



# Automatic AFM - One system, multiple applications: Workshop and live demo

Tuesday 19th of March 2024

An Atomic Force Microscope (AFM) is a powerful tool used across various scientific disciplines for its ability to image and measure materials properties at the atomic scale. The recent development of a completely automatic AFM system can enhance significantly the research work of most scientific labs. In this event we will discuss some of its key applications in Materials Science and Technology including 2D materials, semiconductors, batteries, solar cells and polymers. We will also present a novel way of acquiring high resolution images of biological cells as well as the use of complementary techniques like ellipsometry and IR spectroscopy. Finally, we will perform a live demo of measuring topography, electrical and mechanical properties of a typical sample in an automatic way.

## Program

### 9:30 Welcome Reception

Coffee & snacks

### 10:00 IFIMAC – Condensed Matter Physics Center introduction

### 10:20 Investigating the properties of 2D material via scanning probe microscopy, a journey to correlative microscopy

### 10:40 Probing soft material properties at the nanoscale, a non-destructive study

### 11:00 Novel technique for semiconductor Failure Analysis

### 11:20 Probing photo-active material at the nanoscale via photo current imaging

### 11:40 Study of electrochemistry properties of material via new automated process

### 12:00 News ways to achieve high resolution imaging on cells

### 12:20 Lunch

Snacks & drinks

### 13:20 Venture through optical properties of thin films at the micrometer scale

### 13:40 Probing chemical nature of material at the nanoscale via Photo induced force microscopy

### 14:00 Live Demo in NEM Lab (Nanoprobng Energy Materials) (Group 1)\*

### 14:30 Live Demo in NEM Lab (Nanoprobng Energy Materials) (Group 2)\*

### 15:00 Event Closing

\*Due to the limited space in the lab, the demo session will be limited into a total size of 16 persons, divided into two groups

## Organizers:



## Location:

Universidad Autónoma de Madrid  
Facultad de Ciencias  
Salón de Actos, Module 0

C/ Francisco Tomás y Valiente, 7  
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Cantoblanco  
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<https://maps.app.goo.gl/uysrbsUhTcQynMYR9>

## Contact Information:

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For registration, please use the following link:

<https://www.irida.es/works-hop/>