

Curriculum Vitae Yossi Paltiel / August 2019

1. Personal details

Professor Yossi Paltiel, born in 1968, is now in the Applied Physics Department in the Hebrew University of Jerusalem Israel. Prof. Paltiel has worked for both leading high-tech industry groups and in the academic world. Since July 2009, He is the leading the Quantum Nano Engineering group at the Hebrew University, Israel. He was the head of the Applied Physics Department 2013-2016. Paltiel's group's goal is to establish a way to incorporate quantum mechanics into room temperature "classical" computation and devices reading scheme mimicking Biology and Chemistry processes. In this sense the group also works on spin interfaces using chiral molecules and materials. Professor Paltiel has published more than 130 papers in leading journals as well as issued 13 patents. Paltiel has two startup companies. The first named Valentis Nanotech founded in 2013. The company utilizes nanocellulose unique properties to produce a biodegradable transparent sheet with additional controlled optical and gas/water barrier properties. The 2nd company named Kiralis is funded in 2018 and separate enantiomers using magnetic interface interactions.

Winner of the 1st place The Kaye Innovation Awards 2019. Co-Chair of the 2021 Gordon conference on Electron Spin Interactions with Chiral Molecules and Materials to take place in 2021. Group web page: <https://www.qnelab.com/>.

2. Higher Education

<u>Date: From-To</u>	<u>Institute</u>	<u>Degree</u>	<u>Area of specialization</u>
1997-2002	Weizmann Institute	Ph.D. (awarded 28.2.2002) Supervisor: Prof. Eli Zeldov	Vortex dynamics in type II superconductors "Edge contamination of the vortex matter".
1995-1997	Weizmann Institute	M,Sc. (awarded 11.1.1997) Supervisor: Dr. Udi Meirav	Lateral Super Lattices in 2DEG "Transport in a Short Period Etched Lateral Surface Superlattice".
1992-1995	Hebrew University	B.Sc. <i>Graduate with distinction</i>	Physics and Mathematics

3. Appointments

a. Appointments at the Hebrew University:

<u>Date: From-To</u>	<u>Institute</u>	<u>Title</u>	<u>Research area</u>
2016- present	Applied Physics Department	Full Professor	Quantum nano engineering
2012-2016	Tenure at the Hebrew University Applied Physics Department	Associate Professor	Quantum nano engineering
2009-2012	Tenure track Hebrew University Applied Physics Department	Senior Lecturer	Quantum nano engineering

b. Other appointments:

2008	Compass EOS - High Tech Company	Head of the electro optical division	Electro Optical company
2005-2009	Soreq NRC	Tenure investigator	Semiconductors Quantum devices
2003-2005	Soreq NRC	Tenure track	Semiconductors Quantum devices
2002-2003	Chiaro Networks- High Tech Company	Group leader	Quantum well waveguides

- **TEN SIGNIFICANT PUBLICATIONS (last 3 years).**

2019 -Tzuriel S. Metzger, Suryakant Mishra, Brian P. Bloom, Naama Goren, Avner Neubauer, Guy Shmul, Jimeng Wei, Shira Yochelis, Francesco Tassinari, Claudio Fontanesi, David H. Waldeck, **Yossi Paltiel**, Ron Naaman; The electron spin as a chiral reagent, Angewandte chemie international edition doi.org/10.1002/anie.201911400, *The paper opens a way for spin selective chemistry.*

2019- Amir Ziv, Abhijit Saha, Hen Alpern, Nir Sukenik, Lech Tomasz Baczewski, Shira Yochelis, Meital Reches, and Yossi Paltiel; AFM-Based Spin Exchange Microscopy Using Chiral Molecules, Advanced Materials (2019). *The paper shows a way to map local magnetization in atomic scale.*

2019 - Ron Naaman, **Yossi Paltiel**, David H. Waldeck; Chiral molecules and the electron spin; Nature Review Chemistry DOI: 10.1038/s41570-019-0087-1 (2019).

Summarizing all technological and scientific breakthrough of CISS.

2019 - Francesco Tassinari, Jakob Steidel, Shahar Paltiel, Claudio Fontanesi, Meir Lahav, **Yossi Paltiel** and Ron Naaman; Enantioseparation by crystallization using magnetic substrates; Chemical Science DOI: 10.1039/c9sc00663j (2019). *(In 2019 ChemSci HOT Article Collection and 2019 ChemSci Pick of the Week Collection. The paper opens a generic way for enantio specific crystallization using magnetic surfaces).*

2018 - C. Fontanesi, E. Capua, **Y. Paltiel**, D. H. Waldeck and R. Naaman; Spin-Dependent Processes Measured without a Permanent Magnet Advanced Materials 2018 170390 (2018).

Studying and developing magnet less processes using chiral molecules.

2018 - H. Al Bustami, G. Koplovitz, D. Primc, S. Yochelis, E. Capua, D. Porath, R. Naaman, and **Y. Paltiel**; Single Nanoparticle Magnetic Spin Memristor; Small **14** 1801249 (2018).

The smallest magnetic memristor realized using a single nano particle and chiral molecules

2018 - K. B. Ghosh, O. Ben Dor, F. Tassinari, E. Capua, S. Yochelis, A. Capua, S.-H. Yang, S. S. P. Parkin, S. Sarkar, L. Kronik, L. T. Baczewski, R. Naaman, and **Y. Paltiel**; Enantio-Specific Interaction of Chiral Molecules with Magnetic Substrates; Science 10.1126/science.aar4265 (2018).

Demonstrating a generic way to achieve enantiomer separation using magnetic substrates.

2017 - O. Ben Dor, S. Yochelis, A. Radko, K. Vankayala, E. Capua S A. Capua, T S.-H. Yang, L. T. Baczewski, S. S. P. Parkin, R. Naaman, and **Y. Paltiel**, Magnetization switching in ferromagnets by adsorbed chiral molecules without current or external magnetic field; Nature Communications **8** 14567 (2017).

Very efficient local magnetization using chiral molecules.

2017 - G. Koplovitz, D. Primc, O. Ben Dor, S. Yochelis, D. Rotem, D. Porath, and **Y. Paltiel**; Magnetic nano platelets based spin memory device operating at ambient temperatures; Advanced Materials (2017).

Developing nano magnetic memory utilizing the CISS effect.

2016- M. Eckshtain-Levi, E. Capua, S. Refaely-Abramson, S. Sarkar, Y. Gavrilov, S. Mathew, **Y. Paltiel**, Y. Levy, L. Kronik, and R. Naaman; Cold Denaturation induces inversion of dipole and spin transfer in chiral peptide monolayers; Nature Communications **7** 10744 (2016).

Probing chiral monolayers phases using Hall device.

- **GRANTED PATENTS (5 out of 13 are listed below).**

2019 – “**Device for electric field induced local magnetization**” Eilam Smolinsky, Avner Neubauer, Shira Yochelis, Eyal Capua, Yossi Paltiel, Ron Naaman; 6446-00 United States Provisional Patent Application No. 62/654,683. Filing Date: February 2019.

2018 – “**A system and method for promoting Spin Controlled chemical reactions**” Shira Yochelis, Tzuriel Metzger, Claudio Fontanesi, E. Capua, Yossi Paltiel, and Ron Naaman; United States Provisional Patent Application No. 62/749,271, Filing Date: October 2018.

2017 - “**Magnetic Separation of Chiral Compounds**” Shira Yochelis, E. Capua, Ron Naaman and Yossi Paltiel; Pearl Cohen ref: P-572278-IL, Yeda Ref.: 2017-050, Yissum ref: 6345-00, Israel.

2012 - “**Magnetless spin memory**” Oren Ben-Dor, Shinto P Methow, Shira Yochelis, Yossi Paltiel, and Ron Naaman. US Application No. 2012-012- United States Patent Application No. 14/385,006.

2012 - “**Optical induced Spin Transport Electronics Device**” Oren Ben-Dor, Shinto P Methow, Nir Peer, Shira Yochelis, Yossi Paltiel, and Ron Naaman,. 302869 S/mk, Israel.

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59. O. Ben Dor, S. Yochelis, S. P. Mathew, R. Naaman, and **Y. Paltiel** *A chiral-based magnetic memory device without a permanent magnet*; Nature Communications **4**, 2256 DOI: 10.1038 (2013). Highlighted in Nature Nanotechnology: "A memory device with a twist"
60. S. Vortman, O. Ben-Dor, S. Yochelis, Y. Amit, and **Y. Paltiel**, *Mapping the Energy Band Structure of Nano Crystals Mono-Layers at Ambient Conditions*; The Journal of Physical Chemistry C, **117** 22245–22249 (2013).
61. A. Albrecht, G. Koplovitz, A. Retzker, F. Jelezko, S. Yochelis, D. Porath, Y. Nevo, O. Shoseyov, **Y. Paltiel**, M. B. Plenio, *Self-assembling hybrid diamond-biological quantum devices* New Journal of Physics **16** 093002 (2014).
62. I. Eisenberg, S. Yochelis, R. Ben-Harosh, L. David, A. Faust, N. Even-Dar, H. Taha, N. M. Haeghele, N. Adir, Nir Keren, and **Y. Paltiel**; *Room-Temperature Biological Quantum Random Walk in Phycocyanin Nanowires*; PCCP **16** 11196 (2014) (cover).
63. M. G. Harats, N. Livneh, G. Zaiats, S. Yochelis, **Y. Paltiel**, E. Lifshitz, and R. Rapaport, *Full spectral and angular characterization of highly directional emission from nanocrystal quantum dots positioned on circular plasmonic lenses*; Nano Lett., **14** 166 (2014).
64. E. Katzir, Yochelis, Azoubel, A. Shimoni, S. Magdassi, and **Y. Paltiel**, *Tunable Inkjet Printed Hybrid Carbon Nanotubes/Nano Crystals Light Sensor*; Sensors & Actuators: B (2014).
65. M. G. Harats, N. Livneh, S. Yochelis, **Y. Paltiel**, and R. Rapaport *Highly Directional Emission of Photons from Nanocrystal Quantum Dots Positioned on Circular Plasmonic Lens Antennas*; QELS Fundamental Science (2014).
66. O. Ben Dor, N. Morali, S. Yochelis, and **Y. Paltiel**, *Local Light-Induced Magnetization Using Nanodots and Chiral Molecules*; Nano letters **14** 6042 (2014).
67. E. Katzir, S. Yochelis, F. Zeides, N. Katz, Silke Beherns, Y. Kalcheim, O. Millo, and **Y. Paltiel**, *Increasing the critical temperature of Nb films by chemically linking magnetic nanoparticles using organic molecules* Euro-Physics letters **108** 37006 (2014).
68. E. Cohen, M. Gruber, E. Romero, S. Yochelis, R. van Grondelle, and **Y. Paltiel**, *Properties of Self-Assembled Hybrid Organic Molecule/Quantum Dot Multilayered Structures*; J. Phys. Chem. C. **118** 25725 (2014).
69. O. Westreich, M. Katz, **Y. Paltiel**, O. Ternyak, and N. Sicron, *Low propagation loss in GaN/AlGaIn-based ridge waveguides*; Phys. Status Solidi A, **212** 1043 (2015) / DOI 10.1002/pssa.201431663.
70. Y. Nevo, N. Peer, S. Yochelis, M. Igbaria, S. Meirovitch, O. Shoseyov, and **Y. Paltiel**, *Nano Bio Optically Tunable Composite Nanocrystalline Cellulose Films* RSC Advances, **5**, 7713 – 7719 (2015).
71. A. Neubauer, S. Yochelis, Y. Amit, U. Banin, and **Y. Paltiel**, *Highly Sensitive Room Temperature Infrared Hybrid Organic-Nanocrystal Detector* Sensors & Actuators: A **229**, 166 (2015).
72. I. Eisenberg, H. Alperna, V. Gutkinb, S. Yochelis, and **Y. Paltiel**, *Dual mode UV/visible-IR gallium-nitride light detector* Sensors & Actuators: A **233**, 26–31 (2015).
73. L. Bar-Eyal, I. Eisenberg, A. Faust, H. Raanan, R. Nevo, F. Rappaport, A. Krieger-Liszskay, P. S'etif, A. Thurotte, Z. Reich, A. Kaplan, I. Ohad, **Y. Paltiel**, N. Keren; *An easily reversible structural change underlies mechanisms enabling desert crust cyanobacteria to survive desiccation* BBA – Bioenergetics **1847**, 1267 (2015).
74. Chun-Hua Lu, W. i Guo, X.-Juan Qi, A. Neubauer, **Y. Paltiel**, and I. Willner, *Hemin–G-quadruplex-crosslinked poly-N-isopropylacrylamide hydrogel: a catalytic matrix for the deposition of conductive polyaniline* Chemical Science **6**, 6659 (2015).

75. N. Peer, I. Dujovne, S. Yochelis, and **Y. Paltiel**, *Nanoscale Charge Separation Using Chiral Molecules*; ACS Photonics **2**, 1476 DOI: 10.1021/acsp Photonics.5b00343 (2015).
76. M. Galanty, S. Yochelis, L. Stern, I. Dujovne, U. Levy, and **Y. Paltiel**, *Extinction Enhancement from a Self-Assembled Quantum Dots Monolayer using Simple Thin Films Process*; J. Phys. Chem. C **119** 24991–24995
77. M. Brehm, H. Groiss, G. Bauer, D. Gerthsen, R. Clarke, **Y. Paltiel**, and Y. Yacoby, *Atomic structure and composition distribution in wetting layers and islands of germanium grown on silicon (001) substrates* Nanotechnology, **26**, 485702 (2015).
78. N. Livneh, M. Harats, S. Yochelis, **Y. Paltiel**, and R. Rapaport, *Efficient Collection of Light from Colloidal Quantum Dots with a Hybrid Metal-Dielectric Nanoantenna*; ACS Photonics **2**, 1669 (2015).
79. O Ben Dor, I. Felner, S. Yochelis, and **Y. Paltiel**, *Unusual magnetic behavior in a chiral-based magnetic memory device* Journal of Magnetism and Magnetic Materials **398**, 259–263 (2016).
80. M. Eckshtain-Levi, E. Capua, **Y. Paltiel** and R. Naaman; *Hybrid Sensor Based on AlGaIn/GaN Molecular Controlled Device*; ACS sensors **1** 185-189 DOI: 10.1021/acssensors.5b00047 (2016).
81. M. Eckshtain-Levi, E. Capua, S. Refaely-Abramson, S. Sarkar, Y. Gavrilov, S. Mathew, **Y. Paltiel**, Y. Levy, L. Kronik, and R. Naaman *Cold Denaturation induces inversion of dipole and spin transfer in chiral peptide monolayers* Nature Communications **7** 10744 (2016).
82. A. Neubauer, S. Yochelis, G. Mittelman, I. Eisenberg, **Y. Paltiel**; *Simple down conversion nano-crystal coatings for enhancing Silicon-solar cells efficiency* AIMS Materials Science, **3**, 1256 (2016).
83. T. Purcell, M. Galanty, S. Yochelis, **Y. Paltiel**, T. Seideman *Coupling Quantum Emitters to Random 2D Nanoplasmonic*; The Journal of Physical Chemistry C, **120** 21837–21842 (2016).
84. H. Alpern, E. Katzir, S. Yochelis, **Y. Paltiel**, and O. Millo, *Unconventional superconductivity induced in Nb by adsorbed chiral molecules*; New J. Phys. **18** 113048 (2016).
85. T. V. Belysheva, M. I. Ikin, A. S. Il'in, P. K. Kashkarov, M. N. Martyshev, **Y. Paltiel**, I. Trakhtenberg, N. P. Fantina, P. A. Forsh; *Features of electrical and photoelectrical properties of nanocrystalline indium and zinc oxide films-* Russian Journal of Physical Chemistry B **10**, 810–815 (2016).
86. E. Katzir, N. Sukenik, Y. Kalcheim, H. Alpern, S. Yochelis, Y. Berlin, M. Ratner, O. Millo, and **Y. Paltiel**, *Proximity effect through molecules, a way to probe electronic properties* Small Methods **1** 1600034 (2017).
87. O. Ben Dor, S. Yochelis, A. Radko, K. Vankayala, E. Capua, A. Capua, S.-H. Yang, L. T. Baczewski, S. S. P. Parkin, R. Naaman, and **Y. Paltiel**, *Magnetization switching in ferromagnets by adsorbed chiral molecules without current or external magnetic field*; Nature Communications **8** 14567 (2017).
88. I. Eisenberg, F. Caycedo-Soler, D. Harris, S. Yochelis, S. Huelga, M. Plenio, N. Adir, N. Keren, **Y. Paltiel** *Regulating the Energy Flow in a Cyanobacterial Light Harvesting Antenna Complex* J. Phys. Chem. B **121** 1240 (2017).
89. G. Koplovitz, D. Primc, O. Ben Dor, S. Yochelis, D. Rotem, D. Porath, and **Y. Paltiel**; *Magnetic nano platelets based on memory device operating at ambient temperatures* Advanced Materials **29** 1606748 (2017). (**Back cover**).
90. O Ben Dor, I. Felner, S. Yochelis, and **Y. Paltiel**, *Unusual ZFC and FC magnetic behavior in thin Co multi-layered structure* Journal of Magnetism and Magnetic Materials **428**, 357 (2017).

91. Y. Uliel, D. Cohen-Elias, N. Sicon, I. Grimberg, N. Sna, **Y. Paltiel**, and M. Katz, *InGaAs/GaAsSb Type-II Superlattice Based Photodiodes for Short Wave Infrared Detection* Infrared Physics and Technology; **84** 63-71 (2017).
92. E. Cohen, I. Gdor, E. Romero, S. Yochelis, R. van Grondelle, and **Y. Paltiel**, *Achieving Exciton Delocalization in Quantum Dot Aggregates Using Organic Linker Molecules* Journal of Physical Chemistry Letters **8** 1014 (2017).
93. Y. Kalcheim, E. Katzir, F. Zeides, N. Katz, **Y. Paltiel**, and O. Millo, *Dynamic control of the vortex potential in a superconductor using current injection through nanoscale patterns* Nano letters, **17**, 2934–2939 (2017).
94. A. Ziv, A. Tzaguyb, O. Hazut, S. Yochelis, R. Yerushalmi, and **Y. Paltiel**, *Self-Formed Nanogap Junctions for Electronic Detection and characterization of Molecules and Quantum Dots* RCS Advanced, **7**, 25861 - 25866 (2017).
95. L. Bar Eyal, R. R. Choubah, E. Cohen, I. Eisenberg, U. Raviv, M. Dorogie, R. Ünnepf, R. Nevog, Z. Reichg, G. Garabe, H. van Amerongen, **Y. Paltiel**, and Nir Keren *Light harvesting dynamics in desert crust cyanobacteria: Changes in aggregation state as a mechanism for modulating energy transfer*, PNAS **114**, 9481-9486 (2017).
96. I. Eisenberg, D. Harris, Y. Levi-Kalisman, S. Yochelis, A. Shemesh, G. Ben-Nissan, M. Sharon, U. Raviv, N. Adir, N. Keren, and **Y. Paltiel**, *Concentration Based Self-Assembly of Phycocyanin*; Photosynthesis Research **134** 39-49 (2017).
97. O. Westreich, M. Katz, Gil Atar, Y. Paltiel, and N. Sicon *Optical losses in p-type layers of GaN ridge waveguides in the IR region* Appl. Phys. Lett. **111**, 022103 (2017).
98. A. Chenu, N. Keren, **Y. Paltiel**, R. Nevo, Z. Reich, and J. Cao; *Light Adaptation in Phycobilisome Antennas: Influence on the Rod Length and Structural Arrangement*, J. Phys. Chem. **B121** 9196 (2017).
99. A. Neubauer, A. Sharo, S. Yochelis, E. Capua, A. Sharo, R. Namman, E. Lifshitz and **Y. Paltiel**; *Enhancement of Near Infrared Light Sensing using Side-Gate Modulation* Accepted Sensors & Actuators: A (2017).
100. O. Westreich, M. Katz, Gil Atar, **Y. Paltiel**, and N. Sicon; *Reducing optical losses in GaN waveguides - Toward an electro-optic phase modulator*, Physica Status Solidi A: Applications and Materials Science **215** 1700551 (2017).
101. Y. Kurzweil-Segev, Ivan Popov, Ido Eisenberg, Shira Yochelis, Nir Keren, **Yossi Paltiel**, and Yuri Feldman *Confined Water Dynamics in Hydrated photosynthetic gment protein complex*. PCCP **19**, 28063-28070 (2017).
102. A. Perlman Illouz, E. Cohen, U. Peskin, S. Yochelis, and **Y. Paltiel**; *Quantum Dots coupling control in a vertical transport device at ambient conditions* ACS OMEGA **3** 6224 (2018).
103. N. Sukenik. H. Alpern, E. Katzir, S. Yochelis, O. Millo, and **Y. Paltiel** *Proximity effect through chiral molecules in Nb - graphene based devices* Advanced Materials Technologies **3**.1700300(2018).
104. N. Keren, and **Y. Paltiel** *Photosynthetic energy transfer at the quantum/classical border* Trends in Plant Science TIPS (TRPLSC 1664) (2018).
105. D. Munk, M. Katzman, O. Westrich, M. Bin Nun, Y. Lior, N. Sicon, Y. Paltiel, and A. Zadok *Four-wave mixing and nonlinear index measurement in a gallium-nitride ridge waveguide* Optics Materials Express **8** 307447 (2018).
106. E. Katzir, N. Sukenik, H. Alpern, S. Yochelis, O. Millo, and Y. Paltiel; *Enhanced vortex nning in Nb using proximity effect through organic molecules* J. Phys. Commun. **2** 025001 (2018).
107. Dvir Munk, Moshe Katzman, Ohad Westreich, Moran Bin Nun, Yedidya Lior, Noam Sicon, **Yossi Paltiel**, Avi Zadok; *Four-wave mixing and nonlinear parameter*

- measurement in a gallium-nitride ridge waveguide; Optical Materials Express **8** (1), 66 (2018).
- 108** K. B. Ghosh, O. Ben Dor, F. Tassinari, E. Capua, S. Yochelis, A. Capua, S.-H. Yang, S. S. P. Parkin, S. Sarkar, L. Kronik, L. T. Baczewski, R. Naaman, and **Y. Paltiel**; *Enantio-Specific Interaction of Chiral Molecules with Magnetic Substrates* Science **360**, 1331 10.1126/science.aar4265 (2018).
- 109** O. Ben Dor, S. Yochelis, H. Ohldag. and **Y. Paltiel**, *Optical chiral induced sn selectivity XMCD study*; Chimia **72** 379 (2018).
- 110.** Lior Bezen, Shira Yochelis, Dilhara Jayarathna, Dinesh Bhunia, Catalina Achim, and **Yossi Paltiel**; *Chiral Molecule-Enhanced Extinction Ratios of Quantum Dots Coupled to Random Plasmonic Structures*; Langmuir, **34** (9), 3076–308 (2018).
- 111.** E. Cohen, P. Komm, N. Rosenthal-Strauss, J. Dehnel, E. Lifshitz, S. Yochelis, R.D. Levine, F. Remacle, B. Fresch, G. Marcus, and **Y. Paltiel**; *Fast Energy Transfer in CdSe Quantum Dot Layered Structures: Controlling Coupling with Covalent-Bond Organic Linkers*; J. Phys. Chem. C **122**, 5753-5758 (2018).
- 112.** C. Fontanesi, E. Capua, **Y. Paltiel**, D. H. Waldeck and R. Naaman; *Sn-Dependent Processes Measured without a Permanent Magnet* Advanced Materials **2018** 170390 (2018).
- 113.** R. Naaman, **Y. Paltiel**, and D. H. Waldeck; *Chirality and Sn: A Different Perspective on Enantioselective Interactions*; Chimia **72** 394 (2018).
- 114.** H. Al Bustami, G. Koplovitz, D. Primc, S. Yochelis, E. Capua, D. Porath, R. Naaman, and **Y. Paltiel** *Single Nanoparticle Magnetic Sn Memristor*; Small **14** 1801249 (2018).
- 115.** T. Purcell, S. Yochelis, **Y. Paltiel**, T. Seideman; *Determining the Molecular Dipole Orientation on Nanoplasmonic Structures* J. Phys. Chem. C **122** 16901(2018).
- 116.** L Bar-Eyal, A. Shperberg-Avni, **Y. Paltiel**, N. Keren, N Adir; *Light harvesting in cyanobacteria: The phycobilisomes* Light Harvesting in Photosynthesis (2018).
- 117.** G. Koplovitz, G. Leitus, S. Ghosh, B. P. Bloom, S. Yochelis, D. Rotem, F. Vischio, M. Striccoli, E. Fanizza, R. Naaman, D. H. Waldeck, D. Porath, **Y. Paltiel**; *Single Domain 10 nm Ferromagnetism Imprinted on Superparamagnetic Nanoparticles Using Chiral Molecules*; Small 1804557 (2019).
- 118** T. Shapira, H. Alpern, S. Yochelis, T. K. Lee, C. C. Kaun, **Y. Paltiel**, G. Koren, and O. Millo; *Unconventional order parameter induced by helical chiral molecules adsorbed on a metal proximity-coupled to a superconductor* Physical Review B **98**, 214513 (2019).
- 119** T.N.H. Nguyen, D. Solonenko, O. Selyshchev, P. Vogt, D. Zahn, S. Yochelis, **Y. Paltiel**, C. Tegenkamp; *Helical Ordering of α -L Polyalanine Molecular Layers by Interdigitation*; J. Phys. Chem. C (2019).
- 120.** Ron Naaman, **Yossi Paltiel**, David H. Waldeck; *Chiral molecules and the electron spin*; Nature Review Chemistry **3**, 250 (2019). DOI: 10.1038/s41570-019-0087-1
- 121.** A. Neubauer, S. Yochelis and **Y. Paltiel**; *Simple multi spectral detection using infrared nanocrystal detector* IEEE sensors (2019).
- 122.** Eilam Z. B. Smolinsky, Avner Neubauer, Anup Kumar, Shira Yochelis, Eyal Capua, Raanan Carmieli, **Yossi Paltiel**, Ron Naaman, Karen Michaeli, *Electric field controlled magnetization in GaAs/AlGaAs heterostructures-chiral organic molecules hybrids*; J. Phys. Chem. Lett. **10**, 1139–1145 (2019).
- 123** Amir Ziv, Avra Tzaguy, Zhiyuan Sun, Shira Yochelis, Emmanuel Stratakis, George Kenanakis, George Schatz, Lincoln Lauhon, David Seidman, **Yossi Paltiel** and Roie Yerushalmi; *Broad-band high-gain room temperature photodetector using semiconductor–metal nanofloret hybrids with wide plasmonic response*; Nanoscale 10.1039/C9NR00385A (2019).

124. R. R. Choubeh, L. Bar Eyal, **Y. Paltiel**, N. Keren, P.C. Struik, H. van Amerongen; *Photosystem II core quenching in desiccated *Leptolyngbya ohadii**, Photosynthesis Research (2019).
125. Francesco Tassinari, Jakob Steidel, Shahar Paltiel, Claudio Fontanesi, Meir Lahav, **Yossi Paltiel** and Ron Naaman; *Enantioseparation by crystallization using magnetic substrates*; Chemical Science **10**, 5246 (2019).
126. Lilach Saltoun Raz, Ela Sachyani Keneth, Youngjin Jang, Arthur Shapiro, Eyal Cohen, Shira Yochelis, Efrat Lifshitz, Shlomo Magdassi, and **Yossi Paltiel**; *Simple fabrication of SWIR detectors based on wet deposition of carbon nanotubes and quantum dots* Sensors & Actuators: A. Physical **295**, 469 (2019).
127. Eun-Mi Choi, Angelo Di Bernardo, Bonan Zhu¹, Ping Lu, Hen Alpern, Kelvin H. L. Zhang, Tamar Shapira, John Feighan, Xing Sun, Jason Robinson, **Yossi Paltiel**, Oded Millo, Haiyan Wang, Quanxi Jia⁶ Judith L. MacManus-Driscoll¹; *3D strain-induced superconductivity in $La_2CuO_4+\delta$ using a simple vertically aligned nanocomposite approach*, Science Advanced **5** eaav5532 (2019).
128. Hanna T. Fridman, Johanna Dehnel, Shira Yochelis, Efrat Lifshitz, **Yossi Paltiel***, *Spin-Exciton Delocalization Enhancement in Multilayer Chiral Linker/Quantum Dot Structures*; J. Phys. Chem. Lett. **10**(14) 3858-3862, (2019). DOI: 10.1021/acs.jpcclett.9b01433
129. Hen Alpern, Konstantin Yavilberg, Tom Dvir, Nir Sukenik, Maya Klang, Shira Yochelis, Hagai Cohen, Eytan Grosfeld, Hadar Steinberg, **Yossi Paltiel***Oded Millo*; *Magnetic-related States and Order Parameter Induced in a Conventional Superconductor by Nonmagnetic Chiral Molecules*; Nano Letters **19**, 8, 5167-5175 (2019).
130. Amir Ziv, Abhijit Saha, Hen Alpern, Nir Sukenik, Lech Tomasz Baczewski, Shira Yochelis, Meital Rechtes, and **Yossi Paltiel**; *AFM-Based Spin Exchange Microscopy Using Chiral Molecules*, Advanced Materials **31**, 1904206 (2019).
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