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Education:

- 2014 **mini-MBA, Harvard Business School, USA**
- 2010 –2013 **Ph.D. in chemistry, Tel Aviv University, Israel**
Thesis: "Preparation and characterization of chiral metal nanostructures and their interaction with chiral molecules" **Advisor:** Prof. Gil Markovich
- School of Chemistry representative at Tel-Aviv University's Student Association
- 2008 –2010 **M.Sc. in chemistry, Tel Aviv University, Israel**
Thesis: Synthesis and properties of highly defective MgO nanosheets **Summa -Cum-Laude**
Advisor: Prof. Gil Markovich
- School of Chemistry representative at Tel-Aviv University's Student Association
- 2006 – 2008 **B.Sc. in chemistry, Tel Aviv University, Israel**
- School of Chemistry representative at Tel-Aviv University's Student Association
- 2003 **Diamond grader, International Gemological Center, Gemological College, Israel.**
- Research Activities (Research Experience):**
- 2013 –present **Post-doctoral Fellow, Harvard University, USA**
Topic: Diffuse axonal injury, Brain on a-chip **Advisor:** Prof. Kit K. Parker
- Managed a number of U.S federal grants
- 2013 **Selected to represent Israel the 63rd Lindau Noble laureates meeting, a prestige event in chemistry.**
- 2011 Visitor for 3 months at **Prof. Nakanishi and Prof. Berova's lab at Columbia University, NY, USA**
- Synthesizing chiral organic molecules for CD induction on plasmonic nanoparticles.
- 2009 Electron Holography workshop at **Triebenber Lab of Prof. Hannes Lichte, Institute of Structure Physics, Technische Universitaet Dresden, Germany**
- 2008 Emma and Oscar Getz program for excellent students, **At Prof. Israel Rubinstein's group, Weizmann Institute, Israel**
- Designed and constructed an apparatus, exploring morphology and optical properties of gold island films formed by annealing of percolated evaporated gold layers.
- 2008 Research project at **Prof. Joel Hirsch's group, Biochemistry Department in Tel Aviv University**
- Investigated the influence of Ca⁺² ions on the structure of A-helix and B-helix from the C-terminus of the KCNQ1 channel.
- 2007 Ulpanat Amos de Shalit program for excellent students **At Weizmann Institute, Israel**
- 2006 – 2008 Research project at **Prof. Gil Markovich's group, School of Chemistry in Tel Aviv University**
- Conducted experiments in the enhancement of CD spectrum of polypeptide with Ag nanoparticles.

Prizes and scholarships:

- Best talk at the Israel Materials Engineering Conference 2012.
- Received the David and Paulina Trotzky scholarship for excellent researchers 2011.
- Received the nano-center scholarship for excellent researchers 2010-2014.
- Best poster prize at the NanoIsrael 2010.
- Best poster prize at the Israel Microscope Society 2010.
- "Amazing abstract" award at the Tel Aviv 6th nano workshop 2010.
- Best poster prize at the Israel Materials Engineering Conference 2009.
- Best poster prize at the Israel Vacuum Society 2009.
- Scholarship by the Chemistry School of Tel Aviv University 2008-2013.

Talks at Seminars and conferences:

- Seminar at **Weizmann Institute of Science**, Surface and Interface 2013: "Chiroptical effects from achiral plasmonic structures".
- Seminar at **Tel Aviv University**, Physical chemistry 2013: "Chiroptical effects from achiral plasmonic structures".
- Seminar at **Northeastern University**, Biophysics 2013: "Chiroptical effects from achiral plasmonic structures".
- Seminar at **Cornell University**, Physics 2013: "Chiroptical effects from achiral plasmonic structures".
- Seminar at **NYU**, molecular design 2013: "Chiroptical effects from achiral plasmonic structures".
- Talk at **the Dwek School on Nanoplasmonics** 2012: "Amplification of chiroptical activity of chiral molecules by its induction on surface plasmons".
- Talk at the **Israel Materials Engineering Conference** 2012: "Extraordinary chiroptical effects in planar achiral plasmonic nanohole array".
- Invited talk at **Google Israel** 2012: "Can science make us invisible? Or: the line between science and science fiction"
- Seminar at **Columbia University**, physical chemistry student seminar 2011: "Planar nonchiral plasmonic metamaterials".
- Closing speech (as the students' representative) at the **B.Sc and M.Sc degree ceremony** of Tel Aviv University 2010.
- Closing talk at the Tel Aviv 6th **nano workshop** 2010: "Unusual Properties of MgO Nanosheets".
- Talk at the **Israel Chemical Society convention** 2010: "Unusual Properties of MgO Nanosheets".

Teaching Experience:

2008 – 2013

- Analytical chemistry lab instructor. **School of Chemistry, Tel Aviv University, Israel**
- General chemistry teaching assistant. **School of Chemistry, Tel Aviv University, Israel**
- The Dov Lautman Unit for Science Oriented Youth education staff, **Tel Aviv University, Israel**
 - a) Teaching chemistry course in the university for elevated high school student.
 - b) Taught chemistry in the suburbs, and children from broken homes.
 - c) Lecturing about popular science for the open public.

2008 – 2013 **Office of the Tel Aviv University Students' Dean, Israel (part time)**

- Mentoring and teaching undergrads.

2007 – 2008 Substitute teacher, **Ben-Zvi public high school, Kiryat Uno, Israel.**

2004 – 2005 Mentoring 3-4 year old kids, **Club Mediterranee, Avoriaz, France.**

2003 – 2004 Consultant, **Jewish agency, Barrville, NY, USA.**

- Responsible for 20 kids during 2 months, teaching and guiding them.

Technical Skills:

Analytics: Nuclear Magnetic Resonance, High Pressure Liquid Chromatography, Gas Chromatograph, Mass spectrometer, Flame Atomic Absorption, Energy dispersive X-Ray Spectroscopy, SQUID magnetometer

Spectroscopy: Confocal, Bright/ Dark field, Transmission Electron Microscope, Scanning Electron Microscope, Environmental SEM, Circular Dichroism, FTIR

Lab: Sterile techniques, chemical synthesis, cell culturing, lab maintenance

PC: Programming (C++; CVI), Office (Word, Excel, Power Point)

Volunteering:

- School of Chemistry representative at Tel-Aviv University's Student Association:
 - Taught chemistry in the suburbs, and children from broken homes.
 - Initiated the School of Chemistry's internet site including a video database of 80% of all Chemistry lectures and a database of all classroom notes
 - Mentored the freshman class of the Exact Science Faculty during their first study week.
- Magen David Adom (Red Cross) ambulance first aid.
- Marine archaeology; Haifa University submarine excavations.

Additional Skills and Interests:

- Speak native Hebrew and fluent both in English and French.
- Red Cross licensed first aid provider and lifeguard; licensed diver; licensed speed-boat sailor
- Instructor in the Naval Officers' Academy as a reserve officer 3-4 weeks/year (2003 – now)
- Tel Aviv University athletics varsity team
- Backpacked 5 months in the USA (2003) and 6 weeks in central America (2011)
- Kayaking, biking, hiking, jogging, cooking and reading

List of Publications:

(a) Papers

1. Shane Nichols, Oriol Arteaga, Ben M. Maoz, Gil Markovich, and Bart Kahr; "Polarimetric analysis of the extraordinary optical transmission through subwavelength hole arrays" *Proc. SPIE 9163, Plasmonics: Metallic Nanostructures and Their Optical Properties XII*, 91631W, **2014**
2. Oriol Arteaga, Ben M. Maoz, Shane Nichols, Gil Markovich, and Bart Kahr; "Complete polarimetry on the asymmetric transmission through subwavelength hole arrays" *Opt. Express*, **2014**, 22, 11, 13719.
3. Michal Shuman, Ben M. Maoz[#], Ron Feiner, and Tal Dvir, "Nanoengineered gold particle electrospun fibers for cardiac tissue engineering" *J. Mat. Chem. B*, **2013**, 1, 5210-5217. (Cover)
4. Assaf Ben-Moshe[#], Ben M. Maoz[#], Alexander O. Govorov, and Gil Markovich "Chirality and chiroptical effects in inorganic nanocrystal systems with plasmon and exciton resonances" *Chem. Soc. Rev.* **2013**, 42, 7028-7041.
5. Alexander B. Tesler, Ben M. Maoz, Yishay Feldman, Alexander Vaskevich, and Israel Rubinstein, "Solid-state thermal dewetting of just-percolated gold films evaporated on glass: development of the morphology and optical properties" *J. Phys. Chem. C*. **2013**, 117 (21), 11337–11346
6. Ben M. Maoz, Yulia Chaikin, Alexander B. Tesler, Omri Bar Elli, Zhiyuan Fan, Alexander. O. Govorov, and Gil Markovich, "Amplification of chiroptical activity of chiral biomolecules by surface plasmons" *Nano Lett.*, **2013**, 13 (3), 1203–1209.
7. Ben M. Maoz, Rob van der Weegen, Zhiyuan Fan, Alexander. O. Govorov, George Ellestad, Nina Berova, E. W. Meijer and Gil Markovich. "Plasmonic chiroptical response of silver nano particles interacting with chiral supra-molecular assemblies", *J. Am. Chem. Soc.*, **2012**, 134 (42), 17807–17813.
8. Ben M. Maoz, Assaf Ben Moshe, Daniel Vestler, Omri Bar Eli, Gil Markovich. "Extraordinary chiroptical effects in planar achiral plasmonic nanohole arrays", *Nano letters*, **2012**, 12, 2357–2361.
9. Ben M. Maoz, Einat Tirosh, Maya Bar Sadan, Inna Popov, Yuri Rosenberg, and Gil Markovich. "Highly defective MgO nanosheets from colloidal self-assembly", *J. Mater. Chem*, **2011**, 21(26), 9532-9537.

10. Ben M. Maoz, Einat Tirosh, Maya Bar Sadan, and Gil Markovich. "Defect induced magnetism in MgO nanosheets", *PRB*, **2011**, 83, 161201(4)- rapid communication.
11. Tanya Karakouz, Ben M. Maoz, Gilad Lando, Alexander Vaskevich, and Israel Rubinstein, "Stabilization of Gold Nanoparticle Films on Glass by Thermal Embedding". *ACS Appl. Mater. Interfaces*, **2011**, 3 (4), 978-987.
12. Miryam Greenstein, Rivka Ben Ishay, Ben M. Maoz, Haim Leader, Alexander Vaskevich, and Israel Rubinstein; "Rapid Formation of Coordination Multilayers Using Accelerated Self-Assembly Procedure (ASAP)". *Langmuir* **2010**, 26(10), 7277–7284.

(b) Patents:

1. Gold coated electrospun scaffolds, US provisional patent No. 61/825, 124, **2013**

(c) Book Chapter:

1. Chemistry Handbook published by the Tel-Aviv University School of Chemistry. **2008**

(d) Press Coverage of Research (Research Publicity)

1. Reshet Bet – Israeli public radio, **2013** (Hebrew)
<http://www.iba.org.il/bet/player.aspx#!/style/popAudio/ar/787791/audio/yes>
2. Reshet Bet – Hamaor Hakatan – Israeli public radio, **2013** (Hebrew)
<http://www.iba.org.il/bet/bet.aspx?type=286&entity=952891>
3. The Marker - New paper magazine, **2013** (Hebrew)
<http://www.themarker.com/magazine/1.2060523>
4. Kol Israel – Israeli public radio, **2013** (Hebrew)
5. Sights and sounds from Tel Aviv University Center for Nanoscience and Nanotechnology, **2013** (English)
<https://www.youtube.com/watch?v=D2w7yLx3wyU>
6. Hayadan – Science site. **2012** (Hebrew)
<http://www.hayadan.org.il/chirality-061012/>
7. Ad Kedei Kavoa - Blog on popular science. **2012** (Hebrew)
<http://kavua.wordpress.com/2012/09/28/%D7%90%D7%96-%D7%9E%D7%94-%D7%A2%D7%95%D7%A9%D7%99%D7%9D-%D7%A9%D7%9D-%D7%91%D7%90%D7%95%D7%A0%D7%99%D7%91%D7%A8%D7%A1%D7%99%D7%98%D7%94-%D7%A4%D7%A8%D7%A7-9-%D7%9B%D7%9C-%D7%9E%D7%94-%D7%A9%D7%A6/>

List of Scientific Presentations

1. Ben M. Maoz, Sean P. Sheehy, Thomas Grevesse, Stephanie Dauth Angie Greer and Kevin Kit Parker, "Identifying Potential Pathways and Target Proteins for Head Injury

- Therapeutics" *Assembly and Disassembly of the Nervous System*, January 19-21, **2014**, Weizmann Institute of Science, Rehovot, Israel. page 65, **poster**
2. ** Ben M. Maoz, Yulia Chaikin, Alexander B. Tesler, Omri Bar Elli, Zhiyuan Fan, Alexander. O. Govorov, Alexander Vaskevich, Israel Rubinstein and Gil Markovich, "Amplification of chiroptical activity of chiral biomolecules by surface plasmons" *The Dwek School on Nanoplasmonics*, December 9-13, **2012**, Weizmann Institute of Science, Rehovot, Israel. Abstract 17, **talk**.
 3. Ben M. Maoz, Assaf Ben Moshe, Daniel Vestler, Omri Bar Eli, Gil Markovich. "Extraordinary chiroptical effects in planar achiral plasmonic nanohole arrays". *The 3rd International nanotechnology conference & exhibition*, March 26-27, **2012**, David InterContinental Hotel, Tel Aviv, Israel. Abstract 102 page 36, **poster**.
 4. ** Ben M. Maoz, Assaf Ben Moshe, Daniel Vestler, Omri Bar Eli, Gil Markovich. "Extraordinary chiroptical effects in planar achiral plasmonic nanohole arrays". *The 15th Israel Materials Engineering Conferenc*, February 28 – March 1, **2012**, Dead Sea, Israel. Abstract 68, Page 68, **talk**.
 5. Ben M. Maoz, Maya Bar Sadan, Einat Tirosh, Inna Popov, Yuri Rosenberg and Gil Markovich. "Characterization of highly defective MgO Nanosheets". *The 44nd Annual scientific meeting on the Israel microscope society*, May 31, **2010**, Tel Aviv University, Tel Aviv, Israel. Abstract 25, **poster**.
 6. Ben M. Maoz, Maya Bar Sadan, Einat Tirosh, Inna Popov, Yuri Rosenberg and Gil Markovich. "Control of defects and magnetic properties in colloidal MgO Nanosheets". *The 2nd International nanotechnology conference & exhibition*, November 8-9, **2010**, David InterContinental Hotel, Tel Aviv, Israel. Abstract (480) 60 page 74, **poster**.
 7. Ben M. Maoz, Einat Tirosh, Inna Popov, Yuri Rosenberg and Gil Markovich. "Control of defects and magnetic properties in colloidal MgO nanosheets". *The 29th Israel Vacuum Society, conference on magnetism, crystal growth, photonics*, October 7, **2010**, Tel Aviv University, Tel Aviv, Israel. Abstract P-MG-3, **poster**.
 8. ** Ben M. Maoz, Einat Tirosh, Inna Popov, Yuri Rosenberg and Gil Markovich. "Control of defects and magnetic properties in colloidal MgO nanosheets". *The 6th Workshop, The center for nanoscience & nanotechnology Tel Aviv University*, February 9-11, **2010**, Hecienda Forestview, Maalot, Israel. Abstract O-19 Page 20, **talk**.
 9. ** Ben M. Maoz. "Unusual properties of MgO nanosheets". *The 75th Meeting of the Israel Chemical Society*, January 25-26, **2010**, Tel Aviv University, Tel Aviv, Israel. Abstract 6909, **talk**.

10. Alexander B. Tesler, Tanya Karakouz, Tatyana A. Bendikov, Ben M. Maoz, Alexander Vaskevich, and Israel Rubinstein, "Morphology and optical properties of gold islands films formed by annealing of percolated evaporated gold layers". *The 75th Meeting of the Israel Chemical Society*, January 25-26, **2010**, Tel Aviv University, Tel Aviv, Israel. Abstract P1-96 page 33, **poster**.
11. Alexander B. Tesler, Tanya Karakouz, Tatyana A. Bendikov, Ben M. Maoz, Alexander Vaskevich, and Israel Rubinstein, "Morphology and optical properties of gold islands films formed by annealing of percolated evaporated gold layers". *The 14th Israel Materials Engineering Conference*, December 13-14, **2009**, Tel Aviv University, Tel Aviv, Israel. Abstract P2-64 page 57, **poster**.
12. Ben M. Maoz, Einat Tirosh, Inna Popov, Yuri Rosenberg and Gil Markovich. "Control of defects and magnetic properties in colloidal MgO particles". *The 14th Israel Materials Engineering Conference*, December 13-14, **2009**, Tel Aviv University, Tel Aviv, Israel. Abstract P2-27 page 50, **poster**.
13. Ben M. Maoz, Einat Tirosh, Inna Popov, Yuri Rosenberg and Gil Markovich. "Control of defects and magnetic properties in colloidal MgO particles". *The 28th Israel Vacuum Society*, October 15, **2009**, Air Force House, Herzeliya, Israel. Abstract P-NM-27, **poster**.

**** Oral Presentations**