

## **WED2022 HACKATHON ANNOUNCEMENT**

The World Federation of Engineering Organisation is pleased to announce that **the winner of the World Engineering Day 2022 Global Hackathon with a prize of €4000 is Team WONDERPETS from Batangas State University the Philippines**. The members of the team are: Reaner Jacqueline Bool, Ghia Luwalhati and Nicole Elizabeth Tan. The team undertook Challenge 3 - Water accessibility in a changing climate by using PET Plastic bottles as a basis for developing Metal Organic Framework materials which are novel adsorbents and extremely porous, as an effective means of removing pollutants from water. (Video presentation: <https://youtu.be/Jgk6wrAXBwA>)

**In 2nd place, the winner of €2,000 is Team Mobile Rain Harvesting System from The University of British Columbia Okanagan** with team members Patrick Jilek-Rodriguez, Ammar Zavahir, Wilson Holland and Adam Friccka. This team also tackled Challenge 3 by developing a rain water harvesting system which allows inhabitants in remote indigenous communities to have access to clean water. (Video presentation: <https://youtu.be/Tf8w9qEy2eQ>)

**In 3<sup>rd</sup> place, the winner of €1,000 is Team HyaPak, from Egerton University in Kenya** and with team members Charles Rugendo and Joseph Nguthiru. The team tackled Challenge 1: responsible and innovative use of materials and reduction of non-biodegradable waste, by using fibres from the water hyacinth, a weed that pollutes waters, into a biodegradable alternative to single-use plastic products. (Video presentation: <https://youtu.be/ec8e00j6Euw>)

The judges were very encouraging of the winning entries and thought they tackled the challenges with great ingenuity and engineering innovation.

The theme of **World Engineering Day 2022 is Build Back Wiser – Engineering the Future**. WFEO therefore developed the World Engineering Day Hackathon, a world first event, to engage young engineers and engineering students from every continent around the world.

This amazing international event would not have been possible without the support of our international partners – UNESCO, International Federation of Consulting Engineers (FIDIC), International Federation of Engineering Education Societies (IFEES), Global Engineering Deans Council (GEDC), International Engineering Alliance (IEA), International Network for Women Engineers and Scientists (INWES) and Engineers Without Borders (EWB).

The Hackathon had three challenges and each team had to choose one for a solution.

These were:

**Challenge 1:** responsible and innovative use of materials and reduction of non-biodegradable waste such as plastics

**Challenge 2:** Biomimicry in Engineering Solutions -. Learning from nature for Sustainable solutions that result in innovation, optimal resource use and healthy and improved living

**Challenge 3:** Water accessibility in a changing climate - Climate-resilient water management systems to ensure safe and ongoing access for all

Each of the challenges involved one or more of the UN Sustainable Development Goals. The judging criteria were based on the recently approved **International Engineering**

**Alliance Graduate Attributes and Professional Competencies** and enabled participating young engineers and engineering students to demonstrate their abilities to produce sustainable solutions and outcomes in alignment with these Attributes.

We received over 120 wonderful entries in the first round, from over 20 countries around the world. There were nearly 500 individual team members.

WFEO would like to acknowledge all those who took the time to participate in the Hackathon.

Our thanks also to our sponsors, especially INTEL, whose generous contributions have enabled us to deliver this once in a life time experiences to hundreds of young engineers and students around the world.

WFEO would also like to thank our Volunteer Working Group, led by WFEO Immediate Past President Dr Marlene Kanga, Mr Firas Bou Diab, Chair of the WFEO Young Engineers/Future Leaders Committee and its representatives, Engineers Without Borders and SPEED, the student arm of IFEES-GEDC.

WFEO would also like to acknowledge the judges that made this competition possible. The preliminary judging panel comprised 40 judges from every continent, who volunteered their time to assess all the projects that were received from around the world and selected the top nine entries to enter the Finalist round.

The finalist judges were representatives of WFEO international partners and UNESCO. This was truly a great effort for the inaugural global Hackathon.

The nine finalists were announced on 14th February and had two weeks to create a video presentation of their submission. These finalists were:

Challenge #	Team Name	University	Country	Students
3	WONDERPETS	Batangas State University	Philippines	Ghia Luwalhati Nicole Elizabeth Tan Reaner Jacqueline Bool
3	Mobile Rain Harvesting System	The University of British Columbia Okanagan	Canada	Patrick Jilek-Rodriguez Ammar Zavahir Wilson Holland Adam Friccka
1	HyaPak	Egerton University	Kenya	Charles Rugendo Joseph Nguthiru
1	INDUS	Odisha University of Technology and Research, Bhubaneswar	India	Anup Paikaray Pratyusha Sarangi
2	Hephaestus	Hyderabad Institute of Technology and Management	India	Anumula Nymisha Nandini Reddy Banda Shiva Rakshitha Kandati Deepthisri Reddy Neha Saw

				Pavani Dhanni
2	Ruby	Monash University	Australia	Aidan Riri Tah Nathaniel Wiringi Jones Duc Nhan Nguyen Gilbert Lik Yan Ung
2	Ice City	Harbin Engineering University	China	Xinqi Wang Zhuo Zhi Wentao Chen
3	466	Nankai University	China	Fangyu Qu Wen Shi Zijie Zhang Jiale Huang (Nankai & University of Glasgow)
3	GRAZ	University of British Columbia-Okanagan Campus	Canada	Angela Zhou Farid Alakbarov Mpho Lillian Rambau Ryan Maina Gatheru

World Engineering Day was first celebrated in 2020. This annual UNESCO celebration was established to raise awareness of the essential role that engineering plays in mitigating the impact of climate change and advancing sustainable development.

For more information, please visit: [World Engineering Day website](#)

All Hackathon finalists can be viewed on this Playlist: <https://youtube.com/playlist?list=PL-hy6XzGXgBnZZISnoQsi4sbehLvpb98B>



**WFEO World Engineering Day 2022 Global Hackathon Winners: Team WONDERPETS,** Reaner Jacqueline Bool, Ghia Luwalhati and Nicole Elizabeth Tan Batangas State University, the Philippines. Photo Source: Team members



**WFEO World Engineering Day 2022 Global Hackathon 2<sup>nd</sup> Place: Team Mobile Rain Harvesting System, Patrick Jilek-Rodriguez, Ammar Zavahir, Wilson Holland and Adam Fricska, University of British Columbia Okanagan. Photo Source: Team members**



**WFEO World Engineering Day 2022 Global Hackathon 3<sup>rd</sup> Place: Team HyaPak, Charles Rugendo and Joseph Nguthiru, Egerton University in Kenya.**

Photo Source: Team members