

Juan-Carlos Idrobo

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Staff Scientist

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Education/Training:

Universidad de Los Andes, Bogota-Colombia	B.S.	2000	Physics
University of Illinois, Chicago IL, USA	M.S.	2003	Materials Physics
University of California, Davis CA, USA	Ph.D.	2004	Materials Physics

Professional Experience:

2011- Present	Staff Scientist at ShaRE User Facility, ORNL
2006-2011	Research Associate Professor at Vanderbilt University
2005-2006	Research Assistant Professor at the University of Illinois at Chicago
2004-2005	Postdoctoral Researcher at the University of Illinois at Chicago

Professional Activities, Honors, Awards

2005 Gold Winner (Graduate Student Award) Materials Research Society Spring Meeting. Member of the following organizations: APS, ACerS, IoP, MRS, MSA. Over 20 invited talks in international conferences and research institutions around the world. Participated as a reviewer for the U.S. National Science Foundation (NSF) in the years 2007, 2008, 2010 and 2011. Member of a review panel for proposals submitted to the Materials World Network (MWN) program in the area of ceramics of the NSF, March 2011. Participated as a reviewer for the Royal Microscopy Society 2012 (U.K.). Referee in Solid State & Materials Science, Computational Materials Science, Microscopy and Microanalysis, Applied Physics Letters, Journal of Chemical Physics, and Physics Letters.

Cumulative Total Number of Articles Published in Peer Reviewed Journals: 45

1 book chapter, 2012h-factor = 12, average citation per item 12.5, total number of citations: 560.

List of Selected Peer Reviewed Publications

“An oxygen reduction electrocatalyst based on carbon nanotube–graphene complexes” Y. Li, W. Zhou, H. Wang, L. Xie, Y. Liang, F. Wei, J.C. Idrobo, S. J. Pennycook and H. Dai, *Nature Nanotechnology*(2012), DOI: 10.1038/NNANO.2012.72161.

“Atomically Localized Plasmon Enhancement in Monolayer Graphene” W. Zhou, J. Lee, J. Nanda, S.T. Pantelides, S.J. Pennycook, and J.C. Idrobo, *Nature Nanotechnology*7, 161 (2012).

“Vacancy-driven anisotropic defect distribution in the Battery-Cathode Material LiFePO₄”, J. Lee, W. Zhou, J.C. Idrobo, S.T. Pantelides, S.J. Pennycook, *Phys. Rev. Lett.* **107**, 085507 (2011).

“Static Polarizabilities and Optical Absorption Spectra of gold Clusters (Au_n , $n=2-14$ and 20) from First Principles”, J.C. Idrobo, W. Walkosz, S.F. Yip, S. Ögüt, J. Wang, and J. Jellinek, *Phys. Rev. B***76**, 205422 (2007).

“Growth Mechanisms and Oxidation Resistance of Gold-Coated Iron Nanoparticles” S.J. Cho, J.C. Idrobo, J. Olamit, K. Liu, N.D. Browning, and S.M. Kauzlarich, *Chem. Mater.***17**, 3181 (2005).

“Interface Structure and Atomic Bonding Characteristics in Silicon Nitride Ceramics” A. Ziegler, J.C. Idrobo, M.K. Cinibulk, C. Kisielowski, N.D. Browning, R.O. Ritchie, *Science***306**, 1768 (2004).

Collaborations from other Institutions (past 48 months):

Dr. P. Becher, ORNL; Dr. A. Borisevich, ORNL; Prof. J.R. Chelikowsky, UT Austin; Dr. H.M. Christen, ORNL; Dr. S. Dai, ORNL; Prof. H. Dai, Stanford University; Prof. A. Diebold, SUNNY Albany; Dr. R. Erni, EMPA; Dr. J. Gazquez, U. of Barcelona; Dr. D. Geohegan, ORNL; Dr. J. Jellinek, ANL; Prof. K. Jackson, Central Michigan University; Prof. R. Karnik, MIT; Prof. R.F. Klie, UIC; Prof. J. Kong, MIT; Dr. O.L. Krivanek, NION; Dr. A. Lupini, ORNL; Dr. M. McGuire, ORNL; Prof. T. Mizoguchi, U. of Tokyo; Dr. K.L. More, ORNL; Dr. J. Nanda, ORNL; Prof. S. Ögüt, UIC; Dr. M.P. Oxley, Vanderbilt U.; Prof. S.T. Pantelides, Vanderbilt University; Dr. M.P. Prange, PNNL; Dr. S.J. Pennycook, ORNL; Dr. F. Reboledo, ORNL; Dr. R. Ramesh UC Berkeley; Prof. S. Ren, Kansas University; Dr. M. Rosell, ETH; Dr. B. Sales, ORNL; Dr. A.S. Sefat, ORNL; Prof. M. Taheri, Drexel U.; Dr. Maria Varela, ORNL; Dr. W. Walkosz, ANL; Prof. Y.-K. Yap, MTU.

Graduate Students and Postdoctoral Fellows Advised:

Dr. Weronika Walkosz (Ph.D. thesis advisor, 2010), currently at Argonne National Laboratory as a postdoctoral researcher.

Dr. Hilmi Yurdakul, visiting Ph.D. student (Anadolu University, Turkey) 2009-2010. Now Assistant Professor at Anadolu University.

Dr. Wu Zhou, September 2010-Present

Graduate and Postdoctoral Advisors:

Postdoc advisors: Prof. Sokrates T. Pantelides, Vanderbilt University,

Dr. Stephen J. Pennycook, Oak Ridge National Laboratory

Prof. Serdar Ögüt, University of Illinois at Chicago.

PhD advisor: Prof. Nigel D. Browning, Pacific Northwestern National Laboratory.