Date (September, 2022)

CURRICULUM VITAE AND LIST OF PUBLICATIONS

Personal Details

Mindy Levine
Date of Birth: 27 July 1983; Place of birth: Boston, MA, USA
Date of immigration: 29 August 2019
Regular military service (dates): N/A
Telephone number at work: 053-569-8117
Telephone number at home: 053-569-8117

Education

Undergraduate and Graduate Studies

Ph.D.	2005-2008, Columbia University, Department of Chemistry, Thesis Advisor: Professor Ronald Breslow, Title of thesis: Investigating the Origin of Homochirality
M.Sc.	2003-2005, Columbia University, Department of Chemistry, Thesis Advisor: Professor Ronald Breslow, Title of thesis: Investigating the Origin of Homochirality
B.A.	2000-2003, Columbia University, Department of Chemistry

Post-Doctoral Studies

2008-2010,	Completion in June 2010, Massachusetts Institute of Technology (MIT), Department of Chemistry, Supervisor: Professor Timothy Swager

Academic Ranks and Tenure in Institutes of Higher Education

2019-present,	Ariel University, Department of Chemical Sciences, Associate Professor
2018	Bar Ilan University, Department of Chemistry, Sabbatical Leave Appointee
2016-2019,	University of Rhode Island, Department of Chemistry, Associate Professor with tenure
2010-2016,	University of Rhode Island, Department of Chemistry, Assistant Professor
2007-2008,	Yeshiva University, Department of Chemistry, Adjunct Professor

Professional Activities

Positions in academic administration (Departmental, Faculty and University)

2022-present	Founder, Coordinator, and Leader, Chemistry Camp for Girls in Israel, Ariel University
2022-present	Chair, Forum of Young Investigators, Ariel University
2021-present	Member, Departmental Committee for Undergraduate Education, Department of Chemical Sciences, Ariel University
2019-present	Thesis committee member and/or chair for five students in the department: (Sara Amer, Alon Khabra, Dalia Gittin, Lior Carmel, Ortal Dorfman), Ariel University

2019-present	Mentor, Alpha Program for Encouraging Girls into Science, Ariel University
2018-2019	Chair, Diversity Committee, College of Arts and Sciences, University of Rhode Island
2017-2018	Member, Intellectual Property Committee, University of Rhode Island
2017	Co-Organizer and Panelist, "How to Succeed in Graduate School," Chemistry Department, University of Rhode Island, Kingston, RI
2016-2019	Founder, Coordinator and Leader, Sugar Science Day for High School Girls, University of Rhode Island, Kingston, RI
2016-2019	Founder, Coordinator, and Faculty Advisor, Graduate Women in Chemistry Group, University of Rhode Island, Kingston, RI
2016-2018	Member, Diversity Committee, College of Arts and Sciences, University of Rhode Island
2016	Organizer, "Careers in Chemistry," a two-part panel discussion series, Department of Chemistry, University of Rhode Island, Kingston, RI
2015	Organizer, "Professional Skills for your Future Career," a three-part panel discussion series, Department of Chemistry, University of Rhode Island, Kingston, RI
2013-2019	Founder, Coordinator, and Leader, Chemistry Camp for Middle School Girls
2013	Partner in the URI Collaboration for the Exploration of Math and Sciences (CEMS) Initiative
2012	Committee member for Organic Faculty Search Committee, University of Rhode Island
2012-2016	**"**Girls Reaching Remarkable Levels" (GRRL) Tech Workshop Leader, University of Rhode Island, Kingston, RI
2012	Co-Organizer, "How to Succeed in Graduate School," Department of Chemistry, University of Rhode Island, Kingston, RI
2011-2019	Member, Work-Life Committee, University of Rhode Island, Kingston, RI

Professional functions outside universities/institutions (inter-university, national, international)

2022-present	Founder and CEO, WonderLab Israel, a non-profit organization to promote girls and women in science
2022-present	Volunteer and Mentor, מחשבה טובה, non-profit organization for children at risk
2022-present	Session Chair, Wolf Prize Symposium, Israel Chemical Society
2022-present	Secretary General, International Israel Chapter of the American Chemical Society
2022	Organizer and Discussion Leader, "Women in Chemistry Power Hour" Israel Chemical Society (ICS) Annual Meeting
2021-2023	IUPAC, National Representative of the Organic and Biomolecular Chemistry Division (III)
2021	NSF GRFP panel reviewer
2021	Conference Moderator, 2nd Annual Virtual Conference on Materials Science and Engineering, Virtual Meeting
2021	Session Chair, Medicinal Chemistry Symposium, Tel Aviv University, Tel Aviv
2020	Session Chair, American Chemical Society Virtual National Meeting, San Francisco, CA
2019-present	Mentor, More Active Girls in Computing (MAGIC) program
2019-present	Manuscript reviewer, > 40 manuscripts/year, Ariel University
2019	Session Chair, Japan-Israel Chemical Conference, Technion University, Haifa
2019	Past-Chair, Northeastern Section of the American Chemical Society
2019	Power Hour Discussion Leader on Gender Equity, Gordon Research Conference, Holderness, NH, USA

2018	Chair, Northeastern Section of the American Chemical Society
2017	NSF Panel Reviewer, Center for Chemical Innovations Panel
2017	Outreach Coordinator, Gross Science Night at the University of Rhode Island
2017	Organizer, Science Day at Striar Hebrew Elementary School (100 students)
2017	Moderator and Co-Organizer, "STEM The Wage Gap" Panel Discussion, Northeastern Section of the American Chemical Society
2017	Vice-Chair, Northeastern Section of the American Chemical Society
2017	Co-Organizer, "How to Negotiate for Your First Employment in STEM," Northeastern Section of the American Chemical Society
2016	Outreach Coordinator, The Greene School, East Greenwich, RI (80 students)
2016	Mentor, American Chemical Society Postdoc to Faculty (P2F) Workshop, Philadelphia, PA
2016	Outreach Coordinator, The MET School, Providence, RI (3 workshops for 30 students each)
2016	Symposium Organizer, Middle Atlantic Regional Meeting (MARM), New York, NY
2016	Panel Reviewer, NSF-MSN Panel
2016	Ad-hoc Reviewer, SBCA Panel, NIGMS, San Diego CA
2016	Session Chair, Division of Organic Chemistry, 251st ACS National Meeting, San Diego, CA
2016	Session Chair, Division of Organic Chemistry, 252nd ACS National Meeting, Philadelphia, PA
2015	Session Chair, Division of Organic Chemistry, 250th ACS National Meeting, Boston, MA
2015	Outreach Coordinator, Striar Hebrew Academy, Sharon, MA
2014	Outreach Coordinator, Johnston Library, Johnston, RI
2014	South Kingstown High School Science Day Leader, South Kingstown, RI
2014	Arno Heyn Award Committee, Northeastern Section of the American Chemical Society
2014	Session Chair, Division of Organic Chemistry, 248th ACS National Meeting, San Francisco, CA
2014	Panel Reviewer, NSF-MSN Panel
2014	Nominating Committee Member, Northeastern Section of the American Chemical Society
2013	Work-Life Expert Panelist, Symposium on Careers in Chemistry, Tufts University
2013-present	Multiple media appearances, promoting women in science, research grant funding achieved, new research results, and science outreach efforts
2013	Science Day Host, Cranston High School, Cranston, RI
2013	Science Workshop Leader, The Greene School, West Greenwich, RI
2012	Panel Reviewer, NSF/NCI PESO Grant Panel Session
2011-2019	Founder, Mentor and Coordinator, ACS Project SEED, University of Rhode Island, Kingston, RI
2010-2019	Prolific manuscript reviewer, multiple peer-reviewed journals
2010-2012	Fellowship Coordinator, Graduate Women in Science Fellowships Committee, Boston, MA
2008-2010	Editor and Web Coordinator, Northeastern Section of the American Chemical Society (NESACS)
2008-2010	Feature Writer, The Nucleus, Publication of the American Chemical Society Northeastern Section

Significant professional consulting

N/A

Editor or member of editorial board of scientific or professional journal

2022-present	Editorial Board Member, *Journal of Inclusion Phenomena and Macrocyclic Chemistry*
2020	Special Issue Editor, *Israel Journal of Chemistry*
2019	Special Issue Editor, *Supramolecular Chemistry*

Membership in professional/scientific societies

2019-present,	Israel Chemical Society
2007-present,	American Chemical Society

Educational activities

Courses taught in Recent Years (since arriving at Ariel University)

2022	Spring Semester Organic Chemistry I,	Ariel University
2022	Spring Semester Organic Chemistry Laboratory,	Ariel University
2022	Spring Semester General Chemistry Laboratory,	Ariel University
2022	Spring Semester Undergraduate Research,	Ariel University
2021	Fall Semester General Chemistry Laboratory,	Ariel University
2021	Fall Semester, Organic Chemistry Laboratory,	Ariel University
2021	Spring Semester, Graduate Chemical Sensors,	Ariel University
2021	Spring Semester, Organic Chemistry I,	Ariel University
2021	Spring Semester, Organic Chemistry Laboratory,	Ariel University
2021	Spring Semester, Graduate Seminarion,	Ariel University
2020	Fall Semester, General Chemistry Laboratory,	Ariel University
2020	Fall Semester, Physical Chemistry Laboratory,	Ariel University
2020	Spring Semester, Organic Chemistry I,	Ariel University
2020	Spring Semester, Organic Chemistry Laboratory,	Ariel University
2020	Spring Semester, General Chemistry Laboratory,	Ariel University
2019	Fall Semester, General Chemistry I,	Ariel University

Supervision of Research Students

2024	Alen Sam Thomas, Ph.D.,	Ariel University
2024	Jenisha John, Ph.D.,	Ariel University
2023	Vincent Joseph, Ph.D.,	Ariel University
2022,	Miriam Meir Mrouat, B.S.,	Ariel University
2022,	Ikhlas Abu Muammar, B.S.,	Ariel University
2021	Apurba Pramanik, Postdoctoral Fellowship,	Ariel University
2021,	Oran Warhaftig, B.S.,	Ariel University
2021	Shay Klein, B.S.,	Ariel University
2020	Anna Haynes, M.S.,	University of Rhode Island
2019	Teresa Mako, Ph.D.,	University of Rhode Island
2019	Daniel Jones, Ph.D.,	University of Rhode Island
2019	Benjamin Cromwell, M.S.,	University of Rhode Island
2018	Dana J. DiScenza, Ph.D.,	University of Rhode Island
2018	Sauradip Chaudhuri, Ph.D.,	University of Rhode Island
2016	Nicole Serio, Ph.D.,	University of Rhode Island
2016	Bhasker Radaram, PhD.,	University of Rhode Island
2016	Benjamin Smith, M.S.,	University of Rhode Island
2016	William Talbert, M.S.,	University of Rhode Island

Awards, Citations, Honors, Fellowships

2022	Ariel University 1st Annual Student Entrepreneurship Competition, Faculty Mentor for First Prize Winning Team
2022	MDPI Publishing, *Chemosensors* Outstanding Young Investigator Award
2022	American Chemical Society, National ACS Award for Encouraging Women into Careers in the Chemical Sciences
2020	MDPI Publishing, Outstanding Reviewer Award, *Chemosensors*
2019	University of Rhode Island, Intellectual Property Excellence Award
2018	*Supramolecular Chemistry*, Jonathan Sessler Early Career Research Prize
2018	Society for Science and the Public, Science Advocate
2016	American Chemical Society, Stanley C. Israel Award for Increasing Diversity in the Chemical Sciences
2016	University of Rhode Island, College of Arts and Sciences, Outstanding Graduate Student Mentor
2016	American Chemical Society, Women Chemists Committee Rising Star Award
2016	Northeastern Section of the American Chemical Society, Younger Chemist Crossing Borders Awardee
2016	Rhode Island Business Competition Semi-Finalist
2014	University of Rhode Island, Early Career Research Excellence Award
2013	Thieme Chemistry Journal, Young Investigator Award
2013	Northeastern Section of the American Chemical Society, Arno Heyn Award
2012	American Chemical Society, Younger Chemists Committee CIBA Travel Award
2010	American Chemical Society, Younger Chemists Committee Leadership Development Award
2010	National Postdoctoral Association, Travel Award
2008	Columbia University, Pegram Award for Excellence in Research
2007	American Chemical Society, Women Chemists Committee Eli Lilly Travel Award

Fellowships

2008-2010	NIH Postdoctoral Research Fellowship (F32), $85,496 – provided postdoctoral salary and financial support to conduct research in the laboratory of Prof. Timothy Swager
2005-2006	Novartis Graduate Fellowship in Organic Chemistry, $50,000 – provided graduate student research stipend and covered tuition for one year during PhD studies

Scientific Publications

Citation Index

H-index: Google Scholar: 23; ISI: 19

Total number of citations of all articles: Google Scholar: 2,057; ISI: 1,512

Total number of citations without self-citations: Google Scholar: 1,572; ISI: 1,111

Articles (since last promotion to Associate Professor in 2016; corresponding author indicated with a *)

<u>Refereed articles and refereed letters</u> in scientific journals

Ariel University as primary affiliation:

1. Joseph, V.; Warhaftig, O.; Klein, S.; Levine, M.,* **2022**, Paper-Based Manganese and β-Cyclodextrin Sensors for Colorimetric Sulfur Dioxide Detection, *Analytica Chimica Acta*, 1200, 339629, (Citations: 1; IF: 6.991, JR: 8/99, Q1); DOI: 10.1016/j.aca.2022.339629.
2. Karmakar, J.; Pramanik, A.; Joseph, V.; Marks, V.; Grynszpan, F.; Levine, M.,* **2022**, A Dipodal Bimane-diTriazole-diCu(II) Complex Serves as Ultrasensitive Water Sensor, *Chemical Communications*, 58, 2690-2693, (Citations: 1, IF: 6.065, JR: 49/224, Q1); DOI: 10.1039/d1cc07138f.
3. Pramanik, A.; Karmakar, J.; Grynszpan, F.; Levine, M.,* **2022**, Highly Sensitive Water Detection through Reversible Fluorescence Changes in a syn-Bimane Based Boronic Acid Derivative, *Frontiers in Chemistry*, 9, 782481, (Citations: 1, IF: 5.545, JR: 88/224, Q2); DOI: 10.3389/fchem.2021.782481.
4. Pramanik, A.; Karimadon, B. R.; Kornweitz, H.; Levine, M.,* **2021**, Sonication-Induced, Solvent-Selective Gelation of a 1,8-Napthalimide-Conjugated Amide: Structural Insights and Pollutant Removal Applications, *ACS Omega*, 6, 32722-32729, (Citations: 0, IF: 4.132, JR: 84/224, Q2); DOI: 10.1021/acsomega.1c04453.
5. Pramanik, A.; Karmarkar, J.; Grynzspan, F.; Levine, M.,* **2021**, Facile Iodine Detection via Fluorescence Quenching of β-Cyclodextrin:Bimane-Ditriazole Inclusion Complexes, *Israel Journal of Chemistry*, 61, 253-260, (Citations: 5, IF: 3.357, JR: 137/224, Q3); DOI: 10.1002/ijch.202000092.
6. Levine, M.;* Margulies, D., **2021**, Editorial: Special Issue on "Fluorescent Molecular Probes and Fluorescence-Based Chemical Sensing, *Israel Journal of Chemistry*, 61, 158, (Citations: 0, IF: 3.357, JR: 137/224, Q3); DOI: 10.1002/ijch.202100029.
7. Haynes, A. Z.; Levine, M.,* **2021**, Detection of Human Growth Hormone (hGH) via Cyclodextrin-Promoted Fluorescence Modulation, *Analytical Letters*, 54, 1871-1880, (Citations: 1, IF: 2.267, JR: 59/99, Q3); DOI: 10.1080/00032719.2020.1828445.
8. Pramanik, A.; Amer, S.; Grynzspan, F.; Levine, M.,* **2020**, Highly Sensitive Detection of Cobalt Through Fluorescence Changes in β-Cyclodextrin-Bimane Complexes, *Chemical Communications*, 56, 12126-12129, (Citations: 7, IF: 6.065, JR: 49/224, Q1); DOI: 10.1039/d0cc05812b.
9. Racicot, J. M.; Mako, T. L.; Healey, A.; Hos, B.; Levine, M.,* **2020**, Efficient Detection and Removal of Polycyclic Aromatic Hydrocarbons Using Cyclodextrin-Modified Cellulose, *ChemPlusChem*, 85, 1730-1736, (Citations: 2, IF: 3.21, JR:110/224, Q2); DOI: 10.1002/cplu.202000410.
10. Chaudhuri, S.; Burke, A.; Boving, T.; Levine, M.,* **2020**, Use of alpha-Cyclodextrin Complexes to Bind Chlorinated Disinfection Byproducts and Ameliorate their Toxicity, *Frontiers in Chemistry*, 8, 641, (Citations: 1, IF: 5.545, JR: 88/224, Q2); DOI: 10.3389/fchem.2020.00641.
11. Smith, B. R.; Levine, M.,* **2020**, Enhanced Characterization of Pyrene Binding in Mixed Cyclodextrin Systems via Fluorescence Spectroscopy, *Journal of Fluorescence*, 30, 1015-1023, (Citations: 5, IF: 2.525, JR: 62/84, Q3); DOI: 10.1007/s10895-020-02572-5.

12. Haynes, A. Z.; Levine, M.,* **2020**, Detection of Anabolic Steroids via Cyclodextrin-Promoted Fluorescence Modulation, *RSC Advances*, 10, 25108-25115, (Citations: 4, IF: 4.036, JR: 93/224, Q2); DOI: 10.1039/d0ra03485a.
13. Racicot, J. M.; Mako, T. L.; Olivelli, A.; Levine, M.,* **2020**, A Paper-Based Device for Ultrasensitive, Colorimetric Phosphate Detection in Seawater, *Sensors*, 20, 2766, (Citations: 27, IF: 3.847, JR: 24/99, Q1); DOI: 10.3390/s20102766.
14. Mako, T. L.; Levenson, A. M.; Levine, M.,* **2020**, Ultrasensitive Detection of Nitrite through Implementation of N-(1-Naphthyl)ethylenediamine-Grafted Cellulose into a Paper-Based Device, *ACS Sensors* 2020, 5, 1207-1215. (Citations: 26, IF: 9.618, JR: 9/99, Q1); DOI: 10.1021/acssensors.0c00291.
15. Cromwell, B.; Cid Mota, L.; Levine, M.,* **2020**, Detection of Potentially Toxic Additives in Electronic Cigarettes and Cigarette Flavourings, *Analytical Letters*, 53, 1470-1415, (Citations: 2, IF: 2.267, JR: 59/99, Q3); DOI: 10.1080/00032719.2019.1708922.
16. Cromwell, B.; Levenson, A.; Levine, M.,* **2020**, Thermogravimetric Analysis of Aromatic Boronic Acids for Flame Retardant Applications, *Thermochimica Acta*, 683, 178476, (Citations: 8, IF: 3.378, JR: 44/99, Q2); DOI: 10.1016/j.tca.2019.178476.

University of Rhode Island as primary affiliation:

17. Haynes, A.; Halpert, P.; Levine, M.,* **2019**, Colorimetric Detection of Aliphatic Alcohols in β-Cyclodextrin Solutions, *ACS Omega*, 4, 18361-18369, (Citations: 7, IF: 4.132, JR: 84/224, Q2); DOI: 10.1021/acsomega.9b02612.
18. Cromwell, B.; Dubnicka, M.; Dubrawski, S.; Levine, M.,* **2019**, Identification of 15 Phthalate Esters in Commercial Cheese Powder via Cyclodextrin-Promoted Fluorescence Detection, *ACS Omega*, 4, 17009-17015, (Citations: 3, IF: 4.132, JR: 84/224, Q2); DOI: 10.1021/acsomega.9b02585.
19. Fernando, A.; Mako, T.; Levenson, A.; Cesana, P.; Mendieta, A. M.; Racicot, J.; DeBoef, B.; Levine, M.,* **2019**, Polycationic Pillar[5]arene for the Binding and Removal of Organic Toxicants from Aqueous Media, *Supramolecular Chemistry*, 31, 545-557, (Citations: 5, IF: 1.84, JR: 137/224, Q3); DOI: 10.1080/10610278.2019.1632457.
20. Mako, T. L.; Levine, M.,* **2019**, Fabrication and Implementation of a Paper-Based Devices for the Detection of Acetaminophen and Phenacetin in an Advanced Undergraduate Laboratory, *Journal of Chemical Education*, 96, 1719-1726, (Citations: 5, IF: 3.208, JR: 46/224, Q1); DOI: 10.1021/acs.jchemed.9b00028.
21. Jones, D.; Point, B.; Levine, M.,* **2019**, Effects of Structural Variation in Conjugated Side Chains on the Photophysics of Conjugated Polymers in Nanoparticles, *Journal of Physical Chemistry B*, 123, 4604-4610, (Citations: 1, IF: 2.991, JR: 98/172, Q3); DOI: 10.1021/acs.jpcb.9b01033.
22. Chaudhuri, S.; DiScenza, D. J.; Verderame, M.; Levine, M.,* **2019**, Colorimetric Detection of Polycyclic Aromatic Hydrocarbons Using Supramolecular Cyclodextrin Dimer-Squaraine Constructs, *Supramolecular Chemistry*, 31, 211-219, (Citations: 8, IF: 1.84, JR: 137/224, Q3); DOI: 10.1080/10610278.2019.1579332.
23. DiScenza, D. J.; Intravia, L. E.; Healy, A.; Levine, M.,* **2019**, Fluorescence-Based Detection of Benzene, Toluene, Ethylbenzene, Xylene, and Cumene (BTEXC) Compounds in Fuel-Contaminated Snow Environments, *Chemosensors*, 7, 5, (Citations: 4, IF: 3.93, JR: 44/99, Q2); DOI: 10.3390/chemosensors7010005.

24. DiScenza, D. J.; Smith, M. A.; Intravaia, L. E.; Levine, M.,* **2019**, Efficient Detection of Phthalate Esters in Human Saliva via Fluorescence Spectroscopy, *Analytical Letters*, 52, 479-495, (Citations: 4, IF: 2.267, JR: 59/99, Q3); DOI: 10.1080/00032719.2018.1471086.

25. Jones, D. R.; Vallee, R.; Levine, M.,* **2018**, Novel Fluorescent Fluorene-Containing Conjugated Polymers: Synthesis, Photophysical Properties, and Application for the Detection of Common Bisphenols, *Synlett*, 29, 2515-2522, (Citations: 3, IF: 2.369, JR: 22/63, Q2); DOI: 10.1055/s-0037-1609946.

26. Jones, D. R.; DiScenza, D. J.; Mako, T. L.; Levine, M.,* **2018**, Environmental Application of Cyclodextrin Metal-Organic Frameworks in an Undergraduate Teaching Laboratory, *Journal of Chemical Education*, 95, 1636-1641, (Citations: 14, IF: 3.208, JR: 46/224, Q1); DOI: 10.1021/acs.jchemed.8b00357.

27. Maruthapandi, M.; Kumar, V. B; Levine, M.; Gedanken, A.,* **2018**, Fabrication of Poly (4, 4'-Oxybisbenzenamine) and its Conjugated Copolymers Initiated by Easily Accessible Carbon Dots, *European Polymer Journal*, 109, 153-161, (Citations: 17, IF: 5.546, JR: 12/95, Q1); DOI: 10.1016/j.eurpolymj.2018.09.050.

28. Levine, M.;* DiScenza, D. J., **2018**, Sweet, Sweet Science: Addressing the Gender Gap in STEM Disciplines Through a One-Day High-School Program in Sugar Chemistry, *Journal of Chemical Education*, 95, 1316-1322, (Citations: 0, IF: 3.208, JR: 46/224, Q1); DOI: 10.1021/acs.jchemed.7b00900.

29. DiScenza, D. J.; Lynch, J.; Feder, E.; Levine, M.,* **2018**, Detection of Bisphenol A and Derivatives in Human Urine via Cyclodextrin-Promoted Fluorescence Modulation, *Analytical Methods*, 10, 3783-3790, (Citations: 14, IF: 3.532, Q2); DOI: 10.1039/C8AY00733K.

30. DiScenza, D. J.; Lynch, J.; Verderame, M.; Smith, M. A.; Levine, M.,* **2018**, Cyclodextrin-Promoted Fluorescence Detection of Aromatic Toxicants and Toxicant Metabolites in Commercial Milk Products, *Food Analytical Methods*, 11, 2419-2430, (Citations: 4, IF: 3.366, JR: 56/164, Q2); DOI: 10.1007/s12161-018-1228-8.

31. Chaudhuri, S.; Verderame, M.; Mako, T. L.; Bandara, Y. M. N. D. Y.; Fernando, A. I.; Levine, M.,* **2018**, Synthetic β-Cyclodextrin Dimers for Squaraine Binding: Effect of Host Architecture on Photophysical Properties, Aggregate Formation, and Chemical Reactivity, *European Journal of Organic Chemistry*, 2018, 1964-1974, (Citations: 13, IF: 3.261, JR: 17/63, Q2); DOI: 10.1002/ejoc.201800283.

32. DiScenza, D. J.; Lynch, J.; Verderame, M.; Serio, N.; Prignano, L.; Gareau, L.; Levine, M.,* **2018**, Efficient Fluorescence Detection of Aromatic Toxicants and Toxicant Metabolites in Human Breast Milk, *Supramolecular Chemistry*, 30, 267-277, (Citations: 17, IF: 1.84, JR: 137/224, Q3); DOI: 10.1080/10610278.2017.1343947.

33. DiScenza, D. J.; Culton, E.; Verderame, M.; Lynch, J.; Levine, M.,* **2017**, Towards Rational Chemosensor Design through Improved Understanding of Experimental Parameter Variation and Tolerance in Cyclodextrin-Promoted Fluorescence Detection, *Chemosensors*, 5, 34, (Citations: 9, IF: 3.93, JR: 44/99, Q2); DOI: 10.3390/chemosensors5040034.

34. Chaudhuri, S.; DiScenza, D. J.; Smith, B.; Yocum, R.; Levine, M.,* **2017**, Array-Based Detection of Isomeric and Analogous Analytes Employing Synthetically Modified Fluorophore Attached β-Cyclodextrin Derivatives. *New Journal of Chemistry*, 41, 14431-14437, (Citations: 11, IF: 3.591, JR: 85/224, Q2); DOI: 10.1039/C7NJ02968C.

35. DiScenza, D. J.; Lynch, J.; Miller, J.; Verderame, M.; Levine, M.,* **2017**, Detection of Organochlorine Pesticides in Contaminated Marine Environments via Cyclodextrin-Promoted Fluorescence Modulation, *ACS Omega*, 2, 8591-8599, (Citations: 23, IF: 4.132, JR: 84/224, Q2); DOI: 10.1021/acsomega.7b00991.

36. Tamgho, I.-S.; Chaudhuri, S.; Verderame, M.; DiScenza, D. J.; Levine, M.,* **2017**, A Highly Versatile Fluorenone-Based Macrocycle for the Sensitive Detection of Polycyclic Aromatic Hydrocarbons and Fluoride Anions, *RSC Advances*, 7, 28489-28493, (Citations: 15, IF: 4.036, JR: 93/224, Q2); DOI: 10.1039/C7RA05404A.

37. DiScenza, D. J.; Serio, N.; Gareau, L.; Roque, J.; Verderame, M.; Levine, M.,* **2016**, Cyclodextrin-Promoted Detection of Aromatic Toxicants and Toxicant Metabolites in Urine, *Analytical Chemistry Letters*, 6, 345-353, (Citations: 14, IF: 2.329, Q3); DOI: 10.1080/22297928.2016.1210021.

38. DiScenza, D. J.; Verderame, M.; Levine, M.,* **2016**, Detection of Benzene and Alkylated Benzene Derivatives in Fuel Contaminated Environments, *CLEAN - Soil, Air, Water*, 44, 1621-1627, (Citations: 14, IF: 1.770, JR: 87/121, Q3); DOI: 10.1002/clen.201600206.

39. Talbert, W.; Jones, D.; Morimoto, J.; Levine, M.,* **2016**, Turn-On Detection of Pesticides via Reversible Fluorescence Enhancement of Conjugated Polymer Nanoparticles and Thin Films, *New Journal of Chemistry*, 40, 7273-7277, (Citations: 15, IF: 3.591, JR: 85/224, Q2); DOI: 10.1039/C6NJ00690F.

40. Chaudhuri, S.; Zaki, H.; Levine, M.,* **2016**, An Environmentally Friendly Procedure for the Aqueous Oxidation of Benzyl Alcohols to Aldehydes with Dibromodimethylhydantoin (DBDMH) and Cyclodextrin, *Synthetic Communications*, 46, 636-644, (Citations: 10, IF: 2.17, JR: 31/63, Q3); DOI: 10.1080/00397911.2016.1161801.

41. DiScenza, D. J.; Levine, M.,* **2016**, Sensitive and Selective Detection of Alcohols via Fluorescence Modulation, *Supramolecular Chemistry*, 28, 881-891, (Citations: 19, IF: 1.84, JR: 137/224, Q3); DOI: 10.1080/10610278.2016.1140897.

42. DiScenza, D. J.; Levine, M.,* **2016**, Selective Detection of Non-Aromatic Pesticides via Cyclodextrin-Promoted Fluorescence Modulation, *New Journal of Chemistry*, 40, 789-793, (Citations: 27, IF: 3.591, JR: 85/224, Q2); DOI: 10.1039/C5NJ02357B.

43. Serio, N.; Levine, M.,* **2016**, Solvent Effects in the Extraction and Detection of Polycyclic Aromatic Hydrocarbons from Complex Oils in Complex Environments, *Journal of Inclusion Phenomena and Macrocyclic Chemistry*, 84, 61-70, (Citations: 9, IF: 1.65, JR: 150/224, Q3); DOI: 10.1007/s10847-015-0583-y.

Articles (before last promotion to Associate Professor in 2016; corresponding author indicated with a *)

Refereed articles and refereed letters in scientific journals

44. Serio, N.; Roque, J.; Badwal, A.; Levine, M.,* **2015**, Rapid and Efficient Pesticide Detection via Cyclodextrin-Promoted Energy Transfer, *Analyst*, 140, 7503-7507, (Citations: 20, IF: 4.616, JR: 18/99, Q1); DOI: 10.1039/C5AN01471A.

45. Levine, M.;* Serio, N.; Radaram, B.; Chaudhuri, S.; Talbert, W., **2015**, Addressing the STEM Gender Gap by Designing and Implementing an Educational Outreach Chemistry Camp for Middle School Girls, *Journal of Chemical Education*, 92, 1639-1644, (Citations: 113, IF: 3.208, JR: 46/224, Q1); DOI: 10.1021/ed500945g.

46. Radaram, B.; Levine, M.,* **2015**, Rationally Designed Supramolecular Organic Hosts for Benzo[a]pyrene Binding and Detection, *European Journal of Organic Chemistry*, 2015, 6194-6204, (Citations: 5, IF: 3.261, JR: 17/63, Q2); DOI: 10.1002/ejoc.201500684.

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57. Gharavi, J.; Marks, P.; Moran, K.; Kingsborough, B.; Verma, R.; Chen, Y.; Deng, R.; Levine, M.,* **2013**, Chiral Cationic Polyamines for Chiral Microcapsules and siRNA Delivery, *Bioorganic and Medicinal Chemistry Letters*, 23, 5919-5922, (Citations: 3, IF: 2.823, JR: 35/72, Q2); DOI: 10.1016/j.bmcl.2013.08.083.

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62. Mueller, P.; Fronczek, F. R.; Smith, S. J.; Mako, T.; Levine, M.,* **2013**, Two Polymorphs of 1,8-Dichloroanthracene, *Acta Crystallographica C*, 69, 199-203, (Citations: 3, IF: 1.184, JR: 125/224, Q3); DOI: 10.1107/S0108270113001790.
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69. Breslow, R.;* Levine, M. S., **2006**, Partial Transfer of Enantioselective Chiralities from α-Methylated Amino Acids, Known to be of Meteoritic Origin, into Normal Amino Acids, *Tetrahedron Letters*, 47, 1809-1812, (Citations: 19, IF: 2.415, JR: 23/63, Q3); DOI: 10.1016/j.tetlet.2006.01.018.
70. Weinstein, T. A.; Levine, M.; Pettei, M. J.; Gold, D. M.; Kessler, B. H.; Levine, J. J.,* **2003**, Age and Family History at Presentation of Pediatric Inflammatory Bowel Disease, *Journal of Pediatric Gastroenterology and Nutrition*, 37, 609-613, (Citations: 98, IF: 2.839, JR: 39/135, Q2); DOI: 10.1097/00005176-200311000-00020.

Additional Scientific Publications (since last promotion to Associate Professor in 2016; corresponding author indicated with a *)

REVIEW ARTICLES

Ariel University as primary affiliation:

71. Joseph, V.; Levine, M.,* **2021**, Ronald C. D. Breslow (1931-2017): A Career in Review, *Bioorganic Chemistry*, 115, 104868, (Citations: 0, IF: 5.307, JR: 56/321, Q2), DOI:

72. Levine, M.,* **2021**, Fluorescence-Based Sensing of Pesticides Using Supramolecular Chemistry, *Frontiers in Chemistry*, 9, 27, (Citations: 10, IF: 5.545, JR: 88/224, Q2) , DOI:

University of Rhode Island as primary affiliation:

73. Mako, T. L.; Racicot, J. M.; Levine, M.,* **2019**, Supramolecular Luminescent Sensors, *Chemical Reviews*, 119, 322-477, (Citations: 396, IF: 60.62, JR: 4/224, Q1); DOI: 10.1021/acs.chemrev.8b00260.

BOOK CHAPTERS

University of Rhode Island as primary affiliation:

74. Levine, M.,* 2018, On Breastfeeding, Supramolecular Chemistry, and Long Commutes: Life as an Associate Professor, Wife, and Busy Mother of Three, in *Mom the Chemistry Professor: Second Edition*. Ed. Woznack, K.; Charlebois, A.; Cole, R.; Marzabadi, C.; Webster, G. Springer Publishing.

Additional Scientific Publications (before last promotion to Associate Professor in 2016; corresponding author indicated with a *)

REVIEW ARTICLES

75. Marchetti, L.; Levine, M.,* **2011**, Biomimetic Catalysis, *ACS Catalysis*, 1, 1090-1118, (Citations: 219, IF: 13.7, JR: 16/172, Q1); DOI: 10.1021/cs200171u

76. Breslow, R.;* Levine, M.; Cheng, Z.-L., **2010**, Imitating Prebiotic Homochirality on Earth, *Origins of Life and Evolution of the Biospheres*, 40, 11-26, (Citations: 38, IF: 1.120, JR: 67/113, Q3); DOI: 10.1007/s11084-009-9179-0.

77. Breslow, R.;* Bandyopadhyay, S.; Levine, M.; Zhou, W., **2006**, Water Exclusion and Enantioselectivity in Catalysis, *ChemBioChem*, 7, 1491-1496, (Citations: 29, IF: 3.461, JR: 144/321, Q2); DOI: 10.1002/cbic.200600120.

BOOK CHAPTERS

78. Levine, M.;* Marks, P., **2012**, Fluorophores, Fluorescent Polymers, and Energy Transfer in an Undergraduate Laboratory Setting, *ACS Symposium Series*, 1108, 27-49; DOI: 10.1021/bk-2012-1108.ch003

79. Levine, M.; Swager, T. M.,* **2011**, Conjugated Polymer Sensors: Design, Principles, and Biological Applications. Ed. Samori, P.; Cacialli, F. *Functional Supramolecular Architectures*, 1, 81-133, DOI: 10.1002/9783527689897.ch04.

Other Publications (since last promotion to Associate Professor in 2016)

Ariel University as primary affiliation:

1. Youtube video, "החוקרים.ות – כימיה אורגנית אנליטית," published 8/8/2022, Video. Accessed 10/9/2022.
2. Israeli Academia Magazine, "A Chemistry Powerhouse," published 1/4/2022, Article. Accessed 10/9/2022.

3. Notman, Nina, "2022 ACS National Award Winners," Chemical and Engineering News, published 24/1/2022, Article. Accessed 10/9/2022.
4. "אות הצטיינות על עידוד נשים לקרייר במדעי הכימיה הוענקה לפרופסר מינדי לוין," Limod.co.il, published 12/12/**2021**, Article. Accessed 10/9/2022.
5. Tiktok video, Ariel University, published 23/11/2021, Video. Accessed 10/9/2022.
6. Strong, Despina. "Women Win National Awards," Acswcc.org, published 12/10/2021, Article. Accessed 10/9/2022.
7. De La Fuente, Susan. "Meet the Ariel University Professor Leading Chemical Detection Research," Jpost.com, published 9/6/**2021**, Article. Accessed 10/9/2022.
8. "פיתוח כחול לבן: צוות מאוניברסיטת אריאל פיתח חיישן לתעשיית התרופות והביו רפואה," Limudimisrael.co.il, published 23/3/2022, Article. Accessed 10/9/2022.
9. "לזהות את הזיהום לפני שיגיע לחוף," Zavit.org.il, published 16/3/2021, Article. Accessed 10/9/2022.
10. "את אסון הזיהום הבא אפשר לראות בחול ובמים", Haaretz.com, published 14/3/**2021**, Article. Accessed 10/9/2022.
11. Klein Leichman, Abigail. "Israelis Rally to Clean Tar Spill and Avert Future Crises," Israel21c.org, published 2/3/2021, Article. Accessed 10/9/2022.
12. "דליפת הדלק המזהמת את חופי ישראל: "הבראה מלאה תיקח מספר שנים," Mako.co.il, published 26/2/2021, Article. Accessed 10/9/2022.
13. News video, i24 News, published 23/2/2021, Video. Accessed 10/9/2022.

University of Rhode Island as primary affiliation:

14. "Society for Science & the Public Names 60 Advocates to Mentor Underserved Students," Outreach & Equity, Advocate Grant Program, published 25/4/2019, Article. Accessed 11/9/2022.
15. Shalhoub, Susan, "URI Professor Hosts Chemistry Camp to Encourage Girls' Interest in Science," Providence Business News, published 9/4/2019, Article. Accessed 11/9/2022.
16. Gowdey-Backus, Emily, "URI's Levine Awarded Sessler Early Career Researcher Prize," Providence Business News, published 14/9/2018, Article. Accessed 11/9/2022.
17. Kirsch, Nancy, "An Empirical Formula," South County Life Magazine, published 10/3/2018, Article. Accessed 11/9/2022.
18. Gowdey-Backus, Emily, "Having Fun with Science," Providence Business News, published 1/9/2017, Article. Accessed 11/9/2022.
19. Naylor, Donita, "Chemists Devise Formula for Fun and Science," Providence Journal, published 4/7/2017, Article. Accessed 11/9/2022.

Other Publications (before last promotion to Associate Professor in 2016)

20. "URI's Levine Receives Rising Star Award," Providence Business News, published 21/10/2015, Article. Accessed 15/9/2022.
21. "Levine Guides Girls into Sciences," Providence Business News, published 14/11/2015, Article. Accessed 15/9/2022.
22. "URI Assistant Professor Awarded $650K Research Grant," Providence Business News, published 25/2/2015, Article. Accessed 15/9/2022.

23. “Sharon Professor Develops Chemistry Camp for Girls at URI,” Sharon Patch, published 18/12/2012, Article. Accessed 15/9/2022.

Patents

2020, Teresa L. Mako, Mindy Levine, Jason Dwyer, Surface Functionalization of Cellulose and Other Substrates,
US provisional patent filed in 2019
US utility application requesting priority from the provisional filed in 2020
Patent published: US20200354479A1

Research Grants

COMPETITIVE RESEARCH FUNDS

2022 Granting Institution: Dreyfus Foundation, PI: Mindy Levine, “Chemistry Camp for Girls in Israel,” Period of grant: 1/1/2022-31/12/2023; Annual amount: $5,000; Total amount: $10,000.

2018 Granting Institution: Rhode Island Foundation, PI: Mindy Levine, “Detection of Steroids and HGH Using Color-Changing Cyclodextrin Systems,” Period of grant: 1/3/18-31/8/19; Annual amount: $76,000; Total amount: $76,000.

2018 Granting Institution: Pfizer Community Grant Program, PI: Mindy Levine, “Chemistry Camp for Girls,” Period of grant: 1/6/18-30/4/19; Annual amount: $5,000; Total amount: $5,000.

2018 Granting Institution: The Champlin Foundation, PIs: Mindy Levine, Jason Dwyer, Shahla Yekta, Michael McGregor, Cindy Graham Brittan, Sue Geldart, Sivlana Ngo, Arijit Bose, and Thomas Boving, “Chemistry from the Back Row: Engaging Students Using a Suite of State-of-the-Art Chemical Instruments for the Real-Time Visualization of Chemical Reactions and Phenomena,” Period of grant: 1/1/18-31/12/18; Annual amount: $163,000; Total amount: $163,000.

2017 Granting Institution: National Science Foundation, PI: Geoffrey Bothun / Investigator: Mindy Levine, “RI Consortium for Coastal Ecology Assessment, Innovation, and Modeling,” Period of grant: 1/1/2017-31/8/23; Annual amount of grant: $2,700,000; Total amount of grant: $17,000,000.

2016 Granting Institution: Rhode Island Science and Technology Advisory Council, PI: Mindy Levine, “Development of a Cyclodextrin-Based Sensor,” Period of grant: 26/1/16-31/12/16; Annual amount: $99,520; Total amount: $99,520.

2016 Granting Institution: Pfizer Community Grant Program, PI: Mindy Levine, “Chemistry Camp Over Spring Break,” Period of grant: 1/1/16-30/6/16; Annual amount: $5,000; Total amount: $5,000.

2015 Granting Institution: National Science Foundation, PI: Brenton DeBoef,/ Co-PIs: Mindy Levine, Geoffrey Bothun, William Euler, Brett Lucht, Jimmie Oxley, “MRI: Acquisition of a 400 MHz NMR Spectrometer for Chemistry and Chemical Forensics,” Period of grant: 1/9/15-31/8/18; Annual amount: $67,664; Total amount: $202,993.

2015 Granting Institution: National Science Foundation, Macromolecular, Supramolecular, and Nanochemistry (MSN) Division, PI: Mindy Levine, “CAREER: Cyclodextrin-Promoted Energy Transfer: From Fundamental Molecular Interactions to Complex System Performance,” (including an approved “expanded scope of work” supplement

request) Period of grant: 1/3/15-28/2/20; Annual amount: $143,733; Total amount: $718,667.

2014 Granting Institution: The Champlin Foundation, PIs: Mindy Levine, Jason Dwyer, Geoffrey Bothun, Arijit Bose, Vinka Oyanedel-Craver, David Worthen, "An Advanced Hyperspectral Imaging System," Period of grant: 1/1/2015-31/12/2015; Annual amount: $155,000; Total amount: $155,000.

2014 Granting Institution: Rhode Island Foundation, PI: Mindy Levine, "Tuning Fluorescence Energy Transfer for Carcinogen Detection and Medical Diagnostics," Period of grant: 1/3/14-28/2/15; Annual amount: $15,000; Total amount: $15,000.

2014 Granting Institution: National Cancer Institute, PI: Mindy Levine, "(PQA4) Detecting Carcinogens in Complex Environments via Energy Transfer," Period of grant: 1/5/14-30/4/16; Annual amount: $170,563; Total amount: $341,072.

2014 Granting Institution: Champlin Foundation, PIs: Mindy Levine, Jason Dwyer, Brenton DeBoef, Geoff Bothun, Abraham Kovoor, "Advanced Instrumentation for Probing Structure and Physiological Function of Purified Target Molecules," Period of grant: 1/1/2014-31/12/2014; Annual amount: $135,000; Total amount: $135,000.

2012 Granting Institution: Gulf of Mexico Research Initiative, PI: Arijit Bose / co-PIs: Mindy Levine, Anuj Chauhan, Vijay John, Ani Nikova, Anubhav Tripathi, "Multifunctional Colloidal Particles as Dispersants for Maximizing Biodegradation of Crude Oil," Period of grant: 1/10/2013-30/4/2015; Annual amount: $415,633; Total amount: $1,246,900.

2012 Granting Institution: Dreyfus Foundation, PI: Mindy Levine, "Chemistry Camp Over Spring Break," Period of grant: 1/1/2013-30/4/2014; Annual amount: $7,556; Total amount: $15,112.

2010 Granting Institution: National Institute of General and Medical Sciences, PI: Bongsup P. Cho / Investigator: Mindy Levine, "Synthesis of New Polyamines for siRNA Complexation and Delivery," Period of grant: 1/2/2011-30/4/2013; Annual amount to M. Levine: $117,717; Total amount to M. Levine: $353,152.

INTERNAL RESEARCH FUNDS

2022 Granting Institution: Ariel University, PI: Mindy Levine / co-PI: Flavio Grynszpan, "Cyclodextrin-Bimane Complexes: How Comprehensive Structure-Property Analyses of Each System," Period of grant: 1/5/2022-30/4/2024; Annual amount: $14,665; Total amount: $29,330.

2020 Granting Institution: Ariel University Research and Development Office, PI: Mindy Levine / co-PI: Elyashiv Drori, "Super-Hydrophobic Paper Sensors for Sulfur Dioxide Detection in Wine," Period of grant: 1/1/2021-31/12/2021; Annual amount: $3,200; Total amount: $3,200.

2019 Granting Institution: Ariel University Research and Development Office, PI: Mindy Levine / co-PI: Tito Sempertegui, "Chemistry Across Cultures: Studying the Effects of Hands-On Demonstrations in Introductory College Chemistry classes at Ariel University and Florida Atlantic University," Period of grant: 1/12/19-30/9/20; Annual amount: $2,878; Total amount: $2,878.

2019 Granting Institution: University of Rhode Island, PI: Mindy Levine / Co-PI: Guangyu Zhu, "Big Data Collaboration towards the Development of Unguided Chemical Sensors," Period of grant: 1/3/19-31/8/19; Annual amount: $3,000, Total amount: $3,000.

2019 Granting Institution: University of Rhode Island, PI: Mindy Levine, "Global Mobility Travel Grant," Period of grant: 1/3/19-30/6/19; Annual amount: $2,000; Total amount: $2,000.

2019 Granting Institution: University of Rhode Island, PI: Alexander Yonchak / Co-PI: Mindy Levine, "Detection of Human Growth Hormone by Cyclodextrin Aided Fluorescence," Period of grant: 3/12/18-15/4/19; Annual amount: $1,000; Total amount: $1,000.

2018 Granting Institution: University of Rhode Island, PI: Adelaide Levenson / Co-PI: Mindy Levine, "Testing of Boron-Nitrogen Compounds for their Ability to Retard and Prevent Flame Development in Cotton-Containing Materials," Period of grant: 1/12/17-15/4/18; Annual amount: $1,000; Total amount: $1,500.

2018 Granting Institution: University of Rhode Island, PI: Mindy Levine, "Development of an Undergraduate Laboratory for Advances in Interdisciplinary Chemistry Education," Period of grant: 1/5/18-30/6/18; Annual amount: $3,000; Total amount: $3,000.

2018 Granting Institution: University of Rhode Island, PI: Julie Lynch / Co-PI: Mindy Levine, "Detection of Toxic Chemicals in Tampons and Other Feminine Hygiene Products," Period of grant: 1/1/18-30/6/18; Annual amount: $1,500; Total amount: $1,500.

2017 Granting Institution: University of Rhode Island, PI: Mindy Levine, "Development of Boron-Based Flame Retardants for Cotton Textiles," Period of grant:1/7/17-30/6/18; Annual amount: $14,250; Total amount: $14,250.

2017 Granting Institution: University of Rhode Island, PI: Mindy Levine, "Pollutant Detection in Breast Milk Using Light-Up Fluorescence Technology," Period of grant: 1/5/17-30/6/17; Annual amount: $3,000; Total amount: $3,000.

2013 Granting Institution: University of Rhode Island, PI: Mindy Levine, "Detecting Small Molecule Carcinogens with Supramolecular Organic Chemistry," Period of grant: 1/7/2013-30/6/2014; Annual amount: $15,000; Total amount: $15,000.

2012 Granting Institution: University of Rhode Island Foundation, PI: Mindy Levine, "Using a MicroLab Spectrometer to Measure the Properties of a Fluorescent Organic Dye," Period of grant: 1/1/2012-31/12/2012; Annual amount: $2,804; Total amount: $2,804.

2010 Granting Institution: University of Rhode Island Foundation, PI: Mindy Levine, "Thin Film Applications of Organic Polymers in an Undergraduate Teaching Laboratory," Period of grant: 1/2/2011-31/1/2012; Annual amount: $3,450; Total amount: $3,450.

COMMERCIAL RESEARCH FUNDS

2022 Granting Institution: Varcode, Inc., PI: Mindy Levine, "Irreversible and highly affordable cold temperature sensors," Period of grant: 1/1/2022-31/12/2022; Annual amount: $22,500; Total amount: $22,500.

2017 Granting Institution: Lanxess Corporation, PI: Mindy Levine, "Cyclodextrin-Based Complexation of Small Molecules for Improved Toxicant Degradation and Water Purification Efforts," Period of grant: 1/1/17-31/12/17; Annual amount: $80,702; Total amount: $80,702.

2016 Granting Institution: International Dioxcide, Inc., PI: Mindy Levine, "Investigating Inclusion Complex Formation between Cyclodextrin and Chlorine Dioxide," Period of grant: 1/5/16-31/8/16; Annual amount: $7,018; Total amount: $7,018.

Lectures and Presentations at Meetings and Invited Seminars Not Followed by Published Proceedings (last five years)

Invited plenary lectures at conferences/meetings

1. **2020**, Rationally Designed Supramolecular Constructs for High Performance Applications, 85th Annual Conference of the Israel Chemical Society, Jerusalem, Israel
2. **2020**, Paper-Based Devices for Ultrasensitive Nitrate, Nitrite, and Phosphate Detection, 23rd Annual Isranalytica Conference, Tel Aviv, Israel
3. **2019**, Fundamental Intermolecular Interactions in Highly Flexible Cyclodextrin-Based Complexes, Gordon Research Conference in Physical Organic Chemistry, Holderness, NH, USA
4. **2019**, Balancing Professional and Personal Responsibilities for Academic Satisfaction and Success, Gordon Research Seminar in Self-Assembly and Supramolecular Chemistry, Les Diablerets, Switzerland
5. **2018**, Supramolecular Complexation in Cyclodextrin Cavities: From Fundamental Intermolecular Interactions to Complex Sensor Performance, 13th Annual International Symposium on Macrocyclic and Supramolecular Chemistry, Quebec City, Canada

Presentation of papers at conferences/meetings

1. John, J.; Levine, M.,* Microwave Assisted Infusion of Dye into Macromolecules as Cold Temperature Sensor, *Israel Chemical Society meeting*, **2022**.
2. Thomas, A. S.; Levine, M.,* Highly Sensitive Water Sensors Based on Coumarin-Cyclodextrin Derivatives, *Israel Chemical Society meeting*, September **2022**.
3. Levine, M.,* Colorimetric Chemical Sensors: Cyclodextrin Meets Bimane, *Israel Chemical Society meeting*, September **2022**.
4. Levine, M.,* Cyclodextrin-Based Sensors on Solid Support: Supramolecular Chemistry Leading to High Performance Detection Systems." *American Chemical Society National Meeting & Exposition*, **2022**; (Abstract ID: 3657996).
5. Levine, M.,* Promoting Women in Chemistry through Targeted Programs: From Elementary School through Tenure-Track Faculty Members. *American Chemical Society National Meeting & Exposition*, **2022**; (Abstract ID: 3690353).
6. Levine, M.,* **2022**, Supramolecular Fluorescent Sensors via Cyclodextrin Complexation of Bimane and Coumarin Fluorophores, *Israel-Italy Workshop on Advanced Materials*, Bar Ilan University, Israel.
7. Levine, M.,* **2022**, Cyclodextrin Complexation in Paper-Based Systems: Supramolecular Chemistry Enabling High-Performance Chemical Sensor Development, *Chemistry International Webinar, Unite Scientific Explores*, Virtual Meeting.
8. Joseph, V.; Levine, M.,* **2021**, Cellulose-Supported Material for the Development of Eco-Friendly Sensors for the Detection of SO2, *ICRS-PAT Joint Workshop*, Ma'alot Tarshiha, Israel.
9. Levine, M.,* Hand-Held Spectrometers and Homemade Light Boxes: Tools for Chemical Sensing with High School Student Researchers. *American Chemical Society National Meeting & Exposition*, **2021**; (Abstract ID: 3595879).

10. Pramanik, A.; Amer, S.; Karmakar, J.; Grynszpan, F.; Levine, M.* Cyclodextrin-Bimane Supramolecular Complexes: New Applications of Old Structures. *American Chemical Society National Meeting & Exposition*, **2021**; (Abstract ID: 3596592).
11. Eden, S.; Fitoussi, T.; Levine, M.,* Detection of Toxicants in Contaminated Aqueous Environments Using Color-Changing Cyclodextrin-Functionalized Papers. *American Chemical Society National Meeting & Exposition*, **2021**; (Abstract ID: 3590091).
12. Warhaftig, O.; Levine, M.,* Investigating the Photophysical Properties of Wine Aggregates for the Development of Region-Specific Wine Sensors." *American Chemical Society National Meeting & Exposition*, **2021**; (Abstract ID: 3590073).
13. Klein, S.; Levine, M.,* Investigation of Cyclodextrin Structure and Filter Paper Parameters on the Development of Colorimetric Sulfur Dioxide Sensors. *American Chemical Society National Meeting & Exposition*, **2021**; (Abstract ID: 3590045).
14. Joseph, V.; Levine, M.,* Use of KMnO4 Incorporated Cyclodextrin Functionalized Whatman Paper for the Sensitive and Selective Detection of SO2. *American Chemical Society National Meeting & Exposition*, **2021**; (Abstract ID: 3589955).
15. Pramanik, A.; Levine, M.* Sonication-Induced, Solvent-Selective Gelation of a 1,8-Napthalimide-Conjugated Amide: Structural Insights and Pollutant Removal Applications. *American Chemical Society National Meeting & Exposition*, **2021**; (Abstract ID: 3584960).
16. Levine, M.* Identifying Opportunities to Improve Gender Diversity Among Chemistry Faculty. *Great Lakes Regional Meeting (GLRM)*, **2021**; (Abstract ID: 3572580).
17. Levine, M.,* **2021**, Cyclodextrin Complexation: Flexible Molecules with Surprising Chemical Insights, *1st Women in Supramolecular Chemistry Workshop*, Italy.
18. Pramanik, A.; Levine, M.,* **2021**, Sonication-Induced, Solvent-Selective Gelation of a 1,8-Naphthalimide-Conjugated Amide: Structural Insights and Pollutant Removal Applications, *8th Indian Peptide Symposium*, Virtual Meeting.
19. Levine, M.,* **2021**, Cyclodextrin-Bimane Architectures for Fluorescence Detection, *2nd Virtual Conference on Materials Science & Engineering*, Virtual Meeting.
20. Pramanik, A.; Levine, M.,* **2020**, Design and Synthesis of Higher Order Cyclodextrin Architectures: Targeted System Performance, *85th Annual Conference of the Israel Chemical Society*, Jerusalem, Israel.
21. Levine, M.,* **2020**, Green Chemistry Techniques in Organic Synthesis and Catalysis, *Green Chemistry 2020*, Rome, Italy.
22. Levine, M.* Improving Student Engagement with Chemistry Demonstrations in Large Lecture Courses. *American Chemical Society National Meeting & Exposition*, **2020**; DOI: 10.1021/scimeetings.0c06583.
23. Levine, M.* Higher Order Cyclodextrin Architectures for Improved Binding and Detection Capabilities. *American Chemical Society National Meeting & Exposition*, **2020**; DOI: 10.1021/scimeetings.0c06586.
24. Levine, M.,* **2019**, Enhancing Gender Diversity in STEM Through Informal Education Efforts, *2019 International Conference on Advances in STEM Education*, University of Hong Kong, Hong Kong.
25. Haynes, A.; Racicot, J.; Jones, D.; Levine, M.;* Yonchak, A.; Point, B., **2019**, Detection of Steroids and Human Growth Hormone Using Color-Changing Cyclodextrin Systems. *258th American Chemical Society National Meeting & Exposition*, San Diego, CA, USA; ANYL-0111.

26. Haynes, A.; Levine, M.;* Halpert, P., **2019**, Colorimetric Detection of Aliphatic Alcohols in β-Cyclodextrin Solutions. *258th American Chemical Society National Meeting & Exposition*, San Diego, CA, USA; ANYL-0114.

27. Levine, M.;* DiScenza, D. J.; Lynch, J.; Intravaia, L., **2019**, Using Cyclodextrins for Toxicant Detection in Commercial Products: From Menstrual Cups to Macaroni and Cheese, *257th American Chemical Society National Meeting & Exposition*, Orlando, FL, USA; ANYL-0381.

28. Jones, D. R.; Vallee, R.; Levine, M.,* **2019**, Synthesis and Photophysical Properties of Novel Fluorescent Fluorene-Containing Conjugated Polymers and their Application for the Detection of Common Bisphenols. *257th American Chemical Society National Meeting & Exposition*, Orlando, FL, USA; POLY-0083.

29. Yonchak, A.; Jones, D. R.; Levine, M.,* **2019**, Cyclodextrin-Containing Metal-Organic Frameworks (CD-MOFs) for Highly Efficient Toxicant Removal Applications, *257th American Chemical Society National Meeting & Exposition*, Orlando, FL, USA; INOR-0615.

30. Racicot, J. M.; Mako, T. L.; Levine, M.,* **2019**, Colorimetric Paper-Based Detection of Phosphate in Marine Environments. *257th American Chemical Society National Meeting & Exposition*, Orlando, FL, USA; ANYL-0146.

31. Levine, M.,* **2019**, Making Use of the Women Chemists Committee to Navigate Professorship, Parenting, and Personal Satisfaction as a Female Chemistry Professor, *257th American Chemical Society National Meeting & Exposition*, Orlando, FL, USA; WCC-0017.

32. Mako, T.; Racicot, J.; Levenson, A.; Levine, M.,* **2019**, Highly Sensitive, Colorimetric, Paper-Based Devices for the Dual Detection of Nitrate and Nitrite, *257th American Chemical Society National Meeting & Exposition*, Orlando, FL, USA; ANYL-0277.

33. Mako, T. L.; Racicot, J. M.; Levine, M.,* **2019**, Highly Sensitive, Colorimetric, Paper-Based Devices for the Dual Detection of Nitrate and Nitrite, *84th Meeting of the Israel Chemical Society*, Tel Aviv, Israel.

34. Levine, M.,* **2019**, Approaching Challenges in Detection Science with Supramolecular Chemistry, *84th Meeting of the Israel Chemical Society*, Tel Aviv, Israel.

35. Jones, D. R.; Vallee, R.; Levine, M.,* **2019**, Synthesis and Photophysical Properties of Novel Fluorescent Fluorene-Containing Conjugated Polymers and their Application for the Detection of Common Bisphenols, *84th Meeting of the Israel Chemical Society*, Tel Aviv, Israel.

36. Levine, M.,* **2019**, Supramolecular Analytical Chemistry with Cyclodextrin Complexes, *Isranalytica Conference*, Tel Aviv, Israel.

37. Levine, M.*, **2018**, On Breastfeeding, Supramolecular Chemistry, and Long Commutes: Life as an Associate Professor, Wife, and Busy Mother of Three, *256th American Chemical Society National Meeting & Exposition*, Boston, MA, USA; WCC-26.

38. Levine, M.;* Jones, D. R.; Mako, T. L., **2018**, A Highly Interdisciplinary Cyclodextrin-MOF Experiment for the Senior Undergraduate Chemistry Laboratory, *256th American Chemical Society National Meeting & Exposition*, Boston, MA, USA; CHED-437.

39. Levine, M.,* **2018**, Higher Order Cyclodextrin Architectures: Synthesis, Binding, and Colorimetric Detection Applications, *256th American Chemical Society National Meeting & Exposition*, Boston, MA, USA; ORGN-512.

40. Fernando, P. U. A. I.; Mako, T.; DeBoef, B. L.;* Levine, M.; Levenson, A.; Cesana, P.; DaRosa, K.; Mendieta, A., **2018**, Functionalized Pillar Arenes for Removal of Small Molecule Toxicants and the Development of a Novel Array Based Detection System, *256th American Chemical Society National Meeting & Exposition*, Boston, MA, USA; ENVR-596.

41. Mako, T. L.; Levine, M.,* **2018**, "Design, Implementation, and Evaluation of an Interdisciplinary Undergraduate Laboratory Experiment in Paper-Based Devices for Synthetic Analyte Detection, *256th ACS National Meeting & Exposition*, Boston, MA, USA; CHED-77.
42. Mako, T. L.; Racicot, J. M.; Levine, M.,* **2018**, Highly Sensitive, Colorimetric, Paper-Based Devices for the Detection of Nitrate in Marine Ocean Environments, *256th ACS National Meeting & Exposition*, Boston, MA, USA; ANYL-130.
43. Racicot, J. M.; Mako, T. L.; Levine, M.,* **2018**, Modification of Cellulose with Cyclodextrin Derivatives for Solid State Detection of Toxicants, *256th ACS National Meeting & Exposition*, Boston, MA, USA; ANYL-133.
44. Cromwell, B.; Levenson, A.; Levine, M.,* **2018**, Synthesis and Evaluation of Novel Triazine Based Aromatic Boronic Acids Functionalized on Cellulose for Flame Retardancy, *256th ACS National Meeting & Exposition*, Boston, MA, USA; PMSE-434.
45. DiScenza, D. J.; Levine, M.,* **2018**, Sweet, Sweet Science: Addressing the Gender Gap in STEM Disciplines through a One-Day High School Program in Sugar Chemistry, *256th ACS National Meeting & Exposition*, Boston, MA, USA; CHED-53.
46. DiScenza, D. J.; Levine, M.,* **2018**, Detection of Organochlorine Pesticides in Contaminated Marine Environments via Cyclodextrin-Promoted Fluorescence Modulation, *256th ACS National Meeting & Exposition*, Boston, MA, USA; ENVR-595.
47. DiScenza, D. J.; Levine, M.,* **2017**, Cyclodextrin-Promoted Detection of Aromatic Toxicants and Toxicant Metabolites in Human Breast Milk, *254th American Chemical Society National Meeting & Exposition*, Washington DC, USA; ENVR-427.
48. Smith, M.; Levine, M.,* **2017**, Cyclodextrin Supramolecular Complexes for the Detection of Delta-9-Tetrahydrocannabinol in Saliva, *254th American Chemical Society National Meeting & Exposition*, Washington DC, USA; ANYL-68.
49. Jones, D. R.; Levine, M.,* **2017**, The Synthesis of Novel Fluorescent Polymers for the Fluorescent Detection of Bisphenol A and its Derivatives, *254th American Chemical Society National Meeting & Exposition*, Washington DC, USA; POLY-468.
50. Cromwell, B.; Levine, M.,* **2017**, Prospective Look at the Potential of Boron Containing Moieties as Flame Retardants for Cotton, *254th American Chemical Society National Meeting & Exposition*, Washington DC, USA; PMSE-358.
51. Levine, M.,* **2017**, Functionalized Organic Macrocycles for Tunable Anion and PAH Detection, *254th American Chemical Society National Meeting & Exposition*, Washington DC, USA; ORGN-563.
52. Chaudhuri, S.; Levine, M.,* **2017**, Synthesis and Application of Higher Order Cyclodextrin Architectures for Improved Sensing and Identification of Medium-Sized Environmental Toxicants, *254th American Chemical Society National Meeting & Exposition*, Washington DC, USA; ORGN-509.
53. Lynch, J.; Levine, M.;* DiScenza, D., **2017**, Detection of Organochlorine Pesticides in Contaminated Biological Systems via Cyclodextrin-Promoted Fluorescence Modulation, *254th American Chemical Society National Meeting & Exposition*, Washington DC, USA; ORGN-388.

Presentations at informal international seminars and workshops

1. **2022**, International Women's Day, SpaceMod Co-Working, Israel
2. **2019**, Workshop in Aqueous Supramolecular Chemistry, Telluride Science Research Center, Telluride, CO, USA

3. **2019**, Artificial Molecular Switches and Motors, Gordon Research Conference, Holderness, NH, USA
4. **2019**, Self-Assembly and Supramolecular Chemistry, Gordon Research Conference, Les Diablerets, Switzerland
5. **2018**, Organic Reactions and Processes, Gordon Research Conference, Easton, MA, USA
6. **2018**, Northeast Student Research Conference, Northeastern Section of the American Chemical Society, Boston, MA, USA
7. **2018**, C-AIM Research Symposium, University of Rhode Island, Kingston, RI, USA
8. **2017**, Undergraduate Research Initiative, University of Rhode Island, Kingston, RI, USA
9. **2017**, Artificial Molecular Switches and Motors, Gordon Research Conference, Holderness, NH, USA
10. **2017**, Rhode Island Summer Undergraduate Research Fellowship Conference, University of Rhode Island, Kingston, RI, USA
11. **2017**, Northeast Student Research Conference, Northeastern Section of the American Chemical Society, Boston, MA, USA

Seminar presentations at universities and institutions

1. **2022**, Department of Chemistry, Southern Methodist University
2. **2022**, Department of Chemistry and Biochemistry, The University of Texas at Dallas
3. **2022**, Department of Chemistry and Biochemistry, Texas Tech University
4. **2022**, Department of Chemistry and Biochemistry, The University of Texas at Arlington
5. **2021**, Department of Chemistry, University of Vermont
6. **2020**, Department of Chemical Engineering, University of New Hampshire
7. **2020**, College of Education, Al-Qasemi Academy
8. **2019**, Department of Chemistry, Clark University
9. **2018**, Department of Chemistry and Physics, Simmons College
10. **2018**, Department of Chemistry, College of the Holy Cross
11. **2018**, Department of Chemistry, Ben Gurion University
12. **2018**, Department of Chemical Sciences, Ariel University
13. **2018**, Department of Chemistry, Technion University
14. **2018**, Department of Organic Chemistry, Weizmann Institute of Science
15. **2018**, School of Chemistry, Tel Aviv University
16. **2017**, Department of Chemistry, Dartmouth College
17. **2017**, Department of Chemistry, Boston University
18. **2017**, Department of Chemistry, Bar Ilan University
19. **2017**, Department of Chemistry, Russell Sage College
20. **2017**, Department of Chemistry and Biochemistry, University of Delaware

Synopsis of research, including reference to publications and grants in above lists

INTRODUCTION The overarching goal in the Levine group is to use supramolecular chemistry to solve high-impact problems. To that end, we have developed a highly interdisciplinary research program over the past 12 years, of which several of the important contributions are highlighted below:

(a) Development of cyclodextrin-promoted fluorescence detection. Our group has a long-standing interest in cyclodextrins as scaffolds to promote fluorescence detection. We demonstrated that this detection occurs via cyclodextrin-promoted analyte-to-fluorophore energy transfer, resulting in analyte-specific turn-on fluorescence emission. The system was adapted in a number of ways to broaden the analyte scope and achieve low detection limits in complex media, and was used for effective array-based detection.

Since arriving at Ariel University, the majority of work in this area have focused on bimane fluorophores, in collaboration with the group of Flavio Grynszpan. In this collaboration, the Grynszpan group is responsible for the synthesis of novel bimane fluorophores, and our group is responsible for optimizing bimane-cyclodextrin binding and investigating detection applications based on such supramolecular complexes. To date, we have demonstrated that bimanes are effective chemical sensors, both with or without a cyclodextrin supramolecular host: for cobalt (II) cations, for molecular iodine, for water (both as a stand-alone fluorophore and when it forms a complex with a copper (II) salt), and for hydrogen peroxide. Ongoing efforts in this area include using novel bimane architectures as chemical sensors for a variety of other high-impact analytes.

Concurrently, we are investigating coumarins as fluorescent chemical sensors, with a particular focus on using pre-coumarins as sensors in situations in which the presence of the target analyte induces the coumarin to form, leading to a strong turn-on fluorescence signal. Using this approach, we have demonstrated unprecedented sensitivity for the detection of fluoride anions in aqueous environments, and are currently expanding this strategy for the detection of other analytes via rationally designed pre-coumarin architectures.

Notable scientific accomplishments of these systems include the advance of using cyclodextrin as a scaffold to promote favorable interactions between the analytes and the fluorophores. Although cyclodextrins are well-known structures, their use as facilitators in supramolecular chemical sensors represents a novel development. Moreover, these systems provide a platform to develop an improved understanding of the noncovalent interactions in the ternary cyclodextrin-analyte-fluorophore complexes, and to use that understanding in the design of future systems.

Key publications from this research (since arriving at Ariel University) are listed below:

1. Karmakar, J.; Pramanik, A.; Joseph, V.; Marks, V.; Grynszpan, F.; Levine, M. *Chem. Commun.* **2022**, *58*, 2690-2693.
2. Pramanik, A.; Karmakar, J.; Grynszpan, F.; Levine, M. *Frontiers in Chem.* **2022**, *9*, 782481.
3. Pramanik, A.; Karmarkar, J.; Grynzspan, F.; Levine, M. *Israel J. Chem.* **2021**, *61*, 253-260.
4. Pramanik, A.; Amer, S.; Grynzspan, F.; Levine, M. *Chem. Commun.* **2020**, *56,* 12126-12129.

Funding for this research includes:

- 100,000 NIS from Ariel University Research and Development Office
- Start-Up Funding provided by Ariel University
- Funding from Ariel University in the form of graduate student and postdoctoral research fellowships

Currently, we are preparing to submit a competitive grant to the Binational Science Foundation (BSF), in collaboration with Professor Alexander Lippert at Southern Methodist University, focused on the development of novel bimane architectures for a variety of high-impact applications.

(b) Development, optimization, and implementation of solid-state colorimetric sensors. The development of sensitive and selective paper-based colorimetric sensors is a high priority for a

variety of research objectives. To that end, we have developed two such sensors, for nitrite and phosphate.

Since arriving at Ariel University, the majority of work in this area has focused on the development of paper-based sensors for sulfur dioxide, using the covalent functionalization of paper with cyclodextrin, followed by adsorbing potassium permanganate. This results in a paper that undergoes sensitive and selective color changes upon exposure to as little as 60 ppm of SO_2, in both deionized water and in white wine solution. Current efforts, conducted in collaboration with Dr. Elyashiv Drori, are focused on the development of more sensitive SO_2 sensors, and on the development of multifunctional devices for use in the wine industry.

We are simultaneously focusing on the development of paper-based colorimetric sensors for the detection of date rape drugs, with a particular focus on the detection of ketamine and γ-hydroxybutyrate (GHB). We are working closely with a group of entrepreneurial students and with advisors through the Ariel University Center for Innovation and Entrepreneurship, with the expectation of receiving critical funding in the near future to support our early-stage research efforts.

Notable scientific accomplishments of this system include the fact that cyclodextrin functionalization of the cellulose paper was protective against degradation by high oxidation state manganese, which has significant potential applications (i.e., for the development of other papers via treatment with harsh reagents).

Key publications from this research (since arriving at Ariel University) are listed below:

1. Joseph, V.; Warhaftig, O.; Klein, S.; Levine, *Anal. Chim. Acta* **2022**, *1200*, 339629.
2. Racicot, J. M.; Mako, T. L.; Olivelli, A.; Levine, M. *Sensors* **2020**, *20*, 2766.
3. Mako, T. L.; Levenson, A. M.; Levine, M. *ACS Sensors* **2020**, *5*, 1207-1215.

Funding for this research includes:

- 11,000 NIS from Ariel University Research and Development Office
- Prize money from winning 1st place as the faculty mentor for the student entrepreneurship competition for our date rape detection system, designated for use in early-stage development

(c) Development of practical cold-temperature sensors. The development of sensors that provide accurate temperature histories of a system is of significant interest from both applied and fundamental scientific perspectives. Although many sensors provide information about exposure to elevated temperatures, developing a sensor that can report on exposure to cold temperatures is markedly more difficult. As part of a contract with an industry partner, we have recently discovered a system based on polyvinyl alcohol (PVA) that responds to cold temperatures with a rapid, sensitive, and irreversible change from a clear liquid to an opaque gel, and are currently using this change to develop cold-temperature sensors for vaccine packaging.

Notable scientific accomplishments of this system include the discovery that the nature of the gel formed from cold temperature exposure depends on the pH of the system, the molecular weight of the polymer, the concentration of each component, and the presence of a variety of additives. These results directly enable an improved understanding of the structure of the PVA-containing gels before and after cold temperature exposure, and how such structures can be optimized based on the systematic variation of experimental parameters.

Funding for this research includes:

- $22,500 from Varcode to support this research project

(d) Investigation of the relationship between molecular structure and supramolecular interactions. There is an ongoing knowledge gap regarding the relationship between molecular structures of macromolecules, their three-dimensional conformations, and the ability of these structures to participate in intermolecular interactions. Our group has demonstrated that small structural perturbations to macromolecules translate into significant differences in their three-dimensional structures, which affects their propensity for intermolecular interactions.

Since arriving at Ariel University, our work has primarily focused on non-covalently assembled organogels, in which we discovered that the ability of amides to form organogels was intimately dependent on the amide structure. We studied these systems in collaboration with the group of Professor Haya Kornweitz, and published the results of this work in *ACS Omega* in 2021. Ongoing work in this area is focused on the development of colorimetric sensors derived from rice flour, and the use of those sensors for a variety of environmentally-driven applications.

Notable scientific accomplishments of this system include the ability to correlate changes in molecular structure with supramolecular function, and our efforts to develop generalizable principles around such structure-property relationships. Although the connection between molecular structure and supramolecular function is well-known, much of the literature remains empirical in nature, and more generalizable principles have significant potential in the *a priori* design of future systems.

Key publications from this research (since arriving at Ariel University) are listed below:

1. Pramanik, A.; Karimadon, B. R.; Kornweitz, H.; Levine, M. *ACS Omega* **2021**, *6*, 32722-32729.
2. John, J.; Joseph, V.; Levine, M. **2022**, *in preparation*.

Funding for this research includes:

- Start-Up Funding provided by Ariel University
- Funding from Ariel University in the form of graduate student and postdoctoral research fellowships

(e) Development of advances in chemical education. Over the past 12 years, we developed advances in both formal and informal science education. In formal settings, we developed and implemented four new, highly interdisciplinary experiments for the undergraduate teaching laboratory. In informal settings, we developed two science outreach programs: (a) Chemistry Camp for Middle School Girls, a week-long program for 40 middle school girls per year; and (b) Sugar Science Day for High School Girls, a full-day program for high school girls to learn about the chemistry of sugar. Ongoing work in this area is focused on the use of hands-on demonstrations to improve student engagement and retention.

Since arriving at Ariel University, the majority of work in this area has focused on informal science education, through participating in the Alpha Program for high school girls (since 2019), and through the implementation of Chemistry Camp for Girls in Israel in 2022.

Notable scientific accomplishments of this system include the fact that the informal outreach efforts demonstrated significant success in increasing the participants' interest in studying science and pursuing science-related careers.

Funding for this research includes:
$10,000 from the Dreyfus Foundation to establish "Chemistry Camp for Girls in Israel"

Present Academic Activities

Research in progress has been highlighted in each of the key subject areas listed above.

Articles that are currently being prepared for submission to peer-reviewed scientific journals:

1. Thomas, A. S.; Pramanik, A.; Amer, S.; Marks, V.; Levine, M. Rational Design of a Solvatochromic Coumarin Aldehyde for the Development of an Effective Water and Humidity Sensor. **2022**, *in preparation*.
2. Amer, S.; Joseph, V.; Marks, V.; Levine, M.; Grynszpan, F. A Pre-Coumarin, Turn-On Fluorescence Sensor for Fluoride: Detection and Mechanistic Insights. *J. Am. Chem. Soc.* **2022**, *in preparation*.
3. John, J.; Joseph, V.; Levine, M. Colorimetric Gels from Rice Flour: Fabrication, Analysis, and Structural Insights. **2022**, *in preparation*.