Gino Andrea Bonazza

Biomedical PhD Researcher — Translational Rheumatology, Fibrosis & Biomarker Discovery

University Hospital Zurich · Department of Rheumatology · Zurich, Switzerland

bonazzagino@gmail.com · ginobonazza.com · linkedin.com/in/ginobonazza · PubMed PMID 39672802

PROFILE

- Biomedical PhD researcher focused on systemic sclerosis, fibrotic tissue remodelling and cardiovascular complications including myocardial fibrosis, pulmonary hypertension and right ventricular adaptation.
- Combines molecular/cellular biology with single-cell and single-nuclei transcriptomics, serum proteomics and biomarker-oriented analysis.
- Bridges bench biology and clinically relevant biomarker pipelines, with scientific output in serum proteomics, single-nuclei transcriptomics and translational rheumatology.

RESEARCH EXPERIENCE

PhD Researcher / Doctoral Researcher — Department of Rheumatology

University Hospital Zurich (USZ), Zurich, Switzerland

Jan 2023 – Present

- Conduct doctoral research on systemic sclerosis, inflammatory mechanisms and fibrotic tissue remodelling, with focus on macrophage biology and fibroblast–macrophage communication.
- Investigate cardiovascular complications of systemic sclerosis and fibrotic disease, including myocardial fibrosis, pulmonary hypertension and right ventricular adaptation.
- Apply molecular biology, translational immunology and single-cell/single-nuclei approaches to study disease-relevant cellular programs and tissue remodelling.
- Presented EULAR 2024 abstract work on blood-based biomarkers for systemic sclerosis-associated pulmonary arterial hypertension, integrating LC-MS/MS serum proteomics, ELISA validation, public single-cell RNA-seq datasets and regression-based haemodynamic analysis.
- Presented ESC Congress 2025 work on single-nuclei transcriptomics of right ventricular adaptation to pulmonary hypertension, based on 158,012 nuclei from human right ventricular tissue and downstream Seurat/edgeR analysis.
- Co-authored a 2025 *Rheumatology (Oxford)* publication on Fcγ receptor expression and pro-inflammatory macrophage phagocytosis in systemic sclerosis-associated rheumatic diseases.

Research Fellow — Unit of Neuroimmunology

I.R.C.C.S. Ospedale San Raffaele, Milan, Italy

Feb 2022 – Aug 2022

- Worked on in vitro and in vivo validation of chimeric REcTO proteins for the treatment of neuroinflammatory disorders.
- Applied molecular biology, cellular biology, histology, biochemistry and in vivo experimental techniques in a biomedical research setting.
- Built technical foundations across RT-PCR, RNA immunoprecipitation, restriction cloning, lentiviral vector production, mammalian cell culture, immunostaining, Western blot and ELISA.

PUBLICATIONS, CONFERENCE PRESENTATIONS & AWARDS

First Poster Prize — Life Sciences Switzerland LS2 Cardiovascular Meeting

Bern, Jan 2026 · Poster: “Human right ventricular myocardial slices as a model of fibrotic remodelling”

Single-nuclei transcriptomics uncovers right ventricular adaptation to pulmonary hypertension

ESC Congress 2025 · Author and presenter · Hypertension, Pulmonary Hypertension

Single-nuclei RNA sequencing of 158,012 nuclei from human right ventricular tissue

POS0559 — Discovering blood-based biomarkers for systemic sclerosis-associated pulmonary arterial hypertension

Annals of the Rheumatic Diseases, 2024;83(Suppl 1):1031–1032 · Author

LC-MS/MS serum proteomics · ELISA validation · public scRNA-seq datasets · six-protein model ROC-AUC 0.857

Elevated Fcγ receptor expression augments pro-inflammatory macrophage phagocytosis in systemic sclerosis and associated rheumatic diseases

Rheumatology (Oxford), 2025 · Co-author · PMID 39672802 · DOI 10.1093/rheumatology/keae688

EDUCATION

Master's Degree in Biotechnology and Medical Biology

Vita-Salute San Raffaele University, Milan, Italy · Sep 2019 – Jan 2022

Thesis: "Hybrid REcTO proteins: new tools to regulate neuroinflammation" · Final mark: **110/110 cum laude**

Bachelor's Degree in Medical and Pharmaceutical Biotechnology

Vita-Salute San Raffaele University, Milan, Italy · Sep 2016 – Nov 2019

Thesis: "Novel therapeutic strategies for Alzheimer's disease and recent failures: the case of gamma and beta secretase inhibitors" · Final mark: **110/110 cum laude**

TECHNICAL SKILLS

Wet lab & tissue methods

RT-PCR · RNA immunoprecipitation · restriction cloning · lentiviral vector production/titration · mammalian cell culture · transfection · bone marrow-derived macrophages · human myocardial slices · immunofluorescence · immunohistochemistry · Luxol fast blue · Western blot · ELISA

Omics, biomarkers & quantitative analysis

Single-cell/single-nuclei transcriptomics · serum proteomics · biomarker discovery · public scRNA-seq dataset analysis · Seurat · edgeR · pseudobulk differential expression · linear/logistic regression · ROC-AUC analysis · GraphPad Prism · ImageJ

Therapeutic areas & models

Systemic sclerosis · fibrosis · pulmonary hypertension · myocardial fibrosis · translational immunology · neuroimmunology · in vivo experimental models

LANGUAGES

English — Professional working proficiency

Italian — Native