

Postdoctoral Fellowship under the Marie S. Curie Actions Cofund project “Opening Sphere UAB-CEI to Postdoctoral Fellows (P-Sphere)” Gran Agreement 665919.

Department or Institution involved



Instrumentation, including medical imaging

Topic Description

The instrumentation division at IFAE is very active group and has various ongoing activities related to pixel radiation detectors in the field of medical imaging/industrial quality control scanner. And it is also involved in developing graphene pixel sensors. The successful candidate will have the freedom to participate in the above activities at the level of hardware, data acquisition, data analysis, and simulation.

Project Supervisor & Hosting Group

Dr. Federico Sánchez, Group Leader of Neutrinos Group at IFAE

Dr. F. Sanchez and Prof. M. Chmeissani will co-supervise the fellow work and engagement in various activities. Such as the Voxel Imaging PET project, Energy Resolving Inline Camera project, photosensor development including novel graphene, quantum nanoparticles, wavelength shifting and organic photodiodes. Another potential line of research is related to gaseous radiation detectors (Time Projection Chambers) with Micro Pattern Gas detectors and/or electroluminescence readout.

The instrumentation division at IFAE is has 25 years of experience in general instrumentation, and 15 years in pixel radiation sensors. It is It has state of art infrastructure for pixel sensor packaging that can rival leading research labs in Europe. 60 m2 of clean room equipped with F&K Delvotec G5/6400 automatic wire bonding machine, Pactech SB2-SM solder ball deposition, AVT reflow oven, Finetech

Fineplace pico, DAGE AP-300 Plasma Chamber, DAGE 4000 Optima bond tester, DAGE XD7600NT Ruby X-ray machine, and full access to SET FC150 flip-chip machine.

The Instrumentation Division at IFAE is well recognized for its pioneering work in the instrumentation/pixel detectors. Its research has resulted in Spin-off X-ray Imatek SL. It has been awarded an ERC.

Advanced grant. Won Silver Medal from the International Salon of Innovation, Geneva, Switzerland. And has 3 granted Patents in USA.

Planned Secondments

Fellow will realize stays of 4 to 6 weeks to learn methods at some institutions in the Barcelona area as for example ICFO, ICN2 and ICIQ. It is also expected depending on the final specific topic of the research short stays at the European Laboratory for Particle Physics (CERN) in Switzerland and the Fermi National Laboratory in USA.

Candidate's Profile

A PhD in Experimental Particle Physics with at least 2 years of experience in data acquisition, data analysis, detector simulation. He/She should have strong leadership to execute the assigned tasks independently, to have the ability to work with group, and fluent in English.

Research Contact

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