

EDUCATION

Ph.D. in Sci. & Technol. of Polymers
Research Center for Applied
Chemistry (CIQA)
(2008)

MSc. in Chemical Engineering
Instituto Tecnológico de Celaya
(2002)

B.Sc. in Chemical Engineering
Instituto Tecnológico de Veracruz
(1998)

ACADEMIC DISTINCTIONS

**National Researcher Level 1
award. (2015-2019)** Awarded by
the National Council of Science and
Technology of México (CONACYT)
2010.

**Best Ph.D. Thesis in Polymer
Science of México award (2008-
2009).** Awarded by the Mexican
Polymer Society (SPM) Oct. 2009.

**Doctoral Dissertation
Honorable Mention award.**
Awarded by the Evaluation
Committee of CIQA. (Jan 30th 2008)
Secretary of the Mexican Polymer
Society
(2015-2017)

Scientific and Technology
Coordinator at CIMAV-Monterrey
(2015-)

Academic Coordinator at CIMAV-
Monterrey
(2008-2011)

Strategic Talent's Committee
Coordinator of Cluster of
Nanotechnology of Nuevo Leon
State.
(2011-2013)

Current Research Line

Polymers Synthesis, Nanotechnology, Functionalization of Nanoparticles,
Graphene Oxide and their dispersion in polymer matrices.

Current Position

Full Researcher Level B

CIMAV S.C. Monterrey Campus

Seniority: 9 years

Advanced Functional Materials & Nanotechnology Group.

Summary of Scientific Production

Scientific indexed papers: 30

Granted or Patent application : 5

Human Resources Training: M.Sc. 5; Ph.D. 2, Post-Doctoral 2.

h-index: 9 (Scopus), Reviewer of: Carbon, RSC Adv., Current Organic
Chemistry, Nanoscale, ACS AMI, JAPS, MASY, Adv. Colloid Interface
Sci.

Selected publications

1. *Tuning Mechanical, Electrical and Optical Properties of Flexible and Free-Standing Functionalized Graphene Oxide Papers Having Different Interlayer d-Spacing.* **J. Phys. Chem. C** **2017**, 121(1), 852–862.
2. *Chemical Modification of Butyl Rubber with Maleic Anhydride via Nitroxide Chemistry and Its Application in Polymer Blends.* **Polymers** **2017**, **9**, 63; doi:10.3390/polym9020063
3. *Electrical, mechanical, and piezoresistive properties of carbon nanotube–polyaniline hybrid filled polydimethylsiloxane composites.* **J. Appl. Polym. Sci.** **2017**, 134(18), 44780.
4. *Two Different Emissions of (2Z)-2-(4-Bromophenyl)-3-[4-(dimethylamino)phenyl]prop-2-enitrile Due to Crystal Habit and Size: Synthesis, Optical, and Supramolecular Characterization* **Cryst. Growth Des.** **2017**, 17, 1679–1694.
5. *Changes in the luminescence emission of α , β -unsaturated acrylonitrile derivatives: morphology, polymorphism and solvent effect.* **CrystEngComm.** **2016**, 18(39), 7554–7572.
6. *Synthesis, characterization and theoretical calculations of model compounds of silanols catalyzed by TEMPO to elucidate the presence of Si–O–Si and Si–O–N bonds.* **RSC Adv.** **2015**, 5, 79829–79844
7. *EELS Analysis of Nylon 6 Nanofibers Reinforced with Nitroxide-Functionalized Graphene Oxide.* **CARBON** **2014**, 70, 164–172.
8. *Nitroxide-functionalized graphene oxide from graphite oxide.* **CARBON** **2013**, 63, 376–389.
9. *TiO₂-g-TEMPO. A Theoretical and Experimental Study.* **Macromol. Symp.** **2013**, 325–326, 132–140.
10. Chapter 4 “FREE RADICAL POLYMERIZATION” in *Handbook of Polymer Synthesis, Characterization, and Processing*, 1st Ed. Edited by E. Saldivar-Guerra and E. Vivaldo-Lima. Published **2013** by John Wiley & Sons, Ltd.
11. Chapter 10 “POLYMER MODIFICATION: FUNCTIONALIZATION AND GRAFTING” in *Handbook of Polymer Synthesis, Characterization, and Processing*, First Edition. Edited by Enrique Saldivar-Guerra and Eduardo Vivaldo-Lima. Published **2013** by John Wiley & Sons, Ltd.
12. *Amphiphilic Block Copolymer from Hydroxyl-Terminated Polymers Functionalized with TEMPO. A New Synthetic Method Using Oxammonium Salt.* **Macromol. Chem. Phys.** **2011**, 212, 1654–1662
13. *Controlled “Grafting-from” of Poly[(styrene-co-maleic anhydride)-b-styrene] onto Polydienes Using Nitroxide Chemistry.* **Eur. Polym. J.** **2010**, 46, 298
14. *Controlled Grafting-From of Polystyrene on Polybutadiene: Mechanism and Spectroscopic Evidence of the Functionalization of Polybutadiene with 4-Oxo-TEMPO.* **Macromol. Chem. Phys.** **2008**, 209, 2268–2283.
15. *Towards Controlled Graft Polymerization of Poly[styrene-co-(maleic anhydride)] on Functionalized Silica Mediated by Oxammonium Bromide Salt. Facile Synthetic Pathway Using Nitroxide Chemistry.* **Macromol. Rapid Comm.** **2007**, 28, 1397.
16. *Incubation Period in the 2,2,4,4-Tetramethyl-1-piperidinyloxy-Mediated Thermal Autopolymerization of Styrene: Kinetics and Simulations.* **J. Polym. Sci.: Part A: Polym. Chem.** **2006**, 44, 6962–6979.
17. *On the Nitroxide Quasi-Equilibrium in Alkoxyamine-Mediated Radical Polymerization of Styrene.* **Macromol. Theory Simul.** **2006**, 15, 163–175.

AFFILIATIONS

The Mexican Polymer Society (SPM)
(General Secretary of SPM 2015-
2017)

American Chemical Society (ACS)

The Sociedad Mexicana de
Materiales (SMM) and
The Materials Research Society®
(MRS)

18. *Detailed Modeling, Simulation and Parameter Estimation of Nitroxide-Mediated Living Free Radical Polymerization of Styrene. Polym. React. Eng. 2002, 10, 227-263.*

Patents

1. Nacional Patent Registration: MX/a/2016/014834 (CIMAV) "**Electrostatic paint with low friction coefficient**" inv.: J. Bonilla-Cruz, Edgar Arellano Archán.
2. Nacional Patent Registration: MX/a/2014/015801 (CIMAV) "**Hard floor coatings**" inv.: J. Bonilla-Cruz, Tania E. Lara Cenicerros, Margarita Sánchez Dominguez
3. Nacional Patent Registration: MX/a/2012/012804 (CIMAV) "**Procedure to obtain Functionalized Graphene Layers**" inv.: J. Bonilla-Cruz, Yazmín I. Avila-Vega
4. International Patent Otorged: WO 2009/065774 (CIQA-Ciba Spezialitätenchemie) "**Grafting of Ethylenically Unsaturated Monomers onto Polymers in Supercritical Carbon Dioxide**" Inv.: Enrique Saldívar-Guerra, Gabriel Luna-Bárceñas, Jorge C Ramírez Contreras, José Bonilla-Cruz