

## Juan lobos

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### EDUCATION

**Ph.D. in Materials.** Valladolid University, Spain. February 2013

Doctoral Thesis: 'Improving the stiffness and strength of porous materials by enhancement of the matrix microstructure and cellular morphology'

**M.S. in Materials.** Valladolid University, Spain. June 2007

**B.S. in Physics.** Valladolid University, Spain. February 2005

### RESEARCH EXPERIENCE

- o 2014-present: Instructor / Lecturer at Yachay Tech University. As researcher I was involved on the next projects:
  - o Tissue Engineering and Polymeric Biomaterials: Development of biocompatible implants for tissue regeneration.
  - o Preparation of an oral form of meropenem using mixed chitosan-silica nanoparticles: development of nanoparticles carrying drugs sensitive to stomach acid without being destroyed.
  - o Chitosan advanced materials: Development of Chitosan nanowhiskers to add to textile fibers and create new value-added products for the ecuadorian textile industry.
- o 2013-14 Postdoctoral Fellow in the Chemical and Petroleum Engineering Department at University of Pittsburgh.
- o 2009-13 CellMat "[Cellular Materials Laboratory](#)" (University of Valladolid) Research technician.
- o 2007-09 ISIR "[The Institute of Scientific and Industrial Research](#)" (Osaka University) Research student.
- o 2005-07 CellMat: "[Cellular Materials Laboratory](#)" (University of Valladolid) Research Fellow.
- o 2003-05 GETEF "[Group Specialized in Phase Equilibria Thermodynamics](#)" Undergraduate researcher.

### TEACHING EXPERIENCE

- o 2014-present: Instructor / Lecturer at Yachay Tech University.
- o 2010-11 Lecturer in the subject "Introduction to materials science" University of Valladolid.
- o 2007 Director and teacher of the course "Introduction to Astronomy" in teacher training center in Burgos.
- o 2000-05 Instructor of the course "Introduction to Astronomy" at science faculty.

## LIST OF ACADEMIC PUBLICATIONS:

- 1.- "Improving the stability of polylactic acid foams by interfacially adsorbed particles" Juan Lobos, Steven lasella and Sachin Velankar, Miguel A. Rodriguez-Perez. *Polymer Engineering & Science*. On press
- 2.- "Do nanoparticle fillers improve the modulus and strength of polymer foams?" Juan Lobos and Sachin Velankar. Review paper. *Journal of Cellular Plastics*, September (2014)
- 3.- "Strengthening of lotus-type porous copper by ECAE process" J. Lobos, S. Suzukia, H. Utsunomiya, H. Nakajima, M.A. Rodrigez-Perez, *Journal of Materials Processing Technology*. **212**, pp2007–2011 (2012)
- 4.- "Plastic Deformation Processes of Lotus-Type Porous Metals", S. Suzuki, J. Lobos-Martin, H. Utsunomiya, H. Nakajima, *Journal of the Japan Society for Technology of Plasticity*. **52**, 601, pp.8-13 (2011)
- 5.- "Effect of pass route and pass number of ECAE on structure and strength of lotus-type porous copper" S. Suzuki, J. Lobos, H. Utunomiya, H. Nakajima, *Steel Research International*, **81**, 9, pp482-485 (2010)
- 6.- "Deformation and Improvement of Mechanical Properties of Lotus-type Porous Copper through ECAE" S. Suzuki, J. Lobos, H. Utunomiya, H. Nakajima, *Journal of the Japan Research Institute for Advanced Copper-base Materials and Technologies*, **49** 1 244-248 (2010) [Review paper, in Japanese]
- 7.- "Mechanical Response of Polyethylene Foams with High Densities and Cell Sizes in the Microcellular Range" M. A. Rodriguez-Perez, J. Lobos, C. A. Perez-Muñoz, J. A. de Saja. *Journal of Cellular Plastics*, **45**, pp389-403 (2009)
- 8.- "Mechanical Behaviour of High Density Polyethylene Based Foams" J. Lobos, M.A. Rodriguez-Perez, M. del Carpio, J.A. de Saja. *Materials Science Forum* **620-622** pp781-784 (2009)
- 9.- "Structure Change and Improvement of the Mechanical Properties of Lotus-Type Porous Copper by ECAE Process" J. Lobos, S. Suzuki, H. Utsunomiya, H. Nakajima. *Materials Science Forum* **620-622** pp757-760 (2009)
- 10.- "Structural change and improvement of the mechanical properties of a lotus-type porous copper by wire-brushing" J. Lobos, S. Suzuki, H. Nakajima, Y. S. Ji, H. Fujii, D. Terada, N. Tsuji. *Journal of Physics: Conference Series* **165** pp012070-012070 (2009)
- 11.- "Mechanical Behaviour at Low Strains of LDPE Foams with Cell Sizes in the Microcellular Range: Advantages of Using These Materials in Structural Elements" M. A. Rodriguez-Perez, J. Lobos, C. A. Perez-Muñoz, J. A. de Saja, L. Gonzalez, B. M. A. del Carpio. *Cellular Polymers*, **27**, Pages 327-342 (2008)

12.- “Thermodynamics of Mixtures Containing a Strongly Polar Compound. 8. Liquid-Liquid Equilibria for N,N-Dialkylamide + Selected N-Alkanes” J. Lobos, I. Mozo, M. Fernandez-Regulez, J. A. Gonzalez, I. Garcia, and J. C. Cobos. *Journal of Chemical and Engineering Data*, **51**, pp623–627 (2006)

#### CONFERENCE PRESENTATIONS:

“Composite Metal/Polymer as porous structure”  
Juan Lobos, Kim Woo-Young, Hiroshi Utsunomiya  
Simpósio Matéria 2016, Rio de Janeiro, Brazil

“Nanoparticles used as reinforcing agents to improve the strength and modulus of polymer foams”  
Juan Lobos, Sachin Velankar  
SECOND INTERNATIONAL CONGRESS OF NANOSCIENCE AND TECHNOLOGY. 2015. Sangolqui, Ecuador

“Chitosan/PLA New materials to improve tissular regeneration”  
Juan Lobos, Jorge Uquillas, Victor Vicente Villas. FIRST INTERNATIONAL CONGRESS ON HEALTH. 2015 Manabi, Ecuador.  
*invited lecture*

“Improving thermoplastic foam stability in the molten state by interfacially-adsorbed particles.” Juan Lobos, Steven Isella, Sachin Velankar and Miguel A. Rodriguez-Perez, ANTEC 2014. Las Vegas , USA.

“Improving the thermal insulation of polystyrene foams by the addition of carbon black” J. Lobos, M. A. Rodríguez-Pérez, G. Gasa, M. Muñoz. SPE EUROTEC 2011. Barcelona, Spain.

“Effect of pass route and pass number of ECAE on structure and strength of lotus-type porous copper” S. Suzuki, J. Lobos, H. Utunomiya, H. Nakajima. The 13th International Conference on Metal Forming 2010, Toyohashi, Japan.

“Improvement of strength of porous copper with directional pores by ECAE” J. Lobos, S. Suzuki, H. Utsunomiya, H. Nakajima. 6th International conference MetFoam 2009. Bratislava, Slovakia.

#1 “Mechanical Behaviour of High Density Polyethylene Based Foams” J. Lobos, M. A. Rodríguez-Pérez, M. del Carpio, J. A. de Saja

#2 “Structure Change and Improvement of the Mechanical Properties of Lotus-Type Porous Copper by ECAE Process” J. Lobos, S. Suzuki, H. Utsunomiya, H. Nakajima.

The 10th International Symposium on Eco-materials Processing and Design 2009. Xi'an, China.

“Structural change and improvement of the mechanical properties of a lotus-type porous copper by wire-brushing” J. Lobos, S. Suzuki, H. Nakajima, Y. S. Ji, H. Fujii, D. Terada, N. Tsuji. International Conference on Advanced Structural and Functional Materials Design 2008. Osaka, Japan.

“Mechanical Properties at Low Strains o Microcellular LDPE Foams”

M. A. Rodriguez-Perez, J. Lobos, C. A. Perez-Muñoz, J. A. de Saja. SPE Foams 2008, Charlotte, EEUU.

#### SEMINARS:

“Intelligent design of materials ”

First International congress of Engineering, Technical University of Manabi, November 2016, Manabi, Ecuador.

“Structural cellular materials”

II International Seminar of Structural Engineering, Technical University of Manabi, June 2015, Manabi, Ecuador.

“Analysis of the situation of building materials in Ecuador”

II International Seminar of Structural Engineering, Technical University of Manabi, June 2015, Manabi, Ecuador.

“Insulation materials”

First International Seminar on Electrical Engineering, Technical University of Manabi, November 2014, Manabi, Ecuador.

#### COMPLETED RESEARCH PROJECTS: PROJECT TITLE AND POSITION:

- o 2013-2014 “Improving thermoplastic foam stability in the molten state by interfacially-adsorbed particles.” Velankar laboratory, University of Pittsburgh. Ph.D Research Fellow.
- o 2010-12 “Development of plastic raw materials with optimized mechanical and thermal properties” for the company [FOREL](#). Research director.
- o 2011-12 “Characterization and comparison of the cell structure of PS foams with various nucleating agents” for the company [FERRO](#). main researcher.
- o 2011 “Measurement of electrical conductivity in Polyamide composites” for the company [Hegardt](#). Main researcher.
- o 2011 “Characterization of the cell structure of PS foams with different nanoparticles” for the company [Nanobiomatters](#). Main researcher.
- o 2010 “Use of carbon black to reduce the thermal conductivity of extruded PS foams” for the company [EDILTEC](#). Main researcher.
- o 2007-2009 “Study of forging process for metal foams and porous metals” Nakajima Lab, Osaka University . Research Fellow.
- o 2006-07 “Design and development of new polymeric piping systems made from pellets” for the company [ABN Pipe](#). Research Fellow.

- o 2006 “Design and development of biopolymer and polymeric microcellular materials and applications in extrusion and injection piping systems” for the company [ABN Pipe](#). Research Fellow.
- o 2006 “Measure the resistivity of the ashes” for the company [CARTIF](#). Research Fellow.
- o 2005-06 “Study of technical and environmental feasibility of applications of structural adhesives in aluminum foam joints for structural components in aircraft manufacturing” for the company [Castleaero](#). Research Fellow.