

Michelle Bruno Hernández

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PROFESSIONAL SUMMARY

Biosecurity researcher with a background in genomic biotechnology and experience translating scientific evidence into policy analysis. Currently a Pivotal Research Fellow mentored by RAND Europe, with research on AI-enabled biological tools, virology data governance and AI failure modes in scientific research. Leads the development of AI-assisted biorisk assessment tools at BRMI and has managed funded research programmes and multidisciplinary teams. Combines evidence synthesis and data analysis with experience communicating research findings to scientific, government and industry audiences.

KEY AREAS: AlxBio; AI-enabled biological tools; dual-use governance; multi-stakeholder capacity building and science diplomacy.

PROFESSIONAL EXPERIENCE

Pivotal Frontier Biodefense Fellowship, Mentored by RAND Europe

Aug 2026 – Present

Research Fellow, AI and Biosecurity

- Analyzed virology data and capability constraints for RAND Europe's collaborative review of AI-enabled biological tools.
- Developed virology database landscape report cataloging resources through manual curation and AI-assisted discovery. Evaluated data types, viral coverage, provenance, and access constraints to inform biosecurity data governance frameworks.
- Synthesized published evidence and co-facilitated a GSK workshop addressing AI Scientist failure modes and safeguards, contributing to confidential, pre-competitive knowledge sharing and the promotion of best practices.

Biorisk Management International (BRMI)

Sep 2025 – Present

Chief AI Officer (CAIO)

- Led the end-to-end development of biorisk.ai, an AI-powered biological risk assessment platform for high-containment laboratories. Delivered a functional prototype, applying iterative feedback to drive continuous platform improvements.
- Developed and facilitated international training workshops on AI integration in biorisk management for senior-level professionals. Promoted responsible innovation and AlxBio governance by educating participants on data and application governance frameworks relevant to biosecurity and biosafety.

AI Risk Explorer (AIRE), Global Catastrophic Risks Observatory (ORCG)

May 2024 – Apr 2026

Biosecurity Officer (Sep 2025 – Apr 2026) · Biosecurity Policy Transfer Officer (May 2024 – Aug 2025)

- Developed the biological-risk content for AI Risk Explorer targeted at policy audiences. Recognized by 80,000 Hours as a leading resource for AlxBio landscape understanding.
- Authored a technical review on AI and life sciences and led a comprehensive report mapping biosafety, biosecurity, and public health needs across nine Latin American countries.
- Contributed expert input on dual-use governance and synthetic biology for the European Commission's Internal Security Strategy consultation; co-authored an analytical review of RAND's 2024 Global Catastrophic Risk Assessment.
- Provided written input on dual-use governance, CBRN action plans, and synthetic biology to international consultations, including the European Commission's Internal Security Strategy, the Global Research Agenda for Evidence-Based Biosecurity, the Engineering Biology Research Consortium (EBRC), iGem, among others.
- Delivered 20+ expert-invited talks on AlxBiosecurity and dual-use research.

Mexican Association for Biosafety (AMEXBIO)

Jan 2025 – Present

Board Member · Lead, Academic Committee and Conference Organisation

- Elected Vice-President of AMEXBIO for the 2027–2028 term.
- Lecturer in UNAM's postgraduate Biotechnology programme (MSc/PhD); as Academic Committee lead, redesigned the Biological Risk Management course to integrate emerging technologies.
- Support the External Relations, Sponsorship, Academic and Symposium Organising Committees, including international partnerships (e.g. CEPI).
- Handled the U.S. Government Accountability Office request for review of Mexico's biosafety and biosecurity regulatory documentation, and supported review of the WHO Strategy for Strengthening Laboratory Biological Risk Management (2025–2030).

9th Review Conference of the Biological Weapons Convention

December 2022

Open Philanthropy Awardee & Delegate

- Awarded a competitive Open Philanthropy grant to serve as a delegate at the Ninth Review Conference (RevCon) of the Biological Weapons Convention (BWC); co-authored and published the official Youth Recommendations presented at the BWC 9th Review Conference.

International Federation of Biosafety Associations (IFBA)

Dec 2022 – Feb 2026

Latin America Mentor (Oct 2024 – Feb 2026) · Global Mentee (Dec 2022 – Feb 2024)

- Mentored early-career biosafety and biosecurity professionals across Latin America and the Caribbean; co-developed a six-month Spanish-language course that served as the basis for an IFBA certification preparation course delivered in Mexico in 2026.

Carreras Con Impacto (Impactful Careers)

Mar 2024 – Jun 2026

Vice-Director, Global Catastrophic Risks Program (May 2025 – Jun 2026) · Program Coordinator & Mentor (Mar 2024 – Apr 2025)

- Led strategic planning and daily operations, managing a team of 8 and overseeing up to 12 concurrent projects per quarter.
- Co-authored a successful US\$135,000 grant proposal with the Programme Director, defining program scope, participant targets, recruitment strategies, and staffing requirements.
- Run 35 mentored research projects and 64 training cohorts in AI safety, AI governance and biosecurity across 20+ Latin American countries, selecting 760 participants from 3,000+ applicants and supporting alumni placement into Youth for biosecurity fellowship, ML4Good, BlueDot, Safe AI London and Epoch AI.
- Coordinated a program delivering 35 mentored research projects and 64 training cohorts in AI safety, AI governance, and biosecurity across 20+ Latin American countries.
- Selected 760 participants from over 3,000 applicants and supported alumni placements in organizations such as Youth for Biosecurity Fellowship, ML4Good, BlueDot, Safe AI London, Epoch AI, and the creation of new initiatives including AI Safety Colombia.

BioProtect Technologies

2025 – Present

Co-Founder & Co-Director

- Strategic consulting on responsible innovation and biorisk management. Partnership collaborator with SecureBio, supporting the Predictive BioBenchmark project through new collaborations and recruitment strategies to expand the expert evaluator pool.

Earlier roles

Sep 2021 – May 2024

Operations Lead, Omica Bio (Jan 2023 – May 2024) · Lab & Project Management Coordinator, Xeomic Lab (Sep 2021 – Jan 2022)

- Translated strategy into day-to-day operations for a precision-medicine company; earlier, coordinated a clinical/research laboratory during the early COVID-19 response and led its ISO 9001:2015 certification, enabling an international virus biobank collaboration.

AFFILIATIONS AND NETWORKS

- AMEXBIO, Board Member (2025–present) · iGEM Foundation, Safety and Security Committee (2024–present) · ORCG, Affiliated Researcher (2024–present) · Oxford Biosecurity Group, Forecaster (2025) · Global Catastrophic Risks Institute (GCRI), Advising and Collaboration Program (2024–2025).

SELECTED POLICY AND TECHNICAL TRAINING

ISO 35001:2019 Biosecurity Management System – Lead Auditor (BRMI & Exemplar Global, 2026); Implementation of the BWC: Training for National Contact Points – UNODA (2025); Dual-Use Research & Responsible Use of the Life Sciences – WHO (2025); Integrating AI into Synthetic Biology: Biosecurity Risk Assessment – AMEXBIO (2025); The Future of AI & Biosecurity Fundamentals – BlueDot Impact (2024–2025). 200+ hours of biosafety/biosecurity training over the past five years.

EDUCATION

- **BSc Genomic Biotechnology**, Universidad Autónoma de Nuevo León (UANL), Mexico (2017–2022). GPA 92.83/100
Honor Roll. Thesis at the National Institute of Genomic Medicine (INMEGEN): bioinformatics algorithms for transcriptional master regulator inference.
- **MBA, Logistics and Supply Chain Management**, Universidad TecMilenio, Mexico (2024). GPA 94.26/100.
- *Languages*: Spanish: Native · English: Advanced (C1, IELTS) · French: Basic (A2).

PUBLICATIONS AND RESEARCH OUTPUTS

Journal articles and preprints

- Arboleda-Ardilla, E. J., **Bruno-Hernández, M.** (2025). Conversational Technology for Avian Influenza Outbreak Prevention in Mexican Farms. [*Revista Mexicana de Bioseguridad*, 1\(10\), 56–65.](#)
- Alvarado González, M. A., **Bruno-Hernández, M.**, Peñaloza Pérez, M. A., López Orozco, B., Cruz Soto, J. T., et al. (2025). Do Repetitions Matter? Strengthening Reliability in LLM Evaluations. [arXiv:2509.24086](#).
- Peñaloza Pérez, M. A., López Orozco, B., Cruz Soto, J. T., **Bruno-Hernández, M.**, Alvarado González, M. A., et al. (2025). AI4Math: A Native Spanish Benchmark for University-Level Mathematical Reasoning in Large Language Models. [arXiv:2505.18978](#).

Technical reports, reviews and policy papers

- **Bruno-Hernández, M.** (2025). Exploring the Intersection between Artificial Intelligence and Biological Sciences: Focus on Uses and Challenges. ORCG Technical Report Series. [orcg.info/reportes](#).
- Ulloa-Ruíz, M., **Bruno-Hernández, M.**, Torres-Celis, J., Bas, G., Tinoco, R. (2025). Advances in Global Catastrophic Risk Assessment: Review of RAND's Global Risk Assessment 2024. [ORCG Analytical Review](#).
- **Bruno-Hernández, M.**, Salinas-Sáinz, D., Ulloa-Ruíz, M. (2024). Mapping of Regional Needs in Biosafety, Biosecurity and Public Health across nine Latin American countries. [ORCG Technical Report Series](#).
- **Bruno-Hernández, M.**, Tinoco, R., Torres-Celis, J. (2024). Exploring the New North American Trade Agreement: Focus on Pandemic Preparedness in Mexico. [ORCG Discussion Paper](#).
- Paredes, G., **Bruno-Hernández, M.** (2024). The Urgent Need to Improve Pandemic Surveillance and Response. [ORCG Analytical Article](#).
- Youth Recommendations for the 9th Review Conference of the Biological Weapons Convention (2022). Co-author. Published ahead of the BWC 9th RevCon, Geneva.

Platforms, tools and applied outputs

- **Bruno-Hernández, M.**, Bas, G., Sankara, T., Chahal, H. (2025). AI Risk Explorer (AIRE) Platform - AI-driven biorisk: taxonomies, threat scenarios and capability thresholds for AI-enabled biological risks. [airiskexplorer.com](#).
- [biorisk.ai](#) (2025–present) — AI-powered biorisk assessment tool for high- and maximum-containment laboratories. Product lead (BRMI): scoping, methodology, safety-by-design architecture and deployment.