Curriculum Vitae
MEIR ORENSTEIN

Short Summary:

Professor of Electrical Engineering, Technion, holding the Elbit - Elronn Chair in EE and serving as the Vice Dean of EE. Heading the Micro-Nano Photonics Lab, and Director of the National program on Nanophotonics for Detection and Sensing.

Meir Orenstein was the leader of an R&D group in IDF, the chief scientist of ELOP R&D Branch, a visiting Scientist in BELLCORE, USA, the cofounder of 3 start-up companies (Lambda Crossing, Optun and Sens4Care) and a consultant of many companies and of many defense organizations.

Meir Orenstein received numerous awards including the Creative Thinking award from the Ministry of Defense, Hershel Ritz award for innovation, Kapan award and Taub award for excellence in research.

About 50 students graduated from Meir Orenstein's group – 4 of them are university professors and the others are serving in senior research positions in research institutes and universities and others in lead position in the advanced industry {Apple, Intel…).

The research of Meir Orenstein is funded by a variety of Israeli funding agencies including ISF, BSF, Ministry of Science and more applicative funding from Ministry of Economy (Innovation Authority), Ministry of Defense (MAFAT); American Funding: AFOSR and AFRL, Europiean funding: DIP, The 7^{th} program and Horizon 2020, and large international grants from Wolfson, Helmsely, ICORE (circles of light) and the FTA on Nanophotonics for Detection and Sensing.

Meir Orenstein is the author of 3 book chapters, 180 peer reviewed papers in professional journals and over 300 peer reviewed conference papers in top conferences including about 50 invited/plenary/tutorial talks. Meir Orenstein is holding 24 patents (12 issued and the others provisional or pending).

Meir Orenstein is the inventor of the flat VCSEL (proton implanted vertical cavity laser), a laser invention that enabled a vast industry producing hundreds of millions units for the optical communications within data centers. More recently he also invented the 2 photons emitter – a novel and unique miniature light source.

The research of Meir Orenstein s focused on semiconductor based photonics, plasmonics and metamaterials, nanosciences, novel sensing, optical communications aspects and advanced electromagnetics.

Curriculum Vitae
MEIR ORENSTEIN

Academic degrees:

D.Sc.	1985 Technion (Direct Track)
B.Sc.	1977 Technion (Cum Laude)

Academic appointments:

2014 - 2018	Vice Dean of Electrical Engineering
2013 -	Elron-Elbit Chair in Electrical Engineering
2011 -	Professor, Electrical Engineering Department, Technion
2000- 2010	Associate Professor Electrical Engineering Department, Technion
1992–1999	Senior Lecturer Electrical Engineering Department, Technion
1987–1988	Adjunct Teaching Associate EE Department, Technion
1982–1985	Teaching Assistant and Instructor Phy. Chemistry Dept., Technion

Research and Development experience:

2014 -	Sensforcare, Yokneam, Israel. Cofounder
2000 -2003	Optun, Haifa. CoFounder
1999 -2004	Lambda Crossing, Cesaria Park. CoFounder
1988 -1991	Bell Communication Research, NJ, USA – Visiting scientist.
1985 -1988	El-Op Industry, Research Development Branch, Haifa. Scientific Director and Principle Investigator of the Optical Computing Group.
1982 -1987	Israel Government Labs. Senior Physicist. Research subjects: Optical fibers and methods for infra-red.
1978 -1982	IDF. Researcher and Group Leader. Research subjects: Applications of physics and physical chemistry.

Scientific management experience:

2014 -	Sensforcare, Yokneam, Israel. CTO.
2000 -2003	Optun, Haifa, Israel. CTO.
1999 -2004	Lambda Crossing, Cesaria Park, Israel. Chief Scientist.
1986–1988	El-Op Industries, R&D Branch, Haifa Israel. Scientific Director of the Optical Computing Group.
1979–1982	IDF. Group Leader of Physics.

Awards:

1976	Kolthoff Award for excellence for undergraduate students.
1977	Graduate cum laude, Technion-IIT, Israel
1980	Israel Government award for creative thinking
1983	Excellence award for graduate students

1988	Rothschild Fellowship for post-doctoral studies
2000	Herschel Ritz award for innovation
2002	Kaplan Award for Scientific Management
2013	Taub Prize for excellence in research

Grants

1. **Generic Research program**, Israel Ministry of Science: "Defect screening at 0.1μm and below", 4 year grant commencing 1997; PI of the subprogram.
2. **Interdisciplinary Research** - Technion Grant: "Quantum related methods for optical device design", 3 years Grant commencing at 1998.
3. **DIP European Program** "Inter-sattelite Laser Communications", 5 year grant 1999-22003; PI of the laser and communications program. 300,000Eu
4. **MAGNET program** Israel Ministry of Industry and Commerce: "Broad band Communications", 5 year grant commencing 1995; PI of a subprogram.
5. **Generic Research program** Israel Ministry of Science: "Spatial soliton based storage and processing devices", 3 years grant commencing 1999. PI of the subprogram.
6. **Generic Research program** Israel Ministry of Science: "GaAs based microwave and millimeter wave monolithic circuits", 4 year grant commencing 1995; PI of the laser subprogram.
7. **Generic Research program** Israel Ministry of Science: "Microwave transmitter receiver technologies", 3 year grant commencing 1999; PI of the RF-photonics subprogram.
8. **European Fifth Program**: "Metropolitan WDM optical communication: METEOR", 3 years grant 2000-2002; PI of a subprogram; 450,000EU
9. **B.S.F.** " Design of Controlled Optical Devices", 3 yearrs grant commencing October 2000; PI (together with Nimrod Moiseyev)
10. **MAGNET program** Israel Ministry of Industry and Commerce: "Optipac" Cosortium, 5 years grant commencing 2001; PI of a subprogram.
11. **Bikura** – Israel Science Foundation program "Quantum Computing with linear optics", 3 years 2003-2005. PI (together with Tal Mor). 350,000NIS
12. **Israel Ministry of Industry and Commerce**: "Short range Intersattelite Optical Communications and ranging" 5 years commencing 2003 (with Raphael), PI of a subprogram
13. **Generic Research program** Israel Ministry of Science and Technology, "Plasmonics for nano photonics", 3 years commencing 2005. PI
14. **Israel Ministry of Defence** " Nano devices for Quantum communications", 5 years Commencing 2005. PI
15. **Israel Ministry of Defence** " Quantum Key Distribution", 2003-2011, PI
16. **Israel Ministry of Defence** "Metamaterials", 2008-2013, PI
17. **I.S.F.** "Two photon emitters", 4 years 2008-2012, PI. 660,000NIS
18. **Horowitz grant** "optical logic", 2 years commencing 2007 PI of a subprogram (funding ended prematurely)
19. **Mitchell grant** "Two Photon Emitters" 2009, PI
20. **Wolfson Grant** "Quantum information: Devices, Control and Computation"**,** Years commencing 2010-2012, PI of a subprogram

21. **Mexico-Israel Energy grant** "Plasmon enhanced Solar Cells, 2009-2010, PI.
22. **MAGNET program** Israel Ministry of Industry and Commerce: "Hyper Sensitive imaging sensors", 2010-2014 (MAGNET program); PI of 3 subprograms (two
23. **MAGNET program** Israel Ministry of Industry and Commerce: "Terasanta- Terabit communications", 5 year grant commencing 2010-2015; PI of a subprogram.
24. **AFSOR** Ameriacn Airforce Office of Science Research – AFOSR, "Optical nano antennas", 3 years grant commencing 2010-2013, PI
25. **Generic Research program** Israel Ministry of Science and Technology, "light emission from nanopillars", 3 years grant 2012-2014, PI
26. **FTA – Nanophotonics for Detection,** director of a 11M$ program for 5 years, encompassing 14 research groups (2012-2016)
27. **ICORE – Light Matter Interactions (" Circles of Light")** (PI) 2013-2017
28. **Kidron grant on novel devices**: 100k$ program for 3 years 2013-2015 (PI with Gad Eisenstein)
29. **Helmesly Energy program**: Director of the optics group 3 years program 2012-2015 (other members Guy Bartal and Carmel Rothchild).
30. **The Fund for Applied Research at the Technion – Data Centers and Short-reach self coherent photonic interconnects"** , 1 year program 1 year (with Moshe Nazarati)
31. **MAGNET program** Israel Ministry of Industry and Commerce: "Petacloud", 3 year grant 2016-2019; Co-PI of a subprogram.
32. **Mafat** – Israeli MOD grant, GaN imager for the IR, 2 years grant 2016-8
33. **MOHICANA** – Horizon 2020 program 3 years grant 2018-2021
34. **Kamin, Israel Innovation Authority** "Ultra high sensitivity optical bio sensor" (2017-2019).
35. **Meimad** – Israeli Innovation Authority grant "GaN IR detectors obn CMOS circuitry"

Graduate Students

Current:

1. Yoav Livne, Ph.D., 2018-
2. Idan Yokev M.Sc., 2018-
3. Ben Dror M.Sc. (with Gad Bahir), 2016-2018
4. Matias Katz, M.Sc. (with Gad Bahir), 2014-2018
5. Ofir Sorias, Ph.D. (direct track), 2011-2018
6. Tzach Jaffe, Ph.D. (direct track), 2013-
7. Grisha Spektor Ph.D. (direct track), 2013-
8. Anna Kodanev, Ph.D. (with Moshe Nazarati), 2013-

Graduated (taken from the Technion site):

1	Amir Sivan	2018	MSc	Abstract	Enhancement of Superradiant Emission of Quantum Sources by Coupling to Nanostructured Media
2	Gilad Rosenblatt	2016	PhD direct track	Abstract	Exotic Wave Phenomena at Interfaces of Negative Complex Electromagnetic Media
3	Yuval Pazi	2016	MSc	Abstract	Local Field Enhancement Using Rosette and Fractal Nano- Antennas
4	Natan Tamari	2015	MSc	Abstract	Experimental Semiquantum Key Distribution: Classical Alice with Mirror
5	Zahi Laty	2015	MSc		OLED Plasmonics Enhancement
6	Yevgeni Nogin	2015	MSc	Abstract	Self-Forces on Photon Emitters near Symmetrical Nano-Structures
7	Gal Bitan	2014	MSc	Abstract	Energy Distribution of Single and Two Photon Emitters in Plasmonic Environments
8	Shay Yosub	2014	MSc	Abstract	Non Adiabatic Plasmonic Antennas for Enhancement of Detection Capability
9	Pavel Gurevich	2013	MSc	Abstract	Experimental Quantum Key Distribution with Classical Alice
10	Anna Kodanev	2013	MSc	Abstract	Si-PI Charge-Discharge Microring Modulator

					for Analog and Digital Coding
11	Nikolai Berkovitch	2012	PhD	Abstract	Localized Plasmons in the Near Infrared Regime
12	Amir Nevet	2012	PhD direct track	Abstract	Micro and Nano Semiconductor Structures for Enhanced Multiphoton Processes, and their Applications
13	Pavel Ginzburg	2011	PhD direct track	Abstract	Nano-Photonic Devices based on Modified Light-Matter Interactions
14	David Arbel	2011	PhD	Abstract	Active Nano Plasmon-Optics in Silicon and Indium-Phosphide
15	Alex Hayat	2011	PhD	Abstract	Applications of Multi-Photon Processes for Semiconductor Quantum Photonics
16	Iddo Diukman	2011	MSc	Abstract	Plasmonic Solar Cells
17	Serge Rosenblum	2010	MSc	Abstract	Generation and Nondemolition Measurement of Complex Photon States
18	Noam Kaminski	2009	MSc	Abstract	Linear and Non-linear Wave Guiding in Anomalous Dispersion Regime
19	Eyal Feigenbaum	2008	PhD	Abstract	Slow Wave Phenomena in Plasmonic Nano-Circuitry
20	Maxim Greenberg	2008	PhD	Abstract	Multimode Optical Interconnects
21	Hagay Segal	2008	MSc	Abstract	Light Transmission through 2D Structured Subwavelength Hole Arrays
22	Nikolai Berkovitch	2008	MSc	Abstract	Dipole and Surface Plasmons in Metallic Nanostructures
23	Yinnon Stav (Satuby)	2007	PhD	Abstract	Plasmonics Planar Waveguiding Based Nanophotonics
24	Yoav Yadin	2007	PhD	Abstract	Spectrally Efficient Optical Communications Systems - Design and Analysis

25	Alex Hayat	2007	MSc	Abstract	Integrated Photonic Devices for Quantum Communications
26	Maxim Greenberg	2004	MSc	Abstract	Irreversible Optical Devices
27	Eyal Feigenbaum	2004	MSc	Abstract	Colored Solitons Interactions
28	Eitan Lahat	2004	MSc	Abstract	Cellular Oscillator Networks
29	Hashem Zoubi	2003	PhD	Abstract	Dissipations in Coupled Quantum Systems
30	Lior Gal	2002	PhD	Abstract	Annular Optical Microcavities and Their Coupling
31	Alexander Kenis	2002	PhD	Abstract	Design of Optical Devices by Means of Quantum Mechanical Approaches and Computational Methods
32	Ariel Lipson	2002	MSc	Abstract	Multiple Pulses in High Power Fiber Lasers
33	Yoav Yadin	2002	MSc		Optical Vortices and Flowers from Coupled Laser Arrays
34	Jacob Scheuer	2001	PhD direct track	Abstract	Multiple Element Optical Patterns in Nonlinear Complex Media
35	Javier Groshaus	2001	MSc		Light Emission Mechanisms in InGaN MQW Laser Diodes
36	Nimrod Bregman	1999	MSc		Dynamics of Carriers in Semiconductor Optical Amplifiers
37	Yinnon Stav (Satuby)	1998	MSc		Dynamics and Modulation Properties of Multi-Transverse- Modes Vertical Cavity Semiconductor Lasers
38	Paul Goldgeier	1997	MSc		Frequency and Phase Tracking of a Pair of DFB Lasers: the Implementation of the Paramodyne Receiver
39	Dorit Natan	1997	MSc		Coherency and Stability of Semiconductor

					Laser Arrays
40	David Arbel	1997	MSc		Temporal/spatial Solitons in Optical Ring Oscillators
41	Mordechai Margalit	1996	PhD		Pulsed Light Injection Into Optical Oscillators
42	Alexander Gurtovnik	1995	MSc		The influence of surface acoustic waves on the optical properties of semiconductors
43	David Groswasser	1995	MSc		Molecular systems with nonlinear optical properties
44	Tal Fishman	1994	MSc		Lasing Modes of Surface Emitting Semicouductor Laser Arrays