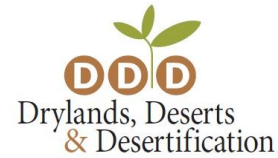




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Feeding the drylands: challenges in a changing environment
November 16-18, 2020

PROGRAM

Monday, 16 November 2020:

14:45- 15:00 Welcome Greeting from UNCCD Executive Secretary, Mr. Ibrahim Thiaw,

15:00-15:15 Welcome Greetings from:

- Prof. Shimon Rachmilevitch, Conference Chair, The Jacob Blaustein Institutes for Desert Research (BIDR), Ben Gurion University (BGU), Israel
- Prof. Noam Weisbrod, Director, BIDR, BGU, Israel
- H.E. Mr. Gianluigi Benedetti, Ambassador of Italy to the State of Israel, Embassy of Italy in Israel
- H.E Ambassador Martin C. Mwanambale, Ambassador of Zambia to the State of Israel and Dean of the African Group of Ambassadors in Israel

KEYNOTE LECTURE:

15:15-15:45 Daniel A. Chamovitz, President, Ben Gurion University, Israel

Food Security from a Pan-Asian Perspective

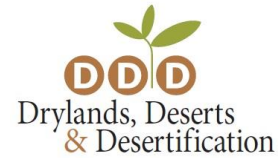
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Parallel Sessions: 16:00-17:30

Advanced functional materials in water treatment applications #1

Convener: Prof. Christopher Arnusch, BIDR, Ben Gurion University

Prof. David Jassby, Dept. of Civil and Environmental Engineering, University of California, Los Angeles, USA, *"Selective Transport of Phosphorous Through Anion Exchange Membranes"*

Prof. Yifu Ding, University of Colorado Boulder, USA, *"Engineering Polymer Membranes with Controlled Surface Patterns for Enhanced Water Treatment"*

Dr. Jongho Lee, The University of British Columbia, Canada, *"Design and applications of vapor-gap membranes for water and resource recovery"*

Viticulture and Vineyards #1

Co-Conveners: Prof. Aaron Fait, BIDR, Ben Gurion University, and Prof. Nurit Agam, BIDR, Ben Gurion University

Prof. Stefano Poni, Università Cattolica del Sacro Cuore, Italy, *"Drought resilience improvement in temperate-climate vineyard ecosystems"*

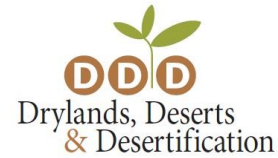
Dr. Simone Castellarin, Wine Research Centre, The University of British Columbia, Vancouver, BC, Canada, *"Impact of Regulated Deficit Irrigation Strategies on Grape Quality in the Semi Arid Region of the Okanagan Valley (BC, Canada)"*

Prof. Gregory Gambetta, Institut des Sciences de la Vigne et du Vin, Bordeaux Sciences Agro, France, *"The delicate balance of defining grapevine drought tolerance"*

Dr. Yishai Netzer, Ariel University, Israel, *"Late shoot pruning improves wine quality of field grown Vitis vinifera cv. Malbec."*



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Kelem Gashu, BIDR, Ben-Gurion University, Israel, *“Temperature shift between vineyards modulates berry phenology, primary and secondary metabolism in a varietal collection of wine grapevine”*

Prof. Alain Deloire, Montpellier University, l'Institut Agro, France, *“Grapevine berry development: Understanding environmental and cultural impacts on berry weight loss and shriveling”*

Resilience of desert societies: Desert environments, environmental changes and their relationship to the vulnerability and resilience of arid land societies

Co-Conveners: Dr. Noa Avriel Avni, Dead Sea & Arava Science Center, and Dr. Yoav Avni, Geological Survey of Israel

Dr. Calogero M. Santoro, Instituto de Alta Investigación, Universidad de Tarapacá, Arica, Chile, *“Cultural Landscapes and Paleoenvironmental Change at the end of the Pleistocene: The Earliest Peopling of the Atacama Desert and its Descendent Until Present”*

Prof. Arlene Rosen, University of Texas at Austin, USA, *“Human Agency and Resilience to Holocene Desertification in the Eastern Mongolian Gobi”*

Dr. Yoav Avni, Geological Survey of Israel, *“Geodiversity as a key for human survival in the harshest deserts on earth”*

Dr. Uzi Avner, Dead Sea and Arava Science Center, Israel, *“Resilience of Ancient Desert Societies, a View from the Southern Negev, Israel”*

Nutrition and management of drylands

Convener: Dr. Dharmesh Verma, Global Head - Technical, RNZ International

Dr. R. P. Dhir, Ex Director, Central Arid Zone Research Institute -Indian Council of Agriculture research, Jodhpur, Rajasthan, India. *“Thar Desert in a Flux”*

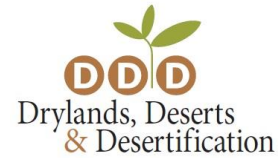
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Dr. A.N. Singh, Ex. Director, Remote Sensing Applications Center, Uttar Pradesh, India,
"Mapping and Monitoring Saline and sodic Soil Reclamation in Semi-arid and Arid Environments of India Using Geo-information Tools"

Prof. Uri Yermiyahu, Agricultural Research Center (ARO), Volcani Center, Israel, *"Plant nutrition as a function of irrigation water quality"*

Prof. Ran Erel, Agricultural Research Center (ARO), Volcani Center, Israel, *"Phosphate Fertilization Management in Israel: Where Irrigation and Water-Treatment Technologies Meet"*

Dr. Amanullah, Department of Agronomy, Faculty of Crop Production Sciences, The University of Agriculture, Peshawar-Pakistan, *"Integrated Foliar Nutrients Application Improve Cereals Growth and Productivity under Moisture Stress Condition in Semiarid Climates"*

Parallel Sessions: 18:00-19:30

Advanced functional materials in water treatment applications #2

Convener: Prof. Christopher Arnusch, BIDR, Ben Gurion University

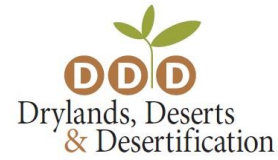
Prof. Ranil Wickramasinghe, University of Arkansas, USA, *"Novel electrospun membranes for membrane distillation"*

Asst. Prof. Shihong Lin, Vanderbilt University, USA, *"Material strategies to overcome fouling, wetting, and scaling in membrane distillation"*

Prof. Louis C.P.M. de Smet, Wageningen University & Wetsus, The Netherlands, *"Recent Advances in Ion Selectivity with Capacitive Deionization"*



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Viticulture and Vineyards #2

Co-Conveners: Prof. Aaron Fait, BIDR, Ben Gurion University, and Prof. Nurit Agam, BIDR, Ben Gurion University

Dr. Williams Kustas, USDA-Agricultural Research Service, USA, *"The GRAPEX project: Understanding vineyard evapotranspiration in order to develop remote sensing tools to detect stress and reduce water use"*

Dr. Andrew McElrone, USDA-ARS, UC Davis, Department of Viticulture and Enology, USA, *"Identifying weak links in the hydraulic chain of grapevines: insights into the impacts of water stress on water uptake and transport physiology"*

Dr. Maria Mar Alsina, E&J Gallo, Modesto, California, USA, *"Evaluation of a Remote Sensing-based toolkit to monitor vine water use and status for irrigation scheduling in California vineyards"*

Dr. Nicolas Bambach, University of California, Davis, USA, *"A new method to estimate sensible heat fluxes from wavelet analysis of semi-high frequency radiometric canopy temperature"*

Dr. Elisabeth Forrestel, University of California at Davis, USA, *"Effects of variable irrigation practices during extreme heat events on grapevine physiology and berry chemistry"*

Critical education: Indigenous land education at the Food Energy and Water Nexus

Co-Conveners: Miri Lavi-Neeman, Arava Institute and Orit Ben Zvi Assaraf, BGU

Prof. Rebecca Tarlau, Penn State University, USA, *"Occupying School, Occupying Land": Food Education, Critical Pedagogy, and Brazil's Landless Workers movement"*

Dr. Rafi Groszlik, Ben-Gurion University, Israel and UC Davis, USA, *"Critical global and local look at food Politics and food education"*

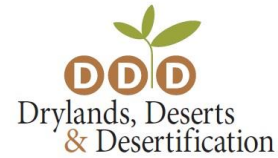
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David Dunetz, Heschel center, Hakkibutzim College, Israel, *"Critical Pedagogy, Education for Climate Change and Climate Justice"*

Lana Khaskia, Founder of Jiwar fi Tabiah, Israel, *"Agro Resistance & Education, a Palestinian Perspective"*

Dr. Wisam Sedawi, Ben-Gurion University, Israel, *"Sense of Place: A Bedouin Experience and Perspective"*

Gender, Leadership & Environment: Mashav Session

Convener: The Golda Meir MASHAV "Carmel" International Training Center (MCTC)

Moderated by: Sarah Wilner, Deputy Director

Ambassador Eynat Shlein, Head of MASHAV, Deputy Director General, Ministry of Foreign Affairs, Israel, *"Mashav Overview and Opening Remarks"*

Dr. Elaine Solowey, Director of The Center for Sustainable Agriculture; The Arava Institute for Environmental Studies, Kibbutz Ketura, Israel, *"Acquiring Needed Water Without Depriving Neighbors or Wildlife"*

Janet Kabebe-Macharia, Head, Gender and Safeguards Unit, Policy and Programme Division, UN Environment, *"Integrating gender equality and women's empowerment in drylands management: Experiences from UNEP"*

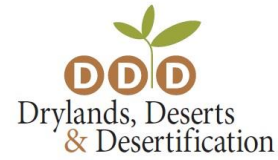
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Tuesday, 17 November 2020:

KEYNOTE LECTURE:

15:00-15:45 Prof. Bernadette N. Kumar, President EUPHA Section for Migrant and Ethnic Minority Health, Co- Chair Lancet Migration, Chair Global Society on Migration, Ethnicity, Race and Health, and Norwegian Institute of Public Health

Migration and Climate Change: Defining issues for Global Health

Parallel Sessions: 16:00-17:30

Foodtech industry- New technologies in face of new challenges

Convener: Dr. Zipora Tietel, Agricultural Research Organization (ARO), Volcani Center, Israel

Prof. Nir Ohad, Tel Aviv University, Israel, *"Food security in view of Covid19"*

Dr. Shoshan Haran, Fairplanet, *"Innovative AgTech Solutions for Increasing Food Production in Africa"*

Dr. Michal Levy, Israeli Ministry of Agriculture, *"Growing more with less- not just a slogan"*

Gidon Toperoff, Ministry of Agriculture, Israel, *"Climate change and food systems - lessons from Israel agriculture towards future challenges"*

Taly Nechushtan, Ceo, InnovoPro, Israel, *"Innovopro's Chickpea Protein Revolution"*

Dr. Dikla Montekio, Director of Investments & Strategic Partnerships; The Kitchen Hub, Israel, *"FoodTech and Sustainability- Challenges & Opportunities"*

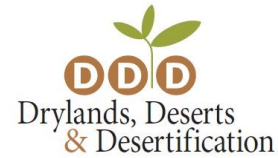
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Resilience of desert societies: Adaptation of desert societies and their interaction with nearby sedentary societies

Co-Conveners: Dr. Noa Avriel Avni, Dead Sea & Arava Science Center, and Dr. Yoav Avni, Geological Survey of Israel

Prof. Steven Rosen, Ben Gurion University, Israel, *"The Permutations of Collapse: Climate, Mobility, and Negev Societies"*

Prof. Gideon Shelach-Lavi, Department of Asian Studies, The Hebrew University of Jerusalem, Israel, *"Resilience vs. Collapse in the Eastern Asian Dryland-Steppe Belt: Historic and Archaeological Perspectives on Responses to Climatic Anomalies"*

Prof. Gideon Avni, Israel Antiquities Authority and Hebrew University, Israel, *"Desert Societies and Imperial Powers: Conflicts, Resilience, and Coexistence in the Near East during the First Millennium CE"*

Mr. Leizer Bergman, Israel Nature and Parks Authority, Israel, *"Survival strategists among the Bedouins living in the driest regions of the Sinai Peninsula"*

Cross border desert research- science and collaboration

Co-Conveners: Dr. Suleiman Halasah- Integrated Green Solutions, Jordan and Arava Institute for Environmental Studies and Rina Kedem- Dead Sea and Arava Science Center and Arava Institute for Environmental Studies

Susan Sgorbati, Director, Center for the Advancement of Public Action; Bennington College, USA

Prof. Daniel Orenstein, Faculty of Architecture and Town Planning; Technion - Israel Institute of Technology, Israel

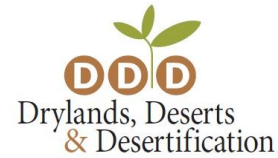
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Dr. Abeer Albalawneh, Expert Researcher, Head of the Ecosystem Research department;
Environment and Climate Change Directorate; National Agricultural Research Center (NARC),
Jordan

Dr. Tareq Abu Hamed, Academic Director, The Arava Institute for Environmental Studies and
Dead Sea and Arava Science Center, Israel

Prof. Asim Zia, Public Policy & Computer Science: Department of Community Development and
Applied Economics & Department of Computer Science; University of Vermont, USA

The consequences of wildlife responses to desertification and climate change

Convener: Dr. Oded Berger-Tal, BIDR, Ben Gurion University

Prof. Joan Van Baaren, University of Rennes 1, UMR-CNRS 6553, ECOBIO, Rennes, France,
*“Behavioural and physiological responses of insects to climate change and consequences at the
community level: the example of a host-parasitoid system in cereal fields”*

Dr. Ofir Levy, School of Zoology, Tel Aviv University, Israel, *“Ecological interactions under
climate change: How shifts in vegetation cover may affect desert lizards?”*

Dr. Susan Cunningham, FitzPatrick Institute of African Ornithology, DSI-NRF Centre of
Excellence, University of Cape Town, South Africa, *“The “landscape of heat”: behavioural
thermoregulation and its impact in a warming world”*

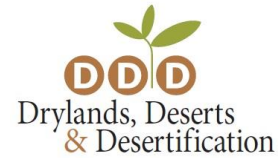
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Water and Agriculture

Convener: Prof. Jack Gilron, BIDR, Ben Gurion University

Dr. Alon Ben-Gal, , Agricultural Research Organization (ARO) – Volcani, Institute of Soil, Water and Environmental Sciences, Gilat Research Center, Israel, *“Managing irrigation water as a function of its quality”*

Prof. Pedro Berliner, BIDR, Ben Gurion University, Israel, *“The effect of runoff collecting basins’ geometry on soil water evaporative losses”*

Dr. Roy Bernstein, BIDR, Ben-Gurion University of the Negev, Israel, *“An integrated process of anaerobic membrane bioreactor, microalgae cultivation, and hydrothermal carbonization for treatment of food industry wastewater and resource recovery”*

Prof. Amos Winter, Global Engineering and Research (GEAR) Laboratory, Department of Mechanical Engineering, Massachusetts Institute of Technology ,USA, *“Driving down the costs of solar-powered electro dialysis desalination, drip irrigation, and the combination of the two”*

Parallel Sessions: 18:00-19:30

Modeling plant response to climate change

Co-Conveners: Dr. Eran Raveh, ARO, and Dr. Or Sperling, ARO

DR. Amnon Erez, Agricultural Research Organization (ARO), Volcani Center, Israel, *“The dynamic model, development and potential improvements”*

Dr. Eike Luedeling, University of Bonn, Germany, *“Analyzing tree phenology in a changing climate”*

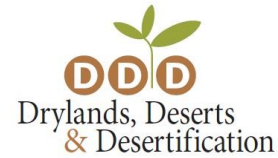
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Dr. Or Sperling, Agricultural Research Organization (ARO), Volcani Center, Israel, *"Introducing carbohydrate metabolism to chill models"*

Prof. Maciej Zwieniecki, University of California, Davis, USA, *"Winding up the bloom clock - do sugar levels at senescence determine how trees respond to winter temperature?"*

Food Virtual Tour: "Generating knowledge and technologies to cope with the expected global food challenges"

Chairpersons: Prof. Simon Barak, BIDR and Prof. Naftali Lazarovitch, BIDR

Video Presentations by:

- Prof. Aaron Fait, Ben-Gurion University of the Negev
- Prof. Moshe Sagi, Ben-Gurion University of the Negev
- Prof. Noemi Tel-Zur, Ben-Gurion University of the Negev
- Dr. Vered Tzin, Ben-Gurion University of the Negev
- Prof. Dina Zilberg, Ben-Gurion University of the Negev
- Prof. Pedro Berliner, Ben-Gurion University of the Negev
- Prof. Sammy Boussiba, Ben-Gurion University of the Negev
- Dr. Rivka Ofir, The Dead Sea-Arava Science Center
- Dr. Alon Ben-Gal, Agricultural Research Organization
- Dr. Arnon Dag, Agricultural Research Organization
- Dr. Ran Erel, Agricultural Research Organization
- Dr. Yuval Kaye, Ramat Negev Research and Development
- Dr. Eran Raveh, Agricultural Research Organization (ARO), Volcani Center, Israel

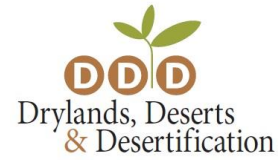
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**Deconstructing Population Pressures as an Indirect Driver of Desertification:
Addressing the Obstacles to Effective Family Planning**

Moderator: Alon Tal, Department of Public Policy, Tel Aviv University

Co-Chair: Zafuf, The Israel Forum for Population, Environment and Society

Dr. Alisha Graves, MHP, Co-Founder of the OASIS Initiative, Bixby Center for Population, Health and Sustainability, University of California, Berkeley, USA, *“Advancing education and choice for girls and women in the Sahel”*

Dr. Mushira Aboo Dia, Obstetrics and Gynecological Specialist, Hadassah Hospital, Klalit, Chair, Doctors for Human Rights, Israel

Dr. Priscilla M. Achakpa, Global President, Women Environmental Programme; Special Adviser to the Honorable Minister of State for Environment for Nigeria

Prof. Daphna Carmeli Birenbaum, Faculty of Social Welfare and Health, Haifa University, Board Member Zafuf, Forum for Population, Environment and Society, Israel

WATER TOUR

Chairperson: Prof. Jack Gilron, BIDR

Video Presentations by/on:

- Prof. Amit Gross
- Principal Investigator Oded Nir
- Shafdan Waste Water Treatment Plant
- Wastewater sampling for Covid-19 epidemiology
- Prof. Sid Loeb
- Drinking water for deprived communities with remote self-sufficient desal units
- Nahal Sorek

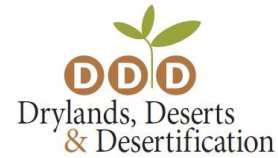
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Flash-Floods in the arid environment

Convener: Dr. Sivan Isaacson, Dead Sea and Arava Center

Prof. Aaron Yair, The Department of Geography, Hebrew University of Jerusalem, Israel, *"Clay dispersion: An important factor in channel runoff generation in a semi-arid area, with low rain intensities"*

Mr. Eran Halfi, Dead Sea and Arava Science Center; Ben Gurion University of the Negev, Israel, *"Characterization of bed load discharge in unsteady flow events in an ephemeral channel in semi-arid region"*

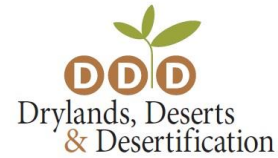
Dr. Rachel Armoza-Zvuloni, Dead Sea and Arava Science Center, Israel, *"Sediment yields in hyper-arid areas of the Middle East exemplified by Nahal Nehushtan, Israel"*

Rami Zituni, The Department of Geography and Environmental Studies, University of Haifa, Israel, *"Reconstruction of the Holocene flood record for the Southern Judea Desert using Palaeoflood hydrology"*

Dr. Sivan Isaacson, Desert Floods Research Center, Dead Sea and Arava Science Center, *"Extracting flash flood distribution and frequencies in arid regions using post flood spectral indices"*



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Wednesday, 18 November 2020:

KEYNOTE LECTURE:

15:00-15:45: Prof. Dan Yakir, Recipient Israel Price In Geology, Earth Sciences and Atmospheric Sciences, Chair, Council of Professors, Department of Earth & Planetary Sciences, Weizmann Institute of Science, Rehovot, Israel

"Forests at the dry timberline are important testbeds for probing ecosystem response to change"

Parallel Sessions: 16:00-17:30

Water flow in soil and plants

Convener: Dr. Uri Hochberg, ARO and Prof. Naftali Lazarovitch, BIDR

Fulton Rockwell, Harvard University, USA, *"Perspectives on the flows of water and energy in the SPAC: where do we stand?"*

Prof. Andreas Kemna, University of Bonn, Germany, *"Spectral electrical impedance tomography: A key to functional root imaging?"*

Dr. Nimrod Schwartz, Hebrew University of Jerusalem, Israel, *"Comparing the drought resilience of different tomato rootstocks using electrical resistivity tomography"*

Prof. Andrea Carminati, University of Bayreuth, Germany, *"Effect of soil drying on stomatal closure"*

Celia M. Rodriguez Dominguez, Instituto de Recursos Naturales y Agrobiologia de Sevilla, Spain, *"From soil to stomata: linking cutting edge research with precision agriculture"*

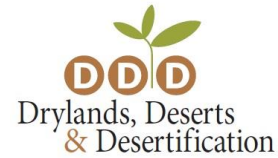
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Prof. Craig Brodersen, Yale School of Forestry & Environmental Studies, USA, *"Visualizing heterogeneous internal pressure gradients in plants"*

Yonatan Sorek, Agricultural Research Organization (ARO), Volcani Center, Israel, *"Vulnerability to cavitation changes along with the growing season and the life span of leaves"*

Resilience of desert societies: Formulation of the new concept of "resilience and collapse"

Co-Conveners: Dr. Noa Avriel Avni, Dead Sea & Arava Science Center, and Dr. Yoav Avni, Geological Survey of Israel

Dr. Noa Avriel-Avni, Dead Sea and Arava Science Center, Israel, *"Are desert societies permanently at risk of collapse? Ways to include arid environments in the present social-ecological system model"*

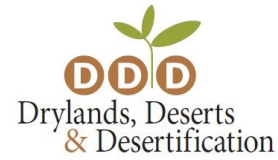
Prof. Avinoam Meir, Department of Geography and Environmental Development, Ben Gurion University of the Negev, Israel, *"Bedouin Contemporary Resilience: The Struggle for Dominating Local Governance"*

Dr. Emir Galilee, Ben Gurion Institute for the study of Israel and Zionism, Ben Gurion University of the Negev, Israel, *"A different landscape: toward a novel approach to sedentarization processes in arid and Semi-arid environments"*

Isaac A. Meir (Sakis), Dept. Structural Engineering, Faculty of Engineering Sciences, Ben-Gurion University of the Negev, Israel, *"Climatic uncertainty and the architecture of survivability"*



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Desertification and Public Health

Co-Conveners: Prof. Nadav Davidovitch, BGU, and Dr. Maya Negev, University of Haifa

Prof. Adetoun Mustapha, Nigerian Institute for Medical Research and Imperial College, London, England, *"Perspectives on desertification as a determinant of public health in Nigeria"*

Prof. Colin MacDougall, Flinders University, Adelaide Australia, *"Are multiple disasters caused by climate change in Australia: really unprecedented and unpredictable?"*

Prof. Samuel Dorevitch, School of Public Health, University of Illinois at Chicago, USA, *"A novel community-scale, solar-powered approach to treating unsafe surface water for drinking"*

Mr. Victor Kanyema, Partners in Health, Neno District, Malawi, *"Highlighting Partners in Health's Experience of Addressing Climate Disasters"*

Desertech

Convener: Prof. Dan Blumberg- Vice President for Regional and Industrial Development- Ben-Gurion University of the Negev

Ms. Galit Cohen, Deputy Director General for Policy and Planning- Israel Ministry of Environmental Protection, Israel

Dr. Jimmy Levy, Entrepreneur and advisor to the Vice President, Israel

Dr. Alejandro Ríos-Galvan, Khalifa University of Science and Technology, United Arab Emirates

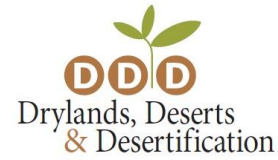
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Remote Sensing in Viticulture

Convener: Prof. Arnon Karnieli, BIDR, Ben Gurion University

Dr. Alfonso Torres-Rua, Utah State University, USA, *"The utility of UAV high resolution imagery and point cloud data for canopy characteristics, LAI retrieval and Evapotranspiration and Transpiration in commercial vineyards in California"*

Dr. Feng Gao, United States Department of Agriculture (USDA), Agricultural Research Service (ARS), Hydrology and Remote Sensing Lab, USA, *"Satellite retrieval of vineyard leaf area index and impact of vine canopy structure and interrow cover crop on retrieval algorithm"*

Dr. Kyle Knipper, United States Department of Agriculture (USDA), Agricultural Research Service (ARS), Hydrology and Remote Sensing Lab, USA, *"Use of an Evapotranspiration Toolkit for Near-Real-Time Irrigation Management: Advantages and Limitations"*

Dr. Martha Anderson USDA-ARS, USA, *"Mapping evapotranspiration over viticultural landscapes using multi-sensor remote sensing"*

Dr. Noa Ohana-Levi, The Remote Sensing Laboratory, BIDR, Ben-Gurion University of the Negev, Israel, *"Time-series clustering of remote-sensing retrievals for defining management zones in a vineyard"*

Special Video Presentation

17:30-18:00

Prof. Rattan Lal, Receiver of the 2020 World Food Prize

"Feeding the Drylands, Challenges in a Changing Environment- What's next?"

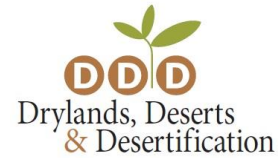
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Parallel Sessions: 18:00-19:30

Long-term desertification processes

Convener: Dr. Yoav Avni, Geological Survey of Israel

Dr. Joel Roskin, Analytical Laboratory, The Artifacts Treatment, Conservation and Laboratories Dept., Israel Antiquities Authority, Israel, *"Plot-and-berm agroecosystems in aeolian sand hinterlands around the Mediterranean basin: A case of regional agri-cultural connectivity?"*

Mr. Lotem Robins, Dept. of Geography and Environmental Studies, University of Haifa, Israel, *"Amplified aeolian-fluvial sedimentation and landscape evolution along the southern margins of the northwestern Negev Dunefield (Israel) since the late Pleistocene"*

Prof. Noam Greenbaum, University of Haifa, Haifa, Israel, *"Runoff generation, rill erosion and time-scales for hyper-arid abandoned alluvial surfaces, the Negev desert, Israel"*

Dr. Nimrod Wieler, Geological Survey of Israel, *"Dating gully incision into an abandoned alluvial surface along the eastern termination of the Altyn Tagh Fault"*

Dr. Stefan Leu, Desert Research Institutes, Sde Boker, Israel, *"Long term degradation and rapid restoration of the Negev's Agroecosystems –lessons learned towards sustainable dryland management"*

Dr. Yoav Avni, Geological Survey of Israel, *"Geological evolution inducing natural desertification in the arid zone of the Middle East – past, present and future"*

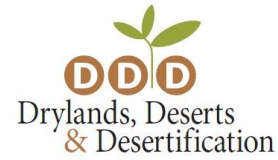
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Ecosystem Virtual Tour: "Monitoring the effects of an oil spill catastrophe in Evrona – a hyper arid ecosystem"

Video presentation by:

- Nitzan Segev, Dead Sea and Arava Science Center
- Prof. Ofer Dahan, BIDR, Ben Gurion University
- Prof. Carmi Korine, BIDR, Ben Gurion University
- Prof. Amos Bouskila, Ben Gurion University
- Dr. Natalie De Falco, Ben Gurion University
- Dr. Timea Ignat, Ben Gurion University
- Dr. Rael Horwitz ,Monitoring Programs Coordinator Hamaarag

A torch in the dark: Celebrating 20 years of the Yatir research station, the first dryland forest flux tower. A session in honor of Prof. Dan Yakir, Weizmann Institute of Science

Convener: Dr. Tamir Klein, Weizmann Institute of Science

Prof. Alex Guenther, University of California, Irvine, USA, *"Biosphere-atmosphere chemical interactions during drought and heat waves in dryland ecosystems"*

Lisa Wingate and Jérôme Ogée, INRAE UMR1391 ISPA, Villenave D'Ornon, France, *"Modelling drought-induced dieback of Aleppo pine at the arid timberline"*

Prof. Naomi Christina Tague, Bren School of Environmental Science and Management, University of California, Santa Barbara, California, USA, *"Understanding forests in a warming world through model-data integration"*

Prof. Steven Leavitt, Laboratory of Tree-Ring Research University of Arizona, USA, *"Isotopes changing through time: Stories from tree rings"*

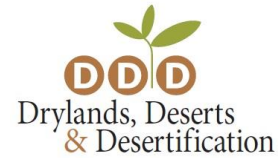
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Health Virtual Tour: "The relationship between environment, health, desertification and climate change"

Co-Conveners: Prof. Nadav Davidovitch, BGU, and Dr. Maya Negev, University of Haifa

Video Presentations by:

- Prof. Sam Dorevitch, University of Illinois at Chicago, School of Public Health
- Colin MacDougall, Flinders University, Adelaide & University of Melbourne, Australia
- Fared Mahameed, Clive Lipchin, The Arava Institute for Environmental Studies, Israel -
- Dr. Na'amah Razon, University of California, San Francisco, USA

Water and Energy

Convener: Prof. Jack Gilron, BIDR

Dr. Andrea Schaefer, Karlsruhe Inst. of Technology, Germany, *"Decentralized solar powered membrane filtration: Opportunities in desert environments"*

Prof. Phillip Davies, Univ. of Birmingham, Great Britain, *"Development of a batch reverse osmosis (RO) system for high-recovery"*

Dr. Roy Posmanik, Institute of Soil, Water and Environmental Science Agricultural Research Organization – Volcani Center, Israel, *"Energy recovery from waste activated sludge in a circular economy approach"*

Prof. Yoram Cohen, University of California, Los Angeles, USA and Ben Gurion University, Israel, *"Distributed RO/NF Water Desalination and Purification Systems: Energy and Pressure Optimal Operation, Operational Flexibility and Fouling Mitigation"*

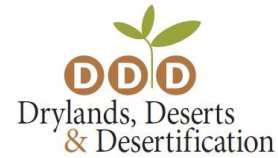
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Prof. Alon Tal & Dr. Michael Roth, Tel Aviv, University, Israel, *“Can Desalination Be A Sustainable Technology for Dryland Countries Who Seek To Mitigate Climate Change?”*

CLOSING SESSION

19:30-20:00 - Feeding the Drylands - What's next

Convener: Prof. Pedro Berliner, Israel's Focal Point to the UNCCD
BIDR, Ben Gurion University, Israel

Speakers:

- Dr. Barron Joseph Orr, Lead Scientist, United Nations Convention to Combat Desertification (UNCCD), Germany
- Prof. Noam Weisbrod, Director, BIDR, Ben-Gurion University, Israel
- Prof. Rattan Lal Receiver of the 2020 World Food Prize; The Ohio State University, USA

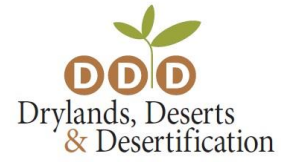
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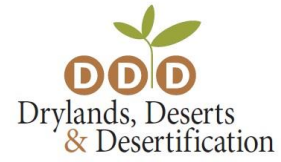
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