Position Description

1. General information

Position reference	Monodon-PF1: Laser Communications
Research topic	Developing disruptive laser communication technologies (in combination with quantum cryptography) that can establish high-speed and secure links between naval platforms and satellite, airborne, and underwater nodes.
Supervisors	• Carlos García Meca (Monodon) • Arnan Mitchell (RMIT)
Research areas	Free-space and underwater laser communications, space communications, quantum cryptography, optical systems engineering (hardware and software)
Employing entity	Monodon
Seconding entity	RMIT University
Position funded by	• COFUND, Marie Sklodowska-Curie Actions (MSCA), Horizon Europe, European Union • Monodon • RMIT University (RMIT)
Additional information	• https://monodon.es/ • https://www.rmit.edu.au/research/centres-collaborations/integrated-photonics-and-applications-centre
Foreseen start date	September 2025
Gross annual salary	37,000 EUR plus complements defined below

2. Expected candidate profile

The expected candidate profile for the position:

Requirements:

- Strong background in free-space and/or underwater laser communications (4 years or more).
- Minimum of 6 publications.
- Minimum of 2 or 3 publications as first author in relevant journals in the field.
- Ability to work in a multidisciplinary team.
- Excellent presentation skills, independent thinking.
- English proficiency (spoken and written) for writing publications and presenting at international conferences.

Preferred qualifications:

- Knowledge in optical signal detection and analysis (photodiodes, APDs).
- Programming skills for experiment control and automation (Python, C++, MATLAB).
- Knowledge in programable electronics (FPGA…)
- Familiarity with optical signal modulation and processing techniques.
- Proficiency in using optical and electronic simulation software (MATLAB, COMSOL, ZEMAX, LabVIEW, among others).
- Knowledge in model-based systems engineering

3. Employment conditions

Monodon offers a 36-month (3-year) postdoctoral full employment contract to work at its facilities in Madrid, Spain as part of the AuSpire researcher training program, co-funded by the European Commission under the MSCA COFUND scheme. The total working hours per week are 40 and there is a probation period of 6 months.

The remuneration, in line with the European Commission rules for Marie Skłodowska-Curie grant holders, will consist of a gross annual salary 37,000 EUR. The definite amount to be received by the Postdoctoral Fellow is subject to Spanish tax legislation.

The position will be jointly supervised by Monodon (Employing Entity) and RMIT (Seconding Entity) where the Postdoctoral Fellow must undertake a secondment at the premises of the latter in Melbourne, Australia for up to 12 months.

Additionally, the program includes annual in-person workshops at various locations across Spain, along with online training and networking activities.

Benefits include:

- 4,000 EUR relocation for employment stipend to cover costs associated with taking up employment (flights, visa, insurance, etc.), to be distributed monthly as a top-up to the gross salary.[1]
- 9,000 EUR relocation for secondment stipend to cover compulsory project-related travel and accommodation costs (flights, visa, insurance, accommodation, etc.).[1]
- 3,000 EUR travel stipend to cover flights and accommodation for participating in compulsory AuSpire training and networking events in Spain over the 3 years.[1]

[1] The definitive amount to be received by the Postdoctoral Fellow might be subject to Spanish tax legislation.

- 314 EUR monthly family allowance offered to candidates who meet the criteria.[1] [2]
- Access to state-of-the-art laboratories equipped with advanced optical and photonic technology.
- Opportunities for collaboration with national and international researchers.
- Possibility of participating in applied projects with impact on underwater telecommunications, ocean exploration, and defence.
- Support for conference attendance and additional training.
- 22 days of paid holiday leave.
- Spanish Social Security coverage.
- Sick leave.
- Parental leave.
- Becoming a Marie Sklodowska-Curie fellow and be invited to join the Marie Curie Alumni Association.

[2] According to MSCA-COFUND requirements, Fellows with family obligations are entitled to a family allowance (i.e. persons linked to Postdoctoral Fellow by (i) marriage, or (ii) a relationship with equivalent status to a marriage recognised by the legislation of the country or region where this relationship was formalised; or (iii) dependent children who are actually being maintained by the Postdoctoral Fellow).