

# STEPHANIE CASTILLO

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## EDUCATION

*Doctor of Philosophy, Science Communication* Expected 2021  
Vanderbilt University, Nashville, TN

*Master of Science, Chemistry* Aug 2017  
Vanderbilt University, Nashville, TN

*Bachelor of Science, Chemistry* May 2015  
University of Central Florida, Orlando, FL

## RESEARCH EXPERIENCE

*CSET Graduate Student, Ph.D., 2019–Present*  
Department of , Vanderbilt University, Nashville, TN

- Established an interdisciplinary PhD committee to develop dissertation thesis and program centered around digital humanities and science communication
- Produced eight educational and engaging science videos for high school and undergraduate STEM students
- Designed a workflow on how to produce effective science documentaries for a high school audience using a storytelling framework for educators

*Graduate Student, M.S., 2015–2019*  
Department of Chemistry, Vanderbilt University, Nashville, TN

- Modified the synthesis of transition metal phosphide and sulfide nanoparticles using Schlenk line techniques to increase stability of the nanoparticles for heterogeneous catalytic applications
- Characterized nanoparticles with transmission electron microscopy, X-ray powder diffraction, selective area electron diffraction, and energy dispersive spectroscopy
- Improved the production of biodegradable plastics by synthesizing new molecules utilizing mechanical energy to induce chemical reactions
- Synthesized inorganic molecules using Schlenk line and glovebox techniques, and verified results with proton nuclear magnetic resonance spectroscopy

## TEACHING EXPERIENCE

*Outreach Coordinator, High School Field Trip Program* Fall 2019, Spring 2020  
Vanderbilt Institute of Nanoscience and Engineering, Vanderbilt University, Nashville, TN

- Trained 20 graduate students how to engage, lead, and teach high school students basic science concepts
- Organized two teams of 10 graduate students and coordinated their itinerary and oversaw their schedule day of
- Taught roughly 400 high school students how to build a solar cell and introduced them to nanoscience and engineering

*Teaching Fellow, General Chemistry, General Chemistry Lab, Organic Chemistry Lab* 2015–2019  
Department of Chemistry, Vanderbilt University, Nashville, TN

- Led six discussion sessions for general chemistry for a total of 150 students each semester
- Clarified complex lecture topics by guiding students through challenge problems and discussions, and tested their understanding with quizzes
- Managed two laboratories per semester of 25 students each that put general and organic chemistry lectures into practice
- Ensured students were practicing lab techniques safely and helped students develop their scientific writing skills

*Teaching Certificate Program, Center for Teaching and Learning, Vanderbilt University* 2015–2016  
• Year long program where I put pedagogy theory into practice, established my teaching statement, and earned my certificate in college teaching

## PUBLICATIONS

1. **Castillo, S.**; Calvitti, K.; Shoup, J.; Rice, M.; Lubbock, H.; Oliver, K. H. "Production Processes for Creating Educational Videos," *CBE—Life Sciences Education*, **2021**, 20:2, pp 1–12 doi: <https://doi.org/10.1187/cbe.20-06-0120>
2. **Castillo, S.**; Chemnasiri, W.; Donnelly, J.; Hernandez, F. E. *J. Nano Educ.*, **2016**, 8(13), pp 1–13. doi: <https://doi.org/10.1166/jne.2016.1098>

3. Turo, M. J.; Shen, X. Brandon, N. K.; **Castillo, S.**; Fall, A. M.; Pantelides, T.; Macdonald, J. E. *Chem. Comm.*, **2016**, 52(82), pp 12214–7. doi: <https://doi.org/10.1039/c6cc05951a>

### SELECTED PROFESSIONAL DEVELOPMENT

- AAAS Mass Media Fellow*, Las Vegas, NV 2020
- Interview experts and scientists on topics related to local science and the environmental news
  - Wrote, edited, and published 9 stories for the newsroom, with three stories making front cover on newspaper
  - Filmed and produced three videos complementary to three larger stories published
  - Produced an animated science explainer that garnered 25,000 views
  - CLIPS: <https://www.reviewjournal.com/staff/stephanie-castillo/>
- STEM Succes Summit*, Raleigh, NC 2020
- Organized a three-day virtual conference for undergraduate, graduate, and early career science professionals who are underrepresented in STEM
  - Created pitch deck for potential funders; managed all mass communications for the event
  - Hosted 20 speakers from academia, industry, non-profit, and wellness backgrounds; 3,000 attendees from 14 different time zones
- ComSciCon-Southeast*, University of Georgia, Athens, GA 2020
- Chaired the third annual ComSciCon-Southeast workshop, a two-day workshop for graduate students to explore science communication.
  - Raised a total of \$20,000 in funding from local universities and managed the budget to cover the cost of food, supplies, training, and speaker fees
  - invited and coordinated 15 panelists and 50 selected attendees (reviewed over 115 applicants) from the Southeast
- Jackson Wild Media Lab*, Jackson Hole, WY 2019
- One of 17 students selected from an application pool of 700
  - Trained in a science filmmaking workshop over a period of 10 days by leaders in the science documentary and wildlife production field
  - Interviewed, transcribed, scripted, filmed, edited, and produced a short form documentary for the Grand Teton National Park in the span of six days
  - Collaborated with science communicators, filmmakers, and photographers to produce short documentary
  - Showcased the produced documentary during the 2019 Jackson Wild Summit
- Vanderbilt Summer Academy*, Program for Talented Youth, Peabody School, Vanderbilt University 2019
- Mentored 15 high school students during a two-week summer camp in material science
  - guided students through two intensive assignments where students created a presentation describing the science of an interesting research paper and pitch their science company to potential investors.
  - Taught students the importance of material science research by touring eight different research labs funded by VINSE
  - Cultivated an environment for learning by being engaging and demonstrating trustworthiness to the students
- ComSciCon-Atlanta*, Emory University, Atlanta 2019
- Coordinated the second annual ComSciCon-Atlanta workshop, a two-day workshop for graduate students to explore science communication.
  - Raised a total of \$22,250 in funding from local universities and companies, invited and coordinated 30 speakers and panelists, accepted 50 attendees from the Southeast (reviewed from > 125 applicants).
  - Managed Social Media presence and website
  - Obtained additional funding of \$2,700 for Vanderbilt attendees to cover travel and housing
- PreLaunch and Post launch*, Wond'ry Entrepreneur Program, Vanderbilt University 2018–2019
- One of twenty students selected to develop mission and value proposition for Phuture Doctors
  - Awarded a \$2,900 micro-grant to continue customer discovery and fund science communication training
- ComSciCon-Atlanta*, Georgia Tech University, Atlanta 2018

- One of fifty students accepted in the highly competitive workshop for graduate students interested in communicating complex and technical science outside of practitioners in the field. Developed my science communication skills in both writing and creating an elevator pitch of my research.

*Vanderbilt Institute for Digital Learning Fellow, Vanderbilt University* 2017–2019

- Created two educational science YouTube videos for *Phuture Doctors* that highlights the diversity of scientists in STEM

*VINSE High School Field Trip VINSE k-12 Outreach program, Vanderbilt University* 2017–2019

- Led over 10 field trips each with 20 students from underserved high schools located in metro and middle TN
- Taught students the importance of alternative energy and how to make environmentally friendly solar cells in a chemistry lab

### SELECTED FELLOWSHIPS & AWARDS

- *Fellow, AAAS Mass Media Fellowship, Washington, DC* 2021  
\$7,000 stipend to be a science reporter for the Las Vegas Review-Journal for the summer
- *Fellow, Emerging Producer Bursary Fellow,* 2020  
Attend, network, and pitch digital series at the World Congress of Science and Factual Producers
- *Semi-Finalist, National EO Global Student Entrepreneur Award, Redwood, CA* 2020  
Pitched *Phuture Doctors* to eight investors at Silicon Valley
- *Second Place, Vanderbilt Entrepreneurship Student Pitch Competition, Nashville, TN* 2020  
\$1,500 award for local pitch competition hosted by the Center for Entrepreneur
- *First Place, EO Global Student Entrepreneur Awards, Nashville, TN* 2019  
\$3,500 award for regional pitch competition hosted at the Nashville Entrepreneur Center
- *First Place, Materials Research Society's Science in Video Competition, Boston, MA* 2019  
\$1,000 First Place prize for video titled "Little Silicon is a Big Deal"  
Produced 2-minute video featuring the Vanderbilt Institute of Nanoscale Science and Engineering
- *First Place, Materials Research Society's Science in Video Competition, Boston, MA* 2019  
\$1,000 First Place prize for video titled "Little Silicon is a Big Deal"  
Produced 2-minute video featuring the Vanderbilt Institute of Nanoscale Science and Engineering
- *Awardee, Wond'ry Entrepreneur Program, Vanderbilt University* 2018  
Pitch my business model for *Phuture Doctos* and awarded a \$2900 micro-grant to continue customer discovery
- *Fellow, Vanderbilt Institute for Digital Learning Fellowship, Vanderbilt University* 2018–2019  
\$5,500 fellow to create educational science videos in collaboration with middle and high school teachers
- *Fellow, Humanities Arts Science and Technology Alliance and Collaboratory Scholars,* 2017–2019  
\$600 towards the launch of *Phuture Doctors* under the mentorship of the Vanderbilt Institute for Digital Learning, Vanderbilt University
- *Fellow, Graduate Assistance in Areas of National Need Fellowship, Vanderbilt University* 2015–2016  
Awarded certificate in College Teaching from Vanderbilt's Center for Teaching and Learning

### PRESENTATIONS & INVITED TALKS

<i>Keynote</i>	2020 Conference for Undergraduate Women in Physical Sciences	October, 2021 *tentative
<i>Workshop</i>	2020 Reclaiming STEM, Virtual	September 12, 2020
<i>Panelist</i>	Women of Color Mental Health Summit 2020, Virtual	May 30, 2020
<i>Poster</i>	Day of Wond'ry celebration, Virtual	May 22, 2020
<i>Panelist</i>	Community and Network Building Panel, Graduate School Success Summit, Virtual	May 2, 2020
<i>Panelist</i>	Science Communication in Film Panel, SACNAS 2019, Honolulu, HI	November 2, 2019
<i>Keynote</i>	2019 Wonder Women in STEM, Virtual Workshop	November 2, 2019
<i>Poster</i>	HASTAC 2019, UBC Vancouver, Canada	May 17, 2019
<i>Poster</i>	Science Talk 2019, Portland, Oregon	April 5, 2019
<i>Poster</i>	Showcase of Undergraduate Research Excellence, University of Central Florida	April 2, 2015
<i>Oral</i>	Chemistry Department Senior Seminar, University of Central Florida	December 19, 2014
<i>Poster</i>	Annual Biomedical Research Conference for Minority Students, San Antonio, TX	November 12–15, 2014
<i>Poster</i>	South Eastern Regional Meeting of the American Chemical Society, Memphis, TN	October 16–19, 2014
<i>Poster</i>	Vanderbilt Summer Science Academy Showcase, Vanderbilt University	July 31, 2014
<i>Oral</i>	The Leadership Alliance National Symposium, Stamford, CT	July 25–27, 2014
<i>Poster</i>	The I <sup>3</sup> Project and NSF Presents: The STEAM Exhibit, University of Central Florida	March 27, 2014
<i>Poster</i>	SACNAS Conference, San Antonio, TX	October 3–6, 2013
<i>Poster</i>	The SMART Program Symposium, University of Colorado—Boulder	August 1, 2013

Oral The Leadership Alliance National Symposium, Stamford, CT  
Poster Showcase of Undergraduate Research Excellence, University of Central Florida

July 26–28, 2013  
April 4, 2013

### **MEMBERSHIPS**

- American Association for the Advancement of Science
- American Chemical Society
- The Leadership Alliance Alumni
- Society for Advancement of Chicanos/Hispanics and Native Americans in Science

### **SKILLS**

*Science Communication:* Proficient in Digital Storytelling, Producing Science Videos, Interviewing Subject Matter Experts, Organizing Conferences, Social Media Marketing, Technical Science Writing, Developing Social Media Campaigns, Branding, Establishing Online Presence, Building Online Communities, Communicating Science Online & In-person, and Teaching & Communicating Science to K-Adults.

*Computational:* Proficient in Excel, Powerpoint, Word, LaTeX, and Adobe Photoshop, Premiere Pro, After Effects, Lightroom, Audition, and Illustrator.

*Lab Techniques:* Nanoparticle Synthesis, Synthetic Chemistry, Schlenk line techniques, Glovebox techniques and maintenance, Fluorescence Spectroscopy, Ultraviolet-Visible Spectroscopy, Nuclear Magnetic Resonance Spectroscopy, Transmission Electron Microscopy, Selective Area Electron Diffraction, Energy Dispersive Spectroscopy, Fourier-transform Infrared Spectroscopy, X-ray Powder Diffraction, and Mechanochemistry.