

CV- Hassan Azaizeh

Date: **July 2024**



A. Personal Details

- **Hassan Azaizeh**
- Country of birth: **Israel**
- Citizenship: **Israeli**
- ID number: **053735205**
- Family status: **Married**
- Full home address: **Dabburia 16910, P.O. Box 61, Israel. Tel: 04-8181719, Mobile 0544986569;**
- Work: **Tel Hai Academic College, Upper Galilee 12210, Israel**
- E-mail address: hazaizeh@yahoo.com; hassn@telhai.ac.il

B. Higher Education

1975 - 1978 B.Sc. in Agricultural Science. The Hebrew University of Jerusalem, The Robert H. Smith Faculty of Agriculture, Food, and Environment, Rehovot, Israel. B.Sc. received June 1979

1978 - 1980 M.Sc. in Plant Pathology and Microbiology. The Hebrew University of Jerusalem, The Robert H. Smith Faculty of Agriculture, Food, and Environment, Rehovot, Israel. Thesis: Studies on Possible Resistance of Various Horticultural Crops to the Fungus *Dematophora necatrix* Hartig. Advisors: Professors I. Chet and A. Steinberg. M.Sc. received June 1981

1984 - 1987 Ph.D. in Plant Pathology and Microbiology. Texas A&M University, College Station, Texas, USA. Dissertation: Screening Peanut Genotypes

(*Arachis hypogaea* L.) for Resistance to *Aspergillus flavus*, *A. parasiticus* and aflatoxin contamination. Advisors: Professors R. E. Pettit, R. A. Taber, and J. Artie Browning. Ph.D. received September 1987

Postdoctoral fellowships

1988–1990 Technion – Israel Institute of Technology, Haifa, Israel

1990–1992 Department of Plant Ecology, Bayreuth University, Bayreuth, Germany

Additional education, training, and professional work

July–November 2001 Guest scientist, Juelich Research Center, Juelich, Germany. Biomethylation of heavy metals such as selenium and arsenic by microbes and uptake of these heavy metals by wetland plants such as *Phragmites* and *Typha*. Microbial volatilization of heavy metals for safe detoxification by converting them to nontoxic gases such as dimethylselenide and dimethyldiselenide.

August–September 2002 Guest scientist, Juelich Research Center, Juelich, Germany. Biomethylation of heavy metals such as arsines by microbes and uptake of these heavy metals by wetland plants such as *Phragmites* and *Typha*. Microbial volatilization of heavy metals for safe detoxification by converting them to nontoxic gases such as mono- and dimethylarsenic (dimethylarsine).

April – September 2019 Sabbatical, ATB, Potsdam, Germany. Production of lactic acid from carob, banana, and sugarcane lignocellulose biomass for polylactic acid as a biodegradable plastic.

C. Academic Appointments and Academic Administrative Positions in Institutions of Higher Education

2005–2009 Lecturer, Biotechnology and Environmental Sciences, Tel Hai Academic College, Israel

- 2009–2013** Senior lecturer, Biotechnology and Environmental Sciences, Tel Hai Academic College, Israel
- 2011–2016** Head, Department of Environmental Sciences, Tel Hai Academic College, Israel
- 2012–2016** Head, “The Cherie and Aaron Raznick Chair for the Study of Sustainable Relations between People and the Environment in the Upper Galilee”, Tel Hai Academic College, Israel
- 2013 – 2019** Associate Professor, Biotechnology and Environmental Sciences, Tel Hai Academic College, Israel
- 2019 - Present** Full Professor, Biotechnology and Environmental Sciences, Tel Hai Academic College, Israel
- 2022- Present** Member of the Academic Appointment Committee

D. Teaching

- 1978–1980** Laboratory courses for “Diseases of Tropical and Subtropical Crops” and “Diseases of Field Crops and Ornamentals”. Department of Plant Pathology and Microbiology, the Hebrew University, The Robert H. Smith Faculty of Agriculture, Food, and Environment, Rehovot, Israel. B.Sc. course
- 1984–1987** Laboratory course for “Diseases of Field Crops”. Department of Plant Pathology and Microbiology, Texas A&M University, College Station, Texas, USA. B.Sc. course
- 2005 - present** “Treatment of Dangerous and Toxic Wastes”. Department of Environmental Sciences, Tel Hai Academic College, Israel. B.Sc. course
- 2005 - present** “Biotechnology of Fermentation and Bioreactors”. Department of Biotechnology, Tel Hai Academic College, Israel. B.Sc. course
- 2005 - present** Laboratory course for “Biotechnology of Fermentation and Bioreactors”. Department of Biotechnology, Tel Hai Academic College, Israel. B.Sc. course

2008 - present “Technologies for Treating Water and Wastewater”. Department of Environmental Sciences, Tel Hai Academic College, Israel. B.Sc. course

2008 - present First and Advanced Seminars in Environmental Sciences. Department of Environmental Sciences, Tel Hai Academic College, Israel. B.Sc. course

2018 - present “Biological Methods for Water and Wastewater Treatment”. M.Sc. course

E. Supervision of Graduate Students

Advising college students toward completion of their practical project during their B.Sc. studies

- 2008–2009** Daniel Berstein, Shani Yani, Itamar Sarawah, Lila Barlev. Tel Hai Academic College, Israel
- 2010–2011** Liad Amir, Kawii Yaniv Saruta. Tel Hai Academic College, Israel
- 2009–2010** Ido Bar. Academic College of Oranim, Tivon, Israel
- 2012–2013** Noaa Rolider, Rotem Avtalion. Tel Hai Academic College, Israel
- 2013–2014** Assaf Goldestein, Gali Fox, Gidi Amikam. Tel Hai Academic College, Israel
- 2014–2015** Jasmin Reizner, Noami Sharki, Iman Shawahneh. Tel Hai Academic College, Israel
- 2016–2017** Alla Ibrahim, Bian Shama. Tel Hai Academic College, Israel
- 2017–2018** Tasneem Hugerat. Tel Hai Academic College, Israel
- 2022-2023** Eldar Elgazi, Cultivation of different isolates of Cyanobacteria for biodiesel production

M.Sc. students

- 2001–2003** Zita Sebesvari. KFA, Juelich, Germany. Thesis Title: Phytoremediation of selenium using subsurface-flow constructed

Wetland.

- 2009–2011** Hiba Abu Tayeh. Technion – Israel Institute of Technology, Israel. Thesis Title: Bioethanol production from agricultural waste using Yeasts isolated from Olive Mill Solid Waste.
- 2009–2011** Odelia Levy. Technion – Israel Institute of Technology, Israel. Thesis Title: Subcritical hydrothermal pretreatment of olive mill solid waste for biofuel production
- 2011–2012** Daniel Berstein. The Robert H. Smith Faculty of Agriculture, Food and Environment, Rehovot, Israel. Thesis Title: Effects of selenium on growth parameters of tomato and basil under fertigation management.
- 2015–2017** Samya Abdelhadi. Technion – Israel Institute of Technology, Israel. Thesis Title: Production of biochar from olive mill solid waste for removal of heavy metals and polycyclic aromatic hydrocarbons from industrial wastewater.
- 2016 - 2019** Rawan Baransi. The Robert H. Smith Faculty of Agriculture, Food and Environment, Rehovot, Israel. Thesis Title: Modulating membrane composition by dietary means for Improved Durability and Productivity in Farm Animals under Stress.
- 2016 - 2019** Noam Yugiv. Tel Hai Academic College, Israel. Thesis Title: Development of an extracellular enzyme production system in order to maximize the efficiency of sewage treatment plants.
- 2016 – 2022** Yair Ungar. Tel Hai Academic College, Israel. Thesis Title: Developing a system to capture ammonia from agricultural wastes and produces nitrate through the nitrification process.
- 2017 - 2020** Sabreen Haj. Tel Hai Academic College, Israel. Thesis Title: The use of olive mill wastewater as a growth medium for industrial production of bacteria and yeasts.
- 2017 – 2020** Safaa Awwad. Tel Hai Academic College, Israel. Thesis Title: The effect of effluents irrigation on the Composition and Quality of secondary metabolites in plants for the control of parasites nematodes in animals.
- 2018 - 2021** Hussein Jeradat. Tel Hai Academic College, Israel. Thesis Title: Production of activated carbon from olive mill solid wastes for the removal of nitrogen and calcium from contaminated water and

- wastewater.
- 2018 – 2021** Shai Lwitat. Tel Hai Academic College, Israel. Thesis Title:
Establishing a continuous reactor for the production of ammonia
using rhizobium.
- 2018 - 2022** Alaa Ibraheem-Jarushe. Tel Hai Academic College, Israel. Thesis
Title: Extraction of a sun cream protection paste from olive mill
wastewater.
- 2019 – 2022** Nita Bar Niv. Tel Hai Academic College, Israel. Thesis
Title: Biodegradation of phenolic compounds using microbial and
advanced oxidation processes.
- 2020 - 2023** **Guy Pier.** Tel Hai Academic College, Israel. Thesis
Title: The Use of Biochar and advanced oxidation process to Treat
wastewater from organic pollutants.
- 2020 - 2023** **Stav Shimshoni.** Tel Hai Academic College, Israel. Thesis
Title: Combination of adsorption and biological processes in a
membrane anaerobic bioreactor for the treatment of domestic
wastewater with olive mill effluent.
- 2022 - present** **Julia Ghanos.** Tel Hai Academic College, Israel. Thesis
Title: Model system for simulating greenhouse gas emissions in wetlands.
- 2022 – present** **Maria Koury.** Tel Hai Academic College, Israel. Thesis
Title: Cultivation of black soldier fly-on sludge for the production of biofuels
and high-added-value products.
- 2023 – present** **Adallah Ghadeer** Isolation of non-toxic fractions from olive mill
wastewater for the production of paste to protect our skin from UV and
sunburn.
- 2024 – present** **Lilian Talhami** Production of paste from local medicinal plants and
Olives to protect our skin from UV and sunburn.

Ph.D. students

2015 - 2020 Hiba Abu Tayeh. Haifa University, Israel. Dissertation Title: Olive mill solid waste to ethanol production – an exploration of pretreatment and search for better environmental yeast.

2015 - 2019 Hatice Neval Mucuk. Food Engineering Department, University of Gaziantep, Turkey. Dissertation Title: Pistachio (*Pistacia vera* L.) Hull as a Potential Source of Phenolic Compounds: Evaluation of Antioxidant Activity and Phenolic Profile of Pistachio Hull Extracts.

Postdoctoral fellows

1991 - 1992 Dr. Benet Gunse. Department of Plant Ecology, Bayreuth University, Bayreuth, Germany

2000 - 2002 Dr. Mahmoud Mansour. Institute of Applied Research, Galilee Society, Shefa Amr, Israel

2006 - 2007 Dr. Jeries Jadoun. Institute of Applied Research, Galilee Society, Shefa Amr, Israel

2009 - 2010 Dr. Naim Najameh. Institute of Applied Research, Galilee Society, Shefa Amr, Israel

2014 - 2017 Dr. Sarah Weyl-Feinstein. Institute of Applied Research, Galilee Society, Shefa Amr, Israel

2016 - 2019 Dr. Manal Zaroubi. Institute of Applied Research, Galilee Society, Shefa Amr, Israel

2017 - 2019 Dr. Ammar Kandil. Institute of Applied Research, Galilee Society, Shefa Amr, Israel

F. Research Grants

- 1) Project Title: Microwave-assisted production of hydrochar from agricultural wastes. Funding Agency: Tel Hai Academic College & University of Haifa. Period: April 2023 -April 2024. Total Amount: 30,000 NIS. Partners: Prof. Hassan Azaizeh, Tel Hai Academic College & Prof. Yoram Gerchman, University of Haifa.
- 2) Project Title: Synthesis and characterization of biochar from olive mill solid waste in combination with advanced oxidation processes for removal of micro-pollutants in water. Funding Agency: Tel Hai Academic College & Shamir Institute. Period: April 2023 -April 2024. Total Amount: 20,000 NIS. Partners: Prof. Hassan Azaizeh, Tel Hai Academic College & Dr. Sarah Azerrad, Shamir Institute.
- 3) Project Title: Evaluating the economic potential of producing a natural paste from olive mill wastewater for skin protection from the sun. Funding Agency: Tel Hai Academic College. Period: April 2023 -May 2025. Total Amount: 20,000 NIS. Partners: Dr. Yanay Farha and Prof. Hassan Azaizeh, Tel Hai Academic College.
- 4) Project Title: Olive Mill Wastewater transformation from pollutant to water resource, sun protection paste, and compost. Funding Agency: MERC–USAID, USA. Period: July 2022 – August 2025. Total Amount: \$647,131. Our Amount (Tel Hai): \$112,143. Partners: Dr. Manal Haj-Zaroubi, R&D Galilee Society, Israel; Dr. ARGOV-ARGAMAN Nurit. Department of Animal Science, The Faculty of Agriculture, Food, and Environment, Hebrew University of Jerusalem, Israel; Prof. ABU-DARWISH S. Mohammad. Faculty of Pharmacy, Aqaba University of Technology, Aqaba &Departments of Basic and Applied Sciences, Al-Balqa Applied University, Al-Salt, Jordan.
- 5) Project Title: Detection and characterization of substances from olive mill wastewater with antimicrobial activity for the treatment of phytopathogenic bacteria and fungi and as a natural preservative for the food industry. Funding Agency: Tel Hai College. Period: Nov 2021–Oct 2022. Total Amount: 40,000NIS. Our Amount: 20,000NIS. Partners: Dr. Eyal Kurzbaum, Tel Hai Academic College, Israel.

- 6) Project Title: Conversion of Wastewater Treatment Sludge to Biofuels and High-Added Value Products. Funding Agency: MERC–USAID, USA. Period: Jan 2021–Dec 2024. Total Amount: \$682,500. Our Amount: \$133,500. Partners: Prof. Yoram Gerchman, University of Haifa, Israel; Dr. Aid Yunis, Tel Hai Academic College, Israel; Dr. Abeer Balawneh, CARDNE, Jordan
- 7) Project Title: Use of brackish and recycled water to grow willow (*Salix* spp.) silage ('safsafage') as a healthy strategic feed for large and small ruminants. Funding Agency: MERC–USAID, USA. Period: February 2021–December 2024. Total Amount: \$620,000. Our Amount: \$119,000. Partners: Dr. Josh Klein, Dr. Yan Landau, Volcani Center, Israel. Dr. Muklada, H. ARO- Volcani Center, Deutch, T. ARO- Volcani Center, Dr. Zachut, M. ARO- Volcani Center, Ravins, E. Arava R&D M.P.Eilot. Dr. Sami Awabdeh, NCARE, Jordan.
- 8) Project Title: A novel, green coccidiostat for poultry in Israel. Funding Agency: ICA, Israel. Period: July 2020–June 2022. Total Amount: \$200,000.
- 9) Project Title: Optimization of biological degradation of emerging micropollutants and pathogen removal in low-cost subsurface treatment units based on novel chemical and biological indicators. Funding Agency: BMBF/MOST, Germany/Israel. Period: July 2106–June 2019. Amount (Our budget): 219,700€, Germany Amount: 311,500€. Israeli partner: Dr. Jeries Jadoun, R&D Galilee Society. German Partner: Prof. Thomas Ternes. Water Technology and Waste Management (PTKA-WTE). Karlsruhe Institute of Technology, Germany & Dr. Marco Scheurer, DVGW-Technologiezentrum Wasser (TZW), Karlsruhe, Germany.
- 10) Project Title: Modulating membrane composition by dietary means for improved durability and productivity in farm animals under stress. Funding Agency: Ministry of Agriculture, Israel. Period: July 2015–

August 2018. Total Amount: 1,200,000 NIS, Our Amount: 300,000 NIS.

Partners: Dr. Norit-Argov Argman, Hebrew University; Dr. Yan Landau, Dr. Ariel Shabtai & Dr. Tzach Glazer, Volcani Centre, Israel.

11) Project Title: Integrated treatment of olive mill wastewater and solid wastes for the production of biotechnological products. Funding Agency: Ministry of Agriculture, Israel. Period: September 2013–August 2017. Total Amount: 1,200,000 NIS. Our Amount: 550,000 NIS. Partners: Dr. Yan Landau, Dr. Ariel Shabtai, Volcani Center; Prof. Itzhak Hadar, Hebrew University, Israel.

12) Project Title: Willow (*Salix* spp.): a new forage resource for semi-arid zones. Funding Agency: MERC–USAID, USA. Period: November 2014–December 2019. Total Amount: \$605,500. Our Amount: \$105,500. Partners: Dr. Josh Klein, Dr. Yan Landau, Volcani Center, Israel. Dr. Alex Markovics, Kimron Veterinary Institute, Ministry of Agriculture and Rural Development. Dr. Sami Awabdeh, NCARE, Jordan.

13) Project Title: Isolation and identification of antibacterial and antivirulence compounds with therapeutic potential against *Helicobacter pylori*. Funding Agency: Ministry of Agriculture, Israel. Period: December 2014–November 2018. Total Amount: 1,000,000 NIS. Our Amount: 600,000 NIS. Partners: Dr. Jeries Jadoun, R&D Galilee Society, Dr. Nativ Dudai, Volcani Center, Prof. Ram Reifen, Hebrew University, Israel.

14) Project Title: Olive mill waste pretreatment, use of yeasts for bioethanol production. Funding Agency: Ministry of Environmental Protection, Israel. Period: June 2014–May 2017. Total Amount: 380,000 NIS. Our Amount: 190,000 NIS. Partners: Dr. Yoram Gerchman, University of Haifa, Israel.

15) Project Title: Production of animal feed additive for treating animal parasites. Funding Agency: Ministry of Industry (Kamin), Israel. Period: August 2014–July 2016. Total Amount: 1,200,000 NIS. Our Amount: 500,000 NIS. Partners: Dr. Yan Landau, Dr. Itamar Glazer,

Volcani Center, Israel. Dr. Alex Markovics, Kimron Veterinary Institute, Ministry of Agriculture and Rural Development.

- 16)** Project Title: Impairing larval exsheathment in parasitic nematodes by using Mid-Eastern plants as a resource of anthelmintic compounds. Funding Agency: BARD–MARD, USA. Period: November 2014–May 2016. Total Amount: \$50,000. Our Amount: \$25,000. Partners: Dr. Alex Markovics, Kimron Veterinary Institute, Ministry of Agriculture and Rural. Prof. James Miller, Louisiana State University, USA; Dr. Sami Awabdeh, National Center for Agricultural Research and Extension (NCARE, Jordan), Dr. Rana Jamous, Til, Palestine.
- 17)** Project Title: Sustainable use of constructed wetlands for wastewater treatment and reuse in small communities. Funding Agency: MERC–USAID, USA. Period: March 2014–February 2019. Total Amount: \$650,500. Our Amount: \$138,000. Partners: Dr. Yoram Gerchman, University of Haifa, Israel; Dr. Abeer Balawneh, CARDNE, Jordan; Eng. Samer Kalbouneh, Til, Palestine.
- 18)** Project Title: Anaerobic digestion of olive mill wastewater for biogas production. Swedish Funding Agency. Period: January 2013–June 2014. Total Amount: 100,000 NIS.
- 19)** Project Title: Using solid olive mill waste as 'biofilters' for treatment of contaminated road runoff. Funding Agency: Ministry of Science and Technology (MOST), Israel. Period: September 2011–August 2014. Total Amount: 360,000 NIS.
- 20)** Project Title: A mobile integrated sustainable system for the treatment of organic wastewater. Funding agency: EU-FP7. Period: September 2011–August 2014. Total Amount: 4,500,000 NIS. Our Amount: 700,000 NIS. Prof. Iggy Litaor & Prof. Giora Rytwo, Migal center & Tel Hai, Israel; Prof. Michael Kornaros, Patras University, Greece; Cetenma Co., Murcia, Spain, Peleg Hagalil Co., Israel.

G. Awards and Fellowships

1988 - 1990 Lady Davis Fellowship (Canada) - Postdoctoral fellow at the Technion – Israel Institute of Technology, Haifa, Israel

1990 - 1992 Minerva Fellowship (Germany) – Postdoctoral fellow at Bayreuth University, Germany

2001 July - November Minerva Short-Term Fellowship (Germany) – Guest scientist, Juelich Research Center, Juelich, Germany

2002 August - September Minerva Short-Term Fellowship (Germany) – Guest scientist, Juelich Research Center, Juelich, Germany

H. Active Participation in Conferences

H1. Lectures

1) November 1999 The UNESCO Workshop on Science for Peace and Regional Scientific Cooperation in Molecular Biology, Microbiology, and Biotechnology, Jerusalem, Israel. Title of Presentation: The traditional medicine of the Middle Eastern Region.

2) November 1999 Workshop held at Al-Najah University, Nablus, West Bank (Palestinian Authority). Title of Presentation: Medicinal Plants, biological control, and biotechnology approaches.

3) February 2000 The 1st International Colloquium on Health, Environment and Natural Substances, University of Metz, France. Title of Presentation: Bioactive compounds from medicinal plants and the importance of the preservation of the various plant species.

4) May 2000 The Israeli Entomology Society, Volcani Center, Beit Dagan, Israel. Title of Presentation: Biological control of the western flower thrips *Frankliniella occidentalis* using the entomopathogenic fungi *Metarhizium anisopliae* and *M. flavoviride*.

5) October 2003 Medicinal Plant Conference, Napoli, Italy. Title of Presentation: The potential of local medicinal herbs used in traditional Arabic medicine to treat skin, liver, and cancer diseases.

6) October 2004 COST Action Meeting, Warsaw, Poland. Phytotechnology Work Group 2. Title of Presentation: Bioremediation of contaminated sites from heavy metals using wetland plants.

7) November 2004 COST Action Meeting, Greenwich, UK. Phytotechnology Work Group 3. Title of Presentation: Biomethylation and biotransformation of heavy metals by rhizosphere microbes.

8) June 2005 COST Action Meeting, Pisa, Italy. Phytotechnology Workshop. Title of Presentation: The Potential of wetland plants to phytoremediation selenium in constructed wetlands.

9) May 2006 Bioplanta Conference on Medicinal Plants, Sfax, Tunisia. Title of Presentation: Efficacy of Palestinian medicinal herbs used by traditional Arab herbalists for treating different human diseases.

10) June 2006 COST Action Meeting, Santiago de Compostella, Spain. Phytotechnology Workshop. Title of Presentation: Uptake, translocation, and accumulation of selenium by different plant species.

11) October 2006 Environmental Management - Water Project Regional Conference, Amman, Jordan. Title of Presentation: Biogas production from anaerobic co-digestion of agricultural wastes.

12) May 2007 COST Action Meeting, Vilnius, Lithuania. Phytotechnology Workshop. Title of Presentation: Phytoremediation of selenium using constructed wetlands.

13) August 2007 The First Conference on the Revival of Traditional Islamic Arabic Medicine, Amman, Jordan. Conference organized by the Galilee Society, Israel. Title of Presentation: Ethnopharmacological survey of the uses of local medicinal plants.

14) September 2007 Biogas and Bioenergy Production International Conference, Hohenheim University, Stuttgart, Germany. Title of Presentation: Codigestion of olive mill wastewater and swine manure using UASB bioreactors for biogas production.

15) October 2007 COST Action Meeting, Ben Gurion University, Sede-Boker, Israel. Title of Presentation: Practical Approaches to increasing selenium as an essential metalloid in the human diet.

16) August 2008 COST Action Meeting, Lillehammer, Norway. Title of Presentation: The Potential of constructed wetlands on the removal capacity of enteric pathogens and protozoa parasites.

17) October 2008 COST Action Meeting, Ineris, France. Title of Presentation: Phytoextraction of selenium using subsurface-flow constructed wetland.

18) November 2008 BSF Workshop, Haifa University, Israel. Title of Presentation: The use of wetland plants and microbes for bioremediation of wastewater contaminated with selenium.

19) April 2009 COST Action Meeting, Szeged, Hungary. Title of Presentation: Removal capacity of constructed wetland for enteric pathogens and protozoan parasites from treated wastewater used in irrigation.

20) October 2009 COST Action Meeting, Ascona, Switzerland. Title of Presentation: Biomethylation and biotransformation of selenium by rhizosphere microorganisms.

21) October 2010 International Meeting of Biotechnology, Rimini, Italy. Title of Presentation: Biological control of nematodes using plant extract of *Pistacia lentiscus*.

22) November 2010 COST Action Meeting, Antalya, Turkey. Title of Presentation: Practical approaches for fortification of selenium in food.

23) November 2010 The 2nd International Symposium on Medicinal Plants, Their Cultivation and Aspects of Uses, Petra, Jordan. Title of Presentation: Tannins of *Pistacia lentiscus* as a biological control for gastrointestinal nematodes.

24) September 2011 EU-FP7, INCO-Innovation, Patras, Greece. Title of Presentation: Mobile integrated sustainable system for treatment of organic wastewater (MISSTOW, EU Project).

25) November 2011 COST Action Meeting, Venice, Italy. Title of Presentation: Effects of selenium on growth parameters of tomato and Basil crops.

26) February 2012 BMBF meeting, Koblenz, Germany. Title of Presentation: Sustainable treatment of rejecting streams and emerging micropollutants from wastewater.

27) March 2012 IWA-WWPR 2012, Heraklion, Crete, Greece. Title of Presentation: Constructed wetlands and UV systems for removal of enteric pathogens and wastewater contaminants.

28) March 2012 INCO – Innovation, Murcia, Spain. Title of Presentation: A mobile integrated sustainable system for treatment of organic wastewater (MISSTOW, EU Project).

29) September 2012 9th International Phytotechnology Society Conference, Hasselt University, Belgium. Title of Presentation: Removal of pathogens and organic contaminants from wastewater using constructed wetlands and UV systems.

30) October 2012 COST Action Meeting, Lisbon, Portugal. Title of Presentation: Fortification of tomatoes and basil plants with selenium for food consumption.

31) June 2013 The 13th World Conference on Anaerobic Digestion, Santiago De Compostela, Spain. Title of Presentation: Anaerobic digestion of organic agricultural wastewater for biogas production.

32) October 2013 The 41st Israel Society of Ecology & Environmental Sciences Meeting, Rehovot, Israel. Title of Presentation: Development of a mobile integrated sustainable system for the treatment of organic wastewater (MISSTOW) and other organic wastewater.

33) March 2014 COST Action Meeting, Antalya, Turkey. Title of Presentation: Phyto-mediated biostimulation of the autochthonous microbial community for the depletion of polycyclic aromatic hydrocarbons in contaminated sediments.

34) June 2014 INCO – Innovation, Murcia, Spain. Title of Presentation: Anaerobic digestion of organic agricultural wastewater (MISSTOW, EU project).

35) July 2014 The Plant Production and Marketing Board, Yahoud, Israel. Title of Presentation: Olive waste treatments and anaerobic digestion of olive mill wastewater for biogas production.

36) *November 2014 COST Action Meeting & Total Food Conference, Norwich, UK. Title of Presentation: Development of a mobile integrated system for the treatment of agricultural organic wastewater and biogas production.

37) March 2015 COST Action Meeting, Semmering, Austria. Title of Presentation: The Potential of a Platform small-bioreactor Technology to treat whey.

38) August 2015 COST Action Meeting, Milano, Italy, Management Committee Meeting. Discussion on future collaboration and work packages.

39) September 2015 COST Action Meeting, Potsdam, Germany. Title of Presentation: Olive mill wastewater processing for antioxidant fractions and antimicrobial products.

40) October 2015 The 15th International Waste Management and Landfill Symposium, Sardinia, Italy. Title of Presentation: Production of a biofilter from olive mill solid wastes for the removal of heavy metals from contaminated road runoff.

41) October 2015 The 15th International Waste Management and Landfill Symposium, Sardinia, Italy. Title of Presentation: Subcritical hydrothermal pretreatment of olive mill solid waste for biofuel production.

42) March 2016 The Israeli Ministry of Agriculture Conference on Olive Research, Beit Dagan, Israel. Title of Presentation: Treatment of olive mill wastes to produce useful and economical products.

43) June 2016 The 10th World Congress on Polyphenols, Porto, Portugal. Title of Presentation: Seasonal variation in the effects of Mediterranean polyphenol extracts on the exsheathment kinetics of goat gastro-intestinal nematode larvae.

44) July 2016 Special Symposium – Water Reuse in Israel: Where We Are and Where Can We Go? Tel Aviv University, Israel. Title of Presentation: Natural systems for wastewater reuse – constructed wetlands.

45) September 2016 COST Action Meeting, Wageningen, The Netherlands. Title of Presentation: Production of biotechnological products from olive mill solid waste (OMSW).

46) December 2016 The Third International Conference on Olive in Palestine (ICOP), Tulkarem, Palestinian Authority. Title of presentation: Production of biochar from olive mill solid wastes for the removal of heavy metals from contaminated industrial wastewater.

47) June 2017 The 5th International Conference on Waste Management, Athens, Greece. Title of Presentation: Production of biochar from olive mill solid wastes for the removal of heavy metals from contaminated industrial wastewater.

48) July 2017 Conference on Biopiracy & Phytomedicine, Mainz, Germany. Title of Presentation: Seasonal variation on the effects of polyphenolic extracts from willow (*Salix*) on the exsheathment of gastrointestinal nematode larvae.

49) August 2017 The 2nd International Conference on Latest Trends in Biotechnology and Biodiversity, Barcelona, Spain. Title of Presentation: Production of ethanol from olive mill solid wastes.

50) January 2018 Cost Action Meeting CA16230, Warsaw, Poland. Title of Presentation: The use of plant-extracted compounds to treat gastrointestinal nematode larvae in animals.

51) June 2018 7th European Bioremediation Conference, Chania, Crete, Greece. Title of presentation: Sustainable use of constructed wetlands for wastewater treatment and reuse in small communities.

52) September 2018 COST Action Meeting, Leon, Spain. Title of presentation: Seasonal variation in the effects of polyphenolic extracts of *Salix sp* (Willow) on the exsheathment of gastrointestinal nematode larvae.

53) October 2018 Cyprus meeting. Title of presentation: Extraction of bioactive compounds from *Salix sp* (Willow) for the inhibition of exsheathment of gastrointestinal nematode larvae.

54) October 2018 The 7th International Symposium on Energy from Biomass and Waste, Venice, Italy. Title of presentation: Production of biochar from olive mill solid wastes for removal of heavy metals from industrial wastewater.

55) June 2019 The 7th International Conference on Sustainable Solid Waste Management, June 26-29, 2019, Heraklion, Greece. Production of biochar and activated biochar from olive mill solid waste for the removal of heavy metals and

calcium from the water. www.heraklion2019.uest.gr; organizer: the National Technical University of Athens, School of Chemical Engineering, Athens, Greece.

56) August 2019 Cost Action Meeting CA16230, Ghent, Belgium. Title of Presentation: Effect of water quality irrigation on the composition and quality of secondary metabolites of *Salix* plants used for the control of parasite nematodes. www.combar-acsrpc2019.org.

57) November 2021 The Galilee Society Annual Conference, Shefa Amr, Israel. Title of Presentation: Production of polylactic acid (PLA) from lignocellulose.

Website

address: https://meyda.education.gov.il/files/Mazkirut_Pedagogit/Chaklaut/kenesgalil.pdf

58) December 2021 Microbial Ecology Symposium for Young Researchers; Weitzman Institute, December 9, 2021. Title of Presentation: Scientist and University Lecturer or Both- challenges. Website address: <https://www.weizmann.ac.il/conferences/MICREC2021>.

59) December 2021 Water & Energy within the Concept of the Circular Economy, International Conference, Nazareth, December 15-16, 20. Title of Presentation: Recycling of lignocellulosic biomass into value-added products such as biochar, bioethanol, or lactic acid.

Website address: <https://sites.google.com/view/we2021/home>.

60) March 2022 Cost Action Meeting CA16230, Athens, Greece. Title of Presentation: Effect of irrigation water source on secondary metabolites in *Salix acmophylla* and their potential to impair exsheathment of gastrointestinal nematodes.

61) May 2022, 10th European Conference on Renewable Energy Systems, Istanbul, Turkey. Title of Presentation: Production of bioethanol and biogas from olive mill solid biomass.

62) June 2022, 9th International Conference on Sustainable Solid Waste Management



Corfu, Greece. Title of Presentation: Production of lactic acid from different lignocellulose biomass for polylactic acid as a biodegradable plastic.

62) August 2022, 1st International Conference on Sustainable Chemical and Environmental Engineering, Crete, Greece. Title of Presentation: Biochar coupled with advanced oxidation process for a novel treatment of micro-pollutants in effluents.

63) May 2023, The 12th International Conference on Recycling and Waste Management, Prague, Czech Republic. Title of Presentation: Recycling of olive mill solid wastes for various economical products.

64) June 2023 The 2nd International Conference on Sustainable Chemical and Environmental Engineering, Limassol, Cyprus. Title of Presentation: Production of lactic acid from different lignocellulose biomass for polylactic acid as a biodegradable plastic. Key note presentation.

65) July 2024 International Congress on Natural Products Research. Title of Presentation: Willow (*Salix acmophylla*) leaf and twig extracts inhibit sporulation of coccidia (*Eimeria spp.*) in goats. KRAKÓW, Poland 2024, July 13-17.

H2. Lectures for the community

1) June 2014 Lecture to farmers and engineers, Hadad Village, Palestinian Authority. Title of Presentation: Olive waste treatments & anaerobic digestion of olive mill wastewater (OMW) for biogas production.

2) November 2016 The Galilee Society Annual Conference, Shefa Amr, Israel. Title of Presentation: Production of the biological filter from olive mill solid wastes for the removal of heavy metals and other contaminants from contaminated industrial wastewater.

3) August 2017 The 2nd M&O Training Session, Jericho, Palestinian Authority. Theme: Proper Operation and Maintenance of Installed Grey-Water Treatment Systems. Title of Presentation: Constructed wetlands for wastewater treatment and reuse.

4) October 2017 The Galilee Society Annual Conference, Shefa Amr, Israel. Title of Presentation: The use of plant-extracted compounds to treat gastrointestinal nematode larvae in animals.

5) January 2018 The 2nd JAV Workshop, Al Ouja, Palestinian Authority. Theme: Proper Operation and Maintenance of the Installed Grey-Water Treatment Systems. Title of Presentation: Challenges in the uses of water in arid regions.

6) March 2018 High-School Students' Day. Tel Hai Academic College, Israel. Title of Presentation: Environmental Biotechnology, a promising future.

7) October 2020 The Galilee Society Annual Conference, Shefa Amr, Israel. Title of Presentation: Production of polylactic acid (PLA) from lignocellulose.

8) December 2020 Alkassimi College Annual Conference, Baka, Israel. Title of Presentation: Production of natural plastic from lignocellulose.

H3. Posters

1) July 1999 Biotechnology, Agriculture and Food Workshop, Brussels, Belgium. The workshop included lectures and discussion groups on agriculture, natural products, microbiology, enzymes, food, wastewater treatment, biological control, and environmental sciences.

2) August 1999 International Conference on Complementary and Alternative Medicine on Chronic Liver Diseases, NIH, Maryland, USA. Poster Title: An in vitro comparative evaluation of some medicinal plants from Israel as inhibitors of iron-induced lipid peroxidation in the liver. Our group is the only one dealing with traditional Arabic medicine among more than 50 groups working on Chinese and South American (Amazon) medicinal plants.

3) December 1999 The Annual Meeting of the Israel Society for Oxygen and Free Radical Research, Technion – Israel Institute of Technology, Haifa, Israel. Poster Title: An in vitro comparative evaluation of some medicinal plants from Israel as inhibitors of iron-induced lipid peroxidation in the liver.

4) June 2016 The 10th World Congress on Polyphenols, Porto, Portugal. Poster Title: Olive mill wastewater processing for antioxidant fractions and antimicrobial products.

5) September 2016 COST Action Meeting, Wageningen, The Netherlands. Poster Title: Production of biochar from olive mill solid wastes for the removal of heavy metals from contaminated industrial wastewater.

6) November 2018 The Technion GWRI Graduate Students Conference. Constructed wetlands in the water-energy nexus: using sugar cane as the wastewater treatment plant.

I. Non-Academic Activity & Positions

1978 - 1980 Research Assistant. Department of Plant Pathology and Microbiology, the Hebrew University, The Robert H. Smith Faculty of Agriculture, Food, and Environment, Rehovot, Israel

1980 - 1983 Plant Pathologist – Inspector. Control of plant diseases and insects of imported and exported products. Ministry of Agriculture, the Quarantine Services, Department of Plant Protection, Haifa, Israel

1984 - 1987 Research Assistant. Department of Plant Pathology and Microbiology, Texas A&M University, College Station, Texas, USA

1992 - 1995 Microbiologist. Institute of Plant Nutrition, Hohenheim University, Stuttgart, Germany

1995 - 1996 Visiting Scholar. Department of Plant Biology, University of California, Berkeley, California, USA

1996 - present Senior Researcher. The Galilee Society Regional Research & Development Center, Shefa-Amr, Israel

1996 - 1999 R&D Scientific Director. The Galilee Society Regional Research & Development Center, Shefa-Amr, Israel

2000 - 2001 Acting General Director. The Galilee Society Regional Research & Development Center, Shefa-Amr, Israel

2001 - 2003 R&D Scientific Director. The Galilee Society Regional Research & Development Center, Shefa-Amr, Israel

J. Publications

Dissertations:

1978 - 1980 M.Sc. Plant Pathology and Microbiology. The Hebrew University of Jerusalem, The Robert H. Smith Faculty of Agriculture, Food, and Environment, Rehovot, Israel. Thesis: Studies on Possible Resistance of Various Horticultural Crops to the Fungus *Dematophora necatrix* Hartig. Advisors: Professors I. Chet and A. Steinberg. M.Sc. degree received June 1981.

1984 - 1987 Ph.D. Plant Pathology and Microbiology. Texas A&M University, College Station, Texas, USA. Dissertation: Screening Peanut Genotypes (*Arachis hypogaea* L.) for Resistance to *Aspergillus flavus*, *A. parasiticus*, and aflatoxin contamination. Advisors: Professors R. E. Pettit, R. A. Taber, and J. Artie Browning. Ph.D. degree received September 1987.

Articles in Reviewed Journals

1. Steinberg, A., **Azaizeh, H.**, and Chet, I. 1983. Possible role of phenolic compounds in resistance of horticultural crops to *Dematophora necatrix*. Journal of Phytopathology 107: 318-328. # Citations = **29**; IF= **2.365**; Q1: Plant Sciences = **14/139**.

2. **Azaizeh, H.**, Pettit, R.E., Smith, O.D., and Taber, R.A. 1989. Reaction of peanut genotypes under drought stress to *Aspergillus flavus* and *A. parasiticus*. *Peanut Science* 16: 109-113. # Citations = 19;
3. Stejnberg, A., **Azaizeh, H.**, and Lisker, N. 1989. Effect of tannins and phenolic extracts from plant roots on the production of cellulase and polygalacturonase by *Dematophora necatrix*. *Phytoparasitica* 17: 49-53. # Citations = 14; IF= 1.0; Q2: **Plant Sciences = 51/139.**
4. **Azaizeh, H.**, Pettit, R.E., Sarr, B.A., and Phillips, T.D. 1990. Effect of peanut tannin extracts on growth of *Aspergillus parasiticus* and aflatoxin production. *Mycopathologia* 110: 125-132. # Citations = 44; IF= 0.525; Q3: **Mycology = 10/15.**
5. Zidan, I., **Azaizeh, H.**, and Neumann, P.M. 1990. Does salinity reduce growth in maize root epidermal cells by inhibiting their capacity for cell wall acidification? *Plant Physiology* 93: 7-11. # Citations = 181; IF=4.311; Q1: **Plant Sciences = 7/139.**
6. **Azaizeh, H.**, and Steudle, E. 1991. Effects of salinity on water transport of excised maize (*Zea mays L.*) roots. *Plant Physiology* 97: 1136-1145. # Citations = 202; IF= 4.311; Q1: **Plant Sciences = 7/139.**
7. **Azaizeh, H.**, Gunse, B. and Steudle, E. 1991. Effects of NaCl and CaCl₂ on water transport across root cells of maize (*Zea mays L.*) seedlings. *Plant Physiology* 99: 886-894. # Citations = 294; IF= 4.311; Q1: **Plant Sciences = 7/139.**
8. Neumann, P. M., **Azaizeh, H.**, and Leon, D. 1994. Hardening of root cell walls: A growth inhibitory response to salinity stress. *Plant, Cell and Environment* 17: 303-309. # Citations =148; IF= 2.291;
9. **Azaizeh, H.**, Neumann, G., and Marschner, H. 1995. Effects of thiamin on growth rates of *Rhizobium spp.* and putative diazotrophic bacteria cultivated in vitro at different pH. *Journal of Plant Nutrition and Soil Sciences* 158: 557-562. # Citations = 5; IF= 0.63; Q4: **Plant Sciences = 135/136.**

10. **Azaizeh, H.**, Neumann, G., and Marschner, H. 1995. Effects of thiamine (vitamin B1) application on bulk soil and rhizosphere microorganisms and on its release from bean (*Phaseolus vulgaris L.*) seedlings. *Journal of Plant Nutrition and Soil Sciences* 158: 549-556. # Citations = 5; IF= 0.63; Q4: Plant Sciences = 135/136.
11. **Azaizeh, H.**, Marschner, H., Roemheld, V., and Wittenmayer, R. 1995. Effects of a vesicular-arbuscular mycorrhizal fungus and other soil microorganisms on growth, mineral acquisition and root exudation of soil-grown maize plants. *Mycorrhiza* 5: 321-327. # Citations = 179; IF= 0.554; Q3: Mycology = 8/15.
12. Neumann, G., **Azaizeh, H.**, and Marschner, H. 1996. Seed treatment with thiamine (vitamin B1) enhances germination and seedling growth of *Phaseolus vulgaris L.* exposed to soaking injury. *Journal of Plant Nutrition and Soil Sciences* 159: 491-498. # Citations = 3; IF= 0.63; Q4: Plant Sciences = 135/136.
13. **Azaizeh, H.**, Neumann, G., and Marschner, H. 1996. Effects of thiamin and nitrogen fertilizer form on the number of N₂-fixing and total bacteria in the rhizosphere of maize plants. *Journal of Plant Nutrition and Soil Sciences* 159. # Citations = 9; IF= 0.63; Q4: Plant Sciences = 135/136.
14. **Azaizeh, H.**, Gowthaman, S., and Terry, N. 1997. Microbial selenium volatilization in rhizosphere and bulk soils isolated from a constructed wetland. *Journal of Environmental Quality* 26: 666-672. # Citations = 78; IF= 2.069; Q1: Environmental Sciences = 9/117.
15. Neumann, G., Preissler, M., **Azaizeh, H.**, and Roemheld, V. 1999. Thiamine (Vitamin B1) deficiency in germinating seeds of *Phaseolus vulgaris L.* exposed to soaking injury. *Journal Plant Nutrition and Soil Science* 162:295-300. # Citations = 7; IF= 0.63; Q4: Plant Sciences = 135/136.
16. Said, O., Khalil, K., Fulder, S., **Azaizeh, H.** 2002. Ethnopharmacological survey of medicinal herbs in Israel, the Golan Heights, and the West Bank region. *Journal of*

Ethnopharmacology 83, 251-265. # Citations = 588; IF= 1.88; Q2: Plant Sciences = 49/135; Q3: Chemistry, Medicinal = 21/35.

17. **Azaizeh, H.**, Galina, G., Said, O., and Barash, I. 2002. Biological Control of the Western Flower *Thrips Frankliniella occidentalis* in Cucumber Using the Entomopathogenic Fungus *Metarhizium anisopliae*. *Phytoparasitica* 30 (1): 18-24. # Citations = 30; IF= 0.646; Q3: Plant Sciences = 51/139.

18. **Azaizeh, H.**, Fulder, S., Khalil, K., and Said, O. 2003. Ethnobotanical survey of local practitioners of the Middle Eastern region: the status of traditional Arabic medicine. *Fitoterapia* 74:98-108. # Citations = 413; IF= 0.848. Q3= Chemistry, Medicinal = 26/37.

19. **Azaizeh, H.**, Salhani, N., Sebesvari, Z., and Emons, H. 2003. The potential of rhizosphere microbes isolated from a constructed wetland to biomethylate selenium. *Journal of Environmental Quality* 32:55-62. # Citations = 49; IF= 1.682; Q1: Environmental Sciences = 28/131.

20. Mansour, F., **Azaizeh, H.**, Saad, B., Tadmor, Y., Abo-Moch, F., and Said, O. 2004. The potential of Middle Eastern flora as a source of new safe bio-acaricides to control *Tetranychus cinnabarinus* – the carmine spider mite. *Phytoparasitica* 32:66-72. # Citations = 120; IF= 0.543; Q3: Plant Sciences = 99/138.

21. Ljubuncic, P., Sing, H., Cogan, U., **Azaizeh, H.**, and Bomzon, A. 2005. The effects of aqueous extracts prepared from the leaves of *Pistacia lentiscus* in experimental liver disease. *Journal of Ethnopharmacology* 100:198-204. # Citations = 83; IF= 1.554; Q2: Plant Sciences = 47/144; Chemistry, Medicinal = 19/34.

22. Saad, B., **Azaizeh, H.**, and Said, O. 2005. Tradition and perspectives of Arab herbal medicine: A Review. *Journal of Evidence of Complementary Alternative Medicine* 2(4):475-479. # Citations = 333; IF = 2.535; Q1: Integrated & Complementary Sciences = 2/12.

23. Ljubuncic, P., Portnoy, I., Cogan, U., **Azaizeh, H.**, and Bomzon, A. 2005. Antioxidant activity of *Crataegus aronia* aqueous extract used in traditional Arab medicine in Israel. *Journal of Ethnopharmacology* 101:153-161. # Citations = 185; IF= 1.554; Q2: Plant Sciences = 47/144; Chemistry, Medicinal = 19/34.

24. **Azaizeh, H.**, Ljubuncic, P., Portnaya, I., Said, O., Cogan, U., and Bomzon, A. 2005. Fertilization-induced changes in growth parameters and antioxidant activity of medicinal plants used in traditional Arab medicine. *Journal of Evidence of Complementary Alternative Medicine* 2(4):549-556. # Citations = 44; IF= 2.535; Q1: Integrated & Complementary Sciences = 2/12.

25. Ljubuncic, P., **Azaizeh, H.**, Portnaya, I., Cogan, U., Said, O., Abu Saleh K., and Bomzon, A. 2005. Antioxidant activity and cytotoxicity of eight plants used in traditional Arab medicine in Israel. *Journal of Ethnopharmacology* 99:43-47. # Citations = 157; IF= 1.554; Q2: Plant Sciences = 47/144; Chemistry, Medicinal = 19/34.

26. Ljubuncic, P., Song, H, Cogan, U, **Azaizeh, H.**, and Bomzon, A. 2005. The effects of aqueous extracts prepared from the leaves of *Pistacia lentiscus* in experimental liver disease. *Journal of Ethnopharmacology* 100:198-204. Citations = 122; IF= 1.554; Q2: Plant Sciences = 47/144; Chemistry, Medicinal = 19/34.

27. Saad, B., **Azaizeh, H.**, Abu Hijleh, G, and Said, O. 2006. Safety of traditional Arab herbal medicine. *Journal of Evidence of Complementary Alternative Medicine* 3:433-439. # Citations =449; IF= 2.535; Q1: Integrated & Complementary Sciences = 2/12.

28. Saad, B., Dakwar, S., Said, O., Abu-Hijleh, G., Al Battah, F., Kmeel, A., and **Aziازه, H.** 2006. Evaluation of medicinal plant hepatotoxicity in co-cultures of hepatocytes and monocytes. *Journal of Evidence of Complementary Alternative*

Medicine 3(1):93-98. # Citations = 58; IF= 2.535; Q1: Integrated & Complementary Sciences = 2/12.

29. **Azaizeh, H.**, Saad, B., Khalil, K., and Said, O. 2006. The state of the art of traditional Arab herbal medicine in the Eastern region of the Mediterranean: A Review. Journal of Evidence of Complementary Alternative Medicine 3(2):229-235. # Citations = 178; IF= 2.535; Q1: Integrated & Complementary Sciences = 2/12.

30. Ljubuncic, P., Dakwar, S., Portnaya, I., Cogan, U., **Azaizeh, H.**, and Bomzon, A. 2006. Aqueous extracts of *Teucrium polium* possess remarkable antioxidant activity *in vitro*. Journal of Evidence of Complementary Alternative Medicine 3:329-338. # Citations = 162; IF= 2.535; Q1: Integrated & Complementary Sciences = 2/12.

31. Ljubuncic, P., **Azaizeh, H.**, Cogan, U., and Bomzon, A. 2006. The effects of a decoction prepared from the leaves and unripe fruits of *Crataegus aronia* in streptozotocin-induced diabetic rats. Journal of Complementary and Integrative Medicine 3(1). 553-3840, DOI: 10.2202/1553-3840.1027. # Citations = 172; IF= 2.535; Q1: Integrated & Complementary Sciences = 2/12.

32. **Azaizeh H.**, Salhani, N., Sebesvari Z., Shardendu S., and Emons, H. 2006. Phytoremediation of selenium using subsurface-flow constructed wetland. International Journal of Phytoremediation 8 (3):187-198. # Citations = 27; IF= 1.016; Q3: Environmental Sciences = 76/144.

33. **Azaizeh, H.**, Kobaisy, M., Dakwar, S., Saad, B., Shaqir, I., and Said, O. 2007. Botanical pesticides as a source of safe bio-Acaricides for the control of *Tetranychus cinnabarinus* mites. Fitoterapia. Acta Phytopathologica et Entomologica Hungarica 42:143-152. # Citations = 10; IF= 1.106; Q3: Chemistry, Medicinal = 28/41; Q4: Pharmacology, Pharmacy = 159/205.

34. **Azaizeh, H.**, Saad, B., Cooper, E., and Said, O. 2007. Traditional Arabic and Islamic Medicine (TAIM) now join TCM CAM, Kampo and Ayurveda. Journal of

Evidence-based Complementary and Alternative Medicine 5(3):329-338. # Citations = 11; IF= 2.535; Q1: Integrated & Complementary Sciences = 2/12.

35. Schröder, P., Navarro-Aviñó, J., **Azaizeh, H.**, Golan Goldhirsh, A., DiGregorio, S., Komives, T., Langergraber, G., Lenz, A., Maestri, E., Memon, A.R., Ranalli, A., Sebastiani, L., Smrcek, S., Vanek, T., Vuilleumier, S., and Wissing, F. 2007. Using phytoremediation technologies to upgrade wastewater treatment in Europe. Environmental Science and Pollution Research 14 (7): 490-497. # Citations = 178; IF= 3.894; Q1= Environmental Sciences = 10/160.

36. Said, O., Fulder, S., Khalil, K., **Azaizeh, H.**, Kassis, E., and Saad, B. 2008. Maintaining a physiological blood glucose level with 'glucoselevel', a combination of four anti-diabetes plants used in the traditional Arab herbal medicine. Journal of Evidence of Complementary Alternative Medicine 5:421-428. # Citations = 160; IF= 1.954; Q2: Integrated & Complementary Sciences = 5/14.

37. **Azaizeh, H.**, Saad, B., Cooper, E., and Said, O. 2010. Traditional Arabic and Islamic Medicine (TAIM), a re-emerging health aid. A mini Review. Journal of evidence of Complementary Alternative Medicine 7:419-426. # Citations = 208; IF= 2.964. Q1: Integrated & Complementary Sciences = 2/21.

38. **Azaizeh, H.**, and Jadoun, J. 2010. Codigestion of olive mill wastewater and swine manure using UASB bioreactors for biogas production. Journal of Water Resource and protection 2(4):314-321. # Citations = 22; IF= 2.201; Q1: Engineering, CML = 8/115; Q1: Water Resources = 6/76.

39. Landau, S., **Azaizeh, H.**, Muklada, H., Glasser, E., Ungar, D., Baram, H., Abbas, N., and Markovics, A. 2010. Anthelmintic activity of *Pistacia lentiscus* foliage in two Middle Eastern breeds of goats differing in their propensity to consume tannin-rich browse. Veterinary Parasitology 173:280-286. # Citations = 69; IF= 2.331; Q1: Veterinary Sciences= 9/145; Q2: Parasitology = 9/32.

40. Singh, B.R., Gupta, S.K., **Azaizeh, H.**, Shilev, S., Sudre, D., Song, W.Y., Martinoia, E., and Mench, M. 2011. Safety of food crops on land contaminated with trace elements. *Journal of the Science of Food and Agriculture* 91:1349-66. # **Citations = 93; IF= 1.436; Q1: Agriculture, Multidisciplinary = 10/57; Q2: Chemistry, Applied = 29/71.**

41. Tafesh, A., Najami, N., Jadoun, J., Halahleh, F., Riepl, H., and **Azaizeh, H.** 2011. Synergistic Antibacterial Effects of Polyphenolic Compounds from Olive Mill Wastewater. *Journal of evidence of Complementary Alternative Medicine*. doi:10.1155/2011/431021. # **Citations = 114; Q2: Integrated & Complementary Science = 10/26; IF= 4.774; Q1: Integrated & Complementary Sciences = 1/22.**

42. Brunner, D., Riepel, H., Faulstich, H., **Azaizeh, H.**, and Tafesh, A. 2011. Enrichment of bioactive phenolic compounds from aqueous solution by foam separation. *Planta Medica* 77 (12):PG69. # **Citations = 1; IF= 2.153; Q2: Plant Science = 56/190; Q2: Pharmacology and Pharmacy = 130/261; Q3: Chemistry, Medicinal = 31/59.**

43. Markovics, A., Cohen, I., Muklada, H., Glasser, T.A., Dvash, L., Ungar, E.D., **Azaizeh, H.**, and Landau, S.Y. 2012. Consumption of *Pistacia lentiscus* foliage alleviates coccidiosis in young goats. *Veterinary Parasitology* 186:165-169. # **Citations = 29; IF= 2.361; Q1: Veterinary Sciences = 7/143; Q2: Parasitology = 13/35.**

44. **Azaizeh, H.**, Halahleh, F., Najami, N., Brunner, D., Faulstich, M., and Tafesh, A. 2012. Antioxidant activity of phenolic fractions in olive mill wastewater. *Food Chemistry* 134:2226-2234. [dx.doi.org/10.1016/j.foodchem.2012.04.035](https://doi.org/10.1016/j.foodchem.2012.04.035). # **Citations = 71; IF= 3.334; Q1: Chemistry, Applied = 9/71; Q1: Agricultural Sciences 2/327.**

45. **Azaizeh, H.**, Gerchman, Y., Linden, K., Barstow, C., Kalbouneh, S., Tellawi, A., and Albalawneh, A. 2013. Constructed wetlands and UV systems for removal of enteric pathogens and wastewater contaminants. *Water Science and Technology*

67(3):651-657. # Citations = 18; IF= 1.102; Q3: Engineering Environmental = 31/42; Q3: Environmental Sciences = 149/210; Q3: Water Resources = 44/80.

46. **Azaizeh, H.**, Halahleh, F., Abbas, N., Muklada, H., Markovics, A., Ungar, D., and Landau, S. 2013. Polyphenols from *Pistacia lentiscus* and *Phillyrea latifolia* impair the exsheathment of gastro-intestinal nematode larvae. Veterinary Parasitology 191:44-50. <http://dx.doi.org/10.1016/j.vetpar.2012.08.016> . # Citations = 66, IF= 2.545; Q1: Veterinary Sciences= 5/132; Q2: Parasitology = 10/37.

47. Di Gregorio, S., **Azaizeh, H.**, and Lorenzi, R. 2013. Biostimulation of the autochthonous microbial community for the depletion of polychlorinated biphenyls (PCBs) in contaminated sediments. Environmental Science and Pollution Research 20: 3989–3999. www.ncbi.nlm.nih.gov/pubmed/23208754. # Citations = 22; IF= 2.757; Q2= Environmental Sciences = 55/216.

48. Firlbeck, D., Faulstich, M., Urmann, C., **Azaizeh, H.**, Tafesh, A., and Riepl, H. 2013. Central composite design for optimal technology of concentrated vanillic acid using foam fractionation. Separation and purification Technology 119:28-34. # Citations = 8; IF= 3.065; Q1: Engineering, Chemical = 13/133; Q1: Chemistry = 94/506.

49. Abu Tayeh, H., Najami, N., Dosoretz, C.G., Tafesh, A., and **Azaizeh, H.** 2014. Potential of bioethanol production from olive mill solid wastes. Journal Bioresource Technology 152:24-30. <http://dx.doi.org/10.1016/j.biortech.2013.10.102>. # Citations = 65; IF= 4.494. Q1: Agricultural Engineering = 1/12; Q1: Biotechnology and Applied Microbiology = 20/163; Q1: Energy and Fuels = 13/89.

50. Landau, S.Y., Muklada, H., Abu-Rabia, A., Kaadan, S., and **Azaizeh, H.** 2014. Traditional Arab ethno-veterinary practices in small ruminant breeding in Israel. Small Ruminant Research 119:161–171. # Citations = 11; IF= 1.125; Q1: Plant & Animal Science = 112/754; Q2: Agriculture, Dairy and Animal Science: 19/57.

51. Di Gregorio, S., Gentini A., Siracusa G., Becarell S., **Azaizeh, H.**, and Lorenzi, R. 2014. "Phytomediated Biostimulation of the Autochthonous Bacterial Community for

the Acceleration of the Depletion of Polycyclic Aromatic Hydrocarbons in Contaminated Sediments. *BioMedical Research International*, vol. 2014, Article ID 891630, 11 pages. doi:10.1155/2014/891630. # Citations = 10; IF=2.53. (Open access).

52. Glazer, I., Salame, L., Dvash, L., Muklada, H., **Azaizeh, H.**, Mreny, R., Markovics, A., and Landau, S-Y. 2015. Effects of Tannin-Rich Host Plants on the Infection and Establishment of the Entomopathogenic Nematode *Heterorhabditis bacteriophora*. *Journal of Invertebrate Pathology* 128, 31-36. # Citations = 11; IF= 2.198; Q1: **Zoology = 18/161; Q1: Plant & Animal Science = 96/774.**

53. Litaor, M.I., Meir-Dinar N., Castro, B., **Azaizeh, H.**, Rytwo, G., Levi, N., Levi, M., and MarChaim, U. 2015. Treatment of winery wastewater with aerated cells mobile system. *Environmental Nanotechnology, Monitoring & Management* 4:17-26. # Citations = 20; IF= 1.657; Q1: **Environment/Ecology = 57/338; Q2: Environmental Sciences = 110/225.**

54. **Azaizeh, H.**, Kurzbaum, E., Said, O., Jaradat, H., and Menashe, O. 2015. The potential of autochthonous microbial culture encapsulation in a confined environment for phenols biodegradation. *Environmental Science and Pollution Research* 22(19): 15179-1587. <http://link.springer.com/article/10.1007/s11356-015-4981-x>. # Citations = 9; IF= 2.76; Q2= **Environmental Sciences = 65/225.**

55. **Azaizeh, H.**, Mreny, R., Markovics, A., Muklada, H., Glazer, I., and Landau, S. Y. 2015. Seasonal variation in the effects of Mediterranean plant extracts on the exsheathment kinetics of goat gastro-intestinal nematode larvae. *Small Ruminant Research* 131:130-135. # Citations = 5; IF= 1.083. Q1: **Plant & Animal Science = 116/774; Q2: Agriculture, Dairy and Animal Science: 20/58.**

56. Abu Tayeh, H., Levy-Shalev, O., **Azaizeh, H.**, and Dosoretz, C.G. 2016. Subcritical hydrothermal pretreatment of olive mill solid waste for biofuel production. *Journal Bioresource Technology* 199:164-172. # Citations = 14; IF= 5.651. Q1: **Agricultural Engineering = 1/14; Q1: Biotechnology and Applied Microbiology = 14/160; Q1: Energy and Fuels = 7/81.**

57. Edelstein, M., Berstein, D., Shenker, M., **Azaizeh, H.**, and Ben-Hur, H. 2016. Effects of selenium on growth parameters of tomato and basil under fertigation management. *Journal of American Society Horticultural Sciences* 51 (8):1050-1056. # **Citations = 1; IF= 1.125; Q1: Agricultural Science = 60/337; Q2: Horticulture = 11/36.**

58. Jadoun, J., Yazbak, A., Rushrush, S., Rudy A., and **Hassan Azaizeh**. 2016. Identification of a new antibacterial sulfur compound from *Raphanus sativus* seeds". *Journal of Evidence-Based Complementary and Alternative Medicine*. doi:10.1155/2016/9271285. <http://www.hindawi.com/journals/ecam/2016/9271285>. # **Citations = 5; IF= 1.74. Q1: Clinical Medicine = 224/2029; Q2: Integrated & Complementary Science = 10/26. <https://doi.org/10.1155/2016/9271285> (doi: 10.1155/2016/9271285)**

59. Santhi, V.S., Salame, L., Dvash, L., Muklada, H., **Azaizeh, H.**, Mreny, R. Awwad, S., Markovics, A., Landau, S-Y., and Glazer, I. 2017. Ethanolic Extracts of *Inula viscosa*, *Salix alba* and *Quercus calliprinos*, Negatively Affect the Development of the Entomopathogenic Nematode, *Heterorhabditis bacteriophora* - a model to compare GINs developmental effect. *Journal of Invertebrate Pathology* 145:39-44. <http://dx.doi.org/10.1016/j.jip.2017.03.005>. # **Citations = 3; IF= 2.379; Q1: Zoology = 19/163; Q1: Plant & Animal Science = 101/773.**

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61. Jamous, R. M., Ali-Shtayeh, M.S., Abu-Zaitoun, S.Y., Markovics, A., and **Azaizeh, H.** 2017. Effects of selected Palestinian plants on the in vitro exsheathment of the third stage larvae of gastrointestinal nematodes. *BMC Veterinary Research* 13:308 DOI: 10.1186/s12917-017-1237-7. # **Citations = 6; IF= 2.798; Q1: Veterinary Sciences = 5/136; Q1: Plant and Animal Science = 128/773.**

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1. Neumann, G., **Azaizeh, H.**, and Marschner, H. 1995. Effects of seed-dressing with vitamin B1 on germination, early growth and on rhizosphere microbes of bean (*Phaseolus vulgaris L.*) seedlings. In: Mikroökologische Prozesse in System Pflanze-Boden, Merbach, W. ed., pp: 38-41. B. G. Teubner Verlagsgesellschaft, Stuttgart, Leipzig. (in German/Deutsch).
2. **Azaizeh, H.** 2008. Biomethylation and biotransformation of selenium using rhizosphere microorganisms. Phytoremediation: The Green Salvation of the World, 2008: 1-24. ISBN: 978-81-308-0269-5 Editor: Navarro-Aviñó, J.P. # Citations = 290;
3. Saad, B., **Azaizeh, H.**, and Said, O. 2008. Arab Herbal Medicine. In: *Botanical Medicine in Clinical Practice* 4. Edited by Ronald, R. Watson & Victor R. Preedy: pp. 31-39. # Citations = 51;
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10. **Azaizeh, H.**, Abu Tayeh, H., Gerchman, Y. 2020. Valorization of olive oil industry solid waste and production of ethanol and high value-added biomolecules. Chapter 2 in: Biovalorisation of Wastes to Renewable Chemicals and Biofuels, pp:27-40. Elsevier Press. <https://doi.org/10.1016/B978-0-12-817951-2.00002-X>. # Citations = 1.
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12. Hiba N. Abu Tayeh, Manal Haj-Zaroubi, **Hassan Azaizeh**. 2023. Valorization of Food Waste via Fermentation: Ethanol and Biogas Production from Agriculture Food waste. Book Chapter, Food Waste valorization. Microbial Bioprocessing of Agri-Food Wastes. Edited By Gustavo Molina, Zeba Usmani, Minaxi Sharma, Rachid Benhida, Ramesh Chander Kuhad, Vipin Chandra Kalia, Franciele Pelissari, Vijai Kumar Gupta. <https://www.taylorfrancis.com/chapters/edit/10.1201/9781003128977-6/valorization-food-waste-via-fermentation-ethanol-biogas-production-agriculture-food-waste-hiba-abu-tayeh-manal-haj-zaroubi-hassan-azaizeh>.

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13. Hiba N. Abu Tayeh, Yoram Gerchman, **Hassan Azaizeh**. 2024. Microwave-assisted technologies for microalgae biomass valorisation. Chapter 7. In: Sustainable Radiation Technologies in Waste-biomass Valorization. Greener Energy and High-Value Product Generation. Edited by: Pradeep Verma and Bikash Kuma. pages 159-182. <https://link.springer.com/book/10.1007/978-3-031-63941-8>.

[Sustainable Radiation Technologies in Waste-biomass Valorization: Greener ... - Pradeep Verma - Google Books](#)

Books

1. Muklada, H., **Azaizeh, H.**, Abu-Rabia, A., Kaadan, S., Landau, S.Y. 2013. Veterinary uses of Israel plants. H. Muklada Ed., pp. 52. Agricultural Research Organization and the Galilee Society Publication (Shefa-Amr, Israel). (In Hebrew).

Articles in Refereed Conference Proceedings

1. **Azaizeh, H.**, and Jadoun, J. 2007. Codigestion of olive mill wastewater and swine manure using UASB bioreactors for biogas production. Proceeding of the international conference BBK, Hohenheim University, Stuttgart, Germany, Sept 19 – 21, 2007: 267-271.

2. Landau, S.Y., **Azaizeh, H.**, Muklada, H., Glasser, T., Ungar, E.D., Baram, H., Abbas, N., and Marcovics, A. 2010. Browsing in Mediterranean brush-land and Gastro-intestinal nematode infection in goats. Proceeding 18th Meeting Israeli Association for Range Science, 30-31 March 2009, Ramat Hanadiv (Israel).

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4. **Azaizeh, H. 2016.** Seasonal variation in the effects of Mediterranean polyphenol extracts on the exsheathment kinetics of goat gastro-intestinal nematode larvae. Journal of International Society of Antioxidants 2016.

Registered Patents:

US Patent Application

Anti-apicomplexan compositions

Inventor(s): AZAIZEH, Hassan et al.

Assignee(s): THE STATE OF ISRAEL, MINISTRY OF AGRICULTURE & RURAL DEVELOPMENT, AGRICULTURAL RESEARCH ORGANIZATION (ARO) (VOLCANI CENTER) and THE NATIONAL SOCIETY FOR HEALTH RESEARCH & SERVICES (R.A.)

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Published Abstracts

1. **Azaizeh, H., Stejnberg, A., and Chet, I. 1981.** Possible mechanisms of resistance of various horticultural crops to *Dematophora necatrix*. *Phytoparasitica* 9(3): 241.
2. **Azaizeh, H., and Pettit, R.E. 1986.** Screening peanut genotypes (*Arachis hypogaea L.*) for resistance to *Aspergillus flavus* group of fungi and aflatoxin production. *Phytopathology*.
3. **Azaizeh, H., and Pettit, R.E. 1987.** Screening peanut genotypes (*Arachis hypogaea L.*) for resistance to *Aspergillus flavus* and *A. parasiticus* and aflatoxin contamination. *Phytopathology*.
4. **Azaizeh, H., and Neumann, P.M. 1989.** Cell wall yield thresholds and short-term growth responses of corn seedling roots to osmotic stress are influenced by salinity and calcium. *Can. J. of Botany*.
5. Neumann, P.M., **Azaizeh, H.,** and Zidan, I. 1991 Biophysical mechanisms involved

in the inhibition of root growth by salinity. *Isr. J. of Botany* 40: 262.

6. Neumann, G., **Azaizeh, H.**, and Marschner, H. 1994. Effects of seed-dressing with vitamin B1 on germination, early growth and on rhizosphere microbes of bean (*Phaseolus vulgaris L.*) seedlings. *Oekophysiologie Des Wurzelraumes*, Borkheide, Muencheberg, F. R. Germany (in German).

7. **Azaizeh, H.**, Gindin, G., and Barash, I. 2001. Biological control of the western flower thrips *Frankliniella occidentalis* using the entomopathogenic fungi *Metarhizium anisopliae* and *M. flavoviride*. *Phytoparasitica* 29:67.

8. **Azaizeh, H.**, Said, O., and Saad, B. 2003. The potential of local medicinal herbs used in Arabic medicinal plants to treat skin, liver and cancer diseases. 3rd Symposium on Natural Drugs. October 2003, Naples, Italy.

9. Saad, B., Dakuar, S., **Azaizeh, H.** and Abu-Hijleh, G. 2003. Development of new 3D test system for the evaluation of biosafety and effects of medicinal plants. 3rd Symposium on Natural Drugs. October 2003, Naples, Italy.

10. **Azaizeh, H.**, and Jadoun, J. 2006. Biogas Production from Anaerobic Codigestion of Agricultural Wastes. EMWater conference, October 2006, Jordan, Amman.

11. **Azaizeh, H.** 2007. Practical approaches to increase selenium as essential metalloid in human diet. Cost meeting, Sdeh Boker, Ben Gurion University, Israel 23 - 25/10, 2007.

12. **Azaizeh, H.**, Salhani, N., Sebesvari, Z., Shardendu, S., and Emons, E. 2007. Phytoremediation of Selenium Using Constructed Wetlands. 2007. COST meeting, Vilnius, Lithuania.

13. **Azaizeh, H.**, and Jadoun, J. 2007. Codigestion of olive mill wastewater and swine manure using UASB bioreactors for biogas production. Biogas and Bioenergy production. International conference, Hohenheim University, Stuttgart, Germany.

14. **Azaizeh, H.**, and Jadoun, J. 2007. Composting and Codigestion of olive mill wastewater and swine manure using UASB bioreactors for compost and biogas production. Biogas and Bioenergy production. Environmental conference, Volcani Center, Israel.

15. Said, O., Khalil, K., Fulder, S., **Azaizeh, H.**, Kassis, E., and Saad, B. Anti obesity effect of "Reductan", a combination of *Alchemilla vulgaris*, *Olea europaea*, *Mentha arvensis*, and *Cuminum cyminum* L, highly recommended in Arab herbal medicine. The First Regional Scientific Conference on Traditional Arabic and Islamic Medicine, Amman, Jordan.

16. Said, O., Khalil, K., Fulder, S., **Azaizeh, H.**, Kassis, E., and Saad, B. 2007. "Stimu-Fem" is a proprietary combination of *Ferula assa-foetida* L. and *Capparis spinosa* L. to enhance fertility and sexual functioning in women. The First Regional Scientific Conference on Traditional Arabic and Islamic Medicine, Amman, Jordan.

17. Said, O., Khalil, K., Fulder, S., **Azaizeh, H.**, Kassis, E., and Saad, B. 2007. Efficacy, safety and tolerability of "Strol-Down": A proprietary combination of loquat and olive leaves in maintaining a healthy fat level in the blood. The First Regional Scientific Conference on Traditional Arabic and Islamic Medicine, Amman, Jordan.

18. Saad, B., Soudah- Abo Atta, B., Kmeel, A., **Azaizeh, H.**, and Said, O. 2007. The anti-psoriatic effects of *Hypericum triquetrifolium* and *Peganum harmale* derived factors are mediated by Inflammatory and anti-inflammatory cytokines, The First Regional Scientific Conference on Traditional Arabic and Islamic Medicine, Amman, Jordan.

19. Said, O., Khalil, K., Fulder, S., **Azaizeh, H.**, Kassis, E., and Saad, B. 2007. Maintaining a physiological blood glucose level with the help of "Glucoselevel", a combination of four anti-diabetes plants used in the traditional Arab herbal medicine.

The First Regional Scientific Conference on Traditional Arabic and Islamic Medicine, Amman, Jordan.

20. Said, O., Saad, B., Fulder, S., **Azaizeh, H.**, Khalil, K., and Kassis, E. 2007. "Stimu-Nat" is a proprietary extract of Ferula Assa-foetida L. to enhance male fertility and sexual functioning in animals and man. The First Regional Scientific Conference on Traditional Arabic and Islamic Medicine, Amman, Jordan.

K. Miscellaneous

Membership in professional organizations and duties

2004 - 2009 COST Action 0859, active member.

2010 - 2014 Israel delegate in the Management Committee (MC) for COST Action FA0905, MC member.

2014 - 2017 Israel delegate in the MC for COST Action CA1203, MC member.

2017 - 2021 Israel delegate in the MC for COST Action CA16230, MC member.

2022- Israel delegate in the MC for COST Action CA21146, MC member.

Organization of international conferences and workshops

August 2007 The First Conference on the Revival of Traditional Islamic Arabic Medicine, Amman, Jordan

November 2008 BSF Workshop: Ensuring the Sustainable Reuse of Wastewater for Agricultural Irrigation in Semi-Arid/Arid Regions, University of Haifa, Israel.

Organization of local sessions in conferences

April 2012 Two sessions on environmental science aspects: Wastewater Treatment and River Rehabilitation, for The Galilee Research Center, Tel Hai Academic College, Israel

April 2013 Two sessions on environmental science aspects: Management of Water at Lake Kinneret and Ecosystem in the Hula Region, for The Galilee Research Center, Tel Hai Academic College, Israel

Organization of national conferences and workshops

March 2014 Water Conference of Tel Hai. Tel Hai Academic College, Israel

March 2015 Water Conference of Tel Hai. Tel Hai Academic College, Israel

April 2016 Water Conference of Tel Hai. Tel Hai Academic College, Israel

October 2016 Conference on Science. R&D Galilee Society, (The Galilee Society Regional Research & Development Center, Shefa-Amr) Israel

April 2017 Water Conference of Tel Hai. Tel Hai Academic College, Israel

October 2017 Conference on Science. R&D Galilee Society, (The Galilee Society Regional Research & Development Center, Shefa-Amr), Israel

November 2017 Workshop on Nitrogen Transformations: Applications and Challenges. R&D Galilee Society, (The Galilee Society Regional Research & Development Center, Shefa-Amr), Israel

May 2018 Water Conference of Tel Hai. Tel Hai Academic College, Israel

November 2018 Conference on Science. R&D Galilee Society, (The Galilee Society Regional Research & Development Center, Shefa-Amr), Israel

May 2020 Water Conference of Tel Hai. Tel Hai Academic College, Israel

June 2021 Water Conference of Tel Hai. Tel Hai Academic College, Israel.

June 2022 Water Conference of Tel Hai. Tel Hai Academic College, Israel

May 2023 The 10th Water Conference of Tel Hai. Tel Hai College, Israel

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<https://www.scopus.com/authid/detail.uri?authorId=9742579000>

מאמר של הוועדה האקולוגית 2022

מחקר: טיהור מזהמים רעילים בניחוח תמר ישראלי

במחקר ישראלי חדש נמצא שימוש בלתי-שגרתי בכפות התמרים, שנערמות כפסולת חקלאית לאחר קטיפת הפרי הטעים: ניקוי מתכות רעילות

<https://www.ynet.co.il/environment-science/article/hjkkdih5q>