MARTÍN RAMÓN ALUJA SCHUNEMAN HOFER, Ph.D.
CURRICULAR SUMMARY

Dr. Aluja was born in Mexico City in 1957 and currently lives in the state of Veracruz, Mexico. He studied at the Monterrey Institute of Technology and Higher Education (ITESM), Monterrey Campus, Mexico and Cornell University - USA, obtaining the degree of Agricultural Engineer in 1981. He obtained a PhD degree at the University of Massachusetts - USA, Amherst Campus in 1990 (Entomology). He then completed a nine-month postdoctoral stay at the "Swiss Federal Research Station" in Wädenswil, Switzerland. He has worked at the Instituto de Ecología, A.C. - INECOL (Network of Biorational Pest and Vector Management) based in Xalapa / Coatepec, Veracruz, Mexico since 1990 as a scientist. From January 2010 to May 2017, he served as General Director of this research institution. His area of expertise falls within the Ecology and Behavior of Insects and Pest Management through Biorational Mechanisms. From the beginning of his career, he applied a mixed approach to his research, carrying out research on the cutting edge of knowledge in his field of expertise that resulted in various methodological and conceptual developments that are used in various parts of the world. He speaks and writes Spanish, English, and German fluently.

Dr. Aluja is a member of the “Sistema Nacional de Investigadores” (National System of Researchers - SNI) since 1990, having been awarded the highest level (Level III) in Area II (Chemistry & Biology) in 1999. To date he has generated a total of 253 publications, including 192 articles and six scientific notes/short communications in journals indexed by the Web of Science™ / Journal Citation Reports® (JCR®), nine articles in international/foreign (i.e., not Mexican) journals not indexed by JCR®, and eight articles in refereed Mexican journals. In addition, he has published 15 book chapters in international books and four in books published in Mexico. He has also written a book (Editorial Trillas) and coedited four additional ones (Springer, CRC Press, CABI, and AMC/FCE). The total number of primary citations (i.e., excluding self-citations by any coauthor, secondary citations, and theses) to these publications add to 5705, of which 4763 appear in journals indexed by JCR®. He has been awarded patents in USA, Mexico and Colombia. He has also obtained funding for 68 grants totaling over 50 million Mexican pesos (ca. 2.7 million USD). He has given 110 invited talks (46 in Mexico, 64 in foreign countries).

He teaches graduate courses on Scientific Ethics/Integrity and Animal Behavior and a workshop on Scientific Article/Grant Writing and has directed 31 bachelor, five master's theses and eight doctoral dissertations. Of his doctoral students, two work as researchers at the Institute of Biotechnology and Applied Ecology (INBIOTECA) of the Universidad Veracruzana, where one lead the graduate school and directs doctoral dissertations, and the other also advices masters and doctoral students, publishing both independently, and being Levels III and II of the SNI, respectively. Two other doctorate students work at INIFAP (Michoacán and Yucatán) carrying out research focused on the solution of agricultural problems, two more in INECOL dedicated to fundamental and applied research (both Levels I of the SNI), and two others in Argentinean universities mainly dedicated to teaching and research, all with recent publications.

Among other distinctions to his work, Dr. Aluja received the "Harry A. Rosenfeld" Agricultural Entomology Research Award from the University of Massachusetts (1985), the King Baudouin Award from the International Foundation for Science (1994), the Scientific Research Prize in Natural Sciences of the Mexican Academy of Sciences (1996), the Annual Prize as “Agronomist of the Year” from the Veracruz College of Agricultural Engineers (1997), the National Phytosanitary Prize from the Federal Ministry of Agriculture, Livestock, Rural Development and Fisheries (2012), and the Mexican National Prize for Science and Arts in the area of Technology, Innovation and Design in 2013 (highest recognition bestowed by the Mexican government to a scientist). He has also been distinguished with the naming of an insect genus (*Alujamyia*) and two species of parasitoid wasps (*Aganaspis alujai* and *Diachasmimorpha martinalujai*) in his honor. The latter two, in recognition of his work as a promoter of the Biological Control of fruit flies.

He served as chairman of the Working Group on Fruit Flies (> 400 members) of the International Organization of Biological Control (1994-1998), was elected president of the Southeast Section II of the Mexican Academy of Sciences (2001-2003) and of the National Phytosanitary Advisory Council (2000 - 2007). He participates in various editorial committees, having served as Associate Editor (2000 - 2018) of the prestigious specialized journal Biological Control (IF 2.6), and as a member of the Editorial Board (2018 - to date) of the Journal of Insect Behavior (IF 0.9).

One of the main contributions to the country and the world of Dr. Aluja, is represented by a research directed by him and published in the Journal of Economic Entomology in 2004, which served as the scientific support in the complex negotiations between the Mexican and US governments aimed at fully opening the US market to Hass avocados produced in Michoacán that had remained totally closed during 80 years. Thanks to this research, an economic spillover of more than 12,500 million dollars has been generated plus the creation of more than 50,000 direct and indirect jobs between 2004 and 2019 in both Mexico and the United States. In addition to the above, the methodology developed by Dr. Aluja and his colleagues, led him to be invited to write his second article in the prestigious Annual Review of Entomology (2008) in which, together with his colleague Dr. Robert Mangan, they proposed a new conceptual framework for the determination of the status as a fruit fly host of any fruit or vegetable worldwide. This methodology is already used in various countries to untangle trade disputes and represents the basis of an International Plant Protection Convention (IPPC - FAO) Standard currently applied in all UN member countries. The case was postulated by CONACyT as one of the clearest examples of the usefulness of science for the economic and social development of the country.

In addition to the above, Dr. Aluja founded the Department of Methods Development at the Mediterranean Fly Program in Metapa de Domínguez, Chiapas associated with the world's largest sterile insect production plant. Since the foundation of this department (currently sub-directorate) in 1983, various technological developments have matured (e.g., improvements to fruit fly mass-rearing methods, trapping devices, fruit fly biological control) that are used in Mexico and in various other countries. He created, along with his colleague, Dr. Pablo Liedo Fernández, the conceptual basis for the National Campaign against Fruit Flies that remains in force 35 years after being originally designed/implemented. He also directed the Emergency Campaign Against Citrus Bacteriosis (1983), avoiding a quarantine that could have caused millions in losses to the Mexican citrus export industry.

Dr. Aluja has also developed various low-cost “Fruit Fly Biorational Management Systems” for resource-poor rural farmers/peasants. Particularly a system of "trap crops" for the control of the Papaya Fly, and the use of baits for zero cost traps (dilutions of human urine and sugarcane). From the perspective of Technology and Innovation, Dr. Aluja, in collaboration with one of his former PhD students and Swiss colleagues, patented a technological development (synthetic host marking pheromone) that is in its last phase of testing (FINNOVA Project), designed to support organic mango and citrus growers.

In his role as General Director of INECOL, he was a tireless promoter of the construction of new facilities for science, technology and innovation, successfully lobbying a historical support from the Mexican Federal Congress through two “Expenditure Decrees” assigned to INECOL in 2011/2012 for a total amount of 170 million Mexican pesos (ca. nine million USD), which, in addition to additional support from CONACyT, allowed the construction and equipping of the 17,000 m^2 BioMimic® Scientific and Technological Cluster where 50% of the Public Research Centers coordinated by the Mexican Science and Technology Council - CONACyT (INECOL, CIMAV, CIATEJ, CICESE, IPICyT, CIAD, CICY, CIQA, CIDESI, CIDE, CIBNOR, CIATEC, CIO) and the National Laboratory of Genomics for Biodiversity (LANGEBIO), currently collaborate intensively developing innovative research lines in the fields of agro-nanotechnology and environmental nanotechnology, chemical ecology, natural product chemistry, genomics/transcriptomics, proteomics, environmental microbiology, biorational pest, disease and vector management, among others. The final investment exceeded 400 million Mexican pesos including the cost of state-of-the-art equipment (ca. 21.5 million USD). Dr. Aluja also built facilities for the Recruitment Center for New Talents for Science and Technology (children and young kids between eight and 17 years), called "Nobel Prize Seedbed", one of the tasks to which Dr. Aluja still dedicates much time and effort. The BioMimic® Cluster represents a new collaboration paradigm in Mexico between national and foreign institutions, covers a huge gap in the area of scientific and technological infrastructure focused on innovation in southeastern Mexico, and has created over 25 new research positions (scientists and technicians recruited worldwide), in addition to attracting talented postdocs and graduate students.

Finally, Dr. Aluja is a passionate promoter of the conservation of natural resources and as such created a Federal Protected Natural Area in the modality of “Private Conservation Area” on land he bought in the early nineties as a coffee plantation with heavy agrochemical use, that was transformed into a highly biodiverse forest. He was also an active promoter of the first municipal program in Mexico of forest conservation to generate water (“natural water factory”) in the Municipality of Coatepec, Veracruz Mexico that has been replicated in many other municipalities throughout the country, and is part of the public policies of the Federal Ministry of the Environment (SEMARNAT). The latter, in his role as Founding President of the NGO “Consejo Coatepecano por un Ambiente Sano – Coatepec Council for a Healthy Environment”.

CURRICULAR SUMMARY IN NUMBERS

Highest Academic Degree:	Ph.D.	
Research Groups formed:	3	
Books:	1	253
Edited books:	4	
Articles in Indexed Journals in the Web of Science™ (JCR® Thompson Reuters):	192	
Scientific Notes / Short Communications in indexed JCR® Thomson Reuters Journals:	6	
Articles in **Non-Indexed** International and Foreign Journals	8	
Articles in Refereed Mexican Journals:	9	
Chapters in International (15) and Mexican (4) Books:	19	
Outreach Articles:	11	

Primary citations to publications (**excluding** self-citations, secondary citations, and theses):

Indexed Journals in the Web of Science ™ (JCR® Thomson Reuters)	4763	5705
Journals NOT Indexed in the Web of Science ™ (JCR® Thomson Reuters)	450	
Books	85	
Book chapters	407	

Patents:		3
Courses taught:		
	- Master / Doctorate (five as associate professor):	30
Theses directed	- Bachelor's degree:	31
	In process:	3
	- Master's degree:	5
	In process:	1
	- Doctorate degree:	8
Financed Research Projects:		
	- International:	20
	- National:	41
	- Binational:	3
Invited Conferences:		
	- International:	25
	- Foreign:	39
	- México:	46
Awards (9) and Professional Distinctions (6):		15
SNI Level (Assessed in Area II [Biology & Chemistry]):		III