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Date of birth: May, 1978.
Nationality: Israeli

Academic Background

2015- **Assistant Professor** – Head of laboratory for Lipids and Soft Matter, Faculty of Biotechnology and Food Engineering, Technion, Haifa, Israel.

2013-2015 **Post-Doctoral Research Associate** – Department of Food Science, University of Guelph, Guelph, ON, Canada.
Advisors: Prof. A.G. Marangoni and Prof. S. Barbut
Structure and properties of Ethyl-cellulose based oleogels

2006-2011 **Ph. D.**, Department of Chemical Engineering, Technion, Haifa, Israel
Advisor: Assoc. Prof. Havazelet Bianco-Peled
Acrylated polymers: a new concept in the design of mucoadhesive drug

2004-2006 **M. Sc. (Cum laude)**, Department of Chemical Engineering, Technion, Haifa, Israel
Advisor: Assoc. Prof. Havazelet Bianco-Peled
Toward new applications of mucoadhesive polymers

2000-2004 **B. Sc. Biochemical Engineering (Cum laude)**, department of Chemical Engineering, Technion, Haifa, Israel.

Academic/Professional Experience

2011-2012 – Research associate in Prof. Bianco-Peled lab working on the development of chitosan based antibacterial additives for food packaging applications.

2004-2009 - Teaching assistance, Supervising and teaching two core undergraduate courses: Separation Processes in Chemical Engineering I and II, Technion Chemical Engineering Department.

2002-2004 – Research assistance, Rabin Desalination Laboratory, Technion Chemical Engineering Department.

Honors and Prizes

2009 - *Faculty Excellence scholarship*, Technion Chemical Engineering Department.

2005 - Vivian Konigsberg Award for Excellence in teaching, Technion Chemical Engineering Department.

2005 - Sandor Szego Award for Excellence in teaching, Technion Chemical Engineering Department.

Publications

Published Papers

1. R. Bitton, M. Ben-Yehuda, M. Davidovich, Y. Balazs, P. Potin, L. Delage, C. Colin, H. Bianco-Peled. **"Structure of algal-born phenolic polymeric adhesives"** *Macromolecular Bioscience* (2006) 6, 737-746.
2. M. Davidovich-Pinhas, O. Harari and H. Bianco-Peled. **"Evaluating the mucoadhesive properties of drug delivery systems based on hydrated thiolated alginate"** *Journal of Controlled Release* (2009) 136, 38-44.
3. M. Davidovich-Pinhas and H. Bianco-Peled. **"A quantitative analysis of alginate swelling"** *Carbohydrate Polymers* (2010) 79, 1020-1027.
4. M. Davidovich-Pinhas and H. Bianco-Peled. **"Novel mucoadhesive system based on sulfhydryl-acrylate interactions"** *Journal of Material Science: Material in Medicine* (2010) 21, 2027-2034.
5. M. Davidovich-Pinhas and H. Bianco-Peled. **"Alginate-PEGAc: A new mucoadhesive polymer"** *Acta Biomaterialia* (2011) 7, 625-633.
6. M. Davidovich-Pinhas and H. Bianco-Peled. **"Physical and structural characteristics of acrylated poly(ethylene glycol)-alginate conjugates"** *Acta Biomaterialia* (2011) 7, 2817-2825.
7. M. Davidovich-Pinhas, Yael Danin-Poleg, Yechezkel Kashi, Havazelet Bianco-Peled. **"Modified chitosan: A step toward improving the properties of antibacterial food packages"** *Food Packaging and Shelf Life* (2014), 1, 160-169.
8. M. Davidovich-Pinhas, Shai Barbut, Alejandro G. Marangoni. **"Physical structure and thermal behavior of ethylcellulose"** *Cellulose* (2014) 21, 3243-3255.
9. M. Davidovich-Pinhas, Shai Barbut, Alejandro G. Marangoni. **"The gelation of oil using ethyl-cellulose"** *Carbohydrate Polymers* (2014) 117, 869-878.
10. M. Davidovich-Pinhas, A. J. Gravelle, Shai Barbut, Alejandro G. Marangoni. **"Temperature effects on the gelation of ethylcellulose oleogels"** *Food Hydrocolloid* (2015) 46, 76-83.
11. A. J. Gravelle, M. Davidovich-Pinhas, Shai Barbut, Alejandro G. Marangoni. **"Influence of solvent quality on the mechanical strength of ethylcellulose oleogels"** Submitted to *Carbohydrate Polymers*
12. M. Davidovich-Pinhas, Shai Barbut, Alejandro G. Marangoni. **"The role of surfactants on ethylcellulose oleogel structure and mechanical properties"** *Carbohydrate Polymers* (2015) 127, 355-362.

Review Papers

1. M. Davidovich-Pinhas and H. Bianco-Peled. "**Mucoadhesion: A review of characterization techniques**" An invited review for *Expert opinion in drug delivery* (2010) 7, 259-271.
2. M. Davidovich-Pinhas and A.G. Marangoni. "**Development, Characterization and utilization of food grade polymer oleogel**" an invited review for *Annual Review of Food Science and Technology*. submitted

Patents

1. M. Davidovich-Pinhas and H. Bianco-Peled. "**Antimicrobial composition and uses thereof**" United States Patent Application 2014/0308236 A1.

Book Chapters

1. M. Davidovich-Pinhas and H. Bianco-Peled. **Drug Delivery Systems Based On Mucoadhesive Polymers**. *Active implants and scaffolds for tissue regeneration*. Edited by Meital Zilberman. Springer Inc. (2011).
2. M. Davidovich-Pinhas and H. Bianco-Peled. **Acrylated polymers. Mucoadhesive Materials and Drug Delivery Systems**. Edited by Vitaliy V. Khutoryanskiy. John Wiley & Sons (2014).
3. M. Davidovich-Pinhas and H. Bianco-Peled. **Methods to study mucoadhesive dosage forms. Mucoadhesive Materials and Drug Delivery Systems**. Edited by Vitaliy V. Khutoryanskiy. John Wiley & Sons (2014).

Book

1. M. Davidovich-Pinhas and H. Bianco-Peled. **Bioadhesion and Biomimetics: From Nature to Applications**. Pan Stanford Publishing Pte. Ltd (2015).

Oral Presentation in Conferences

1. **May 2015** – *The role of hydrogen bonds in ethyl-cellulose gelation*, The 106th American Oil and chemistry Society annual meeting, Orlando, Florida, USA.
2. **October 2014** – *The gelation of oil using ethyl-cellulose*, The 86th Society of Rheology annual meeting, Philadelphia, Pennsylvania, USA.
3. **May 2014** - *Rheology behavior of ethyl cellulose / canola oil based oleogels*, The 105th American Oil and chemistry Society annual meeting, San-Antonio, Texas, USA.
4. **March 2012** – *A new strategy for the design of mucoadhesive polymers*, "14th Israel Material Engineering Conference" Dead-sea, Israel.
5. **October 2011** - *Acrylated polymers: a new concept in the design of mucoadhesive drug delivery systems*, "Polymer Advance Technology 2011" Lodz, Poland.
6. **June 2010** - *Novel mucoadhesive system based on sulfhydryl-acrylate interactions*, "Israel Institute of Chemical Engineering" Haifa, Israel.

7. **December 2009** – *Novel mucoadhesive system based on sulfhydryl-acrylate interactions*, “14th Israel Material Engineering Conference” Tel-Aviv, Israel.
8. **November 2009** – *Novel mucoadhesive system based on sulfhydryl-acrylate interactions*, “5th European Symposium on Biopolymers” Funchal, Portugal.
9. **October 2009** – *Evaluating the mucoadhesive properties of drug delivery systems based on hydrated thiolated alginate*, “Polymer Advance Technology 2010” Jerusalem, Israel.