***Curriculum Vitae***

**Boaz Mizrahi**

Identity No. 029622255

Date and place of birth: 18-5-72, Givataim, Israel

Marital status: Married, 3 children

Affiliation: Faculty of Biotechnology and Food Engineering,

Technion–Israel Institute of Technology, Haifa, Israel 32000

Phone: 972-4-8292484 (office); 972-544-980355 (mobile)

Email: bmizrahi@technion.ac.il

Website: http://boazmizrahi.net.technion.ac.il

**Current Position:**

**2013-current Assistant Professor**

Faculty of Biotechnology and Food Engineering

Technion–Israel Institute of Technology

**Education**

**2009 – 2013** **Postdoctoral Fellow**

The David H. Koch Institute for Integrative Cancer Research,

Massachusetts Institute of Technology (MIT), Cambridge, Massachusetts, USA and Boston Children**’** s Hospital, Harvard Medical School, Boston, Massachusetts, USA.

**2003 - 2008** **MSc, PhD** (combined program), *summa cum laude*

Department of Medicinal Chemistry, School of Pharmacy, The Hebrew University, Jerusalem, Israel

**2002 - 2003** **Internship in Pharmacy**

Pharmacy Department, Hadassah Medical Center, Ein Karem, Jerusalem, Israel

**1998 - 2002** **B. Pharm (Pharmacy)**

School of Pharmacy, Hebrew University, Jerusalem, Israel

**Professional Experience**

**2004 - 2008** Hebrew University of Jerusalem, Jerusalem, Israel, Lecture

**2002 – 2003** Hadassah Medical Center, Jerusalem, Israel, Pharmacist

**Research Interests**

Research involves the synthesis and characterization of functional polymers with medical and biotechnological applications. Current research includes:

* Synthesis of injectable and of stimuli responsive materials
* Delivery and immobilization of nutritious for treating gastro and mucosal disorders
* Self-assembly of polymeric systems and nano-scale particulate systems
* Understanding of structure-activity relationship and tissue-biomaterial interactions in the general context of materials science

**Teaching Experience**

**2016-Current** Chemistry of Food (064322) for undergraduate students.

**2014-current** Advanced Materials for Biotechnology and Food (066247) for graduate and undergraduate students.

**2015-current** Laboratory of Biochemistry and Chemistry of Food (064325) for undergraduate students.

**2005-2008** Teaching Assistant. Polymers for medical uses. School of Pharmacy, The Hebrew University, Jerusalem, Israel.

**2006-2008** Lecturer. Polymers-synthesis and mechanical properties. The College of Engineering, Jerusalem, Israel.

**2005-2008** Lab Instructor.Analysis of Pharmaceutical compounds. School of Pharmacy, The Hebrew University, Israel.

**Technion Activities**

**2015-current** Faculty representative in the RBNI committee of the Technion.

**Faculty Activities**

**2015-current** Departmental coordinator of the ME program.

**Fellowships, Grants and awards**

2011 Harvard Catalyst fellowship

2009 DuPont fellowship

2008 Hebrew University Medical school faculty prize for excellence in PhD thesis

2008 PhD awarded *summa cum laude*

2008 Super-Pharm Award for excellence in PhD thesis

2008 Excellence in Teaching award, The Hebrew University

2007 Grass Foundation fellowship

2007 Hebrew University Travel Fellowship award

2007 “Pharmaline” magazine award for young writers

**Graduate Students**, M.Sc. (Past)

1. Keren Massuri, expected 2016, Light-triggered self-Assembled System.
2. Regina Kelmansky, expected 2016, Neat Mucoadhesive Polymers. Supervisor: Dr. Boaz Mizrahi.
3. Rawan Omar, expected 2017,Amphiphilic Conjugates: A New Approach for Molecular Self-assembly and drug Delivery.

In Progress

1. Boris Rosenblit, expected 2019,Oxidative stress responsive polymers.
2. Maayan Lufton, expected 2018, Delivery of Engineered B. Subtilis Bacteria for Sustainable Treatment of Pattern Baldness. Supervisor: Dr. Boaz Mizrahi.

Ph.D. (in progress)

1. Alona Shagan, expected 2020, Light triggered Nanoparticles. Supervisor: Dr. Boaz Mizrahi.
2. Tsuf Sadger Croituro, expected 2020, Amphiphilic copolymers for coating and prevention of fouling. Supervisor: Dr. Boaz Mizrahi.
3. Anastasia Shapiro, expected 2021, Synthetic DNA. Supervisor: Dr. Boaz Mizrahi (external student).

-2 students are expected to join my group on February, 2018-

**Research Grants**

**2014-2018** Marie Curie - Career Integration Grants, A New Molecular Approach for Designing (#631280), €100,000.

**2017-2021** Binational Science Foundation (BSF)- Neat Bio-Adhesive Polymers for Safe and Efficient Tissue Adhesion (#201582), $169,200.

**2016-2020** Ministry of Health- Adhesive Patch Releasing Volatile Anti-microbial Agents for Preserving Fresh Foods, 450,000 NIS.

**2017-2020** Polak fund for applied research-Novel treatment of baldness using engineering bacteria, 100,000 NIS.

**2017-2020** Israeli Science Foundation (ISF)- An Engineered Microbiota System for Sustainable Delivery of Therapeutic Proteins, 660,000 NIS.

**Kamin (2018) and MOST (2018) -Submitted**

**Publications**

1. **B. Mizrahi**, J. Golenser, J. S. Wolnerman and A. J. Domb, Adhesive tablet effective for treating canker sores in humans, *Journal of pharmaceutical sciences*, 93(12), 2927-2935, 2004.

2. J. S. Wolnerman, Z. Bergman, A. Zini, **B. Mizrahi**, Y. Vered, A. J. Domb and J. Mann, A new gel for topical use in treating severe periodontal disease--clinical observations, *Refu'at ha-peh veha-shinayim*, 21(2), 72-77, 99, 2004.

3. **B. Mizrahi**, L. Shapira, A. J. Domb and Y. Houri-Haddad, Citrus oil and MgCl2 as antibacterial and anti-inflammatory agents, *Journal of periodontology*, 77(6), 963-968, 2006.

4. **B. Mizrahi** and A. J. Domb, Mucoadhesive tablet releasing iodine for treating oral infections, *Journal of pharmaceutical sciences*, 96(11), 3144-3150, 2007.

5. A. Shemer, B. Amichai, H. Trau, N. Nathansohn, **B. Mizrahi** and A. J. Domb, Efficacy of a mucoadhesive patch compared with an oral solution for treatment of aphthous stomatitis, *Drugs in R&D*, 9(1), 29-35, 2008.

6. **B. Mizrahi** and A. J. Domb, Mucoadhesive polymers for delivery of drugs to the oral cavity, *Recent patents on drug delivery & formulation*, 2(2), 108-119, 2008.

7. N. Sterer, S. Nuas, **B. Mizrahi**, C. Goldenberg, E. I. Weiss, A. Domb and M. P. Davidi, Oral malodor reduction by a palatal mucoadhesive tablet containing herbal formulation, *Journal of dentistry*, 36(7), 535-539, 2008.

8. **B. Mizrahi**, R. Shavit and A. Domb, Synthesis and characterization of polymeric implant for kyphoplasty, *Journal of biomedical materials research. Part B, Applied biomaterials*, 86(2), 466-473, 2008.

9. Y. S. Brin, J. Golenser, **B. Mizrahi**, G. Maoz, A. J. Domb, S. Peddada, S. Tuvia, A. Nyska and M. Nyska, Treatment of osteomyelitis in rats by injection of degradable polymer releasing gentamicin, *Journal of controlled release : official journal of the Controlled Release Society*, 131(2), 121-127, 2008.

10. M. P. Davidi, A. Hadad, E. I. Weiss, A. Domb, **B. Mizrahi** and N. Sterer, The effect of a mild increase in temperature on tooth bleaching, *Quintessence international*, 39(9), 771-775, 2008.

11. **B. Mizrahi** and A. J. Domb, Anhydride prodrug of ibuprofen and acrylic polymers, *AAPS PharmSciTech*, 10(2), 453-458, 2009.

12. Y. S. Brin, A. Nyska, A. J. Domb, J. Golenser, **B. Mizrahi** and M. Nyska, Biocompatibility of a polymeric implant for the treatment of osteomyelitis, *Journal of biomaterials science. Polymer edition*, 20(7-8), 1081-1090, 2009.

13. D. J. Aframian, **B. Mizrahi**, I. Granot and A. J. Domb, Evaluation of a mucoadhesive lipid-based bioerodable tablet compared with Biotene mouthwash for dry mouth relief--a pilot study, *Quintessence international*, 41(3), e36-42, 2010.

14. **B. Mizrahi**, C. F. Stefanescu, C. Yang, M. W. Lawlor, D. Ko, R. Langer and D. S. Kohane, Elasticity and safety of alkoxyethyl cyanoacrylate tissue adhesives, *Acta biomaterialia*, 7(8), 3150-3157, 2011.

15. **B. Mizrahi**, S. Irusta, M. McKenna, C. Stefanescu, L. Yedidsion, M. Myint, R. Langer and D. S. Kohane, Microgels for efficient protein purification, *Advanced materials*, 23(36), H258-262, 2011.

16. A. Avramof, **B. Mizrahi** and A. J. Domb, Preparation and characterization of a novel once-daily formulation of Diltiazem using Arabinogalactan as a channeling agent, *Journal of Applied Polymer Science*, 126, 2012.

17. M. Tao, P. Yu, B. T. Nguyen, **B. Mizrahi**, N. Savion, F. D. Kolodgie, R. Virmani, S. Hao, C. K. Ozaki and J. Schneiderman, Locally applied leptin induces regional aortic wall degeneration preceding aneurysm formation in apolipoprotein E-deficient mice, *Arteriosclerosis, thrombosis, and vascular biology*, 33(2), 311-320, 2013.

18. **B. Mizrahi**, S. A. Shankarappa, J. M. Hickey, J. C. Dohlman, B. P. Timko, K. A. Whitehead, J. J. Lee, R. Langer, D. G. Anderson and D. S. Kohane, A Stiff Injectable Biodegradable Elastomer, *Advanced functional materials*, 23(12), 1527-1533, 2013.

19. **B. Mizrahi**, X. Khoo, H. H. Chiang, K. J. Sher, R. G. Feldman, J. J. Lee, S. Irusta and D. S. Kohane, Long-lasting antifouling coating from multi-armed polymer, *Langmuir : the ACS journal of surfaces and colloids*, 29(32), 10087-10094, 2013.

20. B. P. Timko, M. Arruebo, S. A. Shankarappa, J. B. McAlvin, O. S. Okonkwo, **B. Mizrahi**, C. F. Stefanescu, L. Gomez, J. Zhu, A. Zhu, J. Santamaria, R. Langer and D. S. Kohane, Near-infrared-actuated devices for remotely controlled drug delivery, *Proceedings of the National Academy of Sciences of the United States of America*, 111(4), 1349-1354, 2014.

21. R. Kelmansky and **B. Mizrahi**, Neat Mucoadhesive Polymers (Editorial), *Austin Journal of Biotechnology and Bioengineering*, 1(1), 1-2, 2014.

22. T. Croituru-Sadger, Y.L Bardoogo and **B. Mizrahi**, Synthesis and In-Vitro Evaluation of Soft Polymersomes For Efficient Intracellular Delivery of Camptothecin. *International Journal of Pharmaceutics*, 508, (1-2), 34-41, 2016.

23. R. Omar, Y. Leichtman Bardoogo, E. Corem-Salkmon, and **B. Mizrahi**, Amphiphilic star PEG-Camptothecin conjugates for intracellular targeting. *Journal of Controlled Release*, 257 (10) 76-83, 2017.

24. Y. Bussi, L. Holtzman, A. Shagan, E. Segal and **B. Mizrahi**, Light-triggered antifouling coatings for porous silicon optical transducers. *Polymers for Advanced Technologies* (*PAT),*28 (7), 859-866, 2017.

25. R. Kelmansky, B. McAlvin, A. Nyskac, J. Dohlman, H. H. Chiang, M. Hashimoto, D. S. Kohane and **B. Mizrahi**,Strong Tissue Glue with Tunable Elasticity, *Acta Biomaterialia*, 53, 93-99, 2017.

26. K. Massuri-Rodionov, A. Shagan, Y. Leichtmann-Bardoogo, and **B. Mizrahi,** Light-triggered Stabilization of Microgel Aggregates, Hydrogels, 2017, In Press.

27.R. Kelmansky, A. Shagan, B. Rozenblit, R. Omar, M. Lufton, and **B. Mizrahi**,In Situ Dual Cross-Linking of Neat Biogel with Controlled Mechanical and Delivery Properties. *Molecular Pharmaceutics*, 14 (10), 3609-3616, 2017.

28. A. Shagan, T. Croitoru-Sadger, E. Corem-Salkmon, **B. Mizrahi,** Near-Infrared Light Induced Phase Transition of Biodegradable Composites for on-Demand Healing and Drug Release. *ACS Applied Materials and Surfaces*, ***Accepted***.

29. B. Rosenblit, G. Tenenbaum, A. Shagan, E. Corem Slakman and **B. Mizrahi**, A New Patch releasing Volatile Antimicrobial Agents for Preserving Fresh Foods. Applied and Environmental Microbiology, ***Submitted***.

**Book Chapters**

1. **Mizrahi** B, Kohane D. *Tissue Adhesives as Active Implants* In Zilberman M (Ed.) Active Implants and Scaffolds for Tissue Regeneration. Springer, New York, US, 2011.

2. Domb A.J, Ezra A, **Mizrahi B.** *Lipospheres for Vaccine Delivery* In Nastruzzi C. (Ed.) Lipospheres in Drug Targets and Delivery: Approaches, Methods, and Applications. Taylor & Francis, New York, US, 2004.

**Patents:**

1. B. Mizrahi, DS Kohane. Particles and other substrates useful in protein purification and other applications. WO Patent 2,012,116,001.
2. B. Mizrahi and A. Domb. Adhesive composition for the treatment of xerostomia. US11/959,997, 2010.
3. B. Mizrahi and A. Domb. Adhesive composition. US 12/757,508, 2010.
4. B. Mizrahi and D. S. Kohane. Tissue adhesive with minimal toxicity. US Pending, 2012.
5. B. Mizrahi, B. Brama and A.J. Domb. Anti appetite adhesive composition. US 20120015021.
6. J.B. McAlvin, B. Mizrahi, D.S. Kohane, R.G. Wylie. Bioactive extracorporeal circuit for blood modification. US 20150132312.
7. B. Mizrahi, Maayan Lufton, Topical kits and compositions and use thereof. US Provisional Patent Application No. 62/555,105.

**Invited Talks and Oral Presentations**

1. Invited lecture entitled: Stimuli Responsive Materials .The Third Biomimicry Conference – Academy & Industry, Porter, TAU, 2017.
2. Invited lecture entitled: Citrus oil and magnesium salts as anti-inflammatory and anti bacterial agents. The 5th Pharmacology and Ethnopharmacology Conference, Florida, USA, 2017.
3. Invited lecture entitled: Stimuli Responsive Materials. Israeli society for polymer and Plastics, Ramat-Gan, 2017.
4. Invited lecture entitled: Stimuli Responsive Materials. International Summer School on Regenerative Nano-Medicine, Tel-Aviv University, 2016.
5. Invited lecture entitled: Liquid Polymers for Drug Delivery and Regenerative Medicine. The 17th Israel Materials Engeeniring Conference (IMEC 17), Bar-Ilan University, 2016.
6. Chair of the Nano-Med session in The 3rd Conference of the Israel Society for Biotechnology Engineering (ISBE), Dan Panorama Hotel, Tel Aviv, December 13, 2015.
7. Regina Kelmansky, Yael Bardugo and Boaz Mizrahi. Neat Mucoadhesive polymer. The 3rd Conference of the Israel Society for Biotechnology Engineering (ISBE), Dan Panorama Hotel, Tel Aviv, December 13, 2015.
8. Keynote Speaker (nano-medical session) entitled Liquid Polymers for Drug Delivery and Regenerative Medicine.Nano-Bio-Med 2015, Barcelona, 2015.
9. Invited lecture entitled Neat polymers. Gordon Research Conference, Adhesives, MA, USA 2015
10. Invited lecture entitled: Liquid polymers for drug delivery and regenerative medicine. Israeli Controlled Release Society. Tel Aviv University, 2015.
11. Invited lecture entitled: New Biomaterials in Biotechnology. The 2nd Conference of the Israel Society for Biotechnology Engineering (ISBE), Dan Panorama Hotel, Tel Aviv, December 13, 2014.
12. Invited lecture entitled Liquid polymers. The 9th Annual Meeting of the Israeli Chapter of the Controlled Release Society. Maalot Tarchicha, 2014.
13. Invited lecture entitled A Stiff Injectable biomaterials. The 28th Symposium of the Umbrella-Cooperation. RWTH Aachen University, Aachen, Germany, 2014.
14. Invited lecture entitled cyanoacrylates: chemistry, polymerization and medical uses. Chemical Workshop, The Hebrew University, Jerusalem, 2013.