

CURRICULUM VITAE

Amos Danielli, Ph.D.

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PERSONAL DETAILS

Bar-Ilan University	Email: amos.danielli@biu.ac.il
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EDUCATION

2004–2009	Ph.D. , Institute: Department of Physical-Electronics, Faculty of Engineering, Tel-Aviv University Supervisor: Ady Arie Subject: Magnetic modulation biosensing system for rapid and homogenous detection of specific DNA sequences at low concentrations
1998–2002	M.Sc. , Institute: Department of Physical-Electronics, Faculty of Engineering Tel-Aviv University Supervisor: Ady Arie Subject: Frequency stabilization of a frequency doubled 1556 nm source to a two-photon transition of Rubidium Distinction: Magna cum Laude, total GPA (94.1/100)
1993–1997	B.Sc. , Institute: School of Electrical Engineering, Tel-Aviv University Studies: Electrical Engineering Distinction: Magna cum Laude, total GPA (91.6/100)

HONORS AND AWARDS

2015	1 st place, Accelerate St. Louis Challenge, St. Louis, MO (\$50K)
2015	Bright Futures-Immigrant Award, Accelerate St. Louis Challenge, St. Louis, MO (\$5K)
2015	Best poster award, Conference 9323 (Photons plus Ultrasound), Photonics West, San Francisco, CA
2014	The Pipeline Entrepreneurs fellowship, class of 2014
2014	3 rd place, The SPIE startup challenge (\$2.5K)
2013	The Peabody Energy Arch Grant recipient, St. Louis, MO (\$60K)
2013	1 st place, Olin Cup competition, Washington University in St. Louis, MO (\$62.5K)
2004–2008	The President's and Rector's Fellowship for doctorate degree, Tel-Aviv University, Israel (\$100K)
2007–2008	The Yeshaya Horowitz Association's grant for innovative research (\$80K)
2005	Rector's award for excellence in teaching
2005	Dean's award for excellence in teaching
2002	M.Sc. in Electrical Engineering, Magna cum Laude, Tel-Aviv University, Israel
2000	The Thalheimer scholarship for M.Sc. degree, granted by the Wolf Foundation
1997	B.Sc. in Electrical Engineering, Magna cum Laude, Tel-Aviv University, Israel

ACADEMIC APPOINTMENTS

2021–Present	Associate Professor at the Faculty of Engineering Bar-Ilan University, Ramat-Gan, Israel
2014–2021:	Senior lecturer at the Faculty of Engineering Bar-Ilan University, Ramat-Gan, Israel
2013–2014:	Postdoctoral Research Associate, Department of Pathology and immunology Washington University School of Medicine, St. Louis, Missouri, USA
2009–2014:	Postdoctoral Research Associate, Department of Biomedical Engineering Washington University in St. Louis, Missouri, USA
1998–2009:	Teaching and research assistant, Department of Physical-Electronics, Faculty of Engineering Tel Aviv University, Israel

OTHER PROFESSIONAL EXPERIENCE

2013–	MagBiosense, Founder ➤ Developing a platform technology for rapid detection of biomarkers at the point-of-care
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- 2008–2012 Helioris Solar Systems, **Co-founder and Consultant**
- Developing a new configuration for Concentrated Solar Power fields
- 2001–2004 Zettalight Dynamic Communications, **Co-founder and Senior Electro-Optic Engineer**
- Managing hardware and software sub-contractors, preparing for reliability tests, and developing algorithms to enhance product performance
- 1998–2001 Lucent Technologies (formally Chromatis Networks), **Optical modules team leader, Optics group**
- Designing and specifying optical modules, managing contract manufacturers, and defining qualification and functional test procedures
- 1997–1998 Gilat Satellite Networks, **Electronic Engineer in the Audit and Failure Analysis group**
- Auditing a variety of electronic designs, and investigating and analyzing electrical failures.

PROFESSIONAL ACTIVITIES

- 2009–Present **Member:** International society for optics and photonics (SPIE)
- 2014–Present **Peered-reviewed journals' Reviewer:** Nature Communication, Nano letters, Journal of the American Chemistry Society, Materials & Design, ACS Nano, ACS Sensors, Lab on a chip, Analytical Chemistry, Biosensors, Talanta, Journal of Biomedical Optics, Journal of Selected Topics in Quantum Electronics, Biomedical Optics Express, Journal of Nanophotonics, Sensors, Applied Physics Letters, Personalized Medicine, Open Biology Journal, Advanced Biosystems, Micromachines, Bioconjugate Chemistry, Current Medicinal Chemistry, Transactions on Biomedical Engineering.
- 2014–Present **Scientific Reviewer:** Israel Science Foundation, Binational Science Foundation, Horizon 2020
- 2014–Present **Evaluator of graduate dissertations towards M.Sc. degree:** Raphael Cohen (Bar Ilan University, 2014), Reut Yizraeli (Ben Gurion University, 2016), Hilel Hagai Diamond (Bar Ilan University, 2016), Sharon Karepov (Tel Aviv University, 2017), Simha Mireski (Tel Aviv University, 2017), Moshe Stern (Bar Ilan university, 2017), Chen Tzrur (Bar Ilan University, 2018), Resmi Ravi Kumar (Technion, 2019), Dafna Levenberg (Bar Ilan University, 2021), Hana Haya Haroush (Bar Ilan University, 2022), Yossi Yossef Teboul (Bar Ilan University, 2023)
- 2014–Present **Evaluator of graduate dissertations towards Ph.D. degree:** Eyal Preter (Bar Ilan University, 2015), Neta Ziloni (Bar Ilan University, 2015), Idan Steinberg (Tel Aviv University, 2016), Shira Roth (Bar Ilan University, 2016), Michael Margulis (Bar Ilan University, 2017), Shmuel Burg (Bar Ilan University, 2017), Rajendra Prasad Shukla (Ben Gurion University, 2018), Yoav Hazan (Technion, 2018, 2022), Ganit Indech (Bar Ilan University, 2019), Dagan Hadar (Ben Gurion University, 2019, 2023), Yonatan Uziel (The Hebrew University, 2022), Matan Binyamin (Bar Ilan University, 2022), Dafna Levenberg (Bar Ilan University, 2023)
- 2015–Present **Co-Chair:** Conference 9725, "Frontiers in Biological Detection: From Nanosensors to Systems", SPIE Photonics West, San Francisco, CA, USA
- 2015–Present **BIOS Executive organizing committee,** SPIE Photonics West, San Francisco, CA, USA
- 2021–Present **Member:** Faculty Disciplinary Committee (Faculty of Engineering at Bar Ilan University)
- 2021–Present **Member:** Bar Ilan University's Institutional Animal Care and Use Committee (ACUC)
- 2023 **Initiator, Organizer, and Scientific Program Committee member:** International "Infectious Disease Symposium: Innovative Approaches to Diagnostics and Research", September 5–7, 2023, Ramat Gan, Israel
- 2016–2018 **Member:** Bar Ilan University's Institutional Animal Care and Use Committee (ACUC)
- 2021 **Panelist:** UAE – Israel Conference 2021 (The first mutual international conference)
- 2020 **Member:** Bar Ilan University's Institutional Committee to evaluate remote & distance learning
- 2019 **Initiator, Organizer, and Scientific Program Committee member:** International "Cardiac Biomarkers Symposium, High sensitivity troponin: Present and Future", September 24–26, 2019, Ramat Gan, Israel
- 2018 **Scientific Program Committee member:** The German-Israel Water Technology Program (2018), Israeli Ministry of Science and Technology (MOST), October 8–10, 2018, Garmisch-Partenkirchen, Germany
- 2018 **Israeli-Vietnam Scientific Delegation member:** "Clinical aspect, diagnostic and prevention of vector-borne diseases focusing on Malaria, Zika and Dengue diseases" (2018), Israeli Ministry of Science and Technology (MOST), May 5–11, 2018, Hanoi, Vietnam

TEACHING EXPERIENCE**Bar Ilan University****Lecturer:**

In vitro diagnostic principles and technologies	Undergraduate	Bar Ilan University; 2020–
Introduction to lasers	Undergraduate	Bar Ilan University; 2016–2019
Principles of Optical Imaging	Graduate	Bar Ilan University; 2015–
Medical Imaging	Graduate	Bar Ilan University; 2015–

- Average score from teaching evaluations at Bar Ilan University throughout the years is **4.76/5.00** (Faculty average: **3.95/5.00**)

Tel Aviv University**Lecturer:**

Basic Electronics	Undergraduate	Tel Aviv University; 2006–2008
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Teaching assistant:

Biomedical optics – Principles	Graduate	Washington University in St. Louis; 2010–2012
Biomedical optics – Imaging	Graduate	Washington University in St. Louis; 2010–2012
Energy conversion	Undergraduate	Tel Aviv University; 2008
Introduction to lasers	Undergraduate	Tel Aviv University; 2005–2007
Basic Electronics	Undergraduate	Tel Aviv University; 2005
Introduction to Electrical Circuits & Systems	Undergraduate	Tel Aviv University; 2004
Electronic Laboratory 2	Undergraduate	Tel Aviv University; 2004
Analog Electronic Circuits	Undergraduate	Tel Aviv University; 2000
Introduction to Electronic and Electro-Mechanics	Undergraduate	Tel Aviv University; 1996

- Average score from teaching evaluations at Tel Aviv University throughout the years is **6.5/7.0**

RESEARCH GRANTS – Total of ~8.75M NIS (~\$2.5M)

2024–2026	Optical modulation biosensing system for rapid detection of microbial pathogens in food industry 006016, Ministry of Science and Technology (MOST) Role: PI Amount: 750,000 NIS
2023	Organizing a 3-day international conference entitled: “Infectious Disease Symposium: Innovative Approaches to Diagnostics and Research” 2855/23, Israel Science Foundation (ISF) Role: PI Amount: 70,000 NIS (Additional 130,000 NIS were secured from industrial partners)
2023–2024	Development of advanced systems for expression and highly sensitive detection of growth factors 5324, Ministry of Science and Technology (MOST) Role: Co-PI Amount: 50% of 260,000 NIS (130,000 NIS)
2022–2024	Rapid detection of chimeric genes in the blood samples of colon cancer patients 77098, Bio-convergence Research Grants, Israel Innovation Authority (IIA) Role: Co-PI Amount: 50% of 1,340,000 NIS (660,000 NIS)
2021–2023	Developing specific dengue virus antibodies and antigen diagnostic tests using MMB technology 103343, Ministry of Science and Technology (MOST) Role: PI Amount: 630,000 NIS
2020–2023	Developing a highly sensitive and specific virus-detection platform 101790, Ministry of Science and Technology (MOST) Role: PI Amount: 1,200,000 NIS
2020	Developing a rapid and highly sensitive and specific virus-detection platform

- 292761/20, **Dangoor Centre for Personalized Medicine (Bar-Ilan University)**
 Role: PI
 Amount: 50,000 NIS
- 2020–2021 Developing highly sensitive and rapid anti-SARS-Cov-2 IgM and IgG serological assays
 3-16908, **Ministry of Science and Technology (MOST)**
 Role: PI
 Amount: 440,000 NIS
- 2019–2024 Investigating quantitative serological and antigenemia assays to detect West Nile virus infection
 2481/19, **Israel Science Foundation (ISF)**
 Role: PI
 Amount: 1,300,000 NIS
- 2019 Organizing a 3-day international conference entitled: “Rapid and highly sensitive detection of cardiac biomarkers”
 3013/19, **Israel Science Foundation (ISF)**
 Role: PI
 Amount: 70,000 NIS (Additional 100,000 NIS were secured from industrial partners)
- 2018–2022 Characterizing and optimizing cardiac troponin I antibodies sources for their use in high sensitivity immunoassays
 2017238, **Bi-national Science Foundation (BSF)**
 Role: PI
 Amount: \$260,000
- 2017–2018 Rapid detection of chick sex *in ovo*
 59042, Individual Research Grants (Kamin), **Israel Innovation Authority (IIA)**
 Role: PI
 Amount: 880,000 NIS
- 2015–2018 Rapid and highly sensitive detection of fluorescently-labeled biosensors
 1142/15, Individual Research Grants, **Israel Science Foundation (ISF)**
 Role: PI
 Amount: 600,000 NIS
- 2015–2018 Rapid and highly sensitive detection of fluorescently-labeled biosensors
 2152/15, New-Faculty Equipment Grants, **Israel Science Foundation (ISF)**
 Role: PI
 Amount: 910,000 NIS

RESEARCH SUMMARY

With extensive background in optics, electrical engineering, and biosensing, I have focused my research on the development of technologies for in vitro diagnostics (IVD), specifically in resource-limited settings. When marking the target analyte with a fluorescent probe, at low concentrations, the fluorescence signal is very weak and surrounded with background noise. One of the main challenges in detecting low concentrations of fluorescently labelled biomarkers is separating the fluorescence signal from other red shifted photons, such as Raman scattering of the solvent, residual fluorescence from unbound fluorescent molecules, or autofluorescence of the capture surface. In my lab, we invented several technologies that overcome this challenge. In general, the work in my lab is multidisciplinary in its nature and it covers several aspects:

1. IVD tools development - Magnetic modulation biosensing (MMB) [1, 11], magnetically aggregated biosensors (MAB) [12], optical modulation biosensing (OMB) [8], high-throughput OMB (ht-OMB) [2], photobleaching to improve the sensitivity of fluorescence-based immunoassays [15]
2. Immunoassays and serology – SARS-CoV-2 [5], Zika virus [16], interleukin-8 [17]
3. Molecular-based assays – Chick sexing [14], cancer biomarkers [13], SARS-CoV-2 [6]
4. Basic research – Detection of protein-protein interactions [3, 9, 10], detection of protein-DNA interactions [4], inhibitor screening [7]

The work in the lab has led to several patent applications and grants that were awarded by different funding sources, including the Israel Science Foundation (ISF), Bi-national Science Foundation (BSF), Ministry of Science and Technology (MOST), and the Israel Innovation Authority. In addition, based on the saliva-based molecular assay that

was developed in the lab, the Israeli Ministry of Health initiated in October 2021 the first and only test run in Israel for the validation of extraction-less saliva-based PCR tests (<https://www.gov.il/en/departments/news/07102021-03>)

JOURNAL PAPERS*

	Authors	Paper	Amos Danielli's role	Impact factor	Citations *	Ranking (JCI)**
1	[S. Roth, M. Margulis], and A. Danielli	"Recent advances in rapid and highly sensitive detection of proteins and specific DNA sequences using a magnetic modulation biosensing system", Sensors , 22, 4497 (2022)	Led and supervised the research	3.9	0	24/99 Q1 Instruments & Instrumentation
2	S. Burg, S. Roth, M. Cohen, S. Avivi-Mintz, M. Margulis, H. Rohana, A. Peretz, and A. Danielli	"High throughput optical modulation biosensing for highly sensitive and rapid detection of biomarkers", Talanta , 248, 123624 (2022)	conceived, initiated, and supervised the research	6.1	0	7/99 Q1 Analytical Chemistry
3	E. Shmidov, I. Lebenthal-Loinger, S. Roth, S. Karako-Lampert, I. Zander, S. Shoshani, A. Danielli , and E. Banin	"PrrT/A a Pseudomonas aeruginosa Bacterial Encoded Toxin-Antitoxin System Involved in Prophage Regulation and Biofilm Formation", Microbiology Spectrum , e01182-22 (2022)	Supervised the protein-protein interaction identification	3.7	2	47/156 Q2 Microbiology
4	S. Roth, D. Ideses, T. Juven-Gershon, and A. Danielli	"Rapid biosensing method for detecting protein-DNA interactions", ACS Sensors , 7, 60–70 (2022)	Led and supervised the research	8.9	4	8/99 Q1 Analytical Chemistry
5	S. Avivi-Mintz, Y. Lustig, R. Koren, S. Katz-Likvornik, E. Schwartz, and A. Danielli	"Highly sensitive and specific SARS-CoV-2 serological assay using a magnetic modulation biosensing system", Biosensors , 12(1), 7 (2021)	Led and supervised the research	5.4	3	22/76 Q2 Instruments & Instrumentation
6	[M. Margulis, O. Erster], S. Roth, [M. Mendelboim and A. Danielli]	"A magnetic modulation biosensing-based molecular assay for rapid and highly sensitive diagnosis of COVID-19", Journal of Molecular Diagnostics , 23(12) 1680-1690 (2021)	Led and supervised the research. Collaboration with Israel Central Virology Laboratory, who collected the clinical samples and performed the RT-qPCR analysis.	4.1	9	8/86 Q1 Pathology
7	S. Roth and A. Danielli	"Rapid and sensitive inhibitor screening using magnetically modulated biosensors", Sensors , 21, 4814 (2021)	Led and supervised the research	3.9	6	24/99 Q1 Instruments & Instrumentation
8	[M. Margulis, M. Cohen], S. Burg, S. Avivi-Mintz, and A. Danielli	"Optical modulation biosensing for rapid detection of biological molecules at low concentrations", Biomedical Optics Express , 12, 5338–5350 (2021)	Led and supervised the research	3.4	4	28/118 Q1 Optics
9	I. Zander, E. Shmidov, S. Roth, Y. Ben-David, S. Shoshani, A. Danielli , and E. Banin	"Characterization of PfiT/PfiA toxin-antitoxin system of Pseudomonas aeruginosa that affects cell elongation and prophage induction", Environmental Microbiology , 22(12), 5048-5057 (2020)	Supervised the identification of a new toxin-antitoxin system using the MMB system	5.1	11	42/156 Q2 Microbiology
10	S. Roth, Y. Zander, Y. Michelson, E. Banin, and A. Danielli	Identification of protein-protein interactions using a magnetic modulation biosensing system", Sensors and Actuators B: Chemical , 303, 127228 (2020)	Led and supervised the research	8.4	9	3/76 Q1 Instruments & Instrumentation
11	M. Stern, M. Cohen, and A. Danielli	"Configuration and Design of Electromagnets for Rapid and	Led and supervised the research	3.4	11	29/86 Q2

		Precise Manipulation of Magnetic Beads in Biosensing Applications," Micromachines , 10(11), 784 (2019)				Analytical Chemistry
12	S. Burg, M. Cohen, M. Margulis, S. Roth, and A. Danielli	"Magnetically aggregated biosensors for sensitive detection of biomarkers at low concentrations", Applied Physics Letters , 115, 103702 (2019)	Led and supervised the research	4.0	10	48/160 Q2 Applied physics
13	M. Margulis, S. Ashri, M. Cohen, and A. Danielli	"Detecting nucleic acid fragments in serum using a magnetically modulated sandwich assay", Journal of Biophotonics , e201900104 (2019)	Led and supervised the research	2.8	9	27/74 Q2 Biophysics
14	M. Margulis and A. Danielli	"Rapid and sensitive detection of repetitive nucleic acid sequences using magnetically modulated biosensors", ACS Omega , 4, 11749–11755 (2019)	Led and supervised the research	4.1	12	87/230 Q2 Chemistry, Multidisciplinary
15	S. Roth, O. Hadass, M. Cohen, J. Verbarg, J. Wilsey, and A. Danielli	"Improving the sensitivity of fluorescence-based immunoassays by photobleaching the auto-fluorescence of magnetic beads," Small , 15(3), 1803751 (2018)	Led and supervised the research	13.3	28	11/160 Q1 Applied physics
16	Y. Michelson, Y. Lustig, S. Avivi, E. Schwartz, and A. Danielli	"Highly sensitive and specific Zika virus serological assays using a magnetic modulation biosensing system", Journal of Infectious Diseases , jiy606 (2018)	Led and supervised the research	6.4	21	24/135 Q1 Microbiology
17	J. Verbarg, O. Hadass, P. D. Olivo, and A. Danielli	"High sensitivity detection of a protein biomarker Interleukin-8 utilizing a magnetic modulation biosensing system," Sensors and Actuators B: Chemical , 241, 614-618 (2017)	Led and supervised the research	8.4	28	3/76 Q1 Instruments & Instrumentation
18	A. Danielli , K. Maslov, C. P. Favazza, J. Xia, and L.V. Wang	"Nonlinear photoacoustic spectroscopy of hemoglobin," Applied Physics Letters , 106, 203701 (2015)	Initiated and performed the research	4.0	38	48/160 Q2 Applied physics
19	J. M. Yang, C. Li, R. Chen, B. Rao, J. Yao, C. H. Yeh, A. Danielli , K. Maslov, Q. Zhou, K. K. Shung, and L. V. Wang	"Optical-resolution photoacoustic endomicroscopy in vivo," Biomedical Optics Express , 6, 918-932 (2015)	Performed beam size measurements and analysis	3.4	91	43/135 Q2 Radiology, Nuclear Medicine & Medical Imaging
20	A. Danielli , K. Maslov, A. Garcia-Urbe, A. M. Winkler, C. Li, L. Wang, Y. S. Zhang, and L. V. Wang	"Label-free photoacoustic nanoscopy," Journal of Biomedical Optics , 19, 086006 (2014)	Initiated and performed the research	3.5	150	38/135 Q2 Radiology, Nuclear Medicine & Medical Imaging
21	J. Xia, A. Danielli , L. Wang, K. Maslov, and L. V. Wang	"Calibration-free quantification of absolute oxygen saturation based on the dynamics of photoacoustic signals," Optics Letters , 38, 2800-2803 (2013)	Performed oxygen saturation analysis	3.6	67	31/100 Q2 Optics
22	M. R. Chatni, J. Yao, A. Danielli , C. P. Favazza, K. Maslov, and L. V. Wang	"Functional Photoacoustic Imaging of pH," Journal of Biomedical Optics , 16, 100503 (2011)	Performed oxygen saturation analysis	3.5	37	38/135 Q2 Radiology, Nuclear Medicine & Medical Imaging

23	A. Danielli , Y. Yatir, and O. Mor	"Improving the optical efficiency of a concentrated solar power field using a concatenated micro-tower configuration," Solar Energy , 85, 931-937 (2011)	Initiated, led, and performed the research.	7.188	30	37/119 Q2 Energy & Fuel
24	B. Rao, K. Maslov, A. Danielli , R. Chen, K. Kirk Shung, Q. Zhou, and L. V. Wang	"Real-time four-dimensional optical-resolution photoacoustic microscopy with Au nanoparticle-assisted subdiffraction-limit resolution," Optics Letters , 36, 1137-1139 (2011)	Identified and provided explanation for sub-diffraction resolution	3.6	72	31/100 Q2 Optics
25	A. Danielli , C. P. Favazza, K. Maslov, and L. V. Wang	Single-wavelength functional photoacoustic microscopy in biological tissue," Optics Letters , 36, 769-771 (2011)	Initiated and performed the research	3.6	41	31/100 Q2 Optics
26	N. Porat, K. Bogdanov, A. Danielli , A. Arie, I. Samina, and A. Hadani	"Direct detection of chicken genomic DNA for gender determination by Thymine-DNA Glycosylase," British Poultry Science , 52, 58-65 (2011)	Led the engineering section research	2	10	24/62 Q2 Agriculture, Dairy & Animal Science
27	A. Danielli , C. P. Favazza, K. Maslov, and L.V. Wang	"Picosecond absorption relaxation measured with nanosecond laser photoacoustics," Applied Physics Letters , 97, 163701 (2010)	Initiated and performed the research	3.971	51	50/161 Q2 Applied physics
28	A. Danielli , N. Porat, M. Ehrlich, and A. Arie	"Rapid homogeneous detection of biological assays using magnetic modulation biosensing system," Journal of Visualized Experiments , 40. doi: 10.3791/1935, (2010) Invited paper	Initiated and performed the research	1.424	2	51/73 Q3 Multidisciplinary Sciences
29	A. Danielli , N. Porat, M. Ehrlich, and A. Arie	"Magnetic modulation biosensing for rapid and homogeneous detection of biological targets at low concentrations," Current Pharmaceutical Biotechnology , 11, 128-137 (2010), Invited paper	Initiated and performed the research	2.8	22	239/366 Q3 Pharmacology & Pharmacy
30	A. Danielli , N. Porat, A. Arie, and M. Ehrlich	"Rapid homogeneous detection of the Ibaraki virus NS3 cDNA at pico-molar concentrations by magnetic modulation," Biosensors and Bioelectronics , 25, 858-863 (2009)	Initiated and performed the research	12.545	31	3/87 Q1 Analytical Chemistry
31	A. Danielli , A. Arie, N. Porat and M. Ehrlich	"Detection of fluorescent-labeled probes at sub-picomolar concentrations by magnetic modulation," Optics Express , 16, 19253-19259 (2008)	Initiated and performed the research	3.833	27	28/101 Q2 Optics
32	A. Danielli , P. Rusian, A. Arie, M. H. Chou and M. M Fejer	"Frequency stabilization of a frequency-doubled 1556 nm source to the 5S _{1/2} → 5D _{5/2} two-photon transitions of rubidium," Optics Letters , 25, No. 12, 905-907 (2000)	Initiated and performed the research	3.6	41	31/100 Q2 Optics

*The number of citations is based on google scholar (June 13, 2023)

**The ranking is based on the level where the journal stands in comparison to other in its field according to Journal Citation Indicator (JCI). For example, 1/27 means that the journal is ranked 1 out of 27 journals in his group.

BOOK CHAPTERS

1. **A. Danielli** and S. Roth "Magnetic modulation biosensing system: what it is and how it can be used to detect the Zika virus", In the Book: *Zika Virus, Pathology and Control* (Academic Press, Elsevier, London, United Kingdom, 2020), *in production* (**Invited Chapter**)

PATENTS

1. A. Arie and **A. Danielli** “Methods and system for detecting presence of a target within a population of biomolecules” (US Patent: 8,465,989, Issue date: June 18, 2013)
2. A. Arie and **A. Danielli** “Methods and system for detecting presence of a target within a population of biomolecules” (US Patent: 9,575,068, Issue date: October 17, 2017)
3. A. Arie and **A. Danielli** “Methods and system for detecting presence of a target within a population of biomolecules” (US Patent: 10,175,246, Issue date: January 8, 2019)
4. A. Arie and **A. Danielli** “Methods and system for detecting presence of a target within a population of biomolecules” (US Patent: 11,275,083, Issue date: March 15, 2022)
5. A. Arie and **A. Danielli** “Methods and system for detecting presence of a target within a population of biomolecules” (EU patent: 3037807, Issue date: March 31, 2021)
6. A. Arie and **A. Danielli** “Methods and system for detecting presence of a target within a population of biomolecules” (Hong Kong, 16112857.9, Issue date: March 31, 2021)
7. **A. Danielli**, O. Hadass, and J. Verbarq “Bio-Assay capture surfaces with bleached autofluorescence” (PCT/IB2018/052318, October 7, 2017)
8. **A. Danielli** and M. Margulis “Detecting and quantifying a target nucleic acid sequence” (US Provisional Patent Application No. 62/726,468, September 4, 2018)
9. **A. Danielli** and M. Margulis “Detecting and quantifying a viral target nucleic acid sequence” (PCT/IB2020/050761, July 7, 2020)
10. **A. Danielli** and S. Burg “Optical emission biosensing using magnetic beads with a fast aggregation time” (US Provisional Patent Application No. 63/183,087, May 3, 2021)
11. **A. Danielli** and S. Burg “Optical emission biosensing using magnetic beads with a fast aggregation time” (PCT/IL2022/050462, May 3, 2022)

CONFERENCES & PROCEEDING PAPERS

1. M. Margulis, H. Rohana, O. Erster, M. Mandelboim, A. Biber, E. Schwartz, A. Peretz, and **A. Danielli**, “Saliva-based extraction-free molecular assay for rapid diagnostics of SARS-CoV-2”, Paper B0603-31, SPIE Photonics West, Conference on Biomedical Optics, San Francisco, CA, Jan. 27–Feb. 1, 2024 (**oral presentation**)
2. S. Burg, M. Cohen, M. Margulis, R. Askenasy, S. Terenteva, and **A. Danielli**, “From concept to commercialization: Automated high throughput optical modulation biosensing for detection of low concentrations of biomarkers”, Paper B0603-32, SPIE Photonics West, Conference on Biomedical Optics, San Francisco, CA, Jan. 27–Feb. 1, 2024 (**oral presentation**)
3. M. Margulis, H. Rohana, O. Erster, M. Mandelboim, A. Biber, E. Schwartz, A. Peretz, and **A. Danielli**, “Saliva-based diagnosis of respiratory diseases”, Infectious diseases symposium: Innovative approaches to research and diagnostics, Bar Ilan University, Ramat Gan, Israel, Sep. 5–7, 2023 (**oral presentation**)
4. R. Kremer, S. Roth, A. Bross, Y. Noam, and **A. Danielli**, “Improving the sensitivity of fluorescence-based immunoassays by time-resolved and spatial-resolved measurements”, Paper B0603-16, SPIE Photonics West, Conference on Biomedical Optics, San Francisco, CA, Jan. 28–Feb. 2, 2023 (**oral presentation**)
5. S. Roth, M. Margulis, and **A. Danielli**, “Recent advances in rapid and highly sensitive detection of proteins and specific DNA sequences using a magnetic modulation biosensing system”, Paper B0603-9, SPIE Photonics West, Conference on Biomedical Optics, San Francisco, CA, Jan. 28–Feb. 2, 2023 (**oral presentation**)
6. S. Burg, S. Roth, M. Cohen, S. Avivi-Mintz, M. Margulis, H. Rohana, A. Peretz, and **A. Danielli**, “High throughput optical modulation biosensing for highly sensitive and mass scale rapid detection of Covid-19”, B0603-4, SPIE Photonics West, Conference on Biomedical Optics, San Francisco, CA, Jan. 28–Feb. 2, 2023
7. S. Roth, M. Margulis, and **A. Danielli**, “Recent advances in rapid and highly sensitive detection of proteins and specific DNA sequences using a magnetic modulation biosensing system”, OASIS-8, International Conference & Exhibition on Optics & Electro-Optics, Tel Aviv, Israel, Dec. 12–13, 2022 (**oral presentation**)
8. M. Margulis, O. Erster, S. Roth, M. Mendelboim, and **A. Danielli**, “A magnetic modulation biosensing-based molecular assay for rapid and highly sensitive clinical diagnosis of COVID-19”, Paper B0604-4, SPIE Photonics West, Conference on Biomedical Optics, San Francisco, CA, Jan. 22–27, 2022 (**oral presentation**)
9. S. Roth and **A. Danielli**, “Identification of inhibitors for the S1-ACE2 interaction of the SARSCoV-2 using magnetically modulated biosensors”, Paper B0604-8, SPIE Photonics West, Conference on Biomedical Optics, San Francisco, CA, Jan. 22–27, 2022 (**oral presentation**)

10. S. Burg, S. Roth, M. Cohen, S. Avivi-Mintz, M. Margulis, and **A. Danielli**, "Optical modulation biosensing platform for high sensitivity and high throughput detection of antigens and specific RNA sequences", Paper B0604-11, SPIE Photonics West, Conference on Biomedical Optics, San Francisco, CA, Jan 22–27, 2022 (**oral presentation**)
11. S. Avivi-Mintz, Y. Lustig, V. Indenbaum, E. Schwartz, and **A. Danielli**, "Highly sensitive and specific SARS-CoV-2 serological assay using a magnetic modulation biosensing system", Paper B0604-12, SPIE Photonics West, Conference on Biomedical Optics, San Francisco, CA, Jan. 22–27, 2022 (**oral presentation**)
12. S. Burg, S. Roth, M. Cohen, M. Margulis, and **A. Danielli**, "High throughput and highly sensitive detection of proteins using an optical modulation biosensing platform", Paper B0604-16, SPIE Photonics West, Conference on Biomedical Optics, San Francisco, CA, Mar. 6–11, 2021 (**oral presentation**)
13. [M. Margulis, O. Erster], S. Roth, M. Mendelboim, and **A. Danielli**, "A new platform for rapid and highly sensitive detection of SARS-CoV-2 in clinical samples", Paper B0604-18, SPIE Photonics West, Conference on Biomedical Optics, San Francisco, CA, Mar. 6–11, 2021 (**oral presentation**)
14. S. Roth and **A. Danielli**, "Rapid and sensitive inhibitor screening biosensor", Paper B0604-20, SPIE Photonics West, Conference on Biomedical Optics, San Francisco, CA, Mar. 6–11, 2021 (**oral presentation**)
15. S. Avivi-Mintz, Y. Lustig, R. Koren, S. Katz-Likvornik, E. Schwartz, and **A. Danielli**, "Developing highly sensitive and specific virus serological assays", Paper B0604-22, SPIE Photonics West, Conference on Biomedical Optics, San Francisco, CA, Mar. 6–11, 2021 (**oral presentation**)
16. M. Margulis and **A. Danielli**, "Fast and sensitive detection of specific DNA sequences using magnetically modulated biosensors", The Israel Society for Medical and Biological Engineering Annual Conference, Haifa, Israel, Feb. 25, 2020 (**poster**)
17. M. Margulis and **A. Danielli**, "Rapid and sensitive detection of repetitive nucleic acid sequences using magnetically modulated biosensors", Paper 11258-1, SPIE Photonics West, Conference on Biomedical Optics, San Francisco, CA, Feb. 1–6, 2020 (**oral presentation**)
- (*) **Outstanding student paper award**, Conference 11258 (Frontiers in Biological Detection: From Nanosensors to Systems), Photonics West, San Francisco, CA
18. S. Burg, M. Cohen, M. Margulis, S. Roth, and **A. Danielli**, "Magnetically aggregated biosensors for sensitive detection of biomarkers at low concentrations", Paper 11258-2, SPIE Photonics West, Conference on Biomedical Optics, San Francisco, CA, Feb. 1–6, 2020 (**oral presentation**)
19. S. Roth, D. Ideses, T. Juven-Gershon, and **A. Danielli**, "A rapid biosensing method for identification of protein-DNA interactions", Paper 11258-3, SPIE Photonics West, Conference on Biomedical Optics, San Francisco, CA, Feb. 1–6, 2020 (**oral presentation**)
- (*) **Outstanding student paper award**, Conference 11258 (Frontiers in Biological Detection: From Nanosensors to Systems), Photonics West, San Francisco, CA
20. S. Roth, O. Hadass, M. Cohen, J. Verbarq, J. Wilsey, and **A. Danielli**, "Improving the sensitivity of fluorescence-based immunoassays by photobleaching the autofluorescence of magnetic beads", The Israel Society for Medical and Biological Engineering Annual Conference, Haifa, Israel, Feb. 25–26, 2019 (**oral presentation**)
21. S. Roth, O. Hadass, M. Cohen, J. Verbarq, J. Wilsey, and **A. Danielli**, "Improving the sensitivity of fluorescence-based immunoassays by photobleaching the autofluorescence of magnetic beads", Paper 10895-8, SPIE Photonics West, Conference on Biomedical Optics, San Francisco, CA, Feb. 2–7, 2019 (**oral presentation**)
22. M. Margulis, S. Ashri, M. Cohen, and **A. Danielli**, "Homogenous and highly sensitive detection of specific nucleic acid fragments in serum using a sandwich hybridization assay and a magnetic modulation biosensing system", Paper 10895-9, SPIE Photonics West, Conference on Biomedical Optics, San Francisco, CA, Feb. 2–7, 2019 (**oral presentation**)
- (*) **Outstanding student paper award**, Conference 10895 (Frontiers in Biological Detection: From Nanosensors to Systems), Photonics West, San Francisco, CA
23. S. Roth, Y. Zander, Y. Michelson, E. Banin, and **A. Danielli**, "Identification of protein-protein interactions using a magnetic modulation biosensing system", Paper 10895-10, SPIE Photonics West, Conference on Biomedical Optics, San Francisco, CA, Feb. 2–7, 2019 (**oral presentation**)
- (*) **Outstanding student paper award**, Conference 10895 (Frontiers in Biological Detection: From Nanosensors to Systems), Photonics West, San Francisco, CA
24. Y. Michelson, Y. Lustig, S. Avivi, E. Schwartz, and **A. Danielli**, "Highly sensitive and specific detection of the Zika virus", 2nd International Conference on Zika Virus and Aedes Related Infections, Tallinn, Estonia, July 14–17, 2018 (**oral presentation**)

25. S. Roth, Y. Michelson, and **A. Danielli**, "Identification of protein-protein interactions using a magnetic modulation biosensing system", The Israel Society for Medical and Biological Engineering Annual Conference, Haifa, Israel, Feb. 22, 2018 (**poster**)
26. J. Verbarq, O. Hadass, J. Wilsey, and **A. Danielli**, "Highly sensitive detection of biomarkers using magnetic modulation biosensing: an improvement over flow cytometry", Paper 10510-7, SPIE Photonics West, Conference on Biomedical Optics, San Francisco, CA, Feb. 2018 (**oral presentation**)
27. Y. Michelson, Y. Lustig, E. Schwartz, and **A. Danielli**, "Highly sensitive and specific detection of the Zika virus", Paper 10510-8, SPIE Photonics West, Conference on Biomedical Optics, San Francisco, CA, Feb. 2018 (**oral presentation**)
28. S. Roth, O. Hadass, M. Cohen, and **A. Danielli**, "Improving the sensitivity of fluorescence-based immunoassays using magnetic modulation biosensing," The Israel Society for Medical and Biological Engineering Annual Conference, Haifa, Israel, Mar. 2017 (**oral presentation**)
29. S. Roth, O. Hadass, M. Cohen, and **A. Danielli**, "Improving the sensitivity of fluorescence-based immunoassays using magnetic modulation biosensing," The 6th OASIS International Conference and Exhibition on Optics and Electro-Optics, Tel Aviv, Israel, Feb. 2017 (**oral presentation**)
30. J. Verbarq, O. Hadass, P. Olivo, and **A. Danielli**, "Rapid detection of Interleukin-8 at sub pg/ml concentrations using magnetic modulation biosensing," Paper 9725-21, SPIE Photonics West, Conference on Biomedical Optics, San Francisco, CA, Feb. 2016 (**oral presentation**)
31. S. O. Halperin, P. Olivo, and **A. Danielli**, "Magnetic modulation biosensing for rapid and sensitive detection of cardiac troponin I," Paper 9310-12, SPIE Photonics West, Conference on Biomedical Optics, San Francisco, CA, Feb. 2015 (**oral presentation**)
32. J. M. Yang, C. Li, R. Chen, B. Rao, J. Yao, **A. Danielli**, K. I. Maslov, Q. Zhou, K. K. Shung, L. V. Wang, "Label-free optical-resolution photoacoustic endomicroscopy in vivo," Paper 9323-110, SPIE Photonics West, Conference on Biomedical Optics, San Francisco, CA, Feb. 2015 (**oral presentation**)
- (*) **Best poster award**, Conference 9323 (Photons plus Ultrasound), Photonics West, San Francisco, CA
33. **A. Danielli**, K. Maslov, C. P. Favazza, and L. V. Wang, "Nonlinear photoacoustic spectroscopy of oxygenated and deoxygenated hemoglobin," Paper 8943-92, SPIE Photonics West, Conference on Biomedical Optics, San Francisco, CA, Feb. 2014 (**oral presentation**)
34. L. Zhu, L. Gao, **A. Danielli**, L. Li, L. Wang, T. Ma, Q. Zhou, K. K. Shung, and L. V. Wang, "Cross-beam Nonlinear Photoacoustic Microscopy," Paper BS2A.2, Biomedical Optics, Photoacoustic Imaging and Spectroscopy I (BS2A), Miami, FL, April 2014 (**oral presentation**)
35. T. J. Eom, L. Ma, **A. Danielli**, and L. V. Wang, "Fourier transform photoacoustic microscopy using a multi-wavelength laser," Paper B0302-108, SPIE Photonics West, Conference on Biomedical Optics, San Francisco, CA, Feb. 2014 (**oral presentation**)
36. **A. Danielli**, K. Maslov, A. Garcia-Urbe, A. M. Winkler, C. Li, L. Wang, Y. S. Zhang, and L. V. Wang, "Label-free photoacoustic nanoscopy," Paper 8581-82, SPIE Photonics West, Conference on Biomedical Optics, San Francisco, CA, Jan 2013 (**oral presentation**)
37. J. Xia, **A. Danielli**, L. Wang, and L. V. Wang, "Calibration-free absolute quantification of oxygen saturation based on the dynamics of photoacoustic signals," Paper B0302-123, SPIE Photonics West, Conference on Biomedical Optics, San Francisco, CA, Jan 2013 (**poster**)
38. M. R. Chatni, J. Yao, **A. Danielli**, C. P. Favazza, K. Maslov, and L. V. Wang, "Functional photoacoustic microscopy of pH," Paper 8223-22, SPIE Photonics West, Conference on Biomedical Optics, San Francisco, CA, Jan 2012 (**oral presentation**)
39. **A. Danielli**, K. Maslov, J. Xia, and L.V. Wang, "Wide spectral range quantitative photoacoustic spectroscopy to measure non-linear optical absorption of hemoglobin," Paper 8223-122, SPIE Photonics West, Conference on Biomedical Optics, San Francisco, CA, Jan 2012 (**poster**)
40. **A. Danielli**, C. P. Favazza, K. Maslov, and L.V. Wang, "*ps* relaxation measured with a *ns* laser and single wavelength functional photoacoustic microscopy," SPIE Photonics West, Conference on Biomedical Optics, San Francisco, CA, Jan 2011 (**oral presentation**)
41. B. Rao, K. Maslov, **A. Danielli**, R. Chen, K. Kirk Shung, Q. Zhou, and L. V. Wang, "Four-dimensional optical-resolution photoacoustic microscopy with sub-diffraction-limited resolution," Paper 7899-28, SPIE Photonics West, Conference on Biomedical Optics, San Francisco, CA, Jan 2011(**oral presentation**)

42. **A. Danielli**, J. Yao, A. Krumholz, and L. V. Wang, "Effects of calibration factors and intensity dependent non-linearity on functional photoacoustic microscopy", Paper 7899-122, SPIE Photonics West, Conference on Biomedical Optics, San Francisco, CA, Jan 2011 (**poster**)
43. **A. Danielli**, N. Porat, M. Ehrlich, and A. Arie, "Rapid and sensitive homogeneous detection of the Ibaraki virus NS3 cDNA using magnetic modulation biosensing system", *Proc. SPIE*, Vol. 7553, pp. 75530B, Photonics West, Conference on Biomedical Optics, San Francisco, CA, Jan 2010 (**oral presentation**)
44. **A. Danielli**, A. Arie, N. Porat, and M. Ehrlich, "Detection of fluorescent-labeled probes at sub-picomolar concentrations by magnetic modulation", *Electrochemical Micro & Nanosystem Technologies*, P-31, Ein-Gedi, Israel, September 2008 (**poster**)
45. **A. Danielli**, A. Arie, N. Porat and M. Ehrlich, "Development of a new sensitive and rapid detection method of specific DNA sequences", OSA Biomedical topical meeting, BTuF32, St. Petersburg, FL, March 2008 (**poster**)
46. A. Arie, A. Burstein, K. Fradkin-Kashi, **A. Danielli** and A. Olier, "Dynamic Gain Equalization Based on Electro-Optic Filtering in Periodically-Poled LiNbO₃", *Optical Fiber Communication Conference*, Paper TuM3, Atlanta, GA, March 2003 (**oral presentation**)
47. **A. Danielli**, P. Rusian, A. Arie, M. H. Chou and M. M Fejer, "Frequency stabilization of a frequency-doubled 1556 nm source to the two-photon transitions of rubidium", *CLEO®/Europe 2000* (**oral presentation**)
48. **A. Danielli**, P. Rusian, A. Arie, M. H. Chou and M. M Fejer, "Two-photon spectroscopy of rubidium at 778 nm using a frequency-doubled diode laser", 11th international meeting on electro-optics in Israel, Tel-Aviv, Israel, November 9-11, 1999 (**oral presentation**)

INVITED TALKS

1. **"Recent advances in rapid and highly sensitive detection of proteins and specific DNA sequences using a magnetic modulation biosensing system"**, University of Massachusetts, Boston, USA September 11th, 2023
2. **"Rapid and highly sensitive diagnosis of Zika, Dengue, and West-Nile viruses infection using Magnetic Modulation Biosensing technology"**, Infectious diseases symposium: Innovative approaches to research and diagnostics, Bar Ilan University, Ramat Gan, Israel September 6th, 2023
3. **"Recent advances in rapid and highly sensitive detection of proteins and specific DNA sequences using a magnetic modulation biosensing system"**, University of Denmark, Copenhagen, Denmark August 31st, 2023
4. **"Recent advances in rapid and highly sensitive detection of proteins using a magnetic modulation biosensing system"**, Bio detection seminar, Institute of Biological Research, Israel May 23rd, 2023
5. **"Recent advances in rapid and highly sensitive detection of proteins and specific DNA sequences using a magnetic modulation biosensing system"**, University of Houston, Houston, Texas, USA April 19th, 2023
6. **"Recent advances in rapid and highly sensitive detection of proteins and specific DNA sequences using a magnetic modulation biosensing system"**, Ben Gurion University, Israel December 21st, 2022
7. **"Recent advances in rapid and highly sensitive detection of proteins and specific DNA sequences using a magnetic modulation biosensing system"**, University of Tokyo, Tokyo, Japan October 5th, 2022
8. **"Recent advances in rapid and highly sensitive detection of proteins and specific DNA sequences using a magnetic modulation biosensing system"**, Okinawa Institute of Science and Technology, Okinawa, Japan September 21st, 2022
9. **"Diagnosis of flaviviruses: New options and future horizons"**, 'Viruses Sensing and Signaling' group at Institute Pasteur, Paris, France. August 31st, 2022
10. **"Recent advances in rapid and highly sensitive detection of proteins and specific DNA sequences using a magnetic modulation biosensing system"**, University of Nantes, Nantes, France. August 26th, 2022
11. **"Rapid and highly sensitive detection of the SARS-CoV-2 using magnetic modulation biosensing technology"**, IEEE Israel, Online Webinar, Israel. June 1st, 2020
12. **"Rapid detection of specific DNA sequences at low concentrations"**, The Israel Society for Medical and Biological Engineering Annual Conference, Haifa, Israel. February 25th, 2020
13. **"Rapid and highly sensitive detection of proteins, antibodies, and specific DNA sequences"**, Tel Aviv University, Tel Aviv, Israel. December 15th, 2019
14. **"Diagnosis of flaviviruses: New options and future horizons"**, Travel Medicine and Tropical Diseases Symposium, Sheba Medical Center, Ramat Gan, Israel. November 5th, 2019
15. **"Magnetic Modulation Biosensing for rapid detection of cardiac biomarkers"**, Cardiac Biomarkers Symposium: High sensitive troponin – present and future, Ramat Gan, Israel September 26th, 2019

16. ***"Sensitive and specific detection of flaviviruses, such as the Zika, dengue, and West-Nile viruses"***, University of the Ryukyus, Emergency Department, Okinawa, Japan. July 29th, 2019
17. ***"Rapid and highly sensitive detection of fluorescently-labeled biosensors"***, Ben Gurion University, Department of Biotechnology, Israel. December 16th, 2018
18. ***"Rapid and highly sensitive detection of fluorescently-labeled biosensors"***, Washington University in St. Louis, Missouri, USA. April 13th, 2018
19. ***"Rapid and highly sensitive detection of cardiac troponin"***, University of the Ryukyus, Emergency Department, Okinawa, Japan. July 22nd, 2016
20. ***"Label-free nonlinear photoacoustic nanoscopy and spectroscopy"***, The Israel Society for Microscopy, The Golden Jubilee Annual Meeting, Haifa, Israel. June 2nd, 2016
21. ***"Magnetic modulation biosensing for rapid detection of proteins at sub ng/L concentrations"***, The Israel Society for Medical and Biological Engineering Annual Conference, Haifa, Israel. February 26th, 2016
22. ***"Diagnosing Heart Attack: Technical Problems with Serious Health Ramifications"***, The Sheba Medical Center at Tel Hashomer, Israel. January 12th, 2016
23. ***"Label-free nonlinear photoacoustic nanoscopy and spectroscopy"***, The 2nd Israeli Biophotonics Conference, The Optical Society of America, Ramat Gan, Israel. December 1st, 2015
24. ***"Magnetic Modulation Biosensing for rapid and highly sensitive detection of biomarkers"***, Condensed Matter Resnick seminar, Department of Physics, Bar Ilan University, Israel. June 18th, 2015
25. ***"Label free photoacoustic nanoscopy"***, Frontiers in Super Resolution Microscopy: Bio-imaging and beyond, Midreshet Sde Boker, Ben Gurion University of the Negev, Israel. May 27th, 2015
26. ***"Magnetic modulation biosensing for rapid and sensitive detection of cardiac troponin I"***, The Israel Society for Medical and Biological Engineering Annual Conference, Haifa, Israel. February 26th, 2015
27. ***"Diagnosing Heart Attack: Technical Problems with Serious Health Ramifications"***, Clinical Research Institute, Rambam, Israel. October 1th, 2014
28. ***"Non-Linear photoacoustic imaging"***, Dept. of Physics of Complex Systems, Weizmann Institute of Science, Israel. January 10th, 2012
29. ***"Photonic biosensing and photoacoustic imaging"***, Department of Electro-Optic Engineering, Ben-Gurion University, Israel. January 3rd, 2012
30. ***"Magnetic Modulation Biosensing for rapid detection of specific DNA sequences and proteins at low concentrations"***, Sigma-Aldrich, St. Louis, USA. August 12th, 2011
31. ***"Magnetic Modulation Biosensing for rapid detection of specific DNA sequences and proteins at low concentrations"***, The Knowledge Foundation's 18th Annual International Conference on Biodetection Technologies, Technological Responses to Biological Threats, Washington DC, USA. June 24th, 2011
32. ***"Concentrated solar power"***, The Center for New Institutional Social Sciences, Washington University in St. Louis, Missouri, USA. May 2nd, 2011
33. ***"Photonic biosensing and photoacoustic imaging"***, Department of Biomedical Engineering, Technion – Israel Institute of Technology, Israel. January 17th, 2011
34. ***"Photonic biosensing and photoacoustic imaging"***, Faculty of Engineering, Bar Ilan University, Israel. January 16th, 2011
35. ***"Photonic biosensing and photoacoustic imaging"***, Department of Electrical Engineering, Technion – Israel Institute of Technology, Israel. January 13th, 2011
36. ***"Photonic biosensing and photoacoustic imaging"***, Department of Biomedical Engineering, Tel-Aviv University, Israel. January 12th, 2011
37. ***"Photonic biosensing and photoacoustic imaging"***, Department of Biomedical Engineering, Ben-Gurion University, Israel. January 9th, 2011
38. ***"Magnetic modulation biosensing system for rapid and homogenous detection of specific DNA at low concentrations"***, Department of Physical-Electronics, Tel-Aviv University, Israel. January 15th, 2009
39. ***"Frequency stabilization of a frequency-doubled 1556 nm source to the two-photon transitions of rubidium"***, Department of Physical-Electronics, Faculty of Engineering, Tel-Aviv University, Israel. January 20th, 2000

Theses

1. M. Stern, ***"Rapid manipulation of magnetic beads for bio-sensing applications"***, M.Sc. thesis, Faculty of Engineering, Bar Ilan University, Ramat Gan, Israel (2018)

2. S. Roth, "**Identification of Protein-Protein Interactions Using a Magnetic Modulation Biosensing System**", Ph.D. dissertation, Faculty of Engineering, Bar Ilan University, Ramat Gan, Israel (2022)
3. M. Margulis, "**Detection and Identification of Nucleic Acid Targets Using Oligonucleotide Probes and Magnetic Modulation Biosensing**", Ph.D. dissertation, Faculty of Engineering, Bar Ilan University, Ramat Gan, Israel (2022)

LAB MEMBERS

	Name	Degree	Time	Topic
1	Dr. Meir Cohen	Research assistance	4/2015–	Optical modulation biosensing
2	Dr. Linoi Golani	Postdoc	10/2022–	Lab manager (developing dengue and Zika virus serological assays)
3	Dr. Moti Ben Shabbat	Postdoc	8/2023–	Developing OMB-based molecular assay for brain injuries
4	Dr. Merav Cohen-Lahav	Postdoc	10/2023–	Clinical evaluation of the OMBi system
5	Shmuel Burg	Ph.D.	10/2016–	Multi-Channel Magnetic aggregation biosensing
6	Guye Halpern	Ph.D.	10/2023–	Detecting pathogenic bacteria in food
7	Yossi Teubul	M.Sc.	10/2021–	Signal Processing of MMB system
8	Veronika Roni Stavchansky	M.Sc.	10/2022–	Rapid detection and quantification of growth factors for the cultured meat industry
9	Eliana Levy	M.Sc.	10/2022–	Toxin protein detection
10	Sofy Terenteva	M.Sc.	10/2022–	West Nile serological and antigenemia assays
11	Reut Ashkenazy	M.Sc.	10/2022–	Incorporating microfluidic devices in an OMB platform
12	Adi Efrati	M.Sc.	10/2022–	Developing an OMB-based Strep. A assay

Alumni

	Name	Degree	Time	Topic	Current position
1	Dr. Rinat Ankri	Research assistance	9/2016–7/2017	Lab manager	Assistant Professor at Ariel University
2	Dr. Ayelet Ganany-Padowicz	Sabbatical	1/2022–12/2022	Multiplexed detection of biomarkers	System engineer, Kamag
3	Dr. Yehudit Michelson	Postdoc	1/2015–12/2017	Lab Manager and infectious disease detection	Senior Medical Advisor at Novartis Oncology
4	Dr. Shirin Goldman	Postdoc	5/2017–4/2018	Infectious disease detection	Senior scientist at Pyxis Diagnostics
5	Dr. Shira Avivi	Postdoc	1/2018–8/2022	Lab manager (developing dengue and Zika virus serological assays)	Senior Medical Advisor at AstraZeneca
6	Dr. Shira Roth	Ph.D.	10/2015–9/2022	MMB-based protein-protein interactions	Post-doctoral research associate at Harvard University
7	Dr. Michael Margulis	Ph.D.	8/2015–6/2022	MMB-based DNA assays	Beyond Air
8	Moshe Zvi Stern	M.Sc.	8/2015–2/2018	Magnetic poles design and fabrication	Graduate student towards Ph.D. in Electrical Engineering (Tel Aviv University)
9	Tal Iluz	M.Sc.	10/2015–10/2017	Signal processing of MMB signals	Algorithms Developer, Signal Processing and Machine Learning (Omnisys)
10	Lior Barak Avrahami	M.Sc.	10/2016–10/2019	Multi-color MMB system	Senior Project Manager at 3NT Medical

11	Tiberiu Freund	Lab assistant	8/2015–12/2016	Lab Assistant	Deceased
12	Saar Ashri	Undergrad. student	1/2016–12/2016	Developing a DNA-based sandwich assay	MD student (Ariel University)
13	Kfir Shem Tov	Undergrad. student	10/2016–9/2017	Image and signal processing of MMB signals	Algorithm Engineer at MultiVu
14	Koby Visberg	Undergrad. student	10/2016–9/2017	Image and signal processing of MMB signals	Algorithm Engineer at Apple
15	Avital Shoshaim	Undergrad. student	10/2016–9/2017	Image and signal processing of MMB signals	Design Verification Engineer at Apple
16	Stephanie Roffe	Summer student	7–8/2017	Sensitivity improvement in the MMB system	Student at Touro College of Dental Medicine
17	Idan Golcman	Undergrad. Student	10/2019–10/2020	New algorithm for the optical modulation biosensing system	DFT (Design For Testability) Engineer at Pliops
18	Tal Levy	Undergrad. Student	10/2019–10/2020	New algorithm for the optical modulation biosensing system	Electrical Engineer at Qualcomm
19	Chen Kielbeer	Undergrad. Student	10/2021–10/2022	Dual wavelength MMB system	Student at Bar-Ilan University
20	Ofir Herman	Undergrad. Student	10/2021–10/2022	Dual wavelength MMB system	R&D Hardware Engineer at ADVA

STUDENTS AWARDS

	Name	Year	Award
1	Sofy Terenteva	2023	Excellence award, BINA (Bar-Ilan Institute of Nanotechnology & Advanced materials), Bar Ilan University
2	Reut Ashkenazy	2023	Excellence award, BINA (Bar-Ilan Institute of Nanotechnology & Advanced materials), Bar Ilan University
3	Shira Roth	2022	The Planning and Budgeting Committee's (PBC) fellowship for outstanding postdoctoral researchers (two years, \$72k)
		2022	Bar-Ilan's award for excellent women researchers for postdoctoral fellowship abroad
		2022	BINA (Bar-Ilan Institute of Nanotechnology & Advanced materials) Publication award, Bar Ilan University
		2022	MKS Instruments SPIE Excellent research travel award
		2021	Publication award, BINA (Bar-Ilan Institute of Nanotechnology & Advanced materials), Bar Ilan University
		2020	Outstanding student paper award, Conference 11258 (Frontiers in Biological Detection: From Nanosensors to Systems), Photonics West, San Francisco, CA
		2020	Scholarship for active participation in an international conference, Israel ministry of science (10K NIS)
		2019	Publication award, BINA (Bar-Ilan Institute of Nanotechnology & Advanced materials), Bar Ilan University
		2019	Excellence award, BINA (Bar-Ilan Institute of Nanotechnology & Advanced materials), Bar Ilan University
		2019	Excellence award, Israel Society for Medical and Biological Engineering (ISMBE)
		2019	Outstanding student paper award, Paper 10895-10, SPIE Photonics West, Conference on Biomedical Optics, San Francisco, CA
		2019	MKS Instruments SPIE Excellent research travel award
		2019	Scholarship for active participation in an international conference, Israel ministry of science (10K NIS)
		2018	Women's scholarship for active participation in international conference
		2018	Best oral presentation award, BINA annual conference, Neve Ilan. Israel, Feb. 2018

		2018	Three year scholarship for outstanding Ph.D students, The national foundation for practical and engineering science, Israel ministry of science (250K NIS)
		2018	Excellent students' scholarship, BINA (Bar-Ilan Institute of Nanotechnology & Advanced materials), Bar Ilan University
		2016	The President's scholarship, "Milgat Hanasi", for excellent Ph.D. students, Bar-Ilan University
		2016	BINA (Bar-Ilan Institute of Nanotechnology & Advanced materials) scholarship for excellent students, Bar-Ilan University
4	Shmuel Burg	2019	2 nd place poster award, Bar Ilan University, Faculty of Engineering Conference
		2017	Best poster award, Bar Ilan University, Faculty of Engineering Conference
		2017	The President's scholarship, "Milgat Hanasi", for excellent Ph.D. students, Bar-Ilan University
5	Michael Margulis	2022	BINA (Bar-Ilan Institute of Nanotechnology & Advanced materials) Publication award, Bar Ilan University
		2020	Excellence award, Israel Society for Medical and Biological Engineering (ISMBE)
		2020	Outstanding student paper award, Conference 11258 (Frontiers in Biological Detection: From Nanosensors to Systems), Photonics West, San Francisco, CA
		2020	Scholarship for active participation in an international conference, Israel ministry of science (10K NIS)
		2019	BINA (Bar-Ilan Institute of Nanotechnology & Advanced materials) scholarship for excellent students, Bar-Ilan University
		2019	BINA (Bar-Ilan Institute of Nanotechnology & Advanced materials) Publication award, Bar Ilan University
		2019	Outstanding student paper award, Paper 10895-9, SPIE Photonics West, Conference on Biomedical Optics, San Francisco, CA
		2016	The President's scholarship, "Milgat Hanasi", for excellent Ph.D. students, Bar-Ilan University
6	Avital Shoshaim	2018	Outstanding undergraduate project award, Faculty of Engineering, Bar Ilan University
		2018	Two-year scholarship for outstanding undergraduate students studying towards a M.Sc. degree in Engineering, The national foundation for practical and engineering science, Israel ministry of science (100K NIS)

MILITARY SERVICE

1989–1996 Israeli Defense Forces, intelligence elite program. Released from duty as a Captain.

EXTRACURRICULAR ACTIVITY

1984– International Okinawan Goju-Ryo Karate-Do Federation (IOGKF)
6TH dan black belt and a senior coach of martial arts

2000–2001 **Senior coach of martial arts**
Wingate Institution for physical education & sport, South Netanya, Israel. The Nat Holman School for coaches and instructors.

1990–1991 **Instructor of martial arts**
Wingate Institution for physical education & sport, South Netanya, Israel. The Nat Holman School for coaches and instructors.