

Curriculum Vitae

Full name: **YOAV DAVID LIVNEY**

Identity No. 058740564

Date and place of birth: 18.04.64 Haifa, Israel.

Marital status: Married, 3 children

Affiliation: Faculty of Biotechnology & Food Engineering,
The Technion, Israel Institute of Technology.

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ACADEMIC DEGREES

1990 B.Sc. (Suma Cum Laude) - Food Engineering and Biotechnology, Technion-
Israel Institute of Technology, Israel

1995 M.S. - Food Science, University of Wisconsin, Madison, WI, USA

2002 Ph.D. - Food Engineering and Biotechnology, Technion- Israel Institute of
Technology, Haifa, Israel

ACADEMIC APPOINTMENTS

1998-2002 Adjunct Teacher, Dept. of Food Engineering and
Biotechnology, Technion- Israel Institute of Technology,
Haifa, Israel

2002-2004 Post-Doctoral Research Associate, with Prof. Douglas G.
Dalgleish, Dept. of Food Science, University of Guelph,
Guelph, Ontario, Canada

2004-2007 Lecturer, at the Dept. of Biotechnology and Food
Engineering, The Technion, Israel institute of Technology.

2007-2012 Senior Lecturer (Assistant Professor), at the Dept. of Biotechnology and
Food Engineering, The Technion, Israel institute of Technology.

2012- Associate Professor at the Dept. of Biotechnology and
Food Engineering, The Technion, Israel institute of Technology.

PROFESSIONAL EXPERIENCE

1990-1991 Quality Control Manager, Strauss Dairies Ltd.

1991-1992 Quarg Dept. Technologist, and Manager of Quarg Production Dept.,
Strauss Dairies Ltd.

1995-1998 Strauss Dairies Ltd. Cheese Product Development Manager.

RESEARCH INTERESTS

- Physical chemistry of biomacromolecules in food and biotechnology
 - Water-structure effects of low molecular weight solutes, and its impact on macromolecules.
 - Biopolymers, gels, and their interactions with low molecular weight components.
 - Physical chemistry, structure and interactions of milk proteins
- Nanotechnology: Nature-inspired targeted nano-delivery systems for nutraceuticals and drugs, based mainly on proteins and polysaccharides.

TEACHING EXPERIENCE

- 2005-present Thermodynamics in Biotechnology & Food Engineering
(undergraduate, 4 credit points)
- 2005-present Structure and Properties of Biological and Food Materials
(undergraduate, 3.5 credit points)
- 2006 Physical Chemistry of Foods (Graduate, 2 credit points,
ME Program)
- 2006-present Selected topics in Food Technology A: Course Coordinator
- 2007-present Selected topics in Food Technology B: Course Coordinator

Teaching assistant:

- 1998-2002 Thermodynamics in Food Engineering (undergraduate)
- 1999-2000 Packaging of Foods and Medicines (undergraduate)
- 2001 Separation and Recovery Processes in Biotechnology
(undergraduate + graduate).

TECHNION ACTIVITIES & RESPONSIBILITIES

- 2004-2007 Quality Assurance and Dependability – Graduate program committee member.
- 2005 Faculty representative in the committee for evaluation of the basic Math courses at the Technion.
- 2006 Departmental Coordinator of the Technion's "Researcher's Night" event funded by the European Union, at the National Museum of Science & Technology.
- 2010- Faculty representative at the Technion International School Founding committee
- July 2012- Graduate Studies Coordinator, Nanoscience & Nanotechnology Interdepartmental Program.

PUBLIC PROFESSIONAL ACTIVITIES

- 2005 - Present Member of the review committee in "The Milk Consulate" ("Moetset Hechalav").
- 2006 – 2010 Member of the Management Committee of European Concerted Research Action designated as COST #865: "Bioencapsulation multiscale interaction analysis".
- 2010 – Member of the BARD review committee
- 2012 Member of a "Malag" (Israeli Council for High Education) committee for evaluation of B.Sc. study programs in Nutrition.

MEMBERSHIP IN PROFESSIONAL SOCIETIES

- IFT-Institute of Food Technologists: elected as Professional Member (00094244).
- ISFE-International Society of Food Engineering (Member No. 001124) &
- IUFOST-International Union of Food Science & Technology
- ACS- American Chemical Society
- ICS- Israel Chemical Society
- AOAC-International- American Organization of Analytical Chemists- International
- The Israeli Institute of Chemical Engineers (IICChE)
- ISPP-The Israeli Society for polymers and Plastics
- BRG-Bioencapsulation Research Group.
- The Israeli Controlled Release Society
- The Innovation Forum
- The Russell Berrie Nanotechnology Institute at the Technion

HONORS AND AWARDS

1988-1990	President's list of honors for scholastic achievements
1990	Certificate of Excellence in Academic Studies granted by the Education and Culture Committee of Israel's Parliament, the Knesset
1999, 2000	Teaching Excellence Awards for teaching assistants.
2001	Special Excellence Grant from the Miriam & Aaron Gutwirth Memorial foundation.
2001	Excellence Award in Memory of Prof. Arieh Litan.
2001	Certificate of Excellence in Academic Studies granted by the Education and Culture Committee of the Knesset.
2001	Summer scholarship for excellent students from the Technion Graduate School
2002	Special Excellence Grant from the Miriam & Aaron Gutwirth Memorial foundation.
2003	Elected as a Professional Member of the Institute of Food Technologists, The Society for Food Science and Technology.
2005	The Leah and Donald Lewis Academic Lectureship.
2006	The Leah and Donald Lewis Academic Lectureship.
2009	The Alexander Goldberg Research Prize

GRADUATE STUDENTS**Completed Theses:****M.Sc.**

1. Efrat Semo, 2007, Casein Micelle as a Natural Nano-Capsular Vehicle for Nutraceuticals, supervisor: Yoav D. Livney. (Currently at Tapugan Industries Ltd., Sderot, Quality assurance Manager)
2. Nadav Ron, 2007, Beta Lactoglobulin as a Nano-Capsular Vehicle for Health-Promoting Hydrophobic Nutraceutical Substances. Supervisor: Dr. Yoav D. Livney. (Currently at Strauss, as bakery and cereal product development technologist)
3. Avi Shpigelman, 2007, Mechanisms of Saccharide Modulation of Protein Behavior in Aqueous Media. Supervisor: Dr. Yoav D. Livney. (Currently doing Ph.D. under my supervision)
4. Inna Shechter, 2007, Molecular aspects of co-solvent effects on volume phase transition in poly (N-isopropylacrylamide) solutions, Supervisor: Associate Prof. Yaron Paz, Co-supervisor: Dr. Yoav D. Livney. (Currently, a process engineer in Tower)
5. Roee Pinhassi, 2008, Nano Particles for Targeted Delivery and Target-Activated Release of Anti-Cancer Drugs. Supervisor: Dr. Yoav D. Livney, Co-supervisor: Prof. Yehuda G. Assaraf. (worked in Tivol, as a product development manager, and currently doing a PhD in the Technion faculty of Biology, working on "Green Energy")
6. Tamar Shragai (Volach), 2007, Anti-microbial active-packaging for meat products. Supervisor: Prof. Joseph Miltz, Co-Supervisor: Dr. Y. D. Livney.
7. Patricia Zimet, 2009, Milk Protein Based Nano-Vehicles for Omega 3-Polyunsaturated Fatty Acids. Supervisor: Dr. Yoav D. Livney. (Currently working as a Food Technologist in Yazamco ltd.)

8. Renata Kisiliak, 2010, The Mechanisms of Thermal Stabilization of Proteins by Sugars in Aqueous Solutions. Supervisor: Dr. Yoav D. Livney. (Currently studying for PhD in Bar Ilan University).
9. Gilad Markman, 2011, Protein-polysaccharide conjugates for delivery of hydrophobic nutraceuticals. Supervisor: Dr. Yoav D. Livney. (Currently Studying for PhD in Migal & Technion Faculty of Medicine).
10. Michal Haham, 2011, Bioavailability and stability of vitamin D encapsulated within Casein Micelles. Supervisor: Dr. Yoav D. Livney. (Currently working in prospective R&D, in Frutarom).

Ph.D.

11. Alina Shapira, 2012, (RBNI Nanoscience & Nanotechnology Program), Targeted nano systems for oral delivery of cancer therapeutics. Supervisor: Dr. Yoav D. Livney, co-Supervisor: Prof. Yehuda G. Assaraf.
12. Avi Shpigelman, 2012, (Interdisciplinary Biotechnology Program) Protein Nano-Vehicles for Delivery of EGCG from Green Tea for Preventive Medicine. Supervisor: Dr. Yoav D. Livney.

Theses in Progress:

Ph.D.

13. Ravit Edelman, expected 2015 (Interdisciplinary Biotechnology Program), Modified Hyaluronic acid nanoparticles as targeted vehicles for cancer therapy. Supervisor: Dr. Yoav D. Livney, co-Supervisor: Prof. Yehuda G. Assaraf.
14. Gal Israeli, expected 2015, Protein interactions with nanocrystals of hydrophobic bioactives: Towards application as delivery systems Supervisor: Dr. Yoav D. Livney.
15. Yifat Haviv, expected 2012, Bioavailability of lipophilic bioactives in protein nanovehicles, compared to that in fat. Supervisor: Dr. Yoav D. Livney.

M.Sc.

16. Yedidia Zaguri, expected 2013, Enzymatically-tailored sugar beet pectin nanovehicles of bioactive delivery. (RBNI Nanoscience & Nanotechnology Program). Supervisor: Dr. Yoav D. Livney.
17. Maya Weber, expected 2013, (RBNI Nanoscience & Nanotechnology Program), Beta casein based oral nanovehicles for selectively targeted chemotherapy. Supervisor: Dr. Yoav D. Livney, co-Supervisor: Prof. Yehuda G. Assaraf.
18. Yonatan Levinson, expected 2014, Soy protein nanovehicles for nutraceutical delivery. Supervisor: Dr. Yoav D. Livney.
19. Shlomit Levi, Expected 2015, (RBNI Nanoscience & Nanotechnology Program). Supervisor: Dr. Yoav D. Livney.

RESEARCH GRANTS

Total over 800,000US\$

SIGNIFICANT PROFESSIONAL PROJECTS

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|-----------|--|
| 1990-1991 | Technological responsibility for the design and operation of the first production line of "Gamadim"-kids' quarg cheese product, In Strauss Dairies, Naharia. |
| 1995-6 | Management, design, and performance of a successful production scale full-factorial-design project for |

- optimizing the quality of Strauss Quarg-cheese (“Ski”).
in Strauss Dairies, Naharia. (Consequently, Ski moved
up to first place among competitors products, based on
independent external evaluations)
- 1995-6 Developing the first low fat (5%) cream cheese product
in Israel (“Symphonia”), in Strauss Dairies, Naharia.
- 1996-8 Participating in the design team planning the new
Strauss Dairy in Bar-Lev site.

PUBLICATIONS

Theses

1. M.S.: Recovery of Proteins from Thermoquarg Whey by Microfiltration of Carboxymethyl Cellulose Complexes. (1995), Supervisor: Prof. Robert L. Bradley, Food Science, University of Wisconsin, Madison, WI, USA
2. Ph.D.: Mechanisms of Swelling and Contraction of Nonionic Hydrophilic Polymer Gels in Presence of Low Molecular Weight Co-Solutes. (2002), Supervisors: Prof. Uri Cogan & Prof. Shimon Mizrahi, Food Engineering and Biotechnology, Technion-Israel Institute of Technology, Haifa, Israel.

Refereed papers in professional journals

Published papers

(Corresponding author; * Graduate students supervised by Dr. Livney;

^ Undergraduate students supervised by Dr. Livney, # Research associates in Livney’s group)

1. **Y. D. Livney**, D. P. Donhowe, R. W. Hartel, Influence of Temperature on Crystallization of Lactose in Ice cream, *International Journal of Food Science and Technology* 30 (1995) 311-320.
2. **Y. D. Livney**, O. Ramon, E. Kesselman, U. Cogan, S. Mizrahi, and Y. Cohen, Swelling of Dextran Gel and Osmotic Pressure of Soluble Dextran in the Presence of Salts, *Journal of Polymer Science, Part B: Polymer Physics* 39 (2001) 2740-2750.
3. **Y. D. Livney**, I. Portnaya, B. Faupin[^], O. Ramon, Y. Cohen, U. Cogan, S. Mizrahi, Interactions between Inorganic Salts and Polyacrylamide in Aqueous Solutions and Gels. *Journal of Polymer Science: Part B: Polymer Physics* 41 (2003) 508 –519.
4. **Y. D. Livney**, I. Portnaya, B. Faupin[^], L. Fahoum[^], O. Ramon, Y. Cohen, S. Mizrahi, and U. Cogan, Interactions of Glucose and Polyacrylamide in Solutions and Gels, *Journal of Polymer Science: Part B: Polymer Physics* 41 (2003) 3053-3063.
5. **Y. D. Livney**, E. Verespej, and D. G. Dalgleish, Steric Effects Governing Disulfide Bond Interchange during Thermal Aggregation in Solutions of β -Lactoglobulin B and α -lactalbumin. *Journal of Agricultural and Food Chemistry* 51 (2003) 8098-8106.
6. **Y. D. Livney**, and D. G. Dalgleish, Specificity of Disulfide Bond Formation during Thermal Aggregation in Solutions of β -Lactoglobulin B and κ -Casein A. *Journal of Agricultural and Food Chemistry* 52 (2004) 5527-5532.
7. **Y. D. Livney**, A. Schwan, and D. G. Dalgleish, A Study of β -Casein Tertiary Structure by Intramolecular Crosslinking and Mass Spectrometry. *Journal of Dairy Science* 87 (2004) 3638-3647.

8. I. Portnaya[#], U. Cogan, **Y. D. Livney**, O. Ramon[#], K. Shimoni, M. Rosenberg and D. Danino, Micellization of Bovine beta-casein Studied by Isothermal Titration Microcalorimetry and Cryogenic-Transmission Electron Microscopy, *Journal of Agricultural and Food Chemistry* 54 (2006) 5555-5561.
9. E. Semo^{*}, E. Kesselman, D. Danino, **Y. D. Livney**, Casein micelle as a natural nano-capsular vehicle for nutraceuticals. *Food Hydrocolloids* 21 (2007) 936-942.
10. A. Shpigelman^{*}, I. Portnaya[#], O. Ramon[#], and **Y. D. Livney**, Saccharide-Structure Effects on Poly N-Isopropylacrylamide Phase Transition in Aqueous Media: Reflections on Protein Stability; *Journal of Polymer Science: Part B: Polymer Physics* 46 (2008) 2307-2318.
11. P. Zimet^{*} and **Y. D. Livney**, Beta-lactoglobulin and its nanocomplexes with pectin as vehicles for ω -3 polyunsaturated fatty acids, *Food Hydrocolloids* 23 (2009) 1120-1126.
12. I. Shechter^{*}, O. Ramon[#], Y. Paz and **Y. D. Livney**, Microcalorimetric study of the effects of a chaotropic salt, KSCN, on the Lower Critical Solution Temperature (LCST) of Aqueous Poly(N isopropylacrylamide) (PNIPA) solutions, *Macromolecules* 43 (2010) 480-487.
13. A. Shapira^{*}, Y. G. Assaraf and **Y. D. Livney**, Beta-casein nanovehicles for oral delivery of chemotherapeutic drugs. *Nanomedicine: Nanotechnology, Biology and Medicine* 6 (2010) 119-126.
14. R. I. Pinhassi^{*}, Y. G. Assaraf, S. Farber, M. Stark, D. Ickowicz, S. Drori, A. J. Domb, and **Y. D. Livney**, Arabinogalactan-Folic acid-Drug Conjugate for Targeted Delivery and Target-Activated Release of Anticancer Drugs to Folate Receptor-Overexpressing Cells, *Biomacromolecules*, 11 (2010) 294-303.
15. A. Shpigelman^{*}, G. Israeli[^] and **Y. D. Livney**, Thermally-Induced Protein-Polyphenol Co-Assemblies: Beta lactoglobulin-Based complexes as Protective Nanovehicles for EGCG, *Food Hydrocolloids* 24 (2010) 735-743.
16. A. Shapira^{*}, G. Markman[^], Y. G. Assaraf and **Y. D. Livney**, Beta-Casein Based Nano-Vehicles for Oral Delivery of Chemotherapeutic Drugs: Drug-Protein Interactions and Mitoxantrone Loading Capacity, *Nanomedicine: Nanotechnology, Biology and Medicine* 6 (2010) 547-555.
17. N. Ron^{*}, P. Zimet^{*}, J. Bargarum[^] and **Y. D. Livney**, β -Lactoglobulin - Polysaccharide Complexes as Nanovehicles for Hydrophobic Nutraceuticals in Non-Fat Foods and Clear Beverages. *International Dairy Journal* 20 (2010) 686-693.
18. A. Shapira^{*}, D. Epstein[^], Y. G. Assaraf and **Y. D. Livney**, Beta-Casein Nanoparticles as an Oral Delivery System for Chemotherapeutic Drugs: Drug-structure & properties impact on co-assembly. *Pharmaceutical Research* 27 (2010) 2175-2186.
19. A. Shpigelman^{*}, Y. Paz, O. Ramon^{*} and **Y. D. Livney**, Isomeric sugar effects on thermal phase transition of aqueous PNIPA solutions, probed by ATR-FTIR spectroscopy; insights to protein protection by sugars. *Colloid and Polymer Science* 289 (2011) 281-290.
20. P. Zimet^{*}, D. Rosenberg[^] and **Y. D. Livney** Re-assembled casein micelles and casein nanoparticles as nano-vehicles for ω -3 polyunsaturated fatty acids, *Food Hydrocolloids* 25 (2011) 1270-1276.
21. N. Manukovsky[^], A. Shpigelman^{*}, R. Edelman[^], and **Y. D. Livney**, Hydration-mediated effects of saccharide stereochemistry on PNIPA gel swelling, *Journal of Polymer Science: Part B: Polymer Physics* 47 (2011) 523-530.
22. A. Shapira^{*}, I. Davidson[^], N. Avni[^], Y. G. Assaraf, and **Y. D. Livney** β -Casein Nanoparticles-Based Oral Drug Delivery System for Potential

Treatment of Gastric Carcinoma Treatment: Stability, Target-Activated Release and Cytotoxicity, *European Journal of Pharmaceutics and Biopharmaceutics* 80 (2) (2012), 298–305.

23. G. Markman* and **Y. D. Livney**, Maillard-reaction based nano-capsules for protection of water-insoluble nutraceuticals in clear drinks, *Food & Function*, (2012) 3, 262-270.
24. A. Shpigelman*, Yifat Cohen^, **Y. D. Livney**, Beta lactoglobulin EGCG nanoparticles: loading efficiency, stability and gastric digestion. *Food Hydrocolloids* 29 (2012) 57-67.
25. M. Haham*, S. Ish-Shalom (equally contributing first authors), M. Hefetz-Kustanovich, M. Nodelman, Y. D. Livney, Stability and Bioavailability of Vitamin D Nanoencapsulated in Casein Micelles, *Food & Function* (2012) 3, 737-744.
26. Avi Shpigelman*, Adi Zisapel^, Yifat Cohen* and Yoav D. Livney, Mechanisms of saccharide protection against epigallocatechin-3-gallate deterioration in aqueous solutions. *Food Chemistry* 139 (2013) 1105–1112.

Published Review papers

1. **Y. D. Livney** and R. L. Bradley, Jr., Factors Affecting Flavor of Whey as an Ingredient in Ice Cream and Other Frozen Desserts, *Cultured Dairy Products Journal* 29 (1994) 23-27.
2. **Y. D. Livney**, M. Corredig and D. G. Dalgleish, Influence of thermal processing on the properties of dairy colloids, *Current Opinion In Colloids and Interface Science* 8 (2003) 359-364.
3. **Y. D. Livney**, Milk Proteins as Vehicles for Bioactives, **Invited Review: Current Opinion in Colloids and Surface Science** 15 (2010) 73-83.
4. A. Shapira*, **Y. D. Livney** H. J. Broxterman and Y. G. Assaraf, Nanomedicine for targeted cancer therapy: towards the overcoming of drug resistance, *Drug Resistance Updates*, 14 (3) 2011, 150-163

Published Book Chapters

1. **(Invited review): Y. D. Livney**, Complexes and conjugates of biopolymers for delivery of bioactive ingredients via food, in: *Delivery and controlled release of Bioactives in foods and nutraceuticals*, N. Garti (Ed.), Woodhead Publishing Ltd. Abington, Cambridge, England 2008.
2. **(Invited Review): Y. D. Livney**, Polyelectrolytes: Properties. In: Savinell R., Ota K., Kreysa G. (Ed.) *Encyclopedia of Applied Electrochemistry*: SpringerReference (www.springerreference.com). Springer-Verlag Berlin Heidelberg, 0. DOI: 10.1007/SpringerReference_303474 2012-09-19
3. **(Invited Review): Y. D. Livney**, Biopolymeric amphiphiles and their assemblies as functional food ingredients and nutraceutical delivery systems, in: *Encapsulation Technologies and Delivery Systems for Food Ingredients and Nutraceuticals*, N. Garti, D.J. McClements (Eds.), Woodhead Publishing Ltd. Abington, Cambridge, England 2012.

Book Editing

1. *Engineering of Foods for Stabilization and Delivery of Bioactives*
Yrjo Roos & **Yoav D. Livney** (In Preparation: Book Proposal approved by Springer, Authors invited and approved.)

Patents pending

1. **Y. D. Livney**, & D. G. Dalglish, Casein micelle as a natural nano-capsular vehicle for nutraceuticals (provisional U.S. patent application 20.4.2006, and PCT 20-4-2007, National patent application 20.10.08).
2. D. Danino, **Y. D. Livney**, O. Ramon[#], I. Portnaya[#] & U. Cogan, Beta-Casein Assemblies for Enrichment of Food, Beverage and Soft Drinks including Clear Drinks (provisional US Patent application 29.2.2008) (currently after PCT application).
3. **Y. D. Livney**, β -Lactoglobulin-polysaccharide nanoparticles encapsulating hydrophobic biologically active compounds (provisional application Apr. 2008) (currently after PCT application).
4. **Y. D. Livney**, Yehuda G. Assaraf, Alina Shapira^{*}, Nanoencapsulation of Chemotherapeutic and other Drugs in Beta- Casein Micelles (provisional US Patent application 29.2.2008) (currently after PCT application)
5. **Y. D. Livney** and A. Shpigelman, Thermally-induced protein- polyphenol co-assemblies. (provisional US patent application 61/393,901 17.10.2010)
6. **Y. D. Livney** Protein-polysaccharide conjugates and use for encapsulating nutraceuticals for clear beverage applications (provisional patent application 61/447773, 1.3.2011; US patent application number 13410001 1.3.2012).

Reviewing journals - external referee for:

Journal of the American Chemical Society (JACS), Biomacromolecules, Langmuir, Nanomedicine, advances in Colloid and interface science, Medicinal Research Reviews, Journal of Controlled Release Food Hydrocolloids, Journal of Agricultural and Food Chemistry, Colloids and Surfaces A: Physicochemical and Engineering Aspects, Journal of Polymer Science B: Polymer Physics, Food Research International, Journal of Food Science, Dairy Science & Technology, Food & Function, Food Engineering Reviews, Colloid and Polymer Science, Polymer.

CONFERENCES

(Speaker name underlined); * Graduate students supervised by Dr. Livney;

[^] Undergraduate students supervised by Dr. Livney; [#] Research associates in Livney's group)

Invited talks

1. **Y.D. Livney**, I. Portnaya, B. Faupin[^], O. Ramon, Y. Cohen, U. Cogan, S. Mizrahi, Swelling and Contraction of Nonionic Hydrophilic Polymer Gels in Presence of Low Molecular Weight Co-Solutes: An invited talk at *The 37th Annual Convention of the Israeli Institute of Chemical Engineers (IChE 2001)*, Haifa, Israel, Apr. 2001
2. **Y. D. Livney**, E. Semo, D. Danino, and, E. Kesselman, Casein micelle as a natural nano-capsular vehicle for nutraceuticals: An invited talk at *The 42nd Annual Convention of the Israeli Institute of Chemical Engineers (IChE)*, 2006, Tel-Aviv, Israel.
3. **Y. D. Livney**, Nanoencapsulation of Nutraceuticals Using Milk Proteins, An Invited talk at the "Food in the New Era 2007" The International Conference of the Israeli Food Industry, June 2007, Tel Aviv, Israel

4. **Y. D. Livney**, Nature-Inspired Nanodelivery Vehicles for Hydrophobic Bioactives, An Invited talk at *The 73rd annual meeting of the ICS (Israel Chemical Society)* The International Convention Center (Binyanei Ha'Uma), Jerusalem, ISRAEL February 4-5, 2008
5. **Y. D. Livney**, [invited Session Co-Chairman and lecturer] Summary and reflections on food enrichment with vitamin D; IFT Annual Meeting 2009, Anaheim, CA, June 2009
6. Roy I. Pinhassi*, Assaraf, Y. G., Drori, S., Farber, S., Ickowicz, D., Domb, A. J., and **Y. D. Livney**, Novel Arabinogalactan-Folate-Drug Conjugate for Targeted Delivery of Anticancer Drugs, *Polymers for Advanced Technologies (PAT) 2009*, Jerusalem, Sep. 2009 (**Key Note Lecture**).
7. **Y. D. Livney**, Biopolymer-based nanovehicles for delivery of health-promoting compounds, an invited talk at "the third symposium on innovation in food science- industry meets academy", The Robert H. Smith Faculty of Agriculture, Food and Environment, The Hebrew University, Rehovot, Jan 28th 2010.
8. **Y. D. Livney** and Sophia Ish Shalom, Bioavailability of vitamin D in casein micelles, compared to its availability in milkfat. The Second Annual Israeli Dairy-Board Conference, Wahl Conference Center near Bar-Ilan University, March 9th, 2011.
9. **Y. D. Livney**, Maillard reaction-conjugates as vehicles for enrichment of clear beverages with hydrophobic nutraceuticals, an invited talk at the Food in the New Era conference, Tel Aviv, June 20, 2011.
10. **Y. D. Livney**, Saccharide stereochemistry impact on water structure, and on biopolymer behavior in aqueous systems. The Physics, Chemistry, and Biology of Ions and Osmolytes in Solution, Telluride CO USA, July 10-15, 2011
11. **Y. D. Livney**, Nature inspired nanodelivery systems for health promoting bioactives, 3rd Symposium on The Interface Between Nanotechnology and Biology, CFN Karlsruhe-RBNI Technion-Weizmann Institute of Science, Nov. 27-29, 2011, Weizmann Institute of Science, Rehovot.
12. **Y. D. Livney**, Controlling nanocrystal size and morphology by co-assembly with amphiphilic proteins. International Conference on material science and Technology (ICMST 2012) on 10-14 June 2012, Kerala, India.
13. **Y. D. Livney**, The Next Generation in Anti-Cancer Drug Delivery, "Knowledge mining and Bioinformatics Tools to Advance Personalized Diagnostics and Therapeutics", Florence, Italy, Feb. 5th 2012.
14. **Y. D. Livney**, Quadrugnostic nanoparticles for cancer therapy. The 8th Annual Meeting of The Israeli Chapter of The Controlled Release Society September 5-7, 2012, Maalot, Israel.

Refereed papers in Conference proceedings

1. **Y. D. Livney**, E. Semo*, D. Danino and E. Kesselman, Nanoencapsulation of Hydrophobic Nutraceutical Substances within Casein Micelles, XIVth International Workshop on Bioencapsulation, Lausanne, Switzerland, Oct. 6-7, 2006
2. **Y. D. Livney** and N. Ron*, Beta-Lactoglobulin (β -Lg) - Polysaccharide Complexes as Nanovehicles for Hydrophobic Nutraceuticals, XVth International Workshop on Bioencapsulation, Vienna, Austria, Sept 6-8, 2007
3. **Y. D. Livney**, A. Shapira* and Y. G. Assaraf, Beta- casein micelles as nano-delivery vehicles for chemotherapeutic drugs, XVIth International Workshop on Bioencapsulation, Dublin, Ireland, Sept. 4-6, 2008

4. G. Markman* and **Y. D. Livney**, Maillard-reaction based nano-capsules for protection of water-insoluble nutraceuticals in clear drinks. International Congress on Engineering and Food (ICEF11), Athens, Greece, May 22-26.2011
5. Alina Shapira*, Irit Davidson[^], Noa Oron[^], Prof. Yehuda Assaraf, and **Dr. Yoav Y. D. Livney**, Beta casein nanovehicles for targeted oral drug delivery – towards treatment of gastric cancer, World Journal of Engineering, Vol. 8, Suppl. 1, 2011, ICCE-19 shanghai.

Contributed talks (presenter underlined)

15. **Y. D. Livney**, O. Ramon, E. Kesselman, U. Cogan, S. Mizrahi, and Y. Cohen, Swelling and Contraction of Nonionic Hydrophilic Polymer Gels in Presence of Low Molecular Weight Co-Solutes: *The Int'l Symposium on the Properties of Water (ISOPOW 2000)*, Zichron-Yaacov, Israel Sept. 2000
16. **Y. D. Livney**, O. Ramon, E. Kesselman, U. Cogan, S. Mizrahi, and Y. Cohen, Swelling and Contraction of Nonionic Hydrophilic Polymer Gels in Presence of Low Molecular Weight Co-Solutes: *Food in the New Era Conference*, Tel-Aviv, Oct. 2001
17. **Y. D. Livney**, I. Portnaya, B. Faupin[^], O. Ramon, Y. Cohen, U. Cogan, S. Mizrahi, Preferential Interactions between Nonionic Hydrophilic Polymers and Inorganic Salts: Effects on Gel Swelling, Osmotic Pressure and Intrinsic Viscosity of Polyacrylamide: *The 38th Annual Convention of the Israeli Institute of Chemical Engineers (IChE 2002)*, Tel-Aviv, Apr. 2002
18. **Y. D. Livney**, I. Portnaya, B. Faupin[^], O. Ramon, Y. Cohen, U. Cogan, S. Mizrahi, Interactions between Nonionic Hydrophilic Polymers and Salts: Effects on Gel Swelling and Osmotic Pressure of the Polymer: *The Europolymer Conference (EUPOC 2002)*, Gargnano, Italy, June 2002.
19. **Y. D. Livney**, and D.G. Dalgleish, Specificity of Disulfide Bond Formation during Thermal Aggregation in Solutions of β -Lactoglobulin and κ -casein. *The annual IFT meeting*, Las-Vegas, Nevada USA, July 2004.
20. S. Sandra, **Y. D. Livney**, and D.G. Dalgleish, Effects of ultra high pressure homogenization and heating on structural properties of casein micelles in reconstituted skim milk powder. *The annual IFT meeting*, Las-Vegas, Nevada USA, July 2004.
21. **Y. D. Livney**, I. Portnaya, B. Faupin[^], L. Fahoum[^], O. Ramon, Y. Cohen, S. Mizrahi, and U. Cogan, Interactions of Glucose and Polyacrylamide in Solutions and Gels. *The Polymer Networks Conference*, Bethesda, MD, USA, August 2004.
22. **Y. D. Livney**, E. Semo*, D. Danino, and, E. Kesselman, Casein micelle as a natural nano-capsular vehicle for nutraceuticals. *Bioencapsulation Research Group Workshop*, October 5-7, 2006, Lausanne, Switzerland.
23. **Y. D. Livney**, E. Semo*, D. Danino, and, E. Kesselman, Casein micelle as a natural nano-capsular vehicle for nutraceuticals. *Israel-Netherlands Meeting*, November 20-21, 2006, Wageningen, the Netherlands.
24. **Y. D. Livney**, N. Ron*, Beta-Lactoglobulin (β -Lg) - Polysaccharide Complexes as Nanovehicles for Hydrophobic Nutraceuticals, *Bioencapsulation Research Group*, Vienna, Sep. 5-8th 2007.
25. **Y. D. Livney**, D. Knoh[^], Nanoencapsulation of Hydrophobic Nutraceuticals within Self-Reassembled Casein Micelles, Reformed during Ultra-High-Pressure-Homogenization. *2nd International Symposium- Delivery of Functionality in Complex Food Systems: Physically-Inspired Approaches From Nanoscale To Microscale*. university of Massachusetts, Amherst, Massachusetts, USA, October 8th to 10th, 2007

26. A. Shpigelman*, I. Portnaya#, I. Kusner#, O. Ramon#, & **Y. D. Livney**, Saccharide-Structure Effect on Protein Behavior in Aqueous Media, Using PNIPA as a Model for Protein; *UKPCF2007 International Conference on Polymer Colloids*, Warwick University, Warwick UK, Sept. 2007
27. P. Zimet*, I. Portnaya#, and **Y. D. Livney**, β -lactoglobulin as a Nano-Vehicle for Omega-3 Polyunsaturated Fatty Acids, *Food Colloids 2008*, April 2008, Le Mans, France
28. A. Shapira*, G. Markman^, Y. G. Assaraf and **Y. D. Livney**, Beta-Casein Micelles as Nano-Delivery Vehicles for Chemotherapeutic Drugs, *Polymer Colloids 2008*, Prague, Czech Republic, 20-24 July 2008.
29. **Y. D. Livney**, Nature-Inspired Milk-Protein Based Nano-Vehicles for Nutraceuticals *The 17th International Symposium on Surfactants in Solution (SIS)*, Berlin convention center (BCC), Berlin, Germany, August 17-22, 2008
30. A. Shpigelman*, I. Portnaya#, I. Kusner#, O. Ramon# & **Y. D. Livney**, Saccharide-Structure Effect on PNIPA Behavior in Aqueous Media, *19th Polymer Networks Group Meeting in Cyprus*, 22-26 June 2008
31. A. Shapira*, Y. G. Assaraf and **Y. D. Livney**, Beta-casein micelles as nano-delivery vehicles for chemotherapeutic drugs, *RBNI Fall symposium*, Hagoshrim, Dec. 2008.
32. S. Srebnik, R. Matza*, I. Kusner#, & **Y. D. Livney**, Water Structuring Effect of Sugars, *American Physical Society (APS) MARCH Meeting-Pittsburg*, Pennsylvania, USA. 2009.
33. A. Shapira*, D. Epstein^, Y. G. Assaraf, and **Y. D. Livney**, Beta-casein micelles as oral nano-delivery vehicles for chemotherapeutic drugs, *Polymers for Advanced Technologies (PAT) 2009*, Jerusalem, Sep. 2009.
34. A. Shpigelman*, G. Israeli*, and **Y. D. Livney**, Heat-Induced Beta Lactoglobulin-Based Nanoparticles as Novel Protective Carriers for EGCG in Clear Beverage; *Delivery of Functionality in Complex Food Systems*, Wageningen, The Netherlands, Oct, 2009.
35. **Y. D. Livney**, Milk Proteins as vehicles for bioactives, *Food Colloids 2010*, Granada Spain, March 2010.
36. **Y. D. Livney**, milk-proteins as nanovehicles for health-promoting compounds. *Nanotechnologies for food and consumer products*, Chester, UK, March 2010.
37. **Y. D. Livney**, R. Edelman*, I. Kusner#, R. Kisiliak* and S. Srebnik, Water-structure effect of sugar stereochemistry, and its impact on protein thermal stability, *Frontiers in Water Biophysics*, Trieste, Italy, May 23-26th 2010.
38. A. Shpigelman*, G. Israeli^ and **Y. D. Livney**, Heat-Induced β -Lactoglobulin-Based Nanoparticles as Novel Protective Carriers for EGCG in Clear Beverages, The 4th European Workshop on Food Engineering and Technology, Presentations of selected national PhD students in food engineering and technology at European level, Belgrade, May 27– 28th, 2010
39. T. S. Demina, T. A. Akopova, A. N. Shchegolikhin, A. O. Chernyshenko, **Y. D. Livney**, E. A. Markvicheva, A. N. Zelenetskii, A. N. Ozerin, Nanostructured amphiphilic materials based on chitosan: solid-state synthesis and characterization, Proc. 1-st Russian – Hellenic Symposium on Polymeric Biomaterials and Bionanomaterials: Recent Advances Safety and Toxicology Issues, 02-09 may 2010, Heraklion, Crete, Greece, 48-49.
40. T.A. Akopova, E.A. Markvicheva, A.N. Zelenetskii, A.N. Ozerin, L.V. Vladimirov, **Y.D. Livney**. Solid State Reactive Blending - a Promising Way to Biomedical Polymer Materials, Proc. III International Conference Fundamental Bases of Mechanochemical Technologies (FBMT-2009), May 2009, Novosibirsk, Russia, 80.

41. M. Haham, M. Kustanovich, S. Ish-Shalom & **Y. D. Livney**, Stability and Bioavailability of Vitamin D Nanoencapsulated in Casein Micelles, Food in the new Era, Tel Aviv, June 2010
42. A. Shpigelman*, G. Israeli[^], Yifat Cohen[^] and **Y. D. Livney**, Heat-Induced β -Lactoglobulin-Based Nanoparticles as Novel Protective Carriers for EGCG in Clear Beverages, Food in the new Era, Tel Aviv, June 2010
43. A. Shapira*, I. Davidson[^], Y. G. Assaraf and **Y. D. Livney**, Beta-Casein Micelles as Oral Nano-Vehicles for Chemotherapeutic Drugs, The 7th annual meeting of the Israeli Chapter of the Controlled Release Society, Haifa, October 2010
44. **Y. D. Livney** and G. Markman, Maillard-reaction based nano-capsules for protection of water-insoluble nutraceuticals in clear drinks, International Congress on Engineering and Food (ICEF11), Athens, Greece, May 22-26.2011
45. A. Shapira*, I. Davidson[^], N. Oron[^], Y. G. Assaraf and **Y. D. Livney** Milk protein-based Nanovehicles for Oral delivery and targeted release of Chemotherapeutic Drugs, BioMed Israel, Tel-Aviv, May 23-25.2011
46. **Y. D. Livney** and G. Markman, Maillard-conjugation based core-shell co-assemblies for nanoencapsulation of hydrophobic nutraceuticals in clear beverages, "Delivery of Functionality in Complex Food Systems", Guelph, Ontario, Canada, Aug 21-24.2011
47. A. Shapira*, I. Davidson[^], N. Oron[^], Y. G. Assaraf and **Y. D. Livney**, Beta Casein Nanovehicles for Targeted Oral Drug Delivery – Towards Treatment of Gastric Cancer, 1st meeting of the Israeli Society of Biotechnology Engineering, Dec 25th. 2011 Ramat Gan, Israel.
48. A. Shapira*, I. Davidson[^], N. Oron[^], Y. G. Assaraf and **Y. D. Livney**, Beta Casein Nanovehicles for Targeted Oral Drug Delivery – Towards Chemotreatment of Gastric Cancer, Up Close and Personal (UPCP), Feb 2-5, 2012 Florence, Italy.
49. Michal Haham*, Sophia Ish-Shalom, Marina Nodelman, Irit Duek, Elena Segal, Marina Kustanovich and **Yoav D. Livney**, stability and bioavailability of vitamin D nanoencapsulated in casein micelles, 6th Central European Congress on Food, Novi Sad Serbia, May 23-26, 2012.

Poster presentations (presenter underlined)

6. **Y.D. Livney**, O. Ramon, E. Kesselman, U. Cogan, S. Mizrahi, and Y. Cohen, Swelling and Contraction of Nonionic Hydrophilic Polymer Gels in Presence of Low Molecular Weight Co-Solutes: *the Int'l Symposium on the Properties of Water (ISOPOW 2000)*, Zichron-Yaacov, Israel Sept. 2000
7. **Y.D. Livney**, and D.G. Dalgleish, Tertiary Structure Study of β -Casein by Specific Intramolecular Cross-Linking and Mass Spectrometry. *Food Colloids 2004 conference*, Harrogate, United Kingdom, April 2004.
8. **Y.D. Livney**, and D.G. Dalgleish, The use of specific crosslinking agents to study molecular conformations in food proteins. *The 7th International Hydrocolloids Conference* Aug. 29 – Sept. 1st 2004, Melbourne, Australia.
9. E. Semo*, E. Kesselman, D. Danino and **Y. D. Livney**, Casein micelle as a natural nano-capsular vehicle for nutraceuticals, *Food Colloids 2006*, April 23-26 2006, Montreaux, Switzerland
10. Nadav Ron* & **Yoav D. Livney**, β -Lg-Polysaccharide Complexes as Nanovehicles for Hydrophobic Nutraceuticals, *Bioencapsulation Research Group Conference*, Lisbon, Portugal, April 26-28, 2007.
11. Dina Knoh[^] & **Yoav D. Livney**, Nanoencapsulation of Nutraceuticals within Self-Reassembled Casein Micelles, Using a New Ultra-High-Pressure-Homogenization Process, *World Dairy Summit*, Dublin, Ireland 29.9-4.10.07

12. Nadav Ron* & **Yoav D. Livney**, β -Lg-Polysaccharide Complexes as Nanovehicles for Hydrophobic Nutraceuticals, *World Dairy Summit, Dublin, Ireland* 29.9-4.10.07.
13. Patricia Zimet* , Irina Portnaya#, Nadav Ron* & **Yoav Livney**, β -Lactoglobulin as a Nano-vehicle for Omega-3 Fatty Acids, *Innova, Montevideo, Uruguay*, Oct, 2007.
14. A. Shapira* and Y. G. Assaraf and **Y. D. Livney**, Beta- Casein micelles as nano-delivery vehicles for chemotherapeutic drugs, *RBNI Winter School, Dead Sea*, Feb. 2008
15. R. I. Pinhassi*, D. Ickowicz, S. Farber, A. J. Domb, Y. G. Assaraf and **Y. D. Livney**, Arabinogalactan as a Targeted Nano-Vehicle for Anticancer Therapeutics, *RBNI Winter School, Dead Sea*, Feb. 2008
16. P. Zimet* and **Y. D. Livney**, β -Lactoglobulin/Pectin Electrostatic Complexes as Nano-vehicles for Omega-3 Fatty Acids, *RBNI Winter School, Dead Sea*, Feb. 2008
17. **Y. D. Livney**, A. Shapira* and Y. G. Assaraf, Beta- Casein micelles as nano-delivery vehicles for chemotherapeutic drugs, *XVIIth International Conference on Bioencapsulation, Dublin, Ireland*. Sept 4-8, 2008
18. P. Zimet* and **Y. D. Livney**, β -Lactoglobulin and its Nano-Complexes with Pectin as Vehicles for ω -3 Polyunsaturated Fatty Acids, *RBNI Fall symposium, Hagoshrim*, Dec. 2008
19. A. Shapira* and Y. G. Assaraf and **Y. D. Livney**, Beta-Casein Micelles as Oral Nano-Delivery Vehicles for Chemotherapeutic Drugs, *Nano-Israel 2009*, March 30-31, 2009, Jerusalem.
20. J. Bargarum[^], D. Danino, and **Y. D. Livney**, Nanoencapsulation of Vitamin D in Beta Casein Micelles; *IFT Annual Meeting 2009, Anaheim, CA*, June 2009.
21. A. Shapira*, I. Davidson[^], Y. G. Assaraf and **Y. D. Livney**, β -Casein - Taxol Nanoparticles for Oral Delivery for Gastric Carcinoma: Stability and Target-Activated Release, *RBNI Winter School, Ein Gedi*, Feb. 2010.
22. A. Shpigelman*, G. Israeli[^] and **Y. D. Livney**, Heat-Induced β -Lactoglobulin-Based Nanoparticles as Novel Protective Carriers for EGCG in Clear Beverages, *RBNI Winter School, Ein Gedi*, Feb. 2010.
23. A. Shapira*, I. Davidson[^], Y. G. Assaraf and **Y. D. Livney**, Beta-Casein Micelles as Oral Nano-Vehicles for Chemotherapeutic Drugs, The 7th annual meeting of the Israeli Chapter of the Controlled Release Society, Haifa, October 2010 (Poster selected as one of ~10% of the posters for oral presentation too).
24. N. Kuszpet[^], A. Shpigelman*, R. Edelman[^], O. Ramon# and **Y. D. Livney**, Hydration-mediated effects of saccharide stereochemistry on PNIPA gel swelling, Polymer Networks Group 20th Conference, Aug 29th-Sept 2nd 2010 Goslar Germany.
25. M. Haham*, M. Kustanovich, S. Ish-Shalom & **Y. D. Livney**, Stability and Bioavailability of Vitamin D Nanoencapsulated in Casein Micelles, The 7th NIZO Dairy Conference, Papendal, The Netherland, Sept. 20-22, 2011.
26. A. Shpigelman*, G. Israeli[^], Yifat Cohen[^] and **Y. D. Livney**, Heat-Induced β -Lactoglobulin-Based Nanoparticles as Novel Protective Carriers for EGCG in Clear Beverages, 1st meeting of the Israeli Society of Biotechnology Engineering, Dec 25th. 2011 Ramat Gan, Israel.
27. Gal Israeli* & **Yoav D. Livney**, Formation and Entrapment of Hydrophobic Bioactive Nanocrystals within Hydrophobin Nano-Shells: Novel Vehicles for Nutraceutical Delivery, 1st meeting of the Israeli Society of Biotechnology Engineering, Dec 25th. 2011 Ramat Gan, Israel.

28. Yedidya Zagury[^], Jane Levinson[#], Sahar Halabi[^] and **Yoav D. Livney**, Encapsulation of Conjugated Linoleic Acid by Maillard-Reaction-Based Protein - Oligo-Saccharide Conjugates for Delivery in Clear Beverages, 1st meeting of the Israeli Society of Biotechnology Engineering, Dec 25th. 2011 Ramat Gan, Israel.
29. Hyaluronic acid based quadrugnostic nanoparticle for cancer therapy, Ravit Edelman, Yehuda G. Assaraf, Inna Levitzky[^], and **Yoav D. Livney**, The 8th Annual Meeting of The Israeli Chapter of The Controlled Release Society September 5-7, 2012, Maalot, Israel.

Participation in organizing conferences

- 2007 Chairman of the “Technology Track” in “*Food in the New Era 2007*” *The International Conference of the Israeli Food Industry*, June 2007, Tel Aviv, Israel
- 2007 Member of the Scientific Advisory Committee of the *IDDST’s Summit Conference: Advances and Challenges Toward Major Diseases*, which was held November 4-7 in Xi’an and Beijing.
- 2008 Chairman of a session at the *Polymer Network Group Conference*, Larnaka, Cyprus, June 22-26 2008
- 2009 Invited Co-Chairman of a session on Vitamin D and Health in the *IFT 2009*, June 6-10, Anaheim, CA, USA
- 2010 Co-Chairman of the “Studies in nutrition and technology” session, under the “Nutrition track” in *Food in the New Era 2007* The International Conference of the Israeli Food Industry, June 21st 2010, Tel Aviv, Israel.
- 2013 **Conference Organizer** (jointly with Prof. Nissim Garti, Hebrew Univ.) of the next "Delivery of Functionality in Complex food Systems 2013", to be held in **Haifa, Israel**, Sept 29th-Oct 3rd 2013. **Symposium website:** <http://DOF2013.org>
- 2013 Chairman of a session on Salt reduction at the “**Food in the New Era 2013**” *The International Conference of the Israeli Food Industry*, June 2013, Ramat Gan, Israel
- 2014 Chairman of the Dairy Science & Technology Committee and member of the Scientific Committee at the **World Dairy Summit**, Oct. 27-31, Tel Aviv. 2014

SPECIAL PROFESSIONAL ACTIVITIES

- 1996 Organizing of and lecturing in a 1-day workshop for the Strauss technologists, entitled “Objective (Instrumental) Measurement of Sensory Attributes of Foods, Shavei Zion, Israel, [Invited Speakers included: Prof. D. Lancet, Dr. M. Tishel. Among the lecturers was also Dr. D. Gil, Chief Scientist of Strauss.]
- 1997 Organizing and teaching a HACCP course for technologists in Strauss Dairies Ltd. and Strauss Ice Creams Ltd., Naharia, Israel
- 2002 An invited lecture, entitled: Swelling and Contraction of Hydrophilic Polymer Gels in Presence of Low Molecular Weight Solutes, at a technologists assembly entitled Stabilizers, In Strauss, Carmiel, Israel

- 2004 A two-week visit to Weihenstephan University, Freising, Germany as part of the GIF-YS project, and giving an invited seminar there entitled: Casein micelle as a natural nano-capsular vehicle for nutraceuticals.
- 2006 An invited lecture entitled: Food Nanotechnology, Chief Technologists Forum, Strauss-Elite, Bar-Lev site, Israel.
- 2010 An invited Seminar lecture at Tel Aviv University, entitled: Biopolymeric Nanovehicles for Health-Promoting Compounds
- 2010 An invited lecture, entitled: From assembly of water molecules around sugars, to assembly of milk proteins around anti-cancer drugs. Chief Technologists Forum, Strauss-Group, Bar-Lev site, Israel.
- 2012 Invited Seminar lecture, at Ort Braude: Nature-inspired Nanovehicles for Health-Promoting Compounds, May 16th, 2012

Departmental responsibilities

- 2005 - 2007 Undergraduate Seminar Forum Coordinator
- 2007 - 2009 Departmental Seminar Coordinator
- 2009 - 2010 First year B.Sc. Students' Consultant.
- 2010 - 2011 Second year B.Sc. Students' Consultant.
- 2010 - Faculty Representative in the steering committee for the establishment of the International School at the Technion.
- 2011 - 2012 Third Year B.Sc. Students' Consultant.
- 2010 - 2012 Faculty representative in the initiative to establish The Israeli National Food Research Institute (INFRI) in the Galilee.
- 2012- Faculty representative at Chemical Engineering Faculty meetings