

# 2024 Net Zero Tech International Contest @Taiwan International Contest **Winners**

Awards		No.	Work Title	Position	Name		School	Department
1	Champion	INTL 15	Ultrahigh Efficiency Bidirectional DC-DC Converter for Energy Storage and Super Charger Applications	Advisor	Jih-Sheng	Lai	Virginia Polytechnic Institute and State University	Electrical and Computer Engineering
				Advisor	Hsin-Che	Hsieh		
				Leader	Bryan	Gutierrez		
				Student	Ching-Yao	Liu		Mechanical Engineering
				Student	Ganesh	Rai		Electrical and Computer Engineering
2	First Runner-Up	INTL 10	A novel up-scaling process of a photoelectrochemical system with H2 generation for real saline sewage treatment: taking pioneering steps towards net zero wastewater treatment technology	Advisor	Irene Man Chi	Lo	The Hong Kong University of Science and Technology	Department of Civil and Environmental Engineering
				Advisor	Zexiao	Zheng		
				Leader	Taoran	Dong		
				Student	Hoi Kit Justin	Man		
				Student	Cheuk Wai	Lung		
3	Second Runner-Up	INTL 08	Novel process design and validation for decreasing CO2 emission from cement production decarbonization	Advisor	吳	煒	National Cheng Kung University	化學工程學系
				Advisor	賴	啟銘		
				Leader	吳	紀昀		
				Student	張	宸語		

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				Student	Mazumdar	Debayan		
				Student	曾	慶豪		
4	CPC Corporation, Taiwan Smart Energy Award	INTL 03	Advanced Carbon Capture and Elimination Process Technology using Membrane Engineering (ACCEPT-ME)	Advisor	康	敦彥	National Taiwan University	化學工程學系 (Department of Chemical Engineering)
				Leader	吳	柏均		
				Student	李	雪菱		
				Student	游	元禎		
				Student	張	守豐		
5	NTU-AIAD, Advanced Net Zero Emission Technology Award	INTL 04	Low-Cost Energy-Efficient Atmospheric-Pressure Plasma Jet Processed NiCo-Metalorganic Framework Electrocatalyst in Anion Exchange Membrane Water Electrolysis Module	Advisor	陳	建彰	National Taiwan University	應用力學研究所
				Advisor	陳	奕君		光電工程學研究所
				Advisor	王	孟菊	國立台灣科技大學	化學工程系
				Leader	普	智暉	National Taiwan University	應用力學研究所
				Student	余	碩恩		重點科技研究學院
				Student	闕	振宸		奈米工程與科學
				Student	陳	奇松		應用力學研究所
				Student	洪	柏彥		
				Student	吳	幸真	國立台灣科技大學	化學工程學系
				Student	謝	尚霖		
Student	董	芮妤						
6	Advanced Green Energy Award	INTL 09	Next-Generation Redox-Mediated Bipolar Membrane Electrodialysis:	Advisor	侯	嘉洪	National Taiwan University	環境工程學研究所
				Leader	吳	旻臻		
				Student	張	睿耀		

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			Simultaneous Seawater Desalination and Carbon Capture	Student	高	毓慧		
				Student	王	柏硯		
				Student	陳	怡瑋		
7	Nan Pao Resins Zero Carbon Vanguard Award	INTL 20	Nanomaterial-driven 'green-heat' generation for CO2-free space-heating and water-desalination	Advisor	Sandip Kumar	Saha	Indian Institute of Technology Bombay	Mechanical Engineering
				Advisor	Chandramouli	Subramaniam		Chemistry
				Leader	Anuj	Bangad		Energy Science and Engineering
				Student	Nikita Vasudev	Chitre		Chemistry
				Student	Dipin	Thacharakkal		
8-1	Excellent	INTL 01	Superhydrophobic Metal-Organic Framework (MOF) Sponge Composite for Oil-Water Separation	Advisor	林	嘉和	National Taiwan Normal University	化學系
				Leader	陳	佳樂		
				Student	王	昱順		
				Student	劉	鴻恩		
8-2	Excellent	INTL 02	Application of a New High-Gain Power Converter in Next-Generation Renewable Energy Systems	Advisor	Liu	Hwa-Dong	National Taiwan Normal University	Undergraduate Program of Vehicle and Energy Engineering
				Advisor	Lin	Chang-Hua	National Taiwan	
				Leader	Ul Munieeb	Mosaib		

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				Student	Sahito	Ahmed Tauseeqe	University of Science and Technology	Department of Electrical Engineering
				Student	Shih	Jyun-Wei	National Taiwan Normal University	Department of Electrical Engineering
				Student	Chen	Wei-Yu		
8-3	Excellent	INTL 05	Integrating a novel Coastal Wave Energy Converter and Carbon Negative Cement for Net Zero	Advisor	Ou	Ting-Chia	National Cheng Kung University	Program on Smart and Sustainable Manufacturing
				Leader	Ju	Zhi-Chin	Leiden University & Delft University of Technology	Industrial Ecology Master' s Program
				Student	Chen	Yu-Tung	National Tsing Hua University	Bachelor of Science
				Student	Chen	Shu-Er	National Cheng Kung University	Department of Civil Engineering
8-4	Excellent	INTL 06	Green and Advanced Magnesium-based Hydrogen Storage Alloy	Advisor	顏	鴻威	National Taiwan University	材料科學與工程學系
				Advisor	謝	宗霖		
				Leader	林(Lin)	廷熹(Ting-Si)		

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				Student	洪(Hung)	豪均(Hao-Chun)		重點科技學院元件材料與異質整合所 材料科學與工程學系
				Student	陳(Chen)	柏憲(Bo Xian)		
				Student	侯(Hou)	郁靖(Yu Ching)		
				Student	王(Wang)	昱翔(Yu Hsiang)		
8-5	Excellent	INTL 07	EcoSphere: A Model for Sustainable and Effective Learning Environment	Advisor	Kok Sum	Ng	Sunway University	School of Engineering and Technology
				Advisor	Angela Siew Hoong	Lee		Department of Art · Design and Media · School of Arts
				Advisor	Chew Xiang	Fu		School of Engineering and Technology
				Advisor	Hock Kuen	Foong		Department of Arts · Design & Media · School of Art
				Leader	Jen Looi	Tee		
				Student	Deaberniswarar	Sharmaa		
				Student	May Mun Yi	Yeap		
				Student	Jonathan Jared	Ignacio		

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				Student	Chiao Pin	Tan		School of Engineering and Technology
				Student	Willion Wei Yen	Yap		Department of Arts · Design & Media · School of Art
				Student	Jason	Kow		
8-6	Excellent	INTL 11	E-Sense Power	Advisor	Wang	Huai	Aalborg University	AAU Energy
				Leader	Wei	Xing		
				Student	Zhang	Yichi		
				Student	Liu	Yongjie		
				Student	Yao	Bo		
				Student	Liu	Jiahong		
8-7	Excellent	INTL 12	A rechargeable zinc-air battery enabled by a solid hydrogel electrolyte in both atmospheric and low-temperature conditions	Advisor	劉	大中	National Yang Ming Chiao Tung University	生物醫學工程
				Leader	楊	融昊		
				Student	徐	晨軒		
				Student	翁	永承		
				Student	林	泓証		
				Student	何	紹圻		
8-8	Excellent	INTL 13	The Decarbonizer: A Comprehensive Solution for	Advisor	WEI CHENG	WANG	National Cheng Kung University	Department of Aeronautics and Astronautics

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			Waste Reduction and Hydrogen Production	Leader	Rusdan Aditya Aji	Nugroho	National Sun Yat Sen University	Mechanical and Electro-Mechanical Engineering
				Student	林	明叡	National	航太工程
				Student	Muhammad	Azmi	Cheng Kung	AERONAUTICS
				Student	鄭	宇	University	能源國際碩士學程
8-9	Excellent	INTL 14	Seaweed Afforestation: Unlocking the Ocean's Potential for Carbon Sequestration	Advisor	任	昊佳	National Taiwan University	地質科學系
				Advisor	何	東垣	中央研究院	環境變遷研究中心
				Advisor	張	睿昇	國立海洋大學	海洋中心
				Advisor	Stephens	Brandon	National Taiwan University	海洋研究所
				Leader	Tan	Carel		Department of Geosciences
				Student	蔡李	人誼		地質科學系
				Student	嚴	語晨		海洋研究所
8-10	Excellent	INTL 16	EcoAlgae	Advisor	Tharushi Prabha	Keerthisinghe	University of Moratuwa	Department of Chemical and Process Engineering
				Leader	Isumi	De Silva		
				Student	Januth	Liyanage		
				Student	Janitha	Dissanayake		
				Student	Gavin	Senaratne		

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8-11	Excellent	INTL 17	Sao Paulo Net Zero Design and Net Zero Emission Sustainable Public Library	Advisor	Ardiyansyah	Yatim	University of Indonesia	Mechanical Engineering
				Advisor	Ova	Candra Dewi		Architecture
				Leader	Leonardo	Dillon		
				Student	Alexander Ganesh	Aji Dewanto		
				Student	Heidy	Sekardini		Mechanical Engineering
				Student	Amar	Falah Riyanto		
				Student	Farras Hafizh	Al Farisi		
Student	Vynna Alviolina	Indriyana						
8-12	Excellent	INTL 18	Bromeliad Library: Achieving Net Zero Operation in São Paulo through Energy-Efficient Library with Clay Facades, Fog Catchers, and Sustainable Mechanical Systems	Advisor	Ardiyansyah	Saad Yatim	University of Indonesia	Mechanical Engineering
				Advisor	Miktha Farid	Alkadri		Architecture
				Leader	Bimantyo Ganggas Fadhil	Ihsani		
				Student	Miguel Bintang	Samuel		Mechanical Engineering
				Student	Alfian	Febrianto		
				Student	Muflikh Kas	Yudamaulana		
				Student	Alya Widha	Aurellia		Architecture
Student	Risma	Fitriyanti						



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8-13	Excellent	INTL 19	A Solution for Sustainable Future: Design and Feasibility Analysis of Chemicals-based International Renewable Energy Supply Chain	Advisor	Chen	Cheng-Liang	National Taiwan University	Chemical Engineering
				Leader	Ong	Chong Wei		
				Student	Lien	Sheng-Chi		
				Student	Chang	Hao-Chu		
				Student	Wang	Wei-Te		



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