

# TAMRA LEGRON-RODRIGUEZ PH.D.

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University of Central Florida  
Department of Chemistry  
National Center for Forensic Science

## EDUCATION

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- Ph.D. Materials Chemistry, University of Central Florida 2013
- Dissertation: "Remediation of polychlorinated biphenyl (PCB) contaminated building materials using non-metal and activated metal treatment systems."
  - Chemistry Education Research: Service learning and guided inquiry in the general chemistry labs.
- B.S. Forensic Science, University of Central Florida 2008
- Senior Research: Degradation of TATP with various metal systems
  - Fiber Identification Research

## TEACHING EXPERIENCE

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- University of Central Florida 2015 – Present
- Chemistry Department Associate Chair: Aug 2021 - present
  - Associate Lecturer: Aug 2021 - present
  - Lecturer: Aug 2015 – Aug 2021
  - Joint appointment: National Center for Forensic Science
  - Undergraduate Courses taught:
    - Forensic Analysis of Controlled Substances - lecture and laboratory
    - Trace Evidence - lecture and laboratory
    - Forensic Laboratory Quality Assurance and Professional Practice
      - Quality online course designation,
    - Internship Capstone
      - Quality online course designation, HIP IE course designation
  - Forensic Science B.S. Program Coordinator: Aug 2015 – present.
    - Program planning and assessments, undergraduate advising.
  - Internship Coordinator: Assist students in applying for internships, point of contact for internship agencies during student experience, facilitate capstone course.
- University of South Florida, Visiting Instructor 2014 – 2015
- General Chemistry I - lecture and laboratory
  - Chemistry for Today (multi-section course coordinator)
  - Uses of Chemical Literature
- Rollins College, Visiting Assistant Professor of Chemistry 2013 – 2014
- General Chemistry I and II laboratories
  - Organic Chemistry I and II laboratories
  - Crime Scene Chemistry
- University of Central Florida, Graduate Teaching Assistant 2008 – 2013
- Service-Learning: Engaging STEM – Corner Lake Middle School and Jones High School
  - Organic Laboratory Techniques
  - General Chemistry Laboratory
  - General Chemistry Discussion/Recitation

## PUBLICATIONS

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All publications are refereed/peer reviewed. \*Graduate student authors, ‡ Undergraduate student authors

### Book Chapters

**Legron-Rodriguez, Tamra.** "Chapter 13: Generative Learning Strategies and Pre-lecture Assignments in a Flipped Chemistry Classroom." *Teaching Chemistry with Forensic Science*. ACS Publication, 2019, 233-241.

Fidler, R.; **Legron, Tamra**; Geiger, C. L.; Clausen, C. A.; Sigman, M. E. "Chapter 7: Degradation of TATP, TNT, and RDX." *Environmental Application of Nanoscale and Microscale Mechanically Alloyed Bimetals*. ACS Publication, 2009, 117-134.

### Journal Articles

Scanlon, E; **Legron-Rodriguez, Tamra**; Schreffler, J\*; Ibadlit, E‡; Vasquez, E; Chini, J. J. "Postsecondary chemistry curricula and universal design for learning: Planning for variations in learners' abilities, needs, and interests". *Chemistry Education Research and Practice*. 19 (2018) 1216-1239.

Saitta, E. K.; **Legron-Rodriguez, Tamra**; Bowdon, M. A. "An inquiry into the water around us". *Science*. 341 (2013) 971-972.

Albo, R. L.F.; **Legron, Tamra**; Gittings, M‡.; Elie, M. R.; Holland Saitta, E.; Sigman, M. E.; Geiger, C. L.; Clausen, C. A. Degradation of triacetone triperoxide using mechanically alloyed Mg/Pd. *Propellants, Explosives, Pyrotechnics*. 35 (2) (2009) 100-104.

### Proceedings Papers

Albo, R. L. F.; **Legron, Tamra**; Geiger, C. L.; Clausen, C. A. "Development of a remediation technology for energetic compounds (TNT, RDX, nitrocellulose, and TATP). *Proceedings of 7th International Battelle Conference: Remediation of Chlorinated and Recalcitrant Compounds*. Monterrey, CA. May 24<sup>th</sup>-27<sup>th</sup>, 2010

## PRESENTATIONS

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Presenter's name is underlined. \*Graduate student authors, ‡ Undergraduate student authors

### Oral Presentations

Muller, K‡; Demeter, A‡; Donnelly, J; **Legron-Rodriguez, T**; Investigating Students' Sense of Belonging in General Chemistry Courses with Varied Instructional Styles. *99<sup>th</sup> American Chemical Society Florida Annual Meeting and Exposition*. Innisbrook, FL. June 1<sup>st</sup>-3<sup>rd</sup>, 2023

Bechard, C\*; **Legron-Rodriguez, T**; Lapeyrouse, N. Investigating Changes in Undergraduate Students' Identity Statuses using the PISQ-5D Survey. *National Meeting of the American Chemical Society (ACS)*. Virtual. March 26<sup>th</sup>-30<sup>th</sup>, 2023

Castillo, A‡; Bechard, C\*; **Legron-Rodriguez, T**; Lapeyrouse, N. Exploring potential factors that can impact students' professional identity in STEM. *National Meeting of the American Chemical Society (ACS)*. Virtual. March 26<sup>th</sup>-30<sup>th</sup>, 2023

Lopez-Castilla, C‡; Brackett, M‡; **Legron-Rodriguez, T**; Lapeyrouse, N. Investigation of How Individuals are Represented in College General Chemistry Textbooks. *National Meeting of the American Chemical Society (ACS)*. Indianapolis, IN. March 26<sup>th</sup>-30<sup>th</sup>, 2023

**Legron-Rodriguez, T**; Randles, C. Using the Science Teachers' Assessment Literacy Model as a Framework for Implementing Specifications Grading in a Senior-Level Forensic Laboratory Quality-Assurance and Professional Practices Course. *75<sup>th</sup> American Academy of Forensic Sciences Conference*. Orlando, FL. February 13<sup>th</sup>-18<sup>th</sup>, 2023

Bechard, C\*; **Legron-Rodriguez, T**; Lapeyrouse, N. Student responses to a modified PISQ-5D survey: How undergraduate students in chemistry courses relate to being a future professional in their field. *98<sup>th</sup> American Chemical Society Florida Annual Meeting and Exposition*. Innisbrook, FL. August 4<sup>th</sup>-7<sup>th</sup>, 2022

**Legron-Rodriguez, T**; Donnelly, J. Team-based learning large and small: Implementation across class sizes. *The 27<sup>th</sup> Biennial Conference on Chemical Education*. West Lafayette, IN. July 31st – August 4th, 2022

**Legron-Rodriguez, T**; Randles, C. Implementation of specifications grading in an online forensic science

quality assurance course. *The 27<sup>th</sup> Biennial Conference on Chemical Education*. West Lafayette, IN. July 31st – August 4th, 2022

Bechard, C\*; **Legron-Rodriguez, T**; Lapeyrouse, N. Investigating STEM student responses to the PISQ-5D survey: A mixed methods approach. *The 27<sup>th</sup> Biennial Conference on Chemical Education*. West Lafayette, IN. July 31st – August 4th, 2022

Bechard, C\*; **Legron-Rodriguez, T**; Lapeyrouse, N. STEM Professional Identities: Investigating how students at a Hispanic- serving institute identify. *The 27<sup>th</sup> Biennial Conference on Chemical Education*. West Lafayette, IN. July 31st – August 4th, 2022

Donnelly, J., Lapeyrouse, N., Rex, M., **Legron-Rodriguez, T.**, and Paradiso, J. Adaptation and Adoption of OER in Introductory Chemistry Courses. *AAC&U 2022 Capital PKAL Regional Network Conference*. March 25<sup>th</sup>, 2022

**Legron-Rodriguez, T**; Scanlon, E; Schreffler, J\*; Ibadlit, E‡; Vasquez, E; Chini, J. J. Examining the accessibility of curricular materials for general chemistry using the Universal Design for Learning (UDL) framework. *The 25<sup>th</sup> Biennial Conference on Chemical Education*. South Bend, IN. July 29th – August 2nd, 2018

**Legron-Rodriguez, T.** Pedagogy Mashup: Implementation of Team-Based Learning, a Flipped Approach, and Distributed Practice Strategies in a Forensic Chemistry Course. *The 25<sup>th</sup> Biennial Conference on Chemical Education*. South Bend, IN. July 29th – August 2nd, 2018

**Legron-Rodriguez, T.** Using the Universal Design for Learning framework to design curricula that supports all learners. *94<sup>th</sup> American Chemical Society Florida Annual Meeting and Exposition*. Innisbrook, FL. May 3rd-5th, 2018

**Legron-Rodriguez, T.** Implementation of Team-Based Learning: Pitfalls and Triumphs. *Sunshine State Teaching and Learning Conference*. St. Pete Beach, FL. January 31st – February 2nd, 2018

**Legron-Rodriguez, T.** Improving STEM Education (panel). *Sunshine State Teaching and Learning Conference*. St. Pete Beach, FL. February 15th – 17th, 2017

**Legron-Rodriguez, T**; Clausen, C.; Yestrebky, C. Laboratory studies for the development of and *in situ* remediation technology for polychlorinated biphenyl contaminated concrete. *89<sup>th</sup> American Chemical Society Florida Annual Meeting and Exposition*. Innisbrook, FL. May 9<sup>th</sup>-11<sup>th</sup>, 2013

**Legron-Rodriguez, T**; Saitta, E. K. Starting a WAC project in a chemistry department: A case study. *11<sup>th</sup> International Writing Across the Curriculum Conference*. Savannah, GA. June 7<sup>th</sup>-9<sup>th</sup>, 2012

Zemliansky, P.; Owens, L.; **Legron-Rodriguez, T.** The WAC fellows program: A catalyst for developing writing-related learning outcomes across the disciplines. *UCF Summer Faculty Development Conference*. Orlando, FL. May 1<sup>st</sup>-4<sup>th</sup>, 2012

Saitta, E. K.; **Legron-Rodriguez, T**; Bowdon, M. A. Synchronous communication in service-learning: A comparison of the technologies used to aid in university/K-12 partnerships. *67<sup>th</sup> Southwest Regional Meeting of the American Chemical Society (ACS)*. Austin, TX. November 8<sup>th</sup>-12<sup>th</sup>, 2011

**Legron-Rodriguez, T**; Saitta, E. K.; Bowdon, M. A. Developing student attributes through guided inquiry and service-learning in the freshman chemistry laboratory. *67<sup>th</sup> Southwest Regional Meeting of the American Chemical Society (ACS)*. Austin, TX. November 9<sup>th</sup>-12<sup>th</sup>, 2011

Albo, R. L. F.; **Legron, T**; Geiger, C. L.; Clausen, C. A. Development of a remediation technology for energetic compounds (TNT, RDX, nitrocellulose, and TATP). *7<sup>th</sup> International Battelle Conference: Remediation of Chlorinated and Recalcitrant Compounds*. Monterrey, CA. May 24<sup>th</sup>-27<sup>th</sup>, 2010

Albo, R. L. F.; **Legron, T**; Geiger, C. L.; Clausen, C. A. Reductive metal systems for the degradation of energetic materials. *Florida Society of Environmental Analysts (FSEA) Semi-Annual Meeting*. Palm Beach, FL. October 28<sup>th</sup>-30<sup>th</sup>, 2009

## Poster Presentations

Harris, C†; **Legron-Rodriguez, T**. From Capstone to Overpass: The Bridge Between Research in Theory and Research in Practice. *2023 High Impact Practice Student Showcase*. April 19, 2023

Bechard, C\*; **Legron-Rodriguez, T**; Lapeyrouse, N. Investigating Changes in Undergraduate Students' Identity Statuses using the PISQ-5D Survey. *National Meeting of the American Chemical Society (ACS Sci-Mix)*. Virtual. March 26<sup>th</sup>-30<sup>th</sup>, 2023

Castillo, A†; Bechard, C\*; **Legron-Rodriguez, T**; Lapeyrouse, N. Exploring potential factors that can impact students' professional identity in STEM. *National Meeting of the American Chemical Society (ACS Sci-Mix)*. Virtual. March 26<sup>th</sup>-30<sup>th</sup>, 2023

Lopez-Castilla, C†; Brackett, M†; **Legron-Rodriguez, T**; Lapeyrouse, N. Investigation of How Individuals are Represented in College General Chemistry Textbooks. *National Meeting of the American Chemical Society (ACS Sci-Mix)*. Indianapolis, IN. March 26<sup>th</sup>-30<sup>th</sup>, 2023

Bechard, C\*; **Legron-Rodriguez, T**; Lapeyrouse, N. Examining how Undergraduate Students' Identity Status may Change in a Semester using the PISQ-5D Questionnaire. *2023 UCF Student Scholar Symposium*. March 27<sup>th</sup>– 28<sup>th</sup>, 2023.

Castillo, A†; Bechard, C\*; **Legron-Rodriguez, T**; Lapeyrouse, N. Exploring Potential Factors That Can Impact Students' Professional Identity in Forensic Science. *2023 UCF Student Scholar Symposium*. March 27<sup>th</sup>– 28<sup>th</sup>, 2023.

Guillen, G†; **Legron-Rodriguez, T**. Investigating Student Perceptions of Flipped Classrooms in Chemistry. *2023 UCF Student Scholar Symposium*. March 27<sup>th</sup>– 28<sup>th</sup>, 2023.

Kooner, S†; **Legron-Rodriguez, T**; Donnelly, J. Analysis of an Application of the Electronic Notebook in Higher Educational Settings. *2023 UCF Student Scholar Symposium*. March 27<sup>th</sup>– 28<sup>th</sup>, 2023.

Muller, K†; **Legron-Rodriguez, T**. Exploring Student Sense of Belonging in Chemistry Courses. *2023 UCF Student Scholar Symposium*. March 27<sup>th</sup>– 28<sup>th</sup>, 2023.

Castillo, A†; Bechard, C\*; **Legron-Rodriguez, T**; Lapeyrouse, N. Exploring Potential Factors That Can Impact Students' Professional Identity in Forensic Science. *75<sup>th</sup> American Academy of Forensic Sciences Conference*. Orlando, FL. February 13<sup>th</sup>-18<sup>th</sup>, 2023

**Legron-Rodriguez, T**. Putting Forensic Standards into Practice: From Guided Investigations to Project Creation and Evaluation. *AAC&U 2022 Ohio PKAL Fall Regional Conference*. Virtual. October 29<sup>th</sup>, 2022

Bechard, C\*; Castillo, A†; **Legron-Rodriguez, T**; Lapeyrouse, N. Professional STEM Identity: Exploring how students identify within their profession and factors that impact it. *73<sup>rd</sup> Southeast Regional Meeting of the American Chemical Society*. San Juan, PR. October 19<sup>th</sup>-22<sup>nd</sup>, 2022

Bechard, C\*; **Legron-Rodriguez, T**; and Lapeyrouse, N. Investigating STEM Student Responses to the PISQ-5D Survey: A Mixed Methods Approach. *2022 UCF Student Scholar Symposium*. March 30<sup>th</sup>– 31<sup>st</sup>, 2022

**Legron-Rodriguez, T**. Development and Implementation of Senior Capstone ePortfolios. *Florida Online Innovation Summit*. Virtual. February 23<sup>rd</sup> – 24<sup>th</sup>, 2022

**Legron-Rodriguez, T**; Yestrebky, C. Development of an *in situ* remediation technology for PCB contaminated concrete. *10<sup>th</sup> Graduate Research Forum*. Orlando, FL. April 2<sup>nd</sup>, 2013

**Legron-Rodriguez, T**; Gerszuny, A†.; Yestrebky, C. Development of *in situ* degradation technologies for chlordane residues. *49<sup>th</sup> Annual Florida Pesticide Residue Workshop*. St. Pete Beach, FL. July 15<sup>th</sup>-18<sup>th</sup>, 2012

Gerszuny, A†; **Legron-Rodriguez, T**; Yestrebky, C. Degradation of Chlordane Using Magnesium and Acidified Alcohol. *UCF Showcase of Undergraduate Research Excellence*. Orlando, FL. April 5<sup>th</sup>, 2012

## Symposium Organization

**Legron-Rodriguez, T**; Lapeyrouse, N. Inclusive practices for unrepresented groups in STEM, *Biennial Conference on Chemical Education*, July 31<sup>st</sup>-August 4<sup>th</sup>, 2022

### Workshop Organization

**Legron-Rodriguez, T;** Donnelly, J; Sugar A. Applying Universal Design for Learning to a Team-Based Learning Course. *UCF Summer Faculty Development Conference*. Orlando, FL. May 8<sup>th</sup>-10<sup>th</sup>, 2023

**Legron-Rodriguez, T;** Donnelly, J. Leveraging the Intersectionality of Universal Design for Learning and Team-Based Learning. *Team-Based Learning Collaborative Conference*. Orlando, FL. March 11<sup>th</sup>-14<sup>th</sup>, 2023

### AWARDS AND HONORS

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2022 UCF AIM High Recognition	Feb 2022, Feb 2023
Excellence in Undergraduate Teaching	Jan 2021
Chemistry Department Professional Development Award	Dec 2020
<i>Science Magazine</i> Prize for Inquiry-Based Instruction (co-winner)	Aug 2013
UCF College of Science Graduate Teaching Assistant of the Year, Honorable Mention	Spring 2012
UCF Writing Across the Curriculum Fellow	Spring 2012
UCF Faculty Center for Teaching and Learning Research Fellow	Fall 2011
UCF Chemistry Department Teaching Assistant of the Year	April 2011