

Roxana Coreas, Ph.D.

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EDUCATION

University of California, Riverside

Ph.D. Environmental Toxicology 09/2016-09/2022

Advisor: Dr. Wenwan Zhong, Department of Chemistry

Dissertation: *On Nano-Bio Interactions: Exploration of the Biological Impacts Induced by Nanomaterials and Biocoronas*

Chancellor's Making Excellence Inclusive Certificate 03/2021-06/2021

University Teaching Certificate 09/2020-03/2021

California State University, Northridge

B.S. Environmental Health, Minor in Chemistry 08/2009-06/2015

RESEARCH EXPERIENCE

Postdoctoral Scholar | University of California, Berkeley 10/2022-current
Prof. Markita Landry, Advisor

Graduate Student Researcher | University of California, Riverside 09/2016-09/2022
Prof. Wenwan Zhong, Advisor

Research Assistant | California State University, Northridge 08/2012-06/2015
Prof. Paula Fischhaber, Advisor

PEER-REVIEWED PUBLICATIONS (* denotes equal contribution)

1. M. Mahmoudi, **R. Coreas**, A. Moore, M. Landry. Protein Corona: Progress, Challenges and Opportunities. Manuscript in prep. 2023
2. **R. Coreas**, Z. Li, D. Yan, W. Zhong. Tungsten disulfide nanosheets induce concentration dependent apoptosis in lung epithelial cells. Manuscript in prep. 2023
3. G. M. DeLoid, X. Cao, **R. Coreas**, D. Bitounis, D. Singh, W. Zhong, P. Demokritou. Incineration-generated polyethylene micro-plastics (MNP) increase triglyceride lipolysis and absorption in an *in vitro* small intestinal epithelium model. *Environmental Science and Technology*. 2022, 56, 17, 12288-12297
4. **R. Coreas**, C. Castillo, Z. Li, D. Yan, Z. Gao, J. Chen, D. Bitounis, D. Parviz, M.S. Strano, P. Demokritou, W. Zhong. Biological impacts of reduced graphene oxide affected by protein corona formation. *Chemical Research in Toxicology*. 2022, 35, 1244-1256
5. K. Guo, Z. Li, A. Win, **R. Coreas**, G. B. Adkins, X. Cui, D. Yan, M. Cao, S. E. Wang, W. Zhong. Calibration-free analysis of surface proteins on single extracellular vesicles enabled by DNA nanostructure. *Biosensors and Bioelectronics*. 2021, 192, 113502
6. **R. Coreas**, X. Cao, G. Deloid, P. Demokritou, W. Zhong. Lipid and protein corona of food-grade TiO₂ nanoparticles in simulated gastrointestinal digestion. *NanoImpact*. 2020, 20, 100272

7. G. Adkins, E. Sun, **R. Coreas**, W. Zhong. Asymmetrical flow field flow fractionation coupled to nanoparticle tracking analysis for rapid online characterization of nanomaterials. *Analytical Chemistry*. 2020, 92, 10, 7071-7078
8. Y. Duan, **R. Coreas**, Y. Liu, D. Bitounis, Z. Zhang, D. Parvis, M. Strano, P. Demokritou, W. Zhong. Prediction of protein corona on nanomaterials by machine learning using novel descriptors. *NanoImpact*. 2020, 17, 100207
9. Y. Duan, Y. Liu, **R. Coreas**, W. Zhong. Mapping molecular structure of protein locating on nanoparticles with limited proteolysis. *Analytical Chemistry*. 2019, 91, 4204-4212
10. J. Lee* & **R. Coreas***, W. Zhong. Open-channel separation techniques for the characterization of nanomaterials and their bioconjugates for drug delivery applications. in *Nanotechnology Characterization Tools for Tissue Engineering and Medical Therapy* (Kumar, C, ed). Springer, Berlin, Heidelberg. 2019

SELECTED PLATFORM PRESENTATIONS

1. **R. Coreas**, C. Castillo, W. Zhong. *Leveraging a biological identity on WS₂ nano-sheets for theragnostic therapies*. Platform. University California Chemical Symposium, 2022
2. **R. Coreas**, W. Zhong. *Cellular impacts induced by modulating surfactant concentration and biocorona formation on reduced graphene oxide*. Platform. Society of Toxicology Annual Conference, 2022
3. **R. Coreas**, C. Castillo, W. Zhong. *Biological impacts induced by graphene based nanomaterials in epithelial cells*. Platform. Pacifichem Conference, 2021
4. **R. Coreas**, C. Castillo, W. Zhong. *Cytotoxicity induced by two-dimensional (2-D) engineered nanomaterials (ENMs)*. Platform. Society for the Advancement of Chicanos and Native Americans in Science Conference, 2020
5. **R. Coreas**, W. Zhong. *Screening the lipid corona in digested food grade nanomaterials and the toxicity of 2-D engineered nanomaterials, with and without protein coronas, in epithelial cells*. Platform. Fourth Annual National Institute of Environmental Health Nanotechnology Health Implications Research Consortium Meeting, 2019
6. **R. Coreas**, W. Zhong. *Characterizing lipid coronas with liquid-liquid extractions coupled to LC-MS*. Platform. American Chemical Society National Meeting, 2019

SELECTED POSTER PRESENTATIONS

1. **R. Coreas**, Z. Li, D. Yan, E. Liu, W. Zhong. *The impact of tungsten disulfide nanosheets on mitochondria*. Poster. Mitochondria and Chloroplasts Gordon Research Seminar, 2022
2. **R. Coreas**, C. Castillo, W. Zhong. *Diverse oxidative states of graphene-based nanomaterials and their effects on breast epithelial cells*. Virtual Poster. National Diversity in STEM Conference, 2021
3. **R. Coreas**, C. Castillo, W. Zhong. *Deconstructing the cytotoxicity of two-dimensional (2D) nanomaterials*. Virtual Poster. LatinXChem Twitter Conference, 2020

4. **R. Coreas**, W. Zhong. *Measuring the binding kinetics of nanomaterials with protein coronas via radical species formation*. Poster. Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy, 2019

FELLOWSHIPS, AWARDS, and HONORS

• Earle C. Anthony Graduate Award, UC Riverside	2022
• Watkins Commencement Award, UC Riverside	2022
• Best Student Presentation Award, Pacificchem Conference	2022
• T32 Training in Environmental Toxicology, National Institutes of Health	2021-2022
• Career/Professional Development Award, ACS Bridge Project (About)	2021
• Honorable Mention for Best Presentation, UCR's ENTX Symposium	2021
• DDI Pre-Professoriate Fellowship, University of California (About)	2020-2021
• Diversity Supplement, National Institutes of Health	2018-2020
• T32 Training in Environmental Toxicology, National Institutes of Health	2018
• Water Resources and Policy Initiatives Doctoral Scholarship (About)	2018
• Society of Toxicology Career Development Award (About)	2018
• Dr. Marcela Ramirez Scholarship, UC Riverside	2018
• Cardenas Markets Scholarship, UC Riverside	2017
• Travel Scholarship, MobilizeGreen	2017
• Eugene Cota-Robles Fellowship, UC Riverside	2016-2018
• Segal Education Award, AmeriCorps (About)	2016
• Travel Scholarship, Water Resources & Policy Initiatives	2015

TEACHING EXPERIENCE

Organic Chemistry Lab Instructor UC Riverside	Summer 2018
Intro to Cell & Molecular Biology Lab Instructor UC Riverside	Summer 2018
Dynamic Genome Lab Instructor UC Riverside	Spring 2018
Intro to Cell & Molecular Biology Lab Instructor UC Riverside	Winter 2018
Intro to Cell & Molecular Biology Lab Instructor UC Riverside	Fall 2017
General Chemistry Lab Instructor UC Riverside	Summer 2017

LEADERSHIP & SERVICE

Mind the Gap Graduate Student Mentor UC Riverside	2021-2022
• Mentored third- and fourth-year undergraduate students who are first-generation college students, under-represented minorities in academia, and have an interest in pursuing a doctorate degree in STEM	
Society for the Advancement of Chicanos and Native Americans in Science Graduate Student Mentor UC Riverside	2018-2021
• Re-established national recognition of the SACNAS chapter at UCR	
• Facilitated workshops for under-represented STEM undergraduate students to peak their interest in conducting research and pursuing a doctorate	
GradSuccess Writing Consultant UC Riverside	2017
• Directed one-on-one writing sessions with graduate students to write cohesive and effective academic materials for fellowship applications and journal articles	

Chicano Link Peer Graduate Student Mentor | UC Riverside 2016-2021
• Mentored both first-year Latinx/Chicanx graduate and undergraduate students in STEM fields through a cultural and scientific perspective

Grad-Success Graduate Student Mentor | UC Riverside 2019-2020
• Chaperoned first-year international graduate students towards successful campus integration through supportive networks and on-campus resources

Mentorship for the Enrichment of College/Career Achievement 2016-2018
• Developed science-based presentations and demonstrations for at-risk high school students from migrant farm working families from Coachella Valley

PROFESSIONAL SOCIETY MEMBERSHIPS

Society of Toxicology

American Chemical Society

Society for the Advancement of Chicanos & Native Americans in Science