

CURRICULUM VITAE

ILYA GOYKHMAN

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EDUCATION

- June 2013** **PhD, Applied Physics** (with excellence)
Department of Applied Physics, Hebrew University of Jerusalem.
Thesis: "Nanoscale active optical devices based on silicon photonics and silicon plasmonics platforms"
- May 2007** **MSc, Applied Physics** (summa cum laude, top 5%)
Department of Applied Physics, Hebrew University of Jerusalem
Thesis: "Highly-sensitive EnFET for direct recording of molecular dipole variations "
- June 2003** **BSc, Electrical Engineering**
Faculty of Electrical Engineering,
Technion- Israel Institute of Technology

WORK EXPERIENCE

- Sep 2017 – present **Assistant Professor**
Faculty of Electrical Engineering,
Technion – Israel Institute of Technology
- Feb 2015 – Sep 2017 **Senior Research Associate**
Department of Engineering, University of Cambridge
Main Research Topics: *Graphene and 2D materials integrated photonics and opto-electronics for telecommunication, IoT and sensing. Hybrid systems for Mid-IR and flexible applications. Novel light sources and quantum emitters. 2D materials integration with CMOS technology.*
- Oct 2013 - Jan 2015 **Research Associate**
Department of Engineering, University of Cambridge
Main Research Topic: *On-chip integrated photonics and optoelectronics with graphene and 2d materials.*

PREVIOUS RESPONSIBILITIES

- **Research Leader**, responsible for Cambridge Graphene Centre research activities on “*2D Materials Optoelectronics and Devices*”
- **Team Leader**, “*Optoelectronic Devices*” subgroup (composed of 3 postdocs and 4 PhD students), Cambridge Graphene Centre.
- **Research Leader and Coordinator**, responsible for Cambridge research activities, collaborations and scientific contribution to work packages “*Optoelectronics*” (WP8) and “*Wafer Scale Integration*” (WP10) in EU Project Graphene Flagship, provide support to work packages “*Flexible Electronics*” (WP9) and “*Energy Generation*” (WP11).
- **Subtask Leader**, responsible for 4 subtasks (equivalent to EU project) in work packages WP8 and WP10 of Graphene Flagship, “*Flexible PDs*” (involves 7 Univ.), “*Waveguide Integrated PDs*” (involves 6 Univ.), “*SiN integrated PDs*” (involves 5 Univ.) and “*2d Materials LEDs*” (involves 4 Univ.).
- **Working Group Leader**, responsible for cross-institutional working group on “*Ultra-Sensitive PDs for Vis and Mid-IR*” in WP8 Graphene Flagship.
- **Responsible** for Cambridge research on work packages “*Crystal Assembly into Superstructures*” and “*LEDs and Photovoltaic Devices*” in ERC project “Hetero2D”.
- **Co-investigator**, research proposals submitted to Defence Science and Technology Laboratory (DSTL) and European Union (H2020).
- **Responsible** for interviewing postdocs and PhD candidates for positions in the Cambridge Graphene Centre.

CURRENT RESEARCH INTERESTS

- Nanoscience, Applied Physics, Device Physics
- 2D Materials / Heterostructures, Hybrid 1d/2d/3d Systems
- Integrated Optoelectronics, Internet of Things
- Silicon Photonics, MW Photonics, Hybrid Photonics
- Mid-IR / THz Devices, Graphene Plasmonics
- Light Sources, Quantum Sources
- Flexible optoelectronics, Sensing
- Nanotechnology, Nanofabrication, CMOS Technology

PUBLICATIONS, PATENTS, BOOK CHAPTERS AND CONFERENCE PRESENTATIONS

I have 36 publications in peer review international journals (12 first-author publications), 25 conference procedures, 1 book chapter, 1 filed patent, 50+ conference presentations and 4 invited talks. I have over 1450 citations with h-index 23 (Google Scholar). Full list of publications, patents, book chapters and conference presentations is attached.

TEACHING AND MENTORING EXPERIENCE

- Mar 2018 – present **Lecturer**, Faculty of Electrical Engineering, Technion
Introduction to Semiconductors and Devices - (undergrad level).
- Feb 2015 – present **Lecturer**, Centre for Doctoral Training, University of Cambridge
Graphene Optoelectronics, Physics of Semiconductors - (graduate level).
- Feb 2015 – Sep 2017 **College Supervisor**, Pembroke College, University of Cambridge
IA Electrical and Information Engineering - (undergrad level).
- Feb 2010 - Jun 2013 **Lecturer**, Department of Applied Physics, Hebrew University of Jerusalem
Physics of Semiconductors, Semiconductor Devices - (undergrad level).
- Oct 2007 - Feb 2010 **Teaching Assistant**, Hebrew University of Jerusalem
Physics of Semiconductors, Semiconductor Devices - (undergrad level).
Lab Instructor, Hebrew University of Jerusalem
Advanced Laboratory in Microelectronics - (undergrad level).
- Oct 2005- Feb 2008 **Teaching Assistant**, Jerusalem College of Engineering
Semiconductor Devices - (undergrad level).
- Oct 2004 - Oct 2006 **Teaching Assistant**, Hebrew University of Jerusalem
Physics of Semiconductors, Semiconductor Devices (undergrad level).
- Oct 2003 - Oct 2004 **Physics Teacher**, “Young Scientists” Organization, Jerusalem
Advanced School Program in Physics.

GRANTS

- 2018 – **EU H2020** : “Long Wavelength Graphene/Silicon Hybrid Photodetectors”, Graphene Flagship, Principal Investigator, Technion.
- 2018 – **ISF**: “Multispectral Graphene/Silicon Hybrid Photodetectors”, Israel Science Foundation, Principal Investigator, Technion.
- 2018 – **KAMIN**: “Graphene/Silicon Infrared Photodetectors”, Israel Ministry of Economics, Principal Investigator, Technion.
- 2017 – **EU H2020** : “Power Efficient Graphene/Silicon Optical Modulators”, Graphene Flagship, Principal Investigator, Technion.
- 2015 – **EPSRC** : “Two Dimensional Crystals for Quantum Science and Technology”, Co-Investigator (PI A. C. Ferrari), Quantum Technologies, University of Cambridge.
- 2016 – **EU H2020** : “Neurofibers”, , Co-Investigator (PI A. C. Ferrari), University of Cambridge.

HONORS AND AWARDS

- 2017 - **Viterbi Career Development Chair in EE**, Technion
- 2013 - **Katzir Prize for excellence in PhD**, Hebrew University of Jerusalem
- 2013 - **Best Poster Award**, Hebrew University Faculty Day
- 2011 - **Best Poster Award**, 8th Group IV Photonics Conference, London
- 2010 - **Eshkol Fellowship**, Israel Ministry of Science
- 2010 - **Prize for Excellence in Nanoscience**, Hebrew University of Jerusalem
- 2010 - **Brojde Fellowship** in Nanoscience and Innovative Technology
- 2008 - **Raith's Micrograph Award**, 2nd Place
- 2008 - **Best Poster Award**, Hebrew University Nanoscience Conference
- 2008 - **Best Poster Award**, Hebrew University Faculty Day

PROFFESIONAL MEMEBERSHIPS AND ACTIVITIES

- **Member**, IEEE Photonics Society, Optical Society of America (OSA)
- **Member**, subcommittee on 2D materials for the CLEO-Europe/EQEC 2017
- **Session Chair**, at CLEO, SPIE Photonics West and SPP conferences
- **Referee**, for research papers submitted to Nature Communication, Nano Letters, ACS Nano, Nanoscale, Scientific Reports, Applied Physics Letters, Optics Express and Optics Letters journals.

PERSONAL INFORMATION

- **Date of Birth**, 19 November 1976
- **Place of Birth**, USSR
- **Marital Status**, Married +2
- **Languages**, English, Hebrew, Russian