

Marcello Tania

Biomechatronics Engineer

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Profile

An interdisciplinary thinker, tinkerer, and innovator with solid work experience designing, testing, programming, prototyping, and inventing almost anything using digital fabrication tools and machines. Experience in mechatronics and bionics engineering.

Education

Visiting Student/Researcher <i>Massachusetts Institute of Technology, United States of America</i>	Jul 2024 – Jul 2025
Bionics, M.Sc. <i>Hochschule Rhein-Waal, Germany</i>	Jul 2020 – Aug 2023
Mechatronic Systems Engineering, B.Sc. <i>Hochschule Rhein-Waal, Germany</i>	Sep 2014 – May 2019
Fab Academy Diploma <i>FabLab Kamp-Lintfort, Germany</i> archive.fabacademy.org/.../marcello-tania/	Jan 2018 – Jun 2018
Ontario Secondary School Diploma <i>Taylor's University College, Malaysia</i>	Jan 2012 – Dec 2012
International General Certificate of Secondary Education <i>Penabur International School, Indonesia</i>	Jun 2008 – Nov 2011

Publications

- Hye Jun Youn, Jun Kyu Choe, SooYeon Ahn, **Marcello Tania**, Serena Xin Wei Sara, and Hiroshi Ishii (2026). *PixBric: Precision Morphological Control of Pre-Stretched Fabrics Through Tessellated Primitive Geometries*. In *Proceedings of the Twentieth International Conference on Tangible, Embedded, and Embodied Interaction (TEI '26)*. ACM, New York, NY, USA, Article 20, 1–15.
doi.org/10.1145/3731459.3773316
- Margarete Dytkowicz, **Marcello Tania**, Rachel Hinds, William M. Megill, Tillmann K. Buttschardt, and Frank Rosell (2024). *Individual recognition of Eurasian beavers (Castor fibre) by their tail patterns using a computer-assisted pattern-identification algorithm*. *Ecology and Evolution*.
doi.org/10.1002/ece3.10922. Featured in *Science*.
- Hinds, R., Dytkowicz, M., **Tania, M.** et al. (2023). *A tale of tails: the use of Eurasian beaver (Castor fiber) tails for ageing and individual identification*. *European Journal of Wildlife Research* 69, 88.
doi.org/10.1007/s10344-023-01718-7

Employment History

Research Associate <i>Helmut-Schmidt University, Germany</i>	Sep 2023 – Sep 2026
Software Developer <i>InMachines, Germany</i> Programmed a user interface for a 3D scanner at InMachines Ingrassia GmbH (OLSK 3D Scanner).	Mar 2023 – Apr 2023
Technician <i>InMachines, Germany</i> Constructed and assembled an open-source 3D printer, CNC machine, and laser cutter.	Aug 2022 – Oct 2022

Fab Academy Instructor

Feb 2022 – Jul 2022

FabLab Kamp-Lintfort, Germany

- Taught Git, HTML, CSS, JavaScript, Markdown, 3D CAD and 2D design software, embedded programming, Python, and digital fabrication tools.
- Employed as a scientific teaching assistant at Rhine-Waal University of Applied Sciences.

FabLab Instructor

Jul 2021 – Dec 2022

FabLab Blue, Germany

- Facilitated workshops and lectures on 3D CAD and 3D printing for children in Germany. fablab.blue

Robotics Teaching Assistant

Jul 2021 – Dec 2022

Hochschule Rhein-Waal, Germany

- Instructed students in practical robotics training using ROS and TurtleBot.

Website Designer and Developer

Jan 2021 – Dec 2021

Hochschule Rhein-Waal, Marketing, Germany

- Designed and developed a 360-degree tour website.

Maintenance Intern

Nov 2020

Federation Aero Sport Indonesia, Jakarta, Indonesia

- Diagnosed, repaired, maintained, and quality-controlled aircraft engines and systems.
- Examined vital aircraft components, including fuselage, wings, and hydraulic systems, to locate problems.
- Voluntary internship by personal contact.

Student Research Assistant

Nov 2018 – Feb 2019

SPECTORS, Kamp-Lintfort, Germany

- Engineered a proof of concept of a tethered drone; built, designed, and operated large-scale drones.
- Fabricated a positioning system for a mobile robot and a tethered drone. spectors.eu

Student Teaching Assistant

Sep 2016 – Feb 2017

Hochschule Rhein-Waal, Kleve, Germany

- Assisted students with assignments in a technical drawing class.

Metal Production Intern

May 2014 – Aug 2014

Theodor-Brauer Haus, Kleve, Germany

- Created a vise through hands-on lathe, mill, and welding work (compulsory internship for the bachelor's program).