

## Cecilia Espinoza

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### Education

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2012-2017	Doctoral degree in education, major youth development & agricultural education (YDAE), area life science education (LSESA), Purdue University, USA.
2010-2012	Master's degree in science, area life science education, Fulbright Commission, Purdue University, USA.
2006	Biochemist (B.S. in biochemistry), P. Catholic University (PUC), Chile.
2003	Agronomist (B.S. in agriculture and natural resources), PUC, Chile.

### Academic and Work Experience

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2016	Teaching instructor of plant science, laboratory section, Purdue University, USA.
2013-2015	Graduate researcher, enhancing science and mathematics learning through agricultural concepts, Department of Youth Development & Ag. Education, Purdue University, USA.
2007	Teaching instructor of biochemistry, Professional Institute of Chile, Chile.
2006-2007	Teaching assistant, chemistry laboratory, Department of Chemistry, PUC, Chile.
2006	Student researcher, biochemistry laboratory, Biosonda S.A., Chile.
2001-2006	Agronomist technician in post-harvest fruit quality processes & administrative research. Summer internship, Product Quality Assurance Company (PQA), Chile.

### Research Projects & Grants

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2017	Doctoral dissertation in science and technology education. Dissertation title: Learning Electron Transport Chain Process in Photosynthesis Using Video and Serious Game (publication in progress).
2016	Graduate Student Organization Grant Allocation (GSOGA) grant for the DBER-GS (Discipline Based Education Research Graduate Students) organization, Purdue University.
2016	Student Grant Program for Service Learning Project, Purdue University. Title: Learning about Photosynthesis through Experimentation-Determination of Carbohydrates in a Leaf.
2015	Discovery and Learning (DEAL) grant for the DBER community at Purdue University (not awarded).
2013-2015	Graduate researcher. Grant title: Enhancing Science Capacity in Introductory Animal, Plant, and Food Sciences Courses. USDA NIFA Higher Education Challenge Grant (2010-14). Retrieved from: <a href="http://www.ydae.purdue.edu/esc/plant/login.cfm">http://www.ydae.purdue.edu/esc/plant/login.cfm</a>
2012	Research master's thesis in qualitative social science. Thesis title: Chilean Elementary Teachers' Beliefs about Using Agricultural Concepts to Enhance Life Sciences and Mathematics Learning (published).
2011	Student Grant Program for Service Learning Project, Purdue University. Project Title: How Similar is a Potato to a Stem? Identifying what Part of the Plant you Eat in your Dinner.
2011	Student Grant Program for Community Service, Purdue University. Project title: Increasing Eighth Grade Students' Knowledge of Agriculture through place-based learning at Fair Oaks Dairy Farm.
2007	Research thesis in life science. Thesis title: Biochemistry and Immunogenic Characterization of Hemocyanin of three Limpet Species of Fissurellidae Family: <i>F. latimarginata</i> , <i>F. cumingi</i> y <i>F. maxima</i> , Biosonda, Chile (published).
2003	Research thesis in agricultural sciences: Effect of the Modified and Controlled Atmosphere, Alone or Combined, over the Kiwi Fruits Firmness, <i>Actinidia deliciosa</i> , post-harvest laboratory, PUC, Chile.

### Fellowships & Honors

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- YDAE diamond award, peer recognition for excellence, Purdue University, USA, 2015.
- Becas Chile, scholarship for doctoral program, Commission for Scientific & Tech. Research (CONICYT), 2012-2016.
- Ross fellowship, scholarship for master's degree, Purdue University, USA, 2010-2011.
- Fulbright fellowship, scholarship for master's degree, Fulbright Commission, USA, 2010-2012.
- PUC fellowship, scholarship for bachelor's degree program, Chile, 2003.

### Publications & Conference Presentations

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- Espinoza, C.** (2017). A Graduate Service-Learning Experience: Teaching about Photosynthesis to Eighth Grade Science Students. *Purdue Journal of Service-Learning and Engagement*, 4, 55–58. <https://doi.org/10.5703/1288284316530>
- Orvis, K.S., **Espinoza, C.** (2017). Concept Maps to Address Misconceptions in Introductory Science Courses, presented at the North American Colleges and Teachers of Agriculture (NACTA) Conference, West Lafayette, 2017. NACTA Publishing.
- El Debs L., Brophy S.P., **Espinoza C.** (2017). Identifying Student Communication Strategies Involving Spatial Information, the Institute of Electrical Engineers (IEEE) Frontiers in Education Conference (FIE), Indianapolis, 2017.
- Espinoza C.**, Orvis K.S., Ramírez, J. (2017). Chilean Elementary Teachers' Beliefs about Using Agricultural Concepts to Enhance Life Sciences and Mathematics Learning. *Pensamiento Educativo. Revista Ed. Latinoamericana*, 54(1), 1-20.
- Espinoza C.**, Brophy S.P., Orvis K.S. (2016). Eighth Grade Students' Inputs of a Video and an Serious Game to Learn about the Electron Transport Chain Process in Photosynthesis in a Science Class at a Local Public School (not accepted).
- Arancibia S., **Espinoza C.**, Del Campo M., Becker M.I. (2014). A Novel Hemocyanin from *Fissurella latimarginata* Promotes Anti-Tumor Activity in Melanoma. *PLoS ONE* 9(1): e87240. doi:10.1371/journal.pone.0087240.
- Arancibia, S., **Espinoza, C.**, Del Campo, M., Salazar, F. & Becker, M.I. (2010). Exceptional Immunological and Anticancer Properties of a New Hemocyanin from *F. Latimarginata* (FLH). *Journal of Immunotherapy*, 33(8), 891-891.

### Certificates

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- Grad. Instructional Development Certificate (GIDC) for Teaching, Center for Instructional Excellence, Purdue, 2017.
- Family Educational Rights and Privacy Act (FERPA) Certificate, U.S. Department of Education, 2016-2018.

- Communicating Science: Fundamentals for Public Engagement, Career Development Center, American Association for the Advancement of Science (AAAS), 2016.
- Avoiding Common Errors in Proposal Writing Career Development Center, AAAS, 2016.
- Teaching Strategies to Enhance Scientific Thinking Skills in Middle School Students, PUC, Chile, 2015.
- Social and Behavioral Responsible Conduct of Research, Collaborative Institutional Training Initiative (CITI) program, Miami University, 2012-present.
- Social Behavioral Research Investigators and Key Personal, CITI program, Miami University, 2012-present.
- English Proficiency Program, Center for English Teaching (CET), The University of Sydney, Australia, 2008.

#### **Posters Presentations**

- **Espinoza, C.**, Orvis, K.S. Assessing College Students' Misconceptions of Photosynthesis and Respiration in a Plant Science Course. National Association for Research in Science Teaching (NARST). Baltimore, USA. April 14-17, 2016.
- **Espinoza, C.**, Blocher, A. Teaching about Photosynthesis: A Graduate Student Service-Learning Experience with Eighth Grade Students in a Science Class. Engagement and Service Learning Summit at Purdue U. March 10, 2016.
- **Espinoza C.**, Xu S, Orvis K.S, Knobloch N.A, Welsh, M. Plants get sick too! Learning about Food Safety in the Classroom. Fulbright Association 38<sup>th</sup> Annual Conference. Atlanta, USA. November 12-15, 2015.
- Orvis K.S., **Espinoza C.** Evaluating Plant Science Concepts in an Introductory Horticulture Course Using Conceptual Maps as Assessment Tools. American Society for Hort. Science Conference. Hawaii, USA. July 27-31, 2014.
- **Espinoza C.**, Knobloch N.A., Orvis K.S., Keefe L.M., Chang S, Hains B. A Pilot Study of College Students' Experiences with an Educational Game to Learn Difficult Plant Science Concepts. International Conference on Improving University Teaching (IUT). Santiago, Chile. July 17-19, 2013.
- **Espinoza C.**, Orvis K.S, Knobloch N.A. Exploring Chilean Elementary Teachers' Beliefs Regarding Agriculture as an Educational Context to Enhance Student Learning in Natural Sciences. The Association for International Agricultural and Extension Education (AIAEE). Texas, USA. May 19-22, 2013.
- Becker MI, Arancibia S, **Espinoza C**, Salazar F, Del Campo M, Born R, Ferreira J, Manubens A, De Ioannes A. Novel hemocyanin from the *Fissurella latimarginata* exhibits an outstanding immunogenicity and non-specific immunomodulatory effects in a melanoma model. J Immunol. 188: 53.6 (Abstract). Boston, USA. May 4-8, 2012.
- **Espinoza C.**, Knobloch N.A. Connecting 8<sup>th</sup> Grade Students to a Dairy Farm Experience. Purdue Annual Graduate Student Educational Research Symposium (AGSERS). Indiana, USA. March 27, 2012.
- Arancibia S., **Espinoza C.**, Del Campo M., Salazar F., Manubens A., De Ioannes A., Becker M.I. *Fissurella latimarginata* hemocyanin exhibits outstanding adjuvant properties for potential use in therapeutic vaccines against cancer. 9th Annual Meeting Cancer Immunotherapy. Mainz, Germany. May 25-27, 2011.
- Arancibia S., **Espinoza C.**, Del Campo M., Becker M.I. Exceptional immunologic and anticancer properties of a new hemocyanin from *Fissurella latimarginata* (FLH). 25th Annual Meeting International Society of Biological Therapy of Cancer. Washington, USA. October 1-4, 2010.
- Arancibia S., **Espinoza C.**, Becker M.I. *Fissurella latimarginata* hemocyanins a novel non-specific immunostimulant and antitumor agent. XXIV Annual Meeting of Cellular Biology Society of Chile. Pucón, Chile. November 1-5, 2010.
- **Espinoza C.**, De Ioannes A.E., Becker M.I. Biochemistry Characterization of Hemocyanin of three limpet species of *Fissurellidae* family. Biochemistry and Molecular Biology Society of Chile. Chile. November 22-25, 2006.
- Becker M.I., Moltedo B., Oliva H., Lagos L., **Espinoza C.**, Manubens A., De Ioannes A. Hemocyanins from *C. concholepas* (CCH) and *M. crenulata* (KLH), which broadly differ in their origin and subunit organization, display similar immunomodulatory properties. 16<sup>th</sup> European Congress of Immunology. Paris, France. September 6-9, 2006.

#### **Attendance to Workshops & Conferences**

- Fourth Interdisciplinary Congress for Research in Education, Chilean Association of Researchers in Education (AChiE). Chile, August 2017.
- National Association for Research in Science Teaching (NARST). USA, April 2015-2016.
- American Educational Research Association (AERA). USA, April 2015.
- International Conference on Improving University Teaching (IUT). Chile, July 2013.
- Teaching Through Inquiry Using the Chilean Natural Sciences Curriculum for K-12, PUC. Chile, January 2015.
- Youth, Culture and Education in Chile and Spain, Center for Studies, Ministry of Education. Chile, March 2013.

#### **Professional Development Activities at Purdue University**

- Teaching assistant in the GK-12 Educational Program at Lafayette Tecumseh Junior High School, 2016.
- Treasurer of the Discipline-Based Educational Research Graduate Student Organization (DBER-GS), 2015-2016.
- Teaching volunteer at the Lafayette Adult Resource Academy (LARA), Lafayette, IN, 2015.
- Secretary of the Graduate Women Student Organization of the College of Agriculture (WCOA), 2015.
- Mentor at YDAE, College of Agriculture, 2014.
- International advisory mentor of the Graduate Student Recruitment Service in the Grad. School, 2011-2014
- Senator of the Purdue Graduate Student Government (PGSG), 2011-2013.
- Participant of International Programs in Agriculture (IPIA)'s Latin America Initiative series, College of Ag., 2011.
- Annual Next Generation Scholars Research Fair Expositor, 2010-2013.

#### **Association**

National Association for Research in Science Teaching (NARST).  
 American Educational Research Association (AERA).  
 The American Association for the Advancement of Science (AAAS).