

# AREIDY BELTRAN-PEÑA

## PhD Candidate

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### EDUCATION

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2018 – Present	<b>UNIVERSITY OF CALIFORNIA BERKELEY</b> <i>Ph.D. Environmental Science Policy and Management</i> <ul style="list-style-type: none"><li>• Focus on Water-Energy-Food Nexus, Hydrology, Climate Modelling, and Data Science.</li><li>• <i>Designated Emphasis</i> in Development Engineering</li></ul>	Berkeley, CA
2016 – 2017	<i>Masters in Earth and Planetary Science</i>	
2010 – 2015	<i>Bachelor in Environmental Earth Science</i> <ul style="list-style-type: none"><li>• Minor in Global Poverty and Practice</li></ul>	

### PROFESSIONAL EXPERIENCE

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Feb 2018- August 2018	<b>ENVIRONMENTAL RESOURCES MANAGEMENT</b> <i>Project Scientist- Environmental Consultant II</i> <ul style="list-style-type: none"><li>▪ Performed phase 1 and phase 2 environmental site assessments and developed follow-up corrective actions to ensure compliance with federal, state, and local regulations.</li><li>▪ Prepared the pollution prevention permit compliance program for the Caltrain system under the Water Resources Control Board Phase II Small Municipal Separate Storm Sewer Systems (MS4) Permit.</li></ul>	San Francisco, CA
Fall 2016	<b>BERKELEY INNOVATIVE SOLUTIONS CONSULTING</b> <i>Graduate Student Consultant</i> <ul style="list-style-type: none"><li>▪ Performed in-depth market assessments and policy research for Fornax, a chemical engineering start-up company, and contributed to a proposal for a U.S. Department of Energy grant.</li></ul>	Berkeley, CA
Sept 2015 – Aug 2016	<b>INTERTEK-PROFESSIONAL SERVICE INDUSTRIES</b> <i>Environmental/Geotechnical Engineer</i> <ul style="list-style-type: none"><li>▪ Conducted due diligence investigations through in-depth quantitative analysis including but not limited to – contamination investigations, site characterization, remediation services, groundwater monitoring programs, storage tank services, and compliance permitting for hazardous materials.</li><li>▪ Performed preliminary geotechnical investigations; earthwork, foundation, and slope evaluations; seismic hazard analysis; completed laboratory testing of soils; and indoor air quality surveys.</li></ul>	Oakland, CA

### ACADEMIC AND RESEARCH EXPERIENCE

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Summer 2019	<b>NASA JET PROPULSION LABORATORY</b> <i>NASA Center for Climate Science Summer School</i> <ul style="list-style-type: none"><li>▪ Learned to use satellite observations to advance climate models through lectures and group projects. Particularly, worked on a case study that focused on India's depleting water storage using GRACE satellite data.</li></ul>	Pasadena, CA
Summer 2017	<b>TUCK SCHOOL OF BUSINESS AT DARTMOUTH</b> <i>Tuck Business Bridge Program</i> <ul style="list-style-type: none"><li>▪ Participated in a highly-selective 4-week program taught by MBA faculty, providing an in-depth study of marketing, management, finance, microeconomics, accounting, and strategy.</li><li>▪ Performed a team-based valuation analysis for Cinemark Holdings, Inc., which included financial, marketing, and strategic assessments, a DCF analysis, and a final presentation to industry executives and faculty.</li></ul>	Hanover, NH
Winter 2016	<b>TAVTECH GLOBAL FELLOWSHIP</b> <i>Computer Programming and Entrepreneurship Fellow</i> <ul style="list-style-type: none"><li>▪ Applied coding and entrepreneurship trainings to design a startup business addressing food waste, created a pitch deck, and presented the value proposition to venture capitalists.</li></ul>	Tel Aviv, Israel
Summer 2016	<b>COLUMBIA UNIVERSITY SCHOOL OF INTERNATIONAL AND PUBLIC AFFAIRS</b> <i>Alliance Summer School in Science and Policy</i>	Paris, France
Summer 2015	<b>U.S. DEPARTMENT OF STATE- INDONESIA CRITICAL LANGUAGE SCHOLARSHIP PROGRAM</b> <i>Indonesian Language Scholar</i>	Malang, Indonesia
Fall 2013	<b>U.S. DEPARTMENT OF STATE- BENJAMIN A. GILMAN INTERNATIONAL SCHOLARSHIP</b> <i>Hindi Language Scholar; Study Abroad</i>	New Delhi, India

AY 2012-2013      **LAWRENCE BERKELEY NATIONAL LABORATORY**      Berkeley, CA  
*Undergraduate Researcher*

- Tested and prepared Stove Use Monitoring Systems (SUMS) for application on the Berkeley-Darfur Stove to collect accurate stove use data in Ashok Gadgil's Cookstove Lab.
- Evaluated the safety and efficiency of the Berkeley-Darfur Stove using the Iowa State University Stove Safety Testing Protocol.

## COMMUNITY SERVICE AND OUTREACH

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AY 2016 – 2017      **UNIVERSITY OF CALIFORNIA OFFICE OF THE PRESIDENT**      Oakland, CA  
*Carbon Neutrality Initiative Systemwide Fellow, Office of Energy and Sustainability*

- Spearheaded the design of Sustainability Learning Objectives by conducting stakeholder analyses and collaborating with the UC Global Climate Leadership Council in support of the UC-wide goal of achieving carbon neutrality by 2025.

AY 2014 – 2015      **UC BERKELEY BLUM CENTER FOR DEVELOPING ECONOMIES**      Berkeley, CA  
*Global Poverty and Practice Minor Academic Peer Advisor*

- Advised multiple students per week regarding GPP Minor requirements, declaring the minor, and selecting the practice experience; organized and led publicity events; managed the GPP Minor social media pages; and recruited 131 students to the minor.

Summer 2014      **UC BERKELEY BIG IDEAS PROGRAM**      Chiapas, Mexico  
*Pachamama Project Team Lead*

- Collaborated with Fundación Cántaro Azul to identify improvements needed to increase access to clean water, sanitation, and hygiene in rural communities.
- Assisted the technology engineer in determining potential improvements to the UV water filtration system through trial and error and tested the performance of the new components.

Spring 2014      **COMMUNITY WATER CENTER**      Visalia, CA  
*Undergraduate Intern*

- Collected water samples and tested water quality (particularly for nitrate contamination) of 40 households in Tulare County, California dependent on domestic wells for drinking water.
- Assisted in monitoring the performance of the water filters, replacing cartridges, and providing residents with real-time evidence regarding their household water quality.

## TEACHING ACTIVITIES

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Summer 2020      ▪ *Graduate Student Instructor, Introduction to Culture and Natural Resource Management* (ESPM 50AC). Lecturing and grading for a 6-week long course with ~326 students of which I was responsible for 69.

Spring 2019      ▪ *Graduate Student Instructor, Introduction to Environmental Research Methods* (ESPM 100ES). Lecturing, grading, and lesson planning for a 4-month long course with ~60 students of which I was responsible for 30.

## PUBLICATIONS

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- Rosa L, Chiarelli DD, Sangiorgio M, **Beltran-Peña A**, Rulli MC, D'Odorico P & Fung I (2020). Potential for sustainable irrigation expansion in a 3C warmer climate. *Proceedings of the National Academy of Sciences*.
- **Beltran-Peña A**, Rosa L, D'Odorico P (2020). Global food self-sufficiency in the 21st century under sustainable intensification of agriculture. *Environmental Research Letters*.
- Jenkins W, Rosa L, Schmidt J, Band L, **Beltran-Peña A**, Clarens A, Doney S, Glassie A, Quinn J, Rulli MC, Shobe W, Szeptycki L, D'Odorico P. Rights to water, rights of water, and commercial rights: values-based scenarios of water security. *Under Review*.

## PRESENTATIONS

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- **Beltran-Peña A** (2020) "First-Gen Journey to a PhD Pathway: Mitigating the Impacts of Climate Change", *Oral Presentation*, Cal New Experiences for Research and Diversity in the Sciences, Berkeley, CA. **Invited**.
- **Beltran-Peña A** (2020) "A Global Assessment of Future Food Security in the 21st Century", *Oral Presentation*, Berkeley Energy and Resources Collaborative Symposium, Berkeley, CA. **Invited**.
- **Beltran-Peña A** (2020) "Hydrological impacts on food security in the 21st century under societal and climate changes", *Oral Presentation*, UC Berkeley Climate Impacts Research Hub, Berkeley, CA. **Invited**.
- **Beltran-Peña A**, Rosa L (2019) "Climate change and the global water-energy-food nexus", *Oral Presentation*, United Nations Framework Convention on Climate Change Conference of Parties 25, Madrid, Spain. **Organized a 2-hour side-event in the Italian Pavilion**.
- **Beltran-Peña A** (2019) "Evaluating the Effects of Climate Change and Sustainable Irrigation Intensification on Global Food Security", *Oral Presentation*, American Geophysical Union, San Francisco, CA.
- **Beltran-Peña A**, Liu Y, Sadeghi M, Biswas N, Bartkowiak P (2019) "An Investigation of Land Water Storage Variability as a Function of Climate Change and Human Activities Over India Using Satellite Remote Sensing", *Oral Presentation*, NASA Jet Propulsion Laboratory Center for Climate Sciences, Pasadena, CA.

- **Beltran-Peña A**, Davis A, Moore G, Putra G, Wu Y, Zhong V (2018) “Technical and Business Model Analysis of VIVIR Environmental Toolbox for Fecal Sludge Management in India”, *Oral Presentation*. UC Berkeley Haas School of Business, Berkeley, CA.
- **Beltran-Peña A** (2017) “Financial Valuation of Cinemark Holdings Inc”, *Oral Presentation*, Tuck School of Business at Dartmouth College, Hanover, NH.
- **Beltran-Peña A** (2017) “Introduction of UC Sustainability Learning Outcomes”, *Poster Presentation*, California Higher Education Sustainability Conference, UC Santa Cruz, Santa Cruz, CA.
- **Beltran-Peña A** (2017) “The Implications of Geologic Properties and Seismic Activity in the Arctic Region on Undiscovered Oil and Gas Field Exploration”, *Oral Presentation*, UC Berkeley Department of Earth and Planetary Science, Berkeley, CA.
- **Beltran-Peña A** (2012) “Safety Evaluation of the Berkeley-Darfur Stove Using the Iowa State University Stove Safety Testing Protocol”, *Poster Presentation*, Society for the Advancement of Chicanos and Native Americans in Science, Seattle, WA.

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## RESEARCH INTERESTS

- Water-Energy-Food Nexus, Global Environmental Change, Climate Change, Sustainability, Hydrology, Food Security, Water and Society, Land - Atmosphere Interactions, Earth Science, Satellite Remote Sensing, Environmental Engineering, Data Science, Development Engineering

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## AWARDS AND FELLOWSHIPS

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| 2020-2021   | ▪ Foreign Language and Area Studies (FLAS) Fellowship for Italian Language   |
| 2020-2021   | ▪ UC Berkeley Institute of European Studies Grant for the Study of Italian Language and Culture  |
| 2020-2021   | ▪ Ford Foundation Fellowship Honorable Mention   |
| 2019-2020   | ▪ NSF Innovations in Food Energy and Water Systems (InFEWS) Fellowship   |
| 2018-2019   | ▪ The National GEM Consortium University Fellow  |
| 2018-2019   | ▪ UC Berkeley Department of Environmental Science Policy and Management Starter Grant  |
| 2016 - 2017 | ▪ University of California Graduate Opportunity Masters Fellowship   |
| 2016 - 2017 | ▪ University of California Office of the President Carbon Neutrality Initiative Fellow   |
| 2016 - 2017 | ▪ Hispanic Scholarship Fund Scholar  |
| Summer 2015 | ▪ U.S. Department of State Critical Language Scholarship   |
| Spring 2015 | ▪ Educational Opportunity Program Achievement Award Scholarship Recipient  |
| 2012 - 2015 | ▪ Cal New Experiences for Research and Diversity in the Sciences (Cal NERDS) Fellow  |
| Spring 2014 | ▪ UC Berkeley Rudd Family Foundation Big Ideas Third Place Contest   |
| Spring 2014 | ▪ IES Abroad Photo Contest 1 <sup>st</sup> Place Winner  |
| Spring 2014 | ▪ Institute of International Education 5 <sup>th</sup> Annual Photo Contest Winner   |
| Fall 2013   | ▪ U.S. Department of State Benjamin A. Gilman International Scholarship  |
| Fall 2013   | ▪ International Education Abroad Travel Scholarship Recipient  |
| Fall 2013   | ▪ University of California Education Abroad Program Scholarship Recipient  |
| Summer 2013 | ▪ Blum Center for Developing Economies Global Poverty and Practice Fellowship  |
| 2012 – 2013 | ▪ National Science Foundation California Alliance for Minority Participation Fellowship  |
| 2012-2015   | ▪ UC Berkeley’s Earth and Planetary Science Department -Charles H. Ramsden Scholarship   |
| Fall 2012   | ▪ Award for Outstanding Participation and Service to the Community by The Native American Recruitment and Retention Center and The American Indian Science and Engineering Society |
| Fall 2010   | ▪ Ronald McDonalds House of Charities HACER Scholarship Recipient  |
| Spring 2010 | ▪ President of the United States Award for Educational Excellence (signed by President Obama)  |
| Spring 2010 | ▪ U.S. Department of Treasury and U.S. Department of Education 2010 National Financial Capability Challenge Top Scorer Award   |
| Spring 2010 | ▪ California Scholarship Federation Life Membership and Highest Honor for Superior Scholarship and Service   |
| Spring 2010 | ▪ Academic Excellence First Honors Bishop Amat Memorial High School  |
| Spring 2010 | ▪ International Baccalaureate Diploma Recipient  |
| 2006 - 2010 | ▪ First Honors French 1, French 2, French 3, and IB French, AP Spanish   |

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## SKILLS

- Fluent in English (native), Spanish (native), Italian, and French; and elementary proficiency in Indonesian and Hindi.
- Experienced with Microsoft Office Suite, Salesforce, website design, ArcGIS, Google Earth Engine, and Python.