Boaz Mizrahi

Faculty of Biotechnology and Food Engineering

Technion–Israel Institute of Technology

Haifa, Israel 32000

bmizrahi@technion.ac.il

**Current Position:**

**Assistant Professor**

Faculty of Biotechnology and Food Engineering

Technion–Israel Institute of Technology

**Education**

**Postdoctoral Fellow** 2009 to May 2013

Langer Lab, The David H. Koch Institute for Integrative Cancer Research

at Massachusetts Institute of Technology, Cambridge, Massachusetts, US

&

Laboratory of Daniel S. Kohane, Division of Critical Care, Children**’** s

Hospital Boston, Harvard Medical School, Boston, Massachusetts, US

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

Abraham J. Domb Lab, Department of Medicinal Chemistry,

School of Pharmacy, The Hebrew University, Jerusalem, Israel

**Internship in Pharmacy** 2002 to 2003

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

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

School of Pharmacy, Hebrew University, Jerusalem, Israel

**Teaching Experience**

**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

**Fellowships and Grants and awards**

2014 Marie Curie - Career Integration Grants

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

**Book Chapters**

1. *Active Implants and Scaffolds for Tissue Regeneration*. **Boaz Mizrahi** and Daniel Kohane. Springer, 2011.

2. *Lipospheres in Drug Targets and Delivery: Approaches, Methods, and Applications*. Abraham J. Domb, Aviva Ezra and **Boaz Mizrahi**. Taylor & Francis, CRC Press, 2005.

**List of Publications**

1. **Near-infrared–actuated devices for remotely controlled drug delivery.**

Timko BP, Arruebo M, Shankarappa SA, McAlvin JB, Okonkwo OS, Mizrahi B, Stefanescu CF, Gomez L, Zhu J, Zhu A, Santamaria J, Langer R, Kohane DS: Near-infrared actuated devices for remotely controlled drug delivery. Proc Natl Acad Sci USA 2014, In press.

1. **Long-lasting Antifouling Coating from Multi-Armed Polymer.**

Boaz Mizrahi, Xiaojuan Khoo, Homer Chang, Katalina Sher, Jung-Jae Lee, Silvia Irusta and Daniel S. Kohane. *Langmuir*, 29, 32, 2013.

1. **A Stiff Injectable Biodegradable Elastomer.**

Boaz Mizrahi, Kathryn A. Whitehead, Brian P. Timko, Mike Lawlor, Robert Langer, Daniel G. Anderson, and Daniel S. Kohane., *Advanced Functional Materials*, 23, 12, 2013.

1. **Locally Applied Leptin Induces Regional Aortic Wall Degeneration Preceding Aneurysm Formation in Apolipoprotein E–Deficient Mice.**

Ming Tao, Peng Yu, Binh T. Nguyen, Boaz Mizrahi, Naphtali Savion, Galina Sukhova, Frank D. Kolodgie, Renu Virmani, C. Keith Ozaki and Jacob Schneiderman. *ATVB* 33, 2, 2013**.**

1. **Preparation and characterization of a novel once-daily formulation of Diltiazem using Arabinogalactan as a channeling agent.**

Avraham Avramof, Boaz Mizrahi and Abraham Domb. *Journal of Applied Polymer Science,* 126, 2012.

1. **Microgels for Efficient Protein Purification.**

Boaz Mizrahi, Silvia Irusta, Marshall McKenna, Cristina Stefanescu, Liron Yedidsion, MyatNoeZin Myint, Robert Langer, and Daniel S. Kohane. *Advanced Materials*, 23, 36, 2011.

1. **Elasticity and Safety of Alkoxyethyl Cyanoacrylate Tissue Adhesives.**

Boaz Mizrahi, Cristina F. Stefanescu, Celine Yang, Michael W. Lawlor, Dennis Ko, Robert S. Langer and Daniel S. Kohane. *Acta Biomaterialia*, 7, 2011, 3150–3157.

1. **Evaluation of lipid-based bioerodable tablet compared with Biotene mouthwash for dry mouth.**

Doron Aframian, Boaz Mizrahi, Igal Granot and Abraham Domb. *Quintessence International*, 41, March 2010.

1. **Biocompatibility of a polymeric implant for the treatment of osteomyelitis.**

Brin YS, Nyska A, Domb AJ, Golenser J, Mizrahi B, Nyska M. *Journal of biomaterials science. Polymer edition*. 2009;20(7-8):1081-90.

1. **Anhydride prodrug of ibuprofen and acrylic polymers.**

Boaz Mizrahi and Abraham J Domb. *AAPS PharmSciTech.*[*10,2, 453-458****,*** *2009.*](http://www.ncbi.nlm.nih.gov/pubmed/?term=Anhydride+prodrug+of+ibuprofen+and+acrylic+polymers)

1. **The effect of a mild increase in temperature on tooth bleaching.**

Davidi MP, Hadad A, Weiss EI, Domb A, Mizrahi B, Sterer N. *Quintessence international* (Berlin, Germany : 1985). 2008 Oct;39(9):771-5.

1. **Treatment of osteomyelitis in rats by injection of degradable polymer releasing gentamicin.**

Brin YS, Golenser J, Mizrahi B, Maoz G, Domb AJ, Peddada S, Tuvia S, Nyska A, Nyska M. *Journal of controlled release*: **2008** Oct 21;131(2):121-7.

1. **Synthesis and characterization of polymeric implant for kyphoplasty.**

Mizrahi B, Shavit R, Domb A. Journal of biomedical materials research. Part B, *Applied biomaterials*. **2008** Aug;86B(2):466-73.

1. **Oral malodor reduction by a palatal mucoadhesive tablet containing herbal formulation.**

Sterer N, Nuas S, Mizrahi B, Goldenberg C, Weiss EI, Domb A, Davidi MP. *Journal of dentistry*. **2008** Jul;36(7):535-9.

1. **Mucoadhesive polymers for delivery of drugs to the oral cavity-A Review.**

Boaz Mizrahi, Abraham J. Domb. *Recent Patents on Drug Delivery & Formulation*, June 2008.

1. **Efficacy of a mucoadhesive patch compared with an oral solution for treatment of aphthous stomatitis.**

Shemer A, Amichai B, Trau H, Nathansohn N, Mizrahi B, Domb AJ. *Drugs in R&D*. **2008**; 9(1):29-35.

1. **Mucoadhesive tablet releasing iodine for treating oral infections.**

Mizrahi B, Domb AJ. *Journal of pharmaceutical sciences*. [Nov;96(11):3144-50, 2007.](http://www.ncbi.nlm.nih.gov/pubmed/17724656)

1. **Mucoadhesive tablet releasing iodine for treating oral infections.**

Mizrahi B, Domb AJ. *Journal of pharmaceutical sciences*. 2007 Nov;96(11):3144-50.

1. **Adhesive tablet effective for treating canker sores in humans.**

Mizrahi B, Golenser J, Wolnerman JS, Domb AJ. *Journal of pharmaceutical sciences*. **2004**, Dec;93(12):2927-35.

1. **Citrus oil and MgCl2 as antibacterial and anti-inflammatory agents.**

Mizrahi B, Shapira L, Domb AJ, Houri-Haddad Y. *Journal of periodontology*. **2006** Jun;77(6):963-8.

1. **A new gel for topical use in treating severe periodontal disease—clinical observation.**

Wolnerman JS, Bergman Z, Zini A, Mizrahi B, Vered Y, Domb AJ, Mann J. *Refuʾat ha-peh ṿeha-shinayim*. **2004** Apr;21(2):72-7, 99.

**Patents:**

1. Particles and other substrates useful in protein purification and other applications. B Mizrahi, DS Kohane. WO Patent 2,012,116,001.

2. Particles and other substrates useful in protein purification and other applications. DS Kohane, B Mizrahi. WO Patent App. PCT/US2012/026,008.

2. Adhesive composition for the treatment of xerostomia. US11/959,997, 2010.

3. Adhesive composition. US 12/757,508, 2010.

4. Microgel particles for protein purification. WO/2012/116001.

5. Tissue adhesive with minimal toxicity. US Pending, 2012.

6. Anti appetite adhesive composition. US Patent App. 12/835,591.

7. Bioactive extracorporeal circuit for blood modification. US Pending, 2013.

**Research Projects**

- Designing mucoadhesive polymers (synthesis and characterization). Preclinical and clinical evaluation planned with Prof. Jonathan Mann, Dean of the Faculty of Dentistry, Hebrew University).

- Polymeric implant for the treatment of osteomyelitis.

- Synthesis and characterization of polymeric implant for kyphoplasty (with Dr. Motti Beyar, NMB, LTD).

- Bio conjugate: Anhydride prodrug of ibuprofen and acrylic polymers

**2002-2008**

**2009-2013**

- Synthesis and in-vivo evaluation of new cyanoacrylate (super glue) tissue adhesives (Collaboration with DuPont).

- Protein purification with microgel systems.

- Local Application of leptin to induce regional aortic wall degeneration kyphoplasty (with Dr. Motti Beyar, NMB, LTD).

- Bio conjugate: Anhydride prodrug of ibuprofen and acrylic polymers

degradation (with Prof. C. Keith Ozaki, Harvard Medical School)

- Vaccine delivery (with Prof. Anne Moscona, Cornell University).

- Injectable biomaterials that harden *in situ* and release various drugs, locally.

- Polymeric systems for preventing biofouling on medical implants.

**Review**

Regular reviewer for the following: Polymers for Advanced Technology; American Association of Pharmaceutical Scientists; Journal of Pharmaceutical Sciences; and Expert Opinion on Drug Delivery. Also review for Advanced Materials; Biomacromolecules; and NanoLetters.

**Work Experience**

2002to2003 Hadassah Medical Center, Jerusalem, Israel, Pharmacist

2004to2008 Hebrew University of Jerusalem, Jerusalem, Israel, Lecture and Teaching Assistant

2006 to 2009 AxioMedic Inc., Zurich, Switzerland, Science advisory board ([www.axiomedic.com](http://www.axiomedic.com))

2008 to 2012 Quantum Health, Eugene, Oregon, Consultant (www.quantumhealth.com)