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Academic Highlights

UNIMARCONI STRENGTHENS EDUCATIONAL TIES IN ETHIOPIA

A Step Towards Global Access to Quality Higher Education Academic Board

Unimarconi is excited to announce its recent engagement in Ethiopia. This significant trip provided an opportunity for Unimarconi representatives to meet with key figures in Ethiopian education, including Mr. Wubeshet Tadele, the Director General of the Accreditation and Training Authority, and Mr. Eba and Dryon, the Director General of the Ministry of Education.

At the heart of Unimarconi's mission lies a commitment to expanding access to quality higher education on a global scale. The meeting in Ethiopia served as a platform for initiating a constructive dialogue on potential partnerships and collaborations aimed at furthering Unimarconi's educational vision in the country.

Ethiopia, with its rich cultural heritage and vibrant intellectual landscape, presents immense potential for educational development. Unimarconi is eager to contribute to the advancement of Ethiopian students and to support the broader educational aspirations of individuals across the African continent.

Designing and implementation of innovative and sustainable educational opportunities is the central approach of Unimarconi. By leveraging technology and adopting pedagogical best practices, we aim to empower learners and foster academic excellence in Ethiopia and beyond.

We extend our gratitude to the Italian Embassy for their invaluable support throughout this endeavor. In particular, Mr. Alessandro Faraoni's dedication has played a pivotal role in facilitating meaningful connections and fostering collaboration with Ethiopian educational stakeholders.

EATON BUSINESS SCHOOL HOSTS SPECTACULAR 2024 GRADUATION CEREMONY IN DUBAI

Eaton Business School, an international partner of Unimarconi and a renowned institution for management and executive education, recently concluded its much-anticipated graduation ceremony for the year 2024 in Dubai. The four-day event, held from February 22nd to February 25th, was a clear testament to the school's commitment to holistic development and academic excellence.

The event commenced with a two-day leadership workshop, featuring two distinguished speakers - Mr. Andrew Stotter Brooks, an award-winning L&D professional and Chief Learner at Weird Human, and Mr. Anil Ahluwalia, the Academic Director for Westford Education Group. Participants engaged in insightful discussions and interactive activities specifically aimed at nurturing their leadership skills and preparing for the future. The first day of the workshop culminated in a delightful Dhow Cruise along the Dubai shore, providing an opportunity for relaxation and connection. Day two concluded with an energetic African drumming session that filled the atmosphere with cultural richness..

The excitement continued on February 24th with an unforgettable Desert Safari adventure, where graduates and the entire Eaton Business School team bonded over thrilling dune bashing and mesmerising desert vistas. This immersive experience served as a fitting prelude to the grand finale of the ceremony.

The convocation ceremony on February 25th was a culmination of achievements, aspirations, and innovation. It was a moment of pride and celebration for the 187 graduates from 31 nationalities across 4 continents of Africa, Asia, Europe and North America, who were honored for their dedication and hard work.

A highlight of this year's graduation was the introduction of the graduation passport, a novel concept that symbolizes the graduates' journey and accomplishments, providing a tangible reminder of their transformative experience at Eaton Business School.

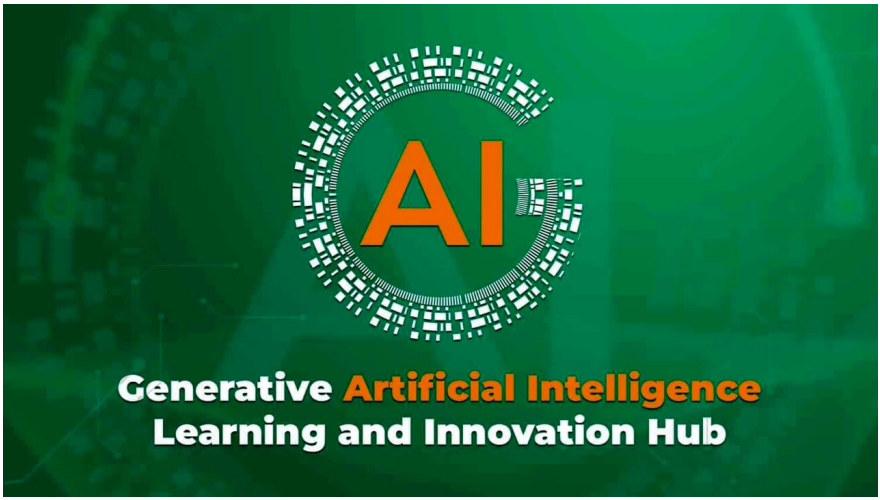
Throughout the four days, the presence of officials from both Eaton Business School and Unimarconi added a touch of prestige and international collaboration to the proceedings, reinforcing the importance of global partnerships in education and research.

As the curtains drew on the 2024 graduation ceremony, memories of inspiration, learning, and cultural exchange were etched in the hearts of all who attended. The graduates departed with the skills, knowledge, and confidence to navigate the challenges and opportunities of the ever-evolving global landscape.

Spotlight on Research

FIRST OBSERVATORY ON GENERATIVE ARTIFICIAL INTELLIGENCE SKILLS

Unimarconi announces the launch of its new Observatory on Generative Artificial Intelligence, known as "Generative Artificial Intelligence - Learning and Innovation Hub". As a pioneer of digitalisation in Italian higher education, our university also aims to be a leader in the field of AI, and this initiative marks a fundamental step in this direction.



The mission of the Observatory aims to play a key role in the development and application of Artificial Intelligence (AI) in Italy, focusing on a thorough analysis of the scientific, economic, ethical, regulatory, and educational implications associated with this revolutionary technology.

The purpose of the Observatory will primarily focus on Generative Artificial Intelligence, particularly on the Formation of Skills necessary for its improved application through the utilization of such technology.

The Observatory has called upon authoritative representatives from the Education and Training, Research, Industry, Technology, and other significant sectors (Defense and Security, Legal, Communication, Sports, Third Sector) that can contribute to the ethical and sustainable development and application of Generative Artificial Intelligence in Italy.

It will operate on an international scale thanks to the support of major multinational entities and the involvement of renowned Italian AI specialists working abroad.

"In an increasingly interconnected and technologically advanced world, the establishment of the "Generative Artificial Intelligence Learning and Innovation Hub" Observatory marks a fundamental step towards the understanding and ethical application of artificial intelligence in Italy. This initiative represents not only a commitment to innovation and technological development but also a testament to our collective responsibility to ensure that such advancements are accessible and beneficial to all," says Dr. Alessio Acomanni, President of Unimarconi.

SO-FREE PROJECT: SHORT STACK CHARACTERIZATION TEST RESULTS

SO-FREE partners met in Dresden (Germany), 14 and 15 March 2024 at Fraunhofer IKTS facility in order to discuss on the project current progress and next steps. It has been a while that we updated you on the progress of the SO-FREE project. Pandemics, inflation and supply chain issues intervened heavily in the activities of all innovation in Europe, and so also in SO-FREE. With a change in approach and an extension of the project to September 2025, the project maintains the intended purpose of delivering and demonstrating two 5-kWe SOFC-CHP systems capable of running on H2 and CH4 at any ratio.

The performance results obtained by ENEA and IEN, each on two short stacks manufactured by Elcogen and IKTS respectively, are in! The tests covered a gas grid transition scenario (from 100% natural gas to blends to 100% hydrogen).

SO-FREE aims to demonstrate a fully fuel-flexible CHP system that can run on all these compositions.

The stacks were initially tested under reference conditions to ensure alignment with manufacturer benchmarks before evaluating performance under real gas compositions. The experimental campaign aimed to assess the performance of both stacks under three gas grid fuel scenarios: 100% natural gas, a blend with significant hydrogen admixture (67% hydrogen + natural gas, leading to 40% CO2 emission reduction), and 100% hydrogen. Tests varied load conditions, fuel utilization factor, and working temperature. By using identical furnaces (developed by IEN) the measurements show an uncertainty below 2% between partners, confirming the validity and replicability of the performance data.

The performance maps for both the the E350 (Elcogen) and the the MK35x (IKTS) short stacks indicate that the highest output power is achieved with 100% hydrogen composition compared to reformate compositions (derived respectively from pre-reforming 67%H2+NG and 100%NG). At nominal conditions (30 A-660°C for E350, 35 A-835°C for MK35x), power outputs are slightly higher for the 100%H2 scenario compared to the reformate compositions.

The experimental results show that while 100% hydrogen yields the highest voltage/power at stack level, whereas reformate scenarios offer better energy efficiency at system level due to higher chemical energy content. Detailed analyses at stack and system levels are required to assess the performance of operating SOFC systems indistinctly with natural gas, blends, or hydrogen. This evaluation should consider various system design choices and operating strategies, including off-gas recirculation, fuel utilization, and temperature levels.

The Short-stack test results offer tangible evidence of SOFC fuel flexibility at a manageable scale. The performance maps generated by IEN and ENEA at the stack level will inform system-level models based on experimental findings and contribute to refining model calibration data within WP3.

Glance at the Future

Electric Cars: Environmental Impact and Energy Efficiency

Electric cars have quickly gained ground in global automotive markets as a promising solution to reduce greenhouse gas emissions and improve energy efficiency. However, as explained by Professor Fabio Orecchini, an Ordinary Professor of Energy Systems at Unimarconi, analyzing the environmental impact and energy efficiency of electric cars requires a holistic view that considers the entire lifecycle of vehicles.

According to Professor Orecchini, the widespread adoption of electric cars offers significant advantages in terms of reducing CO2 emissions and atmospheric pollutants compared to traditional internal combustion vehicles. The absence of exhaust emissions during the direct use of electric cars is a clear strength. However, to fully assess the environmental impact, it is essential to also consider the emissions generated during the production of vehicles and during the generation of electricity used to power them.

During production, electric cars may involve greater use of primary and mining resources needed for battery manufacturing and other technologies. It is important to closely monitor the environmental and social impact of these extraction activities, ensuring that high standards of sustainability and social responsibility are met.

However, over their entire lifecycle, electric cars can still offer significant advantages in terms of greenhouse gas emissions and pollutants compared to internal combustion vehicles. When powered by renewable energy sources such as wind, solar, or hydroelectric power, electric cars can ensure a significantly lower environmental impact than traditional vehicles.

A key challenge for the widespread adoption of electric cars is the availability of adequate charging infrastructure. To ensure a satisfactory experience for users, it is essential to provide convenient and reliable access to charging points, both at home and in public places. This can reduce the uncertainty associated with the use of electric cars and improve the practicality of owning them.

However, while electric cars currently represent the dominant solution for reducing CO2 emissions in the automotive sector, Professor Orecchini suggests that other technologies could play an important role in the future. Among these, hydrogen cars, which use fuel cells to produce electricity onboard, offer an interesting alternative. This technology could become particularly relevant for high-performance or intensive-use vehicles, such as long-haul trucks.

Furthermore, the future could see a continuation of the evolution of internal combustion engines, using biofuels or hydrogen to ensure zero CO2 emissions. These technologies could coexist with electric cars, offering a wider range of options to reduce emissions in the transportation sector.

Ultimately, electric cars represent an important part of the transition to a more sustainable and energy-efficient transportation system. However, to maximize environmental benefits, it is essential to adopt a holistic approach that considers the entire lifecycle of vehicles and develops adequate supporting infrastructures. Only then can we fully realize the potential of electric cars in addressing the environmental and energy challenges of our time.

GUGLIELMO MARCONI UNIVERSITY HOSTS "ACADEMY LEADERS" AWARDS CEREMONY

TGuglielmo Marconi University is proud to announce its role as host and sponsor of the prestigious awards ceremony for the Academy for Health and Clinical Research "ACADEMY LEADERS". Set to recognize exemplary contributions in the diverse realms of Science, Society, Health, Sports, Culture, and Entertainment, this event aimed to celebrate the remarkable achievements of individuals who have not only made significant strides in their respective fields but have also paved the way for future innovations and advancements.

Held at the esteemed premises of the Guglielmo Marconi University, situated at Via Vittoria Colonna, in the heart of Rome, this event signified a momentous occasion for both the university and the broader community.

Under the distinguished patronage of Prof. Marco Abate, the Magnificent Rector of Guglielmo Marconi University, and Dr. Alessio Acomanni, President of the University, the ceremony brought together esteemed guests, honorees, and stakeholders from various sectors.

The "ACADEMY LEADERS" awards ceremony stands as a testament to the university's commitment to fostering collaboration, driving progress, and honoring those who champion excellence and innovation. With a diverse array of honorees poised to receive recognition for their outstanding achievements, this event promises to be an inspiring celebration of dedication to advancement across various spheres of endeavor.

Congratulations to the distinguished personalities awarded in the scientific, social, health and cultural sectors, for their exceptional commitment and innovative contributions to progress.

GMU Magazine has been released with the contribution of all academic staff and partners around the world, if you wish to contribute higlighting any important news in accordance with the line of the release, please do not haesitate to contact us sending an email to d.chesheva@unimarconi.it