



NL-IL Mini-Symposium on Desalination and Clean Hydrogen Production

Date: Thursday 17 June 2021 11:00-13:00 IL time / 10:00-12:00 NL time

Location: Online, via Zoom

Registration: <https://www.eventbrite.com/e/nl-il-mini-symposium-on-desalination-and-clean-hydrogen-production-tickets-149039552313>

YoutUbe Live: <https://youtu.be/ov8mmpzYrf4>

Background: Clean hydrogen can be produced through electrolysis of water. However, since the solid oxide electrolyzer cell cannot operate directly with the seawater, the water intake needs to be treated. This water treatment comprises of purification and desalination. Israel is a world leader in desalination technology and can offer Dutch hydrogen valleys with the knowhow and technology in the field of desalination.

Program

IL time (10:00 NL time)

- 11:00-11:05 **Welcome notes**
- Dr. [Racheli Kreisberg](#), Innovation Attaché, Netherlands Embassy in Israel and Israeli Dutch Innovation Center ([IDIC](#))
 - Dr. [Mark Boneschanscher](#), managing director of the Eindhoven Institute for Renewable Energy Systems (EIRES)
 - [Robert-Jan Smits](#), President Executive Board, Eindhoven University of Technology
- 11:05-11:20 **Role of R&D for the manufacturing (industry) of electrolyzer systems**
Prof. [Richard van de Sanden](#), EIRES, Eindhoven University of Technology
- 11:20-11:35 **Membrane development for desalination and hydrogen energy economy**
Prof. [Viatcheslav Freger](#), Laboratory for Membrane Science and Technology, Wolfson Department of Chemical Engineering, Technion, Israel
- 11:40-11:55 **Electro-Dialysis for water desalination**
Pepijn Fluks, Business Development, [REDstack BV](#)
- 11:55-12:10 **Desalination technology in the use of electrolyzers**
[Tomer Efrat](#), Director Business Development, IDE Water Technologies, Israel
- 12:15-12:30 **The HBr flow battery: For electricity storage and hydrogen production**
Guido Dalessi, CEO Elestor BV
- 12:30-12:45 **Sorek Desalination Plant 150 mcm/y**
[Semion Brover](#), CEO Sorek Desalination O&M
- 12:45-13:00 **Discussion and action items**



Biosketches and Information on Companies and Organisations

Semion Brover



Extensive experience as CEO at large water technology company with a turnover of over 200 million NIS. 10 years of experience in water industry. Significant experience in dealing with water treatment facilities. Construction failures and process issues in various systems. Involvement in design and construction water treatment plants. Experience in working with regulation authorities and governmental offices.

Guido Dalessi



Graduated in Physics (1986), Guido Dalessi started his career in R&D of laser-based measuring equipment. In 1996, he joined a high-tech start-up developing Optical Disc equipment, for which he established a global sales and service network and headed local offices in Singapore and Los Angeles. In 2004, the company was acquired by the public listed Singulus Technologies AG, after which Guido was appointed CEO. In the 8 years that he held this position, the company became global market- and technology-leader in its field. Guido Dalessi joined Elestor in May 2015 and is also one of the early investors.

Tomer Efrat



Tomer Efrat is the Director of Business Development & Product Management at IDE Technologies. With an extensive background in the fields of SWRO, Brackish water desalination, Thermal & IWT, Tomer brings over 13 years of comprehensive knowledge in technology management, business development, process engineering and R&D. Tomer holds a BSc in Mechanical Engineering and an Executive MBA in Business Management from Tel Aviv University. extensive knowledge in water treatment solutions, market analysis and the industrial landscape, and has been researching the mining industry intensively for the past year.

Pepijn Fluks



Pepijn has nearly 25 years of professional experience within both corporate, SME and start-up organizations. He held senior management positions within the ICT, high-tech and renewable energy industry. He joined REDstack after resigning from a key position in the energy transition domain at the largest Dutch regional grid operator. Pepijn holds a Masters degree in Mechanical Engineering at Delft University of Technology, and completed multiple senior management development programs at renowned institutes. He has a passion for and proven track record in international Business Development.



Prof. Viatcheslav Freger



Ph.D. (summa cum laude) 1993-1999, Ben-Gurion University of The Negev, Department of Chemical Engineering, Beer-Sheva, Israel. Research Fields include: Membrane Technology, Desalination and Water Purification, Physical Modeling and Advanced Characterization of Membranes, Novel and Modified Membranes for Environmental and Energy Applications Interaction of bacteria with surfaces: deposition and biofouling Fuel Cell Membranes. Research Topics are i) Transport of ions and molecules in membranes; ii) Modification of commercial membranes for improved performance; iii) Development of novel types of composite membrane; iv) Membranes for fuel cells; v) Interaction of bacteria with surfaces: bacterial deposition and fouling-resistant surfaces

Prof. Richard van de Sanden



Richard van de Sanden is the scientific director of the Eindhoven Institute for Renewable Energy Systems (EIRES), group leader of Plasma Solar Fuels Devices at the Dutch Institute for Fundamental Energy Research (DIFFER), and full Professor at the Department of Applied Physics of the Eindhoven University of Technology (TU/e) in the Netherlands. He received his Ph.D. in 1991 from the TU/e on fundamental research on an expanding plasma jet. His work specializes in applying new advanced diagnostics for gas phase species detection as well as in situ analysis and control of the physical and chemical properties of the materials processed. He has authored and co-authored over 550 papers in peer-reviewed journals and is the co-inventor of over 20 patents. His work was awarded several prizes, in particular for transferring scientific knowledge to industry.

Robert-Jan Smits



Robert-Jan Smits is the President of the Eindhoven University of Technology. Prior to this, he worked at the European Commission in the positions of Open Access Envoy (2018-2019) and Director-General of DG Research and Innovation (RTD) (2010-2018) where he was responsible for defining and implementing the EU policy and programmes in the field of research and innovation: Horizon 2020 (annual budget: 8 billion euro). Mr. Smits is also one of the architects of the successor programme Horizon Europe (annual budget: 10 billion euro). Mr. Smits has received several recognitions and awards for his contribution to European science and innovation. He is an honorary member of Academia Europaea and of the Koninklijke Hollandse Maatschappij der Wetenschappen. He has degrees from Utrecht University in The Netherlands, Institut Universitaire d'Hautes Etudes Internationales in Switzerland and Fletcher School of Law & Diplomacy in the United States of America.