CURRICULUM VITAE

Name
Ernesto Alfaro-Moreno

Higher Education Qualification
1993 BSc Pharmaceutical Chemistry, School of Chemistry, National Autonomus University of Mexico (UNAM)
1999 MSc Biology, Biomedicine, School of Medicine, UNAM.

Doctoral degree
2004 Ph.D. in Biomedical Sciences. Biologic effects induced by airborne particles (PM_{10}) from three different zones of Mexico City. School of Medicine, UNAM.

Current positions
Nanosafety Research Group Leader, International Iberian Nanotechnology Laboratory.

Previous positions and periods of appointment
2019-2020 Guest Researcher, Örebro Universitet
2015-2020 Senior Researcher, Karolinska Institutet
2015-2018 Senior Researcher, Swedish Toxicology Sciences Research Center (SWETOX). Leading the *in vitro* inhalation toxicology project.
2008-2015 Head of the Environmental Health Laboratory, National Cancer Institute, Mexico.
2006-2008 Postdoctoral Fellow, K.U. Levuen.
2001-2005 Researcher at the Basic Research Department, National Cancer Institute, Mexico.
1996-2001 Associate Researcher at the Basic Research Department, National Cancer Institute, Mexico.

Supervision
Main Supervisor
Ph.D. Thesis: Blanca Eunice González-Gómez. Ph.D. in Biological Sciences, School of Biological Sciences, National Politechnical Institute, Mexico, 2013
Ph.D. Thesis: Raúl Omar Quintana-Belmares. Ph.D. in Earth Sciences, National University of Mexico, 2019.
Several bachelor degree and master degree students from 1999 to the present.

Merits and qualifications.
Over 25 years of experience in the toxicological evaluation of inhaled particulate matter, ranging from Urban Particles (PM_{10}, $PM_{2.5}$, Diesel, etc.), Indoor Pollutants to Nanoparticles. I have a large experience working with *in vitro* models, but also with animal models and human samples. Since 2006 I have been involved in the development of *in vitro* models using multiple cell cultures to mimic the structure of airways and alveoli and the communication these structures have with blood vessels. My work in this field was among the first successful models of its type and was used as the base to develop a model that now is under patent at the Luxemburg Institute of Science and Technology (Patent WO2018/122219 A1).
From 2008 until 2015 I was the head of the Environmental Toxicology Laboratory at the National Institute of Cancer in Mexico. When I started, the laboratory staff was me and a technician, and at the

end it developed to 7 staff members (2 associate researchers, one postdoc, one technician, one laboratory assistant and 2 Ph.D. students) and several undergraduate students.
In 2015 I moved to Sweden to take over a project on inhalation toxicology at Swetox where I was a Senior Researcher until December 2018. Since January 2019 I have been a Guest Researcher at Örebro University.
I have a good network of co-workers and collaborations, within Sweden (Stockholm, Örebro, and Lund), Europe (Belgium, Poland, Norway, UK, Italy, Spain, Turkey, and Germany) and America (Mexico and USA).
I also have a large experience in teaching and communicating science, from specialized professionals, students, and popular science.

Five most relevant references

1. Quintana-Belmares RO, Hernández-Pérez G, Montiel-Dávalos A, Gustafsson A, Miranda J, Rosas-Pérez I, López-Marure R, **Alfaro-Moreno E**. Urban particulate matter induces the expression of receptors for early and late adhesion molecules on human monocytes. Environmental Research **2018**; 167:283-291
2. Rueda-Romero C, Hernández-Pérez G, Ramos-Godínez P, Vázquez-López I, Quintana-Belmares RO, Huerta-García E, Stepien E, López-Marure R, Montiel-Dávalos A, **Alfaro-Moreno E**. Titanium dioxide nanoparticles induce the expression of early and late receptors for adhesion molecules on monocytes. Particle and Fibre Toxicology **2016**; 13(36). DOI 10.1186/s12989-016-0147-3
3. Ramos-Godínez P, González-Gómez BE, Montiel-Dávalos A, López-Marure R, **Alfaro-Moreno E**. TiO_2 nanoparticles induce endothelial cell activation in a pneumocyte-endothelial co-culture model. Toxicology in Vitro **2013**; 27: 774-781 DOI:10.1016/j.tiv.2012.12.010
4. **Alfaro-Moreno E**, Nawrot TS, Vanaudenaerde B, Hoylaerts M, Vanoirbeek J, Nemery B, Hoet PHM. Co-cultures of multiple cell types mimic pulmonary cell communication in response to urban PM_{10}. European Respiratory Journal, **2008**; 32(5): 1184-1194
5. **Alfaro-Moreno E**, Martínez L, García-Cuellar C, Murray JC, Bonner JC, Ponce de Leon S, Rosas I, Osornio-Vargas A. Biologic effects induced in vitro by PM_{10} from three different zones of Mexico City. Environ Health Perspect **2002**; 110: 715-720.