

**REPORT OF THE 10TH ANNUAL SYMPOSIUM OF THE AMERICAN CHEMICAL SOCIETY, NIGERIA  
INTERNATIONAL CHEMICAL SCIENCES CHAPTER (ACS NIGERIA)  
HELD AT THE NATIONAL OPEN UNIVERSITY OF NIGERIA (NOUN), ABUJA  
FROM 4TH TO 7TH OF MAY 2025**

**1. INTRODUCTION**

The symposium was the 10th in the series for ACS Nigeria, and was aimed at:

- I. Providing an international platform for researchers (early career and experienced) to share ideas and trends in the application of AI in chemistry for the promotion of good health, clean water and environment.
- II. Organizing specialized sessions to discuss among others, trends and advances in sustainability related areas of chemistry.
- III. Building an international network among researchers, academicians, industrialists and government functionaries to seek ways to providing greener and sustainable solutions to global challenges of health, water and environment through the use of AI in Chemistry in Nigeria.
- IV. Make participants more aware and conversant with some important AI tools related to chemistry and chemical practice and their role in achieving sustainability in these areas.
- V. Develop a network and database for sharing information and resources related to advancement in AI in Chemistry and sustainability.
- VI. Train and educate students and early career scientists on some important chemistry-related knowledge and skills including publications, analytical skills, which are important for their research in the area.
- VII. Establish a wide range of international collaboration in the area for sourcing of grants and joint projects to foster sustainability.
- VIII. Provide awards to individuals and industries whose research and activities are promoting sustainability.
- IX. Publish a proceeding of papers presented during the Forum and a special high-impact publication of papers related to AI and sustainability through chemistry.

**2. SYMPOSIUM PROGRAMME:** The programme featured the following:

- Sunday, 4<sup>th</sup> May, 2025 – Arrival
- Monday, 5<sup>th</sup> May, 2025 – Opening and Awards Ceremony
- Monday, 5<sup>th</sup> to Tuesday, 6<sup>th</sup> May 2025 – Main Conference events
- Wednesday 7<sup>th</sup> May, 2025 – Departure

The main conference events included:

- i. Courtesy Visit by ACS Nigeria EXCO and LOC to the Vice-Chancellor, NOUN
- ii. Keynote Lectures
- iii. Plenary Lectures
- iv. Oral Presentations
- v. Poster Sessions
- vi. Networking sessions
- vii. IOP-facilitated workshop on effective publications

- viii. CA-Supported ACS Nigeria-Industry-Relations Promotion Activity
- ix. ACS GIG – Supported Student Symposium
- x. Visit to the Research and Demonstration Plant of the Raw Materials Research and Development Council, Abuja
- xi. Tea and Lunch breaks
- xii. Women Chemists Committee Event:
- xiii. 10<sup>th</sup> Anniversary Dinner

3. **Participants:** The hybrid events featured the following participants:

- Physical – 203
- Virtual – 62
- Total – 265**

This includes: 89 Students and 176 members and non-members.

4. **Abstracts:** 330 abstracts were accepted for presentation as follows:

- Oral – 271
- Poster – 59
- Total – 330**

The breakdown of abstracts according to thematic areas are as follows:

Group	Title	Number of abstracts
A	Natural Products, Medicinal and Pharmaceutical Chemistry for Sustainability in Good Health	65
B	Trends in Materials and Techniques for Water Purification and Environmental Remediation	43
C	Sustainability and Innovations in Chemical Industries	38
D	Green and Nanochemistry	52
E	Analytical Chemistry	33
F	Advances In AI-Inspired Chemical Systems, Processes and Pedagogy	40
P	Posters	59
	<b>Total</b>	<b>330</b>

## 5. KEY ACTIVITIES

I. **Courtesy Visit by ACS Nigeria EXCO and LOC to the Vice-Chancellor, NOUN:** Members of the ACS Nigeria team were led by Prof. Edu Inam, Chair ACS Nigeria and were received by Prof. Chiedu Mafiana, Deputy Vice-Chancellor (Academic), NOUN, who represented the Vice-Chancellor of the University. The ACS Nigeria team thanked NOUN for hosting and supporting the symposium.

II. **Opening and Awards Ceremony:** This featured keynote lectures by

- i. Welcome Address by the Host- Chair, ACS Nigeria, **Prof. Edu J. Inam**
- ii. Opening Remarks by the President, ACS, **Dr. Dorothy Phillips (Virtual)**
- iii. Address by Chief Host- **Prof. Olufemi Peters**, Vice-Chancellor, National Open University of Nigeria represented by Prof. Chiedu Mafiana, DVC (Academic), NOUN.
- iv. **Keynote Lecture 1:** Advancing Sustainability Through AI-Driven Chemistry by **Dr. Abdullahi Mustapha**, Director-General/CEO Energy Commission of Nigeria, Abuja (**represented**).
- v. **Keynote Lecture 2 (Virtual):** Chemputation: Toward scalable and efficient factories for organic synthesis by **Prof. Leroy (Lee) Cronin**, Regius Chair of Chemistry, Center for Digital Chemistry, University of Glasgow, UK.
- vi. Presentation of Awards to 6 awards.
- vii. Goodwill messages from Invited/Special Guests
- viii. Address by the Chairman of the Occasion- **Chief Uche Geoffrey Nnaji**, Honourable Minister, Federal Ministry of Innovation, Science and Technology, Abuja, Nigeria represented by Dr. Patricks Oghuma, Assistant Director and Technical Assistant to the Permanent Secretary.
- ix. Cutting of the Chapter's 10<sup>th</sup> Anniversary Cake
- x. Vote of Thanks – LOC Chair, **Prof. Tolulope Fasina and**
- xi. group photographs

**III. 2025 ACS Nigeria Excellence Award:** The following individuals were presented with various categories of awards during the ceremony:

S/N	Awardee	Category	For
1	Chief Uche Geoffrey Nnaji (Hon. Minister, FMIST)	2025 ACS Nigeria Excellence Award under the Outstanding Performance in Government Category	Years of impactful contributions to the development and advancement of Science, Technology, Engineering and Medicine (STEM) education and research in Nigeria through the Ministry's various agencies and parastatals.
2	Professor Olufemi A. Peters Vice Chancellor, National Open University of Nigeria (NOUN), Abuja.	2025 ACS Nigeria Excellence Award under the Distinguished Chemist Category	For years of impactful contributions to the development of Open and Distance Learning and chemistry education, research and practice globally; support for the advancement of Science, Technology, Engineering and Medicine (STEM) education and for the activities of ACS Nigeria
3	Professor Fatimah Tahir Vice Chancellor, Bauchi State University, Gadau.	2025 ACS Nigeria Excellence Award under the Distinguished Education Category.	years of impactful contribution to the development of chemical sciences and support for the advancement of Science, Technology, Engineering and Medicine (STEM) education in Nigeria.

4	Dr. Mustapha Sheikh Abdullahi Registrar, African Aviation and Aerospace University (AAAU), FCT, Abuja.	2025 ACS Nigeria Excellence Award under the Distinguished Education Category.	years of impactful contribution to the development of chemical sciences and support for the advancement of Science, Technology, Engineering and Medicine (STEM) education in Nigeria.
5	Prof. Paul C. Onyenekwe, Director-General/Chief Executive Officer, Sheda Science and Technology Complex (SHESTCO),	2025 ACS Nigeria Excellence Award under the Distinguished Education Category.	Years of impactful contributions to the advancement of Science, Technology, Engineering and Medicine (STEM) research and education in Nigeria especially through provision of facilities for chemical analysis and placement for students on industrial attachment
6.	Prof. A.M. Kundiri Vice Chancellor, Al Ansar University, Maiduguri.	2025 ACS Nigeria Excellence Award under the Distinguished Education Category.	years of impactful contribution to the development of chemical sciences and support for the advancement of Science, Technology, Engineering and Medicine (STEM) education in Nigeria.

**IV. Plenary Lectures:** The following plenary lectures held during the symposium:

- i. **Plenary Lecture 1:** Electrochemistry and Artificial Intelligence in Sustainability by **Prof. Omotayo Arotiba**, Director of Centre for Nanomaterials Science Research, University of Johannesburg, South Africa
- ii. **Plenary Lecture 2 (Virtual):** Greening the Chemistry Curriculum: AI-Driven Strategies Shaping Chemistry Teaching and Learning by **Prof. (Mrs.) Omolara Olusola Oluwaniyi**, Professor of Industrial Chemistry, University of Ilorin, Nigeria.
- iii. **Plenary Lecture 3:** Bridging Artificial Intelligence, Computational Chemistry, and Experimental Chemistry for Accelerated Scientific Discovery by **Prof. Nnabuk Okon Eddy, FAS**, Professor of Physical and Computational Chemistry, University of Nigeria, Nigeria

**V. CA-Supported ACS Nigeria-Industry-Relations Promotion Activity.** The session featured the following:

- i. **Keynote Lecture 3 (Virtual):** Deep Learning Potentials for Modeling Hydration-Driven Transformations in Magnesium Oxide by **Prof. David Wu**, Institute of Chemistry, Academia Sinica, Taiwan.
- ii. **Panel Discussion** on the topic: "From Lab to Legacy: Leveraging AI in Green Chemistry for Scalable and Sustainable Impact" **Moderator:** Dr. Iniobong Ogbonna, Brass Fertilizer and Petrochemical Company Limited Project Lagos. Panelists including: Prof Omolara Oluwaniyi, University of Ilorin, Nigeria (Academia); Dr Clement Obadimu, SEPLAT, (Industry); Mrs. Ekanem

Efiom Ofoegbu. Manager Planning and Commercial, NNPC Energy Services Ltd, Abuja (Industry); Dr Chika Scholastic, NASENI, (Policy Maker);

**VI. Technical Sessions:** The technical session included 171 presentations across all thematic areas as follows:

- Oral – 138
- Poster – 33

These are split in different modes as follows:

- Physical presentations – 104
- Virtual presentations – 67

**VII. Workshop on Effective Academic Publication and brief on the symposium Special Issue by IOP Publishing:** This was facilitated by Myla Lloyd and IOP Publishing and held virtually on 6<sup>th</sup> May, 2025.

**VIII. Student Symposium:** The event, which held on Tuesday, 6th May 2025, had the theme: Sharpening the Next Generation of Chemists for Smarter and Sustainable Solutions to Global Challenges. It featured: an invited Lecture titled: Harnessing AI Tools to Revolutionize Quantum Chemistry Education and Research by Dr. Abosede Adejoke Badeji, Tai Solarin University of Education, Ogun State. The following student chapters participated:

1. Rivers State University of Science and Technology- 2
2. University of Calabar, Calabar- 5
3. University of Abuja, Abuja- 57
4. Olusegun Agagu University of Science and Technology, Okitipupa, Ondo State- 2
5. Joseph Sarwuan Tarka University, Makurdi- 2
6. University of Ibadan, Ibadan- 9
7. Sokoto State University, Sokoto- 2
8. University of Uyo, Uyo- 6
9. Akwa Ibom State University, Ikot Akpaden- 2
10. University of Lagos, Lagos- 3
11. Federal University of Wukari, Taraba State- 2
12. University of Ilorin, Ilorin- 21
13. Ladoke Akintola University of Technology, Ogbomoso- 5
14. National Open University, Abuja and Ibadan Centre-
15. Kola Daisi University, Ibadan (virtually)- 3
16. Federal University Otuoke (virtually)-
17. Yaba College of Technology (virtually)-

**Total Number of Student Participants:** 121

**Virtual Participants:** 20

**Physical Participants:** 101

Dr. Atim Johnson delivered a step-by-step guide on establishing an ACS Student Chapter and encouraged all student chapters to maintain active status by participating in various activities, outreach programs, and conferences.

The event featured a student poster session and prizes were won as follows: **V. O. Adole** from the University of Abuja (First prize winner), **H.S. Samuel** from Federal University, Wukari (Second prize winner) and **Adetoro Osanyinbi** from the University of Ibadan (Third prize winner).

Student chapters including the University of Ibadan, University of Uyo, and University of Calabar student chapters shared success stories from their activities and outreach efforts from the past year (2024 to date).

The symposium concluded with a group photograph featuring the Faculty Advisors and Student Chapter Presidents.

**IX. Visit to RMRDC's Research and Demonstration Plant at Lugbe, Abuja:** About 50 participants participated in this activity, which held on 6<sup>th</sup> May, 2025 and was coordinated by Mr. Timothy Samuel.

**X. Women Chemists Committee Event:** The Women chemists Committee was held on 6<sup>th</sup> May, 2025. The event which was coordinated by Prof. Tolulope Fasina featured over 50 participants.

**XI. ACS Nigeria 10<sup>th</sup> Anniversary Dinner:** This event was to celebrate the anniversary of the Chapter and to enable participants relax after the meeting in preparation for departure.

## 6. POST-SYMPOSIUM ACTIVITIES

- I. **Appreciation letters:** Appreciation letters have been sent to Keynote and Plenary speakers, partners and sponsors including the Federal Ministry of Science and Technology, Vice-Chancellor, National Open University of Nigeria, DG, Sheda Science and Technology Complex, DG, Energy Commission of Nigeria, Permanent Secretary, Political and Economic Matters, Office of the SGF, DG, Raw Materials.
- II. **Book of Proceedings and Special Journal Issue:** Calls are already out for submission of full-length manuscripts for the Symposium Book of Proceedings (The deadline for submission is 30<sup>th</sup> June, 2025) and for a Special Symposium Issue of Sustainability Science and Technology journal by IOP Publishing (The deadline for submission is 31<sup>st</sup> December, 2025).
- III. **Certificates of Attendance and Presentation:** Over 230 participants have been issued with their certificates.
- IV. **Post-Symposium Survey:** About 200 participants have now completed the post-symposium survey.
- V. **Pictures:** The event pictures are available at:
  - a. [https://drive.google.com/drive/folders/1BAfcwRE4a2xFNy9O8aN5kj8SYPRgv6LR?usp=drive\\_link](https://drive.google.com/drive/folders/1BAfcwRE4a2xFNy9O8aN5kj8SYPRgv6LR?usp=drive_link)
  - b. [https://drive.google.com/drive/folders/1O-PTKQoEfflXRNiEPzlsvoK8BS4bV8VN?usp=drive\\_link](https://drive.google.com/drive/folders/1O-PTKQoEfflXRNiEPzlsvoK8BS4bV8VN?usp=drive_link)
- VI. **Publicity:** the event was published as follows
  - a. On ACS Nigeria website @ <https://acs-nigeria.org/10th-annual-symposium-thank-you/>
  - b. <https://www.thisdaylive.com/2025/05/14/acs-nigeria-celebrates-a-decade-of-scientific-excellence/>
  - c. <https://blueprint.ng/ai-driving-force-to-catapult-nigeria-into-global-technology-don/>

- d. <https://procyonnews.com/10th-anniversary-ac-s-reshapes-explore-avenues-for-advancing-chemistry-for-societal-benefit/>
- e. <https://newtelegraphng.com/acs-nigeria-celebrates-decade-of-scientific-excellence-inam/>
- f. <https://ashenewsdaily.com/science-tech-innovation-rd/acs-nigeria-celebrates-10-years-of-scientific-breakthroughs/>
- g. <http://www.thecaliphatetimes.com/2025/05/acs-nigeria-celebrates-decade-of.html>
- h. <https://citypridemagazine.com.ng/2025/05/10/acs-nigeria-celebrates-a-decade-of-scientific-excellence-at-10th-annual-symposium-onuminya-innocent/>
- i. <https://thesun.ng/acs-champions-ai-for-sustainable-future/>

## 7. PARTNERS AND SPONSORS FOR THE SYMPOSIUM:

- i. National Open University of Nigeria
- ii. Sheda Science and Technology Complex
- iii. Organization for the Prohibition of Chemical Weapon (OPCW)
- iv. American Chemical Society (Corporation Associate and Global Innovation Grants).
- v. Energy Commission of Nigeria,
- vi. Political and Economic Matters, Office of the SGF, DG, Raw Materials.
- vii. African Aviation and Aerospace University
- viii. IOP Publishing
- ix. Chemical Society of Nigeria
- x. Raw Materials Research and Development Council
- xi. University of Abuja
- xii. Merck
- xiii. Sustainable Development Goals Office, Abuja
- xiv. Bauchi State University

## 8. KEY ACHIEVEMENTS

- I. Over 200 participants including students, early career researchers, established academics and industrialists were trained on various AI tools and how they can be harnessed in their research and operations for advancing sustainability.
- II. Three (3) keynote lectures were delivered on Advancing sustainability through AI-driven chemistry.
- III. Three (3) Plenary presentations were made on sub-themes related to the theme of the symposium.
- IV. Over 100 Oral and poster presentations were made by researchers on all areas of chemistry especially as they related to AI-driven chemistry for sustainability.
- V. A book of Abstracts was published for the symposium.
- VI. Work is ongoing for the production of a Book of Proceedings for the symposium.
- VII. Manuscripts are currently being received for a special issue of the Sustainability Science and Technology Journal.
- VIII. A workshop on publication was facilitated by IOP Publishing.

- IX. Industrialists and regulators were enlightened and encouraged to adopt more sustainable methods in their operations during the CA-supported event.
- X. Several networking events held.
- XI. A student symposium was held.
- XII. A Women Chemists event was held.
- XIII. There was a visit to a Research plan.
- XIV. New collaborations were established while existing ones were sharpened between researchers, industrialists and regulators in Africa and globally on taking advantage of the synergy between AI and chemistry in advancing some of the global goals of water, energy, environment and health.

## **9. CHALLENGES ENCOUNTERED**

- I. Majorly financial support for the event.
- II. Challenges with registration and registration details.
- III. Some challenges with virtual presentations.

## **10. RECOMMENDATIONS**

- I. Fund raising drive for future event should start early and more people should be involved.
- II. Conduct pre-symposium trials for virtual platforms to mitigate technical risks.
- III. Provide pre-event training for rapporteurs to standardize reporting formats.

## **11. CONCLUSION**

The LOC greatly thank ACS Nigeria for the opportunity to serve, our partners and sponsors for their support and look forward to even better events in the future.

*Signed*

**Dr. Thompson Izuagie**

Chair, LOC

ACS Nigeria 10th Annual Symposium