

DR. MÓNICA TERÁN HERNÁNDEZ



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Drawing on a **22-year academic career**, I apply my expert knowledge of **geographical analysis techniques** to **design** and **implement innovative public policies** and **private-sector initiatives** in areas including epidemiology, public health, economics, the environmental sciences, political science, and interdisciplinary spaces where these fields overlap.

I have successfully combined diverse interests in **politics, publishing, and research** and developed a network of academic and business connections that spans Latin America, the United States, and the United Kingdom. A passionate people manager, I have a deep interest in growing and **cultivating diverse talent**.



AREAS OF EXPERTISE

Descriptive spatial analysis and thematic mapping

Modelling, simulation, and mapping

Network analysis

Innovative policy design

Training programs and workshop design

Reports and diagnostics

RESEARCH INTERESTS

Mapping points and aggregation data: geocoding, hotspot and coldspot analysis, spatial autocorrelation and analyzing patterns through modeling spatial relationships, and spatial simulation.

Spatial statistics and epidemiology: maximal covering models to determine optimal areas and distribution, monitoring and tracking models, geospatial models (GWR, GWRP, GLMM).

Geographic surveillance and monitoring.

CORE TOOLS

Stata SE
ArcGIS/Arc Map
GeoDa
QGIS
RStudio

LANGUAGES

Spanish (native speaker)
English (fully proficient)

2009–2016

EDUCATION

PhD in Geography: Spatial Analysis and GIS.

Universidad Nacional Autónoma de México. Mexico City.

2010–2011

Postgraduate Research Student

Centre for Health Informatics, Computing, and Statistics at the Faculty of Health and Medicine, Lancaster University, UK.

2004–2006

MSc Environmental Risk Assessment

Universidad Autónoma de San Luis Potosí. San Luis Potosí, Mexico.

2007

Visiting Fellow

Agency for Toxic Substances and Disease Registry. Atlanta, GA, USA.

Diploma in Environmental Management System (EMS) and Environmental Legislation.

Universidad Autónoma de San Luis Potosí. San Luis Potosí and Federal Environmental Protection Agency (PROFEPA), Mexico

OTHER TRAINING

Graphical modeling of observational, individual or spatially aggregated data in R

Case study modeling: longitudinal data analysis

Spatial data analysis for epidemiology in public and environmental health

Bayesian methods

Tropical disease mapping

Public health applications of sociospatial analysis using GeoDa and ArcView GIS

Interpreting images, aerial photographs, and thematic maps



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DR. MÓNICA TERÁN HERNÁNDEZ

ACADEMIC EXPERIENCE

1998–PRESENT

Professor and Researcher

Universidad Autónoma de San Luis Potosí, UASLP

Teach five to six courses each year, including undergraduate subjects at the School of Nursing and School of Engineering and multidisciplinary postgraduate courses. My subject areas include statistics, geostatistics, geography, epidemiology, health promotion and education, environmental health, risk assessment, communication and risk management, and sustainable development.

Design all curricula for my courses to help students develop cross-cutting competences. These combine theory and fieldwork, through which I have developed close ties with different sectors of the economy (industry, public health, education, and sports and leisure).

Tutored or mentored 150+ students to date, providing guidance on their course of studies and career options.

Tutored, supervised and mentored students as part of online and mixed (online and on-site) postgraduate courses: the Online Diploma in Educational Competences for Sustainable Development (2012–2015), the Online Diploma in Project Design for Environmental Education and Sustainability (2012–2015), and the Online Seminar on Environmental Education and Sustainability (2014), and the Diploma in Epidemiology with a Focus on Environmental Health (2015–2016).

Created the Sustainable Environmental Development Program at the School of Medicine and the School of Nutrition and Nursing.

Built on a consulting relationship with Mexican appliance firm Mabe to create real-world learning experiences for my students within the company.

Supervised postgraduate theses for the German–Mexican Master’s Program in Environment and Resource Management (ENREM) and the Master’s Program in Public Health.

Participated in the creation of the Environmental Education and Sustainability Program, the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), and the National Commission of Natural Protected Areas.

Designed and continue to manage an urban vegetable garden within UASLP, leading a multidisciplinary team of students in outreach projects in marginalized neighborhoods

1999–2004

Director, Institutional Health Promotion Program

Universidad Autónoma de San Luis Potosí, UASLP

Collaborated with UASLP dean to design and implement a diagnostic study on the health of the university community (17,000+ students, 3500+ academic staff, and administrative staff based across four campuses).

2017–PRESENT

Postdoctoral Researcher

Stanford University, California

Assistant researcher to Beatriz Magaloni and Alberto Diaz-Cayeros for the INL Research Project “Citizen Trust and Evidence-Based Police Accountability and Professionalization” at the Program on Poverty and Governance, Center on Democracy, Development, and the Rule of Law (CDDRL) and the Freeman Spogli Institute (FSI).

2019–PRESENT

Mentor

Talentum–University Program, Centro de Investigación y Docencia Económicas, Mexico City

Advise and support undergraduate students of the Interdisciplinary Program on Educational Policies and Practices on future career paths.

2009–PRESENT

Researcher and Thesis Director

Universidad Nacional Autónoma de México. Mexico City

Invited to take part in the research project “Climate Change and Human Behavior: Social Perceptions of Causes, Consequences, Vulnerability, and Options for Adaptation” (2009–2017)

Thesis director for the geography PhD program.

2009–PRESENT

Professor

National Institute of Public Health. Cuernavaca, Mexico.

Teach course on the management and communication of risk in environmental health as part of the postgraduate program on Public Health and Epidemiology.

FELLOWSHIPS AND AWARDS

2018–PRESENT

National Researcher Candidate

National Council for Science and Technology of Mexico (CONACyT).

2004–2006 and 2009–2016

Fellowships

National Council for Science and Technology of Mexico (CONACyT)

2017–2019

Fellowship

Fund for International Cooperation in Science and Technology (FONCICYT)–Stanford University

2017–2019

UASLP Award.



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CONSULTING EXPERIENCE

2006–PRESENT

Consultant and Trainer

Design transformative solutions for social change for clients from the public and private sectors. My services include:

Descriptive spatial analysis with thematic mapping to provide data on specific issues.

Modelling and mapping, including analysis of factors such as economic, demographic, and environmental variables, biological monitoring, access to public health services, and so on to help clients reach decisions on how to reduce, improve, eradicate, or approach the problem or issue they wish to solve.

Simulation and mapping for cost-benefit analysis of public policies or business strategies, creating original cartography to advise clients on the resource investment potentially needed to solve a given problem and the best approach to this.

Research and report-writing, including bibliographic and on-the-ground research, sampling, data collection, geodatabase design, analysis, diagnostics.

Training programs and in-house workshops.

Commissioned Studies

2019. Modeling spatial vulnerability to crime in middle schools.

2019. Modeling maximum coverage location: police patrol.

2019. Heatmaps of crime attractors.

2015. Communication and risk management. School of Medicine, Universidad de Chile.

2016–2019. Spatial distribution of environmental and socioeconomic factors and their contribution to the burden of the Acute Lymphoblastic Leukemia (ALL). Center for Applied Environmental and Health Research (CIAAS).

2008. Environmental Education. Universidad de las Américas.

2006–2007. Risk assessment and health consultations in mining areas. CEASSA, Ecuador–Mexico.

2007. Environmental health methods. Center for Ecosystem Research, National Autonomous University of Mexico.

2006–PRESENT

Consultancy Projects

Implemented a risk assessment monitoring system at Mexican appliance company Mabe and created and trained an in-house crisis and emergency risk communication team.

Participated in the creation of the Diploma in Creating Environmental Education Projects for Educators from the Ecochavos Structure (2015) a joint project organized by the International Climate Initiative (IKI) and financed by the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), in collaboration with the National Commission of Natural Protected Areas.



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PUBLICATIONS

Book Chapters

"Territorio y proceso de envejecimiento." In: *Características del envejecimiento en San Luis Potosí, Proyecto SABE*. San Luis Potosí: USALP, 2019.

"Geographical Analysis." *Training Course for Analysts in National Security*. Secretaría de Seguridad y Protección Ciudadana, International Narcotics and Law Enforcement, US Department of State, Poverty Violence Governance Lab, and Stanford University, 2019 (forthcoming).

"Comunicación de riesgo por exposición a residuos tóxicos: Propuesta de intervención a exposición por plaguicidas" (co-authored with Oscar Tarragó). In: *Comunicación ambiental y fuentes de riesgos a la salud*, edited by Victoriano Garza Almanza. Colección El Observatorio Ambiental, No. 13. Ciudad Juárez: El Colegio de Chihuahua, 2011.

Journal Articles

"Accesibilidad espacial de los servicios de prevención y control del cáncer-cervicouterino en San Luis Potosí." *Investigaciones Geográficas* 49(98). 2017.
<http://dx.doi.org/10.14350/riq.56936>

"Geographic variations in cervical cancer risk in San Luis Potosí state, Mexico: A spatial statistical approach." *International Journal for Equity in Health* 15(161). 2016.
<https://doi.org/10.1186/s12939-016-0448-z>

"Diagnóstico de salud y percepción de riesgos, elementos clave para una propuesta de intervención en comunidades indígenas in México." *Revista Panamericana de Salud Pública* 2(39), 2016.
<http://iris.paho.org/xmlui/handle/123456789/28222>

Working Papers

"Spatial Modelling of Environmental Risk Associated with Children's Health."

The following two papers are part of my work at Citizen Trust and Evidence-Based Police Accountability and Professionalization, a research project at the Program on Poverty and Governance at the Freeman Spogli Institute, Stanford University (PovGovLab). They seek to provide policy design tools to support national security initiatives to address the growing violence in Mexico over the last decade.

"Spatial Dynamics of Homicides in an Urban Context: Mexico City, 2009–2018."

"Spatial Vulnerability of the Urban Population to Crime, Mexico City."