

PHD. CÉSAR SOTO FIGUEROA

csotof@uach.mx

September 6, 2016

POSITIONS

Full Professor, 2013-Present
Facultad de Ciencias Químicas
Universidad Autónoma de Chihuahua
Chihuahua, México

Associate Professor, titular “C”, 1995-2000
Facultad de Ciencias Químicas
Universidad Autónoma de Chihuahua
Chihuahua, México

EDUCATION

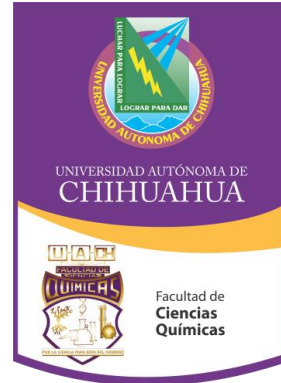
- PhD** Universidad Nacional Autónoma de México August 2005
Dissertation: “Simulación molecular de copolímeros dibloque: Morfología y propiedades mecánicas” Mención honorífica.
- MS** Universidad Nacional Autónoma de México Febreary 2000
Thesis: “Copolimerización por dispersión de estireno/divinilbenceno en medio polar”.
- BS** Universidad Nacional Autónoma de México October 1994
HLB y Agentes Emulsificantes

HONORS AND AWARDS

- Miembro del sistema nacional de investigadores (SNI=1)** 2015
Nivel 1, Periodo 2015-2017

Facultad de Ciencias Químicas, circuito Universitario,
Campus Universitario # 2 , Chihuahua, Chih., C.P. 31125
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RESEARCH EXPERIENCE

Theoretical and experimental study of intelligent polymeric materials and applications in the industrial and technological field.

Director: Dr. Cesar Soto Figueroa

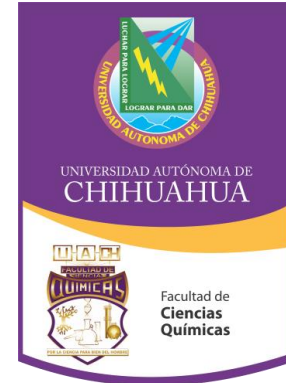
TEACHING EXPERIENCE

Name of University, Universidad Autónoma de Chihuahua August 2013 to august 2017
Associate Professor, Facultad de Ciencias Químicas

- Chemical, an undergraduate course averaging 120 students per semester, covering the following topics: Theory of chemical bonds and quantum theory.
- Basic chemistry I, an undergraduate course averaging 120 students per semester, covering the following topics: stoichiometry and chemical solutions.
- Basic chemistry II, an undergraduate course averaging 120 students per semester, covering the following topics: topic, topic, topic, topic
- Cosmetics, an undergraduate course averaging 120 students per semester, covering the following topics: cosmetics design and international standards.
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Bachelor Students Advised

- Carolina Olivas Ayón, “Estudio mesoscópico de micelas poliméricas termosensibles”
Fecha de examen:15/11/2016.
- Rubén Bautista Reyes, “Simulación mesoscópica de transferencia micelar del copolímero PB-PEO en un sistema agua/[BMIM][PF₆]”, fecha examen 15/02/2011.
- Ramos Rodríguez Daniel, “Simulación molecular de líquidos iónicos; 1-butyl-3-metilimidazolium Hexafluorofosforado y 1-hexil-3-metilimidazolium y su poder como disolvente en uso farmacéutico”, 06/09/2010.



SELECTED PUBLICATIONS

Books

Advances in chemical engineering, Chapter Title: "Thermal Study on Phase Transitions of Block Copolymers by Mesoscopic Simulation" Autores: **César Soto-Figueroa**, Luis Vicente, MR Rodríguez-Hidalgo, ISBN: 978- 953-51-0392-9. Edited by Zeeshan Nawaz and shaid. Naveed , INTECH. Published in 2012.

Journal Publications

Rodríguez-Hidalgo, M.R., **Soto-Figueroa, C.** Vicente, L., "Mesoscopic study of micellar inversion pathways of the thermoresponsive PMEMA–PSBMA copolymer via applied stimulus intensity," COMPUTATIONAL MATERIALS SCIENCE, vol. 114, **2016**, pp. 121-127.

Rodríguez-Hidalgo, M.R., **Soto-Figueroa, C.** Vicente, L., "Identification of micellar stability zones and structural inversion process of thermoresponsive polymeric micelles by dissipative particle dynamics simulations," MOLECULAR PHYSICS, vol. 114, No. 5, **2016**, pp. 608-616.

Bautista-Reyes, R., **Soto-Figueroa, C.**, Vicente, L., "Document Mesoscopic simulation of a micellar poly(N-isopropyl acrylamide)-b-(polyethylene oxide) copolymer system," MODELLING AND SIMULATION IN MATERIALS SCIENCE AND ENGINEERING, vol. 24, no. 4, **2016**, pp.045004.

Bautista-Reyes, R., **Soto-Figueroa, C.**, Vicente L., "Mesoscopic simulation of self-assembly of linear and dendritic copolymer poly(styrene)-b-poly(ethyleneglycol) in polar and non-polar solvents.," MOLECULAR SIMULATION, vol. 41, no. 8, **2015**, pp. 663-673.

Rodríguez-Hidalgo, M.R., **Soto-Figueroa, C.** Vicente, L., "Dissipative particle dynamics study of the structural inversion process of pH-responsive polymeric micelles," MACROMOLECULAR THEORY AND SIMULATIONS, vol. 23, no. 1, **2014**, pp. 49-58.



Rodríguez-Hidalgo, M.R., **Soto-Figueroa, C.** Vicente, L., “Document Mesoscopic study of salt-responsive polymeric micelles: Structural inversion mechanisms via sequential addition of inorganic salts,” *SOFT MATTER*, vol. 9, no. 24, **2013**, pp. 5762-5770

Soto-Figueroa, C., Rodríguez-Hidalgo, M.R., Vicente, L., “Document Mesoscopic simulation of micellar-shuttle pathway of PB-PEO copolymer in water/[BMIM][PF₆] system,” *CHEMICAL PHYSICS LETTERS*, vol.531, **2012**, pp. 155-159.

Soto-Figueroa, C., Rodríguez-Hidalgo, M.R., Vicente, L., “Dissipative particle dynamics simulation of the micellization- demicellization process and micellar shuttle of a diblock copolymer in a biphasic system (water/ionic-liquid)”, *SOFT MATTERS*, vol. 8, No. 6, **2012**, pp. 1871-1877.

Rodríguez-Hidalgo, M.R., **Soto-Figueroa, C.** Vicente, L., “Document Mesoscopic simulation of the drug release mechanism on the polymeric vehicle P(ST-DVB) in an acid environment,” *SOFT MATTER*, vol. 7, no. 18, **2011**, pp. 8224-8230.

Ramos-Rodríguez, D.A., Rodríguez-Hidalgo, M.R., **Soto-Figueroa, C.** Vicente, L., “Molecular and mesoscopic study of ionic liquids and their use as solvents of active agents released by polymeric vehicles,” *MOLECULAR PHYSICS*, vol. 108, No. 5, **2010**, pp. 657-665.

Rodríguez-Hidalgo, M.R., **Soto-Figueroa, C.**, Martínez-Magadán, J.M., Vicente, L., “Document Mesoscopic study of cylindrical phases of poly(styrene)-poly(isoprene) copolymer: Order-order phase transitions by temperature control,” *POLYMER*, vol. 50, no. 19, **2009**, pp. 4596-4601.

Soto-Figueroa, C., Rodríguez-Hidalgo, M.R., Martínez-Magadán, J.M., Vicente, L., “Document Mesoscopic simulation of metastable microphases in the order-order transition from gyroid-to-lamellar states of PS-PI diblock copolymer,” *CHEMICAL PHYSICS LETTERS*, vol. 460, no. 4-6, 2008, pp. 507-511.

Soto-Figueroa, C., Rodríguez-Hidalgo, M.R., Martínez-Magadán, J.M., Vicente, L., “Dissipative particle dynamics study of order-order phase transition of BCC, HPC, OBDD, and LAM structures of the poly (styrene)-poly (isoprene) diblock copolymer,” *MACROMOLECULES*, vol. 41, no. 9, 2008, pp. 3297-3304.



Soto-Figueroa, C., Vicente, L Martínez-Magadán, J.M., Rodríguez-Hidalgo, M.R., “Self-organization process of ordered structures in linear and star poly (styrene)-poly(isoprene) block copolymers: Gaussian models and mesoscopic parameters of polymeric systems,” JOURNAL OF PHYSICAL CHEMISTRY B, vol. 111, no. 40, **2007**, pp. 11756-11764

López-Chávez, E., Pacheco-Sánchez, J.H., Martínez-Magadán, J.M., **Soto-Figueroa, C.**, García-Cruz, I., “Methodology for predicting the phase envelope of a heavy crude oil and its asphaltene deposition onset,” Petroleum Science and Technology, vol. 25, no. 1-2, **2007**, pp. 19-39

Soto-Figueroa, C., Vicente, L Martínez-Magadán, J.M., Rodríguez-Hidalgo, M.R., “Document Mesoscopic simulation of asymmetric-copolymer/homopolymer blends: Microphase morphological modification by homopolymer chains solubilization,” POLYMER, vol. 48, No. 13, **2007**, pp. 3902-3911.

Vicente, L., **Soto-Figueroa, C.**, Pacheco-Sánchez, H., Hernández-Trujillo, J., Martínez-Magadán, J.M. “Document Application of molecular simulation to calculate miscibility of a model asphaltene molecule,” Nombre de la Revista, vol. 1, No. 239, **2006**, pp. 100-106.

Soto-Figueroa, C., Rodríguez-Hidalgo, M.-D.-R., Martínez-Magadán, J.-M., “Molecular simulation of diblock copolymers; Morphology and mechanical properties,” POLYMER, vol. 46, no. 18, 2005, pp. 7485-7493.

FUNDED PROJECTS – SCIENCE AND TECHNOLOGY

Soto-Figueroa, C., Rodríguez-Hidalgo, M.R., Chávez Flores, D., Rivera Gómez, A.R., Manjarrez Nevárez, L.A., “Estudio mesoscópico de materiales poliméricos estímulos sensitivos (inteligentes) y su aplicación como nanoacarreadores de moléculas huésped (moléculas orgánicas)” CONACYT, No. 252004, 2016.

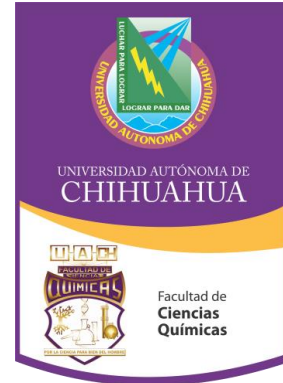
LANGUAGES

Spanish: Native Language

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English: 100%



AVAILABLE THESIS PROJECTS

For bachelor students

Estudio mesoscópico de materiales poliméricos estímulo sensitivos (inteligentes) y su aplicación como nanoacarreadores de moléculas huésped (moléculas orgánicas).- Se pretende estudiar vi simulaciones mesoscópicas micelas poliméricas inteligentes y su aplicación para transportar moléculas orgánicas. Fondos CONACYT, Simulaciones DPD.

For master in biotechnology

Estudio mesoscópico de materiales poliméricos estímulo sensitivos (inteligentes) y su aplicación como nanoacarreadores de moléculas huésped (moléculas orgánicas).- Se pretende estudiar vi simulaciones mesoscópicas micelas poliméricas inteligentes y su aplicación para transportar moléculas orgánicas. Fondos CONACYT, Simulaciones DPD.

For Ph. D. in sciences

Estudio mesoscópico de materiales poliméricos estímulo sensitivos (inteligentes) y su aplicación como nanoacarreadores de moléculas huésped (moléculas orgánicas).- Se pretende estudiar vi simulaciones mesoscópicas micelas poliméricas inteligentes y su aplicación para transportar moléculas orgánicas. Fondos CONACYT, Simulaciones DPD.