Marco Lolaico, PhD

Profile

Scientist and communicator with 5+ years of experience in life sciences, deep tech and innovation. I am trained in DNA nanotechnology for biomedical applications, with a strong record of translating scientific research into real-world insights, strategy and early funding. I co-founded a biomaterials startup, authored peer-reviewed publications, built a 150+ subscribers newsletter, and supported €300k in early-stage funding efforts. Passionate about backing bold science and helping founders translate research into ventures.

Skills

- **Venture Support:** Early-stage funding, pitch preparation, startup collaborations
- **Scientific Diligence:** Research evaluation, landscape deep dive, unmet need identification
- **Communication:** Scientific writing, storytelling, newsletter publication
- **Ecosystem Engagement:** REBBLS events, academic networks, early-stage communities
- **Technical Fluency:** Life sciences, DNA nanotech, Python, basic ML/data analytics

Work Experience

Postdoc
Roskilde University, Roskilde, Denmark   *December 2024 - Present*

- Conducting early-stage research on DNA nanomaterials for biosensing and targeted drug delivery applications.
- Mapped 50+ publications to identify translational pathways and unmet needs for DNA nanomaterials.
- Built collaborations with 2 research groups to test the biocompatibility and optical properties of fluorescent DNA materials.
- Tracking trends in DNA sensor research to identify translational gaps in biosensing and nanomedicine.

Founder and Writer
Plenty of Room (Science Newsletter)   *July 2024 - Present*

- Founded a weekly newsletter breaking down frontier science, from DNA nanotech to synthetic biology.
- Published over 40 articles translating complex technical concepts into accessible deep dives and insights.
- Built a cross-disciplinary readership of 150+ by consistently publishing clear, engaging essays on complex scientific topics.

Co-Founder and Chief Scientific Officer
Nuterials ApS (Startup), Copenhagen, Denmark   *October 2023 - October 2024*

- Co-founded and led R&D strategy at an early-stage biomaterials startup.
- Conducted opportunity mapping and venture validation, securing €300k in pre-seed and soft funding.
- Communicated with researchers, advisors and investors to shape strategic planning and business development.

PhD Candidate in Medical Sciences, focus on DNA Nanotechnology
Karolinska Institutet, Stockholm, Sweden   *January 2019 - May 2023*

- Characterized novel DNA nanostructures, reducing design time by 90% and publishing in high-impact journals.
- Designed pipelines for statistical analysis and visualization of DNA nanostructures and applied them to over 50 simulations.
- Co-authored 5 research articles and scientific reviews in top international journals in the field.
- Supervised 4 students and collaborated with an international research team of over 10 people.

Education

PhD in Medical Science - DNA Nanotechnology
Karolinska Institutet, Stockholm, Sweden   *January 2019 - May 2023*
Thesis title: *Custom-Tailored DNA Origami Mechanics for Cellular Applications*

Master's Degree in Molecular Biotechnology
Scuola Superiore Sant'Anna/University of Pisa, Pisa, Italy   *October 2016 - October 2018*
Thesis title: *Optimization of wireframe DNA nanostructures for biomedical applications*

Bachelor's Degree in Biotechnology

University of Pisa, Pisa, Italy *October 2013 - September 2016*

Thesis title: *Overexpression study of mex3a gene in Danio rerio and Xenopus laevis*

Teaching and Volunteering Activities

Core Group Member

REBBLS *August 2024 - Present*

○ Co-organized events in the Nordic innovation ecosystem, connecting researchers, startups, and investors.

Biomedicine Mentorship Programme Workgroup

Karolinska Institutet, Stockholm, Sweden *May 2020 - November 2020*

○ Co-designed and delivered the mentorship program for Master's students, with a successful first edition for 40 students.

Lecturer for Nucleic Acid Biochemistry Seminar

Karolinska Institutet, Stockholm, Sweden *December 2019 - December 2020*

○ Taught the Nucleic Acid Biochemistry Seminar in the Human Physiology Course to classes of 20 Medical Students.

Other Experiences

CAFA5 protein function prediction using machine learning

Personal Project *July 2023*

○ Executed an independent project participating in the Kaggle CAFA5 Protein Function Prediction Competition.

○ Designed and trained 2 predictive models using different embedding for protein classification tasks.

○ Gained hands-on experience in bioinformatics and ML pipelines through real-world competition data.

Machine Learning Specialization

Deeplearning.Ai - Coursera *July 2023*

○ Tools: Python, Scikit-learn, TensorFlow, PyTorch

Google Data Analytics Professional Certificate

Google - Coursera *July 2023*

○ Tools: R, SQL, Python (Seaborn, NumPy)

○ Capstone: Analyzed bike-sharing data to uncover trends; presented insights through data visualizations and SQL queries.

Honors Student, Full scholarship in Agricultural Sciences and Biotechnology

Scuola Superiore Sant'anna, Pisa, Italy *October 2013 - October 2018*

Languages

○ **Danish**: Learning

○ **English**: Fluent

○ **Italian**: Native