



**ACE | FUELS**

Africa Centre of Excellence in Future  
Energies & Electrochemical Systems

# Summary of Activities for March 2025

A March to Remember



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## ACE-FUELS Power March:

#Bridging Worlds!

#Building Futures!

#Powering Innovation!

#**March**ing Towards Tomorrow's Tech!


ACE-FUELS delivered a month of impactful webinars and lectures, covering everything from energy storage to nanoscale manipulation, and celebrating women in STEM+E.

From UK energy tech to Nigerian chemistry and Chinese nanotechnology, ACE-FUELS' March 2025, sparked by February's webinar, was a global celebration of scientific progress and women's empowerment.

#March to Remember: Innovation Unleashed!

# February 28:

## Igniting the Energy Storage Revolution





**ACE-FUELS**  
Innovation Series

**TOPIC:**  
Low cost energy storage using lithium-polysulfide flow batteries

**DATE:** Friday February 28, 2025  
**TIME:** 15:00 - 16:30 (WAT, GMT+1)

Register in Advance:  
[https://bit.ly/LCE\\_Lithium](https://bit.ly/LCE_Lithium)



**Dr. Edward Brightman**  
Electrochemical Engineering  
Research Group  
@  
University of Strathclyde  
Glasgow, UK

The “Power March” kicked off early with a riveting webinar on February 28, featuring Dr. Edward Brightman (University of Strathclyde, UK), a pioneer in sustainable energy solutions. His presentation, “Low-Cost Energy Storage Using Lithium-Polysulfide Flow Batteries,” captivated over 400 global attendees, offering actionable strategies to address Africa’s energy poverty. Dr. Brightman’s work underscored the potential of scalable, affordable battery systems to accelerate renewable energy adoption across the continent.

# ACE-FUELS Webinar Fuels Interest in Battery Innovation Amidst "Battery for Africa" Challenge

**OWERRI, NIGERIA** – The recently concluded ACE-FUELS Webinar on "Low-Cost Energy Storage Using Lithium-Polysulfide Flow Batteries," held on February 28, 2025, has further ignited interest in battery innovation across the continent, particularly in light of ACE-FUELS' ongoing "Battery for Africa Innovation Challenge." The webinar, led by Dr. Edward Brightman, provided a deep dive into the promising potential of lithium-polysulfide flow batteries, highlighting their capacity to address Africa's growing energy storage needs. Participants, including researchers, industry experts, and enthusiasts, were captivated by the technology's cost-effectiveness and scalability, crucial factors for the continent's sustainable energy future.

The discussion surrounding advanced battery technologies like lithium-polysulfide flow batteries resonated strongly with the goals of the "Battery for Africa Innovation Challenge," an initiative launched by ACE-FUELS to foster homegrown solutions for Africa's energy storage challenges. The webinar served as a timely knowledge-sharing platform, showcasing the cutting-edge research and potential that can be harnessed through the Challenge. "The webinar on lithium-polysulfide flow batteries provided valuable insights that are directly relevant to the 'Battery for Africa Innovation Challenge,'" stated a spokesperson for ACE-FUELS. "We aim to inspire and empower African innovators to develop and deploy sustainable battery technologies, and this webinar served as a powerful catalyst." The "Battery for Africa Innovation Challenge" seeks to support the development of innovative battery technologies that are tailored to the specific needs and contexts of African communities. The webinar's focus on low-cost, scalable solutions aligns perfectly with the Challenge's objectives.

Key takeaways from the webinar, including the potential for cost-effective energy storage and the importance of scalability, are critical considerations for participants in the "Battery for Africa Innovation Challenge." ACE-FUELS remains committed to driving innovation and fostering collaboration in the energy sector, ensuring that Africa can harness its vast potential for sustainable development.

## **About ACE-FUELS:**

The Africa Centre of Excellence in Future Energies & Electrochemical Systems (ACE-FUELS) is dedicated to advancing research and education in sustainable energy technologies and fostering innovation through initiatives like the "Battery for Africa Innovation Challenge."



**ACE FUELS**

Africa Centre of Excellence in Future  
Energies & Electrochemical Systems

## ACE-FUELS BATTERY FOR AFRICA INNOVATION CHALLENGE

Call for

Innovative

# Battery Ideas

We are seeking creative and impactful concepts that can redefine the future of battery storage.

### Eligibility

This call is open to:

Undergraduate and postgraduate students  
with innovative ideas and clear research directions

### Key Dates

**SUBMISSION DEADLINE**

MAY 14TH, 2025

**SHORTLIST ANNOUNCEMENT**

JUNE 27TH, 2025

**FINAL PRESENTATIONS**

JULY 25TH, 2025

FOR DETAILS, VISIT

<https://acefuels-futo.org/battery-for-africa-challenge/>

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Scan me!

# March 7:

## Championing Women in STEM+E



Aligning with International Women’s Day, ACE-FUELS hosted a dynamic panel discussion titled “Empowering Women in STEM+E: Breaking Barriers, Building Futures.” The event highlighted strategies to close gender gaps in science, technology, engineering and mathematics, plus energy (STEM+E). Featuring trailblazing female scientists, industry leaders, and policymakers, the session inspired attendees with success stories and actionable frameworks for fostering inclusivity.

*“When women thrive in STEM+E, entire economies transform,”* said Prof. Nnenna Oti, Vice Chancellor, Federal University of Technology Owerri *“This is not just about equity—it’s about unlocking Africa’s full potential.”*

# ACE-FUELS Celebrates International Women's Day, Inspiring Future STEM+E Leaders

OWERRI, NIGERIA – ACE-FUELS successfully hosted a vibrant and impactful celebration of International Women's Day, focusing on empowering women in STEM+E (Science, Technology, Engineering, Mathematics, and Energy). The event, themed "Empowering Women in STEM+E: Breaking Barriers, Building Futures," drew participants from all local government areas in Imo State, FUTO's host communities, neighboring institutions, and a large contingent of FUTO staff and students. The event commenced at 12:00 PM with registration and networking, followed by a warm welcome and opening remarks by the Event Coordinator. The highlight of the opening session was a powerful keynote address delivered by a distinguished female scientist/engineer, who spoke passionately about "Women Leading the Charge in STEM+E."

FUTO's Vice-Chancellor, Prof. Mrs. Nnenna Oti, delivered a rousing welcome address, emphasizing the university's commitment to increasing female enrollment in STEM+E fields. She highlighted the critical role women play in driving innovation and progress in these vital sectors and reiterated FUTO's dedication to creating an inclusive and supportive environment for female students and professionals. A dynamic panel discussion, featuring successful women from academia, industry, and entrepreneurship, addressed the challenges and opportunities for women in STEM+E. Panelists shared valuable insights on overcoming gender barriers, navigating career growth, the importance of mentorship, and achieving work-life balance. The audience was deeply moved by the "Inspiring Stories" segment, where female students, researchers, and professionals shared their personal journeys and achievements in STEM+E. These short talks served as powerful testimonials, motivating and encouraging aspiring female scientists and engineers.

A pivotal part of the event was the mentorship and networking session, where participants engaged in small group discussions with industry and academic mentors. This provided a platform for valuable career guidance and the exchange of ideas. The interactive STEM+E demonstrations and showcases were a major attraction, highlighting innovative projects in science, engineering, and energy. Participants were able to witness firsthand the cutting-edge research and technological advancements being made by women in these fields.

The successful celebration underscored ACE-FUELS' commitment to fostering a supportive environment for women in STEM+E, and left participants inspired and motivated to pursue their dreams and break down barriers in these critical fields. The event organizers expressed their satisfaction with the turnout and the positive impact of the program, and pledged to continue their efforts in promoting gender equality in STEM+E.

# March 11:

## From Lab to Market – Translational Chemistry in Action

*ACE-FUELS Invited Lecture Series*



**ACE FUELS**  
Africa Centre of Excellence in Future  
Energies & Electrochemical Systems

**Translational Chemistry:  
Synthesis, Innovation  
and Technology  
Development**

**Date: Tues. March 11, 2025**  
**Time: 14:00–15:45 (WAT)**

**Venue: ACE-FUELS  
Multipurpose Hall  
(behind Access Bank)  
FUTO**

**PRESENTER**

**Dr. Charles Orji**  
(Nasarawa State University)

The Africa Centre of Excellence in Future Energies and Electrochemical Systems (ACE-FUELS) is pleased to invite you to a special lecture by Dr. Charles Orji (Nasarawa State University) on:

**“Translational Chemistry: Synthesis, Innovation and Technology Development”**

Dr. Orji will provide insights into:

- Synthesis of Stable Isotope Labelled Purine-Based Nucleosides and Hydroxymethylimidazole – Key feedstocks in drug discovery and development.
- Technological Development, Employment, and Wealth Creation through Chemistry – A case study of the FUTO Centre for Chemical Research and Production

Dr. Charles Orji of Nasarawa State University, Nigeria, took center stage on March 11 with his lecture on “Translational Chemistry: Synthesis, Innovation, and Technology Development.” Focused on turning theoretical research into market-ready solutions, Dr. Orji emphasized the role of African scientists in driving local industrialization, highlighting Africa’s untapped potential to transform academic research into industrial solutions. His case studies on Nigeria’s chemical industry resonated deeply with students and researchers, reinforcing ACE-FUELS’ mission to nurture homegrown talent. Students praised the session for bridging theory and practice, with one participant noting: “This is the blueprint for turning our ideas into impact.”



# Inspiration and Pledges of Support at ACE-FUELS

## Lecture on Translational Chemistry

**OWERRI, NIGERIA** – The Africa Centre of Excellence in Future Energies and Electrochemical Systems (ACE-FUELS) at the Federal University of Technology, Owerri (FUTO) recently hosted an impactful lecture by Dr. Charles Orji, sparking not only inspiration but also concrete pledges of support for a vital initiative.

Dr. Orji's presentation, "Translational Chemistry: Synthesis, Innovation, and Technology Development," drew a diverse audience of students, staff, entrepreneurs, and industrialists, all eager to explore the practical applications of chemical research. The lecture, held on Tuesday, March 11, 2025, resonated deeply, igniting discussions on drug discovery, technological advancement, and economic opportunity. Beyond the insightful content, the lecture served as a catalyst for action. Participants were particularly enthusiastic about the proposed FUTO Centre for Chemical Research and Production, hosted by ACE-FUELS. This initiative aims to establish local synthesis and production of common chemicals and reagents used in laboratory practicals, reducing reliance on costly imports and fostering self-sufficiency. The idea resonated strongly with attendees, who pledged their support for the centre's establishment. Entrepreneurs and industrialists recognized the potential for collaboration and investment, while students and staff expressed their commitment to contribute to the centre's success.

"Dr. Orji's lecture highlighted the immense potential of local chemical production," stated one industrialist attendee. "We are eager to support ACE-FUELS in realizing this vision. A student participant added, "This centre will provide invaluable resources for our practical learning and contribute to the development of our region."

"The pledges of support we received are a testament to the importance of this initiative," said Prof. Emeka Oguzie, ACE-FUELS Centre Leader. "We are committed to working with our partners to make the FUTO Centre for Chemical Research and Production a reality."

The lecture and subsequent pledges of support underscore ACE-FUELS' commitment to bridging the gap between academia and industry, driving innovation, and fostering sustainable economic development in the region.

**March 27:**

# Redefining Nanoscale Frontiers



## ACE-FUELS Innovation Series

### TOPIC:

*"There's plenty of room on the micro-cantilever"*  
Atomic Force Microscope based nanoscale measurement, manipulation and fabrication

DATE: Thursday March 27, 2025  
TIME: 15:00 - 16:30 (WAT, GMT+1)

Register in Advance:  
[https://bit.ly/ACE\\_Inno\\_Se](https://bit.ly/ACE_Inno_Se)



**Dr. Huan Hu**

Associate Dean, Technology Transfer  
Institute, Zhejiang University

Tenured Associate Professor,  
Zhejiang University

The “Power March” crescendoed on March 27 with a webinar by Prof. Huan Hu of Zhejiang University, China, who delved into the revolutionary applications of Atomic Force Microscopy (AFM) in nanoscale measurement and fabrication. Over 500 attendees—including researchers from 15 African countries—gained insights into how AFM could accelerate breakthroughs in energy storage, biomedical engineering, and materials science.

“Nanotechnology is the silent revolution reshaping our world,” said Prof. Hu. “Africa’s researchers have the creativity to lead this charge—tools like AFM are their allies.”

## ACE-FUELS Successfully Hosts Global Expert on Nanoscale Technology, Expanding Knowledge Horizons

**OWERRI, NIGERIA** – The African Centre of Excellence in Future Energies and Electrochemical Systems (ACE-FUELS) at the Federal University of Technology, Owerri (FUTO) successfully expanded its collaborative reach and enhanced knowledge access for students, staff, and the general public with its recent Innovation Series webinar. Held on Thursday, March 27, 2025, from 15:00 to 16:30 WAT (GMT+1), the webinar featured Dr. Huan Hu, a Tenured Associate Professor and Associate Dean of the Technology Transfer Institute at Zhejiang University, China. Dr. Hu's lecture, titled "There's Plenty of Room on the Micro-Cantilever" – Atomic Force Microscope-Based Nanoscale Measurement, Manipulation, and Fabrication," delved into the intricate world of Atomic Force Microscopy (AFM). Attendees gained valuable insights into AFM's role in nanoscale measurements, material manipulation, and microfabrication techniques, areas vital for advancements in nanotechnology and materials science.

"The webinar was a resounding success and represented a significant opportunity for our students and researchers to gain direct insights from a leading international expert," stated a representative from ACE-FUELS. "By facilitating access to cutting-edge knowledge and fostering global collaboration, we are empowering our community to contribute meaningfully to the future of energy and electrochemical systems." The lecture provided participants with a comprehensive understanding of AFM's capabilities, demonstrating its potential in various research and industrial applications. This initiative aligns with ACE-FUELS' mission to cultivate a dynamic research environment and promote innovation in future energy technologies.

The ACE-FUELS webinar series is part of ACE-FUELS' ongoing efforts to establish FUTO as a hub for advanced research and collaboration, bridging the gap between academia and industry. By hosting international experts like Dr. Huan Hu, the center not only expanded its network but also provided invaluable learning opportunities. "We are committed to providing our students with access to the latest advancements in their fields," added the representative. "This webinar is a testament to our dedication to fostering a culture of innovation and collaboration."

The event was well-attended by researchers, students, and professionals interested in nanotechnology, materials science, and related fields.

ACE-FUELS continues to be at the forefront of driving innovation and research in future energy technologies and electrochemical systems, reinforcing its commitment to excellence and global collaboration.



# Why March 2025 Mattered:

## Four Pillars of Transformation

### **ACE-FUELS' "Power March" embodied four transformative pillars:**

**1. Global Collaboration:** Partnerships with institutions like Zhejiang University and the University of Strathclyde bridged continents, bringing world-class expertise to African audiences and amplifying Africa's role in global innovation ecosystems.

**2. Inclusive Knowledge Sharing:** Free, public-access events democratized learning, ensuring students, professionals, and the public could engage with cutting-edge science, thus breaking down barriers to learning.

**3. Solving Local Challenges:** From flow batteries to translational chemistry, the series equipped attendees with tools to tackle Africa's energy, innovation, and industrial challenges.

**4. Women at the Forefront:** The Women's Day forum amplified underrepresented voices, fostering policies and mentorship programs to accelerate gender equity in science and tech. "Diversity drives innovation," emphasized Prof. Oguzie. "By empowering women, we unlock untapped talent critical to Africa's sustainable development."

# A Legacy of Action

**The “Power March” didn’t just end—it ignited a movement. ACE-FUELS announced plans for:**

- A Women in STEM+E Fund to support scholarships and startups.
- One belt One road Joint Lab, in collaboration with Zhejiang University.
- A pan-African Youth Innovation Challenge focused on low-cost energy solutions.

## **Join the Revolution: A Call to Action**

As Prof. Emeka Oguzie, ACE-FUELS Centre Leader, declared:  
*“This March wasn’t just about sharing knowledge—it was about igniting a movement. We’re building a pipeline of innovators, including brilliant women and youth, who will shape Africa’s sustainable future.”*

## **Join the Movement**

Missed the events? Visit ACE-FUELS’ YouTube channel. Stay tuned for upcoming workshops and be part of the revolution!

# About ACE-FUELS

Funded by the World Bank & the French Development Agency and anchored at FUTO, ACE-FUELS drives Africa's sustainable development through research, education, and global partnerships in energy, electrochemistry, and advanced materials.

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*| Social Media:*

<https://www.facebook.com/acefuelsfutonig>

ACE-FUELS: Where science meets impact, and inclusion fuels innovation.



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