

Gabriel Davidov Pardo



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ACADEMICS

- PhD in Food Science and Technology** November 2007 - July 2012
PUBLIC UNIVERSITY OF NAVARRE Pamplona, Spain
Grade: Cum Laude International Mention
- Advanced Diploma in Food Science and Technology** November 2007 - June 2009
PUBLIC UNIVERSITY OF NAVARRE Pamplona, Spain
Grade average: 9.75/10
- Bachelor in Food Science and Technology** August 2003 - May 2007
IBEROAMERICANA UNIVERSITY Mexico City, Mexico
Grade average: 9.76/10
- P. A. in Restaurant Administration with emphasis on Culinary Arts**
CESSA January 1999 - December 2000
Mexico City, Mexico

ACADEMIC RESEARCH WORK EXPERIENCE

- Postdoctoral Fellow** September 2013 – Present
University of Massachusetts. McClement's laboratory. Amherst, MA. United States
Develop and characterize the formation and stability of delivery systems for polyphenolic antioxidants. Characterize the *in vitro* bioaccessibility. Write scientific papers and grants proposals. Teach.
- Project Contributor in AENOLTEC** October 2014 – February 2015
Public University of Navarre Pamplona, Spain
Created a network between the University of Massachusetts and the Public University of Navarre. Taught and supervised a master student in encapsulation and *in vitro* bioavailability of resveratrol. Wrote scientific papers.
- Contributor Food Science Department** May 2013 – August 2013
Public University of Navarre Pamplona, Spain
Supervised undergraduate research projects; Supported PhD candidates; Analyzed polyphenols by HPLC; Analyzed polyphenols bioavailability; Wrote postdoctoral proposals and scientific papers.
- Researcher** May 2011 – April 2013
Public University of Navarre Pamplona, Spain
Taught; Supervised undergraduate research projects; Analyzed polyphenols by HPLC; Microencapsulated polyphenols; Sensory evaluated enrich cookies with polyphenols microcapsules; Analyzed of bioavailability of polyphenols; Wrote papers.

Doctoral Fellow

Public University of Navarra

November 2007 – April 2011

Pamplona, Spain

Analyzed polyphenols by HPLC; Microencapsulated polyphenols; Sensory evaluated enrich cookies with polyphenols microcapsules; Analyzed of bioavailability of polyphenols; Wrote papers.

Biopolymers Researcher Assistant

Iberoamericana University

November 2006 - October 2007

Mexico City, Mexico

Designed and analyzed edible films; Microencapsulated omega 3 and 6 fatty acids; Enriched bakery products; Trained a PhD student in microencapsulation and edible film fabrication techniques.

NON-ACADEMIC WORK EXPERIENCE

Consultant in New Products Development

Ki-Gourmet

August 2006 - October 2007

Mexico City, Mexico

Consulted in the development of commercial low fat crackers

Internship Engineer/Manufacture Oral Care

PROCTER & GAMBLE

August 2006 - November 2006

Mexico City, Mexico

Implemented savings in the fill line of Crest

Social Service: Alimentary department

DIF-DF

June 2006 - December 2006

Mexico City, Mexico

Developed normativity of new products in the meal programs

PARTICIPATION IN SUBSIDY RESEARCH PROJECTS

Researcher in the “**USDA-NIFA grant: 2011-03539**”

Researcher in the project “**EFFECT OF INGESTION OF PLANT EXTRACTS RICH IN POLYPHENOLS IN THE DEVELOPMENT OF COLON CANCER IN RESEARCH ANIMALS**” code agl2006-10296.

Researcher in the project “**CLASIFICACION OF ANTIOXIDANT ACTIVITY OF GRAPE AND WINE DERIVATES**” code Aquitania2011_23.

Researcher in the project “**OBTENTION OF BAKERY PRODUCTS FOR SPECIAL NEEDS**” financed by CYTED Acción 106AC0301.

TEACHING EXPERIENCE

Tutoring and direction of the masters thesis: *In vitro Bioaccessability of Resveratrol Bound to Sodium Caseinate or Encapsulated in Zein Biopolymer Nanoparticles Stabilized by Maillard Conjugation.* Estimate presentation June 2015.

Tutoring and direction of the bachelor thesis: *Polyphenolic balance in mice with induced colon cancer fed with a high fat diet supplemented with apple extracts.* Presented November 2013.

Tutoring and direction of the master thesis: *Effect of fermentation and roasting on the polyphenolic concentration and antioxidant activity of cocoa from Nicaragua.* Presented May 2012.

Tutoring and direction of the master thesis: *Study of the addition of polyphenolic extracts from grape seeds to bakery products* Presented September 2010.

Teaching associate of the courses “**Food Chemistry**”, “**Physical Phenomena in Foods**” and “**Graduate seminar**” from the bachelors, master and PhD in Food Science at the University of Massachusetts, Amherst.

Teaching associate of the courses “**The sensory analysis in the agro-food ambit**” and “**Valorization of by-products from the agro-food industry**” from the master in technology and quality in the agro-food industries and “**Enology**” from the agronomic engineering grade at the Public University of Navarra.

PUBLICATIONS IN INDEXED JOURNALS

- Gabriel Davidov-Pardo**, Iris Julie Joye*, David Julian McClements. Encapsulation of resveratrol in biopolymer nanoparticles stabilized by Maillard conjugation. *Journal of agriculture and Food Chemistry* (Under review).
- Gabriel Davidov-Pardo**, Sonia Pérez-Ciordia, María R. Marín-Arroyo and David Julian McClements* (2015) Improving Resveratrol Bioaccessibility using Biopolymer Nanoparticles and Complexes: Impact of Protein-Carbohydrate Maillard Conjugation. *Journal of Agriculture and Food Chemistry* 63, 3915–3923.
- Iris Julie Joye, **Gabriel Davidov-Pardo***, David Julian McClements. (2015) Fluorescence quenching study of resveratrol binding to zein and gliadin: Towards a more rational approach to resveratrol encapsulation using water-insoluble proteins. *Food Chemistry* 185, 261-267.
- Iris Julie Joye, **Gabriel Davidov-Pardo***, David Julian McClements. (2015) Encapsulation of resveratrol in biopolymer particles produced using liquid antisolvent precipitation. Part 2: stability and functionality. *Food Hydrocolloids*. 49, 127-134.
- Gabriel Davidov-Pardo**, Iris Julie Joye*, David Julian McClements. (2015) Encapsulation of resveratrol in biopolymer particles produced using liquid antisolvent precipitation. Part 1: preparation and characterization *Food Hydrocolloids*. 45, 309-316.
- Gabriel Davidov-Pardo***, David Julian McClements. (2015) Nutraceutical delivery systems: Resveratrol encapsulation in grape seed oil nanoemulsions formed by spontaneous emulsification. *Food Chemistry*. 167(15), 205-212.
- Iris Julie Joye, **Gabriel Davidov-Pardo***, David Julian McClements (2014). Nanotechnology for increased micronutrient bioavailability *Trends in Food Science and Technology*. 40(2), 168-182.
- Gabriel Davidov-Pardo***, David Julian McClements. (2014) Resveratrol encapsulation: designing delivery systems to overcome solubility, stability and bioavailability issues. *Trends in Food Science and Technology*. 38 (2), 88-103.
- G. Bobo, **G. Davidov-Pardo***, C. Arroqui, P. Virseda, M.R. Marín-Arroyo, M. Navarro. (2015) Intralaboratory validation of microplate methods for total phenolic content and antioxidant activity on polyphenolic extracts, and comparison with conventional spectrophotometric method. *Journal of the Science of Food and Agriculture*. 95(1) 204-209.
- Suazo, Yader; **Davidov-Pardo, Gabriel***; Arozarena, Iñigo. (2014) Effect of Fermentation and Roasting on the Phenolic Concentration and Antioxidant Activity of Cocoa from Nicaragua. *Journal of Food Quality*. 37(1) 50-56.
- Gabriel Davidov-Pardo**, Iñigo Arozarena, María R. Marín-Arroyo*. (2013) Grape seed extract: additive and functional ingredient. *Agro Food Industry Hi-Tech*. 24(3) 41-43.
- Davidov-Pardo G.**, Arozarena I., Marín-Arroyo M. R*. (2013) Optimization of a Wall Material Formulation to Microencapsulate a Grape Seed Extract Using a Mixture Design of Experiments. *Food and Bioprocess Technology*. 6(4), 941-951
- Davidov-Pardo G.**, Moreno M., Arozarena I., Marín-Arroyo M. R.*, Bleibaum R., Bruhn C. (2012) Sensory and Consumer Perception of the Addition of Grape Seed Extracts in Cookies. *Journal of Food Science*. 77(12) S430-S438.
- Davidov-Pardo G.***, Arozarena I., Marín-Arroyo M. R. (2011) Kinetics of Thermal Modifications in a Grape Seed Extract. *Journal of Agricultural and Food Chemistry*. 59(13) 7211-7217.
- Davidov-Pardo, G.***, Arozarena, I., & Marín-Arroyo, M. (2011). Stability of polyphenolic extracts from grape seeds after thermal treatments. *European Food Research and Technology*, 232(2) 211-220.
- G. Davidov-Pardo**, P. Rocca, D. Salgado, A.E. León*, y R. Pedroza-Islas. (2008) Utilization of Different Wall Materials to Microencapsulate Fish Oil. Evaluation of its Behavior in Bread Products. *American Journal of Food Technology* 3(6) 384-393.

BOOK CHAPTERS

Gabriel Davidov-Pardo, Iris J. Joye and David Julian McClements. Food-grade protein-based nanoparticles and microparticles for bioactive delivery: fabrication, characterization, and utilization in *Protein and Peptide Nanoparticles for Drug Delivery, APCSB Volume 98*. Editor: Rossen Donev. El Sevier Filadelfia, PA. EEUU. Pp: 301-333.

Iris J. Joye, **Gabriel Davidov-Pardo**, and David Julian McClements. 481. Nanotechnology in Food Processing in *Encyclopedia of Food and Health*. Editores: Benjamin Caballero, Paul Finglas, and Fidel Toldrá. El Sevier (In press)

Davidov-Pardo Gabriel, Arozarena Iñigo, Navarro Montserrat, Marín-Arroyo María R. Microencapsulation of grape seed extracts in *Microencapsulation and Microspheres for Food Applications*. Editor: Leonard Sagis. El Sevier. San Diego, CA. EEUU (In press)

Davidov-Pardo Gabriel, Navarro Montserrat, Arozarena Iñigo, Marín-Arroyo María R. (2014). Chapter 9: Obtaining polyphenolic extracts from wine by-products in *Grapes: Production, phenolic composition and potential biomedical effects*. Editor: José S. Câmara. Novapublisher, Hauppauge N.Y., EEUU. Pp: 225-244

PUBLICATIONS IN DIVULGATIVE MAGAZINES

Davidov-Pardo Gabriel, Casares Isabel, Fontanot Adriana, Pedroza-Islas Ruth. (2009) Evaluation of fish-oil microcapsules with two different antioxidants. *Industria Alimentaria Editorial Alfa Editores Técnicos*. 31(5) 26-31. ISSN: 0187-7658

Davidov-Pardo Gabriel, Barrera Lourdes, Casares Isabel, Fontanot Adriana. (2008) Utilization of a mix experiment design to create a flavor for water. *Bebidas Mexicanas Editorial Alfa Editores Técnicos*. 17(3) 24-31. ISSN: 0188-8080

PUBLICATIONS IN CONGRESS PROCEEDINGS

Gabriel Davidov-Pardo, Sheila Romo-Sánchez, Iñigo Arozarena, María Arévalo-Villena, María R. Marín-Arroyo. Preliminary study to immobilize β -glucosidase by ionic gelation. New perspectives in wine and viticulture research. *Red Gienol*. Editors: Fernando Calderón Fernández, Felipe Palomero Rodríguez, José Antonio Suárez-Lepe ISBN: 978-84-96709-13-3. Madrid, Spain. 2013.

Davidov-Pardo G., Arozarena I., Marín-Arroyo M. R. Elaboration of an Optimal Wall Material Formulation to Encapsulate a Grape Seed Extract Using a Mixture Design of Experiments. *Proceedings of the 5th European workshop on food engineering and technology*. ISBN 978-84-694-1553-5 Valencia, Spain. 2011

Gabriel Davidov-Pardo, Iñigo Arozarena María R. Marín-Arroyo. Kinetics of resveratrol changes after thermal treatments. *Wine Active Compounds 2011*. Proceedings of the WAC2011 international conference Eds. Chaire Unesco « Culture et Traditions du Vin » - ISBN: 2-9054284-302011. Beaune, France. 2011.

Davidov-Pardo G., Arozarena I., Marín-Arroyo M. R. Kinetics of Thermal Modifications in a Grape Seed Extract. 2010 EFFoST Annual Meeting Food and Health Abstract CD. PS 2.23 Dublin, Ireland. 2010.

Gabriel Davidov, Iñigo Arozarena, Remedios Marín. Stability of Polyphenolic Extracts From Grape Seeds After Thermal Treatments. *Effost 2009 Conference New Challenges In Food Preservation Abstracts CD*. P384. Budapest, Hungary. 2009

Gabriel Davidov, Iñigo Arozarena, Remedios Marín. Comparison Between Defatted and Non Defatted Grape Seeds Extracts. *5th International Technical Symposium on Food Processing, Monitoring Technology in Bioprocesses and Food Quality Management Book of Abstracts* ISSN 0947-7314 Potsdam, Germany. 2009

G. Davidov-Pardo, I. Casares, A. Fontanot, R. Marín, R. Pedroza-Islas. Evaluation of fish-oil microcapsules with two different antioxidants. II International Congress for Food

CONGRESSES

Encapsulation of resveratrol in biopolymeric nanoparticles stabilized by Maillard conjugation. Delivery of Functionality in Complex Food Systems. Paris, France. July 2015.

ORAL PRESENTATION

Influence of sodium alginate on the physicochemical and oxidative stability of α -3 enriched nanoemulsion. Delivery of Functionality in Complex Food Systems. Paris, France. July 2015. **POSTER PRESENTATION**

Lutein-enriched corn oil nanoemulsions: Influence of pH and temperature on the physical and chemical stability. Short Emulsion Course 2015. Amherst, MA, EEUU. Mayo 2015.

POSTER PRESENTATION

Sensory and consumer perception of the addition of microencapsulated grape seed extracts in bakery products. Cake Symposium 2014. Boston, MA, USA. August 2014.

POSTER PRESENTATION

A comparison of binding of resveratrol to zein or gliadin: A fluorescence study to rationalize nanoparticle production. ITNano 2014. Boston, MA, USA. July 2014.

POSTER PRESENTATION

Enhancing chemical stability of resveratrol using nanoemulsion-based delivery systems. IFT Annual Meeting 2014. New Orleans, LA, USA. June 2014. **POSTER PRESENTATION**

Encapsulation of resveratrol in protein particles produced using liquid antisolvent precipitation. International Food Physics Symposium. Amherst, MA, USA. May 2014.

POSTER PRESENTATION

Nutraceutical delivery systems: Resveratrol encapsulation in grape seed oil nanoemulsions formed by spontaneous emulsification. Strategic Research Alliance Meeting. Amherst, MA, USA. April 2014. **POSTER PRESENTATION**

Preliminary study to immobilize β -glucosidase by ionic gelation. Gienol 2013. Madrid, Spain. June 2013. **POSTER PRESENTATION**

Elaboration of an Optimal Wall Material Formulation to Encapsulate a Grape Seed Extract Using a Mixture Design of Experiments. 5th European Workshop on Food Engineering and Technology. Valencia, Spain. March 2011. **ORAL and POSTER PRESENTATION**

Kinetics of Resveratrol Changes After Thermal Treatments. Wine Active Compounds 2011. Beaune, France. March 2011. **POSTER PRESENTATION**

Kinetics of Thermal Modifications in a Grape Seed Extract. 2010 EFFoST Annual Meeting Food and Health. Dublin, Ireland. November 2010. **POSTER PRESENTATION**

Comparison Between Defatted and Non Defatted Grape Seeds Extracts. 5th International Technical Symposium on Food Processing, Monitoring Technology in Bioprocesses and Food Quality Management Potsdam, Germany. August-September 2009. **POSTER PRESENTATION**

Evaluation of fish-oil microcapsules with two different antioxidants. II International Congress of Food Science and Technology. Pamplona, Spain. November 2008. **POSTER PRESENTATION**

"My experience of research as significative learning". III Meeting of research lines. México City 2007. **ORAL PRESENTATION**

Formation of sensorial judges for a chocolate ice cream producer. III International symposium of food science and technology. Sensiber IV International congress for sensory evaluation. Tabasco, Mexico. 2006. **POSTER PRESENTATION**

Utilization of a mix experiment design to create a water flavor. XXXVI National congress of food science and technology. Mexico City. September 2006. **POSTER PRESENTATION**

GRANTS, INTERNSHIPS AND AWARDS

Member of the **National System of Researchers of Mexico (SNI)** as National Research Candidate.

Postdoctoral grant. Secretariat of science, technology and innovation of Mexico City.

Winner of the contest Thesis in 3 minutes Public University of Navarre November 2012
PhD with Cum Laude and international accreditation Public University of Navarra
Predoctoral Grant Public University of Navarra 2009-2013
Grant to study a PhD abroad CONACYT. 2007-2009
First place in grades in my Bachelors and High School (Academic Grant)
First place in grades in the Advance Studies Diploma
Selected candidate to represent Spain in the 5th European workshop on food engineering and technology.
UPNA Mobility grant to be a Visiting scholar in the Food Science and Technology department of the **University of California Davis**.
Elliare Mobility grant for a Research internship **University of Castilla-La Mancha campus Ciudad Real**.

SOFTWARE

Office: Advance
Matlab: Beginner
SPSS: Medium
Statgraphics: Medium
Minitab: Medium
Empower Pro HPLC Software: Advance
FIZZ: Beginner

ATTENDED COURSES

July 2015. **Principles of Effective College Teaching**. Magna Online Courses. United States.
November 2013. **Food emulsions short course**. University of Massachusetts. Amherst, United States.
May 2013. **Healthy products opportunities for the food industry**. Logroño, Spain.
November 2012. **2012 EFFoST Annual Meeting** Montpellier, France.
September 2012. **Nanotechnology in the Food Industry** Burgos, Spain.
June 2011. **Ethics in Research with Human Subjects**. UC Davis, USA.
October 2008-February 2009. **Workshop for English Lecturers** Public University of Navarra

LANGUAGES

English 100%
Spanish 100% (native)

French 30%
Hebrew 75%