

CURRICULUM VITAE

NAME Prof. Eran Socher

ID No. 037549664

Academic Degree PhD (EE), MSc (EE), BSc (EE), BA (Physics)

FACULTY/DEPT

Associate Professor

Department of Physical Electronics

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ZAHAL (ISRAELI)

ID number 5144704

Discharged as Captain (Air Force), 2006

Actively serving in Reserves

MARITAL STATUS

Married, four children

a. Education

1. B.Sc. in Electrical Engineering (Summa Cum Laude)

Technion – Israel Institute of Technology, Haifa, Israel 32000 (1996)

Fields: Microelectronics, Control Systems, Signal Processing

GPA: 95.8/100

2. B.A. in Physics (Summa Cum Laude)

Technion – Israel Institute of Technology, Haifa, Israel 32000 (1996)

Fields: Solid State Physics, Electrooptics

GPA: 95.8/100

3. M.Sc. in Electrical Engineering (with honors)

Technion – Israel Institute of Technology, Haifa, Israel 32000 (1999)

Field of research: “Study of Uncooled Micromachined Integrated Thermoelectric IR Sensors”

GPA: 95.6/100 (courses), 94/100 (thesis)

Instructor: Prof. Yael Nemirovsky

4. Ph.D. in Electrical Engineering

Technion – Israel Institute of Technology, Haifa, Israel 32000 (2005)

Field of research: “Investigation of MicroElectroThermal Devices and their Application in Uncooled Thermal Imaging”

GPA: 99.1/100 (courses)

Instructor: Prof. Yael Nemirovsky

B. FURTHER STUDIES

C. ACADEMIC AND PROFESSIONAL EXPERIENCE

Research Experience

1. Research Assistant, Department of Electrical Engineering, Technion (1996-2003)
 - CMOS compatible and integrated uncooled thermal sensors and MEMS devices
2. Researcher (Captain), EW Research, IAF (2003-2006)
IR sensors and systems, RF MMIC
3. Researcher, MEMS Group, Rafael (2004-2006)
 - MEMS based millimeter wave devices for sensing
4. Visiting Assistant Professor, Department of Electrical Engineering, UCLA (Oct. 2006-Sep. 2008)
 - RF and mm-wave CMOS integrated circuits
5. Senior Lecturer, School of Electrical Engineering, Tel Aviv University (Oct. 2008 – April 2015, tenured Dec. 2013)
 - Established and heads the High Frequency Integrated Circuits Lab
 - RF and mm-wave CMOS integrated circuits
6. Associate Professor, School of Electrical Engineering, Tel Aviv University (May. 2015 – September 2021)
 - Heads the High Frequency Integrated Circuits Lab
 - RF and mm-wave CMOS integrated circuits
7. Visiting Professor, Department of Electrical and Computer Engineering, University of Toronto (August 2015 – 2017)
 - 200GSps ADCs and DACs in Si/SiGe BiCMOS for optical communication
8. Full Professor, School of Electrical Engineering, Tel Aviv University (October 2021 – Now)
 - Heads the High Frequency Integrated Circuits Lab
 - Head the VLSI Lab
 - RF and mm-wave CMOS integrated circuits
9. Chair, Department of Physical Electronics, Tel Aviv University (October 2021 – Now)

Teaching Experience

1. Department of Electrical Engineering, Technion (1995-2000), Teaching Assistant
 - Electrooptic Semiconductor Devices for Sensing
 - Integrated Circuits – Introduction to VLSI
 - Project instructor: VLSI circuits design and testing, micromachined sensors, IR sensor characterization, numerical modeling of MEMS devices
 - Lab instructor: MOS devices, Solar cells, Noise in MOS transistors, Electronics
2. Department of Continuing Education and External Studies, Technion (2001), Lecturer
 - Analog VLSI Circuits
 - Integrated Circuits – Introduction to VLSI
3. School of Engineering, Bar-Ilan University (2005-2006), Adjunct Lecturer
 - Semiconductor Electrooptical Sensors
 - Introduction to VLSI Circuit Design
4. Department of Electrical Engineering, Technion (2000-2006), Adjunct Lecturer
 - Digital Integrated Circuits
 - Electrical Engineering 1
5. Department of Electrical Engineering, UCLA (Oct. 2006-Sep. 2008), Visiting Assistant Professor
 - EE115A (Analog Electronic Circuits I)
6. School of Electrical Engineering, Tel Aviv University, Associate Professor (Oct. 2008- , Tenured Dec. 2013, Assoc. Prof. May 2015)
 - 0512-3513-08 Analog Electronics Circuits (undergraduate)
 - 0510-7114-01 RFIC Amplifier Design (new graduate course)
 - 0510-7115-01 RFIC Communication Circuit Design (new graduate course)
 - 0510-4706-01 Integrated Analog Circuits (new undergraduate/graduate course)

Other Professional Activities

1. Ad-Hoc reviewer for: IEEE J. Solid State Circuits, IEEE Trans. Microwave Theory and Techniques, IEEE Microwave and Wireless Components Letters, IOP Measurement Science and Technology, IEEE Communication Magazine, IEEE Sensors Journal, Transactions on Computers, IEEE J. MEMS, IEEE ISCAS, IEEE ASQED, EuMA EuMC.
2. Served as a Young Scientist delegate to the World Economic Forum, Dalian, China, 2011.
3. Represented Senior Lecturers at Tel Aviv University Senate (2011-2013).
4. Represented area 11 in the European Microwave Association General Assembly (2012-2015).
5. Treasurer for the Israel Section of IEEE (2014-2015)
6. Associate Editor, IEEE Microwave and Wireless Components Letters (2015-2018)
7. Associate Editor, Microelectronics Journal (2015-)

D. ACTIVE PARTICIPATION IN SCIENTIFIC MEETINGS

1. IEEE MEMS'99, Orlando, Florida, USA, 17-21 January 1999. Presented a paper
2. Transducers'99, Sendai, Japan, 7-10 June 1999. Presented a paper
3. 11th International Meeting on Electro-optics and Microelectronics in Israel, Tel Aviv, Israel, 9-11- November 1999. Presented a paper.
4. AISEM'2000, Lecce, Italy, February 12-15, 2000. Presented two papers.
5. 21th IEEE Convention in Israel, Tel Aviv, Israel, 11-12 April 2000. Presented two papers.
6. International Conf. Solid-State Sensors and Actuators (Transducers'01), Munich, Germany, 10-14 June 2001. Presented a paper.
7. IEEE/LEOS Optical MEMS 2001, Okinawa, Japan, 25-28 September 2001. Presented a paper.
8. 22th IEEE Convention in Israel, Tel Aviv, Israel, December 1st 2002. Presented a paper.
9. SPIE Infrared Technology and Applications XXVII, Jan 2003, Seattle, Washington, USA. Presented a paper
10. Nanotechnology Conference and Trade Show, 23-27 February 2003, San Francisco, California, USA. Presented a paper.
11. IEEE 12th International Conference on Solid-State Sensors, Actuators and Microsystems (Transducers'03), 8-12 June 2003, Boston. Presented a paper.
12. IEEE High Performance Computer Architecture (HPCA '08), Salt Lake City, Utah, USA, Feb. 16-20, 2008. Presented a paper.
13. IEEE Radio Frequency Integrated Circuits Conference (RFIC '08), June 2008, Atlanta. Presented a paper.
14. IEEE International Microwave Symposium (IMS'08), June 2008, Atlanta. Presented a paper.
15. ACM International Symposium on Physical Design (ISPD'08), Portland, Oregon, USA, April 13-16, 2008. Presented a paper.
16. International Symposium on Microarchitecture, (MICRO '08), Lake Como, Italy, Nov. 8-12, 2008. Presented a paper.
17. IEEE Radio Frequency Integrated Circuits Conference (RFIC '09), June 2009, Boston. Presented a paper.
18. IEEE VLSI Circuits Symposium, June 2009, Kyoto, Japan. Presented a paper.
19. IEEE Int. Conf. on Microwaves, Communications, Antennas and Electronics Systems (COMCAS '09), Nov. 2009, Tel Aviv, Israel. Presented a paper.
20. IEEE 26-th Convention of Electrical and Electronics Engineers in Israel, Nov. 2010, Eilat, Israel, Presented a paper.
21. IEEE Topical Meeting on Silicon Monolithic Integrated Circuits in RF Systems (SiRF 2011), Pheonix, Arizona, USA, Jan. 17-19, 2011. Presented two papers.
22. IEEE Radio Frequency Integrated Circuits Conference (RFIC 2011), June 2011, Baltimore. Presented a paper.
23. IEEE Int. Symp. On Antenna and Propagation, July 2011, Spokane WA, USA, Presented a paper.
24. IEEE Topical Meeting on Silicon Monolithic Integrated Circuits in RF Systems (SiRF 2012), Santa Clara, California, USA, Jan. 16-18, 2012. Presented a paper.

25. IEEE International Symposium on Antennas and Propagation and CNC/USNC/URSI National Radio Science Meeting, Chicago, Illinois, July 8-13, 2012. Presented a paper.
26. IRMMW-THz 2012, Wollongong, Australia, Sept. 23-28, 2012. Presented an invited paper.
27. Communication 2025, Irvine, California, USA, Oct. 16-17, 2012. Presented an invited paper.
28. Latin America Optics and Photonics Conference, Sao Sebastiao, Brazil, November 11, 2012. Presented a paper.
29. International Symposium on Frontiers in THz Technology, Nara, Japan, Nov. 26-30, 2012. Presented a paper.
30. IEEE International Microwave Symposium, Seattle, June 2013. Presented two papers.
31. Intl. Conf. Infrared, mm, THz Waves (IRMMW-THz), September 2013, Mainz, Germany. Presented a paper.
32. European Microwave Integrated Circuit Conference, Neuremberg, Germany, October 2013. Presented 3 papers
33. IEEE COMCAS, Tel Aviv, October 2013, Presented 4 papers and was member of the technical committee.
34. IEEE Radio Frequency Integrated Circuits Symposium, Tampa FL, USA, June 2014. Attended. Student presented a paper.
35. IEEE International Microwave Symposium, Tampa FL, USA, June 2014. Attended. Students presented 3 papers.
36. European Microwave Integrated Circuit Conference, Rome, Italy, October 2014, Attended, part of the Technical Committee. Students presented 3 papers.
37. IEEE 28-th Convention of Electrical and Electronics Engineers in Israel, Eilat, Israel, Dec. 2014, Attended, part of the organizing committee and treasurer. Students made 4 oral presentations.
38. IEEE Radio Frequency Integrated Circuits Symposium, Phoenix AZ, USA, May 2015. Attended. Student presented a paper.
39. IEEE International Microwave Symposium, Phoenix AZ, USA, May 2015. Attended. Student presented a paper.
40. European Microwave Integrated Circuit Conference, Paris, France, October 2015, Part of the Technical Committee. Student presented 1 paper.
41. IEEE COMCAS, Tel Aviv, October 2015, Member of the technical committee. Students presented 7 papers.
42. IEEE International Solid State Circuits Conference (ISSCC) Feb. 2016, San Francisco CA, USA, Attended and student made an oral presentation.
43. IEEE International Wireless Symposium, March 2016, Shanghai, China, Attended and gave an invited talk.
44. The 5th international symposium on next generation electronics, 4-6 May 2016, HsinChu, Taiwan, Attended and gave an invited talk.
45. IEEE International Microwave Symposium, San Francisco CA, USA, May 2016. Attended. Presented a paper and students presented 2 more papers.
46. European Microwave Integrated Circuit Conference, London, UK, October 2016, Part of the Technical Committee. Students presented 5 papers.
47. IEEE ICSEE, Eilat, November 2016. Students presented 2 papers
48. IEEE International Microwave Symposium, Honolulu HI, USA, June 2017. Attended. Presented a paper and a student presented another paper.
49. IEEE Radio Frequency Integrated Circuit Conference, Philadelphia PA, June 2018. Attended and two students presented papers.

50. IEEE Radio Frequency Integrated Circuit Conference and International Microwave Symposium, Boston MA, June 2019. Presented an invited talk at the Workshop and a student presented a paper
51. European Microwave Integrated Circuit Conference, Utrecht, Netherlands, January 2021. Attended virtually and two students presented papers.
52. IEEE COMCAS, Tel Aviv, November 2021, Session organizer and Chair. Students presented 2 papers.
53. European Microwave Integrated Circuit Conference, London, England, April 2022. Postponed due to Covid. Paper to be presented.
54. IEEE International Microwave Symposium, Denver CO, USA, June 2022. Two papers to be presented.
55. European Microwave Integrated Circuit Conference, Milan, Italy, September 2022. Paper to be presented.
56. IEEE Silicon RF Topical Meeting, Las Vegas, NV, January 2023. Invited Paper to be presented

E. ACADEMIC AND PROFESSIONAL AWARDS

E.1 INTERNAL GRANTS (AT TAU)

1. Equipment grant, Krantzberg Institute, 18,000NIS (2009), PI
2. Equipment grant, Mozniker Institute, 10,000NIS, Co-PI with Prof. Avi Gover (2010)
3. Equipment and software grant, Mozniker Institute, 30,000NIS, Co-PI with several Professors of the department (2012)
4. Equipment and software grant, Krantzberg Institute, 30,000NIS, Co-PI with several Professors of the department (2014)
5. Equipment and software grant, Krantzberg Institute, 30,000NIS, Co-PI with several Professors of the department (2015)
6. Equipment and software grant, Krantzberg Institute, 30,000NIS, Co-PI with several Professors of the department (2016)

E.1.2 EXTERNAL GRANTS

1. Equipment grant for RFIC research, Intel, \$15,000 (2009), PI
2. W-band CMOS source, IMOD, 1,350,000NIS (2009-2014), PI
3. Live Detection of Hidden Threats via Real-Time 3D Imaging, Ministry of Science, \$90,000 (2010-11), PI
4. Hybrid mm-wave energy transmission, IMOD, 1MNIS, with Prof. Avi Gover (2010-2019), co-PI
5. RFID circuits, ALPHA Consortium (MAGNET), 460,000NIS (2010-2012), PI
6. Equipment grant for mm-wave integrated circuits, Intel, \$20,000 (2010), PI
7. Integrated biosensing using mm-wave CMOS circuits, GIF Young Scientist, 27,500Euro (2011), PI
8. Equipment grant for RFIC research, Intel, \$15,000 (2011), PI
9. Millimeter-wave CMOS Circuits, Broadcom Foundation, \$75,000 (2011-2013), PI

10. Broadband mm-wave frequency source, Agilent, \$50,000 (2012), PI
11. Integrated THz CMOS circuits for biosensing, GIF, 180,000Euro, with Prof. Hartmut Roskos, Frankfurt University (2013-15), PI
12. CMOS Integrated 2D Active Metamaterials, IMOD, 400,000NIS (2012-2014), PI
13. CMOS THz transmitters and receivers, IMOD, 950,000NIS (2013-2015), PI
14. Advanced Communication Technology, Helmsley Foundation, \$3,000,000, equally divided with Dr. Eran Tromer (2013-2017), co-PI
15. Dual visible and THz imagers for astronomy applications, Ministry of Science, 400,000NIS (2014-2016), co-PI
16. High data rate communication mm-wave CMOS circuits, Qualcomm, \$40,000 (2014), PI
17. Electronically controlled optical nano antennas, Ministry of Science, 1,150,500NIS, with Dr. Alon Bahabad (2015-2017), co-PI
18. Sub-Harmonic Wireless Locking of THz Transmitters, Kamin – Ministry of Economics, 880,000NIS, with Prof. Arie Ruzin (2015-2017), co-PI
19. CMOS mm-wave arrays, IMOD, 200,000NIS (2017-2018), PI
20. Locked THz transmitter arrays, Qualcomm, \$40,000 (2017), PI
21. Ka-band transceivers, IMOD, 200,000NIS (2017-2018), PI
22. Inter-cellular cyborg, Ministry of Science, 2,400,000NIS, with Prof. Shacham, Fish, Popovtzer (2017-2020), co-PI
23. Treating focal epilepsy and stroke by closing the loop, £125,000, with Dr. Eran Stark (2017-2020), co-PI
24. CMOS mm-wave imagers, IMOD, 300,000NIS (2018-2019), PI
25. 3D CMOS THz Imager, Kamin, 440,000NIS (2019-2020), PI
26. Analog frontend for terabit communication, Toga Networks, \$400,000 (2019-2021), PI
27. Short range terabit communication using dielectric waveguides, Toga Networks, \$500,000 (2020-2022), PI
28. Chip scale active dielectric resonance antennas for THz transceivers, ISF, 1,040,000NIS (2020-2024), PI
29. W-band CMOS transceivers, IMOD, 250,000NIS (2020-2021), PI
30. Broadband CMOS phase shifter, IMOD, 200,000NIS (2021-2022), PI
31. W-band CMOS transmitters, IMOD, 225,000NIS (2021-2022), PI
32. W-band CMOS receivers, IMOD, 200,000NIS (2022-2023), PI

E.2 Fellowships

E.3 Scholarships

1. Graduate students Dean scholarship for excellence in graduate studies 1997
2. Eshkol scholarship and research grant 1998-1999
3. VATAT scholarship for doctoral students 2000-2003
4. Gutwirth scholarship for doctoral students (2003)

E.4 Prizes

1. President list for excellence in undergraduate admission grades (Technion, 1992)
2. President list for excellence in undergraduate studies (Technion, 1993-1996)
3. Finci award for best student in Electrical Engineering (Technion, 1994)
4. Kasher award for best undergraduate project in Electrical Engineering (Technion, 1996)
5. Best teaching assistant award (Technion, 1998)
6. Eliahu I. Jury award for excellence in system engineering graduate studies (Technion, 1999)
7. Best permanent department teaching assistant award (Technion, 1999)
8. Best permanent teaching assistant award (Technion, 2000)
9. Board of Higher Education Excellent Graduate Student award (Israel, 2003)
10. Excellence in teaching award (Technion, 2003)
11. Best Paper Award, High Performance Computer Architecture (HPCA), 2008
12. Rector excellent teacher award, Tel Aviv University, 2011
13. Faculty of Engineering Excellence in teaching distinction, Tel Aviv University, 2013
14. Top 100 Teachers list, Tel Aviv University, 2014
15. Rector excellent teacher award, Tel Aviv University, 2015
16. Top 100 Teachers list, Tel Aviv University, 2015
17. Top 100 Teachers list, Tel Aviv University, 2019
18. Top 100 Teachers list, Tel Aviv University, 2021

F. MEMBERSHIP IN PROFESSIONAL SOCIETIES

IEEE Student Member (Since 1996) , Member (Since 2003) and Senior Member (Since 2012)

European Microwave Association (EuMA) Member (Since 2012) and General Assembly Member (2012-2015)

G. DOCTORAL STUDENTS SUPERVISED BY CANDIDATE

Graduated Postdocs

1. Eliezer Halpern (2013-2015) – Millimeter wave and THz CMOS circuits, now at Qualcomm
2. Bassam Khamaisi (2015) – THz CMOS sources and receivers, now at Intel

Graduated Ph.D Students

1. Eli Bloch (PhD, 2012-2014) – 65nm CMOS F-Band 20Gbps QPSK transmitter design, joint supervision with Prof. Dan Ritter, Technion, now at Cisco
2. Bassam Khamaisi (PhD, 2010-2015) – On Chip CMOS Harmonic Transceiver for Biomedical Imaging at Sub Millimeter Waves, now at Intel
3. Samuel Jameson (PhD, 2011-2017) – Millimeter-Wave and THz CMOS Radiating Transmitters, now at Intel
4. Naftali Landsberg (Ph.D, 2010-2017) – CMOS Based Micro RADAR System at Sub-mm Wavelength for 3D Imaging, now at Intel Mobileye
5. Evgenia (Jenia) Elkind (PhD, 2014-2020) – Millimeter-wave and THz CMOS Receivers Near and Beyond Transistor Cut-Off Frequencies, now at Intel

6. Nir Weissman (PhD, 2014-2021) – Low power high speed mm-wave communication links in CMOS, now at Intel Mobileye

Graduated M.Sc. Students

1. Samuel Jameson (2009-2010) – W-band oscillator and on-chip antenna (from ENSEEIHT, France), Now at Intel
2. Nadav Buadana (MSc, 2008-2013) – Wideband mm-wave QVCO using DiCAD and rectified superposition, Now at Rafael and a PhD student at TAU
3. Alex Katz (MSc, 2008-2012) – 60GHz wide-band VCO and divider, Now a PhD at the Technion
4. Amit Vishnupolsky (MSc, 2009-2013) – W-band source on chip, Now at Intel
5. Igor Gertman (MSc, 2010-2013) – Wideband mm-wave power amplifier, Now at Qualcomm
6. Amity Wolfman (M.Sc, 2010-2013) – Power amplifiers in LDMOS technology, Now at Rafael
7. Udi Nir (MSc, 2010-2013) – Sub-mm-wave receiver in super-scaled CMOS, Now at Toga Networks
8. Nadav Mazor (MSc, 2010-2013) – CMOS mm-wave multipliers, Now at Vayyar
9. Ronny Sananes (MSc, 2009-2014) – Wideband multichannel receiver in CMOS technology, Now at IDF
10. Nir Weissman (MSc, 2012-2014) - 100 GHz radiation harvesting, Now a PhD student at TAU and Intel
11. Eyal Harir (MSc, 2010-2014) – X-band power amplifiers in SiGe, Now at Elta
12. Evgenia Elkind (MSc, 2012-2014) – W-band CMOS receivers, Now at Intel
13. Nadav Yanay (MSc, 2009-2014) – DiCAM passive devices. Now at Airspan
14. Aviv Shapira (MSc, 2012-2014) – Integrated RFID circuits at 24GHz. Now at Intel
15. Rotem Banin (MSc, 2009-2015) – 60GHz quadrature frequency synthesis. Now at Intel
16. Zvi Lupu (MSc, 2010-2015) - Column-Parallel Single-Slope ADC for Infrared Image Sensor applications. Now at Zoran
17. Iris Shtrasler (MSc, 2012-2015) – CMOS active 2D metamaterials. Now at Toga Networks
18. Run Levinger (MSc, 2013-2015) –Linearization of SiGe mixers and detectors using mtanh topologies. Now at Intel
19. Tom Heller (MSc, 2012-2015) – 100-140 GHz receiver in 28nm CMOS. Now at OnSemi
20. Elinor Knaani (MSc, 2013-2015) – Envelope tracking control systems in transmitters. Now at Intel
21. Yuval Dafna (MSc, 2013-2015) – 100-140 GHz transmitter in 28nm CMOS. Now at Intel
22. Assaf Azoulay (MSc, 2012-2015) – Devices for mm-wave multi-band communication. Now at Elbit-Elisra.
23. Roman Klimovich (MSc, 2015-2018) – CMOS-based mm-wave and THz transmitter arrays. Now at Intel
24. Michal Eitan (MSc, 2014-2019) – SiGe distributed amplifier. Now at Intel
25. Tomer Gidony (MSc, 2014-2020) – . Now at Intel
26. Edoh Shaulov (MSc, 2014-2019) – W-band CMOS detectors and energy harvesters, Now a PhD student at TAU
27. Eitan Khaikin (MSc, 2017-2019) – W-band CMOS receiver, Now at Intel
28. Alexander Tarnavsky (MSc, 2016-2020) – Multi-channel digital current source for brain stimulation. Now PhD student at TAU
29. Tomer Ben Oz (MSc, 2014-2020). Now at Intel
30. Noam Shmilovitz (MSc, 2017-2020) – Ka CMOS PA. Now at Qualcomm
31. Sumeet Londhe (MSc, 2017-2020) – Ka SPDT and phase shifter. Now PhD student at TAU

Current Ph.D Students

1. Gregory Shimonov (PhD, 2012-) – Integrated Biosensing using silicon mm-wave circuits
2. Nadav Buadana (PhD, 2015-) – THz CMOS arrays
3. Edoh Shaulov (PhD, 2019-) – THz CMOS imaging
4. Sumeet Londhe (PhD, 2020-) – TBD
5. Tal Elazar (PhD, 2020-) – admitted into direct PhD program

Current M.Sc. Students

6. Aviv Marks (MSc, 2011-) – W-band Low Noise Amplifier and Receiver

7. Firass Mustafa (MSc, 2014-) – High harmonic CMOS frequency multipliers
8. Koby Shmuel (MSc, 2014-) – Wideband CMOS baseband amplifiers
9. Natan Gershengorn (MSc, 2017-) – W-band multibit phase shifter
10. Aviv Barabi (MSc, 2018-) – W-band GaAs Frontend
11. Misgav Elmakias (MSc, 2018-) – Intra-cell energy harvester
12. Aviad Haran (MSc, 2018-) – Wideband mixer for interleaved ADC
13. Eli Szulc (MSc, 2019-) – Ka CMOS modular phase shifter
14. Yoni Seifert (MSc, 2020-) – TBD
15. Shay Ron (MSc, 2020-) - TBD

SCIENTIFIC PUBLICATIONS

A. BOOKS AND MONOGRAPHS

B. TEXTBOOKS (not for MDs)

B.1. ORIGINAL ARTICLES

B.1.1 Articles Published

- [J1] E. Socher, O. Degani and Y. Nemirovsky, “*Optimal Design and Noise Considerations of CMOS Compatible IR Thermoelectric Sensors*”, Sensors and Actuators A (Physical), Vol. 71 (1998), pp. 107-115. Q1. IF=1.903. Cited: 33 (ISI), 47 (Scholar)
- [J2] O. Degani, D. J. Seter, E. Socher, S. Kaldor and Y. Nemirovsky, “*Micromachined Accelerometer with Modulated Integrative Differential Optical Sensing*”, IEE Electronics Letters., Vol. 34, No. 7, 2nd April 1998, pp. 654-655. Q2. IF=0.93. Cited: 1 (ISI), 2 (Scholar)
- [J3] O. Degani, D. Seter, E. Socher, S. Kaldor and Y. Nemirovsky, “*Optimal Design and Noise Considerations of Micromachined Vibrating Rate-Gyroscope with Modulated Integrative Differential Optical Sensing*”, IEEE Journal of Microelectromechanical Systems, Vol. 7, No. 3 (1998), pp. 329-338. Q1. IF=1.754. Cited: 27 (ISI), 42 (Scholar)
- [J4] D. J. Seter, O. Degani, E. Socher, S. Kaldor, E. Scher and Y. Nemirovsky, “*Characterization of a Novel Micromachined Optical Vibrating Rate Gyroscope*”, Rev. of Sci. Inst., Vol. 70, No. 2 (1999) 1274-1276. IF=1.614. Cited: 0 (ISI), 3 (Scholar)
- [J5] O. Degani, E. Socher, A. Lipson, T. Leitner, D. J. Seter, S. Kaldor and Y. Nemirovsky, “*Pull-In Study of an Electrostatic Torsion Microactuator*”, IEEE Journal of Microelectromechanical Systems, Vol. 7, No. 4 (1998), pp. 373-379. Q1. IF=1.754. Cited: 197 (ISI), 353 (Scholar)
- [J6] E. Socher, O. Bochobza-Degani and Y. Nemirovsky, “*Optimal Performance of CMOS Compatible IR Thermoelectric Sensors*”, IEEE Journal of Microelectromechanical Systems, Vol. 9, No. 1, 2000. Q1. IF=1.754. Cited: 32 (ISI), 35 (Scholar)
- [J7] Ofir Degani, Dan J. Seter, Eran Socher and Yael Nemirovsky, “*Comparative study of novel micromachined accelerometers employing MIDOS*”, Sensors and Actuators A: Physical, Vol. 80 (2000), pp. 91-99. Q1. IF=1.903. Cited: 15 (ISI), 20 (Scholar)

- [J8] Ofir Degani, Dan J. Seter, Eran Socher and Yael Nemirovsky, "*A novel micromachined vibrating rate-gyroscope with optical sensing and electrostatic actuation*", Sensors and Actuators A: Physical, Vol. 83 (2000), pp. 54-60. Q1. IF=1.903. Cited: 18 (ISI), 37 (Scholar)
- [J9] Ofir Bochobza-Degani, Dan J. Seter, Eran Socher and Yael Nemirovsky, "*Design and Noise Consideration of an Accelerometer employing modulated integrative differential optical sensing*", Sensors and Actuators A: Physical, Vol. 84 (2000), pp. 53-64. Q1. IF=1.903. Cited: 15 (ISI), 25 (Scholar)
- [J10] Eran Socher, Ofir Bochobza-Degani and Yael Nemirovsky, "*A novel spiral CMOS compatible micromachined thermoelectric IR microsensor*", J. Micromech. Microeng. Vol. 11, 2001, pp. 574-576. Q1. IF=1.731. Cited: 19 (ISI), 25 (Scholar)
- [J11] Ofir Bochobza-Degani, Eran Socher and Yael Nemirovsky, "*On the effect of residual charges on the Pull-In parameters of electrostatic actuators*", Sensors and Actuators A: Physical, Vol. 97-98, 2002. Q1. IF=1.903. Cited: 31 (ISI), 38 (Scholar)
- [J12] Eran Socher, Salomon Michel Beer and Yael Nemirovsky, "*Temperature Sensitivity of SOI-CMOS Transistors for use in Uncooled Thermal Sensing*", IEEE Tran. Elec. Dev., Vol. 52 No.12, pp. 2784-2790, 2005. Q1. IF=2.472. Cited: 33 (ISI), 56 (Scholar)
- [J13] Eran Socher and M. Frank Chang, "Can RF Help CMOS Processors?", *Invited Paper*, IEEE Communication Magazine, Vol. 45, No. 8, pp. 104-111, 2007. Q1. IF=4.007. Cited: 34 (ISI), 46 (Scholar)
- [J14] Hsing-Ting Yu, Sai-Wang Tam, Yanghyo Kim, Eran Socher, M.C. Frank Chang and Tatsuo Itoh, "*A Dual Band mm-Wave CMOS Oscillator with Left-Handed Resonator*", IEEE Trans. Microwave Theory and Techniques, Vol. 58, No. 5, part 2, pp. 1401-1409, 2010. Q1. IF=2.243. Cited: 16 (ISI), 28 (Scholar)
- [J15] Eran Socher and Samuel Jameson*, "*A wide tuning range W-band Colpitts VCO in 90nm CMOS*", IET Electronics Letters, Vol. 47, No. 22, pp. 1227-1229, 2011, **Featured Paper**. Q2. IF=1.59. Cited: 23 (ISI), 26 (Scholar)
- [J16] Ronny Sananes* and Eran Socher, "*A 52-75GHz wideband low noise amplifier in 90nm CMOS Technology*", IET Electronics Letters, Vol. 48, No. 2, pp. 71-72, 2012. Q2. IF=1.59. Cited: 12 (ISI), 19 (Scholar)
- [J17] Bassam Khamaisi* and Eran Socher, "*A 209-233GHz Frequency Source in 90 nm CMOS Technology*", IEEE Microwave and Wireless Components Letters, Vol. 22, No. 5, pp. 260-262, 2012. Q1. IF=1.703. Cited: 24 (ISI), 28 (Scholar)
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B.1.3 Articles Submitted

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[S2] Jenia Elkind* and Eran Socher, Gate Resistance Impact on Near fmax High Sensitivity mm-Wave Receivers, submitted to IEEE Trans. Microwave theory and techniques

[S3] Eitan Khaikin* and Eran Socher, X-Band to W-Band FMCW Radar Extension Receiver Chip, submitted to IEEE Journal of Microwaves

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[IP2] Nir Weissman* and Eran Socher, Bi-Directional W-Band Transceiver for High Data Rate Communication in mm-wave range, to be submitted to IEEE T-MTT

[IP3] Nir Weissman* and Eran Socher, An F-Band Non-coherent ASK Dual-Band Transceiver Chip-Set for Multi-Gb/s Communication Link, to be submitted to IEEE JSSC

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[IP5] Eli Szulc* and Eran Socher, A Modular 8-bit Ka-band Phase Shifter in 130nm CMOS

[IP6] Nadav Buadana* and Eran Socher, A 300GHz Dual Polarization Radiating VCO Source

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C. CHAPTERS IN BOOKS

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[CA11] E. Socher, THz CMOS radiating transceivers and arrays for future connectivity and sensing, May 2018, Whistler BC, Canada, **Invited Talk**

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D.2. PAPERS PRESENTED AT SCIENTIFIC MEETINGS PUBLISHED AS PROCEEDINGS

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