Mark Schvartzman Nov. 20, 18

CURRICULUM VITAE

- **Personal Details**

Date of birth:	08.04.1974
Work Address:	Department of Materials Engineering, Ben-Gurion University of the Negev, Room 107, Bld. 59, the Marcus Family Campus, Beer-Sheva, 8410501, Israel
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- **Education**

B.A, 1992-5, Technion – the Israel Institute of Technology, Faculty of Chemistry

B.Sc., 1992-6, Technion – the Israel Institute of Technology, Faculty of Chemical Engineering

M.Sc., 1999-01, Technion – the Israel Institute of Technology, Faculty of Chemical Engineering
Advisers: Yaron Paz and Dan Ritter (Electrical Engineering)
Title of Thesis: Passivation of III-V Semiconductor and their Devices with Organic Self-Assembled Monolayers

Ph.D. 2006-9, Columbia University in the City of New-York, New-York, NY, USA, Department of Chemical Engineering
Adviser: Shalom J. Wind
Title of Thesis: Nanofabricated Molecular-Scale Devices for the Study of Cytoskeletal Protein Binding Interactions and Their Effect on Cell Motility

- **Employment History**

2014 - present	Senior Lecturer Department of Materials Engineering, Faculty of Engineering Sciences, Ben-Gurion University of the Negev, Beer-Sheva, Israel
2009 –14	Postdoctoral Associate Department of Materials and Interfaces, Faculty of Chemistry, Weizmann Institute of Science, Rehovot, Israel
2006-9	Chief Materials Scientist More Energy Ltd, Lod, Israel
2001 - 4	Process Engineer and Project Leader GWS-Photonics Ltd, Ramat-Gan, Israel

- **Professional Activities**

(a) Positions in Academic Administration

2014 - present	Member of User Committee, Nanofabrication Center, BGU
2015 - present	Head of Advertising Committee, Dept. of Materials Engineering, BGU

(b) Professional Functions outside the University

2018	Grant Reviewer for Irish Research Council
2018	Session Chair – Nano Israel Conference, Jerusalem, Israel
2018	Scientific Programme Committee – the 62th International Conference on Electron, Ion and Photon Beam Technology and Nanofabrication, Puerto-Rico
2017	Israeli representative in European COST Action "Between Atom and Cell: Integrating Molecular Biophysics Approaches for Biology and Healthcare (MOBIEU)" CA15126
2017	Israeli representative in European COST Action "An integrative action for multidisciplinary studies on cellular structural networks" CA15214
2017	Scientific Programme Committee –the 61th International Conference on Electron, Ion and Photon Beam Technology and Nanofabrication, Orlando, FL, USA
2016	Grant Reviewer for Israel Science Foundation
2016	Session chair - Annual Meeting of the Israeli Vacuum Society, Beer-Sheva, Israel
2016	Scientific Programme Committee –the 60th International Conference on Electron, Ion and Photon Beam Technology and Nanofabrication, Pittsburgh, PA, USA

(c) Significant Professional Consulting

2014 - 2105	RAFAEL, Optical Component Center, Manor – Advanced Defense Technologies: Nanoimprint Lithography for Antireflective Nanostructures
2018-2019	Elbit System Ltd – Antireflective Nanostructures on Polymer Lenses

(d) Ad-hoc Reviewer for Journals

- Journal of Vacuum Science and Technology A
- Nanotechnology
- Soft Matter
- RCS Advances

(e) Member in Professional/ Scientific Societies

2016 - present	AVS - American Vacuum Society

2016 - present SPIE - Society of Photo-Optical Instrumentation Engineering

2009 - present IVS - Israeli Vacuum Society

- **Educational Activities**

(a) Course Taught

- Polymers (Undergraduate)
- Semiconductor Technology (Undergraduate)
- Nanofabrication Processes (Graduate)
- Nanomaterials and their Technologic Uses (Undergraduate)
- Laboratory for Semiconductor Technology (Undergraduate)

(b) Research Students and Postdocs

Graduate Students and Postdocs:

2014 - 2016 Liran Menahem, M.Sc. Student, Thesis Title: "New Approaches for Hybrid Nano Imprint Lithography Molds"

2015 - 2017 Avichai Markovici, M.Sc. Student, Thesis title: "Directed Assembly of Nanodumbbells via Nano-lithographic Docking"

2015 - 2017 Yossi Keidar, M.Sc. Student, Thesis title: "Nano-Biomimetic Devices for the Regulation and Study of Signal Integration in NK Cells"

2015 - 2018 Netanel Barhanin, M.Sc. Student, Thesis Title: "Surface Functionalization of Nanowires for Biological Applications"

2015 - 2016 Andrey Nazarov, M.Sc. Student (Jointly supervised with Ibrahim Abdulhalim, Electro-optical Engineering), Thesis title: "Assessment of intraocular pressure sensing using an implanted reflective flexible membrane

2016 - 2018 Dor Yehuda, M.Sc. Student, Thesis Title: "Nanoimprinted Antireflective Micro and Nanostructures on Optical Surfaces of Chalcogenide Glasses"

2016 - present Natali Ostrovsky, Ph.D Student

2016 - present Viraj Bhingadrive, Ph.D Student

2106 - present Guillaume Le Saux, Postdoc

2017 - present Ashish Pandey, Ph.D student

2017 - present Esti Toledo, M.Sc. Student

External M.Sc Students (without thesis)

2015 -2016	Oren Ben-Nun, M.Sc Student (without thesis), Project title: "Air Gap Structures formation Using PECVD"
2015 -2016	Natali Ashkenazi, M.Sc Student (without thesis), Project title: "Lithography methods for fabricating "Moth-eye" antireflective structures on curved surfaces"
2106 - 2017	Tsoof Sivan, M.Sc Student (without thesis), Project title: "Plasma Etching of Three-Dimensional Curved Silicon"
2017-2018	Angela Irmiyahu, M.Sc. Student (without thesis), Project Title: "Nano Probing To Identify Failure Root Cause of Electronic Devices"

Undergraduate Project Students

2015 -2016	Danit Vidger, B.Sc. Project Student
2015 -2016	Chen Ben-Lulu B.Sc. Project Student
2015 -2016	Alexander Kopansky, B.Sc. Project Student
2016 - 2017	Dor Yehuda, M.Sc. Student
2016 - 2017	Natali Ostrovsky, Ph.D Student
2016 - 2017	Ophir Yeari, B.Sc. Project Student
2016 - 2017	Arkady Kaplan, B.Sc. Project Student
2017 - 2018	Lital Mordechai, B.Sc. Project Student
2017 - 2108	Sivan Tdaka, B.Sc. Project Student
2017 - 2018	Yonathan Varenik, B.Sc. Project Student
2017 - 2018	Eran Nissel, B.Sc. Project Student
2017 - 2018	Nitzan Rom, B.Sc. Project Student

- **Awards and Fellowships**

2013	Ultratech/Cambridge NanoTech Best Paper Award for the year 2013
2009	Dean Fellowship - Faculty of Chemistry, Weizmann Institute of Science
2008	Best Invited Poster Award - The 52nd Int. Conference of Electron, Ion and Photon beam Technology and Nanofabrication
1995	Dean List, Faculty of Chemistry, Technion

- **Scientific Publications**

(a) H-index (Google Scholar): 11
(b) Total # of Citations (Google Scholar): 514
(c) Total # of Citation Excluding Self-Citations:490
(d) Referred Articles in Scientific Journals:

[S]-Student, [PD]-postdoc, [T]-Technician, [C]-Collaborator, [PI]-Principal Investigator

1. G. Le Saux* [PD], N. Bar Hanin*[S], A. Edri [S], U. Hadad [C], A. Porgador [C], M. Schvartzman [PI], Nanoscale Mechanosensing of Natural Killer Cells is Revealed by Antigen-Functionalized Nanowires", **Adv. Mater.** – in press

   * Equal contribution

2. A. Marcovici[S], G. Le Saux[PD], V. Bhingardive[S], P. Rukenstein[S], K. Flomin[S], K. Shreteh[S], R. Golan[T], T. Mokari[C], M. Schvartzman[PI], "Directed Assembly of Au-tipped 1D Inorganic Nanostructures via Nanolithographic Docking", **ACS Nano,** 12(10) 10016 (2018)
3. Y. Keydar [S], G. Le Saux [PD], A. Edri [S], N. Bar-Hanin [S], E. Toledo [S], A. Pandey [S], V. Bhingardive [S], U. Hadad [C], A. Porgador [C], and M. Schvartzman [PI], "Natural Killer Cells Immune Response Requires a Minimal Nanoscale Distribution of Activating Antigens", **Nanoscale,** 10 14652 (2018)
4. D. Yehuda [S], E. Kassis [C], S. Joseph [C], M. Schvartzman [PI], "Direct Soft Imprint in Chalcogenide Galsses", **J. Vac. Sci. Technol. B**., 36 031602 (2018)
5. G. Le Saux [PD], A. Edri [S], Y. Keidar [S], U. Hadad [C], A. Porgador [C], M. Schvartzman [PI], "Spatial and Chemical Surface Guidance of NK Cell Cytotoxic Activity, **ACS Appl. Mater. Interfaces** 10(14) 11486 (2018)
6. V. Bhingardive[S] L. Menahem[S], and M. Schvartzman[PI], "Soft Thermal Nanoimprint Lithography by Nanocomposite Mold", **Nano Research** 11(5) 2705 (2018)
7. A. Nazarov[S]. B. Knyazer[C], T Lipfshitz[C], M. Schvartzman[PI], I. Abdulhalim[PI], "Assesment of Intraocular Pressure Sensing Using an Implanted Reflective Flexible Membrane", **J Biomed. Opt.** 22(4) 047001 (2017)
8. L. Menahem[S] and M. Schvartzman[PI] "Soft nanoimprint mold with rigid relief features for improved pattern transfer", **J. Vac. Sci. Technol. B** 35, 010602 (2017)
9. L. Goren-Ruck[S], D. Tsivion[S], M. Schvartzman[PD], R. Popovitz-Biro[C], and E. Joselevich[PI], "Guided growth of Horizontal GaN Nanowires on Quartz and their Transfer to Other Substrates" **ACS Nano**, 8 (3), 2838 (2014) [8 citations, IF 13.3; 4/93.; Q1]
10. M. Schvartzman[PD], D. Tsivion[S], D. Mahalu[C], O. Raslin[T], and E. Joselevich[PI], "Self-Integration of Nanowires into Circuits by Guided Growth" **Proc. Nat. Acad. Sci. USA**, 100 (38), 15195 (2013) [24 citations, IF 9.4; 3/111; Q1]
    * Highlighted in PNAS Commentary 110 (38), 15171, (2013)
    * Received Ultratech/Cambridge NanoTech Best Paper Award for the year 2013
11. D. Tsivion[S], M. Schvartzman[PD], R. Popovitz-Biro[C], and E. Joselevich[PI], "Guided Growth of Horizontal ZnO Nanowires with Controlled Orientations on Flat and Faceted Sapphire Surfaces" **ACS Nano**, 6 (7), 6433 (2012) [41 citations, IF 13.3; 4/93; Q1]
12. D. Tsivion[S], M. Schvartzman[PD], R. Popovitz-Biro[C], P. von Huth[C], and E. Joselevich[PI], "Guided Growth of Millimeter-Long Horizontal Nanowires with Controlled Orientations"

Science, 333 (6045), 1003 (2011) [106 citations, IF 34.6; 2/111; Q1]
* Highlighted in MRS Bulletin 36(10), 734 (2011)

13. M. Schvartzman[S], M. Palma[PD], J. Sable[C], J. Abramson[S], J. Hu[C], M. P. Sheetz[PI], and S.J. Wind[PI], "Nanolithographic Control of the Spatial Organization of Cellular Adhesion Receptors at the Single-Molecule Level" **Nano Lett**., 11 (3), 1306 (2011) [106 citations, IF 13.8; 3/93; Q1]
14. M. Schvartzman[S] and S. J. Wind[PI], "Robust Pattern Transfer of Nanoimprinted Features for Sub-5 nm Fabrication", **Nano Lett**., 9 (10), 3629 (2009) [35 citations, IF 13.8; 3/93; Q1]
15. M. Schvartzman[S] and S. J. Wind[PI], "Plasma Fluorination of Diamondlike Carbon Surfaces: Mechanism and Application to Nanoimprint Lithography" **Nanotechnology**, 20 (14), 145306 (2009) [29 citations, IF 3.6; 26/93; Q2]
16. M. Schvartzman[S], K.Nguyen[PD] , M. Palma[PD], J. Abramson[S], J. Sable[C], J.Hone[PI], M.P. Sheetz[PI] , and S.J. Wind[PI], "Fabrication of Nanoscale Bioarrays for the Study of Cytoskeletal Protein Binding Interactions Using Nanoimprint Lithography" **J. Vac. Sci. Technol. B**, 27 (1) , 61 (2009) [10 citations, IF 1.7; 241/1536; Q2]
17. M. Schvartzman[S], A. Mathur[S], J. Hone[PI], C. Jahnes [C], and S.J. Wind[PI], "Plasma Fluorination of Carbon-Based Materials for Imprint and Molding Lithographic Applications" **Appl. Phys. Lett.**, 93 (15), 153105 (2008) [19 citations, IF 3.1; 34/248; Q1]
18. M. Schvartzman[S], A. Mathur[S], Y. Kang[T] , C. Jahnes[C], J. Hone[PI], and S.J. Wind[PI], "Fluorinated Diamondlike Carbon Templates for High Resolution Nanoimprint Lithography" **J. Vac. Sci. Technol. B**, 26 (6), 2394 (2008) [16 citations, IF 1.7; 241/1536; Q2]
19. M. Schvartzman[S], V. Sidorov[S], D. Ritter[PI], and Y. Paz[PI], " Passivation of InP Surfaces of Electronic Devices by Organothiolated Self-Assembled Monolayers" **J. Vac. Sci. Technol. B**, 21 (1), 148 (2003) [30 citations, IF 1.7; 241/1536; Q2]
20. M. Schvartzman[S], V. Sidorov[S], D. Ritter[PI], and Y. Paz[PI], "Surface Passivation of (100) InP by Organic Thiols and Polyimide as Characterized by Steady-State Photoluminescence" **Semicond. Sci. Technol**., 16, L68 (2001) [29 citations, IF 2.1; 173/1536; Q2]
21. S. Gosh-Mukerji[PD], H Haick[S], M Schvartzman[S], and Y Paz[PI], " Selective Photocatalysis by means of molecular Recognition" **J. Am. Chem. Soc.,** 123 (43), 10776 (2001) [61 citations, IF 13; 7/415; Q1]

- **Conference Proceedings**

1. L. Menahem[S], M. Schvartzman[PI], "Soft-substrate rigid-feature (SSRF) mold for nanoimprint lithography ", **Proc. SPIE** 9919, Nanophotonic Materials XIII, 99190P (2016)

- **Patents**

1. "Ultra-high resolution soft thermal nanoimprint lithography" – patent applied

- **Lectures and Presentations at Meetings and Invited Seminars**

(e) Invited Lectures at Conferences/ Meetings

2018	Nanoimprint lithography: novel applications in direct 3D nanostructuring and controlled nanoscale assembly, 36th Annual conference of Israel Vacuum Society, Ramat-Gan, Israel
2018	"Nanodevices for the Study of Natural Killer (NK) Cell Function" , **keynote lecture**, TNT 2018 – Trends in Nanotechnology Conference, Lecce , Italy
2018	"Directed Assembly of Nanodumbbells via Nano-Lithographic Docking", The 18th Israel Materials Engineering Conference, Dead Sea, Israel
2017	"Soft Thermal Nanoimprint Lithography", 7th Annual Congress on Materials Research and Technology", Berlin, Germany
2017	"Nano-Lithographically Directed Organization at the Molecular Scale: from Inorganic Nano-Architectures to Bio-Interfaces" Annual meeting of Israeli Chemical Society, Tel-Aviv, Israel
2016	"Soft-Substrate/ Rigid-Feature for Nanoimprint Lithography", Annual Conference of Israel Polymer and Plastic Society, Jerusalem, Israel

(f) Presentations of Papers at Conferences/ Meetings

* - presenting author

1. Y. Keydar, G. Le Saux, N Bar-Hanin, A. Edri , U. Hadad , A. Porgador , M. Schvartzman*, Regulation and mechanism of the immune function in Natural Killer (NK) cells: nanotech approach, EMBO workshop on Lymphocyte Antigen Signaling, Sienna, Italy, Aug 2018 – poster presentation
2. Yossi Kedar, Guillaume Le Saux, Avishay Edri, Uzi Hadad, Orly Yahalom-Gershuni, Angel Porgador, Mark Schvartzman*, the 62th International Conference on Electron, Ion and Photon Beam Technology and Nanofabrication, Puerto-Rico, May 2018 – poster presentation
3. Avichai Marcovici, Guillaume Le Saux, Pazit. Rukenstein, Taleb Mokari, Mark Schvartzman*, MNE – International Conference on Micro and Nanoengineering, Braga, Portugal, Sep 2017, "Directed Assembly of Nanodumbbells via Nano-Lithographic Docking"- oral presentation
4. V. Bhingardive, M. Schvatzman*, The 61th Intl. Conference of Electron, Ion and Photon Beam Technology and Nanofabrication, Orlando, FL, May 2017, "Soft Thermal Nanoimprint Lithography" – oral presentation
5. L. Menachem, M. Schvartzman*, SPIE Nanoscience and Engineering Conference, San-Diego, CA, Aug 2016, "Soft-Substrate Rigid-Feature Mold for Nanoimprint Lithography" - oral presentation

6. L. Menachem, M. Schvartzman*, The 60th Intl. Conference of Electron, Ion and Photon Beam Technology and Nanofabrication, Pittsburgh, PA, May 2016, “Soft-Substrate Rigid-Features Nanoimprint Mold” (proceeding ref. unavailable) - poster presentation
7. M. Schvartzman*, D. Tsivion, and E. Joselevich, Nanowire 2013 Conference, Weizmann Institute, Rehovot, Nov 2013, “Self-Integration of Nanowires into Circuits via Guided Growth” (proceeding ref. unavailable) - poster presentation
8. M. Schvartzman*, D. Tsivion, and E. Joselevich, Annual Conf. of the Isr. Vac. Society, Oct 2013, " Self-integration of Nanowires into Circuits and Logic Devices via Guided Growth” (DW-03) - oral presentation
9. M. Schvartzman*, D. Tsivion, and E. Joselevich, Annual Conf. of the Isr. Vac. Society, Oct 2012, "Nanowires with Controlled Location and Direction by Surface-Guided Growth from Nanopatterned Catalyst” (VT-02) - oral presentation
10. M. Schvartzman*, D. Tsivion, and E. Joselevich, The 56th Intl. Conference of Electron, Ion and Photon beam Technology and Nanofabrication, Waikoloa Beach, HW, May 2012, “Nanowires with controlled location and direction by surface-guided growth from patterned catalyst” (P17-16) – oral presentation
11. M. Schvartzman*, D. Tsivion, and E. Joselevich The 3rd Nano Israel Conference, March 2012, "Nanowire based logic devices and circuits" (proceeding ref. unavailable) - poster presentation
12. M. Schvartzman* and S. Wind, The 53rd Intl. Conference of Electron, Ion and Photon beam Technology and Nanofabrication, Marco Island, FL, May 2009, “Fabrication of Sub-5nm Nanoscale Arrays by Nanoimprint Lithography Combined with an Angle-Evaporated Hard Mask and Lift-off” (5D-1) - oral presentation
13. M. Schvartzman*, K. Nguyen, J. Abramson, J. Hone, M. Sheetz, and S. Wind, MRS Annual Meeting, Boston, MA, Dec 2008, “Fabrication of Nanoscale Bioarrays for the Study of Cytoskeletal Protein Binding Interactions Using Nano-Imprint Lithography” (FF8.9) - oral presentation
14. M. Schvartzman*, K. Nguyen, J. Abramson, J. Hone, M. Sheetz, and S. Wind, AVS 55th Intl. Symposium, Boston, MA, Nov 2008, “Fabrication of Nanoscale Bioarrays for the Study of Cytoskeletal Protein Binding Interactions Using Nano-Imprint Lithography” (BO+NS+BI+NC+ThA1) - oral presentation
15. M. Schvartzman*, K. Nguyen, J. Abramson, J. Hone, M. Sheetz, and S. Wind, Gordon Research Conference - Nanostructure Fabrication, Tilton, NH, Jul 2008, "Nanoscale Bioarrays for the Study of Cytoskeletal Protein Binding Interactions Using Nano-Imprint Lithography” (proceeding ref. unavailable) - oral presentation
16. M. Schvartzman*, S. Wind, The 52nd Intl. Conference of Electron, Ion and Photon beam Technology and Nanofabrication, Portland, OR, May 2008, “Fluorinated Diamond Like Carbon (DLC) Templates For Ultra-Small Features NIL” (P-3A-03) - oral presentation
17. M. Schvartzman*, K. Nguyen, J. Abramson, J. Hone, M. Sheetz, and S. Wind, The 52nd Int. Conference of Electron, Ion and Photon beam Technology and Nanofabrication, May 2008 - “Fabrication Of Nanoscale Bioarrays For The Study Of Cytoskeletal Protein Binding Interactions Using Nano-Imprint Lithography” (5A-4) - oral presentation

18. M. Schvartzman*, V. Sidorov, D. Ritter, and Y. Paz, Annual Conf. of the Israel Vacuum Society, Jun 2001, "Passivation of InP Surfaces of Electronic Devices by Organothiolated SAMs" (PB-4) - oral presentation
19. M. Schvartzman*, V. Sidorov, D. Ritter, and Y. Paz, Eastern Mediterranean Chemical Engineering Conference, Ankara, Turkey, May 2001, "Passivation of InP Surfaces of Electronic Devices by Organothiolated Self-Assembled Monolayers" (proceeding ref. unavailable) - oral presentation
20. M. Schvartzman*, V. Sidorov, D. Ritter, and Y. Paz, Annual Conference of the Israeli Chemical Engineers Association, Apr. 2001, "Passivation of InP Surfaces of Electronic Devices by Organothiolated Self-Assembled Monolayers" (proceeding ref. unavailable) – oral presentation

(g) Presentations at Conferences/ Meetings by Group Members

* - presenting author

1. Guillaume Le Saux*, Avishay Edri, Yossi Keydar, Uzi Hadad, Angel Porgador, Mark Schvartzman, Nano-Israel 2018 Conference, Jerusalem, Israel, Spatial and Chemical Surface Guidance of NK Cell Cytotoxic Activity – poster presentation
2. Ashish Pandey*, Guillaume Le Saux, Avishai Edri, Uzi Hadad, Angel Porgador, Mark Schvartzman, Nano-Israel 2018 Conference, Jerusalem, Israel, Controlling Cytotoxic Activity of Natural Killer (NK) Cells by Nanolithographic Molecular-scale Devices – poster presentation
3. Lital Mordechay*, Guillaume Le Saux, Dor Yehuda, Uzi Hadad, Avishay Edri, Angel Porgador, , Mark Schvartzman, Nano-Israel 2018 Conference, Jerusalem, Israel, Sep 2018,- Bio-Nano Devices for Ultra-High Resolution Study of Mechanical Forces in Immune Cells – poster presentation
4. Esti Toledo*, Guillaume Le Saux, Avishai Edri, Uzi Hadad, Angel Porgador, Mark Schvartzman, Nano-Israel 2018 Conference, Jerusalem, Israel,– poster presentation
5. Sivan Tzadka*, Ashish Pandey, Dor Yehuda, Mark Schvartzman, Nano-Israel 2018 Conference, Jerusalem, Israel, Thermal Nanoimprint and Resolution Limits of Hybrid H-PDMS/PDMS Mold – poster presentation
6. Viraj Bhingardive*, Avishai Marcovici, Guillaueme Le Saux, Pazit Rukenstein, Kobi Flomin, Karam Shreteh, Roxana Golan, Taleb Mokari, Mark Schvartzman, Nano-Israel 2018 Conference, Jerusalem, Israel, Nano Lithographically Templated Assembly of 1D Nanostructures – poster presentation - ***BEST POSTER AWARD***
7. Nataly Ostrovsky*, Mark Schvartzman, Nano-Israel 2018 Conference, Jerusalem, Israel, Nanolithographic fabrication of curves substrates – poster presentation
8. Netanel Bar Hanin*, Guillaume Le Saux, Nano-Israel 2018 Conference Ramat-Gan, Israel, Surface Functionalization of Semiconductor Nanowires for Biological Application – poster presentation
9. Guillaume Le Saux*, Avishay Edri, Yossi Keydar, Uzi Hadad, Angel Porgador, Mark Schvartzman, Annual Conf. of the Isr. Vac. Society, Ramat-Gan, Israel, Sep 2018, Spatial and Chemical Surface Guidance of NK Cell Cytotoxic Activity – poster presentation

10. Ashish Pandey*, Guillaume Le Saux, Avishai Edri, Uzi Hadad, Angel Porgador, Mark Schvartzman, Annual Conf. of the Isr. Vac. Society, Ramat-Gan, Israel, Sep 2018, Controlling Cytotoxic Activity of Natural Killer (NK) Cells by Nanolithographic Molecular-scale Devices – poster presentation
11. Lital Mordechay*, Guillaume Le Saux, Dor Yehuda, Uzi Hadad, Avishay Edri, Angel Porgador, , Mark Schvartzman, Annual Conf. of the Isr. Vac. Society, Ramat-Gan, Israel, Sep 2018,-Bio-Nano Devices for Ultra-High Resolution Study of Mechanical Forces in Immune Cells – poster presentation
12. Esti Toledo*, Guillaume Le Saux, Avishai Edri, Uzi Hadad, Angel Porgador, Mark Schvartzman, Annual Conf. of the Isr. Vac. Society, Ramat-Gan, Israel, Sep 2018, Multifunctional Nanodevices for the Regulation of Cytotoxic Activity of Natural Killer Cells – poster presentation
13. Sivan Tzadka*, Ashish Pandey, Dor Yehuda, Mark Schvartzman, Annual Conf. of the Isr. Vac. Society, Beer-Sheva, Israel, Sep 2018, Thermal Nanoimprint and Resolution Limits of Hybrid H-PDMS/PDMS Mold – poster presentation - ***BEST POSTER AWARD***
14. Viraj Bhingardive*, Avishai Marcovici, Guillaueme Le Saux, Pazit Rukenstein, Kobi Flomin, Karam Shreteh, Roxana Golan, Taleb Mokari, Mark Schvartzman, Annual Conf. of the Isr. Vac. Society, Beer-Sheva, Israel, Sep 2018, Nano Lithographically Templated Assembly of 1D Nanostructures – poster presentation
15. Yossi Keidar, Guillaume Le Saux*, Avishai Edri, Uzi Hadad, Angel Porgador, Mark Schvartzman, European Materials Research Society (E-MRS), Strasbourg, France. Jun "Regulation of the immune synapse and cytotoxic activity of natural killer (NK) cells by nanolithographic ligand patterning " – poster presentation
16. Guillaume Le Saux*, Avishai Edri, Yossi Keidar, Uzi Hadad, Angel Porgador, Mark Schvartzman, European Materials Research Society (E-MRS), Strasbourg, France. Jun "Spatial and Chemical Guidance of the Cell Immune Function" – oral presentation
17. Viraj Bhungardive*, Liran Menahem, Mark Schvartzman, The 18th Israel Materials Engineering Conference, Dead Sea, Israel, Feb 2018, "Soft Thermal Nanoimprint Lithography" - oral presentation
18. Guillaume Le Saux*, Avishai Edri, Yossi Keydar, Uzi Hadad, Angel Porgador, Mark Schvartzman, The 18th Israel Materials Engineering Conference, Dead Sea, Israel, Feb 2108, "Spatial and Chemical Guidance of the Cell Immune Function" - oral presentation
19. Natalie Ostrovsky*, Mark Schvartzman, The 18th Israel Materials Engineering Conference, Dead Sea, Israel, Feb 2108, "Antirefelective Nanostructures on Curved Optical Surfaces of Lenses"- poster presentation
20. Dor Yehuda*, Eviatar Kassis, Shay Joseph, Mark Schvartzman, MNE 43 – International Conference on Micro and Nanoengineering, Braga, Portugal, Sep 2017, "Nanoimprinted Antireflective Nanostructures on the Optical Surfaces of Chalcogenide Glasses" – poster presentation –***BEST POSTER AWARD***
21. Yossi Kedar*, Guillaume Le Saux, Avishay Edri, Uzi Hadad, Orly Yahalom-Gershuni, Angel Porgador, Mark Schvartzman, MNE 43 – International Conference on Micro and Nanoengineering, Braga, Portugal, Sep 2017,"Nanofabricated devices for the molecular - level study of immune activation" – poster presenaton

22. Viraj Bhungardive*, Liran Menahem, Mark Schvartzman, Annual Conf. of the Isr. Vac. Society, Rehovot, Israel, Sep 2017, "Soft Thermal Nanoimprint Lithography" - oral presentation
23. Dor Yehuda*, Eviatar Kassis, Shay Joseph, Mark Schvartzman, Annual Conf. of the Isr. Vac. Society, Rehovot, Israel, Sep 2017, "Nanoimprinted Antireflective Nanostructures on the Optical Surfaces of Chalcogenide Glasses" – poster presentation
24. Natalie Ostrovsky*, Mark Schvartzman, Annual Conf. of the Isr. Vac. Society, Rehovot, Israel, Sep 2017, "Antirefelective Nanostructures on Curved Optical Surfaces of Lenses"- poster presentation
25. Natanel Barhanin*, Cuillaume Le Saux, Mark Schvartzman, Annual Conf. of the Isr. Vac. Society, Rehovot, Israel, Sep 2017, "Surface Functionalizatin of Nanowire Tips for Self-Assembly and Biological Applications"- poster presentation
26. Avichai Marcovici*, Guillaume Le Saux, Pazit. Rukenstein, Taleb Mokari, Mark Schvartzman, Annual Conf. of the Isr. Vac. Society, Rehovot, Israel, Sep 2017, "Directed Assembly of Nanodumbbells via Nano-Lithographic Docking"- poster presentation
27. Yossi Kedar*, Guillaume Le Saux, Avishay Edri, Uzi Hadad, Orly Yahalom-Gershuni, Angel Porgador, Mark Schvartzman, Annual Conf. of the Isr. Vac. Society, Rehovot, Israel, Sep 2017, "Nanofabricated devices for the molecular - level study of immune activation" – poster presenaton
28. Avichai Marcovici*, Guillaume Le Saux, Pazit. Rukenstein, Taleb Mokari, Mark Schvartzman, 2017, The 61th Intl. Conference of Electron, Ion and Photon Beam Technology and Nanofabrication, Orlando, FL, May 2017, "Directed Assembly of Nanodumbbells via Nano-Lithographic Docking"- oral presentation
29. Yossi Keydar*, Guillaume Le Saux, Orly Gershoni, Angel Progador, Mark Schvartzman, Annual Conf. of the Isr. Vac. Society, Beer-Sheva, Israel, Sep 2016, "Heterogeneous sub-20nm nano-arrays by nanoimprint lithography" - poster presentation
30. Viraj Bhungardive*, Liran Menahem, Mark Schvartzman, Annual Conf. of the Isr. Vac. Society, Beer-Sheva, Israel Sepn2016, "Soft Thermal Nanoimprint Lithography" - poster presentation
31. L. Menachem*, M. Schvartzman, Israel Materials Engineering Conference (IMEC), Ramat-Gan, Israel, 2016, "Soft-Substrate Rigid-Features Nanoimprint Mold" - poster presentation
32. L. Menachem*, M. Schvartzman, Annual Conf. of the Isr. Vac. Society, Rehovot, Israel , Sep 2015, "Soft-Substrate Rigid-Features Nanoimprint Mold" , - poster presentation

(h) <u>Seminar Presentations at Universities and Institutions</u>

1. 2018, Department of Solar Energy & Environmental Physics, Jacob Blaustein Institute for Desert Research Ben-Gurion University of the Negev, Sde Boker, "Nanodevices for the Study of Immune Cell Function"
2. 2018, Faculty of Materials Science and Engineering, Technion, "Lithographically Guided Organization of Nanostructures: a New Route to Functional Nanosystems and Biointerfaces"

3. 2017, Department of Materials Engineering, Tel-Aviv University, “Lithographically Driven Nanoscale Assembly”
4. 2015, Intel, Kiriat-Gat, "Nano-Electronics from the Bottom-Up"
5. 2014, Faculty of Electrical Engineering, Technion, “Self-Integration of Nanowires into Circuits via Guided growth”
6. 2014, Department of Chemistry, Bar-Ilan University, “Lithographically Guided Organization of Nanostructures: a New Route to Functional Nanosystems and Biointerfaces”
7. 2014, Department of Materials Engineering, Ben-Gurion University, “Lithographically Guided Organization of Nanostructures: a New Route to Functional Nanosystems and Biointerfaces”
8. 2014, Faculty of Chemical Engineering, Technion, “Lithographically Guided Organization of Nanostructures: a New Route to Functional Nanosystems and Biointerfaces”
9. 2014, Department of Chemistry, Tel-Aviv University, “Lithographically Guided Organization of Nanostructures: a New Route to Functional Nanosystems and Biointerfaces”
10. 2014, Department of Chemistry, Ben-Gurion University “Lithographically Guided Organization of Nanostructures: a New Route to Functional Nanosystems and Biointerfaces”
11. 2014, Department of Chemical Engineering, Ben-Gurion University, “Lithographically Guided Organization of Nanostructures: a New Route to Functional Nanosystems and Biointerfaces”
12. 2014, Department of Applied Physics, Hebrew University of Jerusalem, “Lithographically Guided Organization of Nanostructures: a New Route to Functional Nanosystems and Biointerfaces”
13. 2014, Faculty of Materials Engineering, Technion, “Lithographically Guided Organization of Nanostructures: a New Route to Functional Nanosystems and Biointerfaces”
14. 2012, School of Engineering and Applied Science, Columbia University in the City of New-York, “Nanowire based logic devices and circuits by guided growth from Nanoimprinted Catalyst”

- **Research Grants**

Project Title	Funding source	Amount ($ US)	Period
Nanowire Based Antireflective Coating on lenses of III-V semiconductors	Ministry of Defense (MAFAT)	134,000	11.2018-10.2020
Institutional equipment grant for electron-beam lithography tool - **leading PI** (Together with Ibrahim Abdulhalim and Ron Folman)	Israel Science Foundation	256,000	08.2018
Investigating Spatial Signal Integration in CAR- NK Cells by Molecular-Scale Nanodevices (together with Angel Porgador, BGU)	Israel Science Foundation – BIKURA Program	146,000	09.2018-08.2020
Institutional equipment grant for SEM-FIB dual-beam tool - **leading PI** (Together with Gabi Sarussi and Daniel Gitler)	Israel Science Foundation	290,000	09.2016
Nanoimprinted Anti-Reflective Nanostructures on the Curved Optical Surfaces of Chalcogenide Glasses	PAZY Foundation	300,000	06.2016 – 06.2020
Nano-biomimetic devices for the regulation and Study of Signal Interaction in NK cell Response (Together with Angel Porgador, BGU)	Internal Seed Grant - BGU	30,000	01.2016 – 01.2017
Molecular-scale biomimetic devices for the study of adhesive cross-talk and its effect on stem cell motility and differentiation (Together with J.C. Kuo, National Yang Ming University, Taiwan)	MOST- Israel-Taiwan Scientific Research Cooperation	70,000	11.2015 – 10.2017
Templated organization of 1D nanostructures	Israel Science Foundation - New Faculty Equipment Grant	562,500	06.2015 – 09.2017
Templated organization of 1D nanostructures	Israel Science Foundation – Personal Grant	308,000	10.2015 – 09.2019
Polymer solar cells with heterojunction morphology nanoimprinted at the scale of exciton diffusion length (Together with Nir Tessler, Technion)	Adelis Foundation for Research in Renewable Energy	50,000	05.2015 – 05.2016

- **Present Academic Activities**

Research in progress

Subject	Other Participants	Expected date of completion
Nanoimprinted Anti-Reflective Nanostructures on the Curved Optical Surfaces of Chalcogenide Glasses	Dr. Shay Joseph (RAFAEL)	2020
Nano-biomimetic devices for the regulation and Study of Signal Interaction in NK cell Response	Angel Porgador (BGU)	2018
Molecular-scale biomimetic devices for the study of adhesive cross-talk and its effect on stem cell motility and differentiation	Jean.C. Kuo, National Yang Ming University, Taiwan	2018
Templated organization of nanowires		2020
Templated organization of nanodumbbells	Taleb Mokari, BGU	2020
Polymer solar cells with heterojunction morphology nanoimprinted at the scale of exciton diffusion length	Nir Tessler, Technion	2017
Biomimetic nanodevices for the study and regulation of the CAR Immunological synapse	Saba Ghassemi, Michael Milone, University of Pensilvania	2018
Nanoplasmonic structures tailored for bio sensing applications	Ibrahim Abdulhalim, BGU	2019