

**FP7 - Marie Curie Actions
Industry-Academia Partnerships and Pathways (IAPP) -
ESN-STM**

1 January 2014 – 31 December 2015

***Openings APEResearch srl TRIESTE – ITALY : 1 Post Doc position
Physics, Electronic/Mechanical Engineering, Material Science***

The final goal of this project is to develop an SPM technique which is capable of identifying the type of atom which is under the tip while tunnelling. The idea is to exploit the recent success in detection the hyperfine coupling between electron and nuclear spins on the surface and to detect the hyperfine coupling between the electron spin on the tip and a nuclear spin on the surface.

ESN-STM is an emerging technique that is capable of single spin detection through modulation at the Larmor frequency of the tunnelling current. The purpose of the studies proposed is to further develop the technique of electron spin noise - scanning tunneling microscopy (ESN-STM) to the level that it will provide chemical contrast at the single atom and at the single molecule levels.

The specific objectives at APEResearch are:

- Prototype developments and implementation of different detection schemes to work with the STMs.**
- Preferred previous experience in mechanical design, programming and electronics.**

Open position

To achieve the objectives above we are currently aiming to recruit a pool of talented, energetic, strongly motivated, young scientists at Experienced Researcher (ER, i.e. post-doc level).

Applicants must have received their PhD within the last 1-2 years, but also candidates that are about to finish their thesis and anticipate their first postdoc are considered.

Positions are intended primarily to encourage mobility of researchers among EU countries although a small number of appointments can be for ERs from third countries. Women are especially encouraged to apply.

Experience in STM and AFM development will be appreciated.

Each researcher will benefit from a wide ranging training programme that will take advantage of both “indoor” (i.e. at the principal host institution, for example taught courses for master or PhD students) and “outdoor” activities (i.e. at other nodes, or other events such as training schools, conferences, workshops etc.).

Details about the positions and the person to contact are given in the table below.

Position in APEResearch is for starting on February 2014 or soon thereafter.

Node	Principal investigator	Field of research	Positions *
A.P.E. Research, Trieste, Italy	Stefano Prato	development of new Scanning Probe Microscopies	1 Post Docs (12 months)

**ER= Experienced Researchers (PhD or research experience > 4 years but < 10 years).
Not working in Italy more than 12 months in the previous 3 years.**

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