

Jorge Alonso Uribe-Calderón

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Main professional interests

- *Processing and characterization of polymeric composite/nanocomposites.*
- *Production and surface modification of nanofillers: clay, nano-crystal cellulose, carbon nanotubes*
- *Polymer blends and recycling*
- *Bio-polymers*

Current Position: Professor
Centro de Investigación Científica de Yucatán A.C.
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Education

Postdoctoral Studies (2008-2010)-McGill University, Montreal, Canada

Production and characterization of polymer materials and clay nanocomposites, characterization of laser welded joints and polymer processing.

Doctorate (2003-2008)-McGill University, Montreal, Canada

Thesis: Clay Modification for the Preparation of PS Nanocomposites by Melt Processing.

Master in Engineering (Chemical Engineering) (2001-2003)-McGill University, Montreal, Canada

Thesis: Melt Intercalation and/or Exfoliation of Polystyrene-Montmorillonite Nanocomposites.

Undergraduate (Chem. Eng.) (1989-1994)-Universidad Autonoma de Yucatan (UADY)

Thesis: Development of a conductive composite sensitive to organic solvents (1996).

Experience

Associate Researcher (2010-2011) McGill University, Canada

Research Assistant (2001-2008) McGill University, Canada

Production and characterization of polymer-clay nanocomposites and polymer processing

Academic Technician (1996-2001)-Centro de Investigación Científica de Yucatán (Mexico)

Processing and characterization of polymer materials, industrial consultancy, and student supervision.

Teaching (1999-2001)-Universidad Modelo. Mérida, México.

Lecture: Design of polymer products, undergraduate course.

Papers

1. ***Nitrogen-Doped Reduced Graphite Oxide as a Support for CoSe Electrocatalyst for Oxygen Reduction Reaction in Alkaline Media.*** IJ. García-Rosado, J Uribe-Calderón and N Alonso-Vante. J Electrochem Soc, 164 (6) F658-F666 (2017)
2. ***Effect of Surface Modification of Palygorskite on the Properties of Polypropylene/Polypropylene-g-Maleic Anhydride/Palygorskite Nanocomposites.*** D Cisneros-Rosado, JA Uribe-Calderon. International Journal of Polymer Science. Volume 2017, Article ID 9143589, 12 pages. <https://doi.org/10.1155/2017/9143589>
3. ***The Effect of Surface Modification of Palygorskite on the Morphology, Mechanical, and Thermal Properties of Nylon 6/Palygorskite Nanocomposites Prepared by Melt Compounding.*** DE Cisneros-Rosado, EF Paz-Alpuche, JA Uribe-Calderon. DOI: 10.1002/pc.24427
4. ***Influence of aramid fiber treatment and carbon nanotubes on the interfacial strength of polypropylene hierarchical composites.*** P.I. Gonzalez-Chi, O. Rodríguez-Uicab, C. Martin-Barrera, J. Uribe-Calderon, G. Canche-Escamilla, M. Yazdani-Pedram, A. May-Pat, F. Aviles. Composites Part B 122 (2017) 16-22.

5. **The effects of carbon nanotubes, blend composition and glycidyl methacrylate-grafted polypropylene compatibilizer on the morphology, mechanical and electrical properties of polypropylene-polyamide 6 blends.** J Uribe-Calderon• C Díaz-Arriaga. *Polym. Bull.* (2017) 74:1573–1593. DOI 10.1007/s00289-016-1790-4
6. **Influence of carbon nanotube on the piezoresistive behavior of multiwall carbon nanotube/polymer.** Francis Avilés, Alejandro May-Pat, Gonzalo Canché-Escamilla, Omar Rodríguez-Uicab, J Jesus Ku-Herrera, Santiago. *Journal of Intelligent Material Systems and Structures*. DOI: 10.1177/1045389X14560367
7. **Coupled electro-mechanical properties of multiwall carbon nanotube/polypropylene composites for strain sensing applications.** O. Zetina-Hernández, S. Duarte-Aranda, A. May-Pat, G. Canché-Escamilla, J. Uribe-Calderon, P.I. Goncalvez-Chi, F. Avilés. *J. Mater Sci.* DOI 10.1007/s10853-013-7575-3. Julio de 2013
8. **Nanocrystalline cellulose (NCC) reinforced alginate based biodegradable nanocomposite film.** Tanzina Huq, Stephane Salmieri, Avik Khan, Ruhul A. Khan, Canh Le Tien, Bernard Riedl, Carole Fraschini, Jean Bouchard, Jorge Uribe-Calderon, Musa R. Kamal, Monique Lacroix. *Carbohydrate Polymers*. 2012 (90) pp 1757–1763
9. **Preparation and Thermo-mechanical Characterization of Chitosan Loaded Methylcellulose-based Biodegradable Films: Effects of Gamma Radiation.** Ruhul A. Khan, Stephane Salmieri, Dominic Dussault, Nathalie Tufenkji, Jorge Uribe-Calderon, Musa R. Kamal, Agnes Safrany and Monique Lacroix. *Journal of Polymers and the Environment*. 2012, (20), pp43-52. DOI: 10.1007/s10924-011-0336-y
10. **Preparation and characterization of PET/Clay nanocomposites by melt compounding.** Ghasemi, Hesam; Carreau, Pierre; Kamal, Musa; Uribe Calderon, Jorge. *Polym Eng. Sci. in press*
11. **Production and Properties of Nanocellulose-Reinforced Methylcellulose-Based Biodegradable Films.** Ruhul A. Khan, Stephane Salmieri, Dominic Dussault, Jorge Uribe-Calderon, Musa R. Kamal, Agnes Safrany and Monique Lacroix. *J. Agric. Food Chem.*, 2010, **58** (13), pp 7878–7885
12. **Evaluation of Various Surfactants and Compatibilizers for Preparation of PS/Clay Nanocomposites by Melt Compounding.** Jorge Uribe-Calderon & Musa R Kamal. *J. Polym. Eng.* 2010, **30**, (5-7), pp 377-412
13. **The Impact of Surface Properties on the Quality and performance of Polystyrene/Clay nanocomposites.** Musa R Kamal & Jorge Uribe-Calderon. *Int. J. Polym. Technol.* January-April 2009. 43-52.
14. **Surface Energy of Modified Nanoclays and Its Effects on Polymer/Clay Nanocomposites.** M. R. Kamal, J. Uribe Calderon, B. Lennox. *J Adh Sci Technol*, 23 (2009) 663-688.
15. **Thermally Stable Phosphonium-Montmorillonite Organoclays.** J. Uribe Calderon, B. Lennox and M. R. Kamal, *J Appl. Clay Sci.*, 40 (2008) 90-98.
16. **Polystyrene/Phosphonium Organoclay Nanocomposites by Melt Compounding.** J. Uribe Calderon, B. Lennox and M. R. Kamal. *Int. Polym. Process.* 23 (2008) 190-128.
17. **Conductivity Variation Induced by Solvent Swelling of an Elastomer-Carbon Black-Graphite Composite.** J. Uribe, R. Cruz, A. Marquez, *J Appl Polym Sci.* 66, 2226-2232 (1997).

Book Chapter

- a) **Thermal stability of PS nanocomposites from improved thermally stable organoclays.** Musa R. Kamal and Jorge Uribe-Calderon. *Thermally Stable and Flame Retardant Polymer Nanocomposites*. Edited by Vikas Mittal, Cambridge. 2011. ISBN 978-0-52 1- 19075-6
- b) **Nanoparticles and Polymer Nanocomposites.** Musa R. Kamal and Jorge Uribe-Calderon. *Graphite, Grafene and their Polymer Nanocomposites*. Eds. Prithu Mukhopadhyay and Rakesh K. Gupta. CRC Press Taylor & Francis Group. Boca Raton., FL USA, 2012.. ISBN 987-1-4398-2779-6
- c) **Polymer-Clay Nanocomposites.** Musa R. Kamal and Jorge Uribe-Calderon. *Wiley Encyclopedia of Composites*. Eds. Luigi Nicolais & Assunta Borzacchiello. Wiley-Blackwell, John Wiley & Sons. Published Online: 20 JUL 2012. DOI: 10.1002/9781118097298.weoc177

Electronic papers

Maleated polystyrene improves the barrier properties of nanocomposites. Musa Kamal and Jorge Uribe-Calderon. 2009. Plastic Research Online. Society of Polymer Engineering. <http://www.4spepro.org/pdf/000054/000054.pdf>