

Kalaumari Mayoral Peña

PhD student, biotechnology professional and educator



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Academic training

- January 2018- **PhD degree in biotechnology**
Tecnológico de Monterrey. Development of accessible devices for diagnosis and monitoring of Cancer
- August 2014- **Master's degree in food science and technology**
December 2016 Universidad Autónoma de Querétaro. Honorific mention.
- August 2009- **Bachelor's degree in biotechnology engineering**
May 2014 Tecnológico de Monterrey. Honorific mention of Excellence.
- January-June 2018 **University expert in technological entrepreneurship**
Universidad de Cadiz, Spain.
- January-June 2017 **University expert in agri-food business management**
Universidad de Cadiz, Spain.

Awards

- Selected as delegate of the **One Young World London 2019 Summit** and **Young Health Program Scholar** from AstraZeneca
- Selected as participant of **Global Community Bio Summit 3.0** organized by MIT Media Lab
- Selected for the Latin American Forum of Bioeconomy **Allbiotech 2019**
- Selected as one of the **100 young Latin American leaders** in biotechnology for the 2017 AllBiotech Summit
- First place of the **research poster contest** in the "TECNANO: International Conference on Nanotechnology 2018".
- Community Choice Prize in the **Biodesign Challenge 2020**
- Bronze Medal in Biomolecular Design Competition (**BIOMOD**) 2016, 2017, 2018 and 2019
- Recognition of **Academic Excellence** of the National Association of Faculties and Schools of Engineering (ANFEI) in 2014
- Finalist of the **Youth Award of Queretaro State** in 2016.
- **Student Merit Generation Award** from Tecnológico de Monterrey May 2014
- Second place in **Startup Weekend** Queretaro Competition in 2014
- Santander Bank and Autonomous University of Madrid Exchange Program Scholarship
- **Academic Excellence Scholarship** from Tecnológico de Monterrey

International experience

- July 2019-June 2020 **Brigham and Women's Hospital, Harvard Medical School**
Research trainee. Artzi Lab. Department of Medicine, Division of Engineering in Medicine.
- May-July 2016 **Institute of Animal Reproduction and Food Research. Olsztyn, Poland**
Improvement of an Electrochemical Biosensor to Quantify Concanavalin A and Related Lectins in Food.
- February-July 2012 **Center of Molecular Diagnostic Biology "Severo Ochoa". Madrid, Spain**
Transcriptome analysis of *Leishmania major* Friedlin.

Professional experience

- August 2015-
December 2017 **Professor at Tecnológico de Monterrey**
Imparted courses: Biomaterials, bio-nanotechnology and biosensors; Precision agriculture; Introduction to biotechnology.
- October 2016-
October 2017 **Centro de Investigación y Desarrollo Tecnológico en Electroquímica (CIDETEQ)**
Project coordinator and research assistant. Projects about improving the sanitation of rural communities with collaboration of Bill and Melinda Gates Foundation
- May 2018- **Scientific advisor in Probioteca**
Enterprise dedicated to the production of fermented foods and probiotics in Queretaro
- July 20014 and **BIMODI**
Clinical molecular diagnostic laboratory
- July-August 2011 **Primus Labs de Mexico**
Food microbiological analysis laboratory

Research projects

- August 2018-
December 2019 **Novus Grant in Educational Innovation**
Implementation of electrochemical biosensors and open source potentiostats in undergraduate courses. Tecnologico de Monterrey.
- October
2016-October
2017 **Project with the Bill and Melinda Gates Foundation**
Development of a flow through Fenton reactor for the elimination of helminth ova for sanitary system for rural communities. CIDETEQ research center.
- October
2016-October
2017 **National Problems Project from CONACYT**
Development of an accessible and efficient technology for the treatment of human wastewater. CIDETEQ research center.
- January-December
2017 **Projects of Academic Bonding and Development at Tecnológico de Monterrey**
Development of a potentiostat for the treatment of domestic wastewater I and II.
August 2020 Development of a digital interphase for point-of-care diagnostic device.

Innovation and social entrepreneurship

- **Itetero Iwacu Organization:** Science and technology advisor at the NGO registered in Rwanda, Africa that creates affordable community-based schools in vulnerable areas
- **Eduversidad.com** (2014-2016): Co-founder of an online platform of vocational orientation and information about universities for high school students in Queretaro

Volunteering

- 2008-2011 **Rescate 1 de Queretaro**
Emergency Medical Technician volunteer
- February-June
2015 **Tutor at Talentum Program**
Program for supporting low income high school students with exceptional mathematical talent.
- September-
December 2011 **Tutor at Prepanet Program**
Online high school program for low income students from Tecnológico de Monterrey

Organization of scientific events

- January-September 2020 **6th European Student Council Symposium from the ISCB**
Web committee chair. International Society for Computational Biology
- May 2020- **Global Community Biosummit 4.0**
Organizer and member of the design committee
- August 2012- December 2013 **Quorum Biotechnology Congress Edition 2012 and 2013**
Member of the Organizing Committee
- May 2013 **Biotechno-Biz 2013: Second International Biobusiness Congress**
General coordinator of the event. Organized by Tecnológico de Monterrey and Government of Queretaro State

Presentations in congresses

Poster presentations

- SENSE.nano Symposium organized by MIT** (September 30, 2019)
TECNANO: International Conference on Nanotechnology 2018 (November 28-30, 2018)
XVII Congreso Nacional de Biotecnología y Bioingeniería (November 25-30, 2017)
3er Encuentro Internacional de Biotecnología del Clúster BioTQ (March 27, 2015)
2014 IFT Annual Meeting and Food Expo (June 21-24, 2014)
International Systems and Synthetic Biology Symposium (April 24, 2014)
Simposio Multidisciplinario de Biotecnología 2013 (November 5, 2013)
Bioconnect 2011 (November 29, 2011)

Oral presentations

- Global Community Bio Summit 3.0**
ISE Sponsored Meeting MicroEchem 2016 (November 4-9, 2016)
4° Encuentro de Jóvenes Investigadores del Estado de Querétaro (October 6, 2016)

Courses and certificates

- July 2015-January 2016 **Diploma in High Performance Leadership and Diploma in Project Management**
InnovalProcess.
- October 2014- April 2015 **Certificate in Medical Genetics**
University of Valencia, Spain.
- August 2013-May 2014 **Certificate in Research and Development**
Tecnológico de Monterrey.
- September 2013- July 2016 **Advanced Courses in Intellectual Property Management**
World Intellectual Property Organization (WIPO).

Skills and knowledge

English: TOEFL IPT 593.

Software: Microsoft OFFICE. MATLAB, C++, Python, JMP, HTML and R