



Biography

Michal Lahav earned her BSc and PhD in Chemistry in 2001 (*cum laude*) under the mentorship of Professor Itamar Willner at the Hebrew University of Jerusalem. She then completed postdoctoral research with Professor Israel Rubinstein at the Weizmann Institute of Science before moving to Harvard University to study nanochemistry with Professor George M. Whitesides. After three years in the United States, she returned to Israel, where she was appointed as a Scientific Advisor at the Weizmann Institute and later became an Associate Staff Scientist in the Department of Organic Chemistry in 2011. She is currently a Senior Staff Scientist in the Department of Molecular Chemistry and Materials Science.



Her work advances the fundamental understanding of the formation and electronic properties of metal-supramolecular architectures. Her interdisciplinary research focuses on the self-assembly of metal-organic materials for energy storage and electrochromics, with several products currently in the patenting process. These materials have been used to fabricate memory elements, charge storage devices, and supercapacitors, which have been successfully integrated with conventional printed circuit boards (PCBs). Notably, metal-organic materials possess a comprehensive range of electrochromic properties, including ultra-high coloration efficiencies and excellent cyclic stability. Importantly, these materials can be fabricated using green solvents and automated spray-coating, a method compatible with industrial roll-to-roll (R2R) processing. Funding for this research was provided by the Israel Innovation Authority, Yeda - Sela Center for Basic Research, US – Israel Binational Science Foundation (BSF), and Israel Science Foundation (ISF) and has resulted in industrial collaboration with Hanita coatings (a distinct business unit within Avery Dennison) and Flō Optics. Currently, she is collaborating with Professor Antonio Facchetti from Georgia Tech formation on materials for sensors and Solar Cells.

She has published more than 85 papers, including articles in the *Journal of the American Chemical Society*, *Angewandte Chemie*, *Advanced Materials*, *Nature Communications*, and *ACS Nano* (h-index = 35) – and has presented her work at many international conferences. In addition to mentoring and training graduate students and postdoctoral fellows in her lab, she developed and teaches a new graduate course in Electrochemistry. For several years, she has been involved with high school teachers studying for a Master's degree at the Weizmann Institute, and she also teaches Israeli-Arabic high school students from underdeveloped areas.

Among her awards and honors are the Dr. Maxine Singer Prize for Outstanding Staff Scientists, the Baruch Zinger Award for Academic Excellence, the IVS Excellence Award for Surface Science Expertise, and the Schmidt Prize.



A: Personal Details

Citizenship: Israel, United States

Military Service: Lieutenant in the Engineering Corps of the Israeli Defense Forces. Instructor in an officer training program (1989 to 1992).

Mailing address:

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B: Education

- 2004- 2006: Postdoctoral studies; **Harvard University**, Cambridge, MA, USA.
Department of Chemistry and Chemical Biology, (with *Prof. George. M. Whitesides*).
- 2002-2003: Postdoctoral studies; **The Weizmann Institute of Science**, Department of Material and Interfaces, (with *Prof. Israel Rubinstein*).
- 1995-2001: Ph.D. studies in Chemistry; **The Hebrew University of Jerusalem**, Jerusalem, Israel. Thesis title: "Functionalized Surfaces as Interface for Molecular Electronic and Optoelectronic Devices", (under the supervision of *Prof. Itamar Willner*).
The Ph.D. degree was awarded with the grade '*Summa Cum Laude*'.
- 1992-1995: B.Sc. in Chemistry; **The Hebrew University of Jerusalem**, Jerusalem, Israel.
- 1994: Summer Student at **The Weizmann Institute of Science**, Department of Organic Chemistry, (with *Prof. Avraham Shanzer*).

C: Employment History

- Sep 2019- Senior Staff Scientist, **The Weizmann Institute of Science**, Department of Molecular Chemistry and Materials Science.
- 2011-2019: Associate Staff Scientist, (*Tenure* 2016). **The Weizmann Institute of Science**, Department of Organic Chemistry.
- 2009-2010: Researcher at Oshadi Drug Administration, Israel.
- 2007-2009: Scientific advisor (full time) at **The Weizmann Institute of Science**, Department of Organic Chemistry, (with *Prof. Milko van der Boom*).



D: Other Appointments

Teaching

- 2024-present: Scientific Communication course, **The Weizmann Institute of Science**, Israel.
- 2022-present: Introduction to electrochemistry course, **The Weizmann Institute of Science**, Israel.
- 2018-present: Teaching (voluntarily) Mathematics and Chemistry at the Arab science school, **Ort**, Lod, Israel.
- 2017-2018: Chemistry chapter in the **Alpha** program for gifted Israeli high school students (10th grade). **Davidson Institute of Science Education**, Israel.
- 2015: Scientific Communication course, **The Weizmann Institute of Science**, Israel.
- 2015: Nanotechnology course (chapter of electrochemistry) **The Weizmann Institute of Science**, Israel.
- 2012-2021: Guided reading courses (organic chemistry and self-assembly) at **The Weizmann Institute of Science**, Israel.
- 2002-2003: Undergraduate tutorials and exercising (analytical chemistry and organic chemistry), **The Hachva College**, Israel.
- 1995-2001: Teaching assistant in undergraduate student laboratories (organic chemistry and analytical chemistry), **The Hebrew University of Jerusalem**, Israel.
- 1995-2001: Undergraduate tutorials and exercising (general chemistry and organic chemistry), **The Hebrew University of Jerusalem**, Israel.

E: (Inter) national Recognition

Prizes and awards

- 2025: KLA Researcher Fellowship in Metrology
- 2024: 'Love Your Neighbor as Yourself' Award for Volunteering in the Weizmann Institute Community (a group prize).
- 2016: The IVS Excellence Award for Surface Science Expertise.
- 2016: Maxine Singer Prize for Outstanding Staff Scientists (Scientific Council, Weizmann Institute of Science).
- 2013: Best poster award, the 3rd European Energy Conference, Budapest (Hungary).
- 2006: Highlight in *Science*, **2006**, 314, 46. "Power to the (Poor) People"
- 2003: Member of the Israeli delegation, Nobel Laureates Meeting in Lindau (Germany).
- 2003: The Baruch Zinger Award, for Academic Excellency: The Best Oral Presentation.
- 2003: Best poster award in the 37th Annual Meeting of the Israel Society of Microscopy.



- 2002: The Schmidt Prize, for an outstanding Ph.D. thesis in Chemistry.
- 2002: PhD degree awarded *Summa Cum Laude*.
- 2002: Postdoctoral Fellowship in the Fellowships Program of the Feinberg Graduate School of the Weizmann Institute of Science.
- 2001: Best poster award in the Institute of Chemistry. (The Hebrew University of Jerusalem).
- 1999: Clore Fellowship for Academic Excellency.
- 1999: Klein Fellowship (The Hebrew University of Jerusalem).
- 1999: Best poster award in the Institute of Chemistry (The Hebrew University of Jerusalem).
- 1999: Israeli Academic Woman Fellowship.
- 1998: Best poster award in the Institute of Chemistry (The Hebrew University of Jerusalem).

Organization of conferences

- Co-Chair and Organizing Committee (with Ayelet Vilan and Ora Simcha Bitton): 35th Israel Vacuum Society (IVS), annual meeting; **The Weizmann Institute of Science**, Israel, (September 10, **2017**).
- Organizing Committee: Dutch-Israel Meeting (with M. E. van der Boom, T. Kudernac, and J. Huskens), **University of Twente**, (May 26-28, **2014**).
- Organizing Committee: Molecules to Materials: Advances and Challenges, **The Weizmann Institute of Science**, Israel, (July 15-16, **2012**).

Chairing Sessions

- MRS Spring Meeting, Phoenix, USA (April 2-6, **2018**).
- The Weizmann-MPI Workshop for Colloids & Surfaces, Max-Planck-Institute for Colloids and Interfaces, Golm, Germany, (November 3-5, **2014**)

Grants

- **Supporting Advanced Basic Research (SABRA):** *From Achiral Molecules to Chirality Dispersion in Crystals* (**2018-2019**).
- **MAGNETON Program for Technology Transfer from academy to industry:** with Avery Dennison Israel (**2017-2019**).
- **ISF:** *Molecular Arrays for Electrochromic Devices* (**2017-2021**).
- **Yale-WIS:** *Mixing Metals and Molecules-Controlling Morphology and Uniformity* (**2019**).
- **Minerva:** *Uniform and Chiral Superstructure Formation* (**2020-2023**).
- **ISF:** *Morphology Engineering and Chirality Transfer in Crystals* (**2021-2025**).



- **Minerva:** *Selective functionalization crystals-on-crystals: introducing new properties at the microscale (2024-2027).*
- **Taejae-Weizmann Collaborative Joint Research Project:** *Scalable and Sustainable Electrochromic Materials for Energy-Efficient Windows (2025-2027).*

Invited Talks (2012-2025)

- Colloquium, Max-Planck Institute, Arnimallee, Berlin, Germany (August 30, **2012**).
- The 78th Meeting of the Israel Chemical Society, Tel-Aviv, Israel (February 12-13, **2013**).
- Colloquium, Bar Ilan University, Department of Chemistry, Ramat Gan, Israel (March 13, **2013**).
- Collaborative Conference on 3D & Materials Research (CC3DMR 2014), Incheon-Seoul, South Korea (June 23-27, **2014**).
- The Israel Electrochemistry Annual Meeting (Israelectrochemistry 2015), Ben Gurion University, Beer Sheva, Israel (October 15, **2015**).
- Weizmann–Alberta Nanoscience Meeting, Weizmann Institute of Science, Rehovot, Israel (March 28 - 30, **2016**).
- 34th Israel Vacuum Society (IVS) Annual Conference, Ben Gurion University, Beer Sheva, Israel (September 12, **2016**).
- The Weizmann Institute Staff Scientist Series: Spotlighting on Science, Rehovot, Israel (September 14, **2016**).
- 3rd International Conference on Electrochemistry, Berlin, Germany (July 10-13, **2017**).
- MRS Spring Meeting, Phoenix, USA (April 2-6, **2018**).
- 3rd International Caparica Congress on Chromogenic and Emissive Material (IC³EM 2018), Caparica, Portugal (September 3-6, **2018**). Keynote talk
- 24th biannual International Conference on the Chemistry of the Organic Solid State (ICCOSS XXIV) New York City, USA (June 16-21, **2019**).
- The Annual Meeting of the Israel Electrochemical Society, Ben Gurion University, Beer Sheva, Israel (September 12, **2019**).
- 3rd International Christmas Congress on Translation Chemistry (IC³TC **2019**), Caparica, Portugal (December 2-5, **2019**).
- 5th International Caparica Congress on Chromogenic and Emissive Material (IC³EM **2022**), Caparica, Portugal (July 3-7, **2022**). Keynote talk
- The 86th Meeting of the Israel Chemical Society, Tel-Aviv, Israel (September 12-13, **2022**).



- 6th International Caparica Congress on Translation Chemistry (IC³TC **2024**), Caparica, Portugal (December 8-12, **2024**). [Keynote talk](#)
- Crystal Club, Weizmann Institute of Science, Rehovot, Israel (January 5, **2025**).
- Colloquium, University of Rome, Rome, Italy (March 6, **2025**).
- The 19th International Symposium on Macrocyclic and Supramolecular Chemistry, (19th ISMSC **2025**) Kyoto, Japan (May 25-30, **2025**).
- The Annual Meeting of the Israel Electrochemical Society, Weizmann Institute of Science, Rehovot, Israel (June 12, **2025**).
- Award Lecture, KLA Researcher Fellowship in Metrology, KLA, Migdal HaEmek, Israel (July 16, **2025**).

Talks (2015-2025)

- EPF Europolymer Conference 2015 (EUPOC 2015) on “Conductive Polymeric Materials” Gargnano, Brescia, Italy (May 24-29, **2015**).
- The 10th International Symposium on Macrocyclic and Supramolecular Chemistry (ISMSC-**2015**), Strasburg, France (June 28-July 2, **2015**).
- 33rd Israel Vacuum Society (IVS) Annual Conference, Weizmann Institute of Science, Rehovot, Israel (September 9, **2015**).
- AVS 62nd International Symposium & Exhibition, San Jose, CA, USA (October 18-23, **2015**).
- The International Chemical Congress of Pacific Basin Societies, Honolulu, Hawaii, USA (December 15-20, **2015**).
- 42nd edition of the International Conference on Coordination Chemistry, Brest, France (July 3-8, **2016**).
- The 11th International Symposium on Macrocyclic and Supramolecular Chemistry, (ISMSC-**2016**) Seoul, Korea (July 10-14, **2016**).
- The 8th International Conference on Molecular Electronics, Paris, France. (August 22-26, **2016**).
- The 2nd International Conference on Applied Crystallography, Chicago, USA (October 16-18, **2017**).



Posters Presented at Conferences (2011-2025)

- Gordon Research Conference (GRC) on Chemistry of Supramolecules & Assemblies, Barga, Italy, (June 19-24, **2011**).
- The 3rd European Energy Conference (E2C), Budapest, Hungary (October 27-30, **2013**).
Best poster award.
- Israel-Greece Joint Meeting on Nanotechnology and BioNanoscience, Weizmann Institute of Science, Israel, (October 19-23, **2014**).
- Weizmann-MPI Workshop for Colloids & Surfaces, Max-Planck-Institute for Colloids and Interfaces, Golm, Germany, (November 3-5, **2014**).
- The International Chemical Congress of Pacific Basin Societies, Honolulu, Hawaii, USA. (December 15 - 20, **2015**).
- The 11th International Symposium on Macrocyclic and Supramolecular Chemistry, (10th ISMSC 2016) Seoul, Korea (July 11-July 15, **2016**).
- 40th Israel Vacuum Society (IVS) Annual Conference, Bar Ilan University, Ramat Gan, Israel (March 2, **2023**).

F: Patents

- I. Willner, E. Katz, A. Doron, **M. Lahav**, I. Ben-Dov and F. Patolsky, Matrices with Specific Molecular Recognition Sites. Appl. No: 119345, (2/10/1996, Yissum, Hebrew University).
- **M. Lahav**, T. Sehyek, A. Vaskevich and I. Rubinstein, Method for Preparing Nanotubes from Nanoparticles and Nanotubes Produced Thereby. WO 2004/064993, PCT/IL2004/000061, (23/01/2003, Yeda, Weizmann Institute).
- **M. Lahav**, A. Winkleman, M. Narovlyansky, R. Perez-Castillejos, E. A. Weiss, and G. M. Whitesides, Patterning of Ionic Polymers. WO 2008/051432, PCT/US2007/022219, (19/10/2006, Harvard University).
- M. E. van der Boom, **M. Lahav**, R. Balgley, H. Keisar, G. de Ruiter, Sequence-dependent assembly to control the molecular interface properties of memory devices, solar cells, and molecular diodes. WO 2014/061018, PCT/IL2014/050635 (17/10/2013, Yeda, Weizmann Institute).
- M. E. van der Boom, **M. Lahav**, R. Balgley, S. Shankar, Metal-Organic Materials and Method for Preparation. WO 2015/008280, PCT/IL2014/050635 (14/07/2014, Yeda, Weizmann Institute).



- M. E. van der Boom, **M. Lahav**, S. Shankar,
Metal-Based Tris-Bipyridyl Complexes and Uses Thereof In Electrochromic Applications.
WO 2015/075714 A1, PCT/IL2014/051005 (28/5/2015, Yeda, Weizmann Institute).
- M. E. van der Boom, **M. Lahav**, N. Eloul Dov,
Methods of Preparing Multilayered Electrochromic Systems
US Provisional application no. 62/215,229 (08/09/2015, Yeda, Weizmann Institute)
- Milko E. van der Boom, **Michal Lahav**, Neta Eloul Dov, Ofir Eisenberg, Yadid Algavi
Energy Storage Devices
US No. 11764003 (19/09/2023, Yeda, Weizmann Institute)

I: Languages

Hebrew: Reading, Writing, Speaking (Native language)

English: Reading, Writing, Speaking (Fluent)