

CURRICULUM VITAE and LIST OF PUBLICATIONS

Date: 31.10.11

Personal Details

Name	Avi Golan (Goldhirsh)
Date and place of birth	December 4, 1948, Germany
Date of immigration	1949
Marital status	Married +3
Regular military service	1966 - 1969
Address and telephone at work:	Albert Katz Department of Dryland Biotechnologies, The Jacob Blaustein Institutes for Desert Research, Ben-Gurion University of the Negev, Midreshet Ben- Gurion 84990, Israel Tel: 972-7-6596753 Fax: 972-7-6596742 E-mail: avigolan@bgu.ac.il
Address and telephone at home:	Midreshet Ben-Gurion, P.O.B 32, 84990, Israel Tel: 972-7-6555008

Education

B.Sc. 1969-1973: The Hebrew University of Jerusalem, Israel, Faculty of Agriculture
Teaching Diploma
1971-1973: The Hebrew University of Jerusalem, Israel, Faculty of Agriculture
M.Sc. 1973-1975: The Hebrew University of Jerusalem, Israel. Agricultural Biochemistry.
Name of advisors: Dr. Varda Kahn and Dr. Arie Sadovski. Title of
thesis: Browning of Avocado Mesocarp: Comparison between the Fuerte
and Lerman Cultivars.
Ph.D. 1976-1979: The University of Alberta, Edmonton, Alberta, Canada, Department of
Food Science. Name of advisor: Prof. Fred H. Wolfe, Title of Ph.D.
thesis: Studies of the Proteins and Amino Acids in the Potato.

Employment History

2008	Full Professor
2005-2006	Sabbatical, visiting professor at GSF-National Research Center for Environment and Health, Institute of Soil Ecology, Neuherberg, Germany and Department of Organic Chemistry and Biochemistry, Technical University of Munich.
2000-2008	Associate Professor, Ben-Gurion University of the Negev, BIDR, Sede Boqer Campus, Israel.
1998-1999	Visiting scientist, on sabbatical leave at the USDA Beltsville, Maryland, USA
1991-2000	Senior Lecturer, Ben-Gurion University of the Negev, BIDR, Sede Boqer Campus, Israel.
1984-1991	Lecturer, Ben-Gurion University of the Negev, The Jacob Blaustein Institute for Desert Research (BIDR), Sede Boqer Campus, Israel.
1981-1984	Post-Doctorate Research Biochemist, Food Science and Technology, University of California, Davis, California, U.S.A.

- 1979-1981 Post-Doctorate Research Associate, Agronomy and Biochemistry, Purdue University, West Lafayette, Indiana, U.S.A.
- 1977-1979 Teaching Assistant at the University of Alberta. The Food Science Department, Edmonton, Alberta, Canada.
- 1972-1975 Teaching assistant at the Hebrew University of Jerusalem. The Faculty of Agriculture, Rehovot.

Professional Activities

(a) Position in academic administration

- 2010-present Israeli representative to COST action 0905 on 'Mineral Improved Crop Production for Healthy Food and Feed and co-ordinator of WG3 'Plant product processing'.
- 2007 Organizer of an international workshop on 'Nutrient biofortification and exclusion of pollutants in food plants' under COST859 action of the EU
- 2006-2010 Member of the graduate students committee of The Kreitman School of Advanced Graduate Studies
- 2001-2005 Head, Albert Katz Department of Dryland Biotechnologies
- 2004-2009 Israeli representative to COST action 859 on 'Phytotechnologies to promote sustainable land use and improve food safety' and co-ordinator of WG1 'Plant uptake/exclusion and translocation of nutrients and contaminants'.
- 2001-2004 Member of the rector appointed committee on research equipment
- 2000-2004 Chairman the general equipment Committee, BIDR
- 1995 Organizer of the Fourth International MASHAV course on 'Desert Agrobiology'
- 1986-1990 Member of the rector appointed committee for the establishment of a teaching program in biotechnology at BGU
- 1984-1987 Member of the committee for visitors and foreign students of BIDR, Sede Boqer Campus, Israel.

(b) Professional functions outside universities/institutions

- 1990-1997 Advisor to the Harmony Foundation of Canada, non-profit organization for education on nature preservation.

(c) Professional consulting

- 2004-2009 Phytoremediation at 'Ketura Valley Constructed Wetlands'
- 1982-1984 Calavo growers of California - prevention of enzymatic browning

(d) Memberships in professional/scientific societies

- 1980-2000 The Institute of Food Technologists (IFT)
- 1982-Current Sigma Xi
- 1988-2008 The American Society of Plant Biologists
- 1990-Current International Society for Horticultural Sciences

(e) Review of manuscripts/ research proposals

Reviewed papers for: Journal of Agricultural and Food Chemistry, Life Science, Chemosphere, Phytochemistry, Environmental Pollution, Plant Physiology and Biochemistry, Environmental

and Experimental Botany

Reviewer of proposals for: United States-Israel Binational Science Foundation (BSF), Binational Agricultural Research and Development (BARD), The Israel Science Foundation (ISF), German-Israel Foundation (GIF), Israel Cancer Association

Educational Activities

(a) Courses taught at BGU

- Biotechnology, Proteins and Enzymes, graduate and undergraduate, Life Sciences Department, 1985-Current
- Instructed reading, undergraduate, Life Sciences Department, since 1985 (upon student application)
- Research projects, undergraduate, Life Sciences Department, since 1985 (upon student application)
- Biological Seminar coordinator, graduate, BIDR
- Participated in preparation and teaching of a new course: Introduction to molecular biology of plants, undergraduate, Life Sciences Department, 1996-1998
- Desert plants biotechnology for production of biologically active compounds, graduate, BIDR, 2000-Current
- Basic Biochemistry, undergraduate, Nuclear Engineering Department, since 1999, alternate years
- Biotechnology in Plant Development and Food Protein Production. International Course (MASHAV) on 'Desert Agrobiological', BIDR, since 1991 (10 courses)

(b) Research students

Project students and trainees

- 1984-1985 Shaish Aviv. B.Sc. Project: Effect of salinity on chlorophyll content in peanuts.
- 1984-1985 Azem Abdussalam, BGU. B.Sc. Project: Proline concentration in peanuts during germination.
- 1984-1985 Falach Ofer. B.Sc. Project: Effect of salinity on nitrate reductase activity in barley seedlings. In cooperation with Prof. Y. Heimer.
- 1985 Engelhard Brigitte (Germany). Exchange student. B.Sc. credit project: Proline accumulation in peanuts grown in saline water.
- 1985 Tullemans Anna (Holland). Exchange student. B.Sc. credit project. Proline accumulation in peanuts under various osmotic stresses.
- 1986 Hoenig David (U.S.A.). Summer student project. Hydroxyproline content of plants of different phytogeographical regions.
- 1986 Samish Nurit (Israel). High school "Bagrut" Biology project. Is there a relationship between the phytogeographical origin and proline concentration in desert plants?
- 1987 Palacios Paul (Switzerland). Exchange student summer project. Proline metabolism in cell suspension culture of *N. tabacum* (xd cells).
- 1987 Cohen Ester (Israel). B.Sc. Summer Project: Electrophoretic Comparison of male and female pistachio leaf proteins.
- 1988-1989 Hankamer Ben (England). Research trainee. Hydroxylation of proline in cell wall extensin under osmotic stress.
- 1990-1991 Veeranuntawet Nipa (Thailand), Research assistant. The role of cell wall peroxidase in plant growth under saline conditions.

- 1993-1994 Metin Tuna (Turkey). Research trainee. Random amplified polymorphic DNA relationships among several Turkish ecotypes of *Dactylis glomerata*.
- 1993-1996 Khandka, Kumar Deepak (Nepal). Research trainee. Polymorphism and DNA markers for *Asparagus* cultivars identified by random amplified polymorphic DNA.
- 1995-1996 Matusova Radoslava (Slovakia). Research trainee. Characterization of a protease associated with bud dormancy break in *Pistacia vera*.
- 1995-1997 Shrestha Madan, K. (Nepal). Research trainee. Isolation and characterization of Jojoba meal proteins.
- 1996-1997 Hadas Vaknin (Israel). B.Sc. project: Characterization of a high molecular weight cytotoxic compound from *Gypsophila arabica*.
- 1996-1997 Yoav Stein (Israel). B.Sc. project: RAPD markers for polymorphism in the genus *Pistacia*.
- 1997 Sorana Fraier (Israel). Research associate. The effect of ascorbic acid and copper ions on proteins and their susceptibility to proteolysis.
- 1998 Raj Shakya Pawan (Nepal). Research trainee. Heavy metals hyperaccumulation by desert plants.
- 1999-2000 Azat Atayev (Turkmenistan). Research trainee. Polymorphism among *Pistacia vera* clones of Turkmenistan.
- 2000 Muhamet Nepesov (Turkmenistan). Research trainee. Effect of salinity on growth and development of *Pistacia vera* seedlings.
- 2004 Nury Atamuradov (Turkmenistan). Research trainee. Expression of dehydrins in various *Pistacia vera* genotypes

M.Sc., Ph.D., Postdoctoral students & Associates

- 1984-1986 Lehrer, Michael (Israel). M.Sc. student. The effect of nitrogen source and potassium on salt tolerance of wheat seedlings on plant development. In cooperation with Prof. H. Lips.
- 1992-1996 Shachak, Aviv (Israel). M.Sc. student. Characterization of a dormancy abundant protein from pistachio. In cooperation with Dr. O. Shoseyov (HUJ).
- 1994-1997 Peramachi Sathiyamoorthy (India). Post-Doctoral fellow. Screening, identification and isolation of biotechnologically useful proteins and bioproducts from desert plants.
- 1994-1996 Heftziba Evgi (Israel). Post-Doctoral fellow. Bioassay of medicinally useful compounds from desert plants. In cooperation with Prof. J. Gopas.
- 1996-2001 Khandka, Kumar Deepak (Nepal). Ph.D. student. Identification of sex related genes in *Mercurialis annua*. In cooperation with Dr. A. Nejidat and Prof. M. Tal.
- 1997-2001 Shrestha Madan, K. (Nepal). Ph.D. student. Genetic diversity of *Acacia* species of the Negev. In cooperation with Prof. D. Ward.
- 1995-2000 Irena Peri (Israel). Post-Doctoral fellow. Isolation and characterization of a dormancy-break related protease from *Pistacia vera* inflorescence buds.
- 1996-Pres. Vladimir Kostiuksky (Israel). Research Associate (new immigrant from the former USSR). Establishment of a Mediterranean *Pistacia* germplasm collection.
- 1997-1998 Hagar Greif (Israel). Post-Doctoral fellow. Effect of protease inhibitors on HCV-NS3 protease. In cooperation with Prof. R. Tur-Kaspa.
- 1997-1998 Wang Zhenshan (China). Post-Doctoral fellow. Identification of RAPD markers

- in the Mediterranean *Pistacia* germplasm collection.
- 1999-2002 Uttam Manandhar (Nepal). M.Sc. student. Heavy metal stress-tolerance in desert plants.
- 2000-2001 Gabriela Szalai (Hungary). Post-Doctoral fellow. Effect of Cd on phytochelatin synthesis in maize and desert plants.
- 2000-2003 Udhav Khadka (Nepal). M.Sc. student. Heavy metal stress-tolerance in *Allium*.
- 2000-2004 Oz Barazani (Israel). Post-Doctoral fellow. Stress response and conservation of desert plants.
- 2001 Maria Emília Lima-Costa (Portugal). Visiting scientist. Expression of dehydrin gene of *Citrus* cv. "Carvalhal" tangor cell line.
- 2001-2003 Shai Abutbul (Israel). M.Sc. student. Treatment of bacterial diseases of aquatic organisms by desert plants extracts. In cooperation with Dr. D. Zilberg.
- 2001-2003 Bakhtiyor Yakubov (Uzbekistan). Post-Doctoral fellow. Drought and heavy metals tolerance related genes.
- 2002-2005 Dmitry Postrellov (Israel). M.Sc. student. Polymorphism among ecotypes of *Artemisia arborescence*.
- 2003-2004 Surya Prakash (India). Post-Doctoral fellow. Screening for antimalarials in desert plants.
- 2003-2004 Metin Tuna (Turkey). Visiting scientist. Determination of ploidy level in *Pistacia* germplasm accessions by flow cytometry and polymorphism in the genus *Bromus*.
- 2005-2007 Nadav Eisner (Israel). M.Sc. student. Characterization of inhibitory activity of NFκB in cancer cell culture by *Nuphar lutea* compounds. In cooperation with Prof. J. Gopas.
- 2005-2009 Marcia Pimenta Leibowitz (Israel). Ph.D. Tetrahymenosis: route of infection and pathogenesis. In cooperation with Dr. D. Zilberg and Dr. R. Ofir.
- 2005-2007 Zhang Huifang (China). M.Sc. student. Phytoremediation of salt from soil by halophytes. In cooperation with Prof. N. Orlovsky.
- 2006-Curr. Janet Ozer (Israel). Ph.D. student. Mechanism of inhibition of NFκB in cancer cell culture by nupharidine derivatives. In cooperation with Prof. J. Gopas.
- 2007-2009 Zsolt Ponya (Hungary). Post-Doctoral fellow. The role of environmental stresses in evolution of dioecism in *Mercurialis annua*.
- 2007-2009 Lital Oser (Israel). M.Sc. student. Leishmania major: Effect of desert plant extracts and other plants on the parasite in culture. In cooperation with Prof. Yossef El-On.
- 2007-2009 Ezra M. Orlofsky (USA). M.Sc. student. Antioxidative activity of hermidin from *Mercurialis annua*. In cooperation with Dr. Micha Guy.
- 2008-2010 Artur Ghazaryan (Armenia). M.Sc. student. Anthocyanins in *Pistacia* leaf at early vegetation and senescence. In cooperation with Dr. Micha Guy.
- 2011-Curr. Hailemeleket Teklu Kidane (Ethiopia). M.Sc. student. Identification of chemical signals in a Dioecious *Mercurialis annua* L. under stress. In cooperation with Dr. Micha Guy.

Awards, Honors and Research Fellowships

(a) Awards and Honors

- 1978 The Graduate Student Award for the best graduate student paper presentation, The Twenty First Annual Canadian Institute of Food Science and Technology

Conference, Edmonton, Alberta, Canada.

- 1989 The Chaim Sheba Award for contribution to research on biochemical aspects of plant adaptation to arid conditions, Paula and David Ben Gurion Foundation

(b) Research Fellowship

- 1998 Research Fellowship, US Department of Agriculture, Beltsville, MD, USA.

Scientific Publications

- (a) Chapters in collective volumes - Conference proceedings, Festschrifte, etc.
1. Golan-Goldhirsh, A. 1987. Control of enzymatic browning in carob pods and other fruits and vegetables. In "Proceedings of the II International Carob Symposium". P. Fito and A. Mulet (eds.), pp. 395-405, Generalitat Valencia Conselleria d'Agricultura I Pesca. Valencia, Spain.
 2. Golan-Goldhirsh, A. 1989. The pistachio as a study case for crop trees in arid zones. In " Agricultura intensiva em zonas aridas e semi-aridas". Proceedings of a Luso-Israeli workshop held in Portugal, March 1988, pp. 69-74.
 3. Heimer, Y.M., Golan-Goldhirsh, A. and Lips, H.S. 1990. Tissue protein as indicator for the K⁺ nutritional status of plants. In "Development of K-Fertilizer Recommendations". Proceedings of the 22nd colloquium of the IPI held at Soligorsk/USSR, pp. 247-255, International Potash Institute, Worblaufen-Bern, Switzerland.
 4. Golan-Goldhirsh, A., Heimer, Y. M., Cohen, Z. and Lips, S.H. 1991. Pistachio nut production in the Negev. In "Advances in Desert Arid Land Technology and Development", Vol. 5, pp. 385-395, Harwood Academic Publishers, New York.
 5. Golan-Goldhirsh, A., Osuga, D.T., Chen, A.D. and Whitaker, J.R. 1992. Effect of ascorbic acid and copper on proteins. In "The Bioorganic Chemistry of Enzymatic Catalysis". pp. 61-76, Feder, J. and D' Souza, V. eds. CRC Press Inc. Boca Raton, Ann Arbor and London.
 6. Szalai, G., Janda, T., Golan-Goldhirsh, A. and Páldi, E. 2002. Effect of Cd treatment on phytochelatin synthesis in maize. Acta Biol. Szeged. 46(3-4), 121-122.
 7. Soudek, P., Tykva, R., Petřík, P., Vágner, M., Podracká, E. Golan-Goldhirsh, A. and Vaněk, T. 2002. Radiophytoremediation – potential method for clean-up of the environment. Proceedings of the First ASEM Conference on Bioremediation, Session 9: Phytoremediation, 8 pp. Ha Noi, Viet Nam.
 8. Tuna, M., Arumuganathan, A. and Golan-Goldhirsh, A. 2003. Ploidy determination of natural cocksfoot (*Dactylis glomerata* L.) populations of Thrace region of Turkey using flow cytometry. pp. 153-156, in "Optimal Forage Systems for Animal Production and the Environment", Eds., A. Kirilov, Todorov, N, and Katerov, I., Proceedings of the 12th Symposium of the European Grassland Federation, Pleven, Bulgaria.
 9. Golan-Goldhirsh, A. 2003. Desert Plants tolerance and hyper-accumulation of heavy metals. Pp. 38, in "Pyhytoremediation inventory COST action 837 view", Eds., Vanek, T. and Schwitzguebel, J.P., Published by UOCHB AVCR.
 10. Soudek, P., Tykva, R., Petrik, P., Vagner, M., Podracka, E., Golan-Goldhirsh, A. and Vanek, T. 2003. Radiophytoremediation of uranium decay range contaminated soil. Pp. 66, in "Pyhytoremediation inventory COST action 837 view", Eds., Vanek, T. and Schwitzguebel, J.P., Published by UOCHB AVCR.
 11. Tuna, M., Barazani, O., Vogel, K.P. and Golan-Goldhirsh, A. 2005. Random amplified

- polymorphic DNA analysis in section *Pnigma* of the genus *Bromus* L. pp. 265, in 'Molecular breeding for the genetic improvement of forage crops and turf', Ed., M.O. Humphreys, Proceedings of the 4th international symposium on the molecular breeding of forage and turf. Wageningen Academic Publishers, The Netherlands.
- 12 Gopas, J. Eisner, N. Elias, E. and Golan-Goldhirsh, A. 2005. Detection and characterization of natural products from desert plants: An experimental strategy. *Rev. Rom. Med.Vet.* 15: 47-64 (invited paper).
 - 13 Golan-Goldhirsh, A. 2006. Plant tolerance to heavy metals, a risk for food toxicity or a means for food fortification with essential metals: The *Allium schoenoprasum* model. Pp. 479-486, In 'Soil and Water Pollution Monitoring, Protection and Remediation', E.ds., Twardowska, Allen, H.E. and Häggblom, M.H. NATO Science Series, published by Springer, The Netherlands.
 - 14 Golan-Goldhirsh, A. 2006. Contributor to a chapter in the book, 'Global Deserts Outlook', pp. 49-72, Ed., E. Ecurra. The chapter 'Deserts and the Planet – Linkages between Deserts and Non-Deserts, Lead author: U. Safriel. United Nations Environment Programme, ISBN: 92-807-2722-2.
 - 15 Zurgil, E., Golan-Goldhirsh, A. 2008. Following pistachio footprints in Israel. In: Avanzato, D., Vassallo, I., eds., Following Pistachio Footprints (*Pistacia vera* L.) cultivation and culture, Folklore and history, tradition and uses. *Scripta Horticulturae* 7, pp. 50-53. Publication of ISHS.
- (b) Refereed articles
1. Golan-Goldhirsh, A., Sadovski, A. and Kahn, V. 1977. Evaluation of browning potential in Avocado mesocarp. *J. Food Sci.* 42: 853-855.
 2. Golan-Goldhirsh, A., Kahn, V. and Sadovski, A. 1977. Relationship between polyphenols and browning in avocado mesocarp. Comparison between the Fuerte and Lerman cultivars. *J. Agric. Food Chem.* 25: 1253-1260.
 3. Golan-Goldhirsh, A. and Jelen, P. 1979. Nutritional evaluation of low temperature alkaline extracts from beef bones. *J. Food Sci.* 44: 332-335.
 4. Golan-Goldhirsh, A. and Wolfe, F.H. 1979. Gas-chromatographic analysis of protein amino acid N-Heptafluorobutyl-isopropyl esters. *Can. Inst. Food Sci. Technol. J.* 12: 123-127.
 5. Golan-Goldhirsh, A. and Wolfe, F.H. 1979. Glass column connector for a gas chromatograph. *Anal. Chim. Acta.* 107: 399-400.
 6. Golan-Goldhirsh, A., Hogg, A.M. and Wolfe, F.H. 1982. Gas-chromatographic analysis of the free amino acid pool of the potato and gas-chromatography mass-spectrometry identification of gamma-Aminobutyric acid and Ornithine. *J. Agric. Food Chem.* 30: 320-323.
 7. Kahn, V., Golan-Goldhirsh, A. and Whitaker, J.R. 1983. Evidence against the involvement of superoxide ions in the hydroxylation of tyrosine by mushroom tyrosinase. *Phytochemistry* 22: 1875-1883.
 8. Golan-Goldhirsh, A. and Whitaker, J.R. 1984. Effect of ascorbic acid, sodium bisulfite, and thiol compounds on mushroom polyphenol oxidase. *J. Agric. Food Chem.* 32: 1003-1009.
 9. Golan-Goldhirsh, A., Whitaker, J.R. and Kahn, V. 1984. Relation between structure of polyphenol oxidases and prevention of browning. *Adv. Exp. Med. Biol.* 177: 437-456.
 10. Golan-Goldhirsh, A. and Whitaker, J.R. 1985. Kcat inactivation of mushroom

- polyphenol oxidase. *J. Mol. Catal.* **32**: 141-148.
11. Golan-Goldhirsh, A. 1986. Effect of the Add-back process on the free amino acid pool of potatoes. *Z. Lebensm. Unters. Forsch.* **182**: 29-32.
 12. Golan-Goldhirsh, A., Kahn, V. and Whitaker, J.R. 1987. Immunoglobulin (IgG) affinity chromatography of mushroom polyphenol oxidase. *Israel J. Bot.* **35**:203-214.
 13. Silberbush, M., Golan-Goldhirsh, A., Heimer, Y.M., Ben-Asher, J., and Lips, S.H. 1988. The effect of potassium nitrate concentration on peanuts grown in aeroponic saline solution. *J. Plant Physiol.* **132**:229-233.
 14. Golan-Goldhirsh, A., Samish, N., Agami, M. and Lips, S.H. 1989. The relationship between some perennial desert plants originated in different phylogeographical regions and proline concentration. *J. Arid Envir.* **17**:327-333.
 15. Golan-Goldhirsh, A., Hankamer, B. and Lips, H.S. 1990. Hydroxyproline and proline content of cell walls of sunflower, peanut and cotton grown under salt stress. *Plant Sci.* **69**:27-32.
 16. Golan-Goldhirsh, A., Heimer, Y.M. and Lips, S.H. 1990. Effect of potassium on growth and the electrophoretic pattern of leaf proteins of sunflower supplied with ammonium or nitrate. *J. Plant Nutr.* **13**:957-970.
 17. Heimer, Y.M., Golan-Goldhirsh, A. and Lips, H.S. 1990. An approach to molecular diagnosis of potassium in sunflower. *Plant Nutr. Physiol. Appl.* **41**:785-789.
 18. Golan-Goldhirsh, A., Schmidhalter, U., Muller, M. and Oertli, J.J. 1991. Germination of *Pistacia vera* L. pollen *in vitro* in liquid medium. *Sex. Plant Rep.* **4**:182-187.
 19. Golan-Goldhirsh, A., Mozafar, A. and Oertli, J.J. 1995. Effect of ascorbic acid on soybean seedlings grown on medium containing a high concentration of copper. *J. Plant Nutr.* **18**(9): 1735-1741.
 20. Golan-Goldhirsh, A. 1995. Proteins associated with reproductive male bud development in pistachio. *Acta Hort.* **419**: 19-25.
 21. Khandka, D.K., Nejidat, A. and Golan-Goldhirsh, A. 1996. Polymorphism and DNA markers for *Asparagus* cultivars identified by random amplified polymorphic DNA. *Euphytica* **87**(1): 39-44.
 22. Sathiyamoorthy, P., Lugasi-Evgi, H., Van Damme, P., Abu-Rabia, A., Gopas, J. and Golan-Goldhirsh, A. 1997. Larvicidal activity in desert plants of the Negev and Bedouin market plant products. *Int. J. Pharmacognosy*, **35**(4): 265-273.
 23. Sathiyamoorthy, P., Van Damme, P. Oven, M. and Golan-Goldhirsh, A. 1997. Heavy metals in medicinal and fodder plants of the Negev. *J. Environ. Sci. Health*, **32A**(8): 2111-2123.
 24. Khandka, D.K., Tuna, M., Tal, M., Nejidat, A. and Golan-Goldhirsh, A. 1997. Variability in the pattern of random amplified polymorphic DNA. *Electrophoresis*, **18**: 2852-2856.
 25. Golan-Goldhirsh, A. 1998. Seasonal changes in dehydrin-like proteins and proteases of *P. Vera* inflorescence bud. *Acta Hort.* **470**: 359-364.
 26. Golan-Goldhirsh, A. and Kostjukovsky, V. 1998. Mediterranean *Pistacia* genus germplasm collection at Sede Boqer Israel. *Acta Hort.* **470**: 131-137.
 27. Golan-Goldhirsh, A. and Shachak, A. 1998. Immunological cross-reaction between bud and bark proteins of dormant deciduous trees. *Scientia Horticulturae*, **73**: 167-173.
 28. Golan-Goldhirsh, A. 1998. Developmental proteins of *Pistacia vera* L. bark and bud and their biotechnological properties. *J. Food Biochem.* **22**: 375-382.
 29. Golan-Goldhirsh, A., Peri, I., Birk, Y. and Smirnoff, P. 1998. Inflorescence Bud

- Proteins of *Pistacia Vera*. *Trees Struct. and Func.* 12: 415-419.
30. Peri, I., Matusova, R., Smirnoff, P. Birk, Y. and Golan-Goldhirsh, A. 1999. Inflorescence bud protease(s) against dehydrin-like inflorescence bud proteins of *Pistacia vera*. *Plant Physiol. Biochem.*, 37(1), 51-56.
 31. Sathiyamoorthy, P., Lugasi-Evgi, H., Schlesinger, P., Gopas, J., Pollack, Y. and Golan-Goldhirsh, A. (1999). Screening for cytotoxic and antimalarial activities in desert plants of the Negev and Bedouin market plant products. *Pharmaceutical Biol.* 37(3), 188-195.
 32. Golan-Goldhirsh, A., Sathiyamoorthy, P., Lugasi-Evgi, H., Pollack, Y. and Gopas, J. 2000. Biotechnological potential of Israeli desert plants of the Negev. *Acta Hort.* 523, 29-37.
 33. Degani, C., Rowland, L.J., Saunders, J.A., Hokanson, S.C. Golan-Goldhirsh, A., Ogden, E.L. and Galletta, G.J. 2001. A comparison of genetic relationship measures in strawberry (*Fragaria x ananassa* Duch.) based on AFLPs, RAPDs, and pedigree data. *Euphytica*, 117(1), 1-12.
 34. Zemel, R., Gerecht, S., Greif, H., Bachmatove, L., Birk, Y., Golan-Goldhirsh, A., Kunin, M., Berdichevsky, Y., Benhar, I., Tur-Kaspa R. 2001. Cell transformation induced by hepatitis C virus NS3 serine protease. *J. Viral Hepatitis* 8, 96-102
 35. Golan-Goldhirsh, A., Jones, R. And Rowland, L.J. 2001. AFLP markers for sex determination in an *Ilex* species. *Acta Hort.* 546, 591-595.
 36. Khadka, D.K., Nejidat, A., Tal, M. and Golan-Goldhirsh, A. 2002. DNA markers for sex: Molecular evidence for gender dimorphism in dioecious *Mercurialis annua* L. *Molecular Breeding* 9, 251-257.
 37. Oven, M., Grill, E., Golan-Goldhirsh, A., Kutchan, T.M. and Zenk, M.H. 2002. Increase of free cysteine and citric acids in plant cells exposed to cobalt ions. *Phytochemistry* 60, 467-474.
 38. Shrestha, M.K., Golan-Goldhirsh, A., Ward, D. 2002. Population genetic structure in isolated populations of *Acacia raddiana* investigated by random amplified polymorphic DNA (RAPD) markers. *Biol. Conserv.* 108, 119-127.
 39. Chareonthiphakorn, N., Wititsuwannakul, D., Golan-Goldhirsh, A. and Wititsuwannakul, R. 2002. Purification and characterization of NAD(P)H quinone reductase from the latex of *Hevea brasiliensis* Müll.-Arg. (Euphorbiaceae). *Phytochemistry* 61, 123-128.
 40. Shrestha, K.M., Peri, I., Smirnoff, P., Birk, Y. and Golan-Goldhirsh, A. 2002. Jojoba seed meal proteins associated with proteolytic and protease inhibitory activities. *J. Agric. Food Chem.* 50, 5670-5675.
 41. Shrestha, M.K., Stock, W.D., Ward, D. and Golan-Goldhirsh, A. 2003. Water status of isolated Negev desert populations of *Acacia raddiana* with different mortality levels. *Plant Ecol.* 168, 297-307.
 42. Berdichevsky, Y., Zemel, R., Bachmatove, L. Abramovitch, A., Koren, R. Sathiyamoorthy, P., Golan-Goldhirsh, A. Tur-Kaspa, R., Benhar, I. 2003. A novel high throughput screening assay for HCV NS3 serine protease inhibitors. *J. Virol. Meth.* 107, 245-255.
 43. Barazani, O., Atayev A., Yakubov B., Kostiukovsky V., Popov K.P. and Golan-Goldhirsh, A. 2003. Genetic variability in Turkmen populations of *Pistacia vera* L. *Genetic Resources and Crop Evolution*, 50, 383-389.
 44. Barazani, O., Dudai, N. and Golan-Goldhirsh, A. 2003. Comparison of Mediterranean

- Pistacia lentiscus* genotypes by random amplified polymorphic DNA, chemical and morphological analyses. J. Chem. Ecol. 29, 1939-1952.
45. Vonshak, A., Barazani, O., Sathiyamoorthy, P., Shalev, R., Vardy, D. and Golan-Goldhirsh, A. 2003. Screening South Indian medicinal plants for anti-fungal activity against cutaneous pathogens. Phytoter. Res. 11, 1123-1125 .
 46. Tuna, M., Khadka, K.D., Shrestha, M., Arumuganathan, A. and Golan-Goldhirsh, A. 2004. Characterization of natural orchardgrass (*Dactylis glomerata* L.) populations of the Thrace region of Turkey based on ploidy and DNA polymorphisms. Euphytica, 135, 39-46.
 47. Barazani, O., Sathiyamoorthy, P., Manandhar, U., Vulkan, R. and Golan-Goldhirsh, A. 2004. Heavy metal accumulation by *Nicotiana glauca* Graham in a solid waste disposal site. Chemosphere, 54, 867-872.
 48. Golan-Goldhirsh, A., Barazani, O., Wang, Z.S., Khadka, D.K., Saunders, J.A., Kostiukovsky V. and Rowland, L.J. 2004. Genetic relationships among Mediterranean *Pistacia* species evaluated by RAPD and AFLP markers. Plant Syst. Evol. 246, 9-18 (issue cover page picture).
 49. Golan-Goldhirsh, A., Barazani, O., Nepovim A., Soudek, P., Smrcek, S., Dufkova, L., Krenkova, S., Yrjala, K., Schröder, P. and Vanek, T. 2004. Plant response to heavy metals and organic pollutants in cell culture and at whole plant level. J. Soil Sed. 4, 133-140.
 50. Abutbul, S. Golan-Goldhirsh, A. Barazani, O. and Zilberg, D. 2004. Use of *Rosmarinus officinalis* as a treatment against *Streptococcus iniae* in tilapia. Aquaculture, 238, 97-105.
 51. Barazani, O., Dudai, N., Khadka, U.R. and Golan-Goldhirsh, A. 2004. Cadmium accumulation in *Allium schoenoprasum* L. grown in an aqueous medium. Chemosphere 57, 1213-1218.
 52. Tuna, M, Sabanci, C.O. and Golan-Goldhirsh, A. 2004. Evaluation of some agronomic characters of natural orchardgrass (*Dactylis glomerata* L.) populations collected from Thrace region of Turkey. Bulg. J. Agric. Sci. 10, 57-64.
 53. Barazani, O. and Golan-Goldhirsh, A. 2004. Conservation of the genetic variability of Mediterranean *Pistacia* spp. J. Arid Land Stud. 14S, 41-44.
 54. Yakubov, B., Barazani, O. and Golan-Goldhirsh, A. 2005. Combination of SCAR primers and Touchdown-PCR for sex identification in *Pistacia vera* L. Scientia Hort. 103, 473-478.
 55. Yakubov, B., Barazani, O., Shachack, A., Rowland, L.J. Shoseyov, O. and Golan-Goldhirsh, A. 2005. Cloning and expression of a dehydrin-like protein from *Pistacia vera* L. Trees Struct. and Func. 19, 224-230.
 56. Abutbul, S., Golan-Goldhirsh, A., Barazani, O., Ofir, R. and Zilberg, D. 2005. Screening of desert plants against bacterial pathogens of fish. Israel J. Aquaculture - Bamidgeh 57, 71-80.
 57. Khadka, D.K., Nejidat, A., Tal, M. and Golan-Goldhirsh, A. 2005. Molecular characterization of gender-linked DNA marker and a related gene in *Mercurialis annua* L. Planta. 222, 1063-1070.
 58. Kaiser, J., Yassin, M., Prakash, S., Safi, N., Agami, M., Lauw, N.N.S., Ostrojenkova, E., Bacher, A., Rohdich, F., Eisenreich, W., Safi, J. and Golan-Goldhirsh, A. 2007. Antimalarial drug targets. Screening for inhibitors of 2C-methyl-D-erythritol 4-phosphate synthase (IspC protein) in Mediterranean plants. Phytomed. 14, 242-249

- 59 Schröder, P., Navarro-Avino, J., Azaizeh, H., Golan-Goldhirsh, A., DiGregorio, S., Komives, T., Langergraber, G., Lenz, A., Maestri, E., Memon, A.R., Ranalli, A., Sebastani, L., Smrcek, S., Vanek, T., Vuilleumier, S. and Eissing, F. 2007. Using Phytoremediation technologies to upgrade waste water treatment in Europe. *Environmental Science and Pollution Research* 14, 490-497.
- 60 Ostrozhenkova, E., Schramek, N., Eylert, E., Golan-Goldhirsh, A., Bacher, A. and Eisenreich, W. 2007. Biosynthesis of the chromogen hermidin from *Mercurialis annua* L. *Phytochemistry*, 68, 2816-2824.
- 61 Lyubenova, L., Götz, C., Golan-Goldhirsh, A. and Schröder, P. 2007. Direct effect of Cd on Glutathione S-transferase and Glutathione reductase from *Calystegia sepium*. *Int. J. Phytoremediation*, 9, 465-473.
- 62 Yi, T., Wen, J., Golan-Goldhirsh, A. and Parfitt, D.E. 2008. Phylogenetics of *Pistacia* (Anacardiaceae) inferred from multiple molecular data sets. *American Journal of Botany* 95, 241-251.
- 63 El-On, J., Ozer, L., Gopas, J., Sneir, R., and Golan-Goldhirsh, A. 2009. *Nuphar lutea*: In vitro anti-leishmanial activity against *Leishmania major* promastigotes and amastigotes. *Phytomed.* 16, 788-792.
- 64 El-On, J., Ozer, L., Gopas, J., Sneir, R., Enav, H., Luft, N., Davidov, G. and Golan-Goldhirsh, A. 2009. Antileishmanial activity in Israeli plants. *Annals of Tropical Med. & Parasitol.*, 103, 297-306.
- 65 Golan-Goldhirsh, A. 2009. Bridging the gap between ethnobotany and Biotechnology of *Pistacia*. *Isr. J. Pl. Sc.* 57, 65-78.
- 66 Verkleij, J.A.C., Golan-Goldhirsh, A., Antosiewicz, D.M., Schwitzguébel, J.P. and Schröder, P. 2009. Dualities in plant tolerance to pollutants and their uptake and translocation to the upper plant parts. *Environmental and Experimental Botany* 67, 10-22.
- 67 Barazani, O. and Golan-Goldhirsh, A. 2009. Salt-driven interactions between *Pistacia lentiscus* and *Salsola inermis*. *Environmental Science and Pollution Research* 16, 855-861. DOI: 10.1007/s11356-009-0231-4.
- 68 Tencer, Y., Idan, G., Strom, M., Nusinow, U., Banet, D., Cohen, E., Schroeder, P., Shelef, O., Rachmilevitch, S., Soares, I., Gross, A. and Golan-Goldhirsh, A. 2009. Establishment of a constructed wetland in extreme dryland. *Environmental Science and Pollution Research* 16, 862-875. DOI: 10.1007/s11356-009-0232-3.
- 69 Ozer, J., Eisner, N., Ostrozhenkova, E., Bacher, A., Eisenreich, W., Benharroch, D., Golan-Goldhirsh, A. and Gopas, J. 2009. *Nuphar lutea* thioalkaloids inhibit the nuclear factor κ B pathway, potentiate apoptosis and are synergistic with cisplatin and etoposide. *CB & T* 8, 1860-1868.
- 70 Pimenta Leibowitz, M., Ofir, R., Golan-Goldhirsh, A. and Zilberg, D. 2009. Cysteine proteases and acid phosphatases contribute to *Tetrahymena* spp. pathogenicity in guppies, *Poecilia reticulata*. *Vet. Parasitol.* 166, 21-26.
- 71 Ostrozhenkova, E., Golan-Goldhirsh, A., Bacher, A. and Eisenreich, W. 2010. Biosynthesis of hermidin from *Mercurialis annua*: A retrobiosynthetic study. *Phytochem. Lett.* 3, 33-37.
- 72 Zilberg, D., Tal, A., Froyman, N., Abutbul, S., Dudai, N. and Golan-Goldhirsh, A. 2010. Dried leaves of *Rosmarinus officinalis* as a treatment for streptococcosis in tilapia. *J. Fish Dis.* 33, 361-369.

- 73 Shelef, O., Lazarovitch, N., Rewald, B., Golan-Goldhirsh, A. and Rachmilevitch, S. 2010. Root halotropism? salinity effects on *Bassia indica* Roots. *Plant Biosystems* 144, 471-478.
- 74 Ozer, L., El-On, J., Golan-Goldhirsh, A. and Gopas, J. 2010. *Leishmania major*: Anti-leishmanial activity of *Nuphar lutea* extract mediated by the activation of transcription factor NF- κ B. *Experim. Parasitol.* 126, 510-516.
- 75 Shelef, O., Golan-Goldhirsh, A. Gendler, T. and Rachmilevitch, S. 2011. Physiological parameters of plants as indicators of water quality in a constructed wetland. *Environmental Science and Pollution Research*. 18, 1234-1242.
- 76 Bachmetov, L., Gal-Tanamy, M., Shapira, A., Vorobeychik, M., Giterman-Galam, T., Sathiyamoorthy, P., Golan-Goldhirsh, A., Benhar, I., Tur-Kaspa, R. and Zemel, R. 2011. Suppression of hepatitis C virus by the flavonoid quercetin is mediated by inhibition of NS3 protease activity. *J. Viral Hepatitis*. In Press.
- 77 Ward, D., Shrestha K. M. and Golan-Goldhirsh, A. 2012. Evolution and ecology meet molecular genetics: adaptive phenotypic plasticity in two isolated Negev desert populations of *Acacia raddiana* at either end of rainfall gradient. *Annals Botany*. 109, 247-255.

(c) Patents

P-74394-PC, Methods and compositions for inhibiting the nuclear factor κ B pathway. Patent application 2009.

(d) Published scientific reports and technical papers

- Golan-Goldhirsh, A., Kahn, V. and Sadovski, A.Y. 1976. Browning of avocado mesocarp: comparison between the Fuerte and Lerman cultivars. Agricultural Research Organization, The Volcani Center. Pamphlet No. 153, 85 p. Division of Scientific Publications, P.O.B. 6, Bet Dagan, Israel.
- Golan-Goldhirsh, A. 1998. *Pistacia* Research in Israel at Ben-Gurion University of The Negev. *NUCIS* 6: 43-44.
- Vargas, F.J., Golan-Goldhirsh, A., Batlle, I. And Zohary, D. 1998. Observation of a *P. terebinthus* hermaphrodite in Israel. *NUCIS* 7: 35.
- Golan-Goldhirsh, A. 1998. A *Pistacia vera* seed collection trip to Turkmenistan. *NUCIS* 7: 35-36.
- Khandka, D. K., Nejidat, A., Tal, M. and Golan-Goldhirsh, A. 1999. Molecular analysis of a male specific RAPD marker in dioecious *Mercurialis*. *Biologia*, 54 Suppl. 7, p. 37.
- Golan-Goldhirsh, A., Batlle, I. 1999. Collecting *Pistacia* germplasm in Israel. *NUCIS* 8: 37.
- Khadka, U.R., Dudai, N. and Golan-Goldhirsh, A. 2002. Cadmium accumulation by *Allium tuberosum*. *Environ. Sci. and Pollut. Res.* 3, 110-111.
- Barazani, O. and Golan-Goldhirsh, A. 2004. Germaplasm Collection of *Pistacia* at the Jacob Blaustein Institute for Desert Research - Phenotypic traits and molecular markers. *NUCIS* 12: 31-32.
- Markert, B., Schroeder, P., Golan-Goldhirsh, A. and Schwitzguebel, J. P. 2008. Conference report, EU COST 859 workshop at Sede Boqer Campus, Israel, October 23-25, 2007: Nutrient Biofortification and Exclusion of Pollutants in Food Plants. *Env.Sci.Pollut.Res.*, 15(2), 172.

Markert, B., Schroeder, P., Golan-Goldhirsh, A. and Schwitzguebel, J. P. 2008. Meeting report, EU COST 859 workshop on Nutrient Biofortification and Exclusion of Pollutants in Food Plants (Sede Boqer Campus, Israel, October 23-25, 2007). INTECOL e-Bulletin Vol. 2, No. 1, pp. 3-4.

Sequences deposited in GeneBank database

- Shachak, A., Golan-Goldhirsh, A. and Shoseyov, O. 1997. *P. vera* mRNA for inflorescence bud protein 32 kDa. Locus, PVIBP32 378 bp mRNA; Accession Y07600; NID, g 13375170.
- Yakubov, B., Shachack, A., Shoseyov, O. and Golan-Goldhirsh, A. 2001. Molecular cloning and characterization of *P. Vera* dehydrin-like gene: full sequence of cDNA. Accession Y07600.
- Khandka, D. K., Nejidat, A., Tal, M. and Golan-Goldhirsh, A. 2001. Genomic sequence of male specific RAPD markers in dioecious *Mercurialis annua*. OPB01-1562.wild – AZ916600; OPB01-1562.strong – AZ916601; OPB01-1563.inter – AZ916602; OPB01-1563.weak – AZ916603; OPC07-303 – AZ916604.
- Khandka, D. K., Nejidat, A., Tal, M. and Golan-Goldhirsh, A. 2001. Sequence of ribosomal protein L32 gene from *Mercurialis annua* L. Accession AF358665.
- Khandka, D. K., Nejidat, A., Tal, M. and Golan-Goldhirsh, A. 2002. Molecular characterization of a gender linked DNA marker and a related Retrotransposon-like gene in *Mercurialis annua* L. MARL1 - BZ369681; MARL2 - BZ369682; MARL3 - BZ369683; MARL4 - BZ369684; MARL5 - BZ369685.
- Yakubov, B., Barazani, O. and Golan-Goldhirsh, A. 2003. SCAR primers and Touchdown-PCR for sex identification in *Pistacia vera* L. PVM – accession BZ629993; PVF - accession BZ629994

(e) Unrefereed articles and reports

- Golan-Goldhirsh, A. and Whitaker, J.R. 1982 - 1984. Prevention of enzymatic browning in avocado (Zutano variety). Eight quarterly reports submitted to Calavo Growers of California.
- Silberbush, M., A. Golan-Goldhirsh, A. Hagin, and J. Ben-Asher. Peanuts in hydroponics. In: Lips et al., Fertilization and Irrigation with Saline Water. Annual Report for 1985, submitted to the Israeli Center Fert. Res., Dead Sea Works, and Haifa Chemicals, p. 3-11, 1985.
- Golan-Goldhirsh, A. 1987 - 1991. Improvement of pistachio nut production in arid zones. Semiannual, annual and final reports submitted to the AID-CDR.
- Golan-Goldhirsh, A. 1994-1996. Desert food proteins and bioproducts Biotechnology Semi-annual and annual reports to the Rashi Foundation.
- Golan-Goldhirsh, A., Saleh, N.A.M. and Van Damme, P. 1995-1998. Establishment of a germplasm collection of Mediterranean *Pistacia*. Progress/final Reports submitted to the Commission of the European Communities.
- Golan-Goldhirsh, A. and Wititsuwannakul, R. 1995-1999. Enzyme markers for early selection of high-yield rubber seedlings. Semi-annual, annual and final reports, submitted to AID-CDR program.
- Golan-Goldhirsh, A. 1998. Selection and characterization of heavy metals hyperaccumulating desert plants. Annual and final reports submitted to GIF.

- Golan-Goldhirsh, A. 2001. Selection and characterization of heavy metals hyperaccumulating desert plants. Annual and final reports submitted to GIF.
- Golan-Goldhirsh, A. and Pollack, Y. 1998-2001. Desert plants bioactive compounds: Anti-Malaria. Annual and final reports submitted to the Israeli Ministry of Science, Biotechnological Infrastructure Program.
- Golan-Goldhirsh, A. 1999-2005. Collection, characterization and exchange of *Pistacia* genus germplasm. Semi-annual, Annual and final reports submitted to AID-CDR-CAR Program.

Lectures and presentations at meetings and invited seminars

(a) Invited lectures at conferences/meetings

- 1990 - A peptide associated with inflorescence bud development in *Pistacia vera* L. Symposium on morphogenesis in the 7th Congress of the Federation of European Societies of Plant Physiology, Umea, Sweden.
- 1992 - Identification of molecular markers for reproductive development in *Pistacia vera* L. - Potentials and prospects for improvement of tree crop productivity. USAID/BOSTID networking meeting on tree crops, E.A.R.T.H., Costa Rica.
- 1997 - Developmental proteins of *Pistacia vera* L. bark and bud and their biotechnological properties. Symposium on Enzymes and Inhibitors, American Chemical Society 214th National meeting, Las Vegas USA.
- 1997- Seasonal changes in dehydrin-like proteins and proteases of *P. Vera* inflorescence bud. Second International Symposium on Almond and Pistachio nuts, University of California, Davis USA.
- 2002- Heavy metals uptake by desert plants grown on soil from a solid waste contaminated site supplemented by EDTA and compost. COST 837 WG2 meeting on 'Risk assessment and sustainable land management using plants in trace element-contaminated soil', Bordeaux, France.
- 2003- Conservation of polymorphism in Mediterranean *Pistacia* spp. Desert Technology 7, International Conference, Jodhpur, India.
- 2005- Plant tolerance to heavy metals, a risk for food toxicity or a means for food fortification with essential metals: The *Allium schoenoprasum* model. NATO-ARW conference on 'Viable methods of soil and water pollution monitoring, protection and remediation'. Krakow Poland.
- 2010- Plant performance as an indicator of water quality in constructed wetland in a hyper-arid region. International Symposium on Ecological Engineering of Pollutants and Bioenergy Exploitation. Hangzhou, China

(b) Presentation of papers at conferences/symposia (oral/ or poster)

1. Golan-Goldhirsh, A. and Wolfe, F.H. 1978. Gas-chromatographic analysis of amino acids. The Twenty-First Annual Canadian Institute of Food Science and Technology Conference, Edmonton, Alberta, Canada.
2. Golan-Goldhirsh, A. 1982. Prevention of enzymatic browning in foods. Western Food Industry Conference, Davis, California.
3. Golan-Goldhirsh, A. and Whitaker, J.R. 1982. Relation between structure of polyphenol oxidase and prevention of browning. Pacific Conference on Chemistry and Spectroscopy, Symposium on Nutritional and Metabolic Aspects of Food Safety. San

- Francisco, California.
4. Golan-Goldhirsh, A. 1983. Use of enzymes to probe molecular and cellular structures. Western Food Industry Conference, Davis, California.
 5. Golan-Goldhirsh, A. and Whitaker, J.R. 1984. Mechanism of histidine modification in proteins by ascorbic acid and cupric ions. The Pacific Slope Biochemistry Conference, Santa Cruz, California.
 6. Golan-Goldhirsh, A. and Whitaker, J.R. 1984. Specific modification of histidine in proteins with ascorbic acid and cupric ions. American Chemical Society, Division of Agricultural and Food Chemistry Meeting, Washington, D.C.
 7. Golan-Goldhirsh, A., Whitaker, J.R., Chen, A. and Osuga, D. 1985. Specific modification of histidine residues in proteins by ascorbic acid/cupric ions. Federation of American Societies for Experimental Biology, Anaheim, California.
 8. Golan-Goldhirsh, A., Heimer, Y.M., Cohen, Z. and Lips, S.H. 1987. Pistachio nut production in the Negev. The Second International Conference on Desert Development, Cairo, Egypt.
 9. Golan-Goldhirsh, A. 1987. Control of enzymatic browning of carob pods and other fruits and vegetables. The Second International Carob Symposium, Valencia, Spain.
 10. Golan-Goldhirsh, A., Heimer, Y.M. and Lips, S.H. 1988. The effect of potassium on the vegetative growth of sunflower (*Helianthus annuus* L.) on mixtures of ammonium and nitrate. Conference of the Israeli Center for Fertilizer Research, Rehovot, Israel.
 11. Heimer, Y.M., Golan-Goldhirsh, A. and Lips, S.H. 1988. Protein markers for potassium deficiency in sunflower. Annual Meeting of the American Society of Plant Physiologists, Reno, Nevada.
 12. Heimer, Y.M., Golan-Goldhirsh, A. and Lips, S.H. 1988. Protein markers for potassium deficiency in sunflower. The Second International Congress of Plant Molecular Biology, Jerusalem, Israel.
 13. Golan-Goldhirsh, A., Cohen, E., Werker, E., Fahn, A., Gaspar, A.M., Mota, M. and Lips, S.H. 1988. Development of *Pistacia vera* L. male flower. The Second International Congress of Plant Molecular Biology, Jerusalem, Israel.
 14. Golan-Goldhirsh, A., Schmidhalter, U., Muller, M. and Oertli, J.J. 1989. Germination of *Pistacia vera* L. pollen *in vitro*. Annual meeting of The Israeli Botanical Society, Beer Sheva, Israel.
 15. Golan-Goldhirsh, A. 1990. The development of *Pistacia vera* L. inflorescence bud. The 7th Congress of the Federation of European Societies of Plant Physiology, Umea, Sweden.
 16. Golan-Goldhirsh, A. 1992. Identification and characterization of inflorescence bud specific protein(s) of *Pistacia vera* L. International workshop on 'Molecular control of flower development and plant reproduction'. Amsterdam, The Netherlands.
 17. Shachak, A. and Golan-Goldhirsh, A. 1994. Dormancy related proteins in deciduous trees. Annual meeting of The Israeli Botanical Society, Rehovot, Israel.
 18. Golan-Goldhirsh, A. and Shachak, A. 1994. Bud and bark proteins of dormant deciduous trees. 1st International symposium on plant dormancy, Corvallis, Oregon, USA.
 19. Golan-Goldhirsh, A. 1994. Proteins associated with reproductive bud development in *Pistacia vera*. First International Symposium on Pistachio nut, Adana Turkey.
 20. Khandka, D.K., Nejidat, A., Tal, M. and Golan-Goldhirsh, A. 1995. RAPD marker for sex determination of dioecious plants. 92nd Annual meeting of the American Society

- of Horticultural Science, Quebec, Montreal, Canada.
21. Shachak, A., Shoseyov, O. and Golan-Goldhirsh, A. 1996. Cloning and sequence analysis of a cDNA fragment encoding a dormancy related dehydrin-like protein from pistachio inflorescence buds. Annual meeting of The Israeli Botanical Society, Tel-Aviv, Israel.
 22. Shrestha, M. K., Peri, I., Smirnoff, P., Birk, Y. and Golan-Goldhirsh, A. 1997. Isolation and characterization of the major jojoba pulp protein. Annual meeting of The Israeli Botanical Society, Tel-Aviv, Israel.
 23. Golan-Goldhirsh, A. and Kostjukovsky, V. 1997. Mediterranean *Pistacia* genus germplasm collection at Sede Boqer Israel. Second International Symposium on Almond and Pistachio nuts, University of California, Davis USA.
 24. Brkic, G., Finkelstein, E., Lugasi-Evgi, H., Kedar, I., Peli, I., Pollack, Y., Golan-Goldhirsh, A., Argov, S., Cohen, Y. and Gopas, J. 1997. Cisplatin drug resistance in human melanoma cell lines. Cell Signaling Mechanisms. FEBS meeting, Amsterdam, Holland.
 25. Sathiyamoorthy, P., Lugasi-Evgi, H., P. Schlesinger, Gopas, J., Pollack, Y. and Gopas, J. and Golan-Goldhirsh, A. 1998. Screening for cytotoxic and antimalarial activities in desert plants of the Negev and bedouin market plant products. 1st COST-B9 Congress on Antiprotozoal Chemotherapy and IOCD-Medicinal Chemistry Workshop, Sierra Nevada, Granada, Spain.
 26. Golan-Goldhirsh, A., Sathiyamoorthy, P., Lugasi-Evgi, H., Pollack, Y. and Gopas, J. 1998. Biotechnological potential of Israeli desert plants of the Negev. XXV International Horticultural Congress, Brussels, Belgium.
 27. Shrestha, M. K., Ward, D. and Golan-Goldhirsh, A. 1998. Genetic diversity and conservation of Negev Acacias. 41st International Association for Vegetation Science, Uppsala, Sweden.
 28. Khandka, D. K., Nejjidat, A., Tal, M. and Golan-Goldhirsh, A. 1999. Molecular analysis of a male specific RAPD marker in dioecious *Mercurialis annua*. The Third International Symposium in the Series 'Recent Advances in Plant Biotechnology' from Cells to Crops, Nitra, Slovak Republic.
 29. Shrestha, M. K., Ward, D. and Golan-Goldhirsh, A. 1999. Genetic diversity in isolated Negev desert populations of *Acacia raddiana*. VII ESEB Congress, Barcelona, Spain.
 30. Golan-Goldhirsh, A., Jones, R. and Rowland, L.J. 2000. AFLP markers for sex determination in *Ilex* species. International symposium under the aegis of the Commission of Biotechnology of ISHS, 'Molecular markers for characterizing genotypes and identifying cultivars in horticulture'. AGRO Montpellier, France.
 31. Shrestha, M. K., Ward, D. and Golan-Goldhirsh, A. 2000. Genetic diversity and water stress in isolated Negev desert populations of *Acacia raddiana*. The Ecological Society of America 85th Annual Meeting, Snowbird, Utha, USA.
 32. Khadka, D. K., Nejjidat, A., Tal, M. and Golan-Goldhirsh, A. 2001. DNA markers for gender in dioecious *Mercurialis annua*. Annual meeting of The Israeli Society of Plant Sciences, Rehovot, Israel.
 33. Sinai, R., Golan-Goldhirsh, A., HTS Memebbers and Pollack, Y. 2001. Antimalarial activity of extracts and compounds from diverse and unique biological sources. Spain.
 34. Barazani, O., Dudai, N. and Golan-Goldhirsh, A. 2001. Chemotypic variation among Mediterranean *Pistacia lentiscus* growing under desert conditions. 32nd International

- Symposium on Essential Oils. Wroclaw, Poland.
35. Manandhar, U., Vulkan, R., Yakubov, B. and Golan-Goldhirsh, A. 2001. Potential of desert plants as heavy metals hyperaccumulators. COST 837 WG3 meeting on 'Genomic approaches within the COST 837 action' Montpellier, France.
 36. Zemel, R., Bachmatove, L. Berdichevsky, Y., Kunin, M., Golan-Goldhirsh, A., Benhar, I. and Tur-Kaspa, R. 2001. Detection and analysis of hepatitis C virus NS3 serine protease inhibitors. *J. Hepatology* 34: 126-127, Suppl. 1.
 37. Zemel, R., Berdichevsky, Y., Bachmatove, L. Kunin, M., Golan-Goldhirsh, A., Tur-Kaspa, R. and Benhar, I. 2001. A high throughput assay for identification of hepatitis C virus NS3 serine protease inhibitors. The American Association for the Study of liver Diseases, 52nd Annual Meeting, Dallas Texas, USA.
 38. Manandhar, U., Vulkan, R., Barazani, O., Sathiyamoorthy, P. and Golan-Goldhirsh, A. 2002. A solid waste contaminated site in the Negev Desert – Case Study. InterCOST Action 831 WG1 and 837 WG1+4 Workshop on 'Soil-microbe-root Interactions: maximizing Phytoremediation/Bioremediation'. Grainau/Garmisch-Partenkirchen, Germany.
 49. Khadka, U.R., Dudai, N. and Golan-Goldhirsh, A. 2002. Cadmium accumulation by *Allium tuberosum*. 8th FECS conference on chemistry and the environment: Chemistry for a sustaining world. Athens, Greece.
 40. Soudek, P., Tykva, R., Petřík, P., Vágner, M., Golan-Goldhirsh, A. and Vaněk, T. 2002. Radiophytoremediation – potential method for clean-up of the environment. In 1st ASEM conference on bioremediation, Hanoi, Vietnam.
 41. Szalai, G., Janda, T., Golan-Goldhirsh, A. and Páldi, E. 2002. Effect of Cadmium on phytochelatin synthesis in Maize. Congress of the Federation of European Societies of Plant Physiology, Crete, Greece.
 42. Abutbul, A., Golan-Goldhirsh, A., Barazani, O., Ofir, R. and Zilberg, D. 2003. Treatment of bacterial diseases of aquatic organisms by plant extracts. ISM, Tel-Aviv, Israel.
 43. Barazani, O., Yakubov, B. and Golan-Goldhirsh, A. 2003. Molecular marker for early sex identification in *Pistacia vera* L. Tree Biotechnology conference, Umea, Sweden.
 44. Khadka, U.R., Vonshak, A., Dudai, N. and Golan-Goldhirsh, A. 2003. Response of *Allium schoenoprasum* to Cadmium in hydroponic growth medium. COST 837 workshop on 'Phytoremediation of toxic metals' Stockholm Sweden, June 2003.
 45. Abutbul, S., Mendoza, P., Maurice, S., Golan-Goldhirsh, A., Barazani, O. and Zilberg, D. 2003. Natural compounds as an alternative for antibiotic treatment of atypical *Aeromonas salmonicida* and *Streptococcus iniae*. 11th International conference of the European Society of Fish Pathology on "Diseases of Fish and Shelfish", Malta.
 46. Abutbul, A., Golan-Goldhirsh, A., Barazani, O., Ofir, R. and Zilberg, D. 2004. The use of *Rosmarinus officinalis* as a treatment against streptococcal disease in tilapia. Aquaculture Conference, Honolulu, Hawaii.
 47. Golan-Goldhirsh, A., Khadka, U., Dudai, N. and Barazani, O. 2004. Uptake of Cadmium by *Allium schoenoprasum* from an aqueous medium. COST 859 workshop on 'Plant uptake/exclusion and translocation of nutrients and contaminants', Warsaw Poland.
 48. Golan-Goldhirsh, A. 2004. Modification of proteins by reaction with copper, ascorbate and oxygen: A hypothetical structural signal. COST 859 workshop on 'Improving nutritional quality and safety of food crops', Greenwich UK

- 49 Soudek, P., Makhmudova, M., Barazani, O., Vaněk, T. and Golan-Goldhirsh, A. 2005. Tolerance to heavy metals by hydroponically cultivated *Allium Schoenoprasum* L. COST 859 workshop on 'Phytotechnologies to promote sustainable land use and improve food safety', Pisa, Italy.
- 50 Makhmudova, M., Soudek, P., Ljubenova, L., Ostrozhenkova, E., Vaněk, T., Schröder, P., Eisenreich, W., Bacher, A. and Golan-Goldhirsh, A. 2006. Shoot and root profiles of metabolites, enzymes and anatomy of *Allium Schoenoprasum* L. grown in heavy metal contaminated solution. COST 859 workshop on 'Root to shoot translocation of pollutants and nutrients', Santiago de Compostela, Spain.
- 51 Ostrozhenkova, E., Schramek, N., Eylert, E., Golan-Goldhirsh, A., Bacher, A. and Eisenreich, W., 2007. Biosynthesis of the chromogen hermidin from *Mercurialis annua* L. The 50th Anniversary Meeting of the Phytochemical society of Europe, Churcill College, Cambridge, UK.
- 52 Ljubenova, L., Soudek, P., Makhmudova, M., Ostrozhenkova, E., Vaněk, T., Schröder, P., Eisenreich, W., Bacher, A. and Golan-Goldhirsh, A. 2007. Heavy metal impact on metabolism in *Allium schoenoprasum*. COST 859 workshop on 'Nutrient biofortification and exclusion of pollutants in food plants', Sede Boqer, Israel.
- 53 Schröder, P., Ljubenova, L., Götz, C., Huber, C. And Golan-Goldhirsh, A. 2007. Plant response to xenobiotics: How mixed pollution interferes with detoxification capacity. COST 859 workshop on 'Nutrient biofortification and exclusion of pollutants in food plants', Sede Boqer, Israel.
- 54 Soudek, P., Petrová S., Kotyza, J., Lenikusová, I., Golan-Goldhirsh, A., Vaněk, V. 2007. Edible *Allium* species as heavy metal hyperaccumulators. COST 859 workshop on 'Nutrient biofortification and exclusion of pollutants in food plants', Sede Boqer, Israel.
- 55 Zhang, H., Orlovsky, N. and Golan-Goldhirsh, A. 2007. Quaternary ammonium compounds accumulation in halophytes under saline conditions. COST 859 workshop on 'Nutrient biofortification and exclusion of pollutants in food plants', Sede Boqer, Israel.
- 56 Golan-Goldhirsh, A., Ozer, J., Eisner, N., Voltfriend, A., Benharroch, D., Ostrojenkova, E., Bacher, B., Eisenreich, W. and Gopas, J. 2007. Nupharidines inhibit NF-kB activation and induce apoptosis in Hodgkin's lymphoma derived L428 cells. A Nature Conference, 'Cancer Therapeutics: The road ahead', Capri, Italy.
- 57 Tencer, Y., Strom, M., Nusinow, U., Gil, I., Cohen, E., Rachmilevitch, S., Soares, I., Gross, A. and Golan-Goldhirsh, A. 2008. Establishment of constructed wetlands in extreme dryland. COST859 workshop on 'Phytotechnologies in practice – biomass production, agricultural methods, legacy, legal and economic aspects', Verneuil en Halatte, France.
- 58 Ozer, J., Eisner, N., Voltfriend, A., Ostrozhenkova, E., Bacher, A., Eisenreich, W., Benharroch, D., Golan-Goldhirsh, A., and Gopas, J. 2008. Nupharidine inhibits NF-kB activity, induces apoptosis, and has synergistic cytotoxic activity with cisplatin and etoposide. Translational Cancer Medicine (AACR Centennial Conference). Nov 2008. Jerusalem, Israel.
- 59 Barazani, O., and Golan-Goldhirsh, A. 2009. Halophilic interplay between *Pistacia* spp. and *Salsola inermis*. Workshop of COST859 WG 1 and WG2 on "Uptake, sequestration and detoxification – An integrated approach", Szeged, Hungary.

- 60 Shelef, O., Lazarovitch, N., Gendler, T., Golan-Goldhirsh, A., and Rachmilevitch, S. 2009. Root Halotropism? Salinity Effects on Kochia (*Basia indica*) Roots. The Israeli Society of Plant Sciences. Feb. 18, 2009, Rehovot.
- 61 Shelef, O., Lazarovitch, N., Gendler, T., Golan-Goldhirsh, A., and Rachmilevitch, S. 2009. RootRAP, 7 ISRR Symposium, Sep, 2-4, 2009, Vienna.
- 62 Shelef, O., S. Rachmilevitch, A. Golan-Goldhirsh, A. Gross, T. Gendler, Plants as biondicators of water quality in a constructed wetland, Israel Society of Ecology and Environmental Sciences 37th Annual conference.
- 63 Lyubanova, L., Soudek, S., Makhmudova, M., Ostrozhenkova, E., Vaněk, T., Schröder, P., Eisenreich, W., Bacher, A., Golan-Goldhirsh, A. 2009. Plant tolerance to abiotic stresses can serve a dual purpose: phytoremediation and biofortification. COST859 Final Conference, 12 – 16 October, 2009, Ascona, Switzerland.
- 64 Winer, H., Golan-Goldhirsh, A., Ozer, J., Benharoch, D., and Gopas, J. 2010. Anti-Measles virus effect of *Nuphar lutea* derived thioalkaloids. 4th European Congress of Virology, Cuomo, Italy. April 7-11, 2010
- 65 Ozer, J., Golan-Goldhirsh, A., Gopas, J. 2010. *Nuphar lutea* thioalkaloids inhibit the nuclear factor κB pathway, potentiate apoptosis, are synergistic with chemotherapy and have antimetastatic activity. Second AACR Dead Sea International Conference on Advances in Cancer Research: From the Laboratory to the Clinic. Jordan, March 7-11, 2010.
- 66 Shelef, N. Lazarovitch, T. Gendler, A. Golan-Goldhirsh , S. Rachmilevitch, Root halotropism? Salinity effects on Kochia (*Bassia indica*) roots, ASPB 2010 annual conference in Montreal.
- 67 Ostrozhenkova, E., Golan-Goldhirsh, A., and Eisenreich, W. 2010. Metabolite profiling in *Allium schoenoprasum* L. and *Mercurialis annua* L. Munich, Germany.
- 68 Shelef, O., Golan-Goldhirsh, A., Gendler, T. and Rachmilevitch, S. 2010. Plant performance as an indicator of water quality in constructed wetland in a hyper-arid region. The International Symposium on Ecological Engineering of Pollutants and Bio-Energy Exploitation Oct. 9-11, 2010, Hangzhou, China.
- 69 Golan-Goldhirsh, A. and Guy, M. 2011. Dioecious plant sex under stress – a new reproductive system? Israel Society of Plant Sciences Jan. 24, Sede Boqer, Israel.
- 70 Orlofsky, E., Guy, M. and Golan-Goldhirsh, A. 2011. The effect of senescence and abiotic stress in the dioecious plant *Mercurialis annua*. Israel Society of Plant Sciences Jan. 24, Sede Boqer, Israel.
- 71 Golan-Goldhirsh, A., Shelef, O., Gendler, T. and Rachmilevitch, S. 2011. The role of plants in wastewater treatment by constructed wetland in dryland. The International Scientific Conference 'Achievements of science and high technologies on restoration of salted lands and improvement of operation of irrigational constructions', April 2-3, 2011, Ashkhabad, Turkmenistan.
- 72 Shelef, O., Golan-Goldhirsh, A., Gendler, T. and Rachmilevitch, S. 2011. Plants as indicators of water quality in constructed wetland in dryland. 5th European Bioremediation Conference, July 2011, Chania, Crete, Greece.
- 73 Shelef, O., Golan-Goldhirsh, A., Gendler, T. and Rachmilevitch, S. 2011. Plants as indicators of water quality in constructed wetland in extreme dryland. International Phytotechnology Society, 8th Conference, September, 2011, Portland, Oregon USA.

(c) Seminar presentations at universities and institutions

- 1983 - Does polyphenoloxidase comit suicide during catalysis? Institute of Technology and Storage of Agricultural Products, The Volcani Center.
- 1987 - Specific modification of histidine in proteins by ascorbic acid and cupric ions. Institute of Technology and Storage of Agricultural Products. The Volcani Center, Israel.
- 1989 - Ascorbic acid modifies proteins *in vitro*, what is the role of such a modification *in vivo*? ETH, Institute fur Pflanzen-wissenschaften, Versuchsstation Eschikon, Switzerland.
- 1993 - Molecular biology in the efforts to develop molecular markers for sex determination in dioecious crops. Regional Council of Ramat Ha'Negev.
- 1994 - Dormancy related proteins in deciduous trees. Institute of Technology and Storage of Agricultural Products, The Volcani Center, Israel.
- 1996 - Desert plants biotechnology: A developmental protein from pistachio and the effect of copper on proteins. Pharmazeutische Biologie, University of Munchen, Germany.
- 1997 - Dormancy related proteins of *Pistacia vera* . George S. Wise Faculty of Life Science Department of Plant Sciences, Tel-Aviv University.
- 1998 - Dehydrin-like proteins in *Pistacia*. Fruit Lab, USDA/ARS, Beltsville USA.
- 2000 - Molecular markers for sex determination in dioecious plants. Leibnitz-Institut für Pflanzenbiochemie, Halle, Germany.
- 2005 - *Pistacia* dehydrin. GSF-Forschungszentrum für Umwelt und Gesundheit, GmbH, Institut für Bodenökologie, Neuherberg, Germany.
- 2006 - Biotechnological potential of desert plants. Institute of Environmental Science and Engineering, Swiss Federal Institute of Technology Lausanne (EPFL), Lausanne, Switzerland.

Research Grants

- 1981-1983 Calavo Growers of California. Golan-Goldhirsh, A. and Whitaker, J.R. Prevention of enzymatic browning in avocado (Zutano variety). Two years: annual amount, \$8,000; total, \$16,000.
- 1985-1986 BGU Salinity Center. Golan-Goldhirsh, A. The role of proline in osmoregulation in plants. Two years: first year, \$1,500; second year \$6,333; total, \$7,833.
- 1985-1986 Israel Center for Fertilizer Research, Haifa Chemicals. Silberbush, M. and Golan-Goldhirsh, A. Fertilization and irrigation of crops with saline water. One year, \$3,500.
- 1985-1986 Israel Center for Fertilizer Research, Dead Sea Works. Silberbush, M. and Golan-Goldhirsh, A. Effect of potassium nitrate on irrigation of crops with saline water. One year, \$4,500.
- 1986-1987 Israel Center for Fertilizer Research, Dead Sea Works. Golan-Goldhirsh, A., Heimer, Y. and Soares, I. Oxidation of ammonia to nitrate and its regulation by potassium. One year, \$8,000.
- 1987-1991 USA-AID-CDR Program. Golan-Goldhirsh, A. Improvement of pistachio nut production in arid zones. In cooperation with Portugal. Three years: Total amount, \$150,000.

- 1994-1997 Rashi Foundation. Golan-Goldhirsh, A. Desert plant proteins and bioproducts biotechnology. Three years: Total amount \$200,000.
- 1995-1997 EEC program. Golan-Goldhirsh, A. Establishment of a Mediterranean *Pistacia* germplasm collection. In cooperation with Belgium and Egypt. Total amount 150,000 Euro.
- 1995-1999 USA-AID-CDR Program. Golan-Goldhirsh, A. Markers in early selection of high-yield rubber seedling. In cooperation with Thailand. Total amount \$200,000.
- 1997-1998 GIF program. Golan-Goldhirsh, A. Selection and characterization of heavy metals hyperaccumulating desert plants. In cooperation with Prof. M. Zenk. One year: Total amount, 100,000 DM.
- 1998-2001 Biotechnological Infrastructure, Ministry of Science. Golan-Goldhirsh, A. and Pollack, Y. Desert plants bioactive compounds: Anti-Malaria. In cooperation with TAU national center for HTS for biologically active compounds. Three years: 300,000 NIS.
- 1998-2003 Bona Terra program of UNESCO. Desert plants bioactive compounds: Pharmaceuticals, Food and Cosmetic. Three years project: \$70,000.
- 1999-2001 GIF program. Golan-Goldhirsh, A. Selection and characterization of heavy metals hyperaccumulating desert plants. Two years: 160,000 DM.
- 2001-2003 Israel Ministry of Science, MOP Chatzeva. Isolation and identification of apoptotic compounds from defatted Jojoba meal. Golan-Goldhirsh, A. and Ofir, R. Three years: Total amount: 180,000 NIS.
- 2001-2004 Israel Ministry of Science, MOP Chatzeva. Isolation and identification of Biologically active compounds for fish health. Zilberg, D. Ofir, R. and Golan-Goldhirsh, A. Three years. Total amount: 120,000 NIS.
- 2003-2004 Trilateral DFG project. Antimalarials from desert plants screened by the non-mevalonate pathway enzymes. Two years. Total amount: 70,000 Euro.
- 1999-2005 USA-AID-CDR-CAR Program. Golan-Goldhirsh, A. Collection, characterization and exchange of *Pistacia* genus germplasm. In cooperation with The Academy of Sciences of Turkmenistan Three years: \$150,000.
- 2006-2008 Southern Arava Sustainable Water Management Plan (SASWMP), EU Life project. Advisory project to assist in Constructed Wetland monitoring. Total 6,500 Euro.
- 2007-2017 Asia Science and Technology Ltd. Conservation of *Pistacia vera* varieties at the BIDR live *Pistacia* germplasm collection. Three installments of 5,000 US\$ each. Total of 15,000 US\$.
- 2008-2010 Israel Cancer Association. Mechanisms of NFkB inhibition and apoptosis by nupharidines. In cooperation with Prof. Jacob Gopas. Total of 84,000 NIS for two years.
- 2011-2013 Effect of nupharidine on inflammation and cancer. Israel Ministry of Health. In cooperation with Prof. Jacob Gopas. Total 200,000 NIS
- 2011-2012 Anti-inflammatory, anti-cancer and anti-viral effect of Nuphar lutea extract. BGN Ltd., In cooperation with Prof. Jacob Gopas. Total 50,000 US\$.
- 2011-2013 Cultivation of *Nuphar lutea* on saline water in the Negev for production of biologically active compounds for medicinal uses. ICA. 20,000 US\$