



PERSONAL INFORMATION

Name	Guido Sebastiani
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Nationality	Italian

WORK EXPERIENCE

Dec.2022 – to date: Associate Professor in Laboratory Medicine, *MED/46 (06/N1)*, DSMCN, University of Siena, Italy.

Nov.2019 – Nov.2022: *Assistant Professor in Laboratory Medicine (RTD-B t.d. – t. pieno (art. 24 c.3-b L.240/10), MED/46 (06/N1)*, DSMCN, University of Siena, Italy- Activities: molecular aspects of human metabolic diseases particularly in type-1 (T1D), type-2 (T2D) and gestational diabetes mellitus (GDM). Characterization and function of small non coding RNAs, genes, cytokines and chemokines expression profiles in pancreata or serum/plasma samples of diabetic patients using multiple methodologies. Multiomics Biomarkers identification and analysis.

Nov.2016- Nov.2019: *Assistant Professor in Laboratory Medicine ((RTD-A t.d. – t. pieno (art. 24 c.3-b L.240/10), MED/46 (06/N1)*, DSMCN, University of Siena, Italy- Activities: high throughput Real Time PCR microRNAs expression, circulating small RNAs analysis using next generation sequencing (NGS), multiomics data analysis, isolation and characterization of exosomes from biological fluids, immunohistology and images analysis, fluorescence and confocal microscopy analysis, RNA in-situ hybridization analysis, multiple primary cell and cell lines in-vitro evaluation including manipulation of genes and small RNA expression.

Mag-2012-Nov 2016: *Post-Doc Fellow*, Department of Medicine Science and Neuroscience- University of Siena

EDUCATION AND TRAINING

Nov. 2018- National Scientific Qualification (Professore II Fascia)- *MED/46 (06/N1)*

Nov. 2008 – Nov. 2011- PhD in Biomedicine and Immunological Sciences, Department of Medicine Science and Neuroscience- University of Siena. Dissertation Thesis Title: "MicroRNA expression profiling reveals Tissue-specific and disease associated signatures"

Dec. 2006 – Jul. 2008- Master Degree in Molecular Biology (110/110 e lode). Dissertation Thesis Title: "Altered expression of microRNAs in pancreatic islets from Type 2 Diabetic donors"

PERSONAL SKILLS AND COMPETENCES

MOTHER TONGUE Italian
OTHER LANGUAGES ENGLISH

SCIENTIFIC SKILLS AND COMPETENCES

Great experience in molecular aspects of human metabolic diseases, particularly in type 1 (T1D), and type 2 Diabetes (T2D). Expertise in the characterization and function of small non coding RNAs (e.g. microRNAs), genes, cytokines and chemokines expression profiles in pancreata or serum/plasma samples of diabetic patients. Multiple methodologies experience, comprising: high throughput Real Time PCR microRNAs expression, small RNAs analysis using next generation sequencing (NGS), multiomics data analysis, isolation and characterization of exosomes from biological fluids, immunohistology and images analysis, fluorescence and confocal microscopy analysis, RNA in-situ hybridization analysis, multiple primary cell and cell lines in-vitro evaluation including manipulation of genes and small RNA expression.

RELEVANT ROLES AND COMPETENCES

Coordination and administration of people, projects and budgets.

Management of a Research Lab composed of post-doc research fellows, PhD students, graduate students. Planning of experimental activities. Coordination of numerous research projects (national and international). Coordination of national and international collaborations. External communications of research activities results (e.g. seminars, conferences). Financial coordination of lab projects. Planning and writing of scientific publications.

INVITED SPEAKER TO NATIONAL AND INTERNATIONAL CONGRESSES

- G. Sebastiani. Titolo della presentazione: "Immunologia del Diabete di Tipo 1: Difendere L'isola!" DeiDuemila. Nome dell'evento: La diabetologia in tempo di Crisi. 2-4 Ottobre 2014, Rimini
- G. Sebastiani. "MiRNA come mediatori e marcatori di malattia"- MicroRNA e Diabete di tipo1. Congresso Nazionale della Società Italiana di Diabetologia (SID), 4-7 May 2016, Rimini- Italy
- G. Sebastiani. "Circulating microRNAs as biomarkers or T1D: where do we stand?" IMI2-INNODIA, 26-28 Settembre 2017- Cambridge, UK
- G. Sebastiani. "Genetica e Diabete di Tipo1: i microRNA come biomarcatori di malattia nel Diabete"- 27 October 2017, Pistoia- Italy.
- G. Sebastiani "MicroRNA e Diabete: da regolatori intracellulari a biomarcatori circolanti" Società Italiana di Endocrinologia (SIE)- 14-17 July 2021 Roma-Italy.
- G. Sebastiani "Reviving stunned beta cell in type 1 diabetes: is it possible?" all'interno del simposio :YOSID MEET THE MENTOR TRANSLATIONAL SCIENCE: BETA CELL JAMMING Panorama Diabete (SID) 27-30 Novembre 2021, Riccione-Italia.
- G. Sebastiani "Unbiased Sequencing of Circulating microRNAs in T1D individuals captures different inflammatory-based insulin resistant metabolic states". 16-17 March 2022 Pisa-Italy
- G. Sebastiani "Gli RNA circolanti come strumento di personalizzazione della terapia" Società Italiana di Diabetologia (SID) - 26-29 Ottobre 2022, Rimini-Italia.

SCIENTIFIC COMMITTEE AND SOCIETIES

- Member of the Scientific Committee of *Società Italiana di Diabetologia*
- Member of the Scientific Committee of *Fondazione Umberto di Mario Onlus*
- Member of *Società Italiana Ricerca Traslazionale e Professioni Sanitarie*

PRIZES AND AWARDS FOR SCIENTIFIC ACTIVITIES

- Educational Travel Grant Award EASD 2014_08-07-2014
- Educational Travel Grant Award EASD 2015_06-07-2015
- Educational Travel Grant Award EASD 2016_08-07-2016
- JDRF nPOD Young Investigator Award 2019_20-02-2019

Peer Review Activities in Impacted Journals

- Diabetologia [ISSN: 0012-186X; eISSN: 1432-0428]; [I.F. 10,46]
- Diabetes [ISSN: 1939-327X]; [I.F. 9,8]
- Frontiers in Immunology [ISSN: 1664-3224]; [I.F. 8,78]
- Molecular Metabolism [ISSN: 2212-8778]; [I.F. 8.56]

- Diabetes, Metabolism Research & Reviews [ISSN: 1520-7560]; [I.F. 8,12]
- International Journal of Molecular Sciences [ISSN:]; [I.F. 6.20]
- Frontiers in Endocrinology [ISSN: 1664-2392]; [I.F. 6.0]
- Clinical and Experimental Immunology [ISSN: 1365-2249]; [I.F. 5.73]
- Laboratory Investigation [ISSN: 1530-0307]; [I.F. 5.5]
- Journal of Endocrinological Investigation [ISSN: 1720-8386]; [I.F. 5.46]
- Scientific Report [ISSN: 2045-2322]; [I.F. 4.99]
- Acta Diabetologica [ISSN: 0940-5429; eISSN: 1432-5233]; [I.F. 4.0]
- Plos One [eISSN: 1932-6203]; [I.F. 3,75]
- Endocrine [ISSN: 1355-008X; eISSN: 1559-0100]; [I.F. 3.92]
- Molecular and Cellular Biochemistry [ISSN: 0300-8177; 1573-4919] ; [I.F. 3.84]

PUBLICATIONS

h-Index: 26 (Scopus)

Total Number of publications: 64

Total Citations: 2255 (Scopus)

Relevant Publications:

-Brusco N, Sebastiani G, Di Giuseppe G, Licata G, Grieco GE, Fignani D, Nigi L, Formichi C, Aiello E, Auddino S, Quero G, Cefalo CMA, Cinti F, Mari A, Ferraro PM, Pontecorvi A, Alfieri S, Giaccari A, Dotta F, Mezza T. Intra-islet insulin synthesis defects are associated with endoplasmic reticulum stress and loss of beta cell identity in human diabetes. **Diabetologia**. 2023 Feb;66(2):354-366. doi: 10.1007/s00125-022-05814-2

-Grieco GE, Brusco N, Fignani D, Nigi L, Formichi C, Licata G, Marselli L, Marchetti P, Salvini L, Tinti L, Po A, Ferretti E, Sebastiani G, Dotta F Reduced miR-184-3p expression protects pancreatic β -cells from lipotoxic and proinflammatory apoptosis in type 2 diabetes via CRTCL1 upregulation. **Cell Death Discov**. 2022 Jul 29;8(1):340. doi: 10.1038/s41420-022-01142-x

-Nigi L, Brusco N, Grieco GE, Fignani D, Licata G, Formichi C, Aiello E, Marselli L, Marchetti P, Krogvold L, Jorgensen KD, Sebastiani G, Dotta F. Increased Expression of Viral Sensor MDA5 in Pancreatic Islets and in Hormone-Negative Endocrine Cells in Recent Onset Type 1 Diabetic Donors. **Front Immunol**. 2022 Mar 11;13:833141. doi: 10.3389/fimmu.2022.833141

-Grieco, G.E., Sebastiani, G., Fignani, D., Brusco, N., Nigi, L., Formichi, C., Licata, G., Bruttini, M., D'Aurizio, R., Mathieu, C., Gysemans, C., Dotta, F. Protocol to analyze circulating small non-coding RNAs by high-throughput RNA sequencing from human plasma samples (2021) **STAR Protocols**, 2 (3), DOI: 10.1016/j.xpro.2021.100606

-Formichi, C., Fignani, D., Nigi, L., Grieco, G.E., Brusco, N., Licata, G., Sabato, C., Ferretti, E., Sebastiani, G., Dotta, F. Circulating micromRNAs signature for predicting response to glp1-ra therapy in type 2 diabetic patients: A pilot study (2021) **International Journal of Molecular Sciences**, 22 (17), art. no. 9454

-Formichi, C., Nigi, L., Grieco, G.E., Maccora, C., Fignani, D., Brusco, N., Licata, G., Sebastiani, G., Dotta, F. Non-coding RNAs: Novel players in insulin resistance and related diseases (2021) **International Journal of Molecular Sciences**, 22 (14), DOI: 10.3390/ijms22147716

-Zampieri, R., Brozzetti, A., Pericolini, E., Bartoloni, E., Gabrielli, E., Roselletti, E., Lomonosoff, G., Meshcheriakova, Y., Santi, L., Imperatori, F., Merlin, M., Tinazzi, E., Dotta, F., Nigi, L., Sebastiani, G., Pezzotti, M., Falorni, A., Avesani, L. Prevention and treatment of autoimmune diseases with plant virus nanoparticles (2020) **Science Advances**, 6 (19), art. no. eaaz0295.

-Fignani D, Licata G, Brusco N, Nigi L, Grieco GE, Marselli L, Overbergh L, Gysemans C, Colli ML, Marchetti P, Mathieu C, Eizirik DL, Sebastiani G, Dotta F. SARS-CoV-2 Receptor Angiotensin I-Converting Enzyme Type 2 (ACE2) Is Expressed in Human Pancreatic β -Cells and in the Human Pancreas Microvasculature. **Front Endocrinol (Lausanne)**. 2020 Nov 13;11:596898. doi: 10.3389/fendo.2020.596898.

-Nigi, L., Brusco, N., Grieco, G.E., Licata, G., Krogvold, L., Marselli, L., Gysemans, C., Overbergh, L., Marchetti, P., Mathieu, C., Dahl Jørgensen, K., Sebastiani, G., Dotta, F. Pancreatic Alpha-

Cells Contribute Together With Beta-Cells to CXCL10 Expression in Type 1 Diabetes (2020) **Frontiers in Endocrinology**, 11.

-Ventriglia, G., Mancarella, F., Sebastiani, G., Cook, D.P., Mallone, R., Mathieu, C., Gysemans, C., Dotta, F. miR-409-3p is reduced in plasma and islet immune infiltrates of NOD diabetic mice and is differentially expressed in people with type 1 diabetes (2020) **Diabetologia**, 63 (1), pp. 124-136.

-Guay C, Kruit JK, Rome S, Menoud V, Mulder NL, Jurdzinski A, Mancarella F, Sebastiani G, Donda A, Gonzalez BJ, Jandus C, Bouzakri K, Pinget M, Boitard C, Romero P, Dotta F, Regazzi R. Lymphocyte-Derived Exosomal MicroRNAs Promote Pancreatic β Cell Death and May Contribute to Type 1 Diabetes Development. **Cell Metab**. 2019 Feb 5;29(2):348-361.e6. doi: 10.1016/j.cmet.2018.09.011. Epub 2018 Oct 11.

-Gonzalez-Duque S, Azoury ME, Colli ML, Afonso G, Turatsinze JV, Nigi L, Lalanne AI, Sebastiani G, et al Conventional and Neo-antigenic Peptides Presented by β Cells Are Targeted by Circulating Naïve CD8+ T Cells in Type 1 Diabetic and Healthy Donors. **Cell Metab**. 2018 Dec 4;28(6):946-960.e6. doi: 10.1016/j.cmet.2018.07.007. Epub 2018 Aug 2

-Culina S, Lalanne AI, Afonso G, Cerosaletti K, Pinto S, Sebastiani G, Kuranda K, Nigi L, Eugster A, Østerbye T, Maugein A, McLaren JE, Ladell K, Larger E, Beressi JP, Lissina A, Appay V, Davidson HW, Buus S, Price DA, Kuhn M, Bonifacio E, Battaglia M, Caillat-Zucman S, Dotta F, Scharfmann R, Kyewski B, Mallone R and the ImMaDiab Study Group. Islet-reactive CD8+ T-cell frequencies in the pancreas but not blood distinguish type 1 diabetes from healthy donors. **Science Immunology**- 2018 Feb-

-Sebastiani G, Ventriglia G, Stabilini A, Socci C, Morsiani C, Laurenzi A, Nigi L, Formichi C, Mfarrej B, Petrelli A, Fusteri G, Brusko TM, Dotta F, Battaglia M. (2017) Regulatory T-cells from pancreatic lymphnodes of patients with type-1 diabetes express increased levels of microRNA miR-125a-5p that limits CCR2 expression. **Sci Rep**. Jul 31;7(1):6897. doi: 10.1038/s41598-017-07172-1

-Sebastiani, G., Guarino, E., Grieco, G.E., Formichi, C., Poggi, C.D., Ceccarelli, E., Dotta, F. Circulating microRNA (miRNA) expression profiling in plasma of patients with gestational diabetes mellitus reveals upregulation of miRNA miR-330-3p (2017) **Frontiers in Endocrinology**, 8 (DEC),

-Takiishi T, Cook DP, Korf H, Sebastiani G, et al (2017) Reversal of Diabetes in NOD Mice by Clinical-Grade Proinsulin and IL-10-Secreting *Lactococcus lactis* in Combination With Low-Dose Anti-CD3 Depends on the Induction of Foxp3-Positive T Cells. **Diabetes**. Feb;66(2):448-459. doi: 10.2337/db15-1625.

According to law 679/2016 of the Regulation of the European Parliament of 27th April 2016, I hereby express my consent to process and use my data provided in this CV

Place and date: Siena 29.03.23

Signature

