



Stockholm Junior Water Prize in Israel

Under the auspices of the Iby and Aladar Fleischman Faculty of Engineering,
Tel Aviv University and the Jewish National Fund – USA in memory of Zevi Kahanov
With the Support of the Raquel and Manuel Klachky Fund

תחרות פרס המים של שטוקהולם לנוער בישראל

בחסות הפקולטה להנדסה ע"ש איבי ואלדר פליישמן, אוניברסיטת תל-אביב
בזיווה נשוונל פאנד ארה"ב אשר תמיכה בפרויקט מוקדשת לזכרו של זאבי כהנוב ז"ל
בתמיכת קרן ראקל ומנואל קלצ'קי

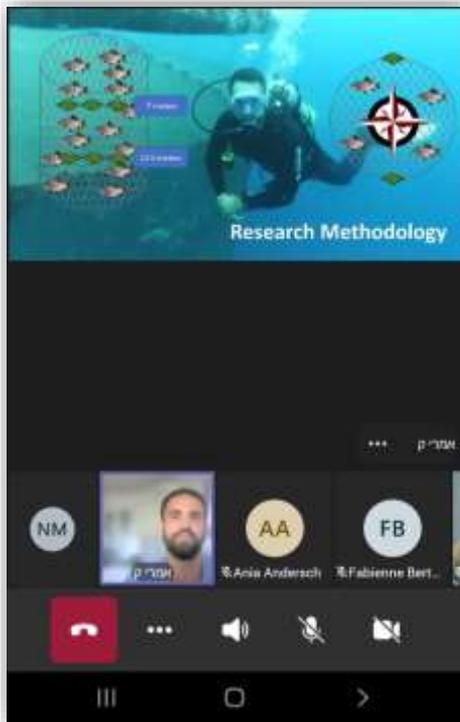
Stockholm Junior Water Prize 2021 – International Summary



Stockholm Junior Water Prize is an international competition that brings together creative and ambitious young researchers from all over the world, encouraging their continued interests in water and sustainability issues. In 2021, despite the challenges Covid-19 Pandemic has caused all over the globe, laureates of 32 countries have attended the entirely virtual international competition, and proudly represented their respective countries, with creative solutions to broad aspects of water and sustainability issues. You can learn about the different projects from the international catalogue: https://www.siw.org/wp-content/uploads/2021/09/2021_SJWP_Catalogue_FINAL.pdf

Imri Ketzef, from “Ramot Yam” High-School at Moshav Michmoret, represented Israel in the international competition in 2021. His project titled “Feasibility of Integrated Fish and Algae Off-Shore Farms” tackled not one but two sustainability issues, dealing with both water and food scarcity, checking the possibility for providing healthier food produce while saving double-fold of fresh water and preventing oceanic pollution, caused by off-shore fish farming. Imri’s idea was to combine offshore fish farming with algae cultivation and create a dual farm. He checked its feasibility by examining the effect of directional position in relation to the fish cages, and water depth on growth and chemical composition of the *Ulva Algae*. Under the academic guidance of Mr. Rafi Yavetz, collaborating with “Lev Yam” Fish farms, located 3 km into the sea, Imri has placed algae cultivation net devices developed by Dr. Meiron Zollmann, from TAU, in two different depths upstream and downstream to evaluate the availability of nutrients emitted from the fish cage for seven days. He

tested algae growth by weighing before and after the experiment and calculated the daily growth rate. He also extracted chlorophyll a using a bio solvent and tested the solution in spectrophotometer to calculate chlorophyll a concentration. The results show a proven feasibility of an integrated fish and algae off shore marine farm. They indicate that we need to grow only 2.7 tons of algae to completely absorb all dissolved nitrogen excretions for each ton of fish.



During the intensive preparations for the international competition, Imri has translated and edited his research to meet international standards, crated a professional ppt presentation, wrote a script and directed a humorous video-pitch to explain his research for the public and of course conducted interviews in front of the international jury.

You can learn more about Imri's project at:

<https://www.watertank.se/projects/feasibility-of-integrated-fish-and-algae-offshore-farms/>

Out of 32 countries participating in the international competition 8 were summoned to the super-finals to represent their research once more – Israel one of them. During the interviews Imri has demonstrated professionalism and deep knowledge of the given topic, motivated by his ambition and scientific curiosity, which impressed the competition jury.

Though Imri did not receive an international prize this year, he represented Israel in a very honorable manner. Besides, as Imri

said, it was a once in a lifetime experience, with a chance to develop valuable academic and business skills which would definitely be needed in his future career.

The award ceremony was held on 24 August, when the Prize's Patron, HRH Crown Princess Victoria presented **the winner of the 2021 Stockholm Junior Water Prize – Eshani Jha** from the **USA** – who has done research on how to remove contaminants from our freshwater in a simple and cost-effective way. The process involves replacing active carbon with biochar for use in efficient and cheap water filters. **A Diploma of Excellence** was also awarded this year and went to **Thanawit Namjaidee and Future Kongchu** from **Thailand**, for developing a way to use organic waste material for moisture retention, thereby accelerating plant growth. The **People's Choice Award** went to **Gabriel Fernandes Mello Ferreira** from **Brazil** for developing a micro-plastic retention mechanism for water treatment. Over 55,000 people voted in the People's Choice Award.

The Stockholm Water Prize in Israel team would like to express thanks to the Faculty of Engineering of Tel-Aviv University, the Raquel and Manuel Klachky Fund, the Jewish National Fund USA (in memory of Zevi Kahanov) and Water Authority for their continuous support.

Watch Crown Princess Victoria's inspiring speech and announcing the winner at the 2021 ceremony: <https://www.facebook.com/SIWIwater/videos/250011646975971/>