

Synopsis of Resume:

Arturo Duarte Sierra

3025 San Miguel
Ciudad Obregón, Sonora 85134
Mexico
arturo.duarte@itson.edu.mx
+52 1 (644) 216-3291

EDUCATION

01/2009 – 11/2015

Université Laval
PhD Food Sciences and Technology
Postharvest Physiology

Courses: Experimental Design; Metabolomics; Bioinformatics

Thesis: Abiotic Stress Hormesis in Broccoli: Hormetic Stresses to Maintain Quality of and Enhance Glucosinolates and Phenolic Compounds in Broccoli (*Brassica Oleracea* Var. Italica) during Storage

08/2006 - 09/2008

C.I.A.D (Centro de Investigación en Alimentación y Desarrollo)
Master's in Sciences, Sonora, Mexico.

Courses: Biochemistry and Physiology of Vegetables; Vegetal Biochemistry; Nucleic Acids; Advanced Vegetal Physiology

Thesis: Mechanisms of Defense Induced by Ozone and Sulfur Dioxide for Delay the Decay Caused by *Botrytis Cinerea* in Table Grapes

09/1999 – 12/2004

Instituto Tecnológico de Morelia, Morelia, Mexico
Postgraduate Diploma in Biochemical Engineering

Courses: Biochemistry, Heat Transfer, Mass Transfer, Unit Operation, Thermodynamics, Organic Chemistry, Inorganic Chemistry, Physical Chemistry, Calculus, Food Science, Engineering of Food, Nutrition

HABILITIES:

Food Preservation, Food Product Development, Design and Analysis of Experiments

RESEARCH TECHNIQUES: GC-MS, LC-MS, PCR, Electrophoresis, Spectrophotometry and Plant Micro propagation

COMPUTER LITERACY: SAS, JMP, MS Office, ChemOffice, Sigma Plot, EndNote, Nvivo, MatLab, Java

EXPERIENCE

- 01/2017 – Present
 Assistant Professor
 Instituto Tecnológico de Sonora
 Department of Food Sciences and Biotechnology
- Manager of Food Preservation of Fruit & Vegetables Laboratory
 - Consultant on Food Technology for Local Enterprises
- 05/2016 – 12/2016
 Production manager Novableu
 Novableu, Normandin, Canada
- Production of Blueberry Juice
 - Packaging Supervisor of Fresh Blueberries
- 09/2015 – 12/2015
 Project Manager
 FruitSymbiose, Levis, Canada
- Development of Edible Coatings for Fresh Cut Fruits
 - Development of Technology to Decrease Browning of Fruits and Vegetables
- 01/2009 – 12/2015
 PhD. Student
 Université Laval, Quebec, Canada
- 08/2006 – 11/2008
MASTER STUDENT
 Department of Vegetable Food Technology
 C.I.A.D., Hermosillo, Mexico
- Mechanisms of Defense Induced by Ozone and Sulfur Dioxide to Delay the Decay Caused by *Botrytis cinerea* in Table Grapes.
- 01/2005 - 09/2005
QUALITY CONTROL
 GS Foods
 Morelia, Mexico
- Analysis of Physical Chemical Properties of Raw Material and Finished Products
 - Quality Control
- 09/2004 - 12/2004
LABORATORY ASSISTANT
 UMSNH
 Morelia, Mexico
- Micropropagation of *Paulownia tomentosa*
- 01/2004 - 05/2004
STATISTIQUE ASSITANT
 AARHUSKARL
 Morelia, Mexico

- Implementation of OEE (Overall Effectiveness Efficiency) Program on all Vegetal Oil Production Lines

TEACHING

01/2017 - Present

FOOD SCIENCES

Instituto Tecnológico de Sonora
Ciudad Obregon, Mexico

Undergraduate:

- Science and Technology of Fruit and Vegetable Processing
- Food Preservation
- Food Product Development
- Food Plant Design

Graduated:

- Use of Agroindustrial Waste

09/2005 - 05/2006

LANGUAGE ASSISTANT

National Ministry of Education
Yvelines, France

Specialized Courses

04/2018

Annual Conference of The American Society for Horticultural Science (ASHS), Las Vegas, NV, USA

05/2019

Data Analytics with SAS, Ciudad Obregon, Sonora, Mexico

- Programming 1
- Programming 2
- Data Mining
- SAS Viya

04/2018

Hazard Analysis and Critical Control Points (HACCP), Ciudad Obregon, Sonora, Mexico

09/2017

Annual Conference of The American Society for Horticultural Science (ASHS), Waikoloa, HI, USA

06/2017

English Improvement for Mexican Teachers, PIMA College, Tucson, AZ, USA

06/2016

BIO2016, San Francisco, CA, USA

08/2015

Annual conference of the American Society for Horticultural Science (ASHS), New Orleans, LA, USA

08/2014	IUFoST, Montreal, QC, Canada
07/2014	Annual Conference of The American Society for Horticultural Science (ASHS), Orlando, FL, USA
03/2013	Americana, Montreal, QC, Canada International Environmental Technology Trade Show and Conference
06/2012	7 th International Postharvest Symposium, Kuala Lumpur, Malaysia
02/2012	Journée d'Information Scientifique - Légumes de Champ, Drummondville, QC, Canada
05/2011	Forth International Symposium Postharvest Unlimited, Leavenworth, WA, USA
08/2010	Plant Biology 2010, Montreal, QC, Canada
09/2008	Postharvest, Zaragoza, Spain IX Simposio Nacional y VI Ibérico sobre Maduración y Poscosecha
02/2008	AALPUM, Hermosillo, Sonora, Mexico Critical Points Evaluation in Table Grape Production (Eurepgap).
11/2007	C.I.A.D. Hermosillo, Sonora, Mexico Implementation of Inequity Food Programs Based on HACCP
10/2006	UABC, Baja California, Mexico National Congress of Mycology
11/2003	SMB Veracruz, Veracruz, Mexico National Congress of Biochemistry
11/2002	SMB Puerto Vallarta, Jalisco, Mexico National Congress of Biochemistry

PERSONAL

Citizenship: Mexican, Canadian

Languages: Spanish, English and French

RESEARCH ACTIVITIES IN PRINT

THESIS

2015 PhD Thesis

Abiotic Stress Hormesis In Broccoli: Hormetic Stresses to Maintain Quality of And Enhance Glucosinolates and Phenolic Compounds in Broccoli (*Brassica Oleracea* Var. Italica) during Storage

2008 M.Sc. Thesis

Mechanisms of Defense Induced by Ozone and Sulfur Dioxide for delay the Decay Caused by *Botrytis Cinerea* in Table Grapes.

PUBLICATIONS

Duarte-Sierra, A., Nadeau F., Dominique, M., Angers, P. and Arul, J. 2019. UV-C Hormesis in Broccoli Florets: Preservation, Phyto-Compounds and Gene Expression. Postharvest Biology and Technology. 157, in press.

Duarte-Sierra, A., Forney, C., Dominique, M., Angers, P. and Arul, J. 2017. Influence of Hormetic Heat Treatment on Quality and Phytochemical Compounds of Broccoli Florets during Storage. Postharvest Biology and Technology. 128, 44-53

Duarte-Sierra, A., Courcuff R. and Arul, J. 2016. Methodology for the Determination of Hormetic Heat Treatment of Broccoli Florets using Hot Humidified Air: Temperature–Time Relationships. Postharvest Biology and Technology. 117, 118-124

Duarte-Sierra, Arturo, Aispuro-Hernandez, Emmanuel, Vargas-Aispuro, Irasema, Islas-Osuna, Maria A., Gonzalez-Aguilar, Gustavo A., Martinez-Tellez, Miguel Angel. 2015. Quality and PR Gene Expression of Table Grapes Treated with Ozone and Sulphur Dioxide to Control Fungal Decay. Journal of the Science of Food and Agriculture. 96-6, 2018-2024

Duarte-Sierra, A., Hasan, M., Michaud D., Arul, J. and Forney, C. 2013. Effect of Oxidative Stresses on Glucosinolates Profile in Broccoli Florets during Postharvest Storage. Acta Hort. 945: 97-104

Duarte-Sierra, A., Corcuff, R., Angers, P., Arul, J. and Forney, C. 2012. Influence Of UV-C on Color Development and Free Amino Acid Profile in Broccoli Florets during Postharvest Storage. Acta Hort. 945: 97-104

Duarte-Sierra, A., Corcuff, R., Angers, P. and Arul, J. 2012. Effect of Heat Treatment using Humidified Air on Electrolyte Leakage in Broccoli Florets: Temperature-Time Relationships. Acta Hort. 945:149-156

Arturo Duarte-Sierra, Irasema Vargas-Arispuro, María A. Islas-Osuna, Gustavo González-Aguilar Y Miguel Ángel Martínez-Téllez. Mecanismos de Defensa Inducidos por O₃ Y SO₂ Para Reducir el Deterioro Causado por *Botrytis cinerea* en Uva de Mesa Cv. 'Red Globe'. IX Symposium Nacional y VI Ibérico sobre Maduración y Postcosecha. PostZaragoza 2008. Zaragoza, España. 21-23 Sept. 2008. In: Oria, R., Val, J., Ferrer, A. (Eds.). "Avances en maduración y post-recolección de frutas y hortalizas". ISBN: 978-84-200-1111-0. Ed. Acribia, Zaragoza

BOOK CHAPTERS

Arturo Duarte-Sierra, Marie Thérèse-Charles, Joseph Arul. 2019. UV-C Hormesis: Controlling Diseases and Maintaining Quality of Fresh Fruits and Vegetables during Storage In: Postharvest Pathology of Fresh Horticultural Produce. CRC Press

COMMUNICATIONS

Meza Guzmán D. M1., Holguin Soto R. 1, Reyes Blanco B.L1., Rodríguez Ramírez R. 1, Gassos Ortega L. E1., **Duarte Sierra A.1,***. 2019. Presencia de plomo y cadmio en la harina de trigo utilizada para la elaboración de alimentos. Avances de Investigación en Inocuidad de Alimentos. e-Genosis. In press

HONOURS

2018	SNI Candidate CONACYT Ciudad Obregon, Mexico
2016	Lojic Scholarship For BIO2016 Conference at San Francisco, USA Quebec, Canada
2012	Université Laval 3 rd Place "Nourrir le Monde"
2009	CONACYT Scholarship PhD Degree Quebec, Canada
2006	CONACYT Scholarship Master's Degree Hermosillo, México
2003	XIII National Contest of Creativity of the Technology Schools in Mexico 1 st Place: Design and Elaboration of a Prototype for the Extraction of <i>Aloe vera</i> Gel Culiacán, México
1998	VIII National Olympic of Biology 4 th Place

OTHER WORK

01/2013 – 02/2013 Contract Employee
Université Laval

08/2012 – 09/2012 Contract Employee
Université Laval

VOLUNTEER WORK

07/2014 – 07/2016 Secretary of Computer Application In Horticulture (COMP)
American Society for Horticultural Science (ASHS)

06/2012 – 04/2013 Le Mieux-Être des Immigrants
Quebec, Quebec

03/2006 ViveMexico,
Dharamsala, India

EXTRACURRICULAR ACTIVITIES

12/1999 – 01/2000 Aconcagua Expedition
Argentina

01/2003 Chimborazo, Cotopaxi and Iliniza Expedition
Equator