

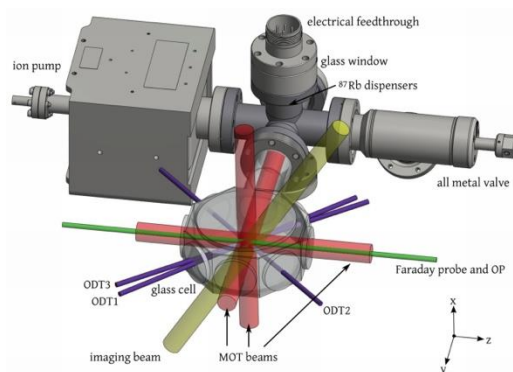
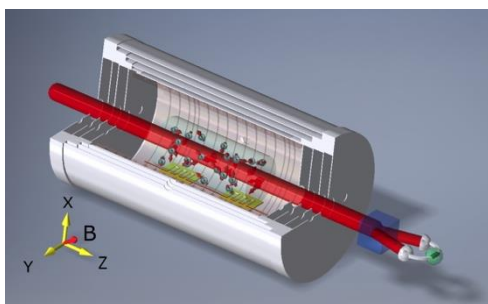
Research positions (Bachelor thesis, Masters, PhD and Postdoctoral levels): Atomic Quantum Technologies (Supported by the Quantum Technology Flagship and QuantERA ERA-NET in Quantum Technologies)

The [Atomic Quantum Optics](#) research group at ICFO, led by **Prof. Dr. Morgan Mitchell**, is looking for well-qualified, highly motivated and dynamic students and post-doctoral researchers for a variety of innovative research projects in Atomic Quantum Technologies. The successful candidates will join a highly diverse team in a friendly and stimulating environment.

The various research efforts within this call employ atoms in different phases, including hot vapours, individually-trapped cold atoms, and ultra-cold quantum gases, as well as squeezed light and entangled photon pairs, to tackle outstanding challenges in quantum sensing, light-matter interactions, and fundamental physics.

References:

- [Single-domain Bose condensate magnetometer achieves energy resolution per bandwidth below \$\hbar\$](#) . S. P. Alvarez, P. Gomez, S. Coop, R. Zamora-Zamora, C. Mazzino, and M. W. Mitchell. Proceedings of the National Academy of Sciences, 119, e2115339119 (2022)
- [Improving short-term stability in optical lattice clocks by quantum nondemolition measurement](#). D. B. Orenes, R. J. Sewell, J. Lodewyck, and M. W. Mitchell. Phys. Rev. Lett., 128, 153201 (2022)
- [Squeezed-light enhancement and backaction evasion in a high sensitivity optically pumped magnetometer](#). C. Troullinou, R. Jimenez-Martinez, J. Kong, V. G. Lucivero, and M. W. Mitchell. Phys. Rev. Lett., 127, 193601 (2021)
- [Fast-field-cycling ultralow-field nuclear magnetic relaxation dispersion](#). S. Bodenstedt, M. W. Mitchell, and M. C. D. Taylor. Nature Communications, 12, 4041 (2021)
- [Manipulating and measuring single atoms in the Maltese cross geometry](#). L. C. Bianchet, N. Alves, L. Zarraga, N. Bruno, and M. W. Mitchell. Open Research Europe, 1, 102 (2021)
- [Autoheterodyne characterization of narrow-band photon pairs](#). V. Prakash, A. Sierant, and M. W. Mitchell. Phys. Rev. Lett., 127, 043601 (2021)



Interested candidates should contact Prof. Dr. Morgan Mitchell (morgan.mitchell@icfo.eu) for further details.