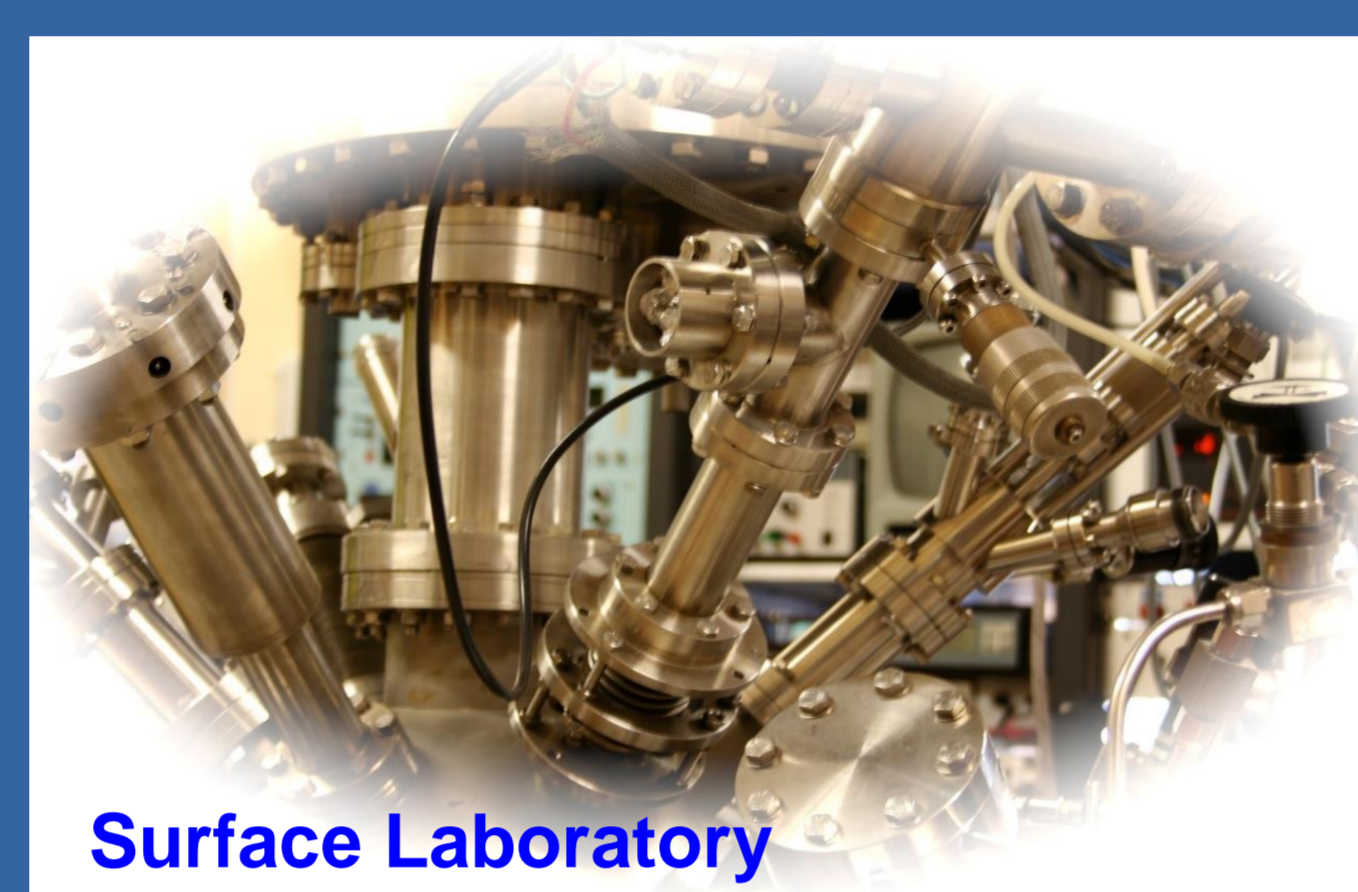
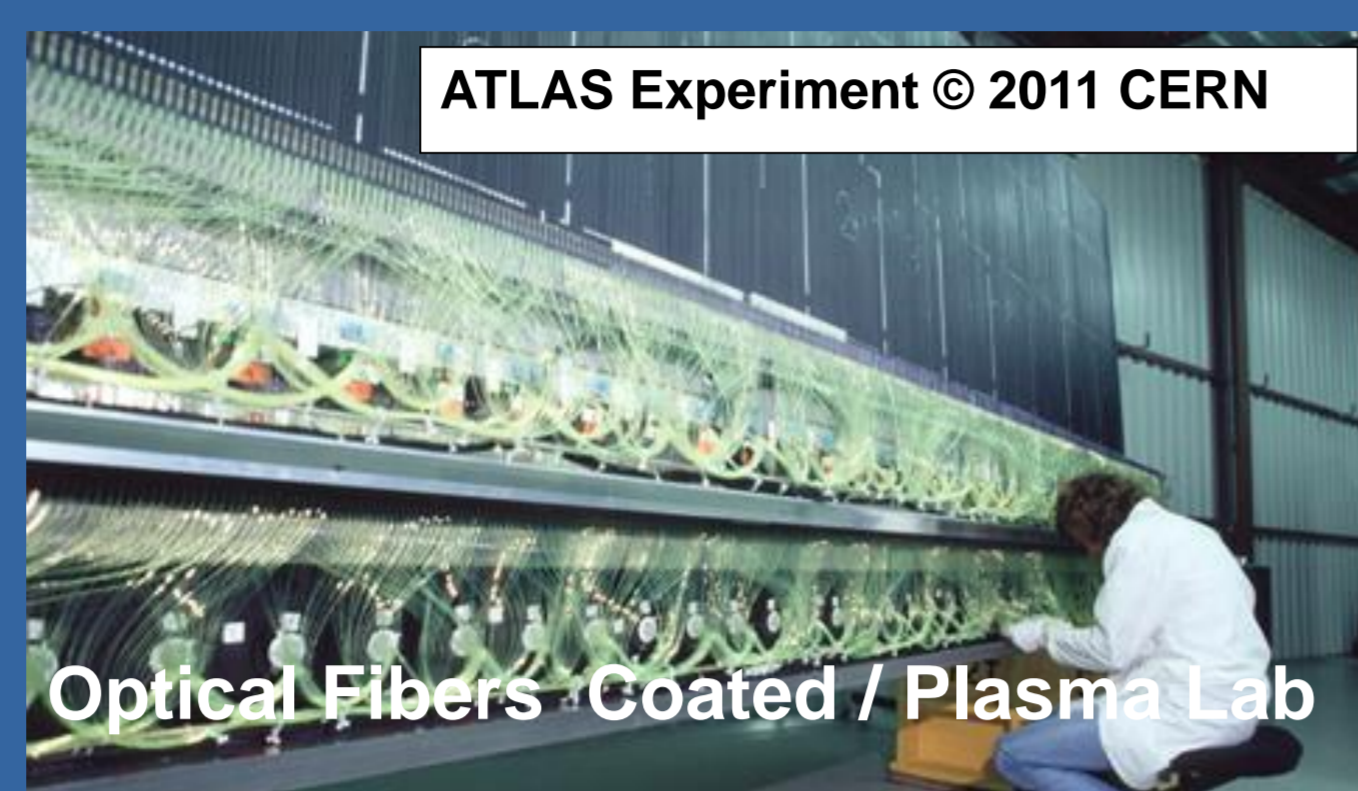
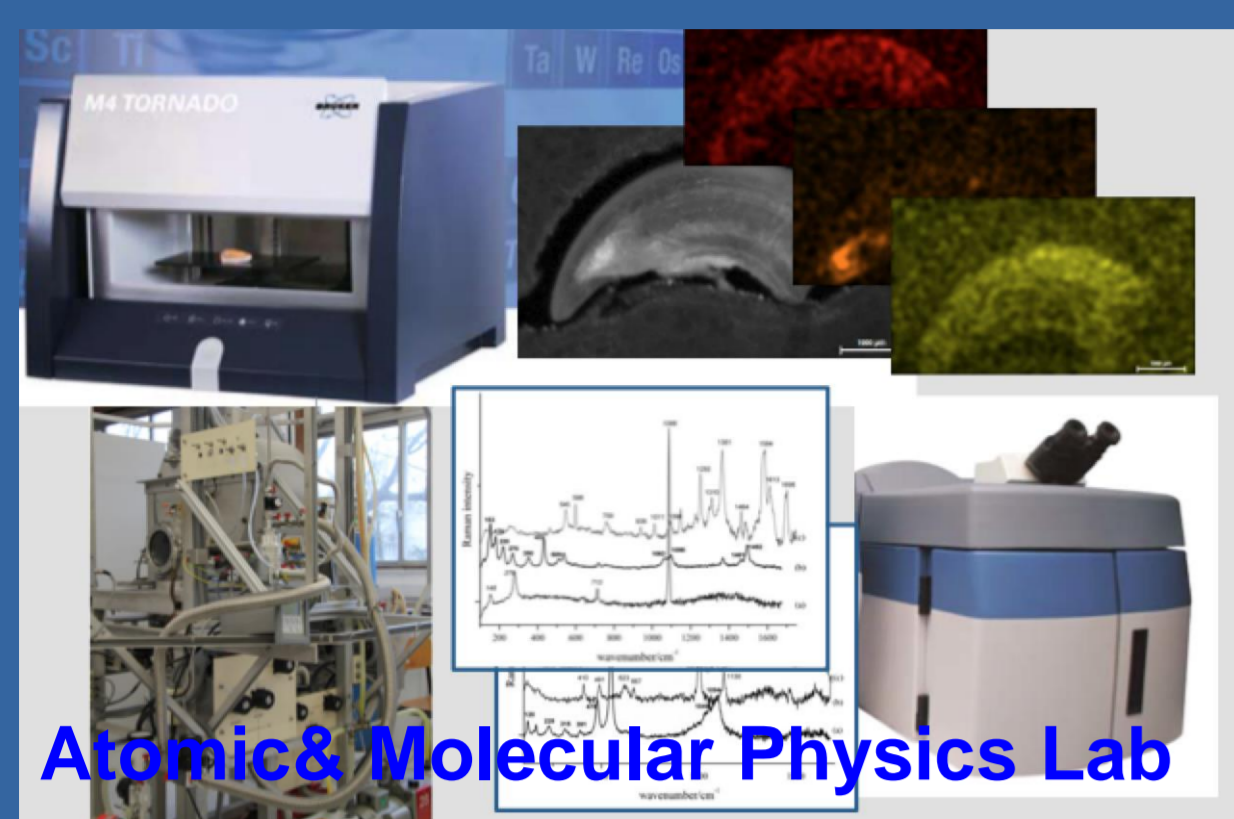


Departamento de Física



People

- 2 full professors
- 7 associate professors
- 26 assistant professors
- 2 senior researchers
- 3 technicians
- 4 administrative staff
- 7 post-doc students
- 28 PhD students
- 60 MSc students in Physics and Biomedical Engineering

Scientific Areas

DF researchers are inserted mainly in CEFITEC and CFA (FCT/UNL). Besides those, some are members of CFNUL, ICEMS, CFMC, ITQB, CENIMAT and IBEB.

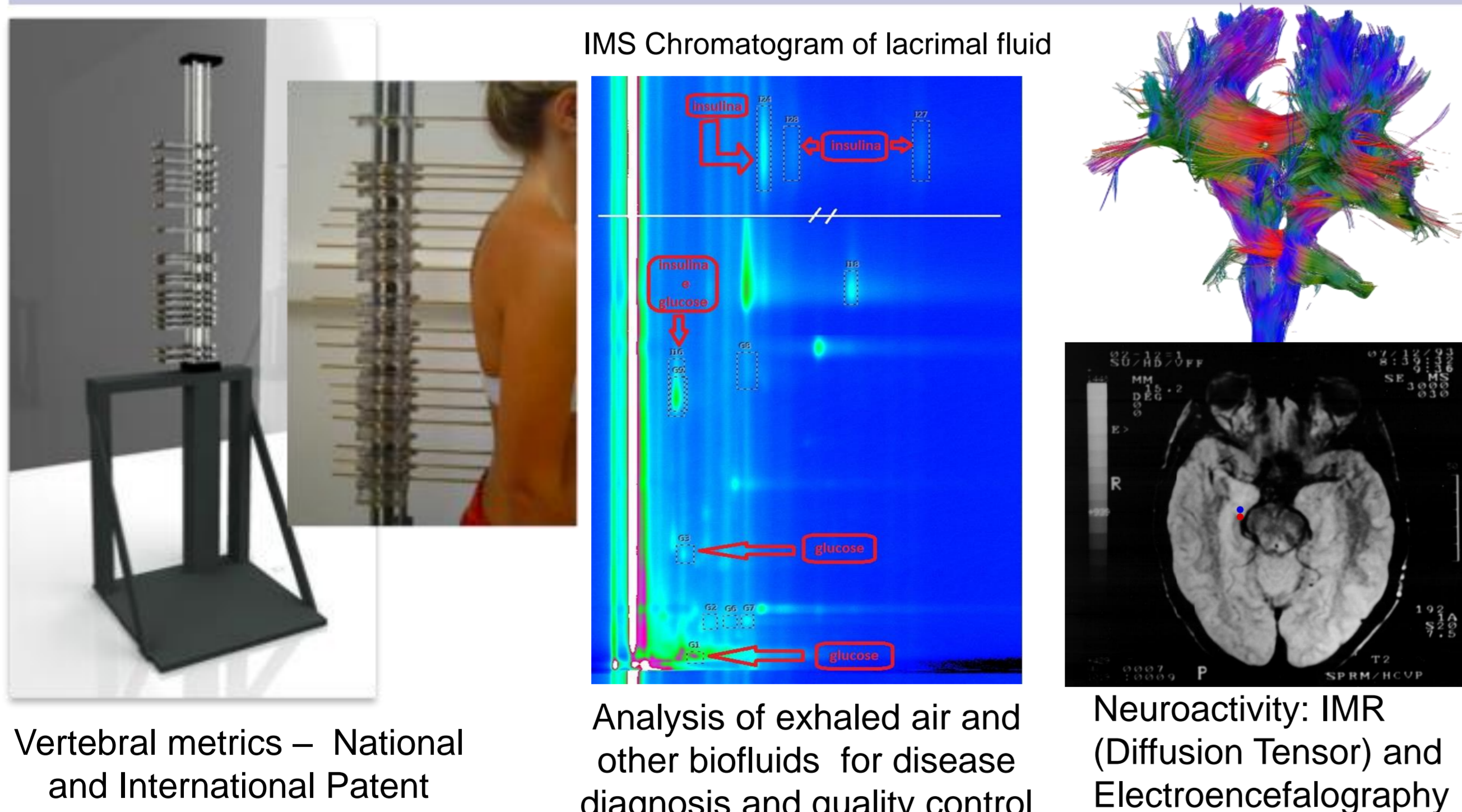
Major areas and subjects:

Physics and Physics Engineering

Advanced Materials (Optical, Nanostructures; Liquid Crystals), Atomic, Molecular and Nuclear Interactions and Analytical Techniques, Cryogenics, Instrumentation, Lasers, Photonics and Non-Linear Optics, Plasma and Thin Film Physics and Technology, Simulation and Modelation in Physics and Physics Engineering, Surface and Interface Physics and Technology, Vacuum and Charged Particle Physics and Technology.

Biophysics and Biomedical Engineering

Analytical Techniques in Biomedicine, Electrophysiological Signal Processing, Instrumentation, Medical Imaging, Protein Studies, Dosimetry applied to radiology and radiotherapy, Interaction of Radiation with Biological Tissues and Molecules, Tissue Engineering.

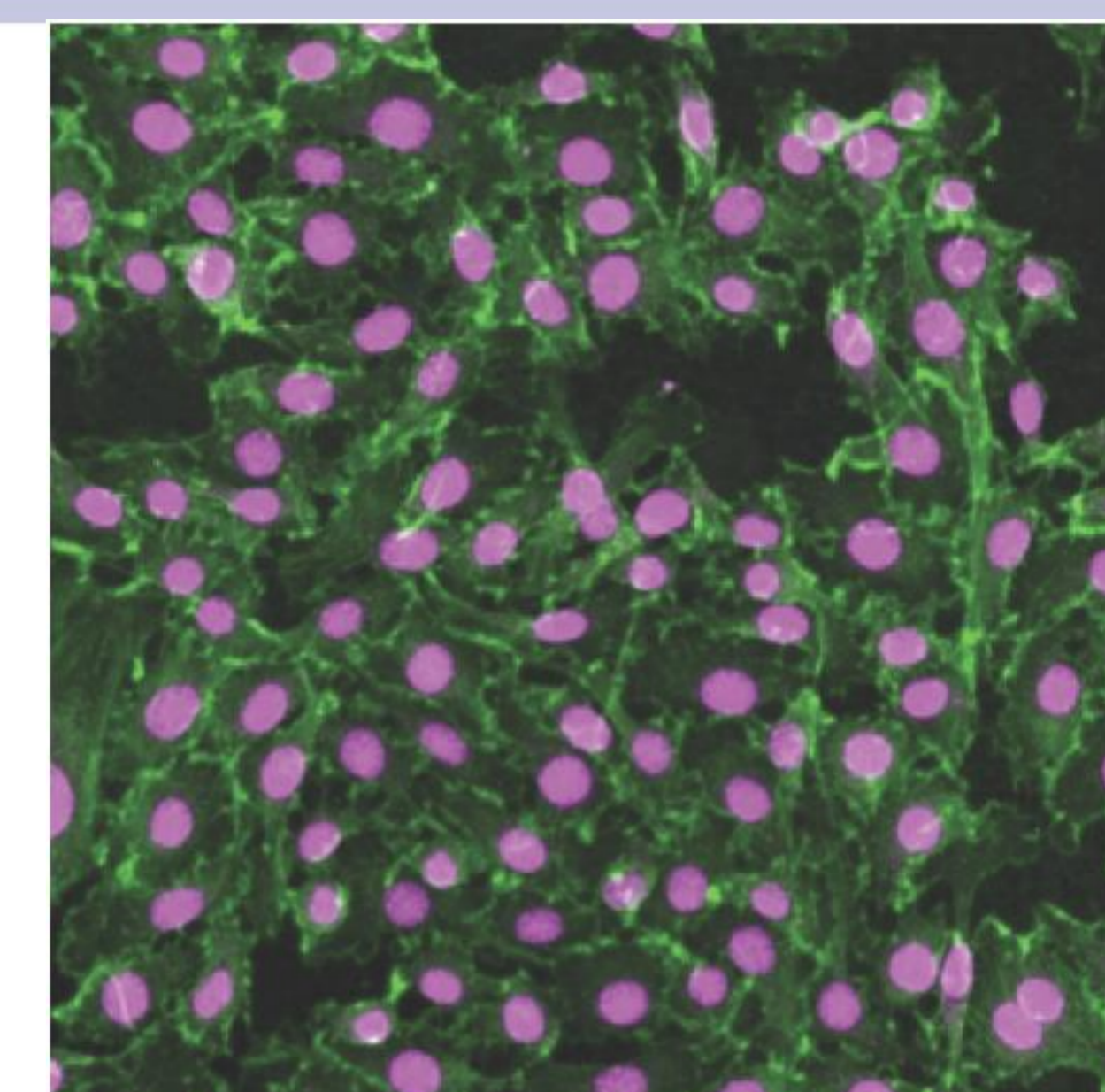
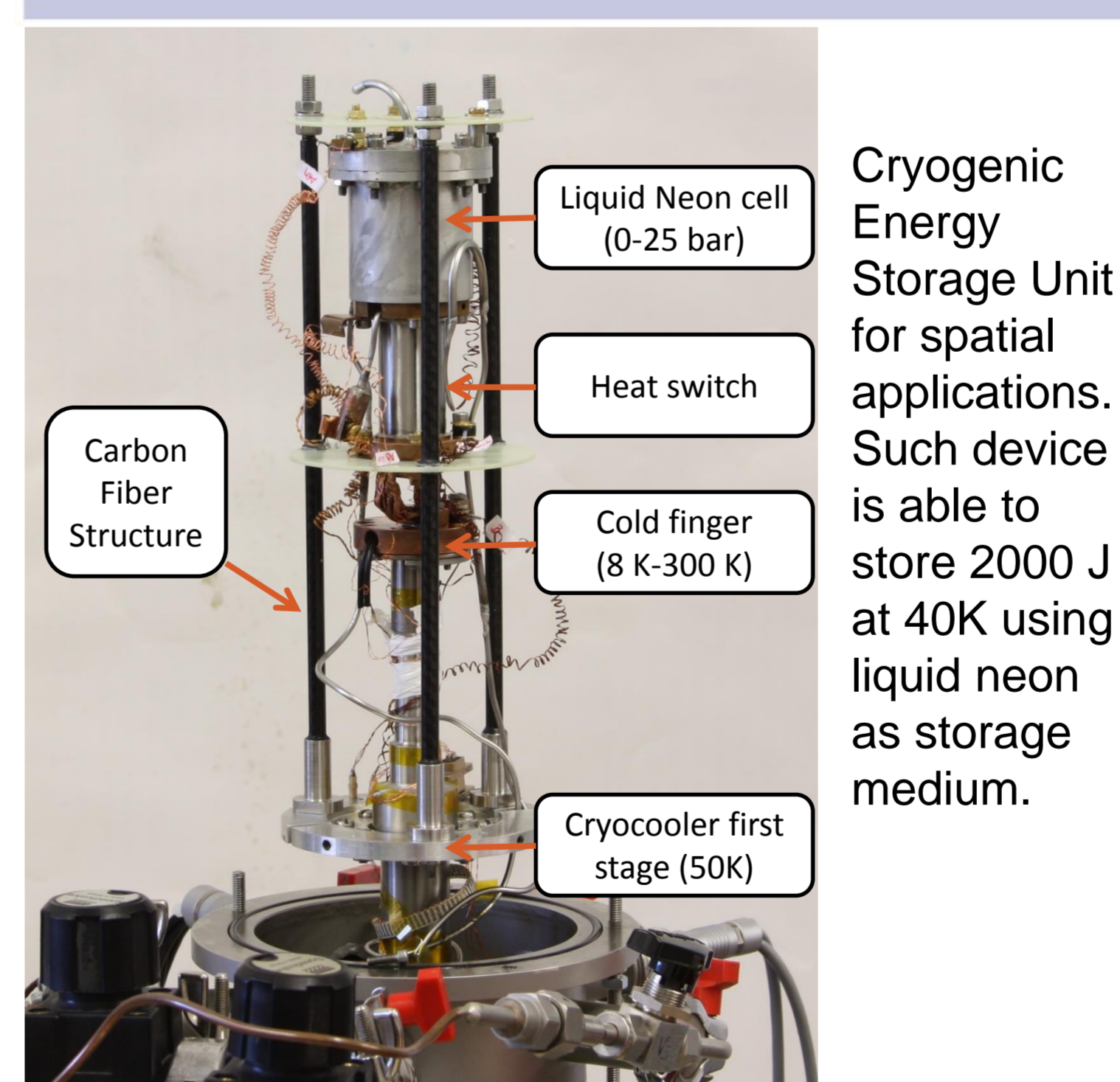


Technologies / Facilities

Several infrastructures and equipment give support to the research activity, namely: systems for XPS, AES, SIMS, LEIS, Tof-SIMS, PIXE, PIGE, RBS, AMS, EDXRF, magnetron sputtering AFM and SNOM microscopes, regular lasers and solar lasers, 3 K and 10 K cryocoolers for low temperature measurements, crossed molecular beam apparatus, UV- visible spectrometers, mass spectrometry, Mossbauer spectrometry, Raman spectrometry, ion mobility spectrometry, computer clusters, CNC machine for rapid prototyping of printed circuits, and electronic and mechanical workshops.

The Laboratory of Vacuum Technology and Metrology — METROVAC is an accredited laboratory for calibrations of low and high pressures, microflows, and non destructive leak testing.

Research and advanced training also benefit from an entrepreneurship environment that led to 3 national and 2 international patents and 3 start-ups (NGNS, NMT, PLUX).



Projects Running

67 projects have been financed in the last 5 years corresponding to funds of € 4,700,000.

Some recent financed projects:

- “Biologic building blocks and relevant electron transfer processes: an atom-collision study”, PTDC/FIS-ATO/1832/2012, € 145,162
- “New frontier in high-temperature solar furnace for application to renewable Mg recovery from MgO”, PTDC/FIS/122420/2010, € 106,000
- System for Postural Evaluation and Correction (SYPEC) - QREN 13330 2010-2013, € 123,000

Recent Publications

Publication Output – About 70 per year (reaching 110 in 2012) publications with peer review.

Examples of 2012:

- Amaro P, Schlessler S, Guerra M, Le Bigot EO, Isac JM, Travers P, Santos JP, Szabo CI, Gumberidze A, Indelicato P, Physical Review Letters, 109 (2012) 043005
- A Do Valle Wemans (ATLAS Collab), Phys. Rev. Lett. 109, 261803 (2012)
- Gomes PJ, Coelho M, Dionisio M, Ribeiro PA, Raposo M, Applied Physics Letters 101 (2012) 123702