KEREN HAKSHUR

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1. EDUCATION

2010-present: **Ph.D** studies, Department of Physical Electronics, School of Electrical Engineering, Tel Aviv University, Israel.

2007-2010: **M.Sc. (*magna cum laude*)** Materials Science and Engineering, Tel Aviv University, Israel.

2002-2006: **B.Sc. (*magna cum laude*)** Department of Chemical Engineering and Biotechnology, Ariel University Center of Samaria, Israel.

2. ACADEMIC RESEARCH EXPERIENCE

PhD. Studies; Subject: Optical methods for sensing applications based on birefringent porous silicon.

Supervisor: Prof. Shlomo Ruschin, Department of Physical Electronics, School of Electrical Engineering.

M.Sc. Studies; Subject: The application of Bio-Ferrography to evaluate the effect of hyaluronan injections into human knees.

Supervisor: Prof. Noam Eliaz, School of Mechanical Engineering.

4th year Research Project as part of B.Sc. degree. Department of Chemical Engineering and Biotechnology, Ariel University Center of Samaria.

Subject: **Encapsulation of photosensitizers in liposomes for targeted drug delivery, and their effect on cancer cells**.

3. AWARDS AND HONORS

Trotzky prize for excellence in research for graduate students	2017
Prize for Initiative and Academic Excellence, Tel Aviv University	2016
Award for best poster - the 5th Dept. of Physical Electronics Conference	2016
The Electro-Optics Fund Award for Excellence in research	2015
KLA- Tencor Award for Excellence in research for graduate students	2014
Tel-Aviv University, Faculty of Engineering, Award for high academic achievements	2009
Ariel University Center of Samaria research scholarship for excellent students	2006
Ariel University Center of Samaria Excellence Award for high achievements	2004, 2006
The Israeli Center for culture, society and economy Excellence Award	2004

4. PROFESIONAL EXPERIENCE

- 2017-present: R&D Engineer in Materials Sciences at Rafael.
- 2016-2017: Electronic devices course lecturer for undergraduate students at Tel Aviv University.
- 2012- 2017: Electronic devices laboratory instructor for undergraduate students at Tel Aviv University.
- 2012- 2017: Project advisor of Master student at Tel Aviv University.
- 2014-2015: Dean of students at Ort Hermelin College, Natanya.
- 2012: Advanced Electro optical laboratory instructor for undergraduate students at Tel Aviv University.
- 2007-2010: Materials Science and Engineering Laboratory instructor for undergraduate students at Tel Aviv University.

5. PUBLICATIONS

1. Jonathan J. Elsner, Yoav Mezape, **Keren Hakshur**, Maoz Shemesh, Eran Linder-Ganz, Avi Shterling, Noam Eliaz, *Wear rate evaluation of a novel polycarbonate-urethane cushion form bearing for artificial hip joints*, Acta Biomaterialia 6 (2010) 4698–4707.
2. June 2010 ASME Bioengineering Conference Naples, Florida, USA. Jonathan J. Elsner, **Keren Hakshur**, Avi Shterling, Eran Linder-Ganz and Noam Eliaz. A Novel Method for Magnetic Isolation and Characterization of Polycarbonate-Urethane Wear Particles. Paper No. SBC2010-19049, pp. 403-404.
3. **Keren Hakshur**, Itai Benhar, Yaron Bar-Ziv, Nahum Halperin, David Segal, Noam Eliaz, *The effect of hyaluronan injections into human knees on the number of bone and cartilage wear particles captured by bio-ferrography*, Acta Biomaterialia 7 (2011) 848–857.
4. Jonathan J. Elsner, Maoz Shemesh, Yoav Mezape, Mario Levenshtein, **Keren Hakshur**, Avi Shterling, Eran Linder-Ganz, Noam Eliaz, *Long-Term Evaluation of a Compliant Cushion Form Acetabular Bearing for Hip Joint Replacement: A 20 million cycles wear simulation*, Journal of Orthopedic Research 29 (2011) 1859-1866.
5. **Book chapter**, N. Eliaz and **K. Hakshur**, *Fundamentals of Tribology and the use of Ferrography and Bio-Ferrography for Monitoring the Degradation of Natural and Artificial Joints*, in: N. Eliaz (ed.), Degradation of Implant Materials. Springer (2012), in press.
6. **Keren Hakshur** and Shlomo Ruschin, *Observation of a Large Optical Birefringence Effect in a (110) Porous Silicon Layer*, Applied Physics Letters 104 (2014) 0519091-4.
7. **Keren Hakshur**, Yuval Yifat, Amit Levin and Shlomo Ruschin, *Characteristic Spectral Pattern of Nano-Structured Birefringent Porous Silicon: Theoretical and Experimental*, Applied optics 54 (36) (2015) 10636-10640.

8. **Keren Hakshur**, Leeya Engel, Yosi Shacham, Shlomo Ruschin, *High surface area thermoplastic polymer films fabricated by mechanical tearing using nano-porous silicon*, Microelectronic Engineering 150, 25 (2016) 71–73 .
9. **Keren Hakshur**, Sivan Trajtenberg-Mills,Shlomo Ruschin, *Gas Sensing through Mixed Polarization in Birefringent Porous Silicon Thin Film*, submitted to *IEEE Sensors Letters***.**
10. **Keren Hakshur**, Amit Levin and Shlomo Ruschin, *Rotation Detection of Mechanical Systems through Optical Polarization Sensor based on Porous Silicon*, in preparation.

6. CONFERENCES

1. September 2017, Israel Vacuum Society (IVS) 35th Annual Conference & Workshop, OPTICAL METHODS FOR GAS SENSING IN NANO-STRUCTURED BIREFRINGENT THIN FILMS, Weizmann Institute of Science, Rehovot, Israel-oral presentation.
2. May 2016, EMN 16 conference, Optical anisotropy in porous silicon and its implication to vapors sensing, Prague, Czech Republic- oral presentation.
3. February 2016, 6th Physical Electronics Dept. Conference, Jaffa, Israel- poster presentation.
4. April 2015, The 2nd Israel Vacuum Society- Materials Research Society (IVS-MRS) Student Meeting, Tel Aviv University, Israel - oral presentation.
5. Mar 2015, 4th international conference on Multifunctional, Hybrid and Nano-materials, Sitges, Spain.
6. Mar 2015, The 5th Physical Electronics Dept. Conference, Ramat Rachel, Jerusalem, Israel- oral presentation.
7. June 2013, Collaborative Conference on 3D & Materials Research (CC3DMR), Jeju, Korea, Optical anisotropy in porous silicon and its implication to vapors sensing - oral presentation.
8. June 2010, ASME Bioengineering Conference Naples, Florida, USA. A Novel Method for Magnetic Isolation and Characterization of Polycarbonate-Urethane Wear Particles- oral presentation.
9. Mar 2013, 3rd international conference on Multifunctional, Hybrid and Nano-materials, Sorrento, Italy.
10. Dec 2009, IMEC-14: The 14th Israel Materials Engineering Conference Tel Aviv University, Israel-oral presentation.
11. Dec 2009, Materials Engineering Dept. Seminar, Tel Aviv University, Israel – Oral Presentation.
12. Aug 2009, National Nanotechnology Students Conference, Bar-Ilan University, Israel- oral presentation.
13. Nov 2006, The 42nd Israel Institute of Chemical Engineers conference, Ganei Hatarucha Tel Aviv, Israel.

7. COMUNITY SERVICE

1. 2008-present: Volunteer at two non-profit organizations, *Laad* and *Forever*, that helps feed holocaust survivors and aids them with their social benefits, e.g. pension and compensation, from Germany and from the Israeli government. I provide additional emotional and practical support to holocaust survivors who are childless and alone.
2. 2007-2008: Volunteer at the non-profit organization *Or Yarok* to improve the driving culture in Israel.
3. 2002-2006: Tutor students with ADHD problems and new immigrant pupils at elementary school.

8. MILITARY SERVICE

1998-2000: reserve soldiers lieutenant at the IDF.