

# Oscar Perales-Pérez Ph. D.

## Professor

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## Professional Experience

- Professor, University of Puerto Rico-Mayagüez (Department of General Engineering-Materials Science and Engineering, July 2012- now)
- Associate Professor, University of Puerto Rico-Mayagüez (Department of General Engineering-Materials Science and Engineering, July 2005- 2012)
- Assistant Professor, University of Puerto Rico-Mayagüez (Department of General Engineering-Materials Science and Engineering, July 2002-June 2005).
- Invited Professor, Graduate School, National Engineering University, Lima, Peru.
- (Department of Metallurgical Engineering, Dec. 2001-July 2002].
- Visiting Associate Professor in Materials Processing. (Center for Interdisciplinary Research, Tohoku University, Japan, December 1998- November 2001)
- Consultant Engineer, SGS-Peruvian branch, Division of Environmental Issues, September 1994-September 1995.
- Consultant Engineer, Newmont Gold Corporation, Metallurgical Operations in Cajamarca, Peru, November 1990-August 1991.
- External Consultant , Peruvian National Council on Science and Technology, December 1989-December 1990.
- Assistant Professor in Aqueous Processing, (Department of Metallurgy, National Engineering University, Lima, Peru, Oct. 1989-July 2002).
- Lecturer, Metallurgy, (Department of Metallurgy, National Engineering University, Lima, Peru , October 1986-September 1989).
- Research Engineer, De-Re Metallica Laboratory: Hydrometallurgical processing, Lima, Peru, December 1985-October 1986.

## Professional Preparation

- University of Engineering, Lima, Peru, Metallurgical Engineering, B. Sc., (honors), 1986
- Tohoku University, Sendai, Japan, Materials Processing, Dr. Eng., 1998
- Center for Interdisciplinary Research, Tohoku University, Nanomaterialsand Cluster Processing, 1998-2001

## Selected Publications and Presentations

- S. Dussan, M. S. Tomar and O. Perales. Rare Earth-Substituted Bi<sub>4</sub>Ti<sub>3</sub>O<sub>12</sub> Nanocrystalline Films: Synthesis and Ferroelectric Characterization. NANOTECH, Vol. 3, pp 210-213, (2006).
- O. Perales, S. Dussan, C. Rios, W. Jia and M. S. Tomar. Low-Temperature Synthesis and Magnetic Characterization of Doped-Zns Nanostructures. NANOTECH, Vol. 1, pp 447-450 (2006).
- M.S. Tomar, S.P. Singh, O. Perales-Perez, R.P. Guzman, E. Calderon, and C. Rinaldi-Ramos, "Synthesis and magnetic properties behavior of nanostructured ferrites for spintronics," *Microelectronic J.*, 36: 475-479, (2005).
- O. Perales, A. Partra, A. Ruiz and M. S. Tomar. Room-temperature synthesis and characterization of highly monodisperse transition metal-doped ZnO nanocrystals. NANOTECH, Vol. 2, pp 29-32 (2005).
- Perales-Perez O., M. S. Tomar, K. Tohji and A. Kasuya. "Room-Temperature Aqueous Synthesis of Nanocrystalline ZnO Particles and its application in the generation of H<sub>2</sub>". *Physica Status Solidi*. (c) 1, No. 4, 803–806 (2004)
- S. P. Singh, O. Perales-Perez, A. Hidalgo, and M. S. Tomar. "Doping Effects in Nanocrystalline ZnS Nanoparticles and thin films Produced by Chemical Bath Deposition". *Physica Status Solidi*. (c) 1, No. 4, 811–814, (2004)
- Jeyadevan B., Perales-Perez O., Chinasammy C. N., Shinoda K., Tohji K. and Kasuya A.. "Solution synthesis of nanocrystalline core-shell structured NiCo particles". *J. of The Japan Society of Powder Metallurgy*, 50 , 107-113, (2003).
- Kasuya, G. Milczrek, Perales O., et al., Size- and shape-controls and electronic functions of nanometer-scale semiconductors and oxides. *Coll. And Surf. A: Physic. and Engr. Aspects*, 202, 2-3, 291-296, (2002).
- Jeyadevan B., Perales O., Chinnasamy C. N., Kasuya A and Tohji K. Synthesis and Magnetic Properties of Core-Shell Structured (NiCo)O(AFM)-NiCo(FM) Magnetic Nanoparticles. *Trans. IEEE Magnetics*, 38, 5, 2595-2599, (2002).
- Perales O., Sasaki H., Jeyadevan B., Kasuya A and Tohji K. Production of Monodispersed Magnetic Particles by Using Effective Size Selection Methods at the Nanosize Level: Size-dependent Magnetic Properties. *J. of Appl. Phys.* 91, 10, 6958-6962, (2002).

### **Synergistic Activities**

- Professor of Materials Engineering (INGE-4001), Nanomaterials Processing (INGE 5075), Introduction to Materials Characterization (INGE 5095) and Introduction to Nano-engineering applications (INME 6995). The later three courses have been created and offered at UPR system.
- Coordinator of UPRM Materials Science Committee to create a campus-wide interdisciplinary Materials Sci. & Engr. graduate program at the Univ. of Puerto Rico – Mayagüez (Aug. 2002 to date).
- Invited Panelist for NSF-SBIR/STTR Program (Electronics Material, Functional Nanotechnology), 2003-2006, Washington D.C.
- Reviewer of Journals: Hydrometallurgy, Environmental Science and Technology.
- Training and supervision of 16 undergraduate students, 11 graduate students (8 MS and 3 PhD's), 03 high-school students and 02 high-school teachers on nanomaterials

processing. Dr. Perales has also co-supervised one post-doctoral fellow who worked on spintronics materials.

## **Collaborators and Other Affiliations**

- **Collaborators**
  - J. Avalos, Physics, (UMET), Yuri Barunakov, (University of New Orleans), Ezequiel Cruz, (Centro de Investigacion de Materiales Avanzados, Mexico), N. Chinnasammy, (U Tohoku), G. Gutierrez (ME-UPRM), B. Jeyadevan (U Tohoku), H. Jimenez (Physics-UPRM), W. Jia (Physics-UPRM), Atsuo Kasuya, (U Tohoku), C. Rinaldi (CHE-UPRM), Felix Roman, (CHEM-UPRM), M. Suarez (GEEN-UPRM), M. S. Tomar, Physics, (UPRM), K. Tohji, (U Tohoku).
- **Graduate and Postdoctoral Advisors**
  - Graduate Advisor: Y. Umetsu, K. Tohji (Tohoku University, Japan)
  - Postdoctoral Advisor: A. Kasuya (Center for Interdisciplinary Research, Tohoku University, Sendai, Japan). Sponsor: Japan Society for the Promotion of Science.

## **Thesis and Dissertation Sponsor**

- MS-PHYS: S. P. Singh (currently at Physics National Lab, India) , A. Parra, L. Angelats, S. Dussan, O. Oviedo, R. Martinez, L. Bermudez.
- PhD-CHEM: Y. Cedeño, M. Rivera, L. Alamo.
- MS-CHEM: E. Calderon, D. Sanchez
- MS-ME: E. Chavarry, B. Renteria, A. Velasco.

## **Honors and Awards**

- Distinguished Professor: Department of General Engineering (UPRM). May 2005
- Visiting Associate Professorship, Center for Interdisciplinary Research, Tohoku University, Japan. 1998-2001
- Research Fellow of the Japan Science and Technology Corporation (JST). December 1999-November 2000.
- Doctoral Fellowship: Ministry of Education, Science and Culture of Japan (Monbusho). 1995-1998.
- Research Fellow of The Japan International Cooperation Agency (JICA). August 1993-August 1994, Japan.
- Research fellow of The National Council of Science and Technology (CONCYTEC). 1990-1992. Peru.
- BS in Metallurgy with high honor, Universidad Nacional de Ingenieria, Lima, Peru.