

## CURRICULUM VITAE

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### 1. Academic education

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| 2010 -2011 | Weizmann Institute of Science, Rehovot, Israel<br>Postdoctoral studies, Department of Biological Chemistry<br><b>Project:</b> "Structural characterization of membrane-bound FtsY-ribosome complex of <i>E. coli</i> "<br>Advisor: Prof. Eitan Bibi  |
| 2005 -2010 | Ben Gurion University, Be'er Sheva, Israel<br>Kreitman Graduate School, Ph.D. Program, Department of Life Sciences<br><b>Dissertation:</b> "The structure and function of the nuclear lamin filaments"<br>Advisor: Prof. Ohad Medalia  |
| 2003-2005  | Ben-Gurion University of the Negev, Israel<br><b>Chemical Engineering:</b> M. Sc, August 2005, with distinction<br><b>Dissertation:</b> "Catalytic properties of solid alkaline metal hydroxides in oxidation of 1-phenylethanol to acetophenone"<br>Advisors: Prof. Moti Herskowitz and Prof. Adi Wolfson |
| 2000-2003  | Ben-Gurion University of the Negev, Israel<br><b>Chemical Engineering:</b> B. Sc, June 2003, with honor  |

## 2. Academic employment

April 2020 – present Senior Lecturer, Department of Chemical Engineering, Sami Shamoon College of Engineering, Ashdod, Israel.

November 2011 –April 2020 Lecturer, Department of Chemical Engineering, Sami Shamoon College of Engineering, Ashdod, Israel.

July 2010 –November 2011 Adjunct Lecturer, Department of Chemical Engineering, Sami Shamoon College of Engineering, Ashdod, Israel.

August 2005 -August 2007 Teaching Assistant, Department of Chemical Engineering, Sami Shamoon College of Engineering, Be'er Sheva, Israel.

August 2003 -August 2005 Teaching Assistant, Department of Chemical Engineering, Ben-Gurion University of the Negev, Be'er Sheva, Israel.

August 2003 -August 2005 Laboratory Instructor, Department of Chemical Engineering, Ben-Gurion University of the Negev, Be'er Sheva, Israel.

August 2001 -August 2003 Research Assistant, Department of Chemical Engineering, Ben-Gurion University of the Negev, Blechner Center for Catalysis & Process Development, Be'er Sheva, Israel

## 3. Award

2009 The Lev Margulis Memorial Prize in the field of microscopy

## 4. Courses taught

2005-today, B.Sc. program at SCE - Sami Shamoon College of Engineering, Israel.

1. Introduction to chemical engineering I (material balance)
2. Introduction to chemical engineering II (energy balance)
3. Introduction to chemical engineering III (separation processes and thermochemistry)
4. Thermodynamics I (Mechanics)
5. Thermodynamics II (Solutions)
6. Fundamentals of heat transfer
7. Fundamentals of mass transfer
8. Introduction to statistics and process control
9. Design and analysis of experiments
10. Biomimcry and entrepreneurship
11. Chemical engineers at the Natural Gas Industry

12. Separation process principles
13. Biopolymer engineering

2003-2005, B.Sc. Ben-Gurion University of the Negev, Israel.

1. Fundamentals of heat transfer

## 5. List of publications

### 5.1. Peer reviewed papers

1. Khayat M, Deri S, Wolf D, Trigano. T, Medalia O, Ben-Harush K. (2020) Biomimetic nuclear lamin fibers with remarkable toughness and stiffness. *Int J Biol Macromol.* 163, 2060-2067.
2. Turgay Y, Eibauer M, Goldman AE, Shimi T, Khayat M, Ben-Harush K, Dubrovsky-Gaup A, Sapra KT, Goldman RD, Medalia O. (2017) The molecular architecture of lamins in somatic cells. *Nature.* 543, 261-264.
3. Zingerman-Koladko I, Khayat M, Harapin J, Shoseyov O, Gruenbaum Y, Salman A, Medalia O, Ben-Harush K (2016) The assembly of *C. elegans* lamins into macroscopic fibers. *J Mech Behav Biomed Mater.* 63:35-43.
4. Bank EM, Ben-Harush K, Feinstein N, Medalia O, Gruenbaum Y. (2012) Structural and physiological phenotypes of disease-linked lamin mutations in *C. elegans*. *J Struct Biol.* 177(1):106-12.
5. Zeytuni N, Ozyamak E, Ben-Harush K, Davidov G, Levin M, Gat Y, Moyal T, Brik A, Komeili A, Zarivach R. (2011) Self-recognition mechanism of MamA, a magnetosome-associated TPR-containing protein, promotes complex assembly. *Proc Natl Acad Sci U S A.*, 108(33): E480-7.
6. Bank, EM., Ben-Harush, K., Wiesel-Motiuk, N., Barkan, R., Feinstein, N., Lotan, O., Medalia, O., Gruenbaum, Y. (2011) A laminopathic mutation disrupting lamin filament assembly causes disease-like phenotypes in *C. elegans*. *Mol Biol Cell*, 22(15), 2716-28.
7. Ben-Harush, K., Maimon, T., Patla, I., Villa, E. and Medalia, O. (2010) Visualizing cellular processes at the molecular level by cryo-electron tomography. *J Cell Sci*, 123, 7-12.
8. Ben-Harush, K., Wiesel, N., Frenkiel-Krispin, D., Moeller, D., Soreq, E., Aebi, U., Herrmann, H., Gruenbaum, Y. and Medalia, O. (2009) The Supramolecular Organization of the *C. elegans* Nuclear Lamin Filament. *J Mol Biol*, 386, 1392-1402.

9. Taimen, P., Pflieger, K., Shimi, T., Moller, D., Ben-Harush, K., Erdos, M.R., Adam, S.A., Herrmann, H., Medalia, O., Collins, F.S., Goldman, A.E. and Goldman, R.D. (2009) A progeria mutation reveals functions for lamin A in nuclear assembly, architecture, and chromosome organization. *Proc Natl Acad Sci U S A.*, 106(49): 20788–20793.
10. Wolfson, A., Ben-Harush, K. and Herskowitz, M. (2009) Aerobic oxidation of benzylic alcohols with solid alkaline metal hydroxides. *Kinetics and Catalysis*, 51, 63-68.
11. Ben-Harush, K., Wolfson, A. and Herskowitz, M. (2006) Unexpected performance of solid alkaline metal hydroxides in liquid phase oxidation of 1-phenylethanol. *Lett Org Chem*, 3, 664-667.

## 5.2. Papers and abstracts – proceedings of conferences

### 1. Contributed conference presentations

1. *Kfir Ben-Harush*, **Biomimetic nuclear lamin fibers with very high toughness and stiffness**. Poster presentation at the 5th Bioinspired Materials 2020, Irsee, Germany (Zoom meeting), March 16 – March 19, 2020.
2. *Kfir Ben-Harush*, **Recombinant intermediate filament proteins, the nuclear lamins, form highly tough fibers**. Poster presentation at the GRC on Bioinspired multifunctional dynamic materials, Les Diablerets, Switzerland, Jun 24 – Jun 29, 2018.
3. *Kfir Ben-Harush*, **The structural and mechanical properties of nuclear lamin fibers**. Poster presentation at the 4th The Israel Society For Biotechnology Engineering, Tel aviv, Israel, Dec 17, 2017.
4. *Kfir Ben-Harush*, **The structure and mechanics of nuclear lamins fibers**. Invited talk at annual meeting structural and functional analysis of cellular assemblies, Verbania, Italy, Sep 25 – Sep 27, 2017.
5. *Kfir Ben-Harush*, **The structure and mechanics of nuclear lamins assemblies**. Talk at the 7th Alpbach Workshop on: Coiled-coil, fibrous and repeat proteins, Alpbach, Austria, Sep 3 – Sep 8, 2017.
6. *Kfir Ben-Harush*, **The structural and mechanical properties of nuclear lamin fibers**. Poster presentation at the COST School on The nuclear

lamina and nuclear organization, Yearim, Israel, Jun 25 – Jun 29, 2017.

7. *Kfir Ben-Harush*, **The assembly of *C. elegans* lamins into macroscopic fibers**. Poster presentation at the GRC on intermediate filaments, Stowe, VT, USA, Jun 12 – Jun 17, 2016.

8. *Kfir Ben-Harush*, **Lamin-based materials: a platform for mechanical and structural analysis**. Invited talk at the symposium in Structural and mecho-Biology, Lugano, Switzerland, Oct 20 – Oct 22, 2014.

9. *Kfir Ben-Harush*, **The Supramolecular Organization of Nuclear Lamins**. Invited talk at the GRC on 3-D Electron microscopy, Colby-Sawyer College, New London, NH, USA, June 28 -July 3, 2009.

10. *Kfir Ben-Harush*, **The Three-Dimensional organization of the Nuclear Lamin Filaments**. Invited talk at the Israel society for microscopy 43<sup>rd</sup> annual meeting, Tel-Aviv, Israel, May 15<sup>th</sup>, 2007.

11. *Kfir Ben-Harush*, **The supramolecular organization of *C. elegans* lamin filaments and paracrystalline fibers**. Invited talk (Special Interest Subgroup) at the American Society for Cell Biology 48<sup>th</sup> annual meeting, San Francisco, USA, December 13-17, 2008.

12. *Kfir Ben-Harush*, **The Structure and Function of the Nuclear Lamin Filaments Revealed by Cryo Electron Tomography**. Poster at the Israel society for microscopy 41<sup>st</sup> annual meeting, Rehovot, Israel, May 15<sup>th</sup>, 2007.

13. *Kfir Ben-Harush*, **Catalytic Performance of Solid Alkaline Metal Hydroxides in Oxidative Organic Reactions of Aromatic Alcohols**. Poster at the 4th International Conference on Environmental Catalysis, Heidelberg, Germany, June 5-8, 2005.

2. Seminar presentations

1. *Kfir Ben-Harush*, **The structural and mechanical properties of lamins assemblies**. Invited talk at the department of chemical engineering, Ben-Gurion University, Beer-Sheva, Israel, Jun 13 2017.
2. *Kfir Ben-Harush*, **Self assembly of nuclear lamins into tough fibers**. Invited talk at the SCE conference, Beer-Sheva, Israel, Oct 7, 2015.
3. *Kfir Ben-Harush*, **The Supramolecular Organization of Nuclear Lamins**. MRC Laboratory of Molecular Biology, Cambridge, UK, Nov 29, 2010.
4. *Kfir Ben-Harush*, **The Supramolecular Organization of Nuclear Lamins**. MPI of biochemistry, Martinsried, Germany, Nov 23, 2010.
5. *Kfir Ben-Harush*, **The Supramolecular Organization of Nuclear Lamins**. MPI-CBG, Dresden, Germany, Nov 24, 2010.
6. *Kfir Ben-Harush*, **The Supramolecular Organization of Nuclear Lamins**. Ben-Gurion University, Be'er-Sheva, Israel, Dec 21, 2009.