

Juan L. Vivero-Escoto

Associate Professor, Department of Chemistry
The University of North Carolina at Charlotte
704-687-5239; jviveroe@uncc.edu

Education**Iowa State University**

Ph.D. Chemistry (December 2009)/Major: Organic Chemistry
Dissertation: Surface Functionalized Mesoporous Silica Nanoparticles for Intracellular Drug Delivery
Research Advisor: Professor Dr. Victor S.-Y. Lin† (deceased May 4th 2010)

National Polytechnic Institute of Mexico

M.S. Chemical Engineering (June 2004)
Dissertation: Ozonation as previous step to the biodegradation of phenol and its derivatives.
Research Advisor: Dr. Tatiana Timoshina Lukianova (e-mail: tpoznyak@ipn.mx)

National Polytechnic Institute of Mexico

B.S. Chemical Engineering (January 2000)
Graduated with high honors

Professional Experience

Associate Professor, University of North Carolina at Charlotte Department of Chemistry, Charlotte, NC, *July 2018 – present*
Assistant Professor, University of North Carolina at Charlotte Department of Chemistry, Charlotte, NC, *August 2012 – June 2018*
Postdoctoral Research Associate, University of North Carolina at Chapel Hill Department of Chemistry, Chapel Hill, NC, *December 2009 – July 2012*
Graduate Research Assistant, Iowa State University Department of Chemistry, Ames, IA, *December 2004 – November 2009*
Graduate Research Assistant, National Polytechnic Institute of Mexico School of Chemical Engineering, Distrito Federal, Mexico, *January 2000 – June 2004*
Undergraduate Research Assistant, National Polytechnic Institute of Mexico School of Chemical Engineering, Distrito Federal, Mexico, *August 1998 – December 1999*

Professional Memberships

- Member of the American Chemical Society, (2005 – present)
- Member of the Materials Research Society, (2015 – present)
- Member of Sigma Xi Scientific Research Society, (2009 – present)
- Member of the American Nano Society, (2011 – present)
- Member of the International Photodynamic Association (2015 – present)
- Member of the Center for Biomedical Engineering and Science (CBES), UNC Charlotte (2012 – present)
- Member of the Energy Production and Infrastructure Center (EPIC), UNC Charlotte (2016 – present)
- Member of the Bioinformatics Research Center (BRC), UNC Charlotte (2019 – present)

Honors and Awards

- IAAM Innovation Award Lecture (2020)
- NSF AGEP-NC Fellow (2019)
- Catalyst Fellow (2017)
- Outstanding Faculty Award, Multicultural Academic Services (2016)
- CLAS Junior Faculty Development Award (2015)
- Science and Technology of Advanced Materials, Best Paper Prize (2014)
- Ralph E. Powe Junior Faculty Enhancements Award (2013)
- Wells Fargo Faculty Excellence Award (2013)
- The Office of Undergraduate Research Postdoctoral Scholar Award for Excellence in Mentoring Undergraduates, UNC Chapel Hill (2011)
- Listed in Who's Who in Medicine and Health Care (2011)
- The Carolina Postdoctoral Program for Faculty Diversity Fellowship (July 2010 – June 2012)
- Winner as one of the best works presented in the Radiology-BRIC Research Symposium, UNC School of Medicine – Department of Radiology, (2010)
- Alpha Sigma Chi Research Award (2009)
- Procter & Gamble Travel Award (2007)
- Summer Undergraduate research scholarship, Mexican Academy of Sciences (1998)
- Telmex Foundation Award, (1995-1999)

Publications from independent career (* = corresponding author)

Student co-authors under the direction of Dr. Vivero-Escoto: High School^a, Undergraduate^b, M.S.^c, Ph.D.^d, Postdoc^e

1. “Mesoporous silica nanoparticles for efficient siRNA delivery.” Mubin Tarannum, **Juan L. Vivero-Escoto*** *In RNA Nanotechnology and Therapeutics* (2022), Edited by Peixuan Guo, Kirill A. Afonin, CRC Press. **ISBN: 9781138312869** (Book chapter, invited).
2. “Nanoparticle combination for precise stroma modulation and improved delivery for pancreatic cancer.” Mubin Tarannum^d, Katherine Holtzman, Didier Dréau, Pinku Mukherjee, **Juan L Vivero-Escoto*** *Journal of Controlled Release* (2022), 347, 425-434.
3. “Nanoparticle-based therapeutic strategies targeting major clinical challenges in pancreatic cancer treatment.” Mubin Tarannum^d, **Juan L Vivero-Escoto*** *Advanced Drug Delivery Reviews* (2022), 187, 114357.
4. “Applications of Silica-Based Nanomaterials for Combinatorial Drug Delivery in Breast Cancer Treatment.” Mubin Tarannum^d, **Vivero-Escoto, Juan L.*** *In Drug Delivery Using Nanomaterials* (2022), Edited by Yasser Shahzad, Syed A.A. Rizvi, Abid Mehmood Yousaf, Talib Hussain, CRC Press. **ISBN: 9781003168584** (Book chapter, invited).
5. “Advanced Nanoengineering Approach for Target-Specific, Spatiotemporal, and Ratiometric Delivery of Gemcitabine–Cisplatin Combination for Improved Therapeutic Outcome in Pancreatic Cancer.” Mubin Tarannum^d, Md Akram Hossain, Bryce Holmes, Shan Yan, Pinku Mukherjee, **Juan L Vivero-Escoto*** *Small* (2022), 18 (2), 2104449.
6. “Molecular dynamic simulation of polyhedral oligomeric silsesquioxane porphyrin molecules: Self-assembly and influence on morphology.” Paula Loman-Cortes^d, Donald J Jacobs*, **Juan L Vivero-Escoto*** *Materials Today Communications* (2021), 29, 102815.
7. “Light-Activated Protoporphyrin IX-Based Polysilsesquioxane Nanoparticles Induce Ferroptosis in Melanoma Cells.” Hemapriyadarshini Vadarevu^d, Ridhima Juneja^e, Zachary Lyles^d, **Juan L Vivero-Escoto*** *Nanomaterials* (2021), 11(9), 2324.

8. "Use of polyhedral oligomeric silsesquioxane (POSS) in drug delivery, photodynamic therapy and bioimaging." Paula Loman-Cortes^d, Tamanna Binte Huq^d, **Juan L Vivero-Escoto*** *Molecules* (2021), 26(21), 6453.
9. "Imaging and SERS Study of the Au Nanoparticles Interaction with HPV and Carcinogenic Cervical Tissues." Andrea Ceja-Fdez, Ramon Carriles, Ana Lilia González-Yebra, **Juan Vivero-Escoto**, Elder de la Rosa, Tzarara López-Luke* *Molecules* (2021), 26(12), 3758.
10. "Evaluation of Polyhedral Oligomeric Silsesquioxane Porphyrin Derivatives on Photodynamic Therapy." Paolo Siano^c, Alexis Johnston^c, Paula Loman-Cortes^d, Zaneta Zhin^b, **Juan Vivero-Escoto*** *Molecules* (2020), 25(21), 4965. Selected as cover for the Special Issue "Synthesis of Photoactive Organic Molecules in the Biological Field."
11. "Combination of Nucleic Acid and Mesoporous Silica Nanoparticles: Optimization and Therapeutic Performance In Vitro." Ridhima Juneja^e, Hemapriyadarshini Vadarevu^d, Justin Halman, Mubin Tarannum^d, Lauren Rackley, Jacob Dobbs^b, Jose Marquez^b, Morgan Chandler, Kirill A. Afonin*, **Juan Vivero-Escoto*** *ACS Materials & Interfaces* (2020), 12 (35), 38873–38886.
12. "Preparation and In Vitro Evaluation of Alginate Microparticles Containing Amphotericin B for the Treatment of Candida Infections." Merlis P Alvarez-Berrios*, Lisa M Aponte-Reyes, Lourdes Diaz-Figueroa, **Juan Vivero-Escoto**, Alexis Johnston, David Sanchez-Rodriguez, *International Journal of Biomaterials* (2020), Article ID 2514387, <https://doi.org/10.1155/2020/2514387>.
13. "DNA-Templated Synthesis of Fluorescent Silver Nanoclusters." Morgan Chandler; Oleg Shevchenko; **Juan L. Vivero-Escoto**, Caryn D. Striplin, and Kirill A. Afonin* *Journal of Chemical Education* (2020), 97, 7, 1992–1996.
14. "Biodegradable Polysilsesquioxane Nanoparticles to Improve the Treatment of Breast Cancer Using Photodynamic Therapy In Vitro and In Vivo." Zachary Lyles^d; Mubin Tarannum^d; Cayli Mena^b; Vanderlei Bagnato and **Juan L. Vivero-Escoto*** *Advanced Therapeutics* (2020), 3(7), 202000022.
15. "Nanoparticle Mediated Silencing of Tenascin C in Hepatic Stellate Cells: Effect on Inflammatory Gene Expression and Cell Migration." **Juan L. Vivero-Escoto***; Hemapriyadarshini Vadarevu^d; Ridhima Juneja^e; Laura W. Schrum; Jennifer H. Benbow* *Journal of Materials Chemistry B* (2019), 7, 7396-7405. Selected as one of the 2019 *Journal of Materials Chemistry B Hot Papers*.
16. "Multimodal Polysilsesquioxane Nanoparticles for Combinatorial Therapy and Gene Delivery in Triple-Negative Breast Cancer." Ridhima Juneja^e, Zachary Lyles^d, Hemapriyadarshini Vadarevu^d, Kirill A. Afonin, **Juan Vivero-Escoto*** *ACS Materials & Interfaces* (2019), 11 (13), 12308–12320.
17. "Influence of Cationic meso-Substituted Porphyrins on the Antimicrobial Photodynamic Efficacy and Cell Membrane Interaction in Escherichia coli." Alexandra Hurst^c, Beth Scarbrough^d, Roa Saleh^b, Jessica Hovey^b, Farideh Ari^b, Shreya Goyal^d, Richard Chi, Jerry Troutman*, **Juan Vivero-Escoto*** *International Journal of Molecular Sciences* (2019), 20(1), 134.
18. "RNA fibers as optimized nanoscaffolds for siRNA coordination and reduced immunological recognition." Lauren Rackley, Jaimie Marie Stewart, Jacqueline Salotti, Andrey Krokhotin, Ankit Shah, Mathias Viard, Ridhima Juneja^e, Jaclyn Smollett, Lauren Lee, Kyle Roark, Mubin Tarannum^d, **Juan Vivero-Escoto**, Peter F. Johnson, Marina A. Dobrovolskaia, Nikolay V. Dokholyan, Elisa Franco, Kirill A. Afonin* *Advanced Functional Materials* (2018), 28(48), 1805959.

19. "Effect of the Surface Charge of Silica Nanoparticles on Oil Recovery: Wettability Alteration of Sandstone Cores and Imbibition Experiments." Merlis P. Alvarez-Berrios*, Lisa M. Aponte-Cruz^b, Lissette M. Aponte-Cruz^b, Paula Loman-Cortes^d and **Juan L. Vivero-Escoto**, *International Nano Letters* (2018), 8, 181–188.
20. "In vitro evaluation of photodynamic therapy using redox-responsive nanoparticles carrying PpIX." Ilaiáli Souza Leite*^d, **Juan Luis Vivero-Escoto**, Zachary Lyles^d, Vanderlei Salvador Bagnato and Natalia Mayumi Inada, *Proc. of SPIE* (2018) Vol. 10476 104760W-1/8.
21. "Mucin1 antibody-conjugated dye-doped mesoporous silica nanoparticles for breast cancer detection *in vivo*." **Vivero-Escoto, Juan L.***; Jeffords Moore, Laura; Dréau, Didier; Alvarez-Berrios, Merlis P.^e; and Mukherjee, Pinku, *Proceedings of SPIE* (2017), 10078, 100780B-1/100780B-8.
22. "Target-specific porphyrin-loaded hybrid nanoparticles to improve photodynamic therapy for cancer treatment." **Vivero-Escoto, Juan L.***; and Vega, Daniel L.^c, *Proceedings of SPIE-BIOS* (2017), 10047, 1004713-1/1004713-7.
23. "Folic acid-conjugated redox-responsive mesoporous silica nanoparticles for the delivery of cisplatin *in vitro*." Alvarez-Berrios, Merlis P.^e and **Vivero-Escoto, Juan L.*** *International Journal of Nanomedicine* (2016), 11, 6251-6265.
24. "MUC1-antibody-conjugated mesoporous silica nanoparticles for selective breast cancer detection in a mucin-1 transgenic murine mouse model." Dréau, Didier; Jeffords Moore, Laura; Alvarez-Berrios, Merlis P.^e; Tarannum, Mubin^d; Mukherjee, Pinku; and **Vivero-Escoto, Juan L.*** *Journal of Biomedical Nanotechnology* (2016), 12(12), 2172-2184.
25. "SERS-active Au/SiO₂ clouds in powder for rapid *ex vivo* breast adenocarcinoma diagnosis." Cepeda-Pérez, Elisa; López-Luke, Tzarara;* Salas-Castillo, Pedro; Plascencia-Villa, German; Ponce, Arturo; **Vivero-Escoto, Juan**; Jose-Yacaman, Miguel; and de la Rosa, Elder *Biomedical Optics Express* (2016), 7(6), 2407-2418.
26. "Hybrid nanomaterials based on iron oxide nanoparticles and mesoporous silica nanoparticles: Overcoming challenges in current cancer treatments." Alvarez-Berrios, Merlis P.*; Sosa-Cintron, Naisha^b; Rodriguez-Lugo, Mariel^b; Juneja, Ridhima^c and **Vivero-Escoto, Juan**, *Journal of Chemistry* (2016), ID 2672740, 1-15.
27. "SERS and integrative imaging upon internalization of quantum dots into human oral epithelial cells." Cepeda-Pérez, Elisa; López-Luke, Tzarara;* Plascencia-Villa, Germán; Ceja-Fdez, Andrea; Perez-Mayen, Leonardo; Ponce, Arturo; **Vivero-Escoto, Juan**; and de la Rosa, Elder *Journal of Biophotonics* (2016), 9(7), 683-693.
28. "Cellular endocytosis and trafficking of cholera toxin B-modified mesoporous silica nanoparticles." Walker, William^c; Tarannum, Mubin^d; and **Vivero-Escoto, Juan L.*** *Journal of Materials Chemistry B* (2016), 4, 1254-1262. Selected as one of the 2016 Journal of Materials Chemistry B Hot Papers.
29. "Redox-responsive porphyrin-based polysilsesquioxane nanoparticles for photodynamic therapy of cancer cells." Vega, Daniel L.^c; Lodge, Patrick^b; and **Vivero-Escoto, Juan L.*** *International Journal of Molecular Sciences* (2016), 17 (1), 56.
30. "Mesoporous silica nanoparticles loaded with cisplatin and phthalocyanine for combination chemotherapy and photodynamic therapy *in vitro*." **Vivero-Escoto, Juan L.*** and Elnagheeb, Maram^a, *Nanomaterials* (2015), 5, 2302-2316.
31. "Labeling of HeLa cells using ZrO₂: Yb³⁺-Er³⁺ nanoparticles with upconversion emission." Ceja-Fernandez, Andrea; Lopez-Luke, Tzarara;* Oliva, Jorge; **Vivero-Escoto, Juan**; Gonzalez-Yebra, Ana Lilia; Rodriguez Rojas, Ruben A.; Martinez-Perez, Andrea; and De la Rosa, Elder;* *Journal of Biomedical Optics* (2015), 20(4), 046006-1/046006-8.

32. “Multifunctional nanoparticles in photodynamic therapy: Recent developments.” **Vivero-Escoto, Juan L.*** *In Photodynamic Therapy: Fundamentals, Applications and Health Outcomes* (2015), Adrian G. Hugo, Nova Science Publisher, Inc. **ISBN: 978-1-63463-857-9** (Book chapter, invited).
33. “Stimuli-responsive protoporphyrin IX silica-based nanoparticles for photodynamic therapy in vitro.” **Vivero-Escoto, Juan L.*** and Vega, Daniel L.^c, *RSC Advances* (2014), 4, 14400-14407.
34. “Porphyrin-based polysilsesquioxane nanoparticles to improve photodynamic therapy for cancer treatment”. **Vivero-Escoto, Juan L.***; DeCillis, Daniel^b; Fritts, Laura^b; and Vega, Daniel L.^b, *Proceedings of SPIE-BIOS* (2014), 8931, 89310Z-1/89310Z-10.
35. “Nanovehicles for intracellular protein delivery”. **Vivero-Escoto, Juan L.*** *J. Biotechnology & Biomaterials* (2013), 3(1), 1000-e117. Editorial

Publications from graduate and postdoctoral work (* = corresponding author)

1. “Polysilsesquioxane nanoparticles for triggered release of cisplatin and effective cancer chemoradiotherapy.” Rocca, Joseph Della; Werner, Michael E.; Kramer, Stephanie A.; Huxford-Phillips, Rachel C.; Sukumar, Rohit; Cummings, Natalie D.; **Vivero-Escoto, Juan L.**; Wang, Andrew Z.; Lin, Wenbin* *Nanomedicine* (2015), 11(1), 31-38.
2. “Uranium sorption with functionalized mesoporous carbon materials”. Carboni, Michael; Abney, Carter W.; Taylor-Pashow, Kathryn M. L.; **Vivero-Escoto, Juan L.**; Lin, Wenbin* *Industrial & Engineering Chemistry Research*. (2013), 52(43), 15187-15197.
3. “Organo-functionalized mesoporous silicas for efficient uranium extraction microporous & mesoporous materials”. **Vivero-Escoto, Juan L.**, Carboni, Michael; Abney, Carter; Dekrafft, Kathryn; and Lin, Wenbin* *Microporous & Mesoporous Materials*. (2013), 180, 22-31.
4. “Biodegradable polysilsesquioxane nanoparticles as efficient contrast agents for magnetic resonance imaging”. **Vivero-Escoto, Juan L.**, Rieter, William J.; Lau, H.; Huxford-Phillips, Rachel C. and Lin, Wenbin* *Small* (2013), 9(20), 3523-3531.
5. “Multifunctional mesoporous silica nanospheres with cleavable Gd(III) chelates as magnetic resonance imaging contrast agents: Synthesis, characterization, target-specificity, and renal clearance”. **Vivero-Escoto, Juan L.**; Taylor-Pashow, Kathryn M. L.; Huxford, Rachel C. ; Della Rocca, Joseph; Okoruwa, Christie ; Hongyu, An ; Lin, Weili; and Lin, Wenbin* *Small* (2011), 7(24), 3519-3528.
6. “Surfactant-assisted controlled release of hydrophobic drugs using biocompatible anionic surfactant templated mesoporous silica nanoparticles”. Tsai, Chih-Hsiang; **Vivero-Escoto, Juan L.***; Slowing, Igor I.; Trewyn, Brian G.*; and Lin, Victor S.-Y. *Biomaterials* (2011), 32, 6234-6244.
7. “Exocytosis of mesoporous silica nanoparticles from mammalian cells: from asymmetric cell-to-cell transfer to protein harvesting”. Slowing, Igor I.*; **Vivero-Escoto, Juan L.**; Zhao, Yannan; Kandel, Kapil; Peeraphatdit, Chorthip; Trewyn, Brian G.*; and Lin, Victor S.-Y. *Small* (2011), 7(11), 1526-1532.
Featured on Material Views (May 3rd, 2011)
8. “Tuning the cellular uptake and cytotoxicity properties of oligonucleotide intercalator-functionalized mesoporous silica nanoparticles with human cervical cancer cells HeLa”. **Vivero-Escoto, Juan L.**; Slowing, Igor I.; Lin, Victor S.-Y.* *Biomaterials* (2010), 31(6), 1325-1333.
9. “Photo-induced intracellular controlled release drug delivery in human cells by gold-capped mesoporous silica nanosphere”. **Vivero-Escoto, Juan L.**; Slowing, Igor I.; Wu,

- Chia-Wen; Lin, Victor S.-Y.* *Journal of the American Chemical Society* (2009), 131(10), 3462-3463.
10. "Cell-induced intracellular controlled release of membrane impermeable cysteine from a mesoporous silica nanoparticle-based drug delivery system". Mortera, Renato; **Vivero-Escoto, Juan**; Slowing, Igor I.; Garrone, Edoardo; Onida, Barbara; Lin, Victor S.-Y.* (2009), *Chemical Communications* (2009), 22, 3219-3221.
 11. "Mesoporous silica nanoparticles for reducing hemolytic activity toward mammalian red blood cells". Slowing, Igor I.; Wu, Chia-Wen; **Vivero-Escoto, Juan L.**; Lin, Victor S.-Y.* *Small* (2009), 5(1), 57-62.
 12. "Template removal and thermal stability of organically functionalized mesoporous silica nanoparticles". Kumar, Rajeev; Chen, Hung-Ting; **Escoto, Juan L. V.**; Lin, Victor S.-Y.*; Pruski, Marek.* *Chemistry of Materials* (2006), 18(18), 4319-4327.
 13. "Effect of pH to the decomposition of aqueous phenols mixture by ozone". Poznyak, Tatiana*; Tapia, Rocio; **Vivero, Juan**; Chairez, Isaac. *Journal of the Mexican Chemical Society* (2006), 50(1), 28-35.
 14. "Degradation of aqueous phenol and chlorinated phenols by ozone". Poznyak, T.*; **Vivero, J.** *Ozone: Science & Engineering* (2005), 27(6), 447-458.

Reviews

1. "Silica-based nanoprobes for biomedical imaging and theranostic applications". **Vivero-Escoto, Juan L.**; Huxford, Rachel C.; Lin, Wenbin* *Chemical Society Reviews* (2012), 41 (7), 2673 - 2685
2. "Recent progress in mesoporous titania materials: adjusting morphology for innovative applications." **Vivero-Escoto, Juan L.**; Yamauchi, T.*; Wu, Kevin C.-W.* *Science and Technology of Advanced Materials* (2011), accepted.
3. "Inorganic-organic hybrid nanomaterials for therapeutic and diagnostic imaging applications". **Vivero-Escoto, Juan L.***; Huang, Y.-T. *Int. J. Mol. Sci.* 2011, 12(6), 3888-3927. (special issue)
4. "Mesoporous silica nanoparticles for intracellular controlled drug delivery". **Vivero-Escoto, Juan L.***; Slowing, Igor I.; Trewyn, Brian G.*; Lin, Victor S.-Y. *Small* (2010), 6(18), 1952-1967.
Featured on Material Views (Sept. 6th, 2010)
Most accessed article Small (10/2010 – 09/2011)
5. "Capped mesoporous silica nanoparticles as stimuli-responsive controlled release systems for intracellular drug/gene delivery" Zhao, Yannan; **Vivero-Escoto, Juan L.**; Slowing, Igor I.*; Trewyn, Brian G.*; and Lin, Victor S.-Y. *Expert Opinion in Drug Delivery* (2010), 7(9), 1013-1029.
6. "Mesoporous silica nanoparticles: structural design and applications". Slowing, Igor I.*; **Vivero-Escoto, Juan L.**; Trewyn, Brian G.*; and Lin, Victor S.-Y. *Journal of Materials Chemistry*, (2010), 20(37), 7889-8174.
7. "Mesoporous silica nanoparticles as controlled release drug delivery and gene transfection carriers". Slowing, Igor I.; **Vivero-Escoto, Juan L.**; Wu, Chia-Wen; Lin, Victor S.-Y.* *Advanced Drug Delivery Reviews* (2008), 60(11), 1278-1288.
8. "Alkyne hydrosilylation catalyzed by a cationic ruthenium complex: Efficient and general trans addition". **Vivero-Escoto, J. L.**; Woo, L. Keith.* *Chemtracts* (2006), 19(9), 358-366.

Book Chapters

1. “Multifunctional mesoporous silica nanoparticles for controlled drug delivery, multimodal imaging and simultaneous imaging and drug delivery”. **Vivero-Escoto, Juan L.*** *In Silica Nanoparticles: Preparation, Properties and Uses* (2011), Juan Vivero-Escoto, Nova Science Publisher, Inc. **ISBN: 978-1-61324-452-4** (invited).
2. “Temperature-responsive DNA-capped mesoporous silica nanoparticles based delivery system”. **Vivero-Escoto, Juan L.***; Lin, Victor S.-Y. *In Silica Nanoparticles: Preparation, Properties and Uses* (2011), Juan Vivero-Escoto, Nova Science Publisher, Inc. **ISBN: 978-1-61324-452-4** (invited)
3. “Mesoporous silica nanoparticles: Synthesis and applications”. **Vivero-Escoto, Juan L.**; Trewyn, Brian G.; Lin, Victor S.-Y.* *Annual Reviews of Nano Research* (2010), 3, 191-231. (invited)

**** Total number of citations: 8,066; h-index: 28/i10-index: 40; Source: Google scholar (June 2022)**

Patents

1. “Tumor specific antibody conjugates and uses therefor.” Mukherjee, Pinku and **Vivero-Escoto, Juan L.** EFS ID: 20062660; Application Number: 62046680

Professional Leadership

- Topic Editor: “Next Generation Nanomaterials for Photodynamic Therapy”, *Frontiers in Chemistry (Nanoscience)* (2022). [Hot Topic: Next Generation Nanomaterials for Photodynamic Therapy | Frontiers Research Topic \(frontiersin.org\)](#)
- Guest Editor on the special issue entitled: “Nanomaterials for Biomedical Applications”, *Molecules*, MDPI (2022). 8 papers contributed. https://www.mdpi.com/journal/molecules/special_issues/nano_bio_appli
- Guest Editor on the special issue entitled: “Multifunctional Hybrid Nanoparticles for Photodynamic Therapy and Diagnosis”, *Nanomaterials*, MDPI (2021). 5 papers contributed. [Nanomaterials | Special Issue : Multifunctional Hybrid Nanoparticles for Photodynamic Therapy and Diagnosis \(mdpi.com\)](#)
- Symposia Organizer “E2. Nanomaterials for Drug Delivery, Imaging and Immuno-Engineering.” XXX International Materials Research Congress, Cancun, Mexico, August 2022.
- Symposia Organizer “E4. Nanomaterials for Drug Delivery, Imaging and Immuno-Engineering.” XXIX International Materials Research Congress, Cancun, Mexico, August 2021.
- Symposia Organizer “E4. Nanomaterials for Drug Delivery, Imaging and Immuno-Engineering.” XXIX International Materials Research Congress, Cancun, Mexico, August 2020. Cancelled due to pandemic of COVID-19
- Symposia Organizer “C1. Nanomaterials for Drug Delivery, Imaging and Immuno-Engineering.” XXVIII International Materials Research Congress, Cancun, Mexico, August 2019.
- Guest Editor on the special issue entitled: “Nanomaterials for Biomedical Applications”, *Materials*, MDPI (2018). http://www.mdpi.com/journal/materials/special_issues/nanomaterials_biomedical_applications
- Editorial Review Board Member of *Journal of Solid Tumors* (2011-present).

- Editorial Review Board Member of International Journal of Nanomedicine (2019-present).
- Editorial Review Board Member of Molecules-MDPI (2019-present).
- Editorial Review Board Member of Frontiers in Oncology and Frontiers in Cell and Developmental Biology (2020-present).
- Guest Editor of the book entitled: “Silica Nanoparticles: Preparation, Properties and Uses”. Nova Science Publishers Inc. (2011).
- Student poster judge for the 2011 Sigma Xi International Research Conference

University Service

- Chemistry Department
 - M.S. Program Committee member (Fall 2013 – Spring 2015/Fall 2017 – Spring 2019)
 - Seminar Coordinator: Spring 2013, 2015
 - Budget Committee: (Fall 2014 – Spring 2016)
 - Instrumentation Committee: (Fall 2017 – Spring 2021)
 - Instruction Committee: (Fall 2018 – Spring 2020)
 - Department Review Committee, Chair (Fall 2018 - Spring 2022)
 - Chair Review Committee: (Fall 2021 – Spring 2022)
- Nanoscale Science Program
 - Admissions Coordinator: Summer 2018-present
 - Member, Graduate recruiting and admission committee: Fall 2012-present
 - Member, Ad Hoc Nanoscale Science Ph.D. program improvement committee: Fall 2013 – Spring 2020
 - Seminar Coordinator: Spring 2014, 2016, 2017, 2022; Fall 2021
 - Member, Faculty search committee: 2014-2015; 2021-2022
 - Lead the R1 nomination for the proposal entitled: “Synergy at the Nanoscale: Biomedicine, Energy and Materials.” This nomination was selected as part of the thematic area “Nanoscale Science and Materials” that was categorized as an “Area of Future Opportunity.”
- Institutional Biosafety Committee
 - Alternate member (2016-2019)
 - Full member (2019-2025)
- Multicultural Postdoctoral Fellowship Program
 - Admission committee (2016-2017)
- Council on University Community Working Group
 - Member and Chair of Sub-committee #6 (2017-2020)
- AGEP-NC Program
 - AGEP-NC Fellow (2019-2021)

Funding

External (Total Direct costs = \$831,801)

- **Oak Ridge Associated Universities (ORAU)**
 - Ralph E. Powe Junior Faculty Enhancements Award: “Silica-based Hollow Nanoparticles for Intracellular Protein Delivery.” In collaboration with Dr. Sheng Dai (ORNL) (\$5,000)
- **CanDiag LLC (11/15/2013 to 11/14/2014)**

- “Targeting Imaging of Pancreatic and Breast Cancer using a TAB004-Silica-based Nanoparticulate Platform.” PI, subcontract (\$11,500)
- **National Cancer Institute (NIH) (12/23/2014 to 12/22/2017)**
 - NIH R15 (AREA): “Multifunctional nanoparticles for combinational therapy of pancreatic cancer.” In collaboration with Dr. Mukherjee (Biology UNCC) (\$437,210)
- **National Science Foundation (NSF) (08/15/2018 to 07/31/2020)**
 - NSF-EAGER (#1835688): “EAGER: Biodegradable Hybrid Nanoparticles Containing Photosensitizing Agents.” Sole PI (\$99,987)
- **The University of North Carolina System (07/01/2018 to 06/30/2022)**
 - UNC Research Opportunities Initiative: “Pharmacoengineering and Clinical Translation of Personalized Neoantigen Cancer Vaccine.” Co-PI (PI: Dr. Wang UNC Chapel Hill) (\$2,091,931; Amount to UNC Charlotte: \$278,104)

Competitive UNC Charlotte (Total Direct costs = \$145,375)

- **The University of North Carolina at Charlotte**
 - Faculty Research Grant: “Development of Silica-Based Hybrid Nanoparticles as Drug Delivery Platform for Photodynamic Therapy.” (\$6,000)
 - CLAS Seed Funding Award (2 projects): “Directed Self-Assembly of Supramolecular Nanostructure Building Blocks for optical Metamaterials.” Co-PIs: M. Jones, J. Troutman, J. Vivero-Escoto, and M. Fiddy (\$5,000) & “Development of Novel Corrole-based Hybrid Nanoparticles for Photodynamic Therapy.” Co-PIs: M. Walter, J. Vivero-Escoto, and P. Mukherjee. (\$6,000)
 - Chancellor's Diversity Challenge Fund: “Nanotechnology Workshop for Elementary Schools.” (\$3,425)
 - Faculty Research Grant (co-PI): “Synthesis, Characterization, and Biological Evaluation of New Gold Complexes as Potential Anticancer Agents.” (PI: Dr. Rabinovich; co-PI: Dr. Vivero-Escoto) (\$12,000)
 - Faculty Research Grant (co-PI): “Elimination of Antibiotic Resistance Bacteria Using Photo-Activated Nanoparticles.” (PI: Dr. Munir; co-PI: Dr. Vivero-Escoto) (\$16,000)
- **Charlotte Research Institute**
 - Wells Fargo Faculty Fellowship Program & Faculty Excellence Award: “Gold Nanoparticles for Nanomanufacturing Optical Metamaterials.” (\$8,000)
 - Ralph E. Powe Junior Faculty Enhancements Award: “Silica-based Hollow Nanoparticles for Intracellular Protein Delivery.” In collaboration with Dr. Sheng Dai (ORNL) (\$5,000)
 - Targeted Research Seed Grants: “Porphyrin-chelate Conjugates to Enhance the Photodynamic Inactivation of Infectious Diseases.” In collaboration with Dr. Troutman and Dr. Oliver (Biological Sciences) (\$60,000)
- **The Center for Biomedical Engineering and Science (UNC Charlotte)**
 - CBES seed grant: “Development of a Cell Targeted Nanoparticle Delivery System for Treating Hepatocellular Carcinoma.” In collaboration with Dr. Schrum (Carolinas Medical Center) (2016) (\$2,500)

- CBES seed grant: “Target-Specific Silica-based Nanoplatforms for the Delivery of siRNA for Cancer Treatment.” In collaboration with Dr. Afonin (Chemistry UNCC) and Dr. Foureau (Carolinas Medical Center) (2015) (\$2,500)
- CBES seed grant: “Hybrid Nanoparticles for Target-Specific Delivery of Therapeutic Agents for Treatment of Pancreatic Cancer.” In collaboration with Dr. Mukherjee (Biology UNCC) (2013) (\$2,500)
- **SPRINT FAPESP-UNCC (06/30/2016 to 06/30/2017)**
 - “Multifunctional hybrid nanoparticles to enhance photodynamic therapy and photodynamic inactivation efficacy.” In collaboration with Dr. Bagnato (Institute of Physics Sao Carlos, Brazil) (\$16,450)

Advised and current postdoctoral/visiting scholars

- **Current**
 - **Advised**
1. Mubin Tarannum (Postdoctoral Fellow, Dana-Farber Cancer Institute; Advisor: Dr. Rizwan Romee)
 2. Dr. Ridhima Juneja (Postdoctoral Fellow, University Health Network, Toronto, Canada; Advisors: Dr. Brian C. Wilson and Dr. Christine Allen)
 3. Dr. Merlis Alvarez-Berrios (Assistant Professor at the Interamerican University of Puerto Rico - Ponce Campus)

Advised and current graduate students

- **Current**
1. Varsha Godakhindi (Ph.D. Nanoscale Science Program, fall 2019)
 - The Graduate Student Summer Fellowship, UNC Charlotte 2022
 - 2nd place Annual Graduate Research Symposium, Charlotte 2022
 2. Tamanna Binte Huq (Ph.D. Nanoscale Science Program, fall 2021)
 3. Allison Stadick (Ph.D. Nanoscale Science Program, fall 2021)
- **Advised**
1. Hemapriyadarshini (Priya) Vadarevu (Ph.D. Nanoscale Science Program, 2022)
 - Thomas L. Reynolds Graduate Student Research award 2019
 2. Paula Loman-Cortes (Ph.D. Nanoscale Science Program, 2021)/ Current position:
 - CONACyT Mexico fellowship (2016-2020).
 3. Mubin Tarannum (Ph.D. Nanoscale Science Program, 2020)/ Current position: Dana-Farber Cancer Institute
 - 2020 Dean’s Distinguished Dissertation Award
 - Thomas L. Reynolds Graduate student research award 2018
 - The Graduate Student Summer Fellowship, UNC Charlotte 2018
 - CBES Travel Award
 - 1st place 9th CBES retreat Overall Category Winner, Charlotte, 2017.
 - Student Travel Achievement Recognition (STAR), Society of Biomaterials 2017.
 4. Zachary Lyles (Ph.D. Nanoscale Science Program, 2018)/ Current position: R&D Process Chemist at Gabriel Phenoxies Inc.
 - 1st place 8th CBES retreat Applied Cancer Technologies and Therapeutics focus area, Charlotte, 2016.
 - CLAS Fellowship Award 2018
 - Excellence Teaching Award 2018

5. Alexis Johnston (M.S. Chemistry Program, 2020)/ Current position: Ph.D. student Chemistry Program at Georgia Tech.
 - Thomas D. Walsh Research competition finalist 2019
 - Excellence in teaching award 2019
6. Paolo Siano (Early entry, M.S. Chemistry Program, 2020)/ Current position: Ph.D. student Chemistry Program at University of Virginia.
7. Alexandra Hurst (M.S. Chemistry Program, 2017)/Current position: Ph.D. student Nanoscale Science Program at UNC Charlotte.
 - 2nd place Chemistry (poster) Undergraduate Research Conference UNC Charlotte, 2014.
 - 1st place 8th CBES retreat Medical Therapies & Technologies focus area, Charlotte, 2016
8. Eric Fink (M.S. Chemistry Program, 2016)/Current position: Gerdau Specialty Steel North America.
9. Daniel Vega (M.S. Chemistry Program, 2015)/Current position: Chemist at InChem Corp.
10. William Walker (M.S. Chemistry Program, 2015)/Current position: Ph.D. student in the Chemistry Department at the University of Michigan.

Advised and current undergraduate research students

- **Current**

1. Abbe Eliasof, B.S. Chemistry
2. Ashvini Dandapani, B.S. Biology/B.A. Chemistry
3. Kira Marsh, B.S. Chemistry
4. Anh Nguyen, B.A. Chemistry
5. Alejandra Villa, B.A. Chemistry

- **Advised**

1. Emma Anderson, B.A. Chemistry
2. Madi Pareja, B.S. Chemistry
3. Zaneta Zhin, B.S. Chemistry
4. Aliyah Aguila, B.S. Chemistry (NanoSURE student)
5. Karina Benitez, B.S. Biology
6. Janay Clegg, B.A. Chemistry
7. Joshua Mikombo, B.S. Biology
8. Jacob Dobbs, B.S. Chemistry
9. Amanda Derby, B.S. Biology
10. Christina Payne, B.S. Biology
11. Ishaq Ibrahim, B.S. Chemistry
12. Taraneh Barjesteh, B.S. Chemical Engineering (NanoSURE student)
13. Vir Kalaria, B.S. Chemistry
14. Samuel McManama, Post-Bac
15. McKinley Kerns, B.S. Chemistry
16. Taylor Walls, B.S. Biology Honors
17. Meredith Collins, B.S. Biology
18. Ricky Son, B.S. Biology (UNC-CH)/B.A. Chemistry
19. Jose Marquez (NanoSURE student), B.S. Biochemistry, University of California Davis
20. Jonathan Duhon, B.S. Chemistry
21. Brandon Black, B.S. Biology Honors

22. Cayli Mena (NanoSURE student), B.S. Biochemistry, Catawba College
23. Roa Saleh (NanoSURE student), B.S. Chemistry, Rowan-Cabarrus Community College
24. Jessica Hovey (NanoSURE student), B.S. Chemistry, Oakland University
25. Caroline Rawlings, B.S. Biology
26. Kebba Mba, B.S. Bioinformatics
27. Sebin Yang, B.A. Chemistry
28. Dmitriy Yermakovich, B.S. Biology
29. Trang Tran, B.S. Biology
30. Rachel Jones, B.S. Biology
31. Cameron Woodall, B.S. Exercise Science
32. Christian Sangio, B.S. Biology/B.A. Chemistry
33. Julius Koomson, B.S. Biology
34. Kristen Armstrong, B.S. Biology
35. Amir Hashemi, B.A. Chemistry/Current position: School of Medicine, University of Virginia
36. Alexandra Hurst, B.S. Psychology/B.A. Chemistry/Current position: M.S. student at UNCC (Department of Chemistry)
37. Sheram Serrano-Camacho, B.S. Biology
38. Ashutosh Patel, B.S. Biology
39. Patrick Lodge, B.S. Chemistry/Biochemistry
40. Austin Gibbs, B.S. Chemistry
41. Shayan Shaghayeq Nazari B.S. Chemistry and Biochemistry/Current position: Ph.D. student at UNCC (Department of Biological Sciences)
42. Daniel DeCillis B.A. Biology/Current position: Dental School, University of Maryland
43. Alisa D. Geier, Post-Baccalaureate/Current position: Sourcing manager at Signature Consultants
44. Ankit Amin, B.A. Chemistry
45. Sydney Kent, B.A. Chemistry
46. Edward Lynch, B.S. Chemistry and B.A. Biology
47. Erin Danielle Ross, B.S. Chemistry/Biochemistry
48. Daniel Vega, B.A. Chemistry and B.S. Biology/M.S. Chemistry 15' (UNCC)
49. Laura Fritts (NanoSURE student), B.S. Biochemistry/Current position Ph.D. student UNC Eshelman School of Pharmacy
50. Breyinn Loftin (NanoSURE student), B.S. Chemistry
51. Preston Pope, B.S. Chemistry/Biochemistry
52. Cesar Roque-Alfaro, B.S. Chemistry/Biochemistry

Research associates/technicians directed in research

- **Current**
 - None
 - **Advised**
1. Jimmy Pan, B.A. Chemistry

Collaborators

- Dr. Kirill Afonin (Department of Chemistry, UNC Charlotte)
- Dr. Jerry Troutman (Department of Chemistry, UNC Charlotte)
- Dr. Pinku Mukherjee (Department of Biological Sciences, UNC Charlotte)

- Dr. Shan Yan (Department of Biological Sciences, UNC Charlotte)
- Dr. Didier Dréau (Department of Biological Sciences, UNC Charlotte)
- Dr. Mariya Munir (Department of Civil Engineering, UNC Charlotte)
- Dr. Elder de la Rosa (Universidad De La Salle Bajio, Gto. Mexico)
- Dr. Lopez-Luke (Universidad Michoacana, Mexico)
- Dr. Vanderlei Salvador Bagnato, Dr. Francisco Guimarães and Dr. Natalia Inada (Institute of Physics São Carlos (IFSC/CePOF), University of São Paulo, Brazil)
- Dr. Andrew Wang (Eshelman School of Pharmacy, UNC Chapel Hill)
- Dr. Jen Jen Yeh (Medical School, UNC Chapel Hill)

Teaching Experience and Mentoring

- Fall 2012, CHEM 2131: Organic Chemistry I, 3 credits, 74 students.
- Fall 2013, NANO 8682: Nanoscale Colloquium, 1 credit, 11 students
- Fall 2014, CHEM 2131: Organic Chemistry I, 3 credits, 131 students.
- Fall 2016, CHEM 2131: Organic Chemistry I, 3 credits, 74 students.
- Fall 2017, CHEM 2132: Organic Chemistry II, 3 credits, 58 students.
- Fall 2018, CHEM 2132: Organic Chemistry II, 3 credits, 75 students.
- Fall 2019, CHEM 2132: Organic Chemistry II, 3 credits, 79 students.
- Fall 2020, NANO 8301: Nanomedicine, 3 credits, 4 students
- Fall 2021, NANO 8301: Nanomedicine, 3 credits, 4 students
- Spring 2020, NANO 8682: Nanoscale Colloquium, 1 credit, 12 students
- Spring 2013, CHEM 2132: Organic Chemistry II, 3 credits, 54 students.
- Spring 2014, NANO 8202: Interdisciplinary Team Project, 2 credits, 5 students
- Spring 2014, NANO 8060: Special topics “Bio- and Nanostructures Self-Assembly”, 2 credits, 5 students
- Spring 2015, NANO 8060: Special topics “Nanomedicine”, 3 credits, 3 students
- Spring 2016, NANO 8060: Special topics “Nanomedicine”, 3 credits, 7 students
- Spring 2017, NANO 8060: Special topics “Nanomedicine”, 3 credits, 6 students
- Spring 2018, NANO 8060: Special topics “Nanomedicine”, 3 credits, 6 students
- Spring 2019, NANO 8060: Special topics “Nanomedicine”, 3 credits, 5 students
- Spring 2020, NANO 8682: Nanoscale Science Colloquium, 1 credit, 12 students
- Spring 2022, CHEM 2131: Organic Chemistry I, 3 credits, 69 students.

Reviewer/Peer-review (2012 – present; 122 papers peer-reviewed until June 2022, average = 13.0 per year)

- Accounts of Materials Research (1)
- ACS Omega (2)
- ACS Applied Materials and Interfaces (5)
- ACS Biomaterials Science and Engineering (1)
- ACS Nano (3)
- Acta of Biomaterialia (8)
- Advanced Materials (2)
- Advanced Functional Materials (1)
- Advanced Therapeutics (1)
- Analytical Chemistry (1)
- Bioconjugate Chemistry (1)

- Biotechnology Journal (1)
- Biotechnology Progress (1)
- Biomacromolecules (1)
- Biomaterials (5)
- Biomaterials Science (1)
- Chemical Communications (2)
- Colloids and Surfaces B (3)
- Dalton Transactions (2)
- Frontiers Oncology (1)
- International Journal of Nanomedicine (4)
- International Journal of Pharmaceutics (1)
- Journal of Alzheimer Disease (1)
- Journal of Colloid and Interface Science (1)
- Journal of Control Release (2)
- Journal of Neuroscience Methods (1)
- Journal of Solid State Chemistry (1)
- Journal of Physical Chemistry (1)
- Journal of Materials Chemistry (2)
- Journal of Hazardous Materials (1)
- Journal of Photodiagnosis and Photodynamic Therapy (3)
- Journal of Photochemistry and Photobiology A (2)
- Journal of Photochemistry and Photobiology B (3)
- Langmuir (3)
- Materials Today (1)
- Microporous & Mesoporous Materials (2)
- Macromolecular Rapid Communications (1)
- Molecules (7)
- Nanomaterials (6)
- Nanomedicine: Nanotechnology, Biology and Medicine (7)
- Nanoscale (2)
- Nanoscience and Nanotechnology Letters (1)
- Nature Communications (2)
- Particle and Particle Systems Characterization (2)
- Pharmaceutics (2)
- Photochemical & Photobiological Sciences (2)
- Photodiagnosis and Photodynamic Therapy (2)
- Physical Chemistry Chemical Physics (1)
- PLOS One (3)
- RSC Advances (3)
- Scientific Reports (4)
- Science and Technology on Advanced Materials (1)
- Small (3)
- Thin Solid Films (1)

- U.S. National Science Foundation (NSF), ad-hoc reviewer one proposal (1)

- Reviewer for the Indo-US Science and Technology Forum (IUSSTF), ad-hoc reviewer one proposal (1)
- U.S. National Science Foundation (NSF): panel reviewer NSF-DMR SSMC CAREER
- Reviewer for the Memorable Program, ZonMw Netherlands Organization for Health Research and Development (1)
- UNC Charlotte-FAPESP SPRINT program (3)
- ACS-PRF (1)
- Foundation for Polish Science (First Team) (1)
- Swiss National Science Foundation (1)
- FAPESP Brazil (1)
- National Science Centre Poland (1)
- U.S. National Science Foundation (NSF-HBCU-EiR) (2022), ad-hoc reviewer one proposal (1)
- National Institutes of Health (NIH), NANO study section (2022), ad-hoc reviewer (9)

Presentations

1. **Vivero-Escoto, Juan L.** “Engineering Multifunctional Polysilsesquioxane Nanoparticles for Photodynamic Therapy of Cancer.” Global Summit and Expo on Materials Science and Nanoscience GSEMSN (Virtual), September 6th- 8th, 2021. (Invited talk)
2. **Vivero-Escoto, Juan L,** Mubin Tarannum, Ridhima Juneja, Hemapriyadarshini Vadarevu, Zachary Lyles “Recent Advances on Multifunctional Hybrid Silica-Based Nanoparticles for Cancer Treatment.” European Advanced Materials Congress (Virtual), August 23rd- 25th, 2021. (Invited talk)
3. **Vivero-Escoto, Juan L.** Paolo Siano, Alexis Johnston, Paula Loman-Cortes “Synthesis, Characterization and Application of Porphyrin-Based Polyhedral Oligomeric Silsesquioxane Molecules for Photodynamic Therapy of Cancer.” XXIX International Materials Research Congress, Cancun, Mexico, August 15th-20th, 2021. (oral)
4. **Vivero-Escoto, Juan L.** “Multifunctional Silica-based Nanoplatfoms for Efficient Transport and Delivery of Nucleic Acid Therapeutics.” International Society of RNA Nanotechnology and Nanomedicine Annual Meeting (Virtual), July 29th- 30th, 2020. (oral)
5. **Vivero-Escoto, Juan L.** “Target-specific Combination Therapy of Pancreatic Cancer Using Mesoporous Silica Nanoparticles: Optimization and Mechanism.” Controlled Release Society Annual Meeting (Virtual), June 29th- July 2nd, 2020. (oral)
6. **Vivero-Escoto, Juan L.** “Smart Silica-Based Nanomaterials for Multimodal Treatment of Cancer.” Smart Materials Programmed to Operate in Living Systems (Virtual), May 27-28th, 2020. (oral)
7. **Vivero-Escoto, Juan L.** “Biodegradable Silica-Based Nanoparticles with Improved and Safe Delivery of Protoporphyrin IX for the Treatment of Cancer using Photodynamic Therapy In Vivo.” 2020 Materials Research Society Spring Meeting, Phoenix, Az, April 16th, 2020. (**Invited**) Cancelled due to COVID-19.
8. **Vivero-Escoto, Juan L.** “Multifunctional polysilsesquioxane nanoparticles for the treatment of cancer.” 71st Southeastern Regional Meeting of the American Chemical Society (SERMACS), Savannah, GA, October 20th-23rd, 2019. (oral) (Invited)
9. **Vivero-Escoto, Juan L.** and Juneja, Ridhima. “Multimodal polysilsesquioxane nanoparticles for combinatorial therapy and gene delivery in triple-negative breast

- cancer.” XXVIII International Materials Research Congress, Cancun, Mexico, August 18th-23rd, 2019. (oral) (Invited)
10. **Juan L. Vivero-Escoto** and Zachary Lyles. “Multifunctional polysilsesquioxane nanoparticle-based platform for the treatment of triple-negative breast cancer in vitro and in vivo using chemo and photodynamic therapy.” International Photodynamic Association World Congress, Cambridge, MA, United States, June 28th-July 4th, 2019. (oral) (Invited)
 11. **Juan L. Vivero-Escoto**. “In Vitro and in Vivo Evaluation of a Multimodal Polysilsesquioxane Nanoparticles for Combinatorial Therapy and Gene Delivery in Triple-Negative Breast Cancer.” Gordon Conference: Cancer Nanotechnology, West Dover, VT, United States, June 23rd-28th, 2019. (poster)
 12. **Juan L. Vivero-Escoto**. “Mucin1-Specific Redox-Responsive Mesoporous Silica Nanoparticles for Combinatorial Therapy of Pancreatic Ductal Adenocarcinoma.” (INOR_1087) ACS National Meeting, Orlando, FL, United States, April 4th, 2019. (oral)
 13. **Juan L. Vivero-Escoto**. “Multimodal Polysilsesquioxane Nanoparticles for the Combined Treatment of Triple-Negative Breast Cancer Using Chemo, Photodynamic and Gene Therapies.” (INOR_1085) ACS National Meeting, Orlando, FL, United States, April 4th, 2019. (oral)
 14. **Vivero-Escoto, Juan L.** “Target-Specific Multifunctional Mesoporous Silica Nanoparticles for Detection and Treatment of Cancer.” Charlotte Biomedical Science and Engineering Symposium 2018, CBES Annual Retreat, Charlotte, NC, United States, May 4th, 2018. (oral) (Invited)
 15. **Juan L. Vivero-Escoto**. “Multifunctional Porphyrin-Based Polysilsesquioxane Nanoparticles for the Treatment of Triple-Negative Breast Cancer Using Photodynamic Therapy.” 70th Southeastern Regional Meeting of the ACS, Augusta, GA, United States, October 31st – November 3rd, 2018. (oral)
 16. **Vivero-Escoto, Juan L.** “Multifunctional nanostructured silica materials for cancer treatment.” 69th Southeastern Regional Meeting of the American Chemical Society, Charlotte, NC, United States, November 7-11, 2017 (oral)
 17. **Vivero-Escoto, Juan L.** “In vivo evaluation of multifunctional mesoporous silica nanoparticles for cancer treatment in a mucin-1 transgenic murine mouse model.” Gordon Research Conference: Cancer Nanotechnology, West Dover, VT, June 18-23, 2017 (poster)
 18. **Vivero-Escoto, Juan L.** “Applications of nanoparticles in cancer theranostics.” Society for Optics and Photonics Technology (SPIE), Photonics West, San Francisco, CA, January 28-31, 2017 (oral) (Invited)
 19. **Vivero-Escoto, Juan L.;** and Vega, Daniel, “Target-specific porphyrin-loaded hybrid nanoparticles to improve photodynamic therapy for cancer treatment.” Society for Optics and Photonics Technology (SPIE), Photonics West, San Francisco, CA, January 28-31, 2017 (poster)
 20. **Vivero-Escoto, Juan L.** and Alvarez-Berrios, Merlis P. “Folic acid-conjugated redox-responsive mesoporous silica nanoparticles for the delivery of cisplatin.” NanoDDS’16 14th Annual Nanomedicine and Drug Delivery Symposium, Baltimore, USA, September 15-18, 2016 (poster)
 21. **Vivero-Escoto, Juan L.** “Target-specific multifunctional mesoporous silica nanoparticles for cancer treatment.” XXV International Materials Research Congress, Cancun, Mexico, August 14-19, 2016 (oral) (Invited)

22. **Vivero-Escoto, Juan L.**; Lyles, Zachary and Vega, Daniel, “Multifunctional Porphyrin-based Polysilsesquioxane Nanoparticles with Improved Loading Capacity and Phototherapeutic Effect.” 15th International Photodynamic Association World Congress Rio De Janeiro, Brazil, 22-26 May 2015 (oral)
23. **Vivero-Escoto, Juan L.**; Lyles, Zachary and Vega, Daniel “Stimuli-Responsive Protoporphyrin IX Silica-based Nanoparticles to Improve Photodynamic Therapy in Vitro.” 15th International Photodynamic Association World Congress Rio De Janeiro, Brazil, 22-26 May 2015 (poster)
24. **Vivero-Escoto, Juan L.** “Multifunctional Silica-Based Nanomaterials for Photodynamic Therapy.” Southeastern Regional Meeting of the American Chemical Society (ACS), Nashville, TN, October 2014 (oral)
25. **Vivero-Escoto, Juan L.** “Multifunctional silica-based nanomaterials for biomedical applications: Photodynamic therapy and pancreatic cancer treatment.” 247th ACS National Meeting & Exposition, Dallas, TX, United States, March 16-20, 2014. (oral)
26. **Vivero-Escoto, Juan L.** “Porphyrin-Based Silica Nanoparticles to Improve Photodynamic Therapy for Cancer Treatment.” Society for Optics and Photonics Technology (SPIE), Photonics West, San Francisco, CA, February 2014 (oral)
27. **Vivero-Escoto, Juan L.** “Redox-Responsive Hybrid Nanoparticles to Improve Photodynamic Therapy for Cancer Treatment.” XXII International Materials Research Congress. Cancun, Mexico August 11-15, 2013. (poster)
28. **Vivero-Escoto, Juan L.** “Stimuli-Responsive Porphyrin-Based Hybrid Nanoparticles to Improve Photodynamic Therapy for Cancer Treatment.” Gordon Research Conference – Cancer Nanotechnology. Mount Snow Resort, West Dover, VT July 14-19, 2013. (poster)

Non-conference presentations/seminars (Invited)

1. Instituto Tecnológico de Aguascalientes, Mexico, November 12th, 2021.
2. The School of Pharmacy, Trinity College Dublin, Ireland, October 21st, 2021.
3. IAAM Innovation Award Lecture 2020/Advanced Materials Lecture Series (Virtual), September 11th, 2020.
4. Department of Chemistry, Universidad de las Americas, Mexico, November 18th, 2020.
5. Department of Chemistry, North Carolina A&T State University, NC, February 15th, 2018.
6. Department of Chemistry, University of North Carolina Charlotte, NC, August 28th, 2017.
7. Center for Biomedical Engineering and Science, Charlotte, NC, May 5th, 2017.
8. School of Pharmacy, University of Mississippi, April 20th, 2017.
9. Department of Chemistry, Colorado School of Mines, March 24th, 2017.
10. Department of Chemistry, North Carolina State University, March 16th, 2017.
11. Department of Chemistry, Iowa State University, February 24th, 2017.
12. Research Center in Optics (CIO), Leon-Guanajuato, Mexico, August 10th, 2016.
13. Institute of Physics São Carlos (IFSC/CePOF), University of São Paulo, São Carlos, Brazil, May 11th, 2016.
14. Institute of Physics São Carlos (IFSC/CePOF), University of São Paulo, São Carlos, Brazil, June 3rd, 2015.
15. Center for Biomedical Engineering and Science, Charlotte, NC, May 1st, 2015.
16. The 2014 Joint NC State and UNC Charlotte Photochemistry Symposium, Raleigh, NC, October 2014

17. The Joint School of Nanoscience and Nanoengineering North Carolina A&T State University and The University of North Carolina at Greensboro, February 27th, 2014.
18. National Polytechnic Institute of Mexico, Mexico City, August 16, 2013.

Presentations (Contributed)

1. Varsha Godakhindi, Adeola Sorinolu, Mariya Munir, **Juan L. Vivero-Escoto**. “Multifunctional Nanoparticle-Based Inactivation of Antibiotic Resistance Bacteria.” Annual Graduate Research Symposium, Charlotte, NC, United States, March 25th, 2022. (oral)
2. Ridhima Juneja, Hemapriyadarshini Vadarevu, Justin Halman, Mubin Tarannum, Lauren Rackley, Jacob Dobbs, Jose Marquez, Morgan Chandler, Kirill Afonin, **Vivero-Escoto, Juan L.** “Combination of Nucleic Acid and Mesoporous Silica Nanoparticles: Optimization and Therapeutic Performance In Vitro.” XXIX International Materials Research Congress, Cancun, Mexico, August 15th-20th, 2021. (oral)
3. Varsha Godakhindi, Adeola Sorinolu, Mariya Munir and **J.L. Vivero-Escoto** “Multifunctional nanoparticle-based inactivation of antibiotic resistance bacteria.” (3591461) ACS Fall National meeting, Atlanta, GA, August 22th, 2021. (Virtual/poster)
4. Paula Loman-Cortes and **J.L. Vivero-Escoto** “Self-assembly of POSS-porphyrins for photodynamic therapy applications.” LatinXChem 2021 Twitter Conference, September 20th, 2021. (Virtual/poster)
5. P. Siano, Adeola Sorinolu, Mariya Munir and **J.L. Vivero-Escoto** “Synthesis of multifunctional porphyrin-based polyhedral oligomeric silsesquioxane molecules for the selective treatment of antibiotic resistance bacteria.” ACS Spring National meeting, Philadelphia, PA, March 22-26th, 2020. (poster) Cancelled due to COVID-19.
6. P. Siano, **J.L. Vivero-Escoto** “Synthesis and Characterization of Novel Octa Amino Propyl Polyhedral Oligomeric Silsesquioxane-Porphyrin System for Photodynamic Therapy.” NC Photochem, Boone, NC, October 26th, 2019. (poster)
7. A. Johnston, P. Loman-Cortes, P. Siano, **J.L. Vivero-Escoto** “Porphyrin modified polyhedral oligomeric silsesquioxane molecules for the photodynamic therapy of cancer cells.” 71st Southeastern Regional Meeting of the American Chemical Society (SERMACS), Savannah, GA, October 20th-23rd, 2019. (poster)
8. Vadarevu, Hemapriyadarshini; Juneja, Ridhima; Afonin, Kirill and **Vivero-Escoto, Juan L.** “Mesoporous silica nanoparticles as a delivery platform for combined chemo and gene therapy.” XXVIII International Materials Research Congress, Cancun, Mexico, August 18th-23rd, 2019. (oral)
9. Mubin Tarannum, Pinku Mukherjee, **Juan L. Vivero-Escoto**. “Targeted combinatorial drug delivery using mesoporous silica nanoparticles for pancreatic ductal adenocarcinoma therapy.” XXVIII International Materials Research Congress, Cancun, Mexico, August 18th-23rd, 2019. (oral)
10. Mubin Tarannum, Pinku Mukherjee, **Juan L. Vivero-Escoto**. “Targeted combinatorial drug delivery using mesoporous silica nanoparticles for the treatment of pancreatic ductal adenocarcinoma.” Gordon Conference: Cancer Nanotechnology, West Dover, VT, United States, June 23rd-28th, 2019. (poster)
11. Johnston, Alexis; Loman-Cortes, Paula; Siano, Paolo and **Vivero-Escoto, Juan L.** “Investigation of the Internalization of Polyhedral Oligomeric Silsesquioxane (POSS) and the Phototoxicity of POSS-Porphyrin Molecules in Mammalian Cells.” Charlotte Biomedical Science and Engineering Symposium 2017, CBES Annual Retreat & Poster Competition, Charlotte, NC, United States, May 10th, 2019. (poster)

12. Vadarevu, Hemapriyadarshini; Juneja, Ridhima; Afonin, Kirill and **Vivero-Escoto, Juan L.** “Mesoporous silica nanoparticles as a delivery platform for combined chemo and gene therapy.” Charlotte Biomedical Science and Engineering Symposium 2017, CBES Annual Retreat & Poster Competition, Charlotte, NC, United States, May 10th, 2019. (poster)
13. Tarannum, Mubin; Vadarevu, Hemapriyadarshini; Dreau, Didier and **Vivero-Escoto, Juan L.** “Nanoparticle based sequential therapy for improved treatment of triple negative breast cancer.” Charlotte Biomedical Science and Engineering Symposium 2017, CBES Annual Retreat & Poster Competition, Charlotte, NC, United States, May 10th, 2019. (poster)
14. Paolo Siano, **Juan L. Vivero-Escoto.** “Synthesis and Characterization of Novel Octa Amino Propyl Polyhedral Oligomeric Silsesquioxane-Porphyrin System for Photodynamic Therapy.” Undergraduate Research Conference, Charlotte, NC, United States, March 29th, 2019. (poster)
15. Paula Loman-Cortes, **Juan L. Vivero-Escoto.** “Polyhedral oligomeric silsesquioxane (POSS) in porphyrin nanoparticles.” 19th Annual Graduate Research Symposium, Charlotte, NC, United States, March 15th, 2019. (poster)
16. Hemapriyadarshini Vadarevu, **Juan L. Vivero-Escoto.** “Synthesis and application of a delivery platform for combined chemo and gene therapy of breast cancer.” 19th Annual Graduate Research Symposium, Charlotte, NC, United States, March 15th, 2019. (poster)
17. Ridhima Juneja, **Juan L. Vivero-Escoto.** “Hybrid nanomaterials for improving the phototherapeutic treatment against cancer.” São Paulo School of Advanced Science on Modern Topics in Biophotonics, São Carlos/ SP , Brazil, March 20th-29th, 2019. (poster)
18. Ilaiali Souza Leite, **Juan L. Vivero-Escoto**, Zachary Lyles, and Natalia Mayumi Inada “Redox-Responsive Nanoparticles for PpIX-mediated PDT.” São Paulo School of Advanced Science on Modern Topics in Biophotonics, São Carlos/ SP , Brazil, March 20th-29th, 2019. (poster)
19. Mubin Tarannum, **Juan L. Vivero-Escoto.** “Targeted combinatorial drug delivery using silica nanoparticles for pancreatic cancer therapy.” 18th Annual Graduate Research Symposium, Charlotte, NC, United States, April 6th, 2018. (oral)
20. Mubin Tarannum, **Juan L. Vivero-Escoto.** “Targeted combinatorial drug delivery using stimuli-responsive mesoporous silica nanoparticles for pancreatic ductal adenocarcinoma therapy.” Society for Biomaterials’ 2018 Annual Meeting, Atlanta, GA, United States, April 11-14, 2018. (oral)
21. Ridhima Juneja, Lauren Rackley, Kirill Afonin and **Juan L. Vivero-Escoto.** “siRNA gene delivery mediated by mesoporous silica nanoparticles to treat cancer.” Southern Biomedical Engineering Conference (SBEC) 2018, Charlotte, NC, United States, March 9th, 2018. (oral)
22. Mubin Tarannum, **Juan L. Vivero-Escoto.** “Combinatorial drug delivery for the treatment of pancreatic ductal adenocarcinoma using mesoporous silica nanoparticles.” 69th Southeastern Regional Meeting of the American Chemical Society, Charlotte, NC, United States, November 7-11, 2017. (oral)
23. Zachary Lyles, Cayli Mena, **Juan L. Vivero-Escoto.** “Polysilsesquioxane nanoparticles for delivery of protoporphyrin-IX in photodynamic therapy for the treatment of cancer.” 69th Southeastern Regional Meeting of the American Chemical Society, Charlotte, NC, United States, November 7-11, 2017. (oral)
24. Zachary Lyles, Merlis P. Alvarez-Berrios, **Juan L. Vivero-Escoto.** “Combinatorial mesoporous silica nanoparticles for the delivery of a photosensitizer (chlorin e6) and

- chemotherapeutic (cisplatin) in the treatment of triple negative breast cancer.” 69th Southeastern Regional Meeting of the American Chemical Society, Charlotte, NC, United States, November 7-11, 2017. (oral)
25. Ridhima Juneja, Zachary Lyles, **Juan L. Vivero-Escoto**. “Micellar mediated synthesis of Protoporphyrin IX-based polysilsesquioxane nanoparticles and their in vitro performance to improve the photodynamic therapy treatment of cancer cells.” 69th Southeastern Regional Meeting of the American Chemical Society, Charlotte, NC, United States, November 7-11, 2017. (poster)
 26. Ridhima Juneja, Lauren Rackley, Kirill Afonin, **Juan L. Vivero-Escoto**. “Mesoporous silica nanoparticles as efficient delivery vehicle in gene/chemo therapy for treatment of cancer.” 69th Southeastern Regional Meeting of the American Chemical Society, Charlotte, NC, United States, November 7-11, 2017. (oral)
 27. Alexandra N. Hurst, Beth Scarbrough, Jerry M. Troutman, **Juan L. Vivero-Escoto**. “Synthesis of Cationic Photosensitizers for the Photodynamic Inactivation of Escherichia Coli.” 69th Southeastern Regional Meeting of the American Chemical Society, Charlotte, NC, United States, November 7-11, 2017. (poster)
 28. Tarannum, Mubin and **Vivero-Escoto, Juan L.** “Combinatorial drug delivery to pancreatic ductal adenocarcinoma using mesoporous silica nanoparticles.” Gordon Research Conference: Cancer Nanotechnology, West Dover, VT, June 18-23, 2017 (poster)
 29. Tarannum, Mubin and **Vivero-Escoto, Juan L.** “Combinatorial drug delivery to pancreatic ductal adenocarcinoma using mesoporous silica nanoparticles.” Charlotte Biomedical Science and Engineering Symposium 2017, CBES Annual Retreat & Poster Competition, Charlotte, NC, United States, May 5th, 2017. (poster) 1st place
 30. Tarannum, Mubin and **Vivero-Escoto, Juan L.** “Combinatorial drug delivery using porous silica nanoparticles.” 17th Graduate Research Conference, UNC Charlotte, Charlotte, NC, United States, March 27th, 2017. (oral)
 31. Hurst, Alexandra and **Vivero-Escoto, Juan L.** “The synthesis of novel photosensitizers for the photodynamic inactivation of Escherichia coli.” 17th Graduate Research Conference, UNC Charlotte, Charlotte, NC, United States, March 27th, 2017. (oral)
 32. Hurst, Alexandra; **Vivero-Escoto, Juan L.** “Synthesis of cationic photosensitizers for the photodynamic inactivation of Escherichia Coli.” 68th Southeastern Regional Meeting of the American Chemical Society, Columbia, SC, United States, October 23-26, 2016. (poster)
 33. Souza Leite, Ilaiáli; **Vivero-Escoto, Juan L.**, Lyles, Zachary; Bagnato, Vanderlei S.; and Inada, Natalia M. “Protoporphyrin IX silica nanoparticles for PDT: Response of tumor and healthy cells in vitro.” Micro Photonics 2016 Congress, October 11-13, 2016. (oral)
 34. Fink, Eric and **Vivero-Escoto, Juan L.** “Target-specific mesoporous silica nanoparticles for combination therapy of cisplatin and gemcitabine to treat cancer” 16th Graduate Research Conference, UNC Charlotte, Charlotte, NC, United States, April, 2016. (poster)
 35. Hurst, Alexandra and **Vivero-Escoto, Juan L.** “Synthesis of cationic photosensitizers for the photodynamic inactivation of Escherichia Coli.” 16th Graduate Research Conference, UNC Charlotte, Charlotte, NC, United States, April, 2016. (poster) First place
 36. Fink, Eric; Yang, Sebin; and **Vivero-Escoto, Juan L.** “Target-specific stimuli-responsive mesoporous silica nanoparticles for the delivery of cisplatin and gemcitabine to treat cancer.” CBES Annual Retreat & Poster Competition, UNC Charlotte, Charlotte, NC, United States, April 29, 2016. (poster)

37. Hurst, Alexandra and **Vivero-Escoto, Juan L.** “Synthesis of cationic photosensitizers for the photodynamic inactivation of Escherichia Coli.” CBES Annual Retreat & Poster Competition, UNC Charlotte, Charlotte, NC, United States, April 29, 2016. (poster) First place
38. Lyles, Zachary; Loftin, Breyinn; and **Vivero-Escoto, Juan L.** “Folic Acid Functionalized Polysilsesquioxane Nanoparticles for the Delivery of Protoporphyrin IX.” CBES Annual Retreat & Poster Competition, UNC Charlotte, Charlotte, NC, United States, April 29, 2016. (poster) First place
39. Lyles, Zachary; Loftin, Breyinn; **Vivero-Escoto, Juan L.** “Folic-acid functionalized polysilsesquioxane nanoparticles for targeted delivery of protoporphyrin-IX.” 251st ACS National Meeting & Exposition, San Diego, CA, United States, March 13-17, 2016. (oral)
40. Fink, Eric; Yang, Sebin; Alvarez-Berrios, Merlis; **Vivero-Escoto, Juan L.** “Target-specific mesoporous silica nanoparticles for combination therapy of cisplatin and gemcitabine to treat cancer.” 251st ACS National Meeting & Exposition, San Diego, CA, United States, March 13-17, 2016. (poster)
41. Vega, Daniel; Lyles, Zachary and **Vivero-Escoto, Juan L.** “Target-Specific Stimuli-Responsive Protoporphyrin IX Polysilsesquioxane Nanoparticles to Improve Photodynamic Therapy for Cancer Treatment.” Society for Biomaterials Annual Meeting, Charlotte, NC, April 15-18, 2015. (poster)
42. Fink, Eric; Hashemi, Amir; Pan, Jimmy; Alvarez-Berrios, Merlis and **Vivero-Escoto, Juan L.** “Multifunctional Mesoporous Silica Nanoparticles for the Delivery of Cisplatin and Gemcitabine to Treat Cancer.” Society for Biomaterials Annual Meeting, Charlotte, NC, April 15-18, 2015. (poster)
43. Walker, William; **Vivero-Escoto, Juan L.** “Cholera Toxin Subunit B-Modified Mesoporous Silica Nanoparticles as Vehicles for the Improved intracellular Delivery of Proteins.”, Society for Biomaterials Annual Meeting, Charlotte, NC, April 15-18, 2015. (poster)
44. Walker, William; **Vivero-Escoto, Juan L.** “Cholera toxin subunit B-modified mesoporous silica nanoparticles as vehicles for the improved intracellular delivery of proteins.” 249th ACS National Meeting & Exposition, Denver, CO, United States, March 22-26, 2015. (oral)
45. Vega, Daniel and **Vivero-Escoto, Juan L.** “Design, Synthesis and Application of Multifunctional Redox-responsive Porphyrin-based Polysilsesquioxane Nanomaterials for Photodynamic Therapy.”, The 2014 Joint NC State and UNC Charlotte Photochemistry Symposium, Raleigh, NC, October, 2014. (poster)
46. Gibbs, Austin; Elnagheeb, Maram; and **Vivero-Escoto, Juan L.** “Mesoporous silica-based nanomaterials for combination therapy: Chemotherapy and photodynamic therapy for cancer treatment.” The 2014 Joint NC State and UNC Charlotte Photochemistry Symposium, Raleigh, NC, October, 2014. (poster)
47. Walker, William; **Vivero-Escoto, Juan L.** “Cholera Toxin Subunit B-Modified Mesoporous Silica Nanoparticles for improved Gene/Protein Delivery.” Southeastern Regional Meeting of the American Chemical Society (ACS), Nashville, TN, October 2014 (poster)
48. Vega, Daniel; **Vivero-Escoto, Juan L.** “Design, synthesis and application of multifunctional redox-responsive porphyrin-based polysilsesquioxane nanomaterials for photodynamic therapy.”, 247th ACS National Meeting & Exposition, Dallas, TX, United States, March 16-20, 2014. (poster)

49. Hashemi, Amir R.; Geier, Alisa; Pan, Jimmy; **Vivero-Escoto, Juan L.** “Target-specific stimuli-responsive MSN platform for the intracellular delivery of gemcitabine for pancreatic cancer treatment.”, 247th ACS National Meeting & Exposition, Dallas, TX, United States, March 16-20, 2014. (poster)
50. Vega, Daniel and **Vivero-Escoto, Juan L.** “Stimuli-Responsive Porphyrin-Based Hybrid Nanoparticles to Improve Photodynamic Therapy for Cancer Treatment.” The 2013 Joint NC State and UNC Charlotte Photochemistry Symposium, UNC Charlotte, October 26, 2013. (poster)
51. Laura K. Fritts, Daniel Vega, **Juan Vivero-Escoto**, “Polysilsesquioxane Nanoparticles for Efficient Delivery of Photosensitizers for Photodynamic Therapy: Synthesis, Characterization and in vitro Applications.” The 2013 Joint NC State and UNC Charlotte Photochemistry Symposium, UNC Charlotte, October 26, 2013. (poster)
52. Vega, Daniel and **Vivero-Escoto, Juan L.** “Development of redox-responsive silica-based nanoparticles for photodynamic therapy applications.” SERMACS, Atlanta GA, November 13-16, 2013. (poster)
53. Laura K. Fritts, Daniel Vega, **Juan Vivero-Escoto**, “Porphyrin-Based Polysilsesquioxane Nanoparticles to Improve Photodynamic Therapy for Cancer Treatment.” SERMACS, Atlanta GA, November 13-16, 2013. (poster)
54. Amir Hashemi and **Juan Vivero-Escoto**, “Synthesis and Characterization of Stimuli-Responsive Mesoporous Silica Nanoparticles for the Delivery of Gemcitabine.” SNCURCS, Charlotte NC, November 16, 2013. (poster)

Presentations (UNC Chapel Hill and Iowa State University)

1. **Vivero-Escoto, Juan Luis**, and Lin, Wenbin “Multifunctional Mesoporous Silica Nanospheres with Cleavable Gd(III) Chelates as Magnetic Resonance Imaging Contrast Agents: Synthesis, Characterization, Target Specificity, and Renal Clearance”, Gordon Research Conference – Cancer Nanotechnology: From Basic Concepts to Clinical Applications. Colby College Waterville, ME., July 17-22 (2011).
2. **Vivero-Escoto, Juan Luis**, and Lin, Wenbin “Gadolinium-based Polysilsesquioxane Nanoparticles as Efficient MRI Contrast Agents”, Radiology-BRIC Research Symposium, UNC School of Medicine – Department of Radiology, Chapel Hill, N.C., USA, May 27th (2010).
3. **Vivero-Escoto, Juan Luis**; Slowing, Igor, I. I.; Wu, C.-W.; and Lin, Victor S.-Y. “*Photocontrolled Intracellular Release Drug Delivery in Human Cells by Gold Capped Mesoporous Silica Nanospheres*”. 238th ACS National Meeting, Washington, D.C., USA, August 16-20 (2009).
4. **Vivero-Escoto, Juan Luis**; Mortera, R.; Slowing, Igor, I. I., and Lin, Victor S.-Y. “*Cell-Induced Intracellular Controlled Release of Cysteine from Mesoporous Silica Nanosphere-Based Drug Delivery System*”. 238th ACS National Meeting, Washington, D.C., USA, August 16-20 (2009).
5. **Vivero-Escoto, Juan Luis**; Lin, Victor S.-Y. “*Mesoporous Silica Nanoparticle-Based System with Chemically Removable β -Cyclodextrin Caps for Stimuli-Responsive Controlled Release of Drugs*”. 233rd ACS National Meeting, Chicago IL, USA, March 25-29 (2007).
6. **Vivero-Escoto, Juan Luis**, Lin, Victor S.-Y. “*Mesoporous Silica Nanoparticle-Based System with Double Stranded Oligonucleotides Caps for Reversible Controlled Release of Drugs and Genes*”. 232nd ACS National Meeting, San Francisco, CA, USA, Sept 10-14 (2006).

Outreach

1. Summer Undergraduate Research Mentor Charlotte Research Scholars and NSF Nanosure program and High School Research Mentor for the Research Experience for 11th and 12th Grade Students Program (2013-2022) (NC-MSEN Pre-College Program).
2. Conducted workshops on nanotechnology in 2013-2017 as part of “Think Big, Do Nano” outreach program: Hidden Valley Elementary School (2014-2017), UNC Charlotte Science and Technology Expo (April 2014-2017), GEAR Up Camp at UNC Charlotte (July 2014), UNC Charlotte Kid’s Festival (2017) and Discovery Place (July 2014-2017)
3. Chancellor’s Diversity Challenge Fund (2015-2016): 1) We reached 184 children in their 3rd grade from underserved groups at Hidden Valley Elementary school; and 2) Nine UNC Charlotte students participated in the project (5 from the Dhyani chapter and 4 from Dr. Vivero-Escoto’s lab).

Advised and current high school students**• Current**

1. N/A

• Advised

2. Camila Vallejo (Vivero-lab internship program, 2014)
3. Maram Elnagheeb (Vivero-lab internship program, 2014)*
4. Charles Hood (NC-MSEN Pre-College Program, 2013)
5. Jaquan Dozier (NC-MSEN Pre-College Program, 2014)
6. Jared Johnson (NC-MSEN Pre-College Program, 2015)
7. Nithin Ragunathan (NC-MSEN Pre-College Program, 2016)
8. Faheem Diaab (NC-MSEN Pre-College Program, 2017)
9. Brenda Dominguez (NC-MSEN Pre-College Program, 2018)
10. Aarthi Saravanan (NC-MSEN Pre-College Program, 2019)
11. Kailey Spicer (NC-MSEN Pre-College Program, 2021)

*A paper was published with Maram Emnagheeb as a co-author (Nanomaterials (2015), 5, 2302-2316).