

PhD Funded Position: Supporting Technologies for Wearables and Implantable Healthcare Devices

Applications are invited for a fully funded four-year PhD position supervised by Dr. Marco Alban-Paccha in the School of Electrical & Electronic Engineering at University College Dublin (UCD), funded through BDIC. The position commences in September 2026 and requires teaching assistant (TA) duties at the UCD BDIC campus in Beijing.

Project Overview

This project advances wearable technologies and implantable healthcare devices by developing critical supporting systems. Research will address key challenges including ultra-low-power wireless communications (e.g., Bluetooth LE, WiFi, or custom protocols), data encryption and cybersecurity for sensitive health data, efficient data processing and analytics (edge vs. cloud), energy harvesting and management (chemical, RF, kinetic sources), biocompatibility, miniaturization, and sensor integration. The work will involve hardware design, firmware development, simulations, and prototyping, with opportunities for collaboration and publications.

Funding Details

UCD School of Electrical & Electronic Engineering will provide four-year funding, including a tax-free stipend of approximately €25,000 per annum, full tuition fee coverage and travel expenses to China. In return, the student must perform TA duties (e.g., lab support, grading, tutorials) at the UCD BDIC campus in Beijing, typically during spring time.

Minimum Entry Requirements

- Primary degree (BSc or equivalent) with a minimum grade of 2.1 (or international equivalent) in Electrical/Electronic Engineering, Biomedical Engineering, Computer Science, Physics, or related field.
- UCD English Language Requirements (non-native speakers): IELTS Academic 6.5 overall (minimum 6.0 per band); TOEFL iBT 90 overall (21 writing, 19 others); or equivalents. Full details at <https://www.ucd.ie/registry/prospectivestudents/admissions/policiesandgeneralregulations/generalrequirements/minimumenglishlanguagerequirements/>.
- Project-specific: Strong proficiency in programming (C/C++, Python, MATLAB), electronics (microcontrollers, sensors), and fundamentals of communications/signals; evidence of independent project work preferred.

Highly Desirable Qualifications

- MSc or research experience in wearables, IoT, embedded systems, biomedical devices, or related areas.
- Hands-on skills: PCB design (KiCad/Eagle), low-power optimization, machine learning for health data, FPGA/VLSI.
- Publications, internships, or contributions to open-source hardware/software projects.
- Excellent communication, problem-solving, and adaptability for international collaboration and teaching abroad.

Equality, Diversity, and Inclusion

UCD is committed to inclusivity; see <https://www.ucd.ie/equality/> for policies. Applications from underrepresented groups are strongly encouraged.

How to Apply

Non-EU applicants should note visa processing times (2-6 months); early preparation is advised. Submit one merged PDF to marco.albanpaccha@ucd.ie with subject "PhD Application 2026: Wearables-Implantables-[YourName]" with:

1. CV (including projects, skills, publications).
2. Cover letter (1-2 pages): Motivation, research interests, project fit, and background alignment.
3. Research statement (1-2 pages): Approach to project challenges (e.g., energy/bandwidth trade-offs).
4. Two academic references (letters or contacts).
5. Transcripts, degree certificates, English test results.

Timeline

- Application Deadline: March 1, 2026, 11:59 pm GMT.
- Interviews: Early-March 2026 (via Zoom).
- Start Date: September 2026.