

Brief CV of Aitor Bergara

Family Name: Bergara Jauregui

Name: Aitor

Date of Birth: 30/1/1970

Institution: Univ. of the Basque Country (UPV/EHU)

Faculty: Faculty of Science and Technology

Department: Condensed Matter Physics

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Other affiliations:

A) *Institution:* Donostia International Physics Center (DIPC)

Postal address: Paseo Manuel de Lardizabal, 4. 20018, San Sebastián, Gipuzkoa.

Position: Associate researcher.

B) *Institution:* Spanish National Research Council (CSIC)

Center: Center of Material Physics (UFM)

Postal address: Paseo Manuel de Lardizabal, 3. 20018, San Sebastián, Gipuzkoa.

Position: Associate researcher.

Academic Background:

1988-93: University of the Basque Country (UPV/EHU), B.S. Physics

1993 : *Student Researcher* at the Spanish National Research Council (CSIC)

1993 : Summer Student at the European Center for Nuclear Research (CERN)

1993-98: University of the Basque Country (UPV/EHU), PhD Physics

Professional Background:

1996-99: Assistant Professor at the University of the Basque Country.

1999-01: Fulbright Postdoctoral Fellow at the Laboratory of Atomic and Solid State Physics at Cornell University (USA).

Since 2001: Associate Professor (*Profesor Titular*) at the University of the Basque Country.

Since 2006: Scientific staff member of the Materials Physics Center (CSIC-UPV/EHU).

Since 2000: Scientific staff member of the Donostia International Physics Center (DIPC).

Honors:

1993 - Outstanding Student Award in Physics (University of the Basque Country).

1998 - Outstanding PhD Thesis Award in Physics (University of the Basque Country).

1999-2001 - Fulbright Fellow at Cornell University (USA).

2011 - Prof. Tang Ao Qing at Jilin University (China).

Main research interests:

Many body response function; *ab initio* analysis of electronic and structural properties of solids; high pressure physics; phase transitions; superconductivity; magnetism at surfaces.

Major research activities:

Over 70 articles published in refereed international journals; 55 participations in international conferences, with 12 invited talks; 5 PhD thesis supervised, and other 2 in progress; participation in 20 funded research projects.

5 Selected relevant publications in the last 5 years (over 70 total):

1. "Crystal Structures and Superconductivity of Stannane under High Pressure", G. Gao, A. Oganov, Z. Li, P. Li, T. Cui, Y. Ma, A. Bergara, T. Itaka, and G. Zou, Proc. of the National Academic of Sciences, **107**, 1317-20 (2010).
2. "Exotic behavior and new crystal structures of calcium under pressure", Oganov, Y. Xu, Y. Ma, I. Errea, A. Bergara, and A. Lyakhov, Proc. of the National Academic of Sciences **107**, 7646-51 (2010).
3. "First Principles Simulations of Lithium Melting: Stability of bcc phase close to melting", E. Hernandez, A. Rodriguez-Prieto, A. Bergara, and D. Alfe, Phys. Rev. Lett. **104**, 185701 (2010).
4. "Spin-flip transitions induced by time-dependent electric fields in surfaces with strong spin-orbit interaction", J. Ibañez-Azpiroz, A. Eiguren, E.Y Sherman, and A. Bergara, Phys. Rev. Letts. **109**, 156401 (2012).
5. "Theoretical study of the ground-state structures and properties of niobium hydrides under pressure", G. Gao, R. Hoffmann, N.W. Ashcroft, H. Liu, A. Bergara, Y. Ma, Phys. Rev. **B88**, 184104 (2013).

Major science outreach activities:

- 2005: Coordinator of the organizing committee of the *International Year of Physics* at the University of the Basque Country.
- 2006-09: science advisor of the *Bidebarrieta Científica* outreach lectures organized by the City Hall of Bilbao.
- 2006-13: scientific coordinator of the *Week of Science and Technology* at the University of the Basque Country.
- 2007-10: coordinator of the project *Fisikaz Blai* in the Faculty of Science and Technology.
- Since 2007, science advisor in AlhondigaBilbao.
- 2008: coordinator and scientific director of the exhibition "¡Viaja a los Polos!", organized by AlhondigaBilbao.
- 2009: coordinator and scientific director of the exhibition "*Across the Universe*", organized by AlhondigaBilbao.
- 2009-13: weekly collaboration in the *Faktoria* EITB radio program.
- Since 2007, science advisor in AlhondigaBilbao.
- 2011-13: coordinator of *Euskampus Summer Science Camps* at the University of the Basque Country.
- Since 2013: collaboration in *La mecánica del caracol* EITB radio program.