

Patricia Solís, PhD

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EDUCATION

- 1998 – 2002 **PhD in Geography**, University of Iowa
“Placing Development and Developing Places: Combating Desertification in Patagonia.”
- 1994 - 1996 **Master of Arts in Geography**, Kansas State University, cum laude. “Anticipatory Impacts of a Proposed Interbasin Water Transfer from Edwards County, Kansas.”
- 1989 - 1994 **Bachelor of Science in Physics**, Kansas State University
Bachelor of Arts in German, Kansas State University
- 1992 - 1993 *Eidgenössische Technische Hochschule (ETH), Zürich, Switzerland*

EMPLOYMENT

- 2018 – present Executive Director, Knowledge Exchange for Resilience, **Arizona State University**
- 2015 – present Co-Founder and Director, YouthMappers®, *consortium of 193 universities with student chapters in 46 countries, approximately 5,000 members*
- 2014 – 2018 Research Associate Professor of Geography, Department of Geosciences (*now adjunct*)
Co-Director, Center for Geospatial Technology, College of Arts and Sciences
Adjunct Associate Professor, Climate Science Center, Texas Tech University
- 2014 – 2016 Senior Research Associate, Research Development Team, Office of the Vice President for Research, Texas Tech University
- 2003 - 2014 Director of Outreach and Strategic Initiatives, Association of American Geographers
Also Director of Research and Outreach, 2005-2010, Deputy Director, 2003-2005
- 1997 – 2014 Independent External Evaluator, various organizations
- 1997 - 2006 Independent Grantwriting Consultant, Certified Grants Specialist accredited with NGWA
- 1998 - 2001 Assistant Study Director, Iowa Social Science Institute, University of Iowa
- 1996 - 1998 Community Development Director, City of Liberal, Kansas
Awarded \$2,626,000 in state / federal grants, administered an additional \$1,332,000
- 1994 - 1996 International Teams Coordinator, Community Service Program, Kansas State University
Projects in Mexico, Paraguay, Jordan, India, Costa Rica, Democratic Republic of Congo
- 1994 - 1996 Grantwriting Assistant, Kansas Center for Rural Initiatives, Kansas State University
- 1994 Volunteer Intern, Office of International Programs, Kansas State University

CURRENT APPOINTMENTS

- 2018-2021 President, (Elected), PanAmerican Geography Commission of the PanAmerican Institute of Geography and History of the Organization of American States (OAS), scientific diplomatic appointment by the US Department of State
- 2017-2020 Fulbright Specialist, Roster of Experts, World Learning

PUBLICATIONS

PEER-REVIEWED AND REFEREED PUBLICATIONS

- Oniosun, Temidayo, Balogun Ifeoluwa Adebawale, Solis Patricia. 2020. Capitalizing on Geospatial Technologies to Solve Urban Waste in Akure Nigeria. In: Froehlich A. (eds) *Space Fostering African Societies*. Southern Space Studies. Springer, Cham, pp. 31-46. DOI: 10.1007/978-3-030-32930-3_3
- Brovelli, Maria Antonia, Marisa Ponte, Sven Shade, and Patricia Solís. 2019. Citizen Science in Support of Digital Earth. In *Manual of Digital Earth*, Huadong Guo, Michael Goodchild, and Alessandro Annoni (Editors). International Society for Digital Earth. Springer, Singapore, pp. 593-622. DOI: 10.1007/978-981-32-9915-3
- Warren, Stacy, Trevor M. Harris, Michael F. Goodchild, and Patricia Solís. 2019. Commentaries on “Evaluating the Geographic in GIS.” (Who is putting whose Geography into whose GIS, and how? Solís). *Geographical Review*. DOI: 10.1111/gere.12359
- Solís, Patricia and Pat DeLucia. 2019. Exploring the impact of contextual information on student performance and interest in open humanitarian mapping. *Professional Geographer* 71(3):523-535. DOI: 10.1080/00330124.2018.1559655
- Solís, Patricia, Niem Tu Huynh, Philippe Huot, Marcela Zeballos, Astrid Ng, and Nwasinachi Menkiti. 2018. Results of an Overdetermined Design for High School Girls’ Learning in Geospatial Technologies for Climate Change. *International Research in Geographical and Environmental Education* 28(2):151-174. DOI: 10.1080/10382046.2018.1513447.
- Coetzee, Serena, Marco Minghini, Patricia Solis, Victoria Rautenbach, and Cameron Green. 2018. Towards Understanding the Impact of Mapathons: Reflecting on YouthMappers Experiences. *International Archives of Photogrammetry and Remote Sensing Spatial Information Sciences* XLII-4/W8:35-42. DOI: 10.5194/isprs-archives-XLII-4-W8-35-2018.
- Hite, Rebecca, Patricia Solís, Lindsay Wargo, and Thomas Barclay Larsen. 2018. Exploring Affective Dimensions of Authentic Geographic Education using a Qualitative Document Analysis of Students’ YouthMappers Blogs. *Education Sciences* (Special Issue on Authentic Learning) 8(4):173. DOI:10.3390/educsci8040173.
- Solís, Patricia, Brent McCusker, Nwasinachi Menkiti, Nuala Cowan, and Chad Blevins. 2018. Engaging Global Youth in Participatory Spatial Data Creation for the UN Sustainable Development Goals: The Case of Open Mapping for Malaria Prevention. *Applied Geography* 98:143-155. DOI: 10.1016/j.apgeog.2018.07.013.
- Adames de Newbill, María, Ana Hernandez Pittí, and Patricia Solís. 2018. Historia de la Geografía en Panamá como una Integración de la Investigación y la Educación. In *Historia*

de la Geografía en América Latina y el Caribe, Héctor F. Rucínque, (Editor). Bogota: ACOGE. Accepted, in Press.

Solís, Patricia, Niem Tu Huynh, Daniel Carpenter, Maria Adames de Newbill, and Lynn Ojeda. 2017. Using an Authentic Project Based Learning Framework to support Integrated Geography Education linked to Standards and Geospatial Competencies. Special Issue on Transformative Research in Geographic Education, *Research in Geographic Education* 19(2):36-65.

Solís Patricia, Jenni Vanos and Robert Forbis. 2017. The Decision-making / Accountability Spatial Incongruence Problem for Research linking Science and Policy. *The Geographical Review* 107(4): 680-704. DOI: 10.1111/gere.12240. (Honorable Mention, Best Paper of the Year.)

Solís Caballero, Dario and Patricia Bennett Solís. 2016. Innovation-based Strategies for International Partnership Building in Higher Education: The Panama Model. In *Global Perspectives on Strategic International Partnerships*. New York: IIE/DAAD, pp. 187-201.

Eksteen, Sanet, Serena Coetzee, Merrill Lyew, Miriam Olivares, and Patricia Solís. 2015. Geographic Information Science Education at African and Latin American Universities – A Comparative Review. *Proceedings of the 27th International Cartographic Conference*, 16th General Assembly, Rio de Janeiro, Brazil.

Solís, Patricia, Marie Price, and María Adames de Newbill. 2015. Building Collaborative Research Opportunities into Study Abroad Programs: A Case Study from Panama. *Journal of Geography in Higher Education*.39(1):51-64. DOI: 10.1080/03098265.2014.996849.

Hawthorne, Timothy, Patricia Solís, Brittney Terry, Marie Price, and Christopher L. Atchison. 2015. Critical Reflection Mapping as a Hybrid Methodology for Examining Socio-Spatial Perceptions of New Research Sites. *Annals of the Association of American Geographers* 105(1):22-47.

Solís, Patricia and Inés M. Miyares. 2014. Rethinking Practices for Enhancing Diversity in the Discipline. Featured FOCUS section on Diversity, Inclusion, and Participation in Geography: *The Professional Geographer* 66(2):169-172. DOI:10.1080/00330124.2012.735920. ISSN: 0033-0124.

Adams, Joy, Patricia Solís and Jean McKendry. 2014. The Landscape of Diversity in U.S. Higher Education Geography. *The Professional Geographer* 66(2):183-194. DOI:10.1080/00330124.2012.735935. ISSN: 0033-0124.

Solís, Patricia, Joy Adams, Leslie Duram, Susan Hume, Al Kuslikis, Victoria Lawson, Inés M. Miyares, David Padgett, Alex Ramirez. 2014. Diverse Experiences in Diversity at the Geography Department Scale. *The Professional Geographer* 66(2):205-220. DOI:10.1080/00330124.2012.735940. ISSN: 0033-0124.

- Sánchez Ayala, Luis D, and Patricia Solís. 2011. Introducción. *Geografía Humana: Conceptos Básicos y Aplicaciones*. Universidad de los Andes Bogotá, Colombia: Facultad de Ciencias Sociales, Ediciones Uniandes. pp. 1-5. ISBN: 978-958-695-713-7.
- Solís, Patricia, et al. (Editor, Lead author, 50 Co-authors, Refereed). 2011. *Climate Change and Hazards in the Americas: International Interdisciplinary Research Directions and Opportunities*. Washington, DC: Association of American Geographers. Translated and co-authored in Spanish as *Cambio Climático y Riesgos en las Américas: Directrices y oportunidades de investigación interdisciplinaria internacional*. ISBN 0615408338.
- Benimmas, Aïcha, Patricia Solís, and Joseph Kerski. 2011. The Impact of a Geographic Technologies Professional Development Institute on Middle Eastern and North African Teachers. *International Research in Geographical and Environmental Education Journal (IRGEE)*, Volume 20, Issue 1, pp. 21-45. ISSN: 1038-2046.
- Solís, Patricia and Michael Solem (Editors). 2010. *Aspirantes Académicos: Pasaje tomado del Libro de Recursos para Estudiantes Graduados y Profesores Universitarios Principiantes*. Washington, DC: Association of American Geographers. Reproduced with permission from Pearson Prentice-Hall. ISBN: 978-0-89291-000-7.
- Solís, Patricia, Michael Solem, and Noris Martínez. 2009. Geographic Collaboration in the Americas: Pathways and Prospects. (Includes abbreviated version in Spanish as *Colaboración Geográfica en las Américas: Senderos y Perspectivas*.) Chapter in *Geography Education: Pan American Perspectives*, eds. Muñoz-Solari and Boehm (Editors). San Marcos: Texas State University Press, p. 345-367. ISBN 978-1-61539-579-8.
- Solís, Patricia. 2009. Preparing Competitive Research Grant Proposals. Chapter in *Aspiring Academics: A Resource Book for Graduate Students and Early Career Faculty**, M. Solem, K. Foote, J. Monk (Editors). Upper Saddle River, New Jersey: Pearson Prentice-Hall, p. 137-164 ISBN-10: 0136048919. *(Note: This title has been adopted as instructional material for courses, seminars, advising and informal mentoring in more than two-thirds of academic departments known to offer a bachelor's, master's degree or doctorate in geography in the US in 2013.)
- Hermann, David and Shufro, Nick (Editors) (Solís, Patricia contributor). 2006. *Mobilizing Resources: A Primer of Practical Ideas on How to Improve the Effectiveness of Public-Private Partnership Financial and Other Resource Requests*. And *Movilizando Recursos: Un Manual de Ideas Prácticas sobre Cómo Mejorar la Efectividad de las Solicitudes de Financiamiento y de otros Recursos de las Alianzas Público-Privadas*. Published by the White Water to Blue Water Partnership, Secretariat United Nations Environment Programme (UNEP) Caribbean Environment Programme. ISBN: 978-0-89291-001-4.
- Solís, Patricia. 2005. Geographic Learning for Sustainable Development. Chapter in *Handbook of Sustainability Research: A contribution from the World Academic Community to the UN Decade of Education for Sustainable Development*, Walter L. Filho (Editor). Frankfurt am Main: Peter Lang GmbH, pp. 679-704. ISBN 0-8204-7308-1.

- Solís, Patricia. 2005. Water as Rural Heritage: Reworking Modernity through Resource Conflict in Edwards County, Kansas. *Journal of Rural Studies*, Volume 21, Issue 1, pp. 55-66. ISSN: 0743-0167.
- Solís, Patricia. 2003. The Becoming of the Land of the Underground Rain: Place as Paradox in Liberal, Kansas. *The North American Geographer*, Volume 5, pp. 27-44. ISSN 1524-9735.
- Richardson, Douglas and Patricia Solís. 2004. Confronted by Insurmountable Opportunities: Geography in Society at the AAG's Centennial. *The Professional Geographer* Volume 56, Issue 1, pp. 4-11. ISSN: 0033-0124.
- Bennett, Patricia. 2000. *Universities as Sites of Citizenship and Civic Responsibility Project: The University of Iowa Case Study and Site Report*. Philadelphia: International Consortium for Higher Education, Civic Responsibility and Democracy. Refereed Monograph.

OTHER PUBLICATIONS

- Solís, Patricia, et al. 2019. "Federal Shutdown: Economic Resilience in Maricopa County." Online Story Map available at <https://arcg.is/1PW8rb>.
- Solís, Patricia. 2016/2002. Maps and Fences: How development produced Patagonian spaces. Published Doctoral Dissertation from Department of Geography, University of Iowa, of "Placing Development and Developing Places: Combating Desertification in Patagonia." Saarbrücken: Lambert Academic Publishing.
- Solís, Patricia. 2014-2016. Research Development Team Blog Series on Proposal Development Advice. *TTU Scholarly Messenger*. Lubbock: Texas, available from <http://www.depts.ttu.edu/vpr/scholarly-messenger/Archive/index.php>.
- Solís, Patricia, Dauna Coulter and Carolyn Fonseca. 2014. *My Community, Our Earth SERVIR Global Fellowship Program Capstone Fellows and Projects*, published by MyCOE and NASA Marshall Space Flight Center under Contract No. NNM12AA09C to Association of American Geographers, 48 pp. ISBN: 978-0-89291-005-2.
- Solís, Patricia (Author and Editor). 2012. *Geography in the Americas 2006-2012: Compilation of Session Conference Proceedings; Geografía en las Américas 2006-2012: Compilación de Memorias de Sesiones de Conferencias*. Associate Editor and Translator Astrid Ng. Panama City, Panama and Washington, DC: Association of American Geographers, 108 pp. ISBN: 978-0-89291-004-5.
- Solís, Patricia and Astrid Ng. 2012. *32 Strategies to Enhance Diversity in Your Geography Department or Program*. Washington, DC: Association of American Geographers, 56 pp. ISBN: 978-0-8921-003-8.
- Richardson, Douglas and Patricia Solís. 2011. Confronted by Insurmountable Opportunities: Geography in Society at the AAG's Centennial. Special Virtual Issue: New Directions in Geography. (Featured online collection of leading geographical articles). *The Professional Geographer* Routledge, ISSN: 1467-9272. www.tandf.co.uk/journals/explore/professional-geographer-virtual-issue.pdf.

- Association of American Geographers. 2005-2012. AAG Guide to Geography Programs in the Americas, various editions. [P.Solís, Contributor, Listing of Geography Programs in Latin America and Handbook of Membership.] ISBN 0892912685 9780892912681; OCLC 649374620, 471013962; 2010-2011 edition: ISBN 978-0-89291-273-5.
- Solís, Patricia and Joy Adams. 2011. AAG Departmental Data Survey Finds Modest Diversity Gains within Academic Geography. *AAG Newsletter* 46(4):4-5. ISSN 0275-3995.
- Solís, Patricia (Translator and Editor). 2010. English Language version of the National Strategic Plan, Secretary of Science, Technology, and Innovation of Panama (SENACYT), Panama City, Panama, 325 pp.
- Association of American Geographers. 2010. Using Information and Geospatial Technologies to Support Biodiversity Conservation Policy Options in Latin America. [P.Solís, Contributor, compilation and editing.] Washington, DC: AAG. ISBN: 978-0-89291-002-1.
- Solís, Patricia and Douglas Richardson. 2010. From the Meridian: Bowling Together: Participatory Geography at the AAG. *AAG Newsletter* 45(3):2-3. Translation available as "Jugando Bolas." ISBN 0275-3995.
- Solís, Patricia and Douglas Richardson. 2009. AAG Enhancing Diversity: Progress and Plans. *AAG Newsletter* 44(2):2, 4, 12. ISSN 0275-3995.
- Solís, Patricia. Various Dates. AAG Member Profile Series. *AAG Newsletter*, 2003-2008. ISSN 0275-3995.
- Solís, Patricia, Michael Solem, and Douglas Richardson. 2007. Enhancing Diversity in Geography. *AAG Newsletter* 42(4):1-2,5. ISSN 0275-3995.
- Solís, Patricia 2006. From the Meridian: AAG and International Outreach. *AAG Newsletter* 41(2):2,4. ISSN 02 75-3995.
- Green, Madeleine F. and Robert Shoenberg. 2006. Where Faculty Live: Internationalizing the Disciplines. [P.Solís, Contributor.] Washington, DC: American Council on Education. ACE #311187.
- Solís, Patricia. 2004. "Geography Can Take You There: Your Mom Said You Should Major in Something That Will Get You a Good Job." Poster and T-Shirt text, AAG Careers in Geography Project. (Translations in: Spanish, Portuguese, Chinese, Arabic, German, Korean, Tagalog, Polish, Malay, Indonesian, Vietnamese, Turkish, Japanese, and French.) Washington, DC: Association of American Geographers. Literary Copyright Certificate Registration #548-2010-0430.094416. (*Note: Text reprinted with permission in English in J.Hobbs, *Fundamentals of World Regional Geography*, 3rd Edition, Cengage Learning, 2012.)
- Solís, Patricia. 2004. "Un Mapa para un Futuro Sostenible." [El Panamá América](#). Sunday, June 20, p. 4. OCLC #751719636.
- Bennett, Patricia. 1996. "Anticipatory Impacts of a Proposed Interbasin Water Transfer from Edwards County, Kansas." Unpublished Master's Thesis, Department of Geography. Manhattan: Kansas State University.

GRANTS AND PROJECTS

AWARDED, CURRENT

- 2018-19 *Principal Investigator*, Saving Middle Class Phoenicians on Heat-related Costs to Home and Well-being through Knowledge Exchange, using game elements to motivate 10,000 target households to increase annual income up to 10% by applying tailored heat-related solutions that save money or build assets. With The Nature Conservancy, Center for the Future of Arizona. Awarded by Schmidt Futures, \$50,000.
- 2018-23 *Executive Director*, Knowledge Exchange for Resilience, a university-community initiative to identify, create, and share the knowledge, experience, and connections to make Maricopa County a national paradigm for building resilient communities through social cohesion, economic prosperity, and environmental security. Principal Investigators Dr. Elizabeth Wentz, Dr. Michael Crow, Arizona State University. Awarded by Virginia G. Piper Trust, \$15,000,000.
- 2018-23 *Principal Investigator*, YouthMappers® University Consortium: Building Open Spatial Data for Economic Development and Community Resilience, a study to build economic development and community resilience by supporting university students through the rapidly-growing YouthMappers consortium, at the time of award on 120 campuses in 38 countries, to create and use high-quality geospatial data in places of interest to USAID. Emphasis of the effort includes understanding the impact of open mapping on development outcomes, expansion of the student humanitarian movement and quality attribute mapping, and focused efforts on the *Let Girls Map* campaign to address needs of female mappers and women in developing regions. Administered by consortium of Arizona State University, Texas Tech University, West Virginia University, The George Washington University and the Humanitarian OpenStreetMap Team. Awarded by US Agency for International Development, \$1,300,000 granted to date with an award limit to \$5,500,000. Anonymous private donation match, \$1,200,000 and State of Texas match allocated \$150,000 of \$600,000 award.
- 2018-21 *Principal Investigator*, How the Crowdsourced Spatial Data Revolution is Being Used to Complement Official Data (submitted as Blind Spots and Blank Spots: Filling in Knowledge to Harness the Crowdsourced Spatial Data Revolution), a study to advance understanding about the role of open, volunteered spatial data to produce knowledge needed by public institutions for building resilient communities and infrastructure by integrating volunteered spatial data into official cartographies in the US, Mexico and Central America. Awarded by National Science Foundation, Science, Technology and Society Program, \$359,244.
- 2018-20 *Principal Investigator*, Informal Learning Pathways through Mapathons for Military and Veteran Communities, a study to assess the potential for informal learning events with geospatial technology in the form of mapathons to support military and veteran learners or students to make bridges between competency skills they acquired in service settings and what they can apply in settings related to desired transitions to STEM higher education opportunities or to the civilian workforce. Awarded by National Science Foundation, Advancing Informal STEM Learning, \$299,689.

PRIOR AWARDED RESEARCH

- 2018 *Senior Personnel*, Immersive Virtual Reality Experience for Teaching, Learning and Researching, a multi-college project on campus to study how use of Oculus Rift and other

- technologies impacts the data quality, production, and learning experiences of undergraduates mapping for humanitarian tasks; funded by the CH Foundation, PI Ryan Litsey, \$17,989.
- 2017-18 *Principal Investigator*, Story Maps of Humanitarian Projects around the World, an in-reach effort to link digital media with geospatial technologies for integrative learning across a wide swath of campus, utilizing the YouthMappers network; a multi-college project to reach 200 undergraduates annually; funded by the Texas Tech University Center for Global Communication to support the TTU Quality Enhancement Plan, \$90,000.
- 2017-18 *Senior Personnel*, Enhancing agricultural productivity and market opportunities for smallholder farmers with a special focus on female smallholder farmers in Northern Ghana; funded by the US Department of Agriculture, Foreign Agricultural Service, PI Conrad Lyford, Texas Tech University, \$40,000.
- 2017 *Principal Investigator*, Spatial Data for Development Decisions; a geospatial study of situational knowledge and interactive mapping app for alumni relations and donor opportunities performed for the Office of the Dean, College of Arts and Sciences, Texas Tech University, internal funding, \$10,000.
- 2017 *Principal Investigator*, Spatial Decision Support for TTU Worldwide e-Learning; a pilot project exploring geographic dimensions of market potential and target user audience profiles for online academic programming and satellite offerings performed for the Office of the Provost, Texas Tech University, internal funding, \$10,000.
- 2015-19 *Principal Investigator*, Mapping for Resilience University Consortium of three founding universities: Texas Tech University, George Washington University (CoPI Nuala Cowan), and West Virginia University (CoPI Brent McCusker), to cultivate a generation of young people to become leaders in creating resilient communities and empowering them to define their world by mapping it. Program objectives include supporting and engaging students and other university actors in creating new, quality, localized geospatial data in unmapped places of the world, ensuring that the new data is open and accessible to the public, and conducting research and analysis using OSM data to address international development challenges. In its first 2 years of network building under the name *YouthMappers*, the consortium grew to 99 universities in 30 countries and made more than 20 million map edits for projects such as disaster relief in Ecuador, malaria prevention in Mozambique and Kenya, food security in Ghana and Bangladesh, and peace building in Colombia. Funded by the US Agency for International Development, \$999,000.
- 2016-17 *Principal Investigator*, Project Based Learning and Authentic International Experiences for Open Geospatial Education in Secondary Settings, (CoPI Niem Huynh), to form an interdisciplinary international thematic research collaboration group and a pilot project exploring the role of GIS in PBL for science, technology and intercultural learning. Funded as participant grant under the National Science Foundation Research Coordination Network on Transformative Research in Geography Education, awarded to Michael Solem (PI), Association of American Geographers, \$20,000.
- 2015-20 *Coordinator*, Census of Geography in Latin America and the Caribbean: Multi-Year Collaborative Data Collection Project, conducted by the Instituto Panamericano de Geografía e Historia, Unión Geográfica Internacional - Comisión de Estudios Latinoamericanos, Encuentro de Geógrafos de América Latina, Association of American Geographers, Conference of Latin Americanist Geographers. <https://sites.google.com/site/censusofgeography>.
- 2013-15 *Principal Investigator*, Global Connections and Exchange / MyCOE Youth TechCamps Program, a series of 3 academically rigorous, intensive workshops and online project

- collaboration uniting teams of secondary school students in Bolivia, Panama, and South Africa; each engage 40 competitively-selected students, aged 15-18, including 10 from across the US, and 30 national counterparts; 120 students in all with overarching theme of GeoTechnologies for Climate Change & Environment including training in use of online mapping, community GIS, mobile GPS, crowdmapping; funded by US Department of State Bureau of Educational and Cultural Affairs Youth Programs Division; in collaboration with Galindo Foundation and Technological University of Panama (Panama); Universidad Mayor de San Andres (Bolivia); EIS-Africa and University of Pretoria (South Africa); \$300,000.
- 2012-16 *Co Principal Investigator*, Engaging United States Scholars in International Geographic Research and Scientific Leadership: Support for Participation in International Geographical Union Events, 2012-2016, for approximately 145 attendees to Germany, Japan, Poland, Russia, & China conferences, National Science Foundation. \$208,058, Doug Richardson, PI.
- 2012-14 *Principal Investigator*, MyCOE / SERVIR Partnership, developing local capacity and professional and scientific support to teams of university students and faculty/local mentors in community-based research projects in Central America, East Africa, Himalaya, South Africa, and Asia; with funding from National Aeronautics and Space Administration (NASA) and in collaboration with USAID, SERVIR, RCMRD, ICIMOD, and others; \$799,197.
- 2011-14 *Principal Investigator*, Catalyzing Research in Geographies of Broadening Participation, organizing a disciplinary focus of perspectives and scholarly capacity to address the science of broadening participation efforts at the national level, through a creative scholarly retreat, a research agenda, and publishable manuscripts, National Science Foundation Geography and Spatial Sciences Division. \$100,000.
- 2009-14 *Designated Point of Contact*, United Nations Observer Organization Designation (AAG), organizing official representation to the Conference of the Parties of the United Nations Framework Convention on Climate Change, including COP-15 in Copenhagen, Denmark; COP-16 in Cancun, Mexico; COP-17 in Durban, South Africa; COP-20 in Lima, Peru.
- 2011-13 *Principal Investigator*, My Community, Our Earth: Global Connections and Exchange Program, empowering youth and their teachers to increase environmental, geographic, technological and cultural literacy for 150 teachers in 20+ secondary schools in the United States, Bolivia, Ghana, Nicaragua, and the Philippines using social networking, online mapping, and award-winning content modules on Climate Change, Green Economy, and Food Security; US Department of State Bureau of Citizen Exchanges, Youth Programs Division. \$425,000.
- 2011-12 *Co Principal Investigator*, Engagement in the Rio+20 Conference Anniversary of the Earth Summit, MyCOE partnership activities focusing on food security, sustainability, and geographic technologies. US Department of Agriculture, \$27,454, Doug Richardson, PI.
- 2011-12 *Coordinator*, Mapping the Disciplinary Terrain of Geography in Latin America and the Caribbean: Collaborative Data Collection and Spatial Analysis, conducted by the Association of American Geographers (AAG), the PanAmerican Institute of Geography and History of the Organization of American States (PAIGH-OAS), and the International Geographical Union (IGU) in coordination with the PanAmerican Geography Commission and national geographic associations or institutes; with Isis Tejada (Panama National Geographic Institute "Tommy Guardia"), Irasema Alcántara Ayala (IGU Vice President), and Astrid Ng (AAG). www.aag.org/americanmap
- 2009-12 *Principal Investigator*, Departments and Underrepresented Students ALIGNED: Addressing Locally-tailored Information Infrastructure & Geoscience Needs for Enhancing Diversity, a

- three-year proof-of-concept pilot national program centered on support to departments, combining a spatial information system and an online clearinghouse of materials for increasing the participation of members of underrepresented groups in geography/geosciences, with knowledge and best practices, funded by National Science Foundation Opportunities for Enhancing Diversity in the Geosciences Program, \$199,276 and supplemental RAPID funding of \$31,579.
- 2009-11 *Co-Principal Investigator*, Beyond the Ivory Tower: Researching and Improving Geography Graduate Education for STEM Careers in Business, Government, and Non-profit Organizations, project funded by National Science Foundation Research and Evaluation on Education in Science and Engineering (REESE); \$993,031, Michael Solem (PI).
- 2009-11 *Senior Personnel*, Quantitative Social Science Digital Library (QSSDL) Pathway for the National Science Digital Library, under lead institution at the Inter-University Consortium for Political and Social Research at the University of Michigan project funded by National Science Foundation as subaward to AAG, \$97,931.
- 2009-11 *Principal Investigator*, MyCOE Geographic Learning for Biodiversity Initiative in Africa, supporting teams of university students and faculty/local mentors in community-based research projects and capacity building in 9 countries; with funding from National Aeronautics and Space Administration (NASA) and in collaboration with USAID, SERVIR, RCMRD, EIS-Africa, ESRI, and others; \$200,000; and with support from NSF Office of International Science & Engineering (OISE) to integrate US participation in select sites; \$50,227.
- 2009-11 *Principal Investigator*, Institute for Integration of Research on Climate Change and Hazards in the Americas, AAG as lead with PAIGH (OAS), USGS, National Communication Association (NCA), and UNEP-LAC to co-organize two-week long workshop in Panama City, Panama, co-hosted with UTP Office for Research, with Interdisciplinary team of 11 expert instructor-mentors from the US, Panama, Chile, Brazil, and Mexico to offer lectures, demonstrations, discussions, and work sessions at the advanced graduate and post-doctoral level to up to 50 students from US and region, funded by National Science Foundation PanAmerican Advanced Studies Institute (PASI), \$99,563.
- 2009-10 *Project Coordinator*, Developing Latin American GIS&T Cyberinfrastructure for Innovation and Economic Development, funded by the InterAmerican Development Bank's Knowledge Partnership Korea Fund for Technology and Innovation with Secretary of the National Bureau of Science, Technology and Innovation in Panama (SENACYT), \$99,995.
- 2009-10 *Senior Personnel*, Enhancing Knowledge for Establishing Ecosystem Conservation Priorities in the Neotropics by Integrating Biodiversity and Geospatial Data, funded by the JRS Biodiversity Foundation to the InterAmerican Biodiversity Information Network, headquartered at the City of Knowledge, Panama; in partnership with AAG for capacity building and outreach portions of the project, \$185,000.
- 2009 *Coordinator*, AAG Journals Exchange Program, brokering retiring geographers or estate collections of books and journals from US scholars to be shipped internationally to departments and libraries ; arranged shipments to Mexico, Panama, Kenya, Uganda, Pakistan, donations in kind.
- 2008-10 *Co Principal Investigator*, Enhancing U.S. Scientific Leadership and Geographic Research: International Collaboration in the Middle East, Travel Support for Participants to the Congress of the International Geographical Union, Tunis, Tunisia, and Tel Aviv, Israel,

- National Science Foundation Grant of \$135,450 and supplement of \$18,403, Doug Richardson, PI.
- 2008-10 *External Evaluator*, Ho'okuleana Stream Monitoring Project, Alaka'ina Foundation's Hawaii Source Education Outreach (HSEO) Digital Bus Program, three-year grant from Office of Hawaiian Affairs, \$116,135.
- 2008-09 *Project Developer, Grantwriter and External Evaluator*, Office of Research, Technological University of Panama, Using ICTs to improve Income and Productivity in the Urban Informal Sector of the Economy: A Case Study and Pilot Project in Panama City, grant from the International Development Research Center (IDRC), \$181,222.
- 2007-08 *Principal Investigator*, MyCOE Geographic Learning for Biodiversity Initiative in Central America and the Greater Caribbean, supporting university students and faculty/local mentors in community-based research projects and capacity building in 6 countries; Workshop at UTP in Panama. Funding from US Agency for International Development in collaboration with USGS and ESRI, \$135,992.
- 2006-08 *Principal Investigator*, Geography and GIS Supporting STEM Education in the Muslim World, materials adaptation and capacity building; \$160,907 grant from the US Department of State to the MyCOE Partnership for workshop in Tunisia; \$118,929 grant awarded for activities in Philippines.
- 2006-07 *Principal Investigator*, Advancing Academe: A Multidimensional Investigation of Geography in the Americas (AAMIGA), National Science Foundation International Research Fellowship Program, \$76,453; Hosted by the City of Knowledge. NSF Award No. OISE-0601745.
- 2005-09 *Grant Manager*, Decade of Behavior Distinguished Lecture Series Grants in 2005, 2006, 2008, and 2009; and Decade of Behavior Distinguished Research Award 2006, totaling \$16,000.
- 2005-08 *Senior Personnel*, "Defining and Communicating Industry Workforce Demand: A Pilot, Experimental and Demonstration Program for the High-Growth Geospatial Technologies Industry U.S. Department of Labor Employment and Training Administration to AAG and GITA, \$700,000, Doug Richardson, PI.
- 2005-08 *Senior Personnel*, Enhancing Departments and Graduate Education in Geography (EDGE), National Science Foundation Research on Learning and Education program, \$980,383, Michael Solem, PI.
- 2005-06 *Principal Investigator*, MyCOE Geographic Learningship in the US Gulf and Greater Caribbean, supporting undergraduates in community-based research projects in the US, Puerto Rico, Honduras, Jamaica, and Panama; Funding from US Department of Agriculture, US Geological Survey and US Agency for International Development, \$162,778.
- 2004-14 *Program Manager*, AAG Grants and Awards Programs, set of 23 competitive funding programs and management of half a million dollars in assets.
- 2004-07 *Affiliated Researcher*, Social Science PhDs Five+ Years Out, lead by University of Washington Center for Innovation and Research in Graduate Education, Ford Foundation.
- 2004 *Project Director*, Coastal and Marine Restoration and Cleanup in the Caribbean Sea, Panama, in collaboration with CATHALAC Water Center for the Humid Tropics, and Smithsonian Tropical Research Institute with funding from The Ocean Fund, \$40,000.
- 2004 *Project Coordinator*, Exhibit production for InterAmerican Development Bank Environment Week highlighting geographic applications for sustainable development, with \$3,000 in

- funding and in collaboration with The Nature Conservancy, International Center for Tropical Agriculture, Smithsonian Institution Amazon GIS, ESRI.
- 2004 *Research Associate*, Internationalizing the Disciplines: Where Faculty Live, project of the American Council on Education with funding from the Carnegie Foundation, \$8,000.
- 2004 *Grant Manager*, Travel Support for Participants to the Congress of the International Geographical Union, Glasgow, Scotland, and Brisbane, Australia, National Science Foundation Grant of \$80,000, Ron Abler, PI.
- 2004 *Project Director*, Training Workshops and Geographic Pedagogical Resources for the Digital Bus (My Community, Our Earth), with funding from the Office of Naval Research \$26,000 and managing partnership with US Geological Survey, ESRI, and the GLOBE Program.
- 2003-08 *Secretariat Director and Partnership Liaison*, My Community, Our Earth: Geographic Learning for Sustainable Development, an international partnership from the World Summit on Sustainable Development; procurement and administration of more than \$290,000 in partnership funding from US Department of Agriculture, US Forest Service, National Oceanic and Atmospheric Administration.
- 2003-05 *Diversity Task Force, Liaison*, Managed committee activities and daily tasks for enhancing diversity within geographic discipline and Association of American Geographers, including conducting departmental surveys and development of online resource clearinghouse.
- 2003 *Grant Manager*, AAG Centennial Plenary Speaker support of \$3,500 from Decade of Behavior Distinguished Lecture Series.
- 2000 *Principal Investigator*, Center for Global and Regional Environmental Research, Research Travel Grant.
- 2000 *Principal Investigator*, University of Iowa Student Government, Research Travel Grant.
- 2000 *Principal Investigator*, Crossing Borders Program, Ford Foundation, Travel/Language Grant.
- 2000 *Principal Investigator*, Department of Geography, University of Iowa, Summer Research Grant.
- 2000 *Research Associate*, "Universities as Sites of Citizenship and Democracy." National Science Foundation and Council of Europe, University of Pennsylvania.
- 1998 *Associate Investigator*, "Muskie and Freedom Support Act Graduate Fellowship Program Evaluation." United States Information Agency, Iowa Social Science Institute, Arthur Miller, PI.
- 1998 *Associate Investigator*, "The Impact of Foreign Exchange Programs on Democratic Values." Smith Richardson Foundation, Iowa Social Science Institute, University of Iowa, Arthur Miller, PI.
- 1999/01 *Associate Evaluator*, Industry/University Cooperative Research Centers at University of Iowa and University of Texas at Austin, National Science Foundation, Arthur Miller, PI.
- 1994 "Microenterprise Initiatives in Rural Development." Economic Development Administration, Kansas Center for Rural Initiatives, Kansas State University, Carol Peak, PI.
- 1994-95 "International Teams." Educational Opportunity Fund, Community Service Program, KSU.
- 1996 "International Exchange Support for Kansas Teams." Hansen Foundation and Rotary International, Community Service Program, Kansas State University.

PAPERS, PRESENTATIONS, AND CONFERENCE PARTICIPATION

- INVITED:** 2019 “International Efforts at Mapping the Globe,” Invited Keynote Panelist, with Eddie Pickle, Amy Coughenour, Alex Tait; American Geographical Society, Geography 2050: Borders and a Borderless World, November 22, New York, New York
- INVITED:** 2019 “Building Resilient Communities,” Invited Keynote Speaker, Maricopa Association of Governments Annual Conference, December 3, Phoenix, Arizona.
- 2019 “Agents of Change: Futures of Hope, Futures of Concern”, Global Futures Laboratory Planetary Symposium led by Nina Berman; Organizer of Built Environment Exhibit, Concluding Remarks Panelist, Arizona State University, October 24-25, Tempe, Arizona.
- 2019 “Workforce Development and YouthMappers: Understanding perceptions of students in humanitarian mapping.” Poster Presentation and Flash Talk published with co-author Sushil Rajagopalan as abstract in Proceedings of the Academic Track, State of the Map 2019, September 21-23, Heidelberg, Germany.
- 2019 “How knowing the purpose of mapping changes the map and the mappers themselves.” Poster Presentation and Flash Talk published as abstract in Proceedings of the Academic Track, State of the Map 2019, September 21-23, Heidelberg, Germany.
- 2019 “Exchanging Knowledge with Communities for Improving Resilience to Extreme Heat.” Guided Poster Session Organizer and Chair, with scientific attachés from the Offices of Senator Sinema, Senator McSally and the State of Arizona Department of Economic Security, Association of American Geographers, April 5, Washington, DC.
- 2019 “Promoting Diversity in Geography: Strategies to Improve Inclusion, Broaden Participation, and Assess Progress.” Panelist, AAG Leadership Symposium, Association of American Geographers, April 4, Washington, DC.
- 2019 “How knowing the purpose of mapping changes the map and the mappers themselves.” Paper Presentation, Association of American Geographers, April 3, Washington, DC.
- 2019 “Informal Learning Pathways through Mapathons for Military and Veteran Communities.” Poster Presentation. National Science Foundation Advancing Informal STEM Learning Program Principal Investigator Meeting, February 13, Alexandria, Virginia.
- 2019 “Developing Utility Assistance Community Resilience Networks in Maricopa County.” Wei Luo, Q. Zhao, H. Fischer, P. Solis, and E. Wentz. Poster. American Meteorological Society, 99th Annual Meeting, January 8, Phoenix, Arizona.
- 2019 “Community Resilience in Maricopa County, Arizona, USA: The Analysis of Indoor Heat-Related Death and Urban Thermal Environment.” Qunshan Zhao, H. Fischer, W. Luo, P. Solis, and E. Wentz. Poster. American Meteorological Society, 99th Annual Meeting, January 8, Phoenix, Arizona.
- 2019 “Mapping Heat Vulnerability in Maricopa County, Arizona, with the HeatMappers Volunteer Science Program.” Grace Valandra, H. Fischer, P. Solis, Q. Zhao, E. Wentz, and C. Higgins. Poster. American Meteorological Society, 99th Annual Meeting, January 8, Phoenix, Arizona.

- 2019 “ActivityLog–HeatMappers: A Novel Research Data Collection Tool for Logging Activities, Locations, and Environmental Data.” Ziqi Li, Q. Zhao, H. Fischer, P. Solis, and E. Wentz. Poster. American Meteorological Society, 99th Annual Meeting, January 8, Phoenix, Arizona.
- 2019 “Developing Utility Assistance Community Resilience Networks in Maricopa County.” Wei Luo, Q. Zhao, H. Fischer, P. Solis, and E. Wentz. Poster. American Meteorological Society, 99th Annual Meeting, January 8, Phoenix, Arizona.
- 2018 “Knowledge Exchange for Resilience: How can we design Collaborative Science for Accountable Decision-Making?” Invited Panelist Speaker, National Council for Science and the Environment Webinar on The Science of Resilience in Decision Making , December 5, (virtual) Washington, DC.
- 2018 “Building Bridges Across Geographies,” Plenary Keynote Speaker, Esri Education Summit, July 7, San Diego, California.
- 2018 “Mapping for Humanitarian Needs around the World: Students map their campuses and communities for resilience,” Presenter, Esri Education Summit, July 9, San Diego, California.
- 2018 “YouthMappers: Mapeo Comunitario y Geovoluntarios Estudiantiles,” Invited speaker at Universidad de Costa Rica, May 25, San Jose, Costa Rica.
- 2018 *Digital Technologies for a Better World*, Symposium Organizer, with invited speakers from Facebook, Microsoft, Humanitarian OpenStreetMap Team, US Agency for International Development, Clinton Health Access Initiative, Digital Globe, and Esri, April 18, Texas Tech University, Lubbock, Texas.
- 2018 “Broadening the Impacts of Transformative Research in Geography,” Panelist, American Association of Geographers Annual Meeting, April 11, New Orleans, Louisiana.
- 2018 “YouthMappers from around the world: How students are mapping their campuses and communities for resilience,” Organizer and Panelist, American Association of Geographers Annual Meeting, April 10, New Orleans, Louisiana.
- 2017 “Challenges and Opportunities in the Geospatial Revolution,” Keynote Speaker, GIS Day, University of Texas at Dallas, November 15, Richardson, Texas.
- 2017 “Humanitarian Mapping Education: A View on Curriculum,” Speaker, Humanitarian OpenStreetMap Summit, with Tom Mueller, September 13, Ottawa, Canada.
- 2017 “Building Mappers not just Maps: Challenges and Opportunities,” Keynote Speaker, Citizen Science GIS NSF REU Student Conference, University of Central Florida, August 8, Facebook Live and Orlando, Florida.
- 2017 “What do today’s leaders need to know about tomorrow’s climate?” Invited Speaker, Leadership Women National Conference, July 28, Dallas, Texas.
- 2017 *Powerful Geography: A New Paradigm for an Old Discipline*, Research Workshop and Planning Conference, Invited Core Participant, Texas State University, June 9-10, San Marcos, Texas.
- 2017 “Creando jóvenes mapeadores, no sólo mapas,” Keynote Speaker, Conference Theme on Geography Education, Encuentro de la Geografía en America Latina, April 27, La Paz, Bolivia.
- 2017 *Geographies for Peace / Geografía para la Paz*, Participant, International Geographical Union Conference, April 25-26, La Paz, Bolivia.
- 2017 “Transformative Research in Geography Education.” Invited Panelist; National Center for Research in Geography Education Symposium, April 9, Boston, Massachusetts.

- 2017 2nd Mapathon@AAG and MIT, Featured Event Organizing Committee, AAG Annual Meeting, Massachusetts Institute of Technology, April 6-9, Boston, Massachusetts.
- 2017 “Building mappers not just maps: challenges and opportunities from YouthMappers on scaling up the crowd in crowd-sourced open mapping for development.” Paper presenter. AAG Mapathon; AAG Annual Meeting, April 7, Boston, Massachusetts.
- 2017 “Open Mapping for Resilience: YouthMappers in Latin America.” Paper presentation, Conference of Latin Americanist Geographers, January, New Orleans, LA.
- 2017 “Strategies to obtain NSF Funding.” Panelist, Conference of Latin Americanist Geographers, January, New Orleans, LA.
- 2016 “El Reto y la Oportunidad del Mapeo Abierto.” Invited Speaker, Directing Council Meeting of the PanAmerican Institute for Geography and History of the OAS, November, Asunción, Paraguay.
- 2016 “We don’t just build maps. We build mappers.” Keynote Speaker, GeoWeek and International Education Week, Monroe Community College, November, Rochester, NY.
- 2016 “Local Capacity Building in Open Mapping for Resilience in Colombia, Kenya, Uganda, Ghana, and Bangladesh,” Invited Speaker, US Agency for International Development GeoCenter GIS Specialists Conference, October, Washington, DC.
- 2016 “YouthMappers: Open Mapping for Resilience Network of Universities,” Invited Speaker, Humanitarian OpenStreetMap Summit, September, Brussels, Belgium.
- 2016 “Aprendizaje basado en Proyectos,” Invited Speaker, Ministry of Education (MEDUCA), Panama, August, City of Knowledge, Clayton, Panama.
- 2016 White House Mapathon. Invited Participant, student facilitator coordinator. White House Executive Office Building, July 7, Washington, DC.
- 2016 “Coherence in Project Management Planning”. Invited Speaker, Early Career Researcher Training, South Central Climate Science Center, TTU Innovation Hub, June, Lubbock, TX.
- 2016 “The Power of Youth Mapping for Resilience.” Invited Speaker, Organization of American States PAIGH, US National Section Annual Meeting, US Census Building, May, Washington, DC.
- 2016 “Building a Youth Mapping University Community.” Invited Speaker, Peace Corps Innovation Office, Virtual Internship Conference Series, April 11, from Washington, DC.
- 2016 “SCAN: a new programmatic service to support faculty resubmission of rejected external funding proposals.” Lightning Talk, Research Development Conference of the National Organization of Research Professionals, NORDP, May 23, Orlando, Florida.
- 2016 “About the Mapping for Resilience University Consortium.” Invited Webinar Leader and Speaker, University Consortium for Geographic Information Science (UCGIS), with Duane Nellis, Brent McCusker, Nuala Cowan, Chad Blevins, April 20, from New York, New York.
- 2016 “Understanding OpenStreetMap: Current, Historical, and Meta-Data Analysis.” Co-Organizer and Discussant. AAG Mapathon; AAG Annual Meeting, April 1, San Francisco, California.
- 2016 Mapathon@AAG, Featured Event Organizing Committee, AAG Annual Meeting, April, San Francisco, California.
- 2016 “Opportunities with the Mapping for Resilience University Consortium.” Organizer, Panelist, Chair, Panel Session, AAG Annual Meeting, April, San Francisco, California.

- 2016 “Analytical and Geospatial Approaches to Livelihoods, Vulnerability, and Resilience.” Paper session co-organizer with Brent McCusker, West Virginia University, AAG Annual Meeting, April, San Francisco, California.
- 2016 “Opportunities and Challenges Ahead for the Open Mapping Community.” Chair, Panel Session, organized by US Department of State MapGive, AAG Annual Meeting, April, San Francisco, California.
- 2015 “Inspirations from Youth Mappers.” Keynote Speaker, Launch of the Mapping for Resilience University Consortium during GeoWeek 2015, Rayburn House Office Building, Capitol Hill, Washington, DC, November.
- 2015 “Mappers Without Borders.” Invited Speaker, GIS Specialists in USAID Missions, Annual Conference, Washington, DC, October.
- 2015 “Gender, Security, and the Environment.” Invited Guest Lecturer, Environmental Security Graduate Seminar (Richard Marston), Kansas State University, October.
- 2015 “Stories from the Map.” Invited Guest Lecturer, World Regional Geography (Max Lu), Kansas State University, October.
- 2015 Tribal Nations Grant Workshop USGS Climate Science Center, Panelist, July.
- 2015 State of the Map, Open Street Map, June, United Nations Headquarters, New York, New York.
- 2015 Science of Team Science Conference SciTS, National Institutes of Health, June, Bethesda, Maryland.
- 2015 Research Development Conference of the National Organization of Research Professionals, NORDP, May, Bethesda, Maryland.
- 2015 “Mapping Across Borders as a Collaborative Learning Approach for Climate Change Education.” Paper Presenter at Session on Climate Literacy & Education, co-organized by Dan Bedford, Weber State University and John A. Harrington, Kansas State University, AAG Annual Meeting, April, Chicago, Illinois.
- 2015 Pan-American Partnerships: Working with Higher Education Institutions in Latin America to enrich Research and Education. Panelist, co-organized by David Salisbury & Mary Finley-Brook, University of Richmond, AAG Annual Meeting, April, Chicago, Illinois.
- 2015 “Geography and Geospatial Technologies.” Invited Speaker, AVID program (Advancement Via Individual Determination), Murphy Middle School, March, Dallas, Texas.
- 2014 “Capstone Fellows Live,” NASA Television Broadcast of Capstone Fellows and the MyCOE / SERVIR Program, Invited Speaker, received by Dr. Charles Bolden, Administrator; NASA Headquarters, April 3, Washington, DC. Recording available at <http://tinyurl.com/lwun2xm>.
- 2014 US Agency for International Development Support for the MyCOE / SERVIR Global Fellowship Program, Invited Speaker at Public Poster Session, received by Dr. Rajiv Shah, Administrator; USAID Headquarters, Ronald Reagan Building, April 4, Washington, DC.
- 2014 "Informal Education, Social Media, and Geographic Technologies: Lessons on Scaling Up from the MyCOE Program," with Astrid Ng (co-author). Paper Presenter at Session on New Approaches for Advancing GIScience Education, organized by Anthony Robinson, Penn State University, AAG Annual Meeting, April, Tampa, Florida.
- 2014 MyCOE / SERVIR Global Fellows, Featured Illustrated Paper Session, Organizer, AAG Annual Meeting, April, Tampa, Florida.

- 2014 Pan-American Geography: Working Across Academic, NonProfit, and Public Sectors to enrich Research and Education in the Americas, Organizer with David Salisbury, AAG Annual Meeting, April, Tampa, Florida.
- 2014 Beyond Professional Development: Candid Advice for Students and Early Career Geographers, Panelist, AAG Annual Meeting, April, Tampa, Florida.
- 2014 Conversations with the AAG Healthy Departments Committee and the AAG Diversity Ambassadors, Organizer with Alec Murphy and Nate Sessoms, AAG Annual Meeting, April, Tampa, Florida.
- 2014 "Evolution of a New Geographic Approach to Broadening Participation," Invited Colloquium Speaker, University of Kansas Department of Geography, March, Lawrence, Kansas.
- 2014 "Women Geographers and Women in Geography in the Americas / Geógrafas y Mujeres en la Geografía en las Américas," Special Session Organizer and Panelist, Conference of Latin Americanist Geographers, January, Panama City, Panama.
- 2014 "Building Collaborative Research Opportunities into Study Abroad Programs: A Case Study from Panama's Casco Viejo," Paper Presentation with Marie Price, CLAG Meeting, January, Panama City, Panama.
- 2013 "Colaboración para la Geografía en las Américas," Invited Speaker, IPGH Technical and Consultative Meeting, November, Montevideo, Uruguay.
- 2013 "Education and Geospatial Capacity for the World's One Billion Youth," Invited Speaker (given in Spanish), Conferencia Internacional de Geografía y Medio Ambiente, INEGI, October, Mexico City, Mexico.
- 2013 AAG Department Chairs Symposium: Promoting Diversity in Geography: Strategies to Improve Inclusion, Broaden Participation, and Assess Actions, Co-Organizer with Ken Foote, AAG Annual Meeting, April, Los Angeles, California.
- 2013 AAG Diversity Ambassadors Networking Reception, Organizer, AAG Annual Meeting, April, Los Angeles, California.
- 2013 Catalyzing Research on the Geographies of Broadening Participation, Panel Organizer, Discussant, AAG Annual Meeting, April, Los Angeles, California.
- 2013 CyberGIS Symposium: CyberGIS Education, Invited Panelist, AAG Annual Meeting, April, Los Angeles, California.
- 2013 Geography in the Americas: Making the Most of Student Exchanges for Research and Study Abroad, Chair, Discussant, Organizer, AAG Annual Meeting, April, Los Angeles, California.
- 2013 International Geographies of Education: Rio+20, the UN and the role of geographers, Panel Speaker, AAG Annual Meeting, April, Los Angeles, California.
- 2013 Young Leaders Mapping Sustainable Development Challenges: My Community, Our Earth Beyond Rio+20, Organizer, Presenter, Poster session of 50 posters, and Digital Video Conference linking live to classrooms in Ghana, Nicaragua, Bolivia, and Puerto Rico; AAG Annual Meeting, April, Los Angeles, California.
- 2013 The Versatile PhD: Careers in Nonprofits for Humanists and Social Scientists, Invited panelist, www.versatilephd.com, January, online panel session.

- 2012 Enhancing Diversity, Promoting Inclusion, Confronting Racism, and Broadening Participation in Geography, Co-organizer and panelist, Race, Ethnicity, and Place Conference VI, October, San Juan, Puerto Rico.
- 2012 "MyCOE / SERVIR Partnership for Sustainable Development," on behalf of Dan Irwin, NASA, presented in panel session "Geography and Spatial Technologies: Empowering Sustainable Futures" at the US Rio+20 Center, United Nations Conference on Sustainable Development (Rio+20), June, Rio de Janeiro, Brazil.
- 2012 Presentation Series on Diversity, organized three consecutive featured sessions, including "The Landscape of Diversity in U.S. Higher Education Geography," presented in paper session Diversity, Inclusion and Participation in Geography; moderated panel, Diverse Experiences in Diversity at the Geography Department Scale; AAG Annual Meeting, February, New York, New York.
- 2011 Geography at Minority Serving Institutions Panel session series: "Si se puede! Recruiting and Retaining Hispanic/Latino Students in Geography at Hispanic Serving Institutions," "The Status of Geospatial Technology at Historically Black Colleges and Universities," "Geography, GIS, and Environmental Sciences at Tribal Colleges, AANAPISI, and Indigenous University Partnerships," and "Intro Geography: Undergraduate Coursework in Community Colleges and Beyond." AAG Annual Meeting, April, Seattle, Washington.
- 2011 Geography in the Americas: Roundtable of Geography Organizations of the Region on Addressing Key Challenges in Society/Geografía en las Américas: Mesa redonda de las organizaciones de geografía de la región de cómo afrontar los desafíos clave en la sociedad; bilingual session co-organized with representatives from AAG, International Geographical Union, PanAmerican Institute of Geography and History, Encuentro de Geógrafos de América Latina, and other associations. AAG Annual Meeting, April, Seattle, Washington.
- 2011 Diversity Ambassadors Special Event Organizer at the Jobs in Geography Career Center Exhibit, with 24 volunteers, AAG Annual Meeting, April, Seattle, Washington.
- 2012 "Interdisciplinary Research Collaborations: Geography in the Americas," invited presentation for the *Symposium of the Americas*, held at the Organization of American States, March, Washington, DC.
- 2011 Geography in the Americas: Roundtable of Geography Organizations of the Region on Addressing Key Challenges in Society/Geografía en las Américas: Mesa redonda de las organizaciones de geografía de la región de cómo afrontar los desafíos clave en la sociedad; bilingual session co-organized with representatives from AAG, International Geographical Union, PanAmerican Institute of Geography and History, Encuentro de Geógrafos de América Latina, and other associations. IGU Regional Conference, November, Santiago, Chile.
- 2011 "Sobre el Instituto internacional integrando investigación sobre el cambio climático y riesgos en las Américas." Conferencia de Desastres y Ordenamiento Territorial en las Américas, November, Lima, Perú.
- 2011 Advisor/Co-organizer, international keynote speakers, "Congreso de Sistemas de Información Geográfica como Plataforma para la Modernización del Estado." With the Ministry of Science, Technology & Innovation, Authority for Governmental Innovation, June, Panama City, Panamá.
- 2011 "Perspectivas sobre Investigación Geográfica y Colaboración Panamericana." 2a Reunión Técnica Conjunta de las Comisiones del Instituto Panamericano de Geografía y Historia. June, Panamá, Panamá.

- 2010 Enhancing Diversity in Higher Education Track at the AAG Annual Meeting, Organizer of featured 20 sessions featuring geographic research that can inform efforts to broaden participation in geography programs at US colleges and universities and to enhance diversity in the discipline, April, AAG Annual Meeting, Washington, DC.
- 2010 Diversity Ambassadors Special Event Organizer with 16 volunteers, AAG Annual Meeting, April, Washington, DC 2010.
- 2010 Institutional Perspectives on Broadening Participation and Enhancing Diversity in Higher Education, Panel Co-Organizer with Amy Glasmeier of MIT and Rickie Sanders of Temple University, featuring representatives from American Association of Persons with Disabilities, American Geophysical Union, Lumina Foundation for Education, American Educational Research Association, American Psychological Association and American Association for Advancement of Science, AAG Annual Meeting, April, Washington, DC.
- 2010 Opportunities for Enhancing Diversity in the Geosciences: Programs and Partnerships, Panel Organizer and Paper Presenter “ALIGNED: Addressing Locally-tailored Information Infrastructure & Geoscience Needs for Enhancing Diversity.” AAG Annual Meeting, April, Washington, DC.
- 2010 Ecosystem Conservation Priorities in the Americas, Panel Organizer and Chair of Symposium for the JRS Biodiversity Foundation, Washington, DC. With IABIN, City of Knowledge (Panama), National Biodiversity Institute (InBIO-Costa Rica), Neotropical Bat Risk Assessments (Belize), Virginia Polytechnic Institute and State University, and the AAG. Keynote session featured a Roundtable of leading experts including representatives to the World Bank, United Nations Foundation, Heinz Center for Science, Economics, and the Environment, Copenhagen Climate Council, Instituto Nacional de Biodiversidad (INBio), USGS, Organization of American States, University of Texas at Austin.
- 2009 My Geographic Learning Making a Difference: Considering Results from My Community, Our Earth Regional Programs in the Developing World. Illustrated Paper Session Organizer with participants from Mexico, Philippines, United States, Panama, Morocco, Turkey, and Egypt, AAG Annual Meeting, Las Vegas, Nevada.
- 2009 Diversity Ambassadors Inauguration, CoFounder with Nate Sessoms (12 volunteers), AAG Annual Meeting, Las Vegas, Nevada.
- 2009 Geography in the Americas Resources for Supporting International Collaboration, Panelist and Organizer with representatives from the American Council of Learned Societies, Organization of American States, Inter-American Foundation, Office of International Research Programs at USDA-Agricultural Research Service, Executive Director of LASPAU, Academic and Professional Programs for the Americas, Fulbright Program, affiliated with Harvard University, and Americas Program, Office of International Science and Engineering, National Science Foundation. AAG Annual Meeting, Las Vegas, Nevada.
- 2009 “Graduate Education and Diversity in Geography: Perceptions, Strategies and Challenges.” Co-author, Beth Schlemper, presenter, at AAG Annual Meeting, Las Vegas, Nevada.
- 2008 “Lessons Learned from a Global Learning Partnership: My Community, Our Earth,” invited presentation at the UN Commission for Sustainable Development, New York, New York.
- 2008 “An Overview of International Research Collaboration among Geographers and Other Scholars of the Americas: Dimensions, Opportunities, and Best Practices.” Paper presented and Featured Session Organizer, Exploring International Interdisciplinary Research Collaboration in the Americas, AAG Annual Meeting, Boston, Massachusetts.

- 2008 “Strategies for Student Recruitment: Graduate, Undergraduate, & Diversity Initiatives.” Panelist, AAG Annual Meeting, Boston, Massachusetts.
- 2008 “Spotlight on U.S. Geography Linkages to Developing Regions.” Discussant, AAG Special Plenary Session, AAG Annual Meeting, Boston, Massachusetts.
- 2007 “Progress toward Geographic Collaborations in the Americas: Results and Recommendations.” Presenter, Conference of Latin Americanist Geographers Meeting, Colorado Springs, Colorado.
- 2007 “AAG Diversity Task Force: Report and Recommendations.” Panelist, AAG Annual Meeting, San Francisco, California.
- 2007 “El Estado Actual de la Geografía en las Américas.” Chair and Panel Organizer, featured session at the AAG Annual Meeting, San Francisco, California.
- 2007 “MyCOE: International Collaborations around Geographic Learning for Sustainable Development.” Chair, Panelist, and Organizer of Invited Panel and Student Competition Illustrated Poster Sessions, AAG Annual Meeting, San Francisco, California.
- 2007 “The AAMIGA Project: Advancing International Research Collaboration among Geographers of the Americas.” Presenter, Geography of the Americas Conference, La Serena, Chile.
- 2007 “The Science of Geography in the 21st Century.” Invited Keynote Speaker, Meeting of the Asociación Panameña para el Avance de la Ciencia (APANAC), Panama City, Panamá.
- 2006 “Heuristics, Serendipity, and Enlightened Opportunism: Making a Difference Through Geography.” Invited Speaker, Geography Awareness Week, Department of Geography, Kansas State University, Manhattan, Kansas.
- 2006 “AAG Panel on US and Latin American Collaboration in Geographic Research and Education.” Panelist, 2006 Conference on Race, Ethnicity and Place at Texas State University, San Marcos, Texas.
- 2006 “My Community, Our Earth: Youth Solutions in Water Resource Projects.” Poster, 3rd International Symposium on Integrated Water Resources Management (ICWRS/UNESCO) at Ruhr University, Bochum, Germany.
- 2006 “AAG Diversity Task Force: Collaboration and Outreach.” Panelist, AAG Annual Meeting, Chicago, Illinois.
- 2006 “Enhancing Career Development and Graduate Geography as a Strategic Goal within the AAG.” Presenter, AAG Annual Meeting, Chicago, Illinois.
- 2006 “El Estado Actual de la Geografía en Países Hispanoamericanos.” Chair and Panel Organizer, first official Spanish-language session at the AAG Annual Meeting, Chicago, Illinois.
- 2006 “MyCOE: Geographic Learning for Sustainable Development in the US Gulf and Greater Caribbean Region.” Chair, Panelist, and Organizer, AAG Annual Meeting, Chicago, Illinois.
- 2005 “The Digital Bus and Geographic Information Technology Education.” Presenter and Session Chair, AAG National Conference, Denver, Colorado.
- 2005 “Community Mapping: Linking Research, Partners, and Action.” Presenter and Session Chair, AAG Annual Meeting, Denver, Colorado.
- 2004 “Geographic Technologies for Water Management: Model Programs for Research, Outreach, and Education.” Presenter and Session Chair, White Water to Blue Water Conference, Miami, Florida.

- 2004 “World Summit on Sustainable Development: Partnerships for the Future.” Presenter and Session Chair, AAG Centennial Meeting, Philadelphia, Pennsylvania.
- 2004 “Applying GIS to Project Decision-Making,” Invited Panel Speaker, InterAmerican Development Bank, Environment Week, Washington, District of Colombia.
- 2004 “Race/Ethnicity and Place Programs and Applications”, Plenary Panel Chair, 2004 Conference on Race/Ethnicity and Place at Howard University, Washington, District of Colombia.
- 2002 “Reflections on Fieldwork.” Guest Speaker in Special Topics Research Design and Methods, Prof. Rex Honey, University of Iowa.
- 2002 “Maps and Expert Knowledge in Development: Contesting and Combating Desertification in Patagonia.” Paper presented at AAG National Conference, Los Angeles, California.
- 2002 “Combating Desertification in Patagonia And ‘Other Bedtime Stories’.” Guest Lecturer in Development Planning and Policy, Prof. Michael McNulty, University of Iowa.
- 2001 “On the Production of Knowledge in Environment and Development: Core Concepts in the Discipline of Geography.” Area Review Paper and Presentation, University of Iowa Department of Geography.
- 2001 “Local Challenge to a Global Agenda? Combating Desertification in Patagonia, Argentina.” Paper presented at Ford Foundation Crossing Borders Convocation, Iowa City, Iowa.
- 2000 “Constructed Enemies: Discourse of ‘Combating Desertification’ in Río Negro, Argentina.” With Rebecca S. Roberts. Paper presented at AAG National Conference, Pittsburgh, Pennsylvania.
- 2000 “Resonating Discourses: ‘Combating Desertification’ and *La Conquista del Desierto* in Río Negro, Argentina.” Paper presented at University of Iowa Graduate Student Senate Forum 2000, Iowa City, Iowa.
- 1999 “Constructed Enemies: Nature and Other in Global Discourses of ‘Combating Desertification.’” Paper presented at West Lakes Division Regional AAG Conference, DeKalb, Illinois.
- 1999 “Land and Water as Heritage: Discourses of Rural Resource Conflict in Edwards County, Kansas and O’Brien County, Iowa.” Paper presented at Kansas Academy of Sciences, Manhattan, Kansas.
- 1999 “Development, Environment, and Social Tension: Issues in Rural Southwestern Kansas.” Guest Lecturer in Environment and Development, Prof. Ken MacDonald, University of Iowa.
- 1999 “Economic Development Issues of Kansas Border Counties.” Speaker at 10th Annual Community Economic Development Conference, Kansas Center for Rural Initiatives, Hays, Kansas.
- 1999 “Cultural Relations: Experiential Learning in Simulation.” Presenter for Leadership Liberal, Kansas.
- 1996 “Social Impacts of Water Transfer.” Paper presented at Kansas Academy of Sciences, Emporia, Kansas.

TEACHING EXPERIENCE

- 2017 Research Associate Professor, *Undergraduate Research*, GEOL4312, undergraduate research supervision on open mapping for disaster prevention from volcanic hazards in Colombia, Department of Geosciences, Texas Tech University, Fall Semester
- 2017 Research Associate Professor, *Graduate Research Hours*, LPMD7000, Summer Term graduate research supervision on tool discovery and the impact of open mapping for malaria prevention in Africa, Department of Land Use Planning Management and Design, Texas Tech University
- 2017 Invited Lecturer, *Anthropology of Tourism*, ANTH3300 Texas Tech University, with Lauren Miller Griffith, on “Mapping for Hurricane and Flooding Recovery,” Fall Semester
- 2017 Invited Lecturer, *Introduction to Human Geography*, GEOG2300 Texas Tech University, with Linda Lea Jones, on “Mapping for Hurricane and Flooding Recovery,” Fall Semester
- 2017 Research Associate Professor, *Special Topics in Geography: Open Mapping for Resilience*, GEOG4320/5130-S, undergraduate and graduate hybrid online course with Service-Learning designation, Spring Semester, 15 students and wiki-coauthors for projects in Uganda, Colombia, Nigeria, Philippines, with USAID GeoCenter, Missing Maps, Red Cross, USAID Office of Foreign Disaster Assistance, presented via StoryMap, Department of Geosciences, Texas Tech University
- 2016 Research Associate Professor, *Special Topics in Geography: Open Mapping for Resilience*, GEOG4320/5130-S, undergraduate and graduate hybrid online course with Service-Learning designation, Fall Semester, 18 students and wiki-coauthors for projects with USAID GeoCenter in Kenya, Colombia, Ghana, Indonesia, presented via StoryMap, Department of Geosciences, Texas Tech University
- 2016 Research Associate Professor, *Special Topics in Geography: Open Mapping for Resilience*, GEOG4320, upper level undergraduate/graduate independent study hybrid online course, Spring Semester, 29 students and wiki-coauthors for projects with USAID GeoCenter in Angola, Mozambique, Ecuador, Bangladesh, Department of Geosciences, Texas Tech University
- 2016 Invited Lecturer, *The Humanities in the 21st Century*, Texas Tech University, with Dorothy Chansky, on “How to Lie With Maps,” interdisciplinary team-taught undergraduate core general education requirement course as introduction to the humanities, sponsored by the TTU Humanities Center
- 2012 Assistant Professorial Lecturer, *Urban Sustainability and Development*, The George Washington University, with Marie Price, undergraduate / graduate level study abroad summer course and international fieldwork research collaboration experience, in collaboration with the University of Panama, Department of Geography, Maria Adames de Newbill, Panama City, Panama
- 2009 Assistant Professorial Lecturer, *Sustainable Development Strategies, Ecotourism, and Security*, The George Washington University, with Marie Price, undergraduate / graduate level study abroad summer course in Panama City, Panama
- 2006 Assistant Professorial Lecturer, *Panama and the Global Economy*, The George Washington University, with Joe Dymond, undergraduate / graduate level study abroad summer course in Panama City, Panama
- 2003 - 2004 Assistant Professorial Lecturer, *Graduate Seminar on Resources and the Environment: Resource Conflict and Conflict Resources*, Department of Geography, The George Washington University, Washington, DC Campus
- 2001 Graduate Teaching Assistant, *Introduction to Human Geography*, The University of Iowa

- 2000 Graduate Teaching Assistant, *Undergraduate Seminar for Geography Majors*, The University of Iowa
- 1999 Graduate Teaching Assistant, *Contemporary Environmental Issues*, The University of Iowa
- 1994 - 1996 Instructor, *International Community Service Program*, Kansas State University
- 1991 - 1994 Learning Skills Seminar Leader, Academic Assistance Center, Kansas State University
- 1991 - 1994 Mentor/Tutor, Tutoring Center and Athletic Department, Kansas State University

INTERNATIONAL & US WORKSHOPS

*Lead instructor/facilitator in addition to organizer role.

- Santo Domingo, Dominican Republic***, July 11, 2019. Roundtable Forum on Volunteered Geographic Data in the Americas, (moderator), hosted by the Geography Commission of the Organization of American States PanAmerican Institute for Geography and History for 19 national mapping agency leaders from 11 countries of Central America, Caribbean, Mexico and the United States.
- Pretoria, South Africa***, January 5-15, 2019. YouthMappers Leadership Fellows Workshop, hosted by the University of Pretoria for 19 university students from South Africa, Malawi, Ghana, Côte d'Ivoire, Uganda, Kenya, Bangladesh, Nepal, Philippines, Costa Rica, Colombia, Panama, and the US.
- Milan, Italy***, July 18, 2018. Humanitarian Mapping in the Service Learning Curricula, hosted by the Fulbright Specialists Program for faculty and students at the Politecnico di Milano.
- Kathmandu, Nepal***, May 21 - 28, 2017. Leadership Fellowship Workshop, YouthMappers Global Network; 20 university students from the US and 10 countries in Africa, Latin America and Asia. USAID GeoCenter. <http://bit.do/youthfellows>
- Mexico City, Mexico***, June 17, 2015. Formulación de proyectos científicos. Instituto Panamericano de Geografía e Historia, 3ª Reunión Técnica Conjunta de las Comisiones del IPGH.
- La Paz, Bolivia**, June 30 - July 9, 2014. Global Connections and Exchange Youth TechCamps Program: My Community, Our Earth; Secondary school students, 10 from the US with 30 from Bolivia. Orientation on Cultural Exchanges for US students in Miami, Florida. Geotechnologies and Climate Change. USDOS Youth Programs Division. www.aag.org/techcamps
- Pretoria, South Africa**, July 14-23, 2014. Global Connections and Exchange Youth TechCamps Program: My Community, Our Earth; Secondary school students, 10 from the US with 30 from South Africa. Orientation on Cultural Exchanges for US students in Washington, DC. Geotechnologies and Climate Change. USDOS Youth Programs Division. www.aag.org/techcamps
- Chitre, Panama***, July 28 - August 6, 2014. Global Connections and Exchange Youth TechCamps Program: My Community, Our Earth; Secondary school students, 10 from the US with 30 from Panama. Orientation on Cultural Exchanges for US students in Houston, Texas. Geotechnologies and Climate Change. USDOS Youth Programs Division. www.aag.org/techcamps
- Bangkok, Thailand**, January 2014. My Community, Our Earth SERVIR Workshop on Climate Change, Landscape and Watersheds in Southeast Asia; 25 university students and faculty mentors from Cambodia, Laos, Myanmar, Thailand, and Vietnam. NASA, USAID, RDMA. www.aag.org/mycoe.servir/southeastasia
- Accra, Ghana**, July 2013. My Community, Our Earth SERVIR Workshop on Women in Climate Change and Food Security in West Africa; 32 university students and faculty mentors from Benin, Cameroon, Côte d'Ivoire, Ghana, and Nigeria. NASA, USAID, CERSGIS. www.aag.org/mycoe.servir/westafrika
- Los Angeles, California***, April 2013. Global Connections and Exchange Program: My Community, Our Earth Digital Video Conference; with 45 on-site posters, and live online presentations from secondary school student participants from Puerto Rico, Bolivia, Ghana, Nicaragua, and the

- Philippines, Climate Change, Green Economy, and Food Security. USDOS Youth Programs Division. www.aag.org/MyCOE_DVC and www.aag.org/gce
- Kathmandu, Nepal**, February 2013. My Community, Our Earth SERVIR Workshop on Climate Change in Mountain Area Regions in the Himalayas; 27 university students and faculty mentors from Bangladesh, Bhutan, India, Nepal, and Pakistan. NASA, USAID, ICIMOD. www.aag.org/mycoe.servir/himalayas
- Nairobi, Kenya**, December 2012. My Community, Our Earth SERVIR Workshop on Climate Change, Agriculture and Food Security in East Africa; 36 university students and faculty mentors from Democratic Republic of Congo, Ethiopia, Kenya, Malawi, Rwanda, South Africa, Sudan, Tanzania, and Uganda. NASA, USAID, RCMRD. www.aag.org/mycoe.servir/eastafrica
- Rio de Janeiro, Brazil**,* June 2012. My Community, Our Earth: Geographic Learning for Sustainable Development Exhibit and Geography and Spatial Technologies: Empowering Sustainable Futures, US Government Side Event at the Rio+20 Conference Anniversary of the Earth Summit. USDA, USAID, Esri, USDOS. www.aag.org/mycoe/activities_programs/mycoe_and_rio20
- Panama City, Panama**,* June 2010. Institute for Integration of Research on Climate Change and Hazards in the Americas; interdisciplinary group of 50 junior scholars and senior researchers from US, Panama, Chile, Brazil and Mexico; Climate Change, Hazards, Vulnerability, Geographic Technologies, Communication, and Education. NSF (PASI), OAS (PAIGH), USGS, NCA, UNEP-LAC, UTP. <https://sites.google.com/a/aag.org/c2heke/>
- Panama City, Panama**,* December 2010 and June 2011. Enhancing Latin American GIS&T Capacity for Innovation and Economic Development Planning Meeting and Conference Symposium. IDB (KPK), SENACYT, AIG, Esri; www.aag.org/cs/LACCcenter
- Nairobi, Kenya**, November 2009. My Community, Our Earth Fellowship Workshop for Biodiversity Initiative in Africa; 35 university student fellows and faculty mentors from Benin, Botswana, Democratic Republic of Congo, Ethiopia, Ghana, Kenya, Malawi, Nigeria, Rwanda, South Africa, Tanzania, and Uganda; NASA, USAID, SERVIR, RCMRD, EIS-Africa, Esri, and NSF (OISE). <https://sites.google.com/a/aag.org/mycoe-servir/home>
- Tunis, Tunisia**, August 2008. My Community, Our Earth Workshop on Geography and GIS Supporting STEM Education in the Muslim World; 25 school teachers trained from Tunisia, Bahrain, Egypt, Israel, Jordan, Lebanon, Qatar, Saudi Arabia, UAE, and Yemen. USDOS, Esri. www.aag.org/mycoe/activities_programs/middle_east_north_africa
- Panama City, Panama**,* January 2008. MyCOE Geographic Learning for Biodiversity Initiative in Central America and the Greater Caribbean; 27 university students and faculty mentors from Colombia, Dominican Republic, Guatemala, Mexico, Nicaragua, and Panama. USAID, USGS and Esri. www.aag.org/mycoe/biodiversity-initiative-in-central-america
- Davao, Philippines**, May 2008. My Community, Our Earth Workshop on Geography and GIS Supporting STEM Education in the Muslim World; 35 school teachers trained in the Muslim Region of Mindanao, Philippines. USDOS, Esri. www.aag.org/mycoe/activities_programs/muslim_southeast_asia
- La Serena, Chile**,* May 2007. MyCOE Geographic Learningship in the US Gulf and Greater Caribbean; 8 undergraduates from the US, Puerto Rico, Honduras, Jamaica, and Panama. USDA, USAID. www.aag.org/mycoe/activities_programs/geographic_learningships
- Panama City, Panama**,* June 2005. Grant Proposal Preparation. Presenter, Four-Day Workshop, *ad honorem*, Universidad Tecnológica de Panamá (Technological University of Panama).

United States*

- 2019 Hunch Lunch: Food Security in Resilient Communities, Organizer and Facilitator, Knowledge Exchange for Resilience Fall Signature Event, with Valley of the Sun United Way and the Phoenix Rescue Mission, hosted at the Mission Possible Café, October 9, Phoenix, Arizona.
- 2019 Hunch Lunch: Youth Building Resilience through Places of Play and Learning, Organizer and Facilitator, Knowledge Exchange for Resilience Spring Signature Event, with Global Sport Institute, Initiative on Creativity, Place and Equitable Communities, Valley of the Sun United Way, May 2, Scottsdale, Arizona.
- 2019 Walking the Tightrope: Practical Ideas for Finding Your Voice, Workshop Co-Organizer and Facilitator, with Libby Wentz, AAG Annual Meeting, April 6, Washington, DC.
- 2018 Mapathon training and data creation event to build OSM geospatial data basemap for Philippines flooding mitigation efforts, for 20 students across ASU campus, November 8, Tempe, Arizona.
- 2018 Hunch Lunch: Heat Resilience, Organizer and Facilitator, Knowledge Exchange for Resilience Fall Signature Event, with Utility Assistance Network, Salvation Army, and AZCEND, September 15, Scottsdale, Arizona.
- 2018 YouthMappers Research Fellowship Symposium and Workshop, Event Co-Organizer and Co-Facilitator, with Brent McCusker and Nuala Cowan, for 15 faculty and university students from Uganda, Nigeria, Colombia, South Africa, Bangladesh, Ghana, Italy, and Zambia, June 2-14, Washington DC, and Morgantown, West Virginia.
- 2018 Walking the Tightrope: Practical Ideas for Women in Geography to Exercise a Leadership Mindset, Workshop Co-Organizer and Facilitator, with Libby Wentz, AAG Annual Meeting, April 12, New Orleans, Louisiana.
- 2017 Creating Story Maps for Humanitarian and Development Action, workshops for 65 undergraduates, Facilitator, November 7 & 8, Lubbock, Texas.
- 2017 From Grove to Glass: Using geospatial mapping in an application for fruit juice factory, a workshop on ArcGIS Online and Atlas, 150 freshman high school students at Academy High School, Lecturer and Facilitator, October 6, Plano, Texas.
- 2017 Mapathon training and data creation event to build OSM geospatial data basemap for Puerto Rico humanitarian rescue and recovery efforts after Hurricane Maria, for 70 students across Texas Tech campus, September 28, Lubbock, Texas.
- 2017 Mandela Washington Fellowship Young African Leaders Initiative Mapping Workshop, with TTU Office of International Affairs Amy Boren, Lecturer and Facilitator, June 28, Lubbock, Texas, for 25 Public Management fellows from across Africa.
- 2017 South Central Climate Science Center internship workshop on creating open geospatial data, June 25, Lubbock, Texas.
- 2017 Best Practices in Project Based Learning and Authentic Experiences for Open Geospatial Education in Secondary Settings, Workshop Organizer and Facilitator, with Niem Tu Huynh, AAG Annual Meeting, April 8, Boston, Massachusetts.
- 2017 Walking the Tightrope: Practical Ideas for Building Inclusive Spaces for Women in Geography, Workshop Organizer, Introducer, and Facilitator, with Rickie Sanders, AAG Annual Meeting, April 7, Boston, Massachusetts.
- 2016 Mapping to fight Malaria in Kenya, Instructor, training and career awareness session for ~120 secondary students, September 30, Academy High School, Plano, Texas.

- 2016 Science: It's a Girl Thing : Open Mapping, Instructor for Texas Tech Office of Diversity and Community Engagement summer workshop for at-risk female secondary school students, June 12-16, Lubbock, Texas.
- 2016 Mapping to fight Malaria in Mozambique, Instructor, training and career awareness session for ~90 honors students, May 20, Plano East High School, Plano, Texas.
- 2016 First US Five-Site Simultaneous Mapathon: Creating Open Spatial Data for Malaria Prevention in Mozambique. Co-organizer with Texas Tech University, George Washington University, West Virginia University, University of Central Florida, George Mason University, with USAID GeoCenter and Peace Corps; AAG Annual Meeting, April, San Francisco, California.
- 2016 Walking the Tightrope: Making Ideas on Power and Resilience Practical for Women's Careers in Geography, Workshop Organizer, Introducer, and Facilitator, with Libby Wentz, AAG Annual Meeting, April, San Francisco, California.
- 2016 Faculty Proposal Development Workshop Series: Modular Instructional Support to Improve Competitiveness to Externally Funded Research Opportunities, Workshop Designer and Lead Instructor, with Pat DeLucia, Office of the Vice President for Research, Texas Tech University, January 20, June 1-3, and August 23, Lubbock, Texas.
- 2015 Early Investigator Faculty Proposal Development Workshop: A HandsOn Approach to Improve Competitiveness to Federal Research Opportunities, Workshop Designer and Lead Instructor, with Pat DeLucia, Office of the Vice President for Research, Texas Tech University, June and August, Lubbock, Texas.
- 2015 Mapathon: President's Malaria Initiative in Mozambique. Co-organizer with George Washington University and West Virginia University; USAID and Peace Corps, November, Lubbock, Texas.
- 2015 Mapathon: Feed the Future in Bangladesh. Co-organizer with George Washington University and George Mason University; Center for Geospatial Technology, March, Lubbock, Texas.
- 2015 Walking the Tightrope: Negotiating for Success, Workshop Organizer, Introducer, and Facilitator, with Libby Wentz, AAG Annual Meeting, April, Chicago, Illinois.
- 2014 Walking the Tightrope: the search for practical ways to advance women's careers in geography, Workshop Organizer, Introducer, and Facilitator, with Libby Wentz, Lesley Rigg, Mona Domosh, Amy Glasmeier, John Harrington, Jr., AAG Annual Meeting, April, Tampa, Florida.
- 2012 The AAG ALIGNED Planning Toolkit for Enhancing Diversity in Departments, Organizer and Facilitator, AAG Annual Meeting, February, New York, New York.
- 2010 "Geography in the Americas Bilingual Workshop: Publishing Across National, Institutional, and Linguistic Borders / *Geografía en las Américas: publicando más allá de las fronteras nacionales, institucionales y lingüísticas*" Co-Instructor with Osvaldo Muñiz of Texas State University San Marcos. AAG Annual Meeting, April, Washington, DC.
- 2008 "Preparing Competitive Research Grant Proposals." Organizer and Presenter of 4-hour workshop sponsored by the EDGE Project, AAG Annual Meeting, Boston, Massachusetts.
- 2019 **Celebration of Resilience**, Organizer, Knowledge Exchange for Resilience Annual Reception for Piper Trustees, Fellows, and Partners, featuring Dr. Judith Rodin, Rockefeller Foundation *emeritus*, and Michael Crow. Hosted at the Desert Botanical Gardens, November 19, Phoenix, Arizona.

- 2020 **Census Matters:** a Symposia on the importance of Census 2020 for Maricopa County, Organizer and Moderator, sponsored by the Knowledge Exchange for Resilience, School of Geographical Sciences and Urban Planning, and Cronkite School of Journalism, with Shea Lamar, Sarah Cohen; featuring Deirdre Dalpiaz Bishop, Chief, Geography Division, US Bureau of the Census. January 30, Phoenix, Arizona.

SELECT DIGITAL PRODUCTS, TRADEMARKS & COPYRIGHTS

- 2019 YouthMappers Story Map of Projects Around the World; website on Wix.com, blog, suite of chapter participation and reporting forms and news and programming opportunities, social media includes facebook page, twitter, and instagram; includes Esri Story Map repository of projects completed through global remote campaigns, local capacity building grants, student-led initiatives, intern tasks, and a crowdsourced story map to collect at-large photos and events. Blog named top 100 blogs for Youth (#43). Facebook page has 2,200+ followers. Twitter has 3,000+ followers. Webpage has had nearly 14,000 unique users and 57,000 pageviews. Principal Investigator, Website Designer, Content Producer, Blog Writer and Editor, Story Map Developer. www.youthmappers.org and <https://arcg.is/1ujOT0>
- 2017 Registered Trademark, YouthMappers®, Reg. No. 5.203.611, U.S. Patent and Trademark Office, Class 41, Ser. No. 87-165,163 to Solis, Patricia (individual).
- 2016 KTTZ Inside Texas Tech: YouthMappers Local Television Feature Story
<https://radio.kttz.org/term/youth-mappers#stream/0>
- 2012 My Community, Our Earth: Geographic Learning Toolkit for Sustainable Development; online educational and information system featuring ten years of partnership resources from worldwide projects on using geography and GIS for youth-led sustainability projects; utilizing Esri ArcGIS Online technology in a Five-Step guided learning framework; links to digital library and project gallery on themes focused on Climate Change, Food Security, Vulnerability and Hazards, the Green Economy, and Youth Leadership. Project Director, Designer, and Lead Developer.
www.mycOE.org
- 2011 ALIGNED Geography Department Online GIS Planning Toolkit; online spatial information system featuring US Census data on age, race, and ethnicity and US Department of Education National Center for Educational Statistics data on undergraduate enrollment, The College Board data on Advanced Placement participation, National Science Foundations data on awardees of diversity related programs, and AAG Departmental Survey data; integrated with a digital clearinghouse of resources and program assessment template to support Geography and Geoscience Departments in the US to design, develop, and implement plans for increasing the numbers and improving the educational experience of underrepresented populations in higher education. Project Director, Designer, and Lead Developer, funded by NSF. Pilot used by 11 US departments with geography programs. www.aag.org/alignedtoolkit
- 2010 Climate Change & Hazards Education Knowledge Environment (C2HEKE); collaboratively authored wiki knowledge environment developed to support the Pan American Advanced Studies Institute in Panama City, Panama; includes bilingual glossary of disciplinary terminology on climate change and hazards; six interdisciplinary white papers; English and Spanish version of the research agenda; record of live workshop participant commentary; and repository of collective research work. Principal Investigator, Wiki Designer, and Lead Author, with 49 co-authors, funded by NSF. In June 2010, the site received over 10,000 page views and 1,740 visits by more than 446 persons from 20 countries. <https://sites.google.com/a/aag.org/c2heke/>
- 2009 Geographic Technologies for Sustainable Development Digital Learning Adventures; online free interactive educational modules to teach use of geographic technologies for the United Nations

WEHAB priority themes of the UN Decade of Education for Sustainable Development; geared to a target audience of international youth aged 14-17, based upon a five step scientific method of asking a question, observing data, performing GIS analysis, drawing a conclusion, and taking action; includes data and results from actual research conducted by partnership fellows on water, energy, health, agriculture, biodiversity in Hawaii, Ghana, Turkey, Nicaragua, and the Philippines. Creator, Co-Designer, and Editor, for My Community, Our Earth Partnership MyCOE, supported by Esri, US Department of State, US Department of Agriculture, US Agency for International Development, US Geological Survey. US Section 508 compliant for persons with disabilities. www.aag.org/mycoe/digital-library/adventures

2004 Literary Copyright Certificate Registration #548-2010-0430.094416.

FELLOWSHIPS, HONORS, AWARDS

2019 Data Passion Team Award to Knowledge Exchange for Resilience, Data Impact Awards of the ASU University Technology Office

2019 State of Arizona Geospatial Volunteer of the Year, Arizona Geographic Information Council

2018 Fulbright Award, Specialist Program hosted by Politecnico di Milano, Italy, July 16-31

2018 Enlaces Award, Conference of Latin Americanist Geographers

2017 International Community Research Awardee, Citizen Science GIS

2016-17 Texas Tech University Service Learning Faculty Fellow

2016-2017 Texas Tech University Service Learning Faculty Fellow

2014-2017 Vice President, (Elected), PanAmerican Geography Commission of the PanAmerican Institute of Geography and History of the Organization of American States (OAS)

2015 Kansas State University Arts & Sciences Merit Award

2015 Service Excellence Leave Award, Texas Tech University

2015 National Council for Geographic Education Outstanding Support for Geography Education Award

2013 Kansas State University Alumni Fellow (first geographer)

2012 National Researcher Designation, Category II, Panamanian Ministry of Science, Technology and Innovation

2011 - 2014 Appointed Coordinator, Research Committee, PanAmerican Geography Commission of the PanAmerican Institute of Geography and History of the Organization of American States (OAS)

2010 - 2015 Appointed Geography National Representative to the US National Section, PanAmerican Institute of Geography and History of the Organization of American States (OAS)

2007 Enlaces Award, Conference of Latin Americanist Geographers (in recognition of building linkages among geographers across the Americas)

2006 - 2007 National Science Foundation International Research Fellow

2006 Kansas State University Distinguished Geography Alumni, Inaugural Recipient

2002 T. Anne Cleary Fellowship, University of Iowa, Graduate College

2002 Outstanding Teaching Assistant, University of Iowa, College of Liberal Arts

1998 - 2002 Presidential Fellow, University of Iowa, Graduate College

2001 Awarded Fulbright Fellowship to Argentina

1999 - 2001 Crossing Borders Fellow, Ford Foundation, University of Iowa

2000 Graduate Student Senate Forum 2000, Best Paper Presentation

1999 Celebrating Diversity Award, National League of Cities

1998 Community Achievement Award, Kansas Department of Commerce & Housing

1998 Community Showcase Award, Kansas Center for Community & Economic Development

1996 Second place, all-university contest for KSU faculty-selected Master's Thesis of the Year

- 1992 - 1993 German Study Exchange Scholarship, Kansas State University
 1989 - 1990 Dean's Scholar, College of Engineering, Kansas State University
 1989 State of Kansas Scholar; Neodesha High School Valedictorian; William Randolph Hearst Foundation Scholar, Kansas Senator

PROFESSIONAL AND COMMUNITY SERVICE

- 2019 Panelist and Proposal Reviewer, NSF Advancing Information Science Learning Program
 2018 Reviewer, *International Journal of Geographic Information Science*
 2018/20 Editorial Board Member, *Geographical Review*
 2017 Satellite Image Interpreter, GISCorps Volunteer for Direct Relief damage assessment in Puerto Rico from Hurricane Maria
 2017/20 Voting Member (elected), Humanitarian OpenStreetMap Team
 2015/18 Editorial Board, *Professional Geographer*
 2015/18 Board Member, Conference of Latin Americanist Geographers (Finance & Program Committees)
 2014/17 Reviewer, *Geographical Review*
 2017 Reviewer, *Studies in Higher Education*
 2017 Distinguished Visitor, City of La Paz, Bolivia
 2017 Reviewer, *Population and Environment*
 2016 Founder, Future Earth Open Network Community on Youth Education and Leadership
 2016 Reviewer, International Council for Science (ICSU), Report on Interactions across the Sustainable Development Goals
 2016/17 Reviewer, *International Research in Geographical and Environmental Education*
 2013/17 Member, International Geographical Union Commission for Latin American Studies
 2014 Guest Editor, *Professional Geographer* FOCUS Section
 2011/13 Funding Review Panel, Proposal Reviewer, US National Science Foundation
 2013 Organized Student and Teacher Field Training for Public School, Escuela Padre Xavier Villanuela, for fossil digging and recovery in the Panama Canal Zone, Smithsonian Tropical Research Institute and University of Florida
 2013 Faculty Stimulus Proposal Reviewer, Universidad Santa María la Antigua
 2011 Editorial Reviewer, *Journal of Latin American Geography*
 2010/12 Editorial Reviewer, *The Professional Geographer*
 2011 Editorial Reviewer, *Southeastern Geographer*
 2010 Organized Professional Development Program for St. George International School, Cerro Viento, Panama for 23 teachers to complete certification in *Teaching Pedagogies for Comprehension*, Harvard Graduate School of Education's Wide World Program
 2010 Invited Professor, conducted one-day workshop and training on *Mastering Skills for Student Success* for 18 students at the Technological University of Panama
 2009 Editorial Reviewer, *International Research in Geographical and Environmental Education*
 2009 Proposal Reviewer, American Evaluation Association
 2009 CoFounder and Lead, AAG Diversity Ambassadors
 2007/9 Specialty Reviewer, *Occupational Outlook Handbook*, US Bureau of Labor Statistics
 2007/18 Board Member, Alumni Advisory Board, Department of Geography, Kansas State University
 2007 *Journal of Water Resources Management* Editorial Reviewer
 2007 United Nations Development Programme Adviser to Secretary of Science, Technology and Innovation of Panama, *SENACYT Fellowship Program on International Universities*
 2006 United Nations Development Programme Adviser to Secretary of Science, Technology and Innovation of Panama, *Strategic Plan and Capture of International Funds for Science, Technology and Innovation*
 2006 Initiated first Spanish language and bilingual session series at the AAG Annual Meeting
 2005 White Water to Blue Water Partnership Strategic Planning Committee Meeting, December 6-7

- 2005/6 International Geographic Information Fund Student Travel Grant, Selection Committee
- 2005 Initiated expansion of the *AAG Guide to Geography Programs* to include listings from Latin American and Caribbean Institutions (previously only North America)
- 2005 Initiated rationale and developed concept and launch of the current AAG's Developing Regions Membership Program for discounted membership rates for members in developing economies
- 2005 External Evaluation Committee Member, *Convocatoria de Fomento a la Investigación y Desarrollo*, SENACYT, Panama
- 2004 Conference on Race/Ethnicity and Place, Program Committee
- 2003/6 Diversity Task Force, AAG Liaison and Committee Member
- 2003/6 AAG Federal Employment Geographer Definition Committee Member
- 2000 Elected Peer Representative to Oversight Committee, Crossing Borders Fellowship
- 1998/9 Graduate Student Senator, University of Iowa, Department of Geography
- 1998/9 Professional Development Committee Member, University of Iowa, Department of Geography
- 1998 Conference Planning Committee, Kansas Center for Community & Economic Development
- 1998 Seward County Community College, Business and Industry Advisory Board Member
- 1997/8 Evaluator, Huck Boyd Institute Community Impressions Program, Kinsley, Kansas
- 1997 Geography Alumni Panel, Kansas State University, Department of Geography
- 1997 Evaluation Committee, Kansas Department of Commerce & Housing Community Development Block Grant (CDBG) Program
- 1996 KSU Giessen/München/Zürich Exchange Program, Selection Committee member
- 1994 Professor Search Committee, Kansas State University, Department of Geography, Graduate Student Representative

MEDIA MENTIONS

- The New York Times*, "As Phoenix Heats Up, the Night Comes Alive," Margurite Holloway.
www.nytimes.com/interactive/2019/climate/phenix-heat.html
- Deutsche Welle*, "The US state at the forefront of extreme heat research," Carla Bleiker.
www.dw.com/en/the-us-state-at-the-forefront-of-extreme-heat-research/a-50425263
- U.S. Census Bureau*, "Geographers Rely on Census Data." <https://youtu.be/QRkBRP7LaV4>

MEMBERSHIPS (*currently active)

- | | |
|--|--|
| American Association of Geographers* | International Geographical Union Commission |
| American Evaluation Association | on Latin American Studies |
| American Geographical Society* | National Council for Geographic Education |
| American Society of Association Executives | National Organization of Research Development |
| Conference of Latin Americanist Geographers* | Professionals |
| Gamma Theta Upsilon | OpenStreetMap Foundation* |
| Humanitarian OpenStreetMap Team* | Phi Beta Kappa |
| | Society of Research Administrators International |

ADVISORS

- Masters* Dave Kromm, Kansas State University (emeritus)
 M. Duane Nellis, President, Ohio University
 Steve White (deceased)
- PhD* Tad Mutersbaugh, Professor, University of Kentucky

ADVISEES / MENTORING

- Laura Vacherlon, Master's Thesis Committee, 2004 (now at National Geospatial Intelligence Agency)
 Benefiting from Disaster: Co-Benefits to Urban Heat Island Mitigation From Disaster Mitigation, The
 George Washington University

Noris Martínez, AAG Research Assistant 2006-2009 (Universidad Tecnológica de Panamá)
 Astrid Ng, AAG Intern, 2010; AAG Research Associate, 2011-2015 (Esri Education Team)
 Marcela Zeballos, AAG Intern 2009; AAG Research Associate, 2010, 2012-2015 Institute for
 International Education; 2016 (Texas Tech University)
 Nekya Jenise Young, AAG Fellow, Diversity Ambassador, 2011-2014 (Texas Southern University)
 Wei Zhang, Computer Science, TTU, Graduate Research Assistant
 Nwasinachi Menkiti, Interdisciplinary Studies, TTU, Graduate Research Assistant, 2015-2019 and
 Master's Thesis Advisor, 2019, Understanding land cover change in a dry sub-humid nature reserve in
 Ghana through OpenStreetMap and remote sensing, Texas Tech University
 Julia Kleine, Alex Bodegain, Kendall Merkill, Bruno Blanco, Emily Glaser, Megan Rodriguez, David
 Tomlinson, Cat Kade, TTU, USAID GeoCenter Virtual Interns
 Nayara Vasconcelos, Geosciences, TTU, USAID Volunteer
 Jesse Cathell, Geosciences, TTU, Senior Undergraduate Thesis, 2017
 Faculty Student Organization Advisor to YouthMappers Chapter at Texas Tech University, 2015-2018
 Lexie Priniski, Economics, ASU, Honors Undergraduate Thesis, 2018-19 (Co-Advisor Erik Johnston)
 Faculty Student Organization Advisor to YouthMappers at Arizona State University, 2018-present
 Elisha Charley, PhD Student in Urban Planning, Arizona State University, Committee Member, 2019-
 present (Advisor Libby Wentz)
 Jose Alejandro Cascante Campos, PhD in Geographic Education, Texas State University, Committee
 Member, 2019 (Advisor Osvaldo Muñiz-Solari)
 Lora Phillips, Post Doctoral Researcher, Arizona State University
 Graduate Research Assistants: (Knowledge Exchange for Resilience) Srinivas Vallabhaneni, MS, ASU;
 Alexandria Drake, PhD, ASU; Lily Villa, PhD, ASU; (YouthMappers) Sushil Rajagopalan, PhD, ASU;
 Amal Ajaddani, PhD, TTU; Emily Glaser, MS, TTU; Vivian Arriaga, BS, ASU
 Urban Equity Interns (Summer 2019): Katsiaryna Varfalameyeva, Parker Shea, Paige Yager,
 Abdulrahman Alsanad
 Chloe Carlson and Jacob Robinson (Fall 2019), ASU Barrett Honors Project

LANGUAGE PROFICIENCY

Spanish - Oral and written fluency (Certificate from *Instituto de la Lengua Española para Extranjeros*)
 German - Advanced comprehension and composition.

INTERNATIONAL COLLABORATION

Developed research, educational and knowledge exchange activities with colleagues and mentees in ~sixty countries, countries visited:* Argentina*, Austria*, Bahrain, Bangladesh, Belgium*, Benin, Bhutan, Bolivia*, Botswana, Brazil*, Cambodia, Cameroon, Canada*, Chile*, Colombia, Côte d'Ivoire, Costa Rica*, Democratic Republic of Congo, Dominican Republic, Ecuador, Egypt, Ethiopia, France*, The Gambia, Germany*, Ghana, Guatemala, Honduras, Hungary*, India, Israel, Italy*, Jamaica, Jordan, Kenya, Laos, Lebanon, Malawi, Mexico*, Mozambique, Myanmar, Nepal*, Nicaragua, Nigeria, Pakistan, Panama*, Paraguay*, Peru*, Philippines, Puerto Rico*, Qatar, Romania, Rwanda, Saudi Arabia, South Africa*, Sudan, Suriname, Switzerland*, Tanzania, Thailand, Tunisia, UAE, Uganda, Uruguay*, Vietnam, Yemen, Zambia.