

Members

To view a member's profile, click on their name.

[Go back to directory.](#)

[Add to Address Book.](#)



Work Phone: +34 91 497 4906 Work
Email: ruben.perez@uam.es Website: [Click Here](#)

RUBEN PEREZ Full Professor [Scanning Probe Microscopy Theory and Nanomechanics Group](#)

Work Module 5, Office 601, 6th floor.

Biographical Info

Professor of Condensed Matter Physics.

Visiting Professor, Materials Science Division, Lawrence Berkeley National Laboratory, 2012.

Visiting Professor, Graduate School of Engineering, Osaka University, 2001.

Visiting Scientist, Max-Planck Institut fur Metallforschung, Stuttgart (annual visits during 1997-1999).

HCMP Fellow & Research Associate, Cavendish Laboratory, University of Cambridge, 1993-1996.

Ph.D. (Condensed Matter Physics), Universidad Autónoma de Madrid, 1992.

Graduate in Theoretical Physics, Universidad Complutense de Madrid, 1987.

Research Interests

Theory of Scanning Tunneling (STM) and Atomic Force (AFM) Microscopes.

Adsorption, reactivity, and self-organization of molecules on surfaces.

Graphene and carbon nanostructures.

Oxide nanostructures for a hydrogen-based economy.

Structure and function of Biomolecules (proteins, DNA, PNA).

Nanomechanics: Fracture. Friction and Wear at the atomic scale.

Relevant/Recent Publications

Rubén Pérez Nanoscale Friction: Distorted by the tip, Nature Materials 13, 118-119, (News & Views), (2014). [\[URL\]](#)

H. Mönig, M. Todorović, M. Z. Baykara, T. C. Schwendemann, L. Rodrigo, E. I. Altman,

R. Perez, U. D. Schwarz, Understanding Scanning Tunneling Microscopy Contrast Mechanisms on Metal Oxides: A Case Study, ACS Nano 7, 10233 (2013). [\[URL\]](#)

G. Langewisch, W. Kaminski, D.-A. Braun, R. Möller, H. Fuchs, A. Schirmeisen and R. Perez, Understanding Dissipative Tip-Molecule Interactions with Submolecular Resolution on an Organic Adsorbate, Small 8, 602(2012). [\[URL\]](#)

M. M. Ugeda, D. Fernández-Torre, I. Brihuega, P. Pou, A. J. Martínez-Galera, R. Perez and J. M. Gómez-Rodríguez, Point Defects on Graphene on Metals, Physical Review Letters 107, 116803 (2011). [\[URL\]](#)

M. Ondracek, P. Pou, V. Rozsival, C. Gonzalez, P. Jelinek and R. Perez, Forces and Currents in Carbon Nanostructures: Are We Imaging Atoms?, Physical Review Letters 106, 176101 (2011). [\[URL\]](#)

O. Custance, R. Perez and S. Morita, Atomic force microscopy as a tool for atom manipulation, Nature Nanotechnology 4, 803 (2009). [\[URL\]](#)

Y. Sugimoto, P. Pou, O. Custance, P. Jelinek, M. Abe, R. Pérez and S. Morita, Complex patterning by vertical interchange atom manipulation using atomic force microscopy, Science 322, 413-417 (2008). [\[URL\]](#)

G. Otero, G. Biddau, C. Sánchez-Sánchez, R. Caillard, M. F. López, C. Rogero, F.J. Palomares, N. Cabello, M.A. Basanta, J. Ortega, J. Mendez, A.M. Echavarren, R. Pérez, B. Gómez-Lor and J. A. Martín-Gago, Fullerenes from aromatic precursors by surface-catalysed cyclodehydrogenation, Nature 464, 865-869 (2008). [\[URL\]](#)

R. García, R. Magerle and R. Pérez, Nanoscale compositional mapping with gentle forces, Nature Materials 6, 405-411 (2007). [\[URL\]](#)

Y. Sugimoto, P. Jelinek, P. Pou, M. Abe, R. Pérez, S. Morita and O. Custance, Chemical identification of individual surface atoms by atomic force microscopy, Nature 446, 64-67 (2007). [\[URL\]](#)

[Add to Address Book.](#)

