

## PERSONAL INFORMATION

## Aurora Mazzeo

✉ [aurora.mazzeo@irst.emr.it](mailto:aurora.mazzeo@irst.emr.it)

| Nationality Italian

**POSITION:** Study coordinator at Istituto Romagnolo per lo Studio dei Tumori "Dino Amadori" - IRST IRCCS

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## WORK EXPERIENCE

From February 2022 to date

**Clinical Study coordinator**

Istituto Romagnolo per lo Studio dei Tumori "Dino Amadori" - IRST IRCCS  
Via Piero Maroncelli, 40 - 47014 Meldola (FC)  
Tel. 0541705107

I manage my work as CSC at U.O. Hematology – Ospedali Infermi di Rimini.

From January 2017 to January  
2022

**PostDoc Fellow**

Laboratory of Diabetic Retinopathy (Prof. Massimo Porta)

Dept. of Medical Sciences, Corso Dogliotti, 14, 10126 Torino

Tel. +39-011.670 5396 - Fax +39-011.6708436

[segr.dsm@unito.it](mailto:segr.dsm@unito.it)

**Activity :** Experimental studies on the mechanisms responsible for the development of diabetic retinopathy, in particular the role of extracellular vesicles derived from plasma in the destabilization of pericytes and endothelial cells and the interactions between these cells in retinal capillaries. 6-year experience in the culture of retinal microvascular cells, mesenchymal stem cells, and extracellular vesicle extraction. Established skills in cell and molecular biology (qRT-PCR, Western blotting, protein silencing, microRNAs, genome editing).

**Sector:** Basic and Translational Research – Diabetes – Diabetic Retinopathy

From March 2018 to April 2018

**Lecturer of Cell Biology (SSD BIO/06)**

Dept. of Life Sciences and System Biology, Via Accademia Albertina, 13, 10123 Torino  
Tel. +39-011 670 4617

From January 2014- to  
December 2016

**PhD Student**

Laboratory of Diabetic Retinopathy (Prof. Massimo Porta)

Dept. of Medical Sciences, Corso Dogliotti, 14, 10126 Torino

Tel. +39-011.670 5396 - Fax +39-011.6708436

[segr.dsm@unito.it](mailto:segr.dsm@unito.it)

**Activity :** Experimental studies on the mechanisms responsible for the development of diabetic retinopathy, in particular the role of extracellular vesicles derived from mesenchymal stem cells and plasma in the destabilization of pericytes and endothelial cells and the interactions between these cells in retinal capillaries. 3-year experience in the culture of retinal microvascular cells, mesenchymal stem cells, and extracellular vesicle extraction. Established skills in cell and molecular biology (qRT-PCR, Western blotting, protein silencing, microRNAs).

**Sector:** Basic and Translational Research – Diabetes – Diabetic Retinopathy

From February 2016 to April 2016

**Visiting Research Fellow**

Laboratory of Dr Angela María Martínez Valverde

Instituto de Investigaciones Biomedicas “Alberto Sols” CISC UAM

C/ Arturo Duperier 4. 28029 Madrid (Spain)

Tel.: +(34) 91 585 4400 - Fax: +(34) 91 585 4401

**Activity:** Experimental studies on the influence exerted on human retinal pericytes by extracellular vesicles derived from mesenchymal stem cells cultured in conditioned media from microglia exposed to inflammatory conditions. The study was aimed at finding a common denominator between microvascular and neuronal components of the retina and the mechanisms leading to damage in the early phases of Diabetic Retinopathy

**Sector** Basic and Translational Research – Diabetes - Diabetic Retinopathy

**Research Student**

From September 2012 to October  
2013

Laboratory of Endocrine Pathophysiology (Prof. Ettore Degli Uberti)

Department of Life Sciences and Biotechnology, via Fossato di Mortara, 64 – Ferrara  
Tel. +39 0532455588 / +39 0532455593 - Fax. +39 0532455594

**Activity :** Experimental studies on the molecular mechanism of ACTH-secreting pituitary adenomas

**Sector :** Basic Research - Endocrinology

EDUCATION AND TRAINING

- March 2017 PhD in Medical Pathophysiology with thesis intitled: “ Mesenchymal stem cell-derived extracellular vesicles and pericyte dysfunction during angiogenesis in diabetes”  
University of Turin (Italy), Via Verdi, 8 - 10124 Torino  
Tel. +39 011 6706111 - <http://www.unito.it>
- November 2013 Qualification (Esame di Stato), with marks 159/200  
University of Ferrara (Italy), Via Ludovico Ariosto 35 - 44121 Ferrara  
Tel. +39 0532 293111- <http://www.unife.it>
- October 2013 Master in Biomolecular and Cellular Sciences (Laurea Magistrale in Scienze Biomolecolari e Cellulari – classe di laurea: LM-6), marks 110/110 *cum laude*  
University of Ferrara (Italy), Via Ludovico Ariosto 35 - 44121 Ferrara  
Tel. +39 0532 293111- <http://www.unife.it>  
  
*Acquired skills: Molecular and Cell Biology methods, Biochemistry, Microbiology, Virology, Biology of Cancer, Genetics*
- October 2011 Bachelor in Biological Sciences (Laurea Triennale in Scienze Biologiche), marks 110/110  
University of Ferrara (Italy), Via Ludovico Ariosto 35 - 44121 Ferrara  
Tel. +39 0532 293111- <http://www.unife.it>  
  
*Acquired skills: in the fields of Zoology, Botany, Microbiology, Virology, Chemistry*
- June 2008 High School Diploma (Diploma di Maturità Scientifica), marks 100/100,  
Liceo Scientifico “G. Banzi Bazoli”, Lecce (Italy), Piazza Palio, 63 - 73100 Lecce  
tel.0832 393473 - e-mail [leps07000a@istruzione.it](mailto:leps07000a@istruzione.it) - <http://www.liceobanzi.gov.it>

PERSONAL SKILLS

Mother tongue Italian

Other language

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	B2	C1	B2	B2	B2

Levels: A1/A2: Basic user - B1/B2: Independent user - C1/C2 Proficient user  
[Common European Framework of Reference for Languages](#)

Communication skills

- good communication skills gained through my experience in international congresses and visits in foreign institutions

- Organisational / managerial skills
  - ability to organize laboratory work
  - ability to interact with different scientific groups
  
- Job-related skills
  - ability to coordinate all the aspects of an experimental trial
  - ability to manage different scientific techniques, from cell to molecular biology procedures
  - ability to write scientific papers and projects

SELF-ASSESSMENT					
Digital competence	Information processing	Communication	Content creation	Safety	Problem solving
	Independent user	Proficient user	Proficient user	Proficient user	Independent user

Levels: Basic user - Independent user - Proficient user  
[Digital competences - Self-assessment grid](#)

Driving licence B

ADDITIONAL INFORMATION

**Publications**  
(7 as first author)

1. Beltramo E, **Mazzeo A**, Porta M. Release of Pro-Inflammatory/Angiogenic Factors by Retinal Microvascular Cells Is Mediated by Extracellular Vesicles Derived from M1-Activated Microglia. *Int J Mol Sci.* 2023 Dec 19;25(1):15. doi: 10.3390/ijms25010015. PMID: 38203187; PMCID: PMC10778795.
2. **Mazzeo A**, Porta M, Beltramo E. Characterization of an Immortalized Human Microglial Cell Line as a Tool for the Study of Diabetic Retinopathy. *Int J Mol Sci.* 2022 May 20;23(10):5745. doi: 10.3390/ijms23105745. PMID: 35628555; PMCID: PMC9145666.
3. Ziegler D, Porta M, Papanas N, Mota M, Jermendy G, Beltramo E, **Mazzeo A**, Caccioppo A, Striglia E, Serhiyenko V, Serhiyenko A, Rosta L, Stirban OA, Putz Z, Istenes I, Horváth V, Kempler P. The Role of Biofactors in Diabetic Microvascular Complications. *Curr Diabetes Rev.* 2022;18(4):e250821195830. doi: 10.2174/1871527320666210825112240. PMID: 34433401.
4. Beltramo E, **Mazzeo A**, Porta M. Thiamine and diabetes: back to the future? *Acta Diabetol.* 2021 Nov;58(11):1433-1439. doi: 10.1007/s00592-021-01752-4. Epub 2021 Jun 5. PMID: 34091762; PMCID: PMC8505293.
5. Porta M, Chiesa M, Fornengo P, Franceschini M, Tricarico L, **Mazzeo A**, Di Leva A, Bertello S, Clerico A, Oleandri S, Trento M. Detection of real-life activities by a tri-axial accelerometer worn at different body locations: Analysis and interpretation. *Diabet Med.* 2021 Oct;38(10):e14609. doi: 10.1111/dme.14609. Epub 2021 Jun 10. PMID: 34043833; PMCID: PMC8518063.
6. **Mazzeo A**, Barutta F, Bellucci L, Trento M, Gruden G, Porta M, Beltramo E. Reduced Thiamine Availability and Hyperglycemia Impair Thiamine Transport in Renal Glomerular Cells through Modulation of Thiamine Transporter 2. *Biomedicines.* 2021 Apr 5;9(4):385. doi: 10.3390/biomedicines9040385.

7. Trento M, Franceschini M, Fornengo P, Tricarico L, **Mazzeo A**, Bertello S, Clerico A, Oleandri S, Chiesa M, Di Leva A, Charrier L, Cavallo F, Porta M. Ambient intelligence for long-term diabetes care (AmILCare). Qualitative analysis of patients' expectations and attitudes toward interactive technology. *Endocrine*. 2021 Mar 25:1–4. doi: 10.1007/s12020-021-02694-1.
8. Trento M, Fornengo P, Amione C, Salassa M, Barutta F, Gruden G, **Mazzeo A**, Merlo S, Chiesa M, Cavallo F, Charrier L, Porta M. Self-management education may improve blood pressure in people with type 2 diabetes. A randomized controlled clinical trial. *Nutr Metab Cardiovasc Dis*. 2020 DOI: 10.1016/j.numecd.2020.06.0232020 Jul 2:S0939-4753(20)30252-0.
9. **Mazzeo A**, Gai C, Trento M, Porta M, Beltramo E. Effects of thiamine and fenofibrate on high glucose and hypoxia-induced damage in cell models of the inner blood-retinal barrier [published online ahead of print, 2020 Jul 12]. *Acta Diabetol*. 2020; DOI :10.1007/s00592-020-01565-x.
10. Beltramo E; **Mazzeo A.**; Lopatina T.; Trento, M.; Porta M. Thiamine transporter 2 is involved in high glucose-induced damage and altered thiamine availability in cell models of diabetic retinopathy. DOI:10.1177/1479164119878427. pp.1-15. *DIABETES & VASCULAR DISEASE RESEARCH* - ISSN:1479-1641
11. Trento M., Charrier L., Cavallo F., Bertello S., Oleandri S., Donati MC., Rizzo S., Virgili G., Picca G., Bandello F., Lattanzio R., Aragona E., Perilli R., Casati S., Beltramo E., **Mazzeo A.**, Fornengo P., Durando O., Merlo S., Porta M. Vision-related quality of life and locus of control in type 1 diabetes: a multicenter observational study. *Acta Diabetol*. 2019 Jul 17.doi: 10.1007/s00592-019-01384-9.
12. **Mazzeo A**, Lopatina T, Gai C, Trento M, Porta M, Beltramo E. Functional analysis of miR-21-3p, miR-30b-5p and miR-150-5p shuttled by extracellular vesicles from diabetic subjects reveals their association with diabetic retinopathy. *Exp Eye Res*. 2019 Jul; 184: 56-63
13. **Mazzeo A**, Beltramo E, Lopatina T, Gai C, Trento M, Porta M. Molecular and functional characterization of circulating extracellular vesicles from diabetic patients with and without retinopathy and healthy subjects. *Exp Eye Res*. 2018 Jul 3;176:69-77
14. *Baltatescu A, Striglia E, Trento M, Mazzeo A, Cavallo F, Charrier L, Porta M.* Detection of perimacular red dots and blots when screening for diabetic retinopathy: Refer or not refer? *Diab Vasc Dis Res*. 2018 Jul;15(4):356-359. Epub 2018 May 18.
15. **Mazzeo A**, *Arroba AI, Beltramo E, Valverde AM, Porta M.* Somatostatin protects human retinal pericytes from inflammation mediated by microglia. *Exp Eye Res* 164:46-54 (2017) doi: 10.1016/j.exer.2017.07.011
16. *Beltramo E, Arroba AI, Mazzeo A, Valverde AM, Porta M.* Imbalance between pro-apoptotic and pro-survival factors in human retinal pericytes in diabetic-like conditions, *Acta Ophthalmol*. 96 (1): pp e19-e26 (2018) doi:10.1111/aos.13377
17. *Arroba AI, Mazzeo A, Cazzoni D, Beltramo E, Hernández C3, Porta M, Simó R3, Valverde AM* Somatostatin protects photoreceptor cells against high glucose-induced apoptosis. *Molecular Vision*. 22:1522-31 (2016)
18. *Beltramo E., Lopatina T., Mazzeo A., Arroba A.I., Valverde A.M., Hernández C., Simó R., Porta M.* Effects of the neuroprotective drugs somatostatin and brimonidine on retinal cell models of diabetic retinopathy. *Acta Diabetol* p. 1-8, ISSN: 0940-5429, (2016) doi: 10.1007/s00592-016-0895-4.
19. **Mazzeo A**, *Beltramo E, Iavello A, Carpanetto A, Porta M.* Molecular mechanisms of extracellular vesicle-induced vessel destabilization in diabetic retinopathy. *Acta Diabetol* 52 (6): 1113-1119 (2015) doi:10.1007/s00592-015-0798-9

20. Beltramo E, Lopatina T, Berrone E, **Mazzeo A**, Iavello A, Camussi G, Porta M. Extracellular vesicles derived from mesenchymal stem cells induce features of diabetic retinopathy in vitro. *Acta Diabetol.* Dec;51(6):1055-64 (2014) doi: 10.1007/s00592-014-0672-1
21. Lopatina T, **Mazzeo A**, Bruno S, Tetta C, Kalinina N, Romagnoli R, Salizzoni M, Porta M, Camussi G. The Angiogenic Potential of Adipose Mesenchymal Stem Cell-derived Extracellular Vesicles is modulated by Basic Fibroblast Growth Factor. *J Stem Cell Res Ther* 4:245 (2014) doi:10.4172/2157-7633.1000245
22. M.Trento, J. Sicuro, L.Charrier, P. Berchiolla, S. Merlo, **A. Mazzeo**, F. Cavallo, M. Porta. Self-management education by Group Care reduces cardiovascular risk in patients with type 2 diabetes. Analysis of the ROMEO clinical trial. *Diabetes Care Sep;37(9):e192-3* (2014). doi: 10.2337/dc14-1054.

## Abstracts

1. **Mazzeo A**, Beltramo E, Trento M, Porta M. High glucose and hypoxia-induced damage in the inner blood retinal barrier is counteracted by thiamine supplementation. *Eur J Ophthalmol*, 29 (3): S 18-19. Poster presentation at the 29<sup>th</sup> EASDec Meeting – Amsterdam 16-18 May 2019
2. **Mazzeo A**, Beltramo E, Gai C, Lopatina T, Trento M, Porta M. Functional analysis of miRNAs shuttled by extracellular vesicles from diabetic subjects reveals their role in diabetic retinopathy. *Diabetologia* 61 (2018) S486. Poster presentation at 54<sup>th</sup> EASD Meeting – Berlin 1-5 Oct 2018
3. **Mazzeo A**, Beltramo E, Trento M, Porta M. Ruolo delle vescicole extracellulari circolanti nella patogenesi della retinopatia diabetica. Oral presentation at the 27<sup>th</sup> SID Meeting – Rimini 16-19 May 2018.
4. **Mazzeo, A**, Beltramo E, Gai C, Lopatina, T, Trento M, Porta M. Circulating extracellular vesicles from diabetic and healthy subjects show different miRNA patterns. *Diabetologia* 60(2017), pp. S481-S481. Poster presentation at 53<sup>rd</sup> EASD Meeting – Lisbon 15-19 Sept 2017
5. Beltramo E., **Mazzeo A.**, Trento M., Porta M. miRNAs shuttled by extracellular vesicles from diabetic subjects induce features of retinopathy in vitro. *Eur J Ophthalmol*, 28(3): S 6-7, 2018, Oral presentation at the 28th EASDec Meeting - Belfast, 24-26 May 2018
6. **Mazzeo A.**, Arroba A.I., Beltramo E., Valverde A.M., Porta M. Somatostatin protects human retinal pericytes from microglia-mediated inflammation. *Eur J Ophthalmol*, 27(3): e119, 2017 Oral presentation at the 27th EASDec Meeting - Budapest, 25-27 May 2017
7. **Mazzeo A**, Beltramo E, Gai C, Lopatina T, Porta M. Different miRNA patterns in extracellular vesicles from diabetic and healthy subjects. *Eur J Ophthalmol*, 24(6): e92, 2016 Oral presentation at the 26th EASDec Meeting - Manchester, 23-25 June 2016
8. **Mazzeo A**, Beltramo E, Iavello A, Grimaldi S, Carpanetto A, Porta M. miR-126 is downregulated in pericytes following exposure to mesenchymal stem cell-derived extracellular vesicles obtained in diabetic-like conditions. *Diabetologia* 58 (Suppl. 1) S523, 2015 Oral presentation at the 51st EASD Meeting – Stockholm, 14-18 Sept 2015

9. Beltramo E, Arroba AI, **Mazzeo A**, Simò R, Porta M, Valverde AM. Identification of pro-apoptotic markers responsible for hypoxia and hyperglycaemia-induced pericyte apoptosis. *Diabetologia* 58 (Suppl. 1) S518, 2015
10. **Mazzeo A.**, Beltramo E., Iavello A., Grimaldi S., Carpanetto A., Porta M. Down-regulation of miR-126 in human retinal pericytes after exposure to extracellular vesicles in diabetic-like conditions. *Eur J Ophthalmol*, 25(3): e8, 2015  
Oral presentation at the 25th EASDec Meeting – Torino, 26-28 June 2015.
11. Beltramo E, Arroba AI, **Mazzeo A**, Simò R, Porta M, Valverde AM. Hypoxia and hyperglycaemia-induced pericyte apoptosis: identification of pro-apoptotic markers. *Eur J Ophthalmol*, 25(3): e9, 2015
12. **Mazzeo A.**, Beltramo E., Iavello A., Grimaldi S., Carpanetto A., Porta M. Interazione tra periciti e vescicole extracellulari ottenute da cellule mesenchimali staminali nella retinopatia diabetica: ruolo del miR-126. Abstract accepted for oral presentation at the 40th Regional Meeting of SID (Società Italiana di Diabetologia), Sez. Piemonte e Valle d'Aosta, Torino, 20.06.15.
13. Borio L, Rapetti S, Merlo S. **Mazzeo A**, Passera P, Cavallo F, Porta M, Trento M. Assessment psicologico e associazioni tra diabete mellito tipo 1 e altre sindromi autoimmuni. Caratteristiche cliniche e psicologiche in una casistica ambulatoriale. Abstract Convegno interregionale S.I.M.I., Torino, 28.11.14
14. **A. Mazzeo**, E. Beltramo, T. Lopatina, M. Porta  
Microvesicles derived from mesenchymal stem cells in diabetic-like conditions increase permeability in a retinal blood-barrier model. *Diabetologia* 57 (suppl.1): S28, 2014.  
Oral presentation at the 50th EASD Meeting – Vienna, 15-19 Sept 2014
15. E. Gentilin, **A. Mazzeo**, E. Ricciardi, T. Gagliano, K. Benfina, M. Minoia, D. Molè, E. degli Uberti, M.C. Zatelli. Ruolo della proteina chinasi c delta negli adenomi ipofisari ACTH-secerenti (Role of protein kinase C delta in a cell line of ACTH-secreting pituitary adenoma). Abstract del 37° Congresso della Società Italiana di Endocrinologia (37th Meeting of the Italian Endocrinology Association) - XXXI Giornate Endocrinologiche Pisane, Pisa (Italy) 10-14.04.14.

#### Funded Projects

- Bando di finanziamento “Progetti di Ricerca finanziati dall’Università degli Studi di Torino (ex 60%)” –2018 to dr Elena Beltramo. Role in the project: PhD Student) Title: *Role of neuroprotective and anti-inflammatory molecules in the prevention of diabetic retinopathy*
- *Bando di finanziamento “Progetti di Ricerca finanziati dall’Università degli Studi di Torino (ex 60%)” –2017 to dr Elena Beltramo (Role in the project: PhD Student) Title: Modulation of thiamine transport in human retinal and renal cells in diabetic-like conditions*
- *EFSD (European Foundation for the Study of Diabetes) – Lilly Research Fellowship 2016 to dr. Aurora Mazzeo (Role: PI) Title: Role(s) of circulating extracellular vesicles in pathogenesis and repair of diabetic complications. Amount granted: 50.000 €*
- *Bando Talenti della Società Civile 2016– Fondazione Gorla – CRT to dr. Aurora Mazzeo Title: Ruolo delle vescicole extracellulari circolanti nella patogenesi delle*

*complicanze microvascolari del diabete* Amount granted: 18.000 €

- *Bando di finanziamento “Progetti di Ricerca finanziati dall’Università degli Studi di Torino (ex 60%)” –2015 to dr Elena Beltramo (Role in the project: PhD Student) Title: Molecular and functional characterization of extracellular vesicles from diabetic and healthy subjects*
- *EFSD/Boehringer Ingelheim European Research Programme in Microvascular Complications of Diabetes 2016 to prof. Massimo Porta (Role in the project: PostDoc) Title: Thiamine transporters and hyperglycaemia-induced damage in human retinal and renal cells.*

#### Honours and awards

2014 - Travel grant for young researchers to attend the 50<sup>th</sup> EASD Meeting (Vienna, Austria, Sept 15-19)

2014 - Admitted to the EASD Young Scientist Training Course 2014, Maastricht, The Netherlands, 10-14.11.2014

2015 - Travel grant for young researchers to attend the 51<sup>st</sup> EASD Meeting (Stockholm, Sweden, Sept 14-18)

2016 - EFSD Albert Renold Travel Fellowship to spend 3 months in Instituto de Investigaciones Biomedicas “Alberto Sols” CISC UAM - Laboratory of Dr Angela María Martínez Valverde

2017 - Travel grant for young researchers to attend the 53<sup>rd</sup> EASD Meeting (Lisbona, Portogallo, Sept 11-15)

2018- Travel grant for young researchers to attend the 54<sup>th</sup> EASD Meeting (Berlino, Germania, Oct 1-5)

2019 – Riconoscimento attività ricerca come giovane ricercatore alla 12°edizione di Parma Diabete – 23-24/01/2020 - Parma

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Autorizzo il trattamento dei miei dati personali presenti nel curriculum vitae ai sensi del Decreto Legislativo 30 giugno 2003, n. 196 e del GDPR (Regolamento UE 2016/679).