

Curriculum Vitae for Daniel Farías Tejerina

Personal

Date of birth: February 03, 1965

Place of birth: Buenos Aires, Argentina

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Education and Appointments

Since 2008 Professor, Dept. of Condensed Matter Physics.
Universidad Autónoma de Madrid

1996 PhD in Physics. Free University Berlin (Germany).

1991 M.S. Physics. University of Buenos Aires (Argentina).

Summary

PhD in experimental physics from the Freie Universitaet Berlin (1996) under the supervision of Prof. Dr. Karl-Heinz Rieder.

100 publications in ISI journals, including 1 Science, 1 Nature, 1 Rep. Prog. Phys., 2 Phys. Rev. Lett., 1 Adv. Materials, 1 Nano Letters and 3 book chapters. 1971 citations (May 2018).

49 invited talks, 26 of them at international conferences. More than 120 poster/oral presentations at international conferences.

Supervisor of 6 PhDs and 3 postdoctoral researchers.

Involved in 18 research projects funded from public agencies in Germany and Spain. In 4 of them as IP. Spanish IP of the EU collaborative research project NEMI (FP7, 2013-2016), funded with 3.731.000 EUR (420.000 EUR Spanish part).

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International collaborations

W. Allison (Cavendish Lab, Cambridge); G. J. Kroes (Leiden University); H. F. Busnengo (Rosario, Argentina); B. Holst (Bergen, Norway); F. Martín (UAM, Madrid); M. Rocca (Genoa, Italy); G. Benedek (Milan, Italy); E. Chulkov (San Sebastián, Spain); A. Wodtke (Max Planck Institut, Goettingen); A. Politano (Calabria, Italy); J.R. Manson (Clemson University, USA); T. Kondo (Japan).

Selected publications

- 1-D. Farías and K.-H. Rieder. *Atomic beam diffraction from solid surfaces*. **Rep. Prog. Phys.** 61, 1575 (1998).
- 2-P. Nieto, E. Pijper, D.Barredo, G. Laurent, R.A.Olsen, E.J. Baerends, G. J. Kroes, **D.Farías**. *Reactive and non-reactive scattering of H₂ from a metal surface is electronically adiabatic*. **Science** 312, 64 (2006).
- 3-B. Diaconescu, K. Pohl, L. Vattuone, L. Savio, P. Hofmann, V. Silkin, J.M. Pitarke, E.Chulkov, P. Echenique, **D. Farías**, M. Rocca. *Low-energy acoustic plasmons at metal surfaces*. **Nature** 448, 57 (2007).
- 4-B.Borca, S.Barja, M.Garnica, M.Minniti, A.Politano, J.M. Rodríguez-García, J.J. Hinarejos, **D. Farías**, A.L.Vázquez de Parga, R. Miranda. *Electronic and geometric corrugation of periodically rippled, self-nanostructured graphene epitaxially grown on Ru(0001)*. **New J. Phys.** 12, 093018 (2010).
- 5-D. Barredo, F. Calleja, P. Nieto, J.J. Hinarejos, G. Laurent, A.L. Vázquez de Parga, **D. Farías** and R. Miranda. *A quantum-stabilized mirror for atoms*. **Advanced Materials** 20, 3492 (2008).
- 6-**D. Farías**, A. M. Shikin, K. H. Rieder and Yu S. Dedkov. *Synthesis of a weakly bonded graphite monolayer on Ni(111) by intercalation of silver*. **J. Phys. C.** 43, 8453 (1999).
- 7-**D. Farías**, C. Díaz, P. Riviere, H.F. Busnengo, P. Nieto, M.F. Somers, G.J. Kroes, A. Salin, F. Martín. *In-plane and out-of-plane diffraction of H₂ from metal surfaces*. **Phys. Rev. Lett.** 93, 246104 (2004).
- 8-**D. Farías**, W. Kaminski, J. Lobo, J. Ortega, E. Hulpke, R. Pérez, F. Flores and E.G. Michel. *Phonon softening, chaotic motion, and order-disorder transition in Sn/Ge(111)*. **Phys. Rev. Lett.** 91, 016103 (2003).
- 9- A. Al Taleb, H.K. Yu, G. Anemone, **D. Farías** and A. M. Wodtke. *Helium diffraction and acoustic phonons of graphene grown on copper foil*. **Carbon** 95, 731 (2015).
- 10-D. Maccariello, A.Al Taleb, F. Calleja, A.L Vázquez de Parga, P. Perna, J. Camarero, E. Gnecco, **D. Farías** and R. Miranda. *Observation of localized vibrational modes of graphene nanodomes by inelastic atom scattering*. **Nano Letters** 16, 2 (2016).
- 11-A. Politano, M. Cattelan, D.W. Boukhvalov, D. Campi, A. Cupolillo, S. Agnoli, N.G.Apostol, P.Lacovig, S. Lizzit, **D. Farías**, G. Chiarello, G. Granozzi and R. Larciprete. *Unveiling the mechanisms leading to H₂ production promoted by water decomposition on epitaxial graphene at room temperature*. **ACS Nano** 10, 4543 (2016).
- 12-A. Al Taleb, **D. Farías**. *Phonon dynamics of graphene on metals*. **Journal of Physics: C.** 28 (10), 103005 (2016)
- 13-A. Al Taleb, G. Anemone, **D. Farías**, R Miranda. *Resolving localized phonon modes on graphene/Ir (111) by inelastic atom scattering*. **Carbon** 133, 31 (2018).
- 14-A. Al Taleb, G. Anemone, A. Castellanos-Gomez, **D. Farías**. *Experimental determination of thermal expansion of natural MoS₂*. **2D Materials** 5, 035015 (2018).

Other merits

Reviews proposals for: BSF (United States-Israel Binational Science Foundation), ANR (Agence Nationale de la Recherche, France), National Science Evaluation Agencies of Spain (ANEP), Argentina (FONCYT), and Chile (Innova Chile – CORFO).

Reviews proposals for the European Union: *Marie Curie Fellowships* (Physics Panel, FP7 and H2020), *Erasmus Mundus Joint Master Degrees* (EMJMD) and *European Research Council* (ERC Consolidator Grant).

Reviews papers for: *Physical Review Letters*, *JACS*, *Carbon*, *Applied Physics Letters*, *J. Physics C-D*, *Nanoletters*, *The Journal of Physical Chemistry*, *The Journal of Chemical Physics*, *Physical Review B*, *Nanoscale*, *2D Materials*, *Advanced Functional Materials*.

Member of the PhD board of several European research centers, including *Cambridge University*, *University of Graz*, *Humboldt Universitaet zu Berlin*, *Institut Laue-Langevin*, *École Polytechnique Fédérale de Lausanne*.

Co-organizer of the international meeting: “*Workshop on Molecule-Surface Interactions: Elementary Reactive Processes*”. San Sebastián. (Spain), September 2004.

Co-organizer of the international meeting: “*Tenth Workshop on Surface Dynamics*”. El Escorial (Spain), June 2001.

Invited editor of *Applied Surface Science* for publishing the “*Proceedings of the Applied Surface Modeling: Experiment, Theory, and Simulations conference*”, published in **Applied Surface Science 219, (2003)**.

Invited editor of *Journal of Physics: C* for the publication of the special issue on “*Surface Dynamics: Phonons, Adsorbate Vibrations and Diffusion*”, published in **J. Phys. C 14 (2002)**.