

CURRICULUM VITAE

Gonzalo Gutiérrez G.

March, 2015

I. PERSONAL DATA

Nationality : Chilean
Address : Group of NanoMaterials, www.gnm.cl,
Departamento de Física, Facultad de Ciencias
Universidad de Chile,
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CHILE.
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II. EDUCATION

Ph.D. in Physics, Faculty of Physics, P. Universidad Católica de Chile, Santiago, Chile, September 1997. Doctoral fellowship of CONICYT (Chilean NSF), 1994–1997.
Thesis' Title "Amorphous solids and solid state amorphization: a Molecular Dynamics Study",
Thesis Advisors: Professor Miguel Kiwi (PUC) and Professor Priya Vashishta (LSU)

M.Sc. in Physics, P. Universidad Católica, Santiago, 1993. PUC scholarship.

Licenciado in Physics, University of Chile, Santiago, 1985. Best graduated student.

Diploma in Celular and molecular biology, Universidad de Chile, 2008.

III. RESEARCH AREAS

- Condensed Matter Physics, theory
 - Structural, dynamical and electronic properties of materials. Liquid, amorphous and crystalline state. Mechanical properties of metals. Radiation damage. Bulk metallic glasses. Materials at extreme conditions. Energy materials.
 - Thermodynamics and Statistical Mechanics: finite size effects, maximum entropy inference, melting, dynamical properties of spin systems. Energy transfer. Energy & environmental policy.
 - Computational physics: classical and ab-initio molecular dynamics, montecarlo method, electronic structure calculation, algorithms.

IV. PROFESSIONAL EXPERIENCE

- **Current Position:**
 - *Full time Associate Professor*, Departamento de Física, Facultad de Ciencias, Universidad de Chile.
 - Member of the *Group of NanoMaterials Lab*, Universidad de Chile, www.gnm.cl.
 - Associated Member of the *ICTP South American Institute for Fundamental Research* in Brazil.

- Member of the Editorial Advisory Board of the Elsevier Journal *Materials Discovery*.
- Elected member of the Faculty of Science's Council, U. Chile
- Scientific advisor of CUT (Chilean Workers Union, www.cutchile.org)
- Member of the Advisory Council of the Ministry of Environment (www.mma.gob.cl) in behalf of CUT.
- President, Chilean Nuclear Energy Commission CCHEN, www.cchen.cl, nominated by President Michelle Bachelet, 2009-2010.
- University of Santiago, Chile:
 - *Full time Research Associate*, Departament of Physics, July 2000–April 2004.
- Uppsala University, Sweden:
 - 1998–2000. Postdoctoral Fellow, Condensed Matter Theory Group, Faculty of Science and Technology, November 1998–June 2000.
- Universidad de Chile, Faculty of Science:
 - 1997. Postdoctoral Researcher, Project Fondecyt 3970021, *Atomistic Simulation by means of Density Functional Theory*, Septiembre 1997–Marzo 1999, under Professor P. Fuentealba.
- P. Universidad Católica de Chile, Santiago:
 - 1993–97. As part of the PhD Thesis under Professor Miguel Kiwi, I studied grain boundaries and metallic interfaces by means of computer simulation methods.
 - 1994. *System Manager of the computer lab consisting of several PC under Linux*, Faculty of Physics.
- Department of Physics and Astronomy, Louisiana State University, EE.UU
 - 1995, 1996. Research visiting, Concurrent Computing Laboratory for Materials Simulations, January–March, 1995 and January–May, 1996. As part of my PhD thesis, under Professors Rajiv Kalia and Priya Vashishta, I studied structural properties of amorphous and crystalline SiO_2 by means of molecular dynamics simulation.

V. PUBLICATIONS

a) Refereed Papers (see ResearcherID A-4973-2008 for full list of ISI papers)

1. Leopoldo Soto, Cristian Pavez, José Moreno, María José Inestrosa-Izurietta, Felipe Veloso, Gonzalo Gutiérrez, Julio Vergara, Alejandro Clausse, Horacio Bruzzone, Fermín Castillo, and Luis F. Delgado-Aparicio,
Characterization of the axial plasma shock in a table top plasma focus after the pinch and its possible application to testing materials for fusion reactors,
Physics of Plasmas **21**, 122703 , 1–6 pp (2014)
2. Joaquín Peralta, Gonzalo Gutiérrez,
Pressure-induced structural transition in amorphous GeO_2 : a molecular dynamics simulation,
European Physical Journal B **87**:257, 9 pp (2014)
3. Javier Wachter, Gonzalo Gutiérrez, Alejandro Zúñiga, Rodrigo Palma,
Buckling of Cu-Zr based metallic glasses nanowires: molecular dynamics study of surface effects,
Journal of Materials Science **49**, Issue 23, pp 8051–8056(2014)
4. Germán Miño, Raúl Barriga, Gonzalo Gutiérrez,
Hydrogen Bonds and Heat Diffusion in α -Helices. A Computational Study,
The Journal of Physical Chemistry B **118**, 10025 (2014)

5. D. González, S. Davis, **G. Gutiérrez**,
Newtonian Dynamics from the principle of Maximum Caliber,
Foundations of Physics **44**, 923-931 (2014)
6. **G. Gutiérrez**,
Antecedents and perspectives on the development of nuclear energy in Chile,
Journal of Physics: Conference Series 511, 012089, 8 pages (2014)
See also:
Inaugural Speech, at the 15th International Congress on Plasma Physics (ICPP2010) & 13th Latin American Workshop on Plasma Physics (LAWPP2010), Santiago, Chile, 8-13 August 2010.
Journal of Physics: Conference Series 511, 011003, 3 pages (2014)
7. S. Davis, Y. Navarrete, **G. Gutiérrez**,
A maximum entropy model for opinions in social groups,
European Physical Journal B **87**, 87:78 pp.1-7(2014)
8. N. Amigo, **G. Gutiérrez**, M. Ignat,
Atomistic simulation of single crystal copper nanowires under tensile stress: Influence of silver impurities in the emission of dislocations,
Computational Materials Science **87**, 76 (2014)
9. S. Davis, **G. Gutiérrez**,
Estimation of Tsallis' q-index in non-extensive systems,
AIP Conf. Proc. 1558, 1779 (2013)
10. S. Davis, **G. Gutiérrez**,
Bayesian inference as a tool for analysis of first-principles calculations of complex materials: an application to the melting point of Ti_2GaN ,
Modelling and Simulation in Materials Science and Engineering **21**, 075001 (2013).
11. G. Miño, M. Baéz, **G. Gutiérrez**,
Effect of mutation at the interface of Trp-repressor dimeric protein: a steered molecular dynamics simulation,
European Biophysics Journal **42**, 683-690, (2013).
12. N. Amigo, C. Loyola, S. Davis, and **G. Gutiérrez**,
Hypervelocity impact of copper nano-projectiles on copper,
Computational Materials Science **68**, 245-254 (2013).
13. S. Davis, and **G. Gutiérrez**,
Conjugate variables in continuous maximum-entropy inference,
Physical Review E **86**, 051136 (2012).
14. S. Davis and **G. Gutiérrez**
Structural, elastic, vibrational, and electronic properties of amorphous Al_2O_3 from ab-initio calculations,
Journal of Physics: Condensed Matter **23**, 495401 (2011).
15. W. Orellana and **G. Gutiérrez**
First-principles calculations of the thermal stability of $Ti_3SiC_2(0001)$ surfaces,
Surface Science **605**, 2087-2091 (2011).
16. C. Valencia-Balvín, C. Loyola, J. Osorio and **G. Gutiérrez**,
Structural and dynamical properties of the $Cu_{46}Zr_{54}$ alloy in crystalline, amorphous and liquid state: a molecular dynamic study,
Physica B **405**, 4970-4977 (2010).
17. C. Loyola, S. Davis, J. Peralta, and **G. Gutiérrez**,
Onset of failure in solid argon by the effect of a shockwave: a molecular dynamics study,
Computational Materials Science **49**, 582-587 (2010).

18. **G. Gutiérrez, E. Menéndez-Proupin, C. Loyola, J. Peralta, and S. Davis,**
Computer simulation study of amorphous compounds: structural and vibrational properties,
Journal of Materials Science **45**, 5124–5134 (2010).
19. **C. Loyola, Eduardo Menéndez-Proupin, and G. Gutiérrez,**
Atomistic study of vibrational properties of γ -Al₂O₃,
Journal of Materials Science **45**, 5094–5100 (2010).
20. **E. Menéndez-Proupin, P. Giannozzi, J. Peralta, and G. Gutiérrez,**
Ab initio molecular dynamics study of amorphous CdTeOx alloys: Structural properties,
Physical Review B **79**, 014205 (2009).
21. **D. Laroze, R. Rivera, G. Gutiérrez y J. M. Yáñez,**
Dynamics of a particle in a time-dependent rotating system under a time dependent potential: exact quantum solution from the classical action,
Physica Scripta, **78**, 015009 (2008)
22. **J. Peralta, G. Gutiérrez y J. Rogan,**
Strucutural and vibrational properties of amorphous GeO₂: a molecular dynamics study,
Journal of Physics: Condensed Matter, **20**, 145215 (2008).
23. **D. Laroze, P. Vargas. C. Cortés y G. Gutiérrez,**
Dynamic of two interacting dipoles,
Journal of Magnetism and Magnetic Materials, **320**, 1440-1448 (2008).
24. **L. Soto, M. Zambra, M Loewe, G. Gutiérrez, M. Molina, F. Barra, F. Lund, C. Saavedra, and P. Haberle,**
Analysis and Projections of Physics in Chile,
Journal of Physics: Conference Series **134**, 012052 (2008).
25. **C. Cortés, P. Vargas, G. Gutiérrez, and D. Laroze,**
Dynamical behaviour of two Interacting Dipoles,
Journal of Physics: Conference Series **134**, 012016 (2008).
26. **A. K. Singh, E. Menéndez-Proupin, G. Gutiérrez, Y. Akahama and H. Kawamura,**
Nonhydrostatic compression of bismuth to 222 GPa: some constraints on elasticity of the bcc-phase,
Journal of Physics and Chemistry of Solids **67**, 2192-2196 (2006).
27. **R. Ferrer, J. Rogan, S. Davis, and G. Gutiérrez**
Solitonic elliptical solutions in the classical XY model,
Physica B **384**, 236-238 (2006).
28. **W. Orellana, G. Gutiérrez, E. Menéndez-Proupin, J. Rogan, G. García, B. Manoun, S. Saxena,**
Ab initio study of Ti₃Si_{0.5}Ge_{0.5}C₂ under pressure,
Journal of Physics and Chemistry of Solids **67**, 2149-2153 (2006).
29. **G. Gutiérrez, E. Menéndez-Proupin, and A. K. Singh,**
Elastic properties of the bbc structure of Bismuth at high pressure,
Journal of Applied Physics **99**, 103504 (2006).
30. **E. Menéndez-Proupin and G. Gutiérrez,**
Electronic structure of bulk γ -Al₂O₃,
Physical Review B **72**, 035116 (2005).
31. **Sergio Davis and G. Gutiérrez,**
Dynamic properties of a classical anisotropic Heisenberg chain under external magnetic field,
Physica B **355**, 1-8 (2005).
32. **E. Menéndez-Proupin, G. Gutiérrez, E. Palmero, and J. L. Peña-Chapa,**
Electronic Structure of binary and ternary Cd-Te-O compounds,
Physical Review B **70**, 035112, (2004).

33. E. Menéndez-Proupin, **G. Gutiérrez**, E. Palmero and J. L. Peña,
Electronic Structure of binary and ternary components of CdTe:O thin films,
physica status solidi (c) **1**, No. S1, S104-S107, (2004).
34. **G. Gutiérrez** and J. Rogan,
Structure of liquid GeO₂ from a computer simulation model,
Physical Review E **69**, 031201, (2004).
35. **G. Gutiérrez**,
Atomistic Simulation in densified amorphous alumina,
Rev. Mex. Fis., **48** S3, 60-62, (2002).
36. **G. Gutiérrez** and B. Johansson,
Molecular dynamics study of structural properties of amorphous Al₂O₃,
Physical Review B **65**, 104202, (2002).
37. **G. Gutiérrez**, A. Taga and B. Johansson,
Theoretical structure determination of γ -alumina,
Physical Review B **65**, 012101, (2002).
38. A. B. Belonoshko, **G. Gutiérrez**, R. Ahuja and B. Johansson,
Molecular dynamics simulation of the structure of yttria Y₂O₃ phases using pairwise interactions,
Physical Review B **64**, 184103, (2001).
39. P. Mohn, P. Weinberger, B. Ujfalussy, O. Eriksson, **G. Gutiérrez**, R. Ahuja y B. Johansson,
Comment on "Mystery of the Alkali Metals: Giant Moments of Fe and Co on and in Cs films",
Physical Review Letters **85**, No. 7, p.1583, (2000).
40. **G. Gutiérrez**, A. B. Belonoshko, R. Ahuja and B. Johansson,
Structural properties of liquid Al₂O₃: a Molecular Dynamics study,
Physical Review E **61**, No.3, 2723-2729, (2000).
41. S. P. Fazal, K. D. Sen, **G. Gutiérrez** and P. Fuentealba,
Shannon entropy of normalized electron density,
Indian Journal of Chemistry **39**:(1-3) 48-49, (2000).
42. **G. Gutiérrez**, M. Kiwi and R. Ramírez,
Temperature Induced Disorder in β -Zr,
Rev. Mex. Fis., **44** S1, 62-65, (1998).
43. **G. Gutiérrez** and J. M. Yáñez,
Can an Ideal Gas Feel the Shape of its Container?,
American Journal of Physics **65**, No.8, 739-744, (1997).
44. **G. Gutiérrez**, M. Kiwi and R. Ramírez,
Amorphization in the vicinity of a grain boundary: A molecular-dynamics approach,
Physical Review B **54**, No.16, 11701-11705, (1996).
45. J. P. Rino, **G. Gutiérrez**, I. Ebbsjö, R. Kalia and P. Vashishta,
Distribution of Rings and Intermediate Range Correlations in Silica Glass under Pressure—A Molecular Dynamics Study,
in *Materials: Theory, Simulations and Parallel Algorithms*, E. Kaxiras, J. Joannopoulos, P. Vashishta and R. K. Kalia, Eds., *Mat. Res. Soc. Symp. Proc.*, Vol. **408**, p.333-338, (1996).
46. **G. Gutiérrez**,
Gibbs' phase rule revisited,
Theoretical and Mathematical Physics, **108**, No. 3, 1222-1224, (1997). Original ruso: *Teoreticheskaya i Matematicheskaya Fizika* **108**, No. 3, 465-486, Septiembre 1996.
47. V. Díaz, **G. Gutiérrez** and R. Ferrer,
Antiferromagnetic Interaction between Two Easy-Plane Ferromagnetic Heisenberg Chains,
Physica Statu Solidi (b) **183**, No.2, p.557-564, (1994).

b) Chapter of books

1. **G. Gutiérrez**, S. Davis, C. Loyola, J. Peralta, F. Gonzalez, Y. Navarrete and F. Gonzalez-Wasaff, *Inelastic Collisions and Hypervelocity Impacts at Nanoscopic Level: A Molecular Dynamics Study*, Molecular Dynamics - Theoretical Developments and Applications in Nanotechnology and Energy, Chapter 12 (2012) ISBN: 978-953-51-0443-8.
2. **Leopoldo Soto** (Chairman), Marcelo Zambra, Marcelo Loewe, **Gonzalo Gutiérrez**, Mario Molina, Felipe Barra, Fernando Lund, Carlos Saavedra y Patricio Haberle, *Física*, Cap. 11, en *Análisis y proyecciones de la Ciencia Chilena 2005* (Allende, J.E., Babul, J., Martinez, S. y Ureta, T., eds). Academia Chilena de Ciencias, p. 223-237. Santiago, 2006.
3. **G. Gutiérrez** y F. Melo, *¿De qué están hechas las cosas?*, Boletín Explora N.18, p.8-10, Mayo 2006.
4. L. Lavanderos, H. Espinoza, **G. Gutiérrez** y E. Muñoz, *La relación sociedad-naturaleza*, Chapter 1, en *Hacia un Ordenamiento Ecológico-Administrativo del territorio. Sistemas de Información Territorial*, Editado por Ministerio de Bienes Nacionales, Corporación Chile-Ambiente, P.U.C and U.C.V, Santiago de Chile, March 1994.
5. **G. Gutiérrez**, *Equilibrio Químico*, en *Tópicos de Mecánica Estadística*, Departamento de Física, Facultad de Ciencias, Universidad de Chile, 1983. Seminario bajo la supervisión del Dr. Herbert Massmann.

c) Others: Also, several conference proceedings, outreach lectures and spanish-language papers.

VI. PRESENTATION TO INTERNATIONAL AND NATIONAL CONGRESS (SINCE 2008)

Invited speaker at International Conferences

- *Melting and superheating by atomistic simulation*, International workshop on Condensed Matter and material physics, Dept. Física, Fac. Ciencias, U. de Chile, Santiago, Chile, 3 junio 2014.
- *Effect of silver impurities on the mechanical behavior of copper nanowires: an atomistic simulation*, Charla invitada, COPPER 2013, Santiago, 2 dic. 2013.
- *Mechanical properties of copper: Effect of silver impurities nanowires*, Charla plenaria invitada, V Reunión Nacional Sólidos 2013, Rosario, Argentina, 22 noviembre 2013.
- *Mechanical properties of materials: a computer simulation study*, Charla invitada a I Seminario Internacional UTALCA: Simulación de Materiales y Sistemas Biológico, Talca, 7 Diciembre 2012.
- *Thermal stability and dynamical properties of $Ti_3SiC_2(0001)$ at high temperatures: First-principles calculations*, at 4th Workshop on novel methods for electronic structure calculations, and first southamerican congress on materials, LaPlata, Argentina, November 2-4, 2011.
- *Opening remark*, 15th International Congress on Plasma Physics (ICPP 2010), in combination with the 13th Latin American Workshop on Plasma Physics (LAWPP 2010). Santiago, Chile, August 8-13, 2010
- *Nucleoelectricidad ¿una alternativa viable para Chile?* at international conference *La Nucleoelectricidad en México y en el Mundo* organized by Inter-American Development Bank, World Energy Council and Senado de la República Mexicana. Senado de la República en la Ciudad de México, 13-14 May, 2010.
- *Study of Amorphous Compounds: classical and ab-initio molecular dynamics simulation*, at III Workshop on Novel Methods for Electronic structures Calculations, LaPlata, Argentina, November 2009.

- *Ab-initio molecular dynamics for amorphous alumina and spin dynamics for magnetic systems*, G. Gutierrez, Invited Talk, Latin American School in Computational Materials Science, ICTP-UCHile-UNAB, Santiago, January 2009.
- *Computer Simulations study of Amorphous Compounds*, at International Conference on Materials Discovery and Databases: Materials Informatics and DFT, Oran, Algeria, 11-13 October 2008 (<http://www1.univ-tlemcen.dz/~ickdd/>)
- *Thermophysical Modeling of Novel Machinable Ceramic Materials*, at High Temperature Aerospace Materials Program Review, Air Force Office of Scientific Research, Washington, 12-16 Mayo 2008.

Other conferences, workshops, seminars: more than 50 talks and presentations in Chile and abroad, at international conferences, local conferences as well as seminar at universities and research institutions, including APS March Meeting, Uppsala University, Florida International University, Universidad Politécnica de Madrid, Universidad de Paris-Orsay and MIT.

VII. TRAINING, TUTORSHIP OF STUDENTS AND TEACHING EXPERIENCE

Thesis advisor of 15 undergraduate projects, 2 Physical Engineer thesis, 3 master and 3 PhD thesis.
PhD thesis advisor of

- Joaquín Peralta (Depto. Física, Fac. Ciencias. U. Chile), entitled *Propiedades físicas de materiales complejos mediante simulación computacional* (*Study of physical properties of complex materials by means of computer simulation*, Becario Mecesp, graduated May 2010, and
- Claudia Loyola (Depto. Física, Fac. Ciencias, U. Chile), entitled *Estudio atómico de materiales mediante simulación computacional* (*Atomistic study of material by means of computer simulation*, Becaria Conicyt, graduated June 2010, both now postdoctoral fellow at Iowa State University.
- Felipe González (Depto. Física, Fac. Ciencias, U. Chile) *Materials under extreme conditions*, march 2015.

Postdoctoral advisor of

- Dr. Eduardo Menéndez-Proupin, fellowship from *Thirld World Academy of Sciences* (TWAS), Trieste, Italy, April-December 2003, at Universidad de Santiago;
- Dr. Pablo Encina, fellowship from *Fondecyt-Chile* 2008-2010;
- Dr. Sergio Davis, fellowship from *Fondecyt-Chile* 2010-2011,
- Dr. Germán Miño, fellowship from *Fondecyt-Chile* 2010-2013.
- Dr. Emilio Figueroa, supported by Conicyt (Chile)–ANPCyT(Argentina), 2012-2014.

Teaching experience: more than 15 year of experience, lecturing at under- and post-graduate level several courses, including Mechanics, Quantum Mechanics, Solid State Physics Computational physics and Mathematical Physics, among others, in different universities in Chile and abroad.

VIII. PARTICIPATION IN RESEARCH AND DEVELOPMENTS PROJECTS

Current projects

- Principal investigator (PI) in Fondecyt 1120603 grant *Mechanical properties of bulk metallic glasses: a computer simulation study*, 2012-2014.
- Co-PI, Conicyt (Chile)–ANPCyT(Argentina) Joint Research Project, *Innovative concepts for nuclear energy: fusion-fision symbiosis*, 2012-2014. (PI: Dr. L. Soto, CCHEN.)
- Co-PI, International Atomic Energy Agency (IAEA) project, *Investigations of Materials under High Repetition and Intense Fusion –relevant Pulses*, 2012-2014
- External collaborator, NANO-EXTREM: *Proyecto Desarrollo y caracterización de materiales nanoestructurados bajo condiciones extremas en sistemas de generación de energía*, Ministerio de Economía y Competitividad Español, U. Politécnica de Madrid, 2012- 2015.
- Co-Pi, IM2-Codelco Project *Mechanical properties for copper products*, 2012-2013.
- Associated Researcher, Proyecto Anillo ACT-1115 *Física de plasmas, potencia pulsada y biología celular para la energía, vida y medio ambiente*, 2012-2015.

Between 1995-2010: PI seven projects, co-PI in two, collaborator in one, as well as PI in four Fondecyt project for international cooperation. Among them:

- Director of Project Anillo ACT-24, *Computer simulation lab for nano-bio systems*, Programa Bicentenario-Chile, (Ch\$ 450.000.000.- for 3 years.), 2007-2010.
- PI of Project AFOSR-USA, *Thermophysical modeling of novel machinable ceramics*, U\$20.000.- per year. 2007-2010
- PI in four Fondecyt-Chile projects.

IX. PARTICIPATION IN OTHER KIND OF PROJECTS (CONSULTANT, ADVISOR, ETC)

- (2015) Member of *Nuclear Power Energy Committee*, at Chilean Nuclear Energy Commission-Ministry of Energy Chile.
- (2014-2015) Member *Lithium National Commission*, Ministry of Mines, Chile.
- (2011-2012) Consultant in energy issues, International Labour Organization ILO, Santiago, Chile.
- (2009-2011) Consultant mining company, IIC Ltda.
- (2009) Advisor, Programa MECESUP, Ministerio de Educación-Chile
- (2008) Referee PhD programs, Comisión Nacional de Acreditación, CNA-Chile.
- (2007) Technical Advisor, ENDESA .
- (2005-2006) Advisor, Physics Committee, and external referee (2008), DEMRE, Universidad de Chile.
- (2005-2006) *Corrector* of physical text, Ministerio de Educación, Chile.

X. OUTREACH ACTIVITIES (Last years)

- Litio: ¿Cómo se formuló la propuesta de la comisión?, reportaje de Daniela Tapia sobre el informe Litio: una fuente de energía, una oportunidad para Chile, entregado a la presidenta de la República en enero 2015. Revista Nueva minería y Energía, Abril 2015, pags. 8–13.
- Comisión propone propiedad estatal de litio, reportaje de Andrés Ojeda en Radio Universidad de Chile sobre los proposiciones contenidas en el Informe de la Comisión Nacional del Litio, enero 2015.
- Litio: una fuente de energía, una oportunidad para Chile, informe de la Comisión Nacional del Litio, creada en Junio 2014 para diseñar políticas públicas con respecto a la minería no-metálica. Tuve el honor de participar en la comisión, y el informe fue entregado a la Pdte. M. Bachelet en enero 2015.
- Lithium, the love story, reportaje de la revista canadiense Corporate Knights sobre el triángulo del litio en el cono sur; 16 junio 2014.
- Caracterización del cobre chileno, reportaje de Andrea Dávalos sobre proyecto que estudia los ánodos, cátodos y alambres chilenos a nivel microestructural y atómico, de manera experimental, teórica y simulaciones, en Revista Beauchef Magazine, Segundo Semestre 2013, pags. 31–33.
- Pequeñas cosas para grandes problemas: nanotecnología y simulación computacional, charla invitada semana científica Liceo Alexander Fleming, Las Condes, 25 octubre 2013, Explora-Conicyt.
- ALMA en pena, columna de opinión a propósito de la huelga del Observatorio ALMA y la situación de los observatorios astronómicos extranjeros en Chile, diario The Clinic, 30 de agosto 2013.

- Un gigante que comienza a rugir, reportaje de Daniela Tapia sobre la energía nuclear, en Revista Nueva minería y Energía, Junio 2013, pags. 168–176.
- Quiero ser científico, video del programa de Radio Universidad de Chile, producido por Depto. Extensión de la Facultad de Ciencias, Universidad de Chile, diciembre 2012. Artículo relacionado apareció en UChile Noticias, 29 diciembre 2012.

XI. OTHER RELEVANT INFORMATION

Program Committee

- Member Scientific Committee, XIX Simposio de la Sociedad Chilena de Física, Concepción 2014.
- Co-Chair Simposia Computational Materials Science, International Conference on Advanced Materials ICAM 2009, Rio de Janeiro, Brasil, Septiembre 2009 (www.iam2009.com)
- Member International Scientific Committee, *International Conference on Materials Discovery and Databases: Materials Informatics and DFT*, Oran, Algeria, October 2008 (<http://www1.univ-tlemcen.dz/~ickdd/>)
- Member Comité Científico V Encuentro Modelos físicos y matemáticos en ingeniería, EMFIMIN 2007, Santiago, Noviembre 2007.
- Member Comité Organizador XV Simposio de la Sociedad Chilena de Física, 2006.
- Member Comité Organizador V Encuentro Modelos físicos y matemáticos en ingeniería, EMFIMIN 2005, Santiago, Noviembre 2005.
- Member Comité Organizador Chileno: 2005, Año Internacional de la Física, Sociedad Chilena de Física, 2005.
- Member Comité Científico (como Profesor Invitado), II Encuentro Nacional de Estudiantes de Física, Santiago, 2005.
- Member Comité Científico, XIV Simposio de la Sociedad Chilena de Física, Antofagasta 2004.
- Member Comité Científico, XI Olimpiada Nacional de Física 2003.
- Member Comité Organizador, XIII Southern Workshop in Solid State Physics, Temuco 2001.

Referee

- **Journals:** Applied Physics Letters, IMA Journal of Applied Mathematics, Journal of Applied Physics, Journal of Physical Chemistry, Journal of Physics and Chemistry of Solids, Philosophical Magazine, Materials Science and engineering, Physica B, physica status solidi, Physical Review B, Physical Review Letters, Physics Scripta, Rev. Mexicana de Física, Solid State Electronics, Theoretical Chemistry Accounts, Revista Colombiana de Física, Computational Materials Science.
- **Proposals:** Proyectos FONDECYT and Becas de postgrado FONDECYT-Chile, Proyectos FONCYT-Argentina, Proyectos Universidad de La Frontera-Chile, Comisión de Acreditación de postgrado MECESUP-Chile.

Member of

- Chilean Physical Society, SOCHIFI.
Member of the Directory Board, 2000-2002.
- American Physical Society, APS.