Charles P. Rabolli, Ph.D.

MD Candidate | RNA Biologist | Translational Scientist | Engineer

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MD/PhD candidate trained in RNA biology, systems medicine, and innovation, focusing on how RNA mechanisms shape cardiovascular disease and leveraging engineering approaches to develop next-generation diagnostics and therapeutics. Experienced in cross-disciplinary collaboration and entrepreneurial strategy, with a strong track record of bridging science, medicine, and technology to translate bold ideas into real-world impact.

EDUCATION

Doctor of Medicine	The Ohio State University	Exp. 2027
Biomedical Engineering Ph.D.	The Ohio State University	2025
CORe: Credential of Readiness	Harvard Business School Online	2025
Biomedical Engineering BS	Rutgers University	2018

MEDICINE

MD CANDIDATE, The Ohio State University, College of Medicine — Sep 2019 - Present

- Passed USMLE Step 1. Currently completing core clinical rotations in Internal Medicine, Surgery, OB/GYN, Family Medicine, Pediatrics, Neurology, Psychiatry, and Emergency Medicine.
- Training emphasizes systems-level clinical reasoning, interdisciplinary collaboration, and evidence-based decision-making.
- Committed to bridging clinical insight with innovation and commercialization, leveraging medical experience to inform advances in biotechnology, digital health, and therapeutic design.

RESEARCH EXPERIENCE

MD/PHD RESEARCHER, The Ohio State University, AI Lab for Pathology Research (AI4Path) — Sep 2025 - Present

- Creating next-generation AI foundation model for pathology, leveraging large-scale histology datasets to transform diagnostic workflows.
- Curating and annotating colorectal carcinoma slides to generate the high-quality training data powering scalable, intelligent interpretation of digital pathology images.

Artifical Intelligence Foundation Model | Colorectal Carcinoma | H/E

MD/PHD RESEARCHER, Brown University, The Ohio State University — Feb 2021 - April 2025

- Performed in vivo cardiac and metabolic studies using mouse models of heart failure and obesity, to dissect how RNA methylation modulates systemic energy homeostasis.
- Executed comprehensive molecular assays such as cell culture, transfection, RNA/protein isolation, qPCR, Western blotting, and immunofluorescence to investigate protein synthesis and stress adaptation in cardiomyocytes.
- Integrated molecular biology with multi-omic approaches) to reveal RNA-driven mechanisms linking cardiac remodeling to adipose and metabolic reprogramming.

Epitranscriptome | Molecular Biology | Murine Models | Bioinformatics

FULBRIGHT SCHOLAR, ICGEB, Giacca Lab, Molecular Medicine, Trieste Italy — Oct 2018 - July 2019

- Utilized a high-throughput, image-based drug screening platform using FDA-approved compound libraries to identify agents that enhance cardiomyocyte regeneration.
- Integrated cell culture, histology, and molecular biology techniques to validate candidate compounds and uncover mechanisms driving cardiac repair and regeneration.

High Throughput Screening | Immunofluorescence | Molecular Biology

SELECT PUBLICATIONS

1. Rabolli C.P. , ... Accornero F. 2024. **Nanopore Detection of METTL3-Dependent m6A-Modified mRNA Reveals a New Mechanism Regulating Cardiomyocyte Mitochondrial Metabolism** Circulation Link.
2. Rabolli C.P. , ... Accornero F. 2025. **The m6A-binding protein YTHDF3 modulates the cardiac response to stress** RNA Link.
3. Rabolli C.P. , ... Accornero F. 2025. **The cardiac METTL3/m6A pathway regulates the systemic response to Western diet** JCI Insight Link.
4. All other publications are available here.

COMPUTATIONAL

R Studio	●●●●●
Python	●●●●○
Matlab	●●●●○

EXPERTISE

Molecular Biology	●●●●●
Mouse Models	●●●●●
Animal Surgery	●●●●●

SOFTWARE

GraphPad Prism	●●●●●
ImageJ	●●●●○
Adobe Studio	●●●●○