

Simplifying Advanced AFM for Multi-User Research Labs

Reliable Automated Nanoscale Characterization with Park FX40

The Challenge

“The users need different modes according to their research interests, requiring a versatile tool capable of probing different surface properties, while being user friendly and delivering high quality results.”



— Dr. Federico Stramaglia, Staff Researcher
Nanocharacterization Laboratory

Your Challenge, **Our Solution**
Park FX40



This case study is based on an interview with Federico Stramaglia at ICFO. The FX40 helped simplify AFM operation and improve workflow efficiency in a multi-user research environment.



The Solution



Automated Probe Exchange

Enables seamless switching between AFM techniques while reducing manual handling



Auto Laser Alignment & Tip Detection

Simplifies setup and improves operational consistency



User-Friendly Multi-User Operation

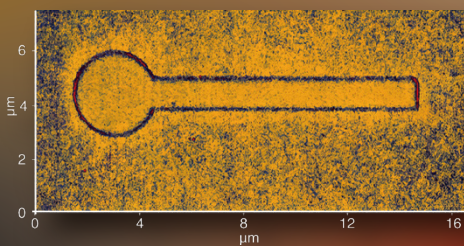
Makes advanced AFM accessible to users of all experience levels



Image-Guided Sample Navigation

Quickly locates features of interest and speeds up measurements

Ga Beam-Milled Cavity Work Function
& Surface Potential Analysis



Publication Research Data
Applied Physics Letters (2026) | DOI: 10.1063/5.0335049

The Results



Reliable Nanoscale Characterization

Delivers consistent AFM performance across diverse applications



Simplified Multi-User Management

Helps new users learn AFM operation quickly while supporting organized handling of group-specific probes



Faster, Flexible Workflows

Accelerates setup, sample positioning, and efficient switching between probes and techniques



Safer Shared-Lab Operation

Reduces the risk of accidental instrument damage

“With the FX40 automation, this problem is completely solved. The users just need to press a button, and the instrument will automatically pick up one probe from the cassette or drop it off.”

— Dr. Federico Stramaglia

