

# Prof. Pavel Ginzburg

## UNIVERSITY ADDRESS

Tel Aviv University  
Electrical Engineering Department  
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**RESEARCH** Optics, Biophotonics, Quantum Mechanics, Radio Waves and Devices, Solid State Physics, Nano-plasmonics, and Metamaterials  
Author of 135 journal papers and ~200+ conference presentations (45 invited), h-index 43 (Google scholar).

## EDUCATION

2007-2011 *Ph.D. in Electrical Engineering – Technion*  
Thesis: Nano-Photonic Devices based on Modified Light-Matter Interactions  
Supervisor: Prof. Meir Orenstein, Funding: Clore Scholars Programme

2005-2007 *M.Sc. in Electrical Engineering – Technion*  
Thesis: Coherent interferences in optically interacting semiconductor structures  
Supervisor: Prof. Meir Orenstein, Funding: Diane and Leonard Sherman Interdisciplinary Graduate School Fellowships and Technion Graduate School excellence scholarship

2001-2005 *B.Sc in Electrical Engineering – Technion*  
President's List diploma  
Areas of Concentration: Quantum optics, Control Systems  
Funding: "The Technion Excellence program" scholarship

## EMPLOYMENT

2019 - ... *Associate Professor, Tel Aviv University*

2015 - 2019 *Senior Lecturer, Tel Aviv University*

2013 -2014 *EPSRC Research Fellow, King's College London, U.K.*  
Group leader: Prof. Anatoly Zayats, Funding: EPSRC

2011 – 2013 *International Newton Fellow, King's College London, U.K.*  
Group leader: Prof. Anatoly Zayats  
Funding: International Newton and Rothschild Fellowships

## TEACHING EXPERIENCE

2016 - Now Electromagnetic Fields, undergraduate course, Tel Aviv University

2015- Now Introduction to Lasers, joint undergraduate, Tel Aviv University

2015 - Now Photons in structured media, graduate course, Tel Aviv University

2020 Spring Practical Introduction to Optomechanics, graduate course, Tel Aviv University

## MENTORING AND SUPERVISION

### Postdoctoral Fellows:

Dr. Roman Noskov, Dr. Ivan Shishkin, Dr. Paulina Segovia Olivera, Dr. Sergey Kosulnikov, L Yuval Kashter, Dr. Abhinav Jean, Dr. Alexandra Blank, Dr. Andrey Ushkov

### PhD Students:

Dmitry Filonov, Tmiron Alon, Vitaly Kozlov, Hani Barhom, Andrey Machnev, Ani Michajlovskaja, Dmitry Dobrykh, Denis Kolchanov

### MSs Students:

Hod Gilad, Daniel Opher, Vitaly Kozlov, Hen Markovich, Roni Komisarov, Yossi Ben Simo Gilad Uziel, Michael Artemov, Maor Baksis, Assaf Stav

## FUNDING AND GRANTS

2021-2023 Office of Naval Research, “Active Metamaterial-based Chaff for Radar Deception”  
Budget: 150kUSD

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- 2019-2021 Kamin, Israel. “Partially Coherent Radar for Automotive Applications”  
Budget: 880kNIS
- 2019-2021 Israeli Ministry of Science and Technology. “Multifunctional Peptide Laser Nanoprobes for Precision Medicine”  
With Profs Rosenman, Apter, Fainberg, Lab Budget: 845kNIS
- 2019-2021 Israeli Ministry of Science and Technology. “Integrated 2D&3D Functional Printing of Batteries with Metamaterials and Antennas”  
With Profs Shacham, Boag, Golodnitsky, Lab Budget: 326kNIS
- 2018-2023 ERC – European Research Council, Starting Grant  
‘In Motion’, Budget: 2M Euro
- 2018 TAU Vice Rector Grant for ground-breaking research “Hollow-core photonic crystal fiber-based endoscopy”, Budget: 100k USD
- 2017-2022 Pazy Foundation, Israel “Smart Electromagnetic Materials”, Budget: 2M NIS
- 2017-2019 BSF, Israel “Quantum Nanophotonics with Spatially Dispersive Elements” (with Prof. Viktor Podolskiy), Budget: 60k\$
- 2016-2018 Kamin, Israel “Passive labelling with time-varying metamaterials” (with Prof. Amir Boag), Budget: 880kNIS
- 2016-2017 German-Israeli Foundation, Young Scientist Program (I-2399-303.7) “Quantum Photonics in Nano-structured Media”, Budget: 20k€
- 2015-2017 Alon Scholarship, Budget: annual salary + 170k NIS

## SCHOLARSHIPS AND AWARDS

- 2015 Alon Scholarship
- 2013 Best paper award, The 7th International Congress on Advanced Electromagnetic Materials in Microwaves and Optics
- 2013 EPSRC postdoctoral fellowship
- 2011 International Newton Fellowship
- 2011 QEOD Thesis Price for Applied Aspects (EPS)

## TOP 10 SELECTED PUBLICATIONS (OUT OF 145)

- R. E. Noskov, ..., I.D. Rukhlenko, S. Fleming, B. N. Khlebtsov, D. A. Gorin, and P. Ginzburg, “Golden Vaterite as a Mesoscopic Metamaterial for Biophotonic Applications”, *Advanced Materials*, 2008484 (2021).
- H. Barhum, T. Alon, M. Attrash, A. Machnev, I. Shishkin, and P. Ginzburg, “Multicolor Phenylendiamine Carbon Dots for Metal-Ion Detection with Picomolar Sensitivity”, *ACS Applied Nano Materials* 4, 9, 9919–9931 (2021).
- I. Shishkin, H. Markovich, Y. Roichman, and P. Ginzburg, “Auxiliary Optomechanical Tools for 3D Cell Manipulation”, *Micromachines* 11 (1), 90, (2020).
- K. Grotov, D. Vovchuk, S. Kosulnikov, I. Gorbenko, L. Shaposhnikov, K. Ladutenko, P. Belov, and P. Ginzburg, “Genetically Designed Wire Bundle Super-Scatterers”, *IEEE Transactions on Antennas and Propagation* (2022).
- R. Komissarov, V. Kozlov, D. Filonov, and P. Ginzburg, “Partially coherent radar unties range resolution from bandwidth limitations”, *Nature Communications* 10 (1), 1423 (2019).
- V. Kozlov, D. Vovchuk, and P. Ginzburg, “Broadband radar invisibility with time-dependent metasurfaces”, *Sci Rep* 11, 14187 (2021).
- V. Kozlov, S. Kosulnikov, D. Vovchuk, and P. Ginzburg, “Memory effects in scattering from accelerating bodies”, *Advanced Photonics* 2 (5), 056003 (2020).
- H. Barhom, A. Machnev, R. E. Noskov, A. A. Goncharenko, E. Gurvitz, A. S. Timin, V. A. Shkoldin, S. V. Koniakhin, O. Yu. Koval, M. Zyuzin, A. S. Shalin, I. Shishkin, and P. Ginzburg, “Biological Kerker effect boosts light collection efficiency in plants”, *Nano letters*, 19 (10), 7062-7071 (2019).
- R. E. Noskov, I. Shishkin, H. Barhom, and P. Ginzburg, “Non-Mie Optical Resonances in Anisotropic Biomineral Nanoparticles”, *Nanoscale*, 10, 21031-21040 (2018).
- H. Markovich, I. Shishkin, N. Hendler, and P. Ginzburg, “Optical Manipulation along Optical Axis with Polarization Sensitive Meta-lens”, *Nano Lett.*, 18 (8), 5024-5029 (2018).