grants as PI-principal investigator]

Parent Project-IT grant 2024-2026: "Targeting trained immunity in DMD".

Ateneo 2023 from LUM University, Bari, Italy: “Trained Immunity in Duchenne Muscular Dystrophy”.

Ateneo 2022 from LUM University, Bari, Italy: “The role of macrophages in heart fibrosis”.

Dutch Duchenne Parent Project-Netherlands (Holand) grant, 2019: “The role of splenic monocytes in dystrophic muscle inflammation”.

Research Activities

Keywords

Skeletal muscle; Immune response; Monocytes; Satellite cells; Inflammation; Regeneration

Research focused on the immune response in the context of muscle injury and regeneration.

Principal studies

1) **Lozoska-Ochser B***, Benedetti A, Rizzo G, Marrocco V, Di Maggio R, Fiore P, Bouche M. (2018) Targeting early PKC θ -dependent T-cell infiltration of dystrophic muscle reduces disease severity in a mouse model of muscular dystrophy. *J Pathol*, 244:323-333

A study of the quality and kinetics of the immune response in dystrophic muscle, showing for the first time that T cells arrive in dystrophic muscle early during the pre-necrotic phase of the disease and their targeting with a PKC theta inhibitor resulted in improvement of the pathology.

2) Rizzo G, Di Maggio R, Benedetti A, Morroni J, Bouche M, and **Lozoska-Ochser B*** (2020). Splenic Ly6Chi monocytes are critical players in dystrophic muscle injury and repair. *JCI Insight*, 5: e130807.

A study of the splenic reservoir of inflammatory monocytes, showing for the first time that splenic monocytes are the major monocyte population recruited to dystrophic muscle where they contribute to both the inflammatory and the regeneration phase.

3) Benedetti A, Cera G, De Meo D, Villani C, Bouche M and **Lozoska-Ochser B*** (2021). A novel approach for the isolation and long-term expansion of pure satellite cells based on ice-cold treatment. *Skeletal Muscle*, 17;11(1):7.

A novel method for the isolation of muscle satellite cells both from mice and human patients. At present, this method is part of a study of a rare muscle satellite cell subpopulation with superior regenerative properties.

4) Jacopo Morroni, Anna Benedetti, Lorenza Esposito, Marco De Bardi, Giovanna Borsellino, Carles Sanchez Riera, Lorenzo Giordani, Marina Bouche, **Biliana Lozoska-Ochser*** (2023). Injury-experienced satellite cells retain long-term enhanced regenerative capacity. *Stem Cell Res Ther*. 12;14(1):246.

A study demonstrating for the first time that previous muscle injury is associated with the induction of inflammatory memory in muscle satellite cells, such that a second injury long after the first, when everything has returned to basal level, is associated with enhanced regenerative capacity. Playing a part in this process were splenic monocytes, which following the first muscle injury exhibited

enhanced cytokine production in response to the second injury. This finding inspired my present research (funded by Duchenne Parent Project-Italy) focused on understanding trained immunity induction in monocytes in response to dystrophic muscle injury and identifying novel targeting approaches.

Publications

Ruggieri V, Scaricamazza S, Bracaglia A, D'Ercole C, Parisi C, D'Angelo P, Proietti D, Cappelletti C, Macone A, **Lozanoska-Ochser B**, Bouche M, Latella L, Valle C, Ferri A, Giordani L, Madaro L. (2025). Polyamine metabolism dysregulation contributes to muscle fiber vulnerability in ALS. *Cell Reports*. 44. 115123. doi: 10.1016/j.celrep.2024.115123.

Gloriani M, Cheli B, D'Ercole C, Ruggieri V, Cosentino M, Serrat Pineda M, **Lozanoska-Ochser B**, Grassi F, Bouché M, Madaro L, Sánchez Riera C. (2025). Sarcoglycans are enriched at the neuromuscular junction in a nerve-dependent manner. *Cell Death Dis*. 22;16(1):37. doi: 10.1038/s41419-025-07353-1.

Marzetti E, **Lozanoska-Ochser B**, Calvani R, Landi F, Coelho-Júnior HJ, Picca A. (2024). Restoring Mitochondrial Function and Muscle Satellite Cell Signaling: Remedies against Age-Related Sarcopenia. *Biomolecules*. 14(4):415. doi: 10.3390/biom14040415.

Morrone J, Benedetti A, Esposito L, De Bardi M, Borsellino G, Sanchez Riera C, Giordani L, Bouche M, **Lozanoska-Ochser B***. (2023). Injury-experienced satellite cells retain long-term enhanced regenerative capacity. *Stem Cell Res Ther*. 12;14(1):246. ***Last and corresponding author**

Picca A, **Lozanoska-Ochser B**, Calvani R, Coelho-Júnior HJ, Leewenburgh C, Marzetti E. (2023). Inflammatory, mitochondrial, and senescence-related markers: Underlying biological pathways of muscle aging and new therapeutic targets. *Exp Gerontol*. 178:112204.

Molinari S, Imbriano C, Moresi V, Renzini A, Belluti S, **Lozanoska-Ochser B**, Gigli G, Cedola A. (2023). Histone deacetylase functions and therapeutic implications for adult skeletal muscle metabolism. *Front Mol Biosci*. 15;10:1130183.

Della Peruta C, **Lozanoska-Ochser B**, Renzini A, Moresi V, Sanchez Riera C, Bouché M, Coletti D. (2023). Sex Differences in Inflammation and Muscle Wasting in Aging and Disease. *Int J Mol Sci*. 28;24(5):4651.

Di Rocco A, Camero S, Benedetti A, **Lozanoska-Ochser B**, Megiorni F, Marchese C, Stramucci L, Ciccarelli C, Bouché M, Bossi G, Marampon F, Zani BM. (2022). Anti-oncogenic and pro-myogenic action of the MKK6/p38/AKT axis induced by targeting MEK/ERK in embryonal rhabdomyosarcoma. *Oncol Rep*. 48(3):151.

Morrone J, Schirone L, Valenti V, Zwergel C, Riera C, Valente S, Vecchio D, Schiavon S, Ragno R, Mai A, Sciarretta S, **Lozanoska-Ochser B[†]**, and Bouché M. (2022). Inhibition of PKC θ Improves Dystrophic Heart Phenotype and Function in a Novel Model of DMD Cardiomyopathy. *International Journal of Molecular Sciences* 23, no. 4: 2256. **†Co-last Author**

Benedetti A, Cera G, De Meo D, Villani C, Bouche M and **Lozoska-Ochser B***. (2021). A simple method for the isolation and in vitro expansion of highly pure mouse and human satellite cells. *Bio-protocol* 11(23): e4238. ***Last and corresponding author**

Benedetti A, Cera G, De Meo D, Villani C, Bouche M and **Lozoska-Ochser B***. (2021). A novel approach for the isolation and long-term expansion of pure satellite cells based on ice-cold treatment. *Skeletal Muscle*, 17;11(1):7. ***Last and corresponding author**

Morrone J, Schirone L, Vecchio D, Nicoletti C, D'Ambrosio L, Valenti V, Sciarretta S, **Lozoska-Ochser B[†]**, Bouché M. (2021). Accelerating the *mdx* heart histo-pathology through physical exercise. *Life*, 17;11(7):706. **[†]Co-last Author**

Renzini A, Riera CS, Minic I, D'Ercole C, **Lozoska-Ochser B**, Cedola A, Gigli G, Moresi V, Madaro L. (2021). Metabolic remodelling in skeletal muscle atrophy as a therapeutic target. *Metabolites*, 5;11(8):517.

Proietti D, Giordani L, De Bardi M, D'Ercole C, **Lozoska-Ochser B**, Amadio S, Volonté C, Marinelli S, Muchir A, Bouché M, Borsellino G, Sacco A, Puri PL, Madaro L. (2021). Activation of skeletal muscle-resident glial cells upon nerve injury. *JCI Insight*, 8;6(7):e143469.

Sánchez Riera C, **Lozoska-Ochser B**, Testa S, Fornetti E, Bouché M, Madaro L. (2021). Muscle diversity, heterogeneity, and gradients: Learning from sarcoglycanopathies. *Int J Mol Sci*, 22:2502.

Berardi E, Madaro L, **Lozoska-Ochser B**, Adamo S, Thorrez L, Bouche M, Coletti D. (2021). A pound of flesh: What cachexia is and what it is not. *Diagnostics*, DOI: 10.3390/diagnostics11010116.

Rizzo G, Di Maggio R, Benedetti A, Morrone J, Bouche M, and **Lozoska-Ochser B***. (2020). Splenic Ly6C^{hi} monocytes are critical players in dystrophic muscle injury and repair. *JCI Insight*, 5: e130807. ***Last and corresponding author**

Benedetti A, Fiore PF, Madaro L, **Lozoska-Ochser B[†]**, Bouché M. (2020). Targeting PKC θ Promotes Satellite Cell Self-Renewal. *Int J Mol Sci*, 7, 1-18. **[†]Co-last Author**

Fiore P, Benedetti A, Sandonà M, Madaro L, De Bardi M, Saccone V, Puri PL, Gargioli C, **Lozoska-Ochser B**, and Bouché M. (2020). Lack of PKC θ promotes regenerative ability of muscle stem cells in chronic muscle injury. *Int J Mol Sci*, 21:932.

Bouché M, **Lozoska-Ochser B**, Proietti D, Madaro L. (2018). Do neurogenic and cancer-induced muscle atrophy follow common or divergent paths? *Eur J Transl Myol*, 28: 393-400.

Lozoska-Ochser B*, Benedetti A, Rizzo G, Marrocco V, Di Maggio R, Fiore P, Bouche M. (2018) Targeting early PKC θ -dependent T-cell infiltration of dystrophic muscle reduces disease severity in a mouse model of muscular dystrophy. *J Pathol*, 244:323-333. ***First and corresponding author**

Marrocco V, Fiore P, Benedetti A, Pisu S, Rizzuto E, Musarò A, Madaro L, **Lozoska-Ochser B**, Bouché M. (2017). Pharmacological Inhibition of PKC θ Counteracts Muscle Disease in a Mouse Model of Duchenne Muscular Dystrophy. *EBioMedicine*, 16:150-161.

Marrocco V, Fiore P, Madaro L, Crupi A, **Lozanoska-Ochser B** and Bouché M. (2014). Targeting PKC theta in skeletal muscle and muscle diseases: good or bad? *Biochemical Society Transactions.*, 42:1550-155.

Lozanoska-Ochser B and Peakman M. (2009). Level of MHC class I expression on endothelium in non-obese diabetic mice influences CD8 T cell adhesion and migration. *Clinical and Experimental Immunology*, 157:119-127. **First author**

Thrower SL, James L, Hall W, Green KM, Arif S, Allen JS, Van-Krinks C, **Lozanoska-Ochser B**, Marquesini L, Brown S, Wong FS, Dayan CM, Peakman M. (2009). Proinsulin peptide immunotherapy in type 1 diabetes: report of a first-in-man Phase I safety study. *Clinical and Experimental Immunology*, 155:156-65.

Allen JS, Pang K, Skowera A, Ellis R, Rackham C, **Lozanoska-Ochser B**, Tree T, Leslie RD, Tremble JM, Dayan CM, Peakman M. (2009). Plasmacytoid dendritic cells are proportionally expanded at diagnosis of type 1 diabetes and enhance islet autoantigen presentation to T-cells through immune complex capture. *Diabetes*, 58:138-45.

Lozanoska-Ochser B, Klein NJ, Huang GC, Alvarez RA, Peakman M. (2008). Expression of CD86 on human islet endothelial cells facilitates T cell adhesion and migration. *Journal of Immunology*, 181:6109-16. **First author**

Lozanoska-Ochser B, Barone F, Pitzalis C, Peakman M. (2006). Atorvastatin fails to prevent the development of autoimmune diabetes despite inhibition of pathogenic beta-cell-specific CD8 T-cells. *Diabetes*, 55:1004-10. **First author**

Favaro E, Bottelli A, **Lozanoska-Ochser B**, Ferioli E, Huang GC, Klein N, Chiaravalli A, Perin PC, Camussi G, Peakman M, Conaldi PG, Zanone MM (2005). Primary and immortalised human pancreatic islet endothelial cells: phenotypic and immunological characterisation. *Diabetologia*, 48(12):2552-62.

Zanone MM, Favaro E, Doublier S, **Lozanoska-Ochser B**, Deregibus MC, Greening J, Huang GC, Klein N, Cavallo Perin P, Peakman M, Camussi G. (2005). Expression of nephrin by human pancreatic islet endothelial cells. *Diabetologia*, 48:1789-97.

Rome, 02.07.2025

