



Conference on “Role of Engineering Towards Better Environment” RETBE’21

Towards achieving the 2030 vision, the Faculty of Engineering at Alexandria University is hosting the 12th International Conference “Role of Engineering Towards Better Environment” RETBE’21. The theme of the conference this year will be “Vision 2030: Engineering Challenges in the Midst of the Pandemic”.

The conference will be held from 20 to 22 December 2021 in Alexandria, Egypt. It continues to uphold the mission of the preceding successful series of RETBE conferences that started over 20 years ago, emphasizing the challenges facing the environment and the need for innovative actions and policies.

RETBE’21 conference is to bring together innovative Academia, Industry and Government in the fields of: Engineering, Technology and Environment to a common platform where researchers, scientists, and engineers can exchange their findings with global experts and officials.

Within the 2030 vision, the conference provides attendees and participants with the opportunity to share their experiences and ideas with peers from various parts of the world with the purpose of helping delegates to foster business and research relations for collaboration in the future





Day 1: Monday, December 20 th , 2021		
08:30 am	Registration (all day)	Faculty of Engineering
09:00 am - 10:45 am	Opening Ceremony: Prof. Rawya Kansoh , Conference Coordinator, Faculty of Engineering, Alexandria University Prof. Essam Wahba , Vice Dean, Faculty of Engineering, Alexandria University Prof. Said Allam , Dean, Faculty of Engineering, Alexandria University Prof. Abdelaziz H. Konsowa , President, Alexandria University	Hall A1
11:00 am - 12:00 pm	Keynote Speech Water Scarcity Research and Education in the Eras of Climate Change and Sustainable Development Prof. Hani Swelltem , RWTH Aachen University, Germany	Hall A1
12:00 pm - 01:00 pm	Coffee Break	SSP Building 1 st floor
01:00 pm - 01:15 pm	Delta Building Systems	
01:15 pm - 03:00 pm	Panel Discussion hosted by RETBE'21 Climate Change and Global Warming « Getting ready for UN COP 27 » Session Moderator: Prof. Rawya Kansoh, Faculty of Engineering, Alexandria University	Hall A1

Technical Virtual Meetings via ZOOM		
Coordinators: Dr Yousry Taha, Dr Dina Elgayar		
04:00 pm - 05:30 pm	Session #1: Water Issues *Chair Person: Prof. Haytham Awad *Co-chair: Dr Mohamed R. Torkomany Meeting ID: 976 2365 8279 Password: RETBE21	Session #2: Sustainable Urbanism *Chair Person: Prof. Hassan K. Abdel Salam *Co-chair: Dr Dina Saadallah Meeting ID: 860 7787 8928 Password: RETBE21
	Critic comparative analysis approach for Alexandria port – Alexandria city – Egypt, Mona Sayed Seifellislam, Amira. A Fathi, Ali Bakr. Assessment of The Long-Term Shoreline Changes of El Alamein Coastal Area, Egypt, Ahmed Slama, Elstohey, Maysara Khairy El-Tahhan, Walid E. Reda, Hossam M. Moghazy.	Assessment of Livability in the Urban Built Environment in Alexandria, Egypt, Heba M. Affara, Hany M. Ayad, Dina M. Saadallah. Coastal Cities' Blue-Green Infrastructure Model (BGIM) The Case of New El-Alamin City, Egypt, Tasneem Amr, Asmaa Hassan, Khalid El Hagla.

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06:00 pm - 07:30 pm	Session #3: Renewable Energy *Chair Person: Prof Wael Elmaghlany *Co-chair: Dr Mohamed Elhelw Meeting ID: 922 7832 3650 Password: RETBE21	Session #4: Sustainable Architecture *Chair Person: Prof Dina M. Nassar *Co-chair: Dr Ingi A. El Cherif Meeting ID: 835 5232 7943 Password: RETBE21
	Risk management and cost analysis of treated wastewater reuse: Proposal for the New Al-Alamein city, Egypt, Sara AbdelMoula, Mohamed T. Sorour, Samia A. Aly. The Performance of Novel Draw Solutions in Brackish Water Desalination Using Forward Osmosis, T. M. Zewall, M.A. Dawod, S. M. Abd Elrazik, S.E. Elalty, M. A. Saad, El-Sh. Ibrahim	Creating Sustainable Cities: Biomimicry as Conductive Approach, Sherouk Seif, Walid abdelal, Ali Bakr The Influence of Urban Economics on The Growth of Historic Cities (Case Study: Alexandria), Rahma Hassan, Hassan Abdel Salam, Asmaa E. Hasan Effects of Vertical Densification on the built environment in the city of Alexandria, Walaa Khaled Helal, Dina M. Saadallah, Dina Taha.
Can Egypt achieve its target of 20% of electric energy from renewables by 2022? Tarek ElShenawy. Optimization of Green Hydrogen Utilization for Power Generation and Liquefaction for Export, A. Saleh, D. AbuMaaty, M. Mohsen, R. ElAdawy, Y. Mohamed, D. ElGayar, S. Haddara, H. Warda. Validation and Optimization of a Three Floats Wave Energy Converter, A. R. Bassiouny, Y. Welaya, Khaled A. Geba, T. M. Ahmed. Influence of the variations of the geometrical parameters on the flanged diffuser augmented wind turbine performance, Amr M. Abdelrazek, Ahmad O. Abdelaziz, Sadek Z. Kassab. The Effect of Endplate Addition on the Perf Wind Turbine: A 3-D study, Sadek Z. Kassab, Chemengich S. Jamar, Eslam R. Lotfy.	Architectural Programming and physical Sustainability: Optimizing Adaptability in the Pre-Design Phase, Sarah Essam, Hassan Abdel Salam, Asmaa E. Hasan Morphology of Architectural Structure: An Approach to Assess Quality of Spaces and Performance of The Resulted Built-Forms, Yara H. Helmy, Ibrahim E. Ma'arouf, Asmaa E. Hasan Biomimicry Principles as a Tool for Evaluating Buildings, Basma M. Abdel Aleem, Mohamed A. Fikry Enhance the Environmental Performance of Existing Office Building Using Passive Cooling Techniques, Engy F. M. Ishak, Alessandro Rogora, Ibrahim H. Saleh, Zeyad M. Elsayed Improving Energy consumption in social housing by using different levels of retrofitting, Allaa M. Abu Eldahb, Zeyad M. Elsayad, Ali F. Bakr.	

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	Mass transfer Behavior for a Gas Sparged rotating Cylinder electrode, H. K. Ali, S. A. Nosier, I. H. Mohamed, G. H. Sedahmed, M. A. El-Naggar	Behavior of Reusable T-Stub Beam Column Connection, Mohaymen Moustafa, Ahmed M.Khalifa, Ahmed Shamel Fahmy . Achieving resilience in COVID-19's New Normal: Changes in office buildings and workspaces design according to social distancing and teleworking parameters, Mohammed S. Ali, Tarek A. Farghaly, Dina M. Saadallah .
Day 2: Tuesday, December 21st, 2021		
06:00 pm – 07:30 pm	Session #7: Energy *Chair Person: Prof. Mohamed Teamah *Co-chair: Dr Ahmed Elwardany Meeting ID: 939 6738 1304 Password: RETBE21	Session #8: Technology in Architecture *Chair Person: Prof Dina S. Taha *Co-chair: Dr Asmaa El Sayed Meeting ID: 847 4126 5750 Password: RETBE21
	Numerical Investigation of Planning Hull Resistance Using Different Turbulence Models, Alsmoual A. Alhassan, Adel A. Banawan, Yasser M. Ahmed, Tamer. M. Ahmed, Maged M. Abdelnaby	(VIRTUAL HERITAGE) Digital Documentation and conservation of heritage, Heba Stumah, Mohamed Fikry, Waled Abdel Aal .
	Sustainable retrofits for high-rise building envelopes in North America: A communication, H. M. Teamah, M. Teamah .	Retrofitting Historical Buildings for Fire Resistance, Renal Salama, Mohamed Anwar Fikry, Ibrahim Marof
	Reducing Carbon Footprint of Thermal Natural Gas Power Plants Using Cryogenic Carbon Capture Technology, Abdurrahman A. Alsanousie, Abdelhamid E. Attia, Mohamed Elhelw, Osama A. Elsamni .	A Holistic Approach for the Digital Documentation of Urban Cultural Heritage Using HBIM, Lara A. Awad, Khalid S. M. Al-Hagla, Dina M. Nassar
	COVID-19 & the Nuclear Industry: Review of Impacts and Implications for Newcomer Countries, Mohamed H. M. Hassan .	Acoustic Environment and Architectural Characteristics of learning spaces via its Soundscape, Ayat K. Kamal, Mostafa R. Ismail, Mohammed S. Mayhoub .
	Spotlight on the influence of various parameters, related to the inlet injection region, on an air-water air lift pump performance, Sadek Z. Kassab, Abdelrahman A. Abdelrazek, Eslam R. Loffy .	Designing Low Rise Green Buildings in Iraq with Emphasis on Structural Design Optimization and Thermal Performance, Shaymaa Mohammed Abass, A. Shamel Fahmy, Zeyad M. ElSayad, Shreen Moustafa Sewilm .
	Performance evaluation of a MOF-801 packed in copper foams-based adsorption cooling and desalination system, Mohamed Rezk, Mahmoud Elsheniti, Osama A. Elsamni .	Biomimetic Adaptation Techniques in Facades in Coastal Hot Climates, A.W. Mariam, H. Asmaa, E.H. Khaled .

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