

# YONIT HOCHBERG

## CURRICULUM VITAE

November 2023

Racah Institute of Physics,  
Hebrew University of Jerusalem  
Associate Professor  
*Theoretical Particle Physics*  
yonit.hochberg@mail.huji.ac.il  
+972-52-8640818

### Personal Data

Female.  
Married plus 2 (Ages 4 and 6).  
Born February 11, 1982 in Ohio, USA.  
Citizen of Israel and USA.  
Native speaker of English and Hebrew.

Webpage: [hujihep.com](http://hujihep.com)

I am a theoretical particle physicist whose research focuses on novel approaches to longstanding puzzles in fundamental physics. While my research applies this philosophy to all the open questions in particle physics, such as the hierarchy between the electroweak and gravity scales, my primary focus is on developing new theories of the particle identity of dark matter, along with avant-garde experimental ideas for its detection. My proposed methods for the latter include the use of bulk superconductors, two-dimensional materials such as graphene, Dirac materials, carbon-based materials such as diamond and silicone-carbide, and superconducting nanowires.

### Education

- 2008 - 2013     **Ph.D.**  
Physics department, Weizmann Institute of Science, Israel  
Thesis: *Probing New Physics Beyond the Standard Model: Supersymmetry, Flavor and the LHC*  
Thesis advisors: Prof. Micha Berkooz and Prof. Yossi Nir
- 2005 - 2008     **M.Sc.**  
Physics department, Weizmann Institute of Science, Israel  
Thesis: *Modification of Gaugino and Higgsino Masses by Higher-Dimensional Operators in Anomaly Mediation*  
Thesis advisors: Prof. Micha Berkooz and Prof. Yossi Nir
- 2001 - 2005     **B.Sc.**  
Electrical Engineering department, Technion—Israel Institute of Technology, *summa cum laude*

### Appointments

- 2022 -     **Associate Professor**  
Racah Institute of Physics, Hebrew University of Jerusalem, Israel
- 2020 -     **Elected Member**  
Israel Young Academy of Science and Humanities
- 2018 -     **Collaboration Member**  
[PTOLEMY](#) collaboration
- 2017 - 2022     **Assistant Professor**  
Racah Institute of Physics, Hebrew University of Jerusalem, Israel
- 2016 - 2017     **LHC Theory Initiative Fellow**  
Physics Department, Cornell University, Ithaca, NY, USA
- 2013 - 2016     **Postdoctoral Fellow**  
Berkeley Center for Theoretical Physics, University of California, Berkeley and  
Lawrence Berkeley National Laboratory, USA

## Honors and Awards

2022	Groundbreaking Scientist Commendation, NAAMAT Organization
2021	Jacob Bekenstein Prize, Israel Physics Society
2020	Israel Young Academy of Science and Humanities, Elected Member
2020	Krill Prize, Wolf Foundation
2019	Offered 5-year position as Scientific Staff at CERN (declined for family reasons)
2017 - 2020	Azrieli Foundation Faculty Fellowship
2016 - 2018	LHC Theory Initiative Fellowship
2016	Rising Stars in Physics, MIT
2014	Block Prize, Aspen Center for Physics
2013 - 2014	Israel National Postdoctoral Award for Advancing Women in Science
2013 - 2014	Rothschild Fellowship, Yad Hanadiv Foundation
2013	Chorafas Foundation Prize
2013	Pappalardo Fellowship, MIT (declined)
2011	Wolf Foundation Fellowship for Outstanding Ph.D. Students
2008	M.Sc. Excellence Award, Weizmann Institute of Science
2001 - 2005	Dean's Honors & President's Honors, Technion—Israel Institute of Technology
2001 - 2005	Foundation for Jerusalem Technion Students Fellowships
2004 - 2005	Israel Ministry of Science and Technology Fellowship for the Advancement of Women in Science and Technology
2004	Bank Hapoalim Fellowship for Excellence

## Awarded Research Grants

2022 - 2027	<b>PI</b>	<b>European Research Council (ERC)</b> Starting Grant, <i>Light Dark Matter: New Directions for Theory and Detection</i> , 1,500,000 Euro total.
2022 - 2026	<b>PI</b>	<b>Israel Science Foundation (ISF)</b> <i>The Dark Side of the Universe</i> , 918,000 NIS total.
2019 - 2023	<b>PI</b>	<b>Binational Science Foundation (BSF)</b> <i>Multifaceted Probes of the Dark Universe</i> , 261,673 USD total (4 PIs).
2017 - 2021	<b>PI</b>	<b>Israel Science Foundation (ISF)</b> <i>From Theory to Experiment: Probing New Physics Beyond the Standard Lore</i> , 1,000,000 NIS total.
2017 - 2021	<b>PI</b>	<b>The I-CORE Program of the Planning &amp; Budgeting Committee (ISF)</b> <i>Phenomenology of Particle Physics</i> , 750,000 NIS total.
2017 - 2020	<b>PI</b>	<b>Azrieli Foundation</b> <i>Dark Matter Off the Beaten Path</i> , 210,000 USD total.
2017 - 2019	<b>PI</b>	<b>Binational Science Foundation (BSF)</b> Start-Up Program, <i>Dark Sectors</i> , 75,000 USD total.
2017 - 2018	<b>PI</b>	<b>German-Israel Foundation (GIF)</b> Startup Program, <i>Probing Hidden Sectors at the LHCb experiment</i> , 15,000 Euros total.

## Supervision of Graduate Students and Postdoctoral Fellows

- 2017 - **8 Postdoctoral Fellows**  
3 are Zuckerman Fellows  
Racah Institute of Physics, Hebrew University.  
**7 M.Sc. students**  
3 in Exceptional Masters Program, 1 in Talpiyot army service  
Racah Institute of Physics, Hebrew University.  
**7 undergraduate students**  
All in Amirim or Talpiyot Honor Programs  
Racah Institute of Physics, Hebrew University.  
**Mentoring of an additional 7 Ph.D. students from:**  
UC Berkeley  
Stanford University  
UC Santa Cruz  
Tel Aviv University  
Weizmann Institute of Science.

## Institutional Responsibilities

- 2023 - **Committee Member**  
University Gender Equality Committee, Hebrew University of Jerusalem, Israel
- 2022 - **Committee Member (Chair since 2023)**  
Gender Equality Committee, Faculty of Natural Sciences and Mathematics, Hebrew University of Jerusalem, Israel
- 2020 - **Coordinator of Gender Equality Activities**  
Racah Institute of Physics, Hebrew University of Jerusalem, Israel
- 2020 - **M.Sc. Committee Member**  
2 students, Racah Institute of Physics, Hebrew University of Jerusalem, Israel
- 2019 - **Organizer of the Physics Colloquium**  
Racah Institute of Physics, Hebrew University of Jerusalem, Israel
- 2018 - **Committee Member**  
Planning committee, Racah Institute of Physics, Hebrew University of Jerusalem, Israel
- 2017 - **Organizer of Joint Particle Physics Seminar**  
In collaboration with Weizmann Institute of Science, Tel Aviv University, Technion, Ben Gurion University and Hebrew University of Jerusalem

## Commissions of Trust

- 2023 - **Advisory Board**  
*Nature Review Physics*
- 2023 - **Member of Selection Committee**  
Rothschild Fellowships, Yad Hanadiv Foundation
- 2023 - **Member of Selection Committee**  
Excellence Fellowships for International Postdoctoral Researchers, Israel Academy of Sciences and Humanities & the Council for Higher Education, Israel
- 2022 - **Committee Member**  
National Committee of High Energies, Israel Academy of Science & Ministry of Science, Israel
- 2022 - **Committee Chair**  
Gender Equality in Academia, Israel Young Academy of Science
- 2021 - **Founding Member**  
Particle and Nuclear Physics Division, Israel Physics Society
- 2021 - **Founding Member**  
Division for Diversity, Israel Physics Society

- 2020 - **Founding Organizer**  
Israel Physics Colloquium, in collaboration with all Israeli Physics Departments
- 2020 - **Member of Selection Committees**  
PAZY Foundation  
Azrieli Foundation (*Preselection*)  
Israel Science Foundation  
ISF-China Program
- 2020 - 2021 **Member of Selection Committee**  
Emergency Postdoctoral Fellowships in Israel during COVID-19, Israel Academy of Sciences and Humanities
- 2020 - **Advisory Board**  
[INSPIRES](#), the premier information system in particle physics and allied fields
- 2018 - **Member of Ph.D. Committees**  
4 students, Weizmann Institute of Science, Israel  
1 student, Stony Brook University, New York, USA
- 2017 - **Grant Reviewer**  
European Research Council  
Israel Science Foundation  
Austrian Science Fund  
UK Royal Society  
Natural Sciences and Engineering Research Council of Canada  
Czech Science Foundation
- 2013 - **Journal Reviewer**  
Physics Review Letters  
Physics Review D  
Journal of High Energy Physics  
American Institute of Physics Advances  
Particle Data Group

## Organization of Scientific Meetings

\* = online due to COVID-19

- 2023 **Organizer**  
Workshop, “*EXCESS 2023*”, Joint Theory/Experiment, Vienna, Austria
- 2022 **Organizer**  
Workshop, “*EXCESS 2022*”, Joint Theory/Experiment\*
- 2021 **Scientific Advisory Committee**  
Workshop, “*Quantum Leaps in Light Dark Matter*”, Caltech, USA (postponed due to COVID-19)
- 2020 **Organizer**  
Meeting, “*See and Be Seen: Exact Sciences and Engineering*”, The Israel Young Academy\*
- 2020 **Convener**  
Conference, “*ICHEP 2020*”, Prague, Czech Republic\*
- 2019 **Co-Director**  
School, “*New Ideas for Old Puzzles in Particle Physics*”, the 37<sup>th</sup> Advanced School in Physics, Israel Institute for Advanced Studies, Hebrew University of Jerusalem, Israel
- 2019 **Scientific Advisory Committee**  
Workshop, “*CYGNUS 2019*”, 7<sup>th</sup> workshop on directional dark matter searches, Rome, Italy
- 2019 **Scientific Advisory Committee**  
Workshop, “*New Directions in the Search for Light Dark Matter Particles*”, Fermilab and Chicago, USA
- 2018 **Organizer**  
School, “*Recent Progress in Quantum Field/String Theory*”, the 36<sup>th</sup> Advanced School in Physics, Israel Institute for Advanced Studies, Hebrew University of Jerusalem, Israel

- 2017     **Organizer**  
Workshop, “*BSM in direct, indirect and tabletop experiments*”, SRitp workshop, Weizmann Institute of Science, Rehovot, Israel
- 2016     **Convener**  
Conference, “*LHCP 2016*”, Lund, Sweden

## Outreach

- 2022     Podcast, *Si'ach Hokrim*
- 2022     Talk with female middle school students, *Metzuyanot La'Mada* Program, Hebrew University, Jerusalem
- 2022 -    Talks with female highschool students, Schwartz/Reismann Science Education Center, Rehovot
- 2021     Talk to Gifted Middle Schoolers, *Ofek* School for the Gifted, Jerusalem
- 2021 -    *Madan Ba'Reshet* online meetings with students in schools across Israel, Davidson Institute Program
- 2021     Talk with female high school students in Jerusalem to encourage learning physics, Ministry of Education Program
- 2021     Public talk, *Be'Shaarei Ha'Academia*, Israel Academy of Sciences and Humanities
- 2020     Seminar to excellent high school students, *Alpha* Program
- 2019     Seminar at *Amirim* Excellence Program across the Natural Sciences
- 2019     Seminar to all physics high school students of Jerusalem
- 2018     Seminar to religious female high school physics students
- 2018 -    Mass public outreach via several online videos about dark matter
- 2018     Seminar to high school physics students in *Teacher-Researcher* Program at Hebrew University
- 2016     *Supersymmetry Bet* Panel, Danish TV
- 2016 -    Often interviewed for popular media in context of dark matter, in Israel and abroad; including local radio, Haaretz newspaper, Symmetry Magazine, IFL Science, Science Magazine News, Newsweek and more
- 2013     Science for the Masses, Comic Festival, Israel

## Selected Talks

In addition to ~50 seminars given at universities such as MIT, Harvard, Princeton, SLAC, UC Berkeley, Cambridge, Oxford, NYU, Michigan, IFT Madrid, DESY, Sorbonne and more:

(\* = online due to COVID-19)

- Fall 2023     *New Directions for Light Dark Matter*, **Colloquium**, Tel Aviv University, Israel
- Nov. 2023     *The Theory Landscape of Dark Matter*, **Invited Talk with Directors of World's Major Laboratories and Government Science Officials**, International Committee for Future Accelerators (ICFA) Meeting, DESY, Germany
- July 2023     *New Direction for Dark Matter Detection*, Conference, *Searching for New Physics at the Quantum Technology Frontier*, Ascona, Switzerland
- May 2023     *New Directions for Light Dark Matter*, **Colloquium**, MIT, USA
- Nov. 2022     *Light and ultra-light dark matter physics*, **Invited Lecture Series**, *CERN-JINR European School of HEP*, Israel
- Aug. 2022     *DM beyond WIMP*, **Invited Lecture Series**, *Cargese Summer School*, France
- June 2022     *Dark Matter*, **Invited Lecture Series**, *TASI Summer School*, USA
- Mar. 2022     *New Directions for Light Dark Matter*, **Colloquium**, Yale University, USA\*
- Feb. 2022     *New Directions for Light Dark Matter*, **Colloquium**, Gran Sasso National Laboratory, INFN, Italy\*
- Feb. 2022     *From strongly coupled theories to quantum sensors: New directions for dark matter*, **Colloquium**, KIT Karlsruhe, Germany\*
- Jan. 2022     *New Technologies for Light Dark Matter*, Workshop, *Searching for New Physics with Quantum Technologies*, ETH Zurich, Switzerland\*
- Jan. 2022     *Dark Matter*, **Invited Lecture Series**, *Galileo Galilei Institute School of Fundamental Interactions*, Florence, Italy

- Nov. 2021 *WIMPs and sub-GeV Dark Matter*, Symposium, *New Physics from the Sky*, Galileo Galilei Institute, Florence, Italy\*
- Oct. 2021 *Light Dark Matter*, **Young Scientists Forum**, *World Laureates Association*, China\*
- Sep. 2021 **Panelist**, *Quantum Sensors For Fundamental Physics School*, UK\*
- Aug. 2021 *SIMP dark matter*, **Invited Lecture Series**, *Les Houches Summer School*, France\*
- June 2021 *Quantum Technologies for New Physics*, **Plenary talk**, Conference, *Planck 2021*, UK\*
- June 2021 *Non-WIMP Dark Matter*, **Invited Lecture Series**, *ICTP Summer School*, Italy\*
- May 2021 *New Directions in Direct Detection of Dark Matter*, **Overview Talk**, *EuCAPT Inaugural Symposium*\*
- June 2021 *New Techniques on Light Dark Matter Detection*, **Plenary Talk**, Workshop, *Invisibles21*\*
- May 2021 *Dark Matter*, **Invited Lecture Series**, *Invisibles21 European School*\*
- Apr. 2021 *New Directions for Light Dark Matter*, **Colloquium**, Caltech, California, USA\*
- Mar. 2021 *New Directions for Light Dark Matter*, **Colloquium**, DESY, Germany\*
- Sep. 2020 *Recent ideas for dark matter detection*, DESY Theory Forum, Germany\*
- Sep. 2019 *Sub-GeV Dark Matter*, **Plenary talk**, Conference, *COSMO19*, Aachen, Germany
- Aug. 2019 *Beyond the Standard Model Theories*, **Plenary Talk**, Conference, *Lepton Photon 2019*, Toronto, Canada
- July 2018 *New ideas for light dark matter*, Workshop, *Physics at the LHC and Beyond*, CERN, Geneva, Switzerland
- June 2018 *New Directions in Dark Matter Detection*, **Colloquium**, Technion—Israel Institute of Technology, Israel
- Apr. 2018 *Direct searches for light dark matter*, Workshop, *Dark Matter at the Dawn of Discovery?*, Heidelberg, Germany
- Jan. 2018 *The Dark Side*, Israel Joint Theory Seminar 50 year celebration, Weizmann Institute, Israel
- Aug. 2017 *New ways to search for light dark matter*, Workshop, *Developing New Tools for Dark Matter Searches*, Aspen, Colorado, USA
- Jun. 2017 *Dark Spectroscopy*, Workshop, *The TeV Scale: A Threshold to New Physics?*, MITP, Mainz, Germany
- Dec. 2016 *Superconducting detectors for superlight dark matter*, Workshop, *sub-eV*, LBNL, Berkeley, California, USA
- Nov. 2016 *New Directions for Light Dark Matter Detection*, **LNS Colloquium**, MIT, Boston, USA
- Oct. 2016 *Light Dark Matter*, Workshop, *Rising Stars in Physics*, MIT, Boston, USA
- Aug. 2016 *A Light Dark Side*, Workshop, *Current Themes in High Energy Physics and Cosmology*, Niels Bohr Institute, Copenhagen, Denmark
- Mar. 2016 *Superconducting detectors for super light dark matter*, Berkeley week at IPMU, Institute for Physics and Mathematics of the Universe, Japan
- Mar. 2016 *Superconducting detectors for super light dark matter*, Bay Area Particle Theory Meeting, San Francisco, California, USA
- Oct. 2015 *Superconducting detectors for super light dark matter*, Conference, *Gearing up for LHC13*, Galileo Galilei Institute, Florence, Italy
- Aug. 2015 *Superconducting detectors for super light dark matter*, Workshop, *New Directions to Shed Light on Dark Matter*, Aspen, Colorado, USA
- Dec. 2014 *The SIMP(lest) Miracle*, meeting of the I-CORE center *The Quantum Universe*, Jerusalem, Israel
- Sep. 2014 *The SIMP(lest) Miracle*, Workshop, *Physics from Run 2 of the LHC*, Jeju, Korea
- Jun. 2014 *Two Higgs doublet model with minimal flavor violation*, Workshop, *Connecting Flavor Physics with Naturalness: from Theory to Experiment*, Aspen, Colorado, USA
- Jan. 2014 *Higgs flavor physics*, Workshop, *Frontiers in Particle Physics: From Dark Matter to the LHC and Beyond*, Aspen, Colorado, USA
- Apr. 2013 *The interplay of flavor and collider*, Joint High Energy Theory Seminar, Israel
- Jul. 2012 *Interplay of flavor physics and collider physics*, 62<sup>nd</sup> Lindau Nobel Laureate Meeting, Germany
- Jun. 2012 *Charming new physics*, *Physics at the LHC (PLHC)* Conference, Vancouver, BC

- Feb. 2012 *From top  $A_{FB}$  to charm  $\Delta_{ACP}$* , Workshop, *Top physics and electroweak symmetry breaking in the LHC era*, Seoul, Korea
- May 2011 *Exploring scalar interpretations of  $A_{FB}$* , T-mini Workshop, Weizmann Institute of Science, Israel
- Dec. 2010 *Implications of the large dimuon  $CP$  asymmetry in  $B_{d,s}$  decays on minimal flavor violation with low  $\tan\beta$* , the 56th annual meeting of the Israel Physical Society
- Oct. 2009 *Inverted Sparticle Hierarchies from Natural Particle Hierarchies*, the Weizmann High Energy Physics Scientific and Academic Advisory Committee meeting
- Sep. 2009 *Inverted Sparticle Hierarchies from Natural Particle Hierarchies*, the ISF Center of Excellence meeting in String Theory, *A New Year of String Theory*, Workshop, Tel Aviv, Israel
- Dec. 2008 *Splitting the Wino Multiplet by Higher-Dimensional Operators in Anomaly Mediation*, the 54th annual meeting of the Israel Physical Society

## Schools, Workshops and Conferences

\* = online due to COVID-19

- Nov. 2023 Meeting, *Future Perspectives in High Energy Physics*, International Committee for Future Accelerators (ICFA), DESY, Germany
- July 2023 Conference, *Searching for New Physics at the Quantum Technology Frontier*, Ascona, Switzerland
- Nov. 2022 **Invited Lecturer @ School**, *CERN-JINR European School of HEP*, Israel
- Aug. 2022 **Invited Lecturer @ School**, *Cargese Summer School*, France
- June 2022 **Invited Lecturer @ School**, *TASI Summer School*, USA
- Jan. 2022 **Invited Lecturer @ School**, *Galileo Galilei Institute School of Fundamental Interactions*, Florence, Italy\*
- Jan. 2022 Workshop, *Searching for New Physics with Quantum Technologies*, ETH Zurich, Switzerland\*
- Nov. 2021 Symposium, *New Physics from the Sky*, Galileo Galilei Institute, Florence, Italy\*
- Oct. 2021 Conference, **Young Scientists Forum**, *World Laureates Association*, China\*
- Sep. 2021 Conference, *Topics in Astroparticle and Underground Physics*, Valencia, Spain\*
- Aug. 2021 **Invited Lecturer @ School**, *Les Houches Summer School*, France\*
- June 2021 Conference, *Planck 2021*, UK\*
- June 2021 **Invited Lecturer @ School**, *ICTP Summer School*, Italy\*
- June 2021 Symposium, *EuCAPT Inaugural Symposium*\*
- June 2021 Workshop, *Invisibles21*\*
- May 2021 **Invited Lecturer @ School**, *Invisibles21 European School*\*
- Feb. 2021 Conference, *Israel Physics Society*, Israel\*
- Aug. 2020 **Convener**, Conference, *ICHEP 2020*, Prague, Czech Republic\*
- Dec. 2019 **Co-Director**, School, *New Ideas for Old Puzzles in Particle Physics, the 37<sup>th</sup> Advanced School in Physics*, Israel Institute for Advanced Studies, Hebrew University, Israel
- Oct. 2019 Workshop, *Promoting gender equality in physics: Barriers and opportunities*, SRITp, Weizmann Institute, Israel
- Sep. 2019 Conference, *COSMO19*, Aachen, Germany
- Aug. 2019 Conference, *Lepton Photon 2019*, Toronto, Canada
- July 2018 Workshop, *Physics at the LHC and Beyond*, CERN, Geneva, Switzerland
- June 2018 Workshop, *The Future of BSM Physics*, MITP workshop in Capri, Italy
- Apr. 2018 Workshop, *Dark Matter at the Dawn of Discovery?*, Heidelberg, Germany
- Nov. 2017 **Organizer**, Workshop, *BSM in direct, indirect and tabletop experiments*, SRITp, Weizmann Institute, Israel
- Aug. 2017 Workshop, *Developing New Tools for Dark Matter Searches*, Aspen, Colorado, USA
- Dec. 2016 Workshop, *sub-eV*, LBNL, Berkeley, California, USA
- Oct. 2016 Workshop, *Rising Stars in Physics*, MIT, Boston, USA
- Aug. 2016 Workshop, *Current Themes in High Energy Physics and Cosmology*, Copenhagen, Denmark

Jun. 2016	<b>Convener</b> , Conference, <i>Fourth Annual Large Hadron Collider Physics Conference (LHCP2016)</i> , Lund, Sweden
Mar. 2016	Meeting, <i>Berkeley week at IPMU</i> , Institute for Physics and Mathematics of the Universe, Japan
Oct. 2015	Conference, <i>Gearing up for LHC13</i> , Galileo Galilei Institute, Florence, Italy
Oct. 2015	Workshop, <i>Gearing up for LHC13</i> , Galileo Galilei Institute, Florence, Italy
Aug. 2015	Workshop, <i>New Directions to Shed Light on Dark Matter</i> , Aspen, Colorado, USA
June 2015	Workshop, <i>Berkeley Workshop on Dark Matter Detection</i> , Berkeley, California, USA
May 2015	Workshop, <i>Beyond WIMPs: From Theory to Detection</i> , Kibbutz Hagoshrim, Israel
Sep. 2014	Workshop, <i>Physics from Run 2 of the LHC</i> , Jeju, Korea
Jun 2014	Workshop, <i>Connecting Flavor Physics with Naturalness: from Theory to Experiment</i> , Aspen, Colorado, USA
Jan. 2013	USA ATLAS Workshop, <i>LHC Searches</i> , Berkeley, California, USA
Jan. 2013	Workshop, <i>Frontiers in Particle Physics: From Dark Matter to the LHC and Beyond</i> , Aspen, Colorado, USA
Jul. 2012	62 <sup>nd</sup> Lindau Nobel Laureate Meeting, Germany
Jun. 2012	<i>Physics at the LHC (PLHC)</i> Conference, Vancouver, BC
Feb. 2012	Workshop, <i>Top physics and electroweak symmetry breaking in the LHC era</i> , Seoul, Korea
Dec. 2011	The 29th Jerusalem Winter School in Theoretical Physics, <i>Current Trends in Particle Physics and Cosmology</i> , Jerusalem, Israel
Nov. 2011	Workshop, <i>Implications of LHCb measurements and future prospects</i> , CERN, Switzerland
May 2011	<i>T-mini Workshop</i> , Rehovot, Israel
May 2011	Workshop, <i>Electroweak Baryogenesis in the Era of the LHC</i> , Rehovot, Israel
Jul. 2010	International Summer School, <i>Cargèse 2010: Physics at TeV Colliders – From Tevatron to LHC</i> , Cargèse, France
Sep. 2009	String Theory Workshop, <i>A New Year of String Theory</i> , Tel Aviv, Israel
Dec. 2008	The 26th Jerusalem Winter School in Theoretical Physics, <i>Particle Physics in the Age of the LHC</i> , Jerusalem, Israel
Nov. 2008	International Conference on Particles and Nuclei, Eilat, Israel
Jun. 2008	ESF School in High Energy Physics and Astrophysics, <i>Theory and Particle Physics: the LHC perspective and beyond</i> , Cargèse, France
Apr. 2008	String Theory Workshop, <i>String Theory - From Theory to Experiment</i> , Jerusalem, Israel
Apr. 2008	Einstein-Minerva Rapid School, pre-workshop, Rehovot, Israel
Dec. 2006	Theoretical Physics School, <i>Physics at the LHC</i> , Rehovot and Haifa, Israel

## Sample Media Coverage of Work

- Newsweek, [“Move over WIMPs: New dark matter candidate can explain mysteries of the Universe”](#)
- IFL Science, [“New Dark Matter Theory Says It’s A Type Of Particle We’ve Known About For 80 Years”](#)
- Science Friday, [“Did Dark Matter Kill the Dinosaurs?”](#)
- Livescience, [“Dark Pion Particles May Explain Universe’s Invisible Matter”](#)
- Science Magazine News, [“Dark Matter: Out with the WIMPs, in with the SIMPs?”](#)
- Physics World, [“Superconducting nanowires could shed light on dark matter”](#)
- Discovery Magazine, [“What is Dark Matter Made Of? These Are the Top Candidates”](#)
- Science News, [“Diamond detectors could aid the search for dark matter”](#)



## Ongoing Experimental Collaborations

Superconducting Sensors	Karl Berggren (MIT) Ilya Chareav (MIT/Zurich) Sae-Woo Nam (NIST) Jiansong Gao (NIST) Paul Szypryt (NIST) Val Zwiller (KTH, Sweden) Dirk Bouwmeester (Leiden/UC Santa Barbara) Laura Baudis (Zurich) Axel Linder (DESY)
Directional Superconductors	Noah Kurinsky (SLAC)
Carbon-Based & Ferroelectrics	Noah Kurinsky (SLAC) To-Chin Yu (Stanford) Sinead Griffin (LBNL) Katherine Inzani (Nottingham)
High-Energy Absorption	Belina von Krosigk (KIT)
Comagnetometers	Or Katz (Duke)

## LIST OF PUBLICATIONS

- Total of 59 publications (1 published in Nature Review Physics; 1 published in Nature Communications; 9 published in Physical Review Letters; 6 chosen as APS Editor's Suggestion)
- 5800+ citations, [h-index](#) 34. Citation counts are taken from [INSPIRE](#), the high energy physics standard digital library.
- In my field of Theoretical Particle Physics, all authors are equal contributors and are listed in alphabetical order. Exception below in interdisciplinary publications where author order is that of the other fields and I am lead Principal Investigator.
- Please note that in my field of Theoretical Particle Physics, papers are typically not submitted to Nature or Science journals.

- [1] R. Essig, **Y. Hochberg**, Y. Shoji, A. Singal and G. Suzcwski, "Low-Energy Compton Scattering in Materials," [arXiv:2310.02316 [hep-ph]], *Submitted to Phys. Rev. D.*  
[Number of citations: 0]
- [2] P. J. Fitzpatrick, **Y. Hochberg**, E. Kuffik, R. Ovadia and Y. Soreq, "Dark matter through the axion-gluon portal," *Phys. Rev. D* **108**, no.7, 075003 (2023) [arXiv:2306.03128 [hep-ph]].  
[Number of citations: 6]
- [3] C. Boyd, **Y. Hochberg**, Y. Kahn, E. D. Kramer, N. Kurinsky, B. V. Lehmann and T. C. Yu, "Directional detection of dark matter with anisotropic response functions," *Phys. Rev. D* **108**, no.1, 015015 (2023) [arXiv:2212.04505 [hep-ph]].  
[Number of citations: 7]
- [4] I. M. Bloch *et al.* [NASDUCK], "Constraints on axion-like dark matter from a SERF comagnetometer," *Nature Commun.* **14**, no.1, 5784 (2023) [arXiv:2209.13588 [hep-ph]]. [Number of citations: 7]
- [5] **Y. Hochberg**, Y. F. Kahn, R. K. Leane, S. Rajendran, K. Van Tilburg, T. T. Yu and K. M. Zurek, "New approaches to dark matter detection," *Nature Rev. Phys.* **4** (2022) no.10, 637-641, **Invited Review.**  
[Number of citations: 8]

- [6] C. Csáki, A. Gomes, **Y. Hochberg**, E. Kuflik, K. Langhoff and H. Murayama, “Super-resonant dark matter,” JHEP **11** (2022), 162 [arXiv:2208.07882 [hep-ph]].  
[Number of citations: 1]
- [7] **Y. Hochberg**, “SIMP Dark Matter,” SciPost Phys. Lect. Notes **59** (2022), 1. **Invited Lectures.**  
[Number of citations: 1]
- [8] A. Apponi *et al.* [PTOLEMY Collaboration], “Heisenberg’s uncertainty principle in the PTOLEMY project: a theory update,” [arXiv:2203.11228 [hep-ph]].  
[Number of citations: 22]
- [9] R. Essig *et al.*, “Snowmass2021 Cosmic Frontier: The landscape of low-threshold dark matter direct detection in the next decade,” [arXiv:2203.08297 [hep-ph]].  
*Snowmass Process Whitepaper (2022).*  
[Number of citations: 59]
- [10] P. Asadi *et al.* “Early-Universe Model Building,” [arXiv:2203.06680 [hep-ph]],  
*Solicited Whitepaper for Snowmass 2022, Editor.*  
[Number of citations: 34]
- [11] K. V. Berghaus, R. Essig, **Y. Hochberg**, Y. Shoji and M. Sholapurkar, “Phonon background from gamma rays in sub-GeV dark matter detectors,” Phys. Rev. D **106** (2022) no.2, 023026 [arXiv:2112.09702 [hep-ph]]. **Chosen as the APS Editor Suggestion.**  
[Number of citations: 10]
- [12] R. Frumkin, **Y. Hochberg**, E. Kuflik and H. Murayama, “Thermal Dark Matter from Freeze-Out of Inverse Decays,” Phys. Rev. Lett. **130**, no.12, 121001 (2023) [arXiv:2111.14857 [hep-ph]].  
[Number of citations: 11]
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