THE AFRICAN PHYSICS NEWSLETTER

What's New in This Issue of the Newsletter?

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Dear Readers,

Here is for you, a summary of the latest news in physical sciences across the African continent, as reported in the 26th issue of the African Physics Newsletter.

When Oyo breathes, Central Africa lives. This is how we can sum up the lofty ambitions of energy researchers in Central Africa and the Congolese government, who recently gathered in Congo Brazzaville to launch the first sub-regional network for research into renewable energies. The Oyo Center of Excellence (CEO), a scientific paradise located in the heart of equatorial Africa, aims to be the lungs of the sub-region. In any case, the tone was set by the Prime Minister of the Republic during the launch ceremony.

The CEO, an infrastructural gem, is what was most lacking in the dynamic sub-Saharan scientific youth. The young people are hungry for knowledge, even at the cost of the most unexpected risks. In the following lines, we will meet Kawu, a young Nigerian Ph.D. student who traveled 1,000 km from Nigeria to Cameroon by motorcycle and dugout canoe to attend the 2025 Central African School on Electronic Structure Methods and Applications (CASESMA), the major annual capacity building event in Central Africa.

Capacity building and networking are ongoing throughout the continent. The African Conference of Physics was held in Lomé, Togo, last September. In rural areas as well as in cities, the lack of infrastructure is not an obstacle to the promotion of STEM subjects, including astronomy. Networking and reducing gender disparities are at the forefront of rural education campaigns. The Astrolab project in Zambia and South Africa and the Elimisha Msichana Elimisha Jamii (EMEJA) project in Kenya and Uganda have made this their credo.

While all these forward-looking activities promise a bright future, African physicists are also interested in the keys to this anticipated future that are embedded in the distant past. Egypt, land of civilizations and ancestral knowledge, aims to be a cornerstone. Uncovering Egypt's past is still of great interest. The Scientific Research Laboratories at The National Museum of Egyptian Civilization provide advanced infrastructure for interdisciplinary research, combining heritage preservation with innovative scientific exploration and analysis, thus facilitating international collaboration.

Finally, there are reasons to continue this momentum. Africa is transforming itself through brilliant initiatives whose brilliance is visible even from the far reaches of space. Asteroid (149831) Okeke is named after Nigerian physicist Francisca Nneka Okeke, and South African physicist Michele Dougherty has become the UK's first female Astronomer Royal, a historic achievement showcasing African scientific talent and inspiring future generations in global astronomy. To name but a few.

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Do you have a meeting, conference, school, award, etc. you would like posted? Do you have any other news or articles you would like to share with your colleagues? Click here for more information on how to submit this information to the newsletter and share it with colleagues across the African continent.

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South African Scientist Appointed UK's First Female Astronomer Royal

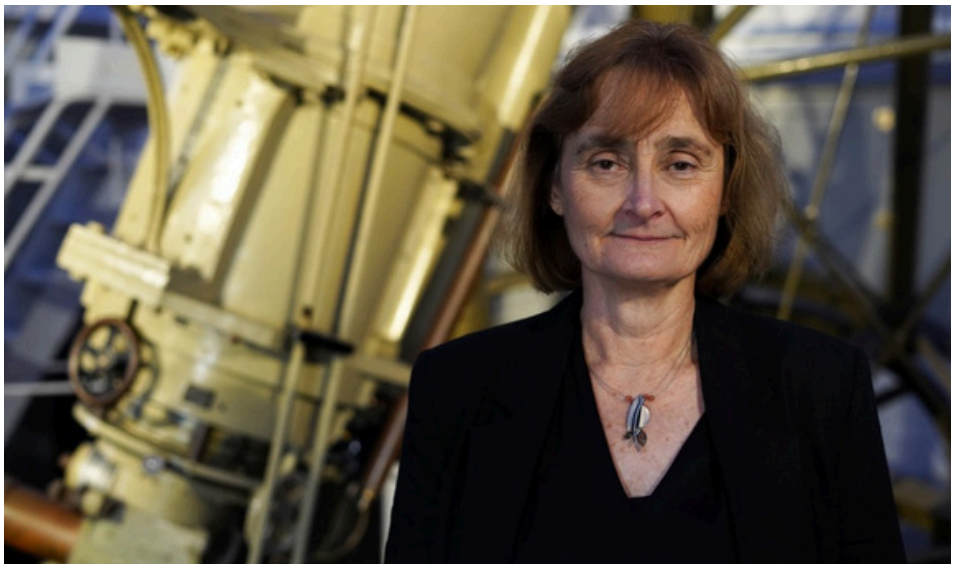

Figure 1: Professor Michele Dougherty, Professor of Space Physics, Executive Chair of the UK's Science and Technology Facilities Council, and President-elect of the Institute of Physics. (Photo Credit: STFC)

For the first time in more than three and a half centuries, the United Kingdom's prestigious title of Astronomer Royal has been awarded to a woman, and that woman is South African! Professor Michele Dougherty, a planetary scientist whose pioneering work has reshaped our understanding of the solar system, was appointed Astronomer Royal in July 2025. Her journey – from building telescopes in her backyard in Durban, South Africa, to advising on some of humanity's most ambitious space missions in London, United Kingdom – is a story of excellence that transcends geography, gender, and time.

The post of Astronomer Royal dates back to 1675, originally established to improve navigation at sea. Over the centuries, it has evolved into an honorary position, granted to scientists who can inspire the public, advise on astronomy, and serve as ambassadors for the field. Only 15 individuals have held the title before Dougherty, all of them men. Her appointment, therefore, marks a profound moment in the history of astronomy, breaking a symbolic barrier that had stood for 350 years [1].

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"For many in the African physics community, Dougherty's appointment is more than a historic footnote, it is a beacon. It demonstrates that African-trained scientists can reach the highest levels of global recognition."

Interestingly, the title of Astronomer Royal has its own historical link to South Africa. In the 1820s, the first post outside of Britain carrying the title "Astronomer Royal" was established at the Royal Astronomical Observatory at the Cape of Good Hope, what is now known as the South African Astronomical Observatory of the National Research Foundation. This connection underscores a long and intertwined history of astronomical collaboration between the UK and South Africa, stretching from colonial times to a modern era of shared scientific leadership [2].

Dougherty's path to the stars began in South Africa, where she nurtured a curiosity about the night sky. She studied at the University of Natal (now known as University of KwaZulu-Natal), earning a PhD in applied mathematics, before moving to the UK to build her academic career at Imperial College London. Today, she is Professor of Space Physics, Executive Chair of the UK's Science and Technology Facilities Council, and President-elect of the Institute of Physics.

Her scientific achievements are as impressive as they are inspiring. She led the team responsible for the magnetometer instrument on NASA's Cassini mission to Saturn, which discovered water plumes erupting from Enceladus, one of the most promising locations in the search for life beyond Earth [3]. She now leads a key instrument on the European Space Agency's JUICE mission, exploring Jupiter's icy moons, including Ganymede, for evidence of hidden oceans.

The fact that one of the most iconic positions in astronomy is now held by a South African-born scientist carries special meaning. It is a vivid reminder that talent nurtured on the African continent can shape the course of global science. In recent decades, South Africa has become a leader in astronomy, hosting the Southern African Large Telescope and playing a central role in the Square Kilometre Array, the world's largest radio telescope project [4]. In 2024, the International Astronomical Union held its General Assembly on African soil for the very first time in over a 100 years of its existence, in Cape Town, a landmark event that showcased Africa's growing prominence in global astronomy [5].

Dougherty is not only the first South African in the role; she is the first woman. That fact alone carries immense weight in a discipline historically dominated by men. In interviews, she has expressed hope that her appointment will inspire others, not because she is the first woman, but because she earned the role through years of groundbreaking work. Her words echo a broader truth: diversity in science strengthens science itself. It brings fresh perspectives, fuels innovation, and ensures that the brightest minds can rise, regardless of gender or background.

For many in the African physics community, Dougherty's appointment is more than a historic footnote, it is a beacon. It demonstrates that African-trained scientists can reach the highest levels of global recognition. It provides a role model whose career path shows what is possible with curiosity, perseverance, and support. It strengthens the message that African physics is not peripheral; it is central to the world's scientific progress.

From the University of Natal to the rings of Saturn and now to one of astronomy's most storied titles, Dougherty's journey is a testament to the power of talent, opportunity, and vision. Her appointment as Astronomer Royal is not just a personal triumph. It is a milestone for women in science, for African scientists on the global stage, and for a world that increasingly understands that excellence knows no borders. As Dougherty told the African Physics Newsletter, "I am

absolutely delighted to have taken on the important role of Astronomer Royal. As a young child looking at the stars in South African skies, I never thought I'd end up working on planetary spacecraft missions and science, so I can't quite believe I'm actually taking on this position. In this role, I look forward to engaging the general public in how exciting astronomy is, and how important it and its outcomes are to our everyday life."

Her words offer a deeply personal reflection, one that now serves as a source of inspiration for generations to come. In the centuries to come, when new names take on this historic role, Dougherty's name will be remembered as the one who opened the heavens wider, for all of us.

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Astrolab - Starlight in the University Lab Project: Learning STEM skills by doing

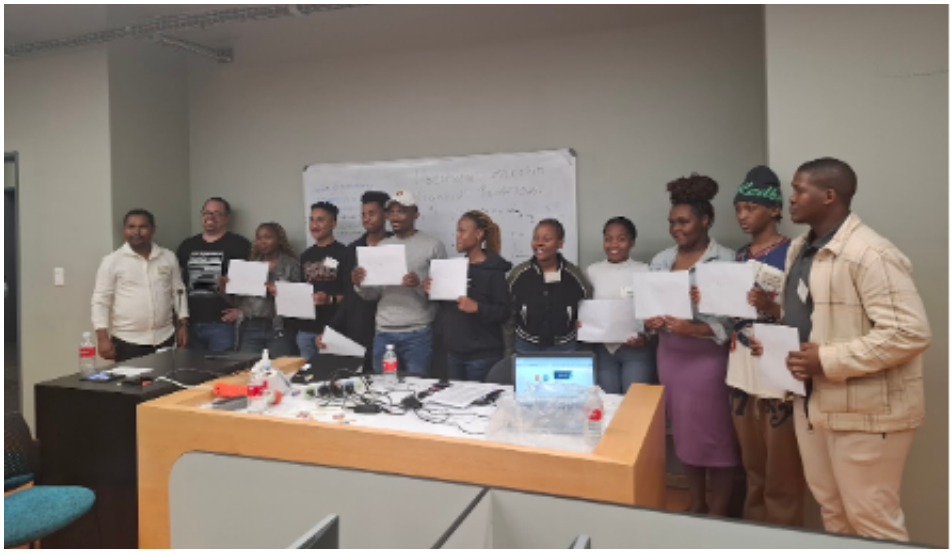

Figure 1: Students who won prizes for their outstanding projects. (Photo Credit: Saul Phiri)

The AstroLab (Starlight in the University Lab) project is an annual training workshop tailored toward undergraduate students in introductory astronomy courses. It is an inquiry-based astronomy lab that provides students with hands-on experience with real astronomical observations in a classroom setting. The training is also useful for trainers who wish to introduce this project in their teaching of introductory astronomy at their universities or institutes. The project aims at fully developing and implementing a research tutorial, Astrolab, in universities in need of astronomy infrastructure and curriculum, allowing undergraduate students in sciences to perform real-time observations on a remote telescope, and transforming those observations into a scientific result. It is a Sky Global partner project with Las Cumbres Observatory (LCO) [1]. The training approach adopted for Astrolab is learning by doing and observing with the 40cm LCO network of remote telescopes. These workshops have been running since 2014 and have been hosted by the following institutions: University of Rwanda College of Education (2014), the Copperbelt University (2016), National University of Science and Technology in Zimbabwe (2017), University of Zululand (2018), University of Venda (2019) [2], and Sol Plaatje University (2025).

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Figure 2: Group photo of students and trainers. (Photo Credit: SPU Media)

Figure 3: Figure 3. Dr. Kshitij Thorat, explaining the scheduling of observations on the LCO portal. (Photo Credit: SPU Media)

The 2025 Astrolab workshop held at Sol Plaatje University (SPU) from August 25-29, 2025, was the first in-person training workshop held after the COVID-19 pandemic. At SPU, the workshop was fully engaging, and trainers invoked critical thinking in the learners. At the end of the workshop, the learners came up with observing projects, which were successfully implemented and presented on the last day of the training. The workshop inspired both learners and SPU academic members of staff to fully participate in an astronomy program. The Dean of the Faculty of Applied Sciences, Professor Odireleng Martin Ntwaeaborwa, thanked the organizers for choosing Sol Plaatje University to host the 2025 Astrolab. He indicated that SPU was committed to actively participating in astronomy projects, including the SKA, and that his faculty will soon introduce an astronomy program in the university's offerings.

The workshop attracted 27 students from four universities across South Africa, the majority of whom were from the host university. The represented universities were Sol Plaatje University (host), University of Venda, Water Sisulu University, and Rhodes University. Trainers were drawn from Copperbelt University, University of Cape Town, University of Pretoria, and University of Zululand.

The organizers are grateful for the funding of the workshop by the Department of Science and Innovation (DSTI), the African Astronomical Society (AfAS), Sol Plaatje University, the International Astronomical Union's Office of Astronomy for Development (OAD), and the Copperbelt University (CBU).

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Empowering Rural Girls Through Education: The impact of Elimisha Msichana Elimisha Jamii (EMEJA)

Figure 1: Year 1 female students at Kipkeikei Girls during Astro-STEM workshops (left), St. Peter's Girls High School, Kitale (right). (Photo Credit: Ann Njeri)

In rural Kenya and Uganda (and across Sub-Saharan Africa), girls face a steep, uneven path to completing secondary education. Only 18% of Kenyan women aged 25+ complete secondary school, and nearly 49% of young women are illiterate (World Bank, 2018)[1]. Eighty-six point five percent of girls aged 9-13 live in rural Kenya – with 80.8% attending primary school – but only 14.3% enroll in secondary education (UNESCO,2012)[2]. In Uganda, just 22.5% of girls aged 6-12 transition to secondary school (according to UNGEI)[3]. These figures reflect more than statistics. They reveal systemic barriers: teen pregnancy, early marriage, poverty, gender stereotypes, and lack of school infrastructure.

My initiative, Elimisha Msichana Elimisha Jamii (EMEJA, Swahili for 'Educate a girl, educate the entire community'), was born out of a vision to address these barriers holistically and ensure 100% primary-to-secondary-school transition for rural girls. Since 2019, through multiple and complementary intervention programs, we have reached over 40,000 schoolgirls across about 40 primary and 10 secondary schools in Kenya (Kitale, Nairobi [Kibra], and Murang'a counties) and Uganda (Isingiro District), with planned expansion into Tanzania.

EMEJA aims to empower rural girls to stay in school and to transition to secondary education by tackling some of the above systemic barriers. Through education outreach, mentorship, scholarships, STEM workshops, digital literacy, and teacher training, we are creating opportunities for rural girls to complete their education — breaking the cycle of poverty and gender inequality.

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"Through education outreach, mentorship, scholarships, STEM workshops, digital literacy, and teacher training, we are creating opportunities for rural girls to complete their education — breaking the cycle of poverty and gender inequality."

Rural girls lack exposure to educated female role models. Furthermore, existing mentorship and leadership programs overlook girls in rural primary schools. To address this, we launched our education outreach and mentorship program for girls in the final year of primary education, targeting the critical transition from primary to secondary, where dropout rates are high. We hold annual community-wide events (involving the girls, their parents, teachers, and local leaders), addressing issues such as teen pregnancies, early marriages, and gender stereotypes that hamper girls' education. Each girl is then paired with a "life-long" mentor for continuous academic tracking and guidance.

However, mentorship alone could not prevent dropouts. The absence of long-term pupil tracking programs means girls can drop out of education unchecked. Therefore, we instituted biannual check-ins (via calls and home visits) of our mentees throughout secondary school, ensuring rapid intervention and re-enrollment when dropouts occur. Annually, we track about 3,000 girls and have supported 196 girls return to school. Additionally, our tuition scholarships fund the most financially vulnerable to complete secondary education.

While enrolment in secondary schools has improved, gender disparities in STEM subjects persist, further exacerbated in rural schools by underfunding and a lack of infrastructure. We launched STEM workshops and mentorship to change attitudes towards STEM, build confidence/facilitate early participation of girls in sciences, improve school infrastructure, and tackle digital illiteracy in high schools. We have trained about 4,000 girls through hands-on practicals and activities; inspired a third to choose physics in Years three through four. Complementing this, we have equipped physics labs in five school laboratories with essential apparatus – from voltmeters, lenses, to ripple tanks, etc.

However, learning in the 21st century also requires digital fluency (e.g., UNESCO joins hands with Prada to promote Girls' ICT-STEM Education in Kenya, 2023). In response to widespread digital illiteracy in rural areas, we have trained about 4,000 girls in basic computer skills and donated 30 computers across five schools. Consequently, these schools established computer laboratories and are now offering accredited computer studies classes.

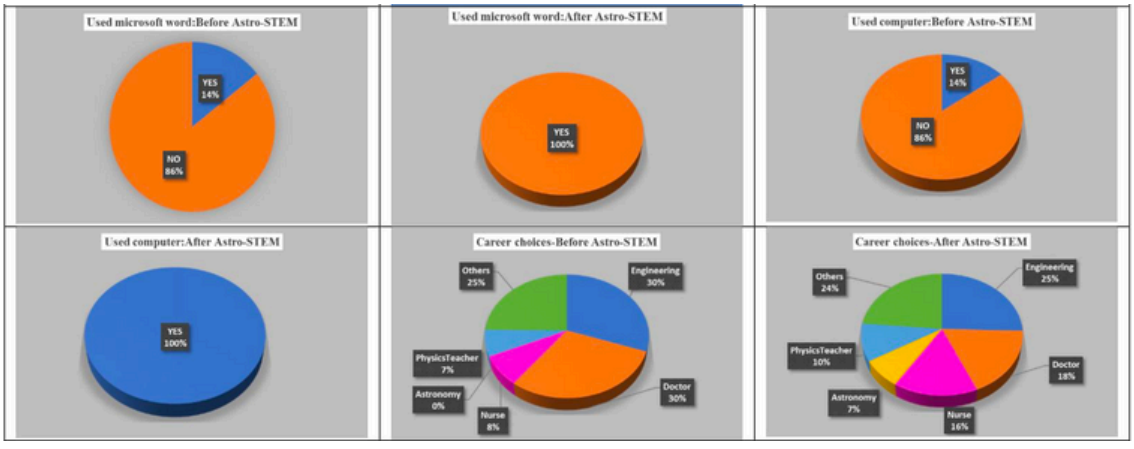

Figure 2: Computer Literacy Levels and Career Choices, before and after our STEM workshops. (Photo Credit: Ann Njeri)

Lastly, to embed change at the teaching level, we implemented STEM teacher training. Rural educators often lack both resources and strategies to teach STEM inclusively. We have trained 120 high school teachers on effective and innovative methods to deliver STEM lessons in the classroom with limited resources, emphasizing gender-sensitive instruction and practical pedagogy, now benefiting thousands more students across the region.

Together, these interlocking interventions form a comprehensive model; addressing not one, but all critical breakpoints in the education journey of rural girls, thereby building a pipeline of resilience, opportunity, and empowerment with a model that can easily be replicated across the continent.

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ACP2025: Strengthening Science In Africa

Figure 1: Group photo of ACP2025 in-person participants. (Photo Credit: ACP2025 Local Organizing Committee)

The 4th African Conference on Fundamental and Applied Physics 2025 (ACP2025) took place in Lomé, Togo, on Sept. 14-20, 2025, as a hybrid event jointly organized by the African School of Physics (ASP) and the University of Lomé. The conference opened with a warm Sunday evening reception. Participants were greeted with a local Togolese cultural buffet, setting a tone of hospitality and exchange that continued throughout the conference. Although around 100 participants attended in person, the hybrid format welcomed a total of 745 physicists from Africa and beyond, including Europe and the United States. This international mix highlighted ACP's growing role as a bridge between African physics and the global community.

The scientific program was both diverse and ambitious, covering topics from particle and nuclear physics, astrophysics, and cosmology, to condensed matter, materials science, biophysics, earth and environmental physics, optics and photonics, accelerator physics, detectors and instrumentation, medical physics, statistical analysis, and Artificial Intelligence/Machine Learning in physics. In addition, the conference placed strong emphasis on physics education, community engagement, and collaborative initiatives. Many talks highlighted opportunities for young researchers in Africa, showcasing scholarships, training programs, and collaborative projects aimed at nurturing the next generation of scientists while strengthening Africa's role in the global scientific community.

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Figure 2: A collection of pictures from ACP2025 (top left and right), the ACP2025 training session on LHC Open Data (bottom left), and the ACP2025 training workshop for high school teachers (bottom right). (Photo credit: ACP2025 LOC)

A key feature of ACP2025 was the parallel sessions for posters and oral contributions, giving many early-career researchers the opportunity to present and discuss their work. Participation was vibrant and inclusive, with women actively engaging across sessions and contributing prominently to discussions, reflecting the conference's commitment to inclusivity and broad representation in the field.

The energy and curiosity displayed by these young scientists offered a glimpse of a bright future for African physics and underscored the continent's growing global potential. In addition to the scientific sessions, the final day of the conference featured a training workshop for high school teachers and a session on Large Hadron Collider Open Data, highlighting ACP2025's dedication to education, capacity-building, and linking students and educators to cutting-edge research. These sessions complemented the main programme by providing practical skills and fostering broader engagement with physics across the continent.

The plenary sessions at ACP2025 offered a rich diversity of talks, from reflections on humanity's place in the Universe to discussions on science education and its role in shaping future generations. Some presentations encouraged participants to reflect on the broader meaning and responsibility of scientific discovery, while others highlighted innovative and inclusive approaches to teaching and learning. Many other plenary and scientific talks spanned a wide range of research areas in physics and related disciplines, showcasing the depth and vitality of the ACP community. Together, they reflected the conference's spirit of curiosity, collaboration, and commitment to advancing science for the benefit of all.

Beyond the formal sessions, the conference fostered a spirit of exchange. Conversations continued during coffee breaks, informal gatherings, and online discussions, where ideas for collaborative research, training networks, and regional initiatives began to take shape. The hybrid format, while occasionally presenting technical challenges, allowed participants unable to travel to engage meaningfully with the scientific program. Local students from the University of Lomé attended in large numbers, asked insightful questions, and established connections with international researchers. Their engagement added youthful energy and underscored the importance of nurturing Africa's early-career physicists.

The social program added cultural richness to the scientific experience. The conference dinner, held at the university restaurant, featured traditional Togolese music, a live band, and dancers performing a variety of cultural pieces. Many participants soon joined the dance floor, celebrating not only local traditions but also the collaborative spirit of ACP2025.

Strengthening science in Africa remained a central theme throughout the conference. Speakers emphasized building local research capacity, fostering intra-African mobility, and developing shared infrastructure and educational resources. ACP2025 underscored that Africa is not merely a consumer of scientific knowledge but an active contributor to global science, with continental collaboration being key to realizing this potential.

Looking ahead, the community is already preparing for the next African Conference on Physics (ACP2027), to be hosted in Zambia. The continuity of these gatherings ensures that scientific exchange, mentorship, and collaboration remain central to Africa's growing role in global physics. Building on the momentum from Lomé, ACP2027 promises to further strengthen networks and advance the shared vision of a vibrant, diverse, and globally connected African physics community.

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1,000 Kilometers Across Mountains and Rivers to Attend CASESMA School

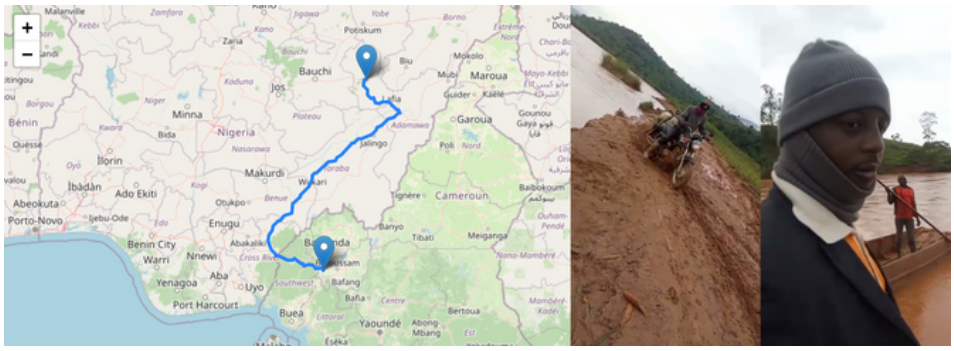

Figure 1: (Left) Simulated path from Gombe, Nigeria, to Dschang, Cameroon. (Right) River crossing in a dugout canoe. The motorbike itself is embarked. (Photo Credit: Toponavi.com and Ahmed Kawu)

From the Editor and CASESMA Director:
...This story tells us how, despite the scarcity of funding, some can face the impossible to acquire knowledge and network. Funding a Nigerian student for a school in Cameroon can be as expensive as funding the same student from Nigeria to Europe or the U.S. This is just one among the many cases we have witnessed over the past years.

Travel is often measured in distance, but sometimes the true weight of a journey lies in the effort, the patience, and the lessons gained along the way. My recent trip from Gombe, Nigeria, to Dschang University in Cameroon — over 1,000 kilometers across mountains, rivers, and borders — was one such journey. I undertook it to attend the Central African School on Electronics Structure Methods and Applications (CASESMA), but its significance reached far beyond the academic purpose.

The road begins
On Friday, September 19, 2025, I set out from Gombe. The first day took me eight hours across the northern plains to Jalingo. The roads were long but manageable, and I rested for the night with anticipation of what lay ahead. The second day stretched ten hours from Jalingo to Gembu in Taraba State. The route wound steadily upward into the cool heights of the Mambilla Plateau. Gembu, a mountain town known as one of the highest points in Nigeria, marked both the beauty and the challenge of the journey.

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"From the mountains of Gembu to the lecture halls of Dschang, I found that academic pursuits are often carried not only by knowledge, but also by courage, faith, and the kindness of those who welcome us along the way."

Figure 2: (Top) During a stop on one of the narrow mountain paths under foggy weather. (Bottom) Ahmed Kawu (third from the right) on the first day of CASESMA school. (Photo Credits: Ahmed Kawu and Stéphane Kenmoe)

The hardest passage

The third day was the most demanding. From Gembu, I had to descend toward the Cameroonian border on a motorbike. For four hours, we navigated rough, narrow mountain paths, with each turn requiring balance and trust in my driver. At the base, we faced a river crossing, and with no bridge, we placed ourselves and the bike on a wooden boat. It was a crossing that demanded courage as much as patience. Once across, I continued toward Mayo Darle, then onward to Foumban in Cameroon. It was there that I met a new difficulty: language. French dominates the region, and my English became a barrier. Security checkpoints and conversations tested me at every stage, but I drew strength from the constant encouragement of the school director, Dr. Stéphane Kenmoe, who stayed in contact, offering guidance and prayer from afar.

Arrival at Dschang

From Foumban, I traveled through Bafoussam, and at last, late that night, reached Dschang University around 11:30 p.m. What awaited me was not simply the end of a journey, but a warm welcome. Kenmoe, Professor Eckhard Spohr, and Dr. Christine Darve received me with kindness, extending hospitality that went far beyond formality. They ensured my expenses were covered and treated me with the honor of a valued guest. After days of hardship, their generosity was both a relief and a profound reminder of the bonds that unite scholars across borders.

Lessons and benefits

The academic benefits of CASESMA were as rewarding as the journey itself. I had the opportunity to connect with fellow researchers from across Central Africa, expanding my network for future collaborations. I studied under distinguished lecturers such as Spohr of the University of Duisburg-Essen, Germany, and Darve of the European Spallation Source, Sweden. Their expertise opened my eyes to new approaches in computational physics and advanced materials science. One of the highlights of the program was learning to use the powerful computational code LAMMPS, which is widely applied in simulations of materials at the atomic level. For me, as a Ph.D. student, this knowledge was transformative. It equips me to tailor my own research in ways that align with global best practices and cutting-edge scientific tools.

I am also deeply grateful to the program directors, Kenmoe of the University of Duisburg-Essen, Germany, and Professor Martin Tchoffo of the University of Dschang, Cameroon, whose leadership made the school both rigorous and inspiring.

Reflections

The Central African School on Electronics Structure Methods and Applications was my destination, but the journey itself became its own form of education. It taught me resilience in the face of physical challenges, patience where language faltered, and gratitude for the mentors and colleagues who believe in supporting others.

From the mountains of Gembu to the lecture halls of Dschang, I found that academic pursuits are often carried not only by knowledge, but also by courage, faith, and the kindness of those who welcome us along the way.

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CASESMA 2025: A scientific and human adventure

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Figure 1: The author (second from left, with eyeglasses) during a coffee break at CASESMA school. (Photo Credit: Cladi Rodnet Boulingui)

Participating in the 6th Central African School on Electronic Structure Methods and Applications (CASESMA), held Sept. 22 to 26, 2025, at the University of Dschang (Cameroon), was both a scientific and human adventure for me, marked by perseverance and a passion for physics.

My name is Boulingui Cladi Rodnet. I am currently working on a doctoral project titled "Study of hydrogen nanoparticles interactions for the optimization of reversible hydrogen storage systems in hybrid materials using Density Functional Theory (DFT) and molecular dynamics simulations." DFT allows the calculation of the spatial electron density for molecules and condensed matter. When I received the invitation to participate in CASESMA, organized by the University of Dschang and the University of Duisburg-Essen (Germany), I saw it as a unique opportunity to strengthen my knowledge of molecular dynamics and to exchange ideas with African researchers who share the same goals. I also saw this school as an excellent opportunity to shape my vision of collaborative research in Africa and to draw inspiration from experienced researchers.

"Beyond the scientific learning, CASESMA was much more than just a training course: it was a real space for sharing and camaraderie."

My journey from Congo to Dschang was long and fraught with difficulties. I chose to travel by bus, crossing several regions on a journey that was both demanding and educational. The administrative complications at the border, the endless hours of waiting, the fatigue of the journey. All of this could have discouraged me, but each difficulty I encountered reminded me of the value of my goal: to join a community of researchers dedicated to the advancement of science in Africa. Once I arrived in Dschang, the fatigue of the journey quickly faded away in the face of the warm welcome and the quality of the organization. I was deeply impressed by the sensitivity and kindness of the organizers, who constantly ensured the well-being of each participant.

The rich and rigorous scientific program focused mainly on molecular dynamics. The courses on this topic were taught by Professor Eckhart Spohr, whose clear and precise explanations helped me better understand the fundamental principles and practical applications of this method in the study of materials. Other equally interesting presentations covered different areas of scientific research: scientific communication, presented by Professor Stéphane Kenmoe; ways of linking local physics to global physics, presented by Christine Darve, Ph.D.; and the relationship between science and journalism, developed by Pierre Nka, Ph.D.. These presentations greatly broadened my view of the role of researchers in society. For example, I had previously tended to view research as an essentially academic activity, focused on producing results for a scientific audience. However, thanks to these presentations, I now understand that researchers must also be able to communicate their work in a clear and accessible way in order to promote dialogue between science and society.

The practical sessions made a particular impression on me. Being able to use simulation tools that I had only known in theory gave me a better understanding of their potential and limitations. I learned a lot by comparing my methods with those of the other participants; everyone had their own approach to analyzing or solving a problem, which opened up new perspectives on my own work.

Beyond the scientific learning, CASESMA was much more than just a training course: it was a real space for sharing and camaraderie. I was deeply impressed by the atmosphere of cooperation that prevailed among the participants. Everyone was willing to help each other, explain a concept, or share a code or tip without hesitation. The trainers, for their part, were always available, attentive, and eager to see everyone progress. This supportive atmosphere created a stimulating learning environment, where we felt encouraged to ask questions and exchange ideas freely. These moments of conviviality reminded me that science is not just about equations or theoretical models; it is also built on collaboration and human interaction.

Back in the Republic of Congo, I feel that I have grown, not only scientifically, but also personally. CASESMA 2025 has strengthened my confidence, my rigor, and my conviction that, despite logistical or material difficulties, passion for research and perseverance always pave the way to excellence.

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THE AFRICAN PHYSICS NEWSLETTER

CASESMA School: The 6th edition

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DECEMBER 2025

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Figure 1: Group picture on the last day of the CASESMA school. (Photo Credit: Stéphane Kenmoe)

The context

While it is widely known that the African subsoil and crust, particularly in the Congo Basin, are rich in soft and hard materials with high technological potential, it should be emphasized that the study, or more precisely the characterization, of these materials is not carried out locally. This is obviously due to the high cost of the experimental equipment required for this purpose. Alternatives within the reach of local researchers are therefore needed. It is with this in mind that we launched the CASESMA school in 2018. This is a one- or two-week training course during which we introduce young local researchers to computational research – more specifically, the chemistry and physics of materials with potential applications in energy, electronics, heterogeneous catalysis, cosmetics, and biology. After Kinshasa, DRC, and Brazzaville, Congo, we went back again this year to where everything started, in Dschang, Cameroon.

Molecular dynamics as a tool for material characterization

Inert or living matter vibrates under most operating conditions. This dynamic aspect must be taken into account in the characterization and functionalization of materials. To this end, molecular dynamics is increasingly establishing itself as an insightful tool for studying material systems of reasonable size and complexity using simple computers that are accessible to students in sub-Saharan Africa. Examples of this include the hard matter of elementary metal

"While the motto "publish or perish" is a guiding factor in academic promotion, knowing how to communicate your research to a wider audience not only gives you an advantage in positioning yourself in the academic job market, but also in the industry job market."

lattices of abundant metals and their oxides, such as cobalt, iron, titanium, and many others. With regard to soft matter, classical molecular dynamics on a computer allows, to a certain extent, the study of mixing behavior between droplets of basic liquids such as water and oil, for example. These are the small exercises we tackle during the CASESMA training course, after a brief review of the physical and chemical theories on which the concepts of molecular dynamics are based. Professor Eckhard Spohr from the University of Duisburg-Essen (UDE), the main lecturer of the school, alternated theory and practical sessions on a daily basis, engaged with the participants through interactive and lively exchanges – a fruitful approach that broke the walls between the learners and the new concepts.

A lesson on international networking

While it is true that this introduction to computational research takes students out of the strong influence of mathematical physics, which still dominates research in this part of the continent, it should be noted that we cannot claim to bring young learners to a level that would prepare them for cutting-edge research. This is due to the need for giant computers or supercomputers, which are lacking in the subregion. There is also the necessary complementary aspect of experimental research for the validation of numerical simulations. It is with this in mind that Christine Darve, Ph.D., from the European Spallation Source gave a presentation on collaboration networks around the world. During her presentation, she outlined areas for interdisciplinary and complementary collaboration (theory and experience), such as different light sources, exchange programs, and training. In addition, she provided personal coaching in networking and successful collaboration to each of the young participants. This is an exercise that is very difficult for young people who sometimes struggle to get noticed, despite their talent.

Some concepts about scientific communication

It must be said – to be seen and heard, you first need to know how to make yourself seen and heard.

That is why, since last year, we have been dedicating a session specifically covering scientific communication. This is all the more important given that new information and communication technologies have profoundly changed the landscape of scientific communication. While the motto "publish or perish" is a guiding factor in academic promotion, knowing how to communicate your research to a wider audience not only gives you an advantage in positioning yourself in the academic job market, but also in the industry job market. Joining the industry is an increasingly popular career path for Ph.D. holders in the natural sciences around the world. It is sometimes a guarantee of stability and long-term prospects.

At CASESMA, we also leave the lecture hall to meet with the general public for practical communication exercises, ranging from scientific writing by scientists for the general public to cinema as a tool for popularizing science. In the latter case, we work with professionals from the film industry. This academic freedom for such an interdisciplinary aspect of the training could not have been possible without supportive people and institutions such as UDE, the American Physical Society, and Uppsala University. Scientists need all these aspects of training, particularly in these difficult times, where excellence in the labs is not the only thing needed for the survival of science. They need to become better advocates, particularly outside academia.

So far

CASESMA focuses on strengthening both hard and soft skills. This combination is useful in helping participants better navigate their careers. So far, we have done quite well in terms of continuity and follow-up with our young participants, with whom we maintain close ties after the training. This is made possible by the generosity of institutions such as UDE, which, when possible, allows for short- and long-term research visits. In the coming months, we will have our first wave of Ph.D. graduates!

THE AFRICAN PHYSICS NEWSLETTER

Africa in the Sky: Asteroid Okeke

Fig. 1 Photo Credit: Okeke

"It's exciting that a global body named [an] asteroid after me," said Francisca Nneka Okeke, professor of physics at the University of Nigeria, Nsukka (UNN). The name was announced by the International Astronomical Union, citing that "Francisca Nneka Okeke is a Nigerian physicist known for her research on the ionosphere and its impact on climate and space weather. A professor, as well as an advocate for women's education, she has received international recognition for her contributions to geophysics and atmospheric science" [1].

Okeke is from Idemili North, Nigeria, and studied at the University of Nigeria, obtaining two M.Sc. degrees — one in science education and one in geophysics. After her Ph.D. in ionospheric geophysics, she forged ahead at the University of Tokyo, Japan, as a postdoctoral fellow. She has published prolifically on geomagnetic storms and solar terrestrial physics, stratospheric ozone dynamics, and she later focused on geomagnetic effects in West Africa and ionospheric conductivities observed at Nsukka. In terms of Coronal Mass Ejections (CMEs) — the massive ejections of plasma from the sun — her name appears in the Ojih-Okeke Model, an Empirical Coronal Mass Ejections Arrival

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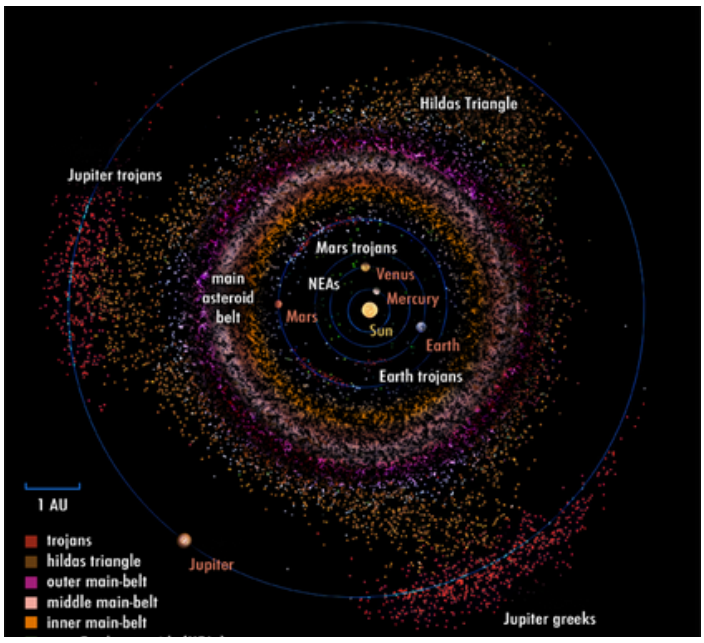

Figure 2: Asteroid group location in the inner solar system. (Photo credit: Pablo Carlos Budassi)

time model [2]. When CMEs impact Earth's magnetosphere, they can cause failure of electrical power grids. A particular interest of hers is the equatorial electrojet, the ionospheric current that flows eastward on the daytime side of Earth in a narrow ribbon, crossing at about 110 km above the coastal West African countries.

The African Physics Newsletter (APN) published an article by Okeke in 2021 [3], from which this extract is quoted: "... it was my late father who taught me mathematics ahead of my class; he labored, and inspired my love for sciences in general, and mathematics in particular. This love I developed for mathematics later metamorphosed into a special love for physics. It was my late father who planted and watered the seed of my academic excellence. For this, he is my hero and mentor."

Having come from a society where women were regarded as not capable of making decisions that contribute to the development of a nation [3], she is a special champion for the education of girls and women and their achievements in science. She became the first female Head of Department of Physics and Astronomy at UNN, and the first female Dean of the Faculty of Physical Sciences. In 2013, she was named the Laureate for Africa and Arab States of the L'Oréal-UNESCO "For Women in Science Awards." Interviewed by the APN, she said, "Excellence knows no gender, and brilliance is seen from any angle. My vision of seeing the gender gap in STEM nearly bridged is almost a reality."

She is a Fellow of numerous academies, including The World Academy of Science, and says, "STEM is the key to the prosperity of any nation; hence, it is virtually impossible to expect any significant economic, environmental, or social stability without serious research in STEM, which invariably leads to sustainable development. Hence, development of STEM must be a priority of any nation."

Her namesake Asteroid (149831) Okeke is an outer main-belt asteroid, first sighted in 2000 [4]. It was formally recorded in the Catalina Sky Survey, which searches for Near-Earth Objects, in 2005 [5]. Its mean diameter is about 5.5 km, and it travels with a family of about 30 asteroids, with orbital resonances influenced by the larger celestial travelers they encounter.

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THE AFRICAN PHYSICS NEWSLETTER

Thomas Ojonugwa Daniel's Journey to the Psi-k Conference

Figure 1: Dr. Daniel presenting his research poster and participating in the Psi-k 2025 Conference held at the SwissTech Convention Center in Lausanne, Switzerland (August 25–28, 2025). (Photo Credit: Dr. Daniel)

The Psi-k Conference is known as one of the most important gatherings for scientists working in electronic structure theory and materials modeling. For Thomas Ojonugwa Daniel, Ph.D., attending this event was a dream come true. He had always wanted to learn from top researchers and find ways to connect Africa's growing community of scientists with others around the world.

Inspiration and motivation

Daniel decided to attend Psi-k because of its strong reputation, and also because he wanted to learn new computational methods while meeting experts who could help him grow as a researcher. The conference turned out to be even better than he expected, as the talks, posters, and discussions opened new doors for him. Sitting among scientists from all over the world, he felt proud to be part of a community working together to solve big global problems.

Scientific impact

This was Daniel's first Psi-k, and it turned out to be the largest and most diverse scientific event he had ever attended. One of his favorite moments was a plenary talk about first-principles modeling of interfaces for energy storage and conversion. He also discovered new approaches in machine learning for materials design and learned about software platforms and science tools such as Quantum ESPRESSO, VASP, and AiiDA. These platforms make advanced research easier to access, especially for scientists in developing regions. Sessions on functional energy materials and data-driven materials discovery also inspired him. Presentations by African scientists, including Professor Garu Gebreyesus' talk on teaching computational materials science across Africa,

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Figure 2: Daniel, Ph.D., connecting with researchers during the Psi-k 2025 Conference at EPFL, Lausanne, Switzerland. (Photo Credit: Daniel)

reminded him of how much potential Africa holds. Moreover, discussions about APhRICA and CECAM's plans to expand high-performance computing access for African researchers encouraged him to bring these ideas back home (Figure 1).

The African perspective

For Daniel, Psi-k was a bridge that showed how open science, data sharing, and teamwork can help African researchers grow and connect with global networks. He met other African participants from Kenya, Ghana, South Africa, Tanzania, Sudan, and Senegal. He believes the friendships and collaborations that started there will help strengthen science across Africa (Figure 2).

Mentorship and career development

Beyond the talks, Daniel also engaged in many informal chats with senior scientists who shared advice and encouragement. Engaging directly with world-leading experts boosted his confidence to pursue ambitious research goals.

He encourages young African scientists to apply for travel grants and sponsorships, such as the Atomistic Simulations, Electronic Structure, Computational Materials Science and Applications: African Networking with Europa (ASESMANET-EU) grant, which supported his trip to the conference. He believes these opportunities can open doors for others, just as they did for him.

Broader outreach

Daniel describes Psi-k as a place where theory, computation, and real-world applications come together. He also believes publications like the African Physics Newsletter (APN) play a big role in giving African scientists a voice and helping them share their stories with the world. Looking ahead, he hopes to see more African researchers at future Psi-k conferences and believes that with more training and support, Africa can take an active part in shaping global science.

Acknowledgment

Daniel expresses his sincere thanks for the ASESMANET-EU travel grant of €2200 and the payment of the conference fee of CHF 495, which made his participation at Psi-k 2025 possible. He also appreciates the support of Gebreyesus, Professor Nicola Seriani, and Professor Patrick Mayor, as well as his mentor Professor Isabelle Dixon of the Laboratoire de Chimie et Physique Quantiques (LCPQ) at the Université Toulouse III—Paul Sabatier, France; Professor Ramasami Ponnadurai of the University of Mauritius; and Dr. Omamuyovwi Rita Jolayemi, who informed him about the application.

In summary, Daniel's experience at Psi-k showed how determination, support, and collaboration can open new doors for African scientists and how global science grows stronger when every region has a voice at the table.

THE AFRICAN PHYSICS NEWSLETTER

Somiealo Azote: Resilient Physicist Breaking Barriers with Excellence

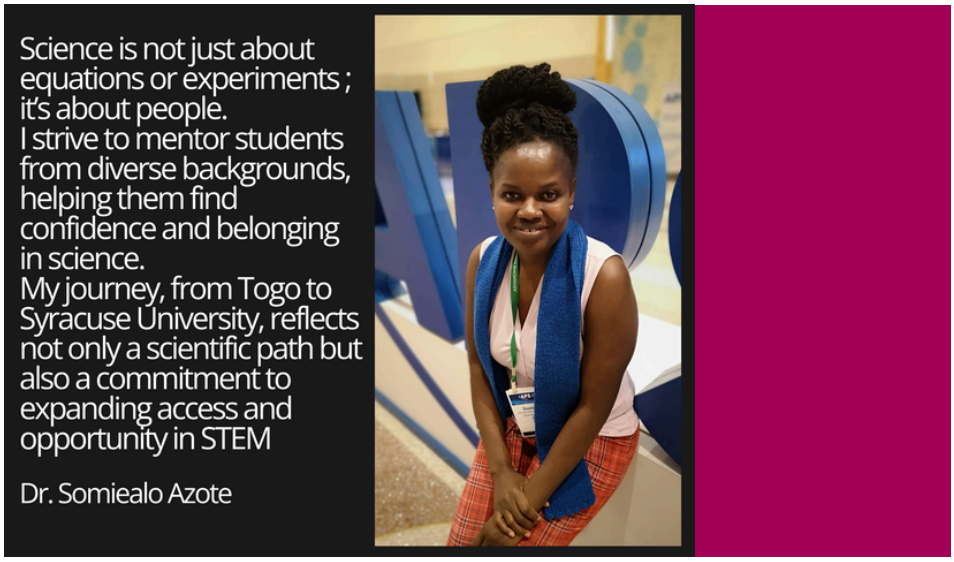

Figure 1: Someialo Azote, Ph.D. (Photo Credit: Azote)

Childhood, motivation, and research interest

Somiealo Azote, Ph.D., was born and raised in Togo, West Africa, as the youngest of 13 siblings. Growing up in Togo, Azote never imagined she would one day be leading computational simulations of tissue mechanics. She is one of the pioneer women with an undergraduate degree from the University of Lomé to earn a Ph.D. in physics; her academic journey has been shaped by resilience, mentorship, and a passion for crossing scientific and cultural boundaries.

Azote's research designs programmable, life-like systems by developing quantitative, multiscale frameworks that connect molecular to tissue-level processes. She combines theory, simulations, and experiments to uncover principles of cellular mechanics and morphogenesis. Her work includes coarse-grained models of proteins and DNA, studies of cytoskeletal force generation, and tissue-scale modeling of development and disease. While many researchers in her field focus on either the molecular or tissue level, her work bridges both scales. She develops computational models that link the structure

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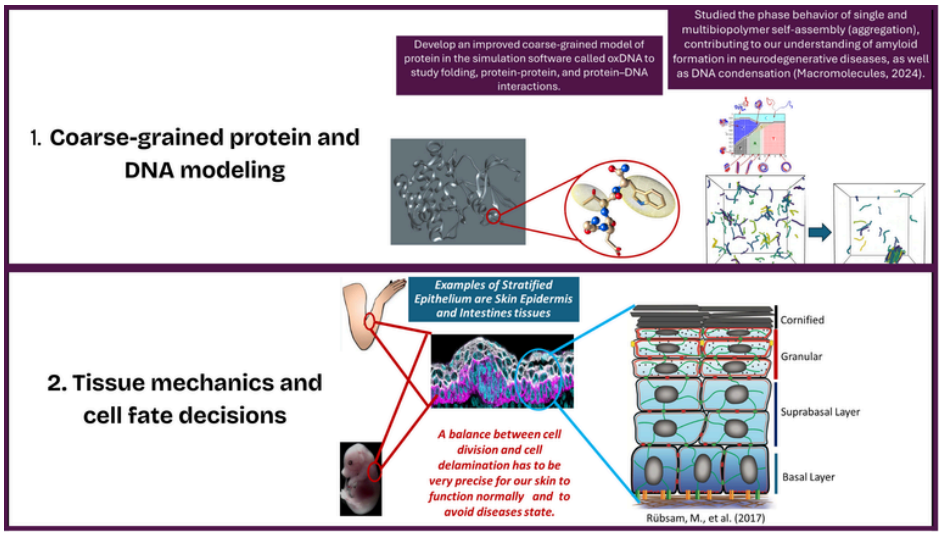

Figure 2: (Top) Coarse-grained protein and DNA modeling: Developed an enhanced coarse-grained protein model in the oxDNA simulation platform to investigate folding, protein-protein, and protein-DNA interactions, and studied the phase behavior of single- and multi-biopolymer self-assembly—providing insights into amyloid formation in neurodegenerative diseases and DNA condensation. (Bottom) Tissue mechanics and cell fate decisions: Modeling stratified epithelia helps uncover how molecular-scale adhesion and tension changes drive cell delamination, ensuring tissue renewal and barrier function. (Photo credit: Azote)

and dynamics of macromolecules, including DNA, protein, and cell cytoskeleton, to how tissues form barriers and renew in normal and cancer cells. This integrative perspective is rare and essential for identifying key biomarkers that guide the design of new therapies and bioinspired materials.

By predicting how cells organize into tissues, her research not only addresses fundamental questions in developmental biology, but also informs the design of biomaterials for regenerative medicine. She is passionate about passing on this integrative approach to students, helping them see how physics and biology together can solve pressing health challenges (Figure A).

Education

Azote began her academic journey at the Université de Lomé in Togo, where she obtained a Bachelor of Science in physics in 2011. She proceeded to the African Institute for Mathematical Sciences in M'Bour, Senegal, earning a Master of Science in mathematical sciences in 2014. In 2015, she enrolled at Stellenbosch University in South Africa for her Ph.D. in physics, which she completed in 2018. Following her doctoral studies, she joined Ca' Foscari University in Venice, Italy, as a Postdoctoral Research Associate from November 2020 to March 2023. Since April 2023, Azote has been a Future Professor Postdoctoral Fellow at Syracuse University, U.S.

Coarse-grained protein and DNA modeling

One of Azote's central postdoctoral research interests at Ca' Foscari University focused on coarse-grained protein modeling (Figure B1). She contributed to the development of a novel and transferable coarse-grained model for proteins

and implemented the corresponding force fields into oxDNA, a state-of-the-art C++ software originally designed for DNA, RNA, and DNA-origami simulations. This model accurately reproduces, within the same parametrization, the geometric and thermodynamic properties of the two most common protein motifs, alpha helices and beta sheets (manuscript in preparation), an achievement that existing models had not achieved. In parallel, she collaborated on large-scale biopolymer simulations to investigate amyloid aggregation and biomolecular interactions relevant to disease and nanomaterial design. Using Langevin dynamics complemented by Wang–Landau Monte Carlo simulations, her work mapped the phase behavior of semiflexible polymer chains, identifying coil, globule, and crystal regimes as functions of bending rigidity and temperature. The study revealed a tricritical point where second- and first-order transitions converge, as well as a switching phase in which rod- and toroid-like conformations coexist with nearly identical energies and interconvert through thermal fluctuations. Extending the analysis to multichain systems, she and her collaborators demonstrated how disordered coils self-assemble into globules or nematic bundles depending on stiffness, uncovering transitions not captured by mean-field theory (findings published in Macromolecules, 2024). Together, these efforts establish her expertise in molecular, cellular, and tissue-scale modeling, forming the foundation for an ambitious multiscale research program.

Tissue mechanics and cell fate decisions

At Syracuse University, Azote expanded her modeling approaches from the molecular to the tissue scale by developing a three-dimensional vertex model of stratified epithelia, with a focus on the skin epidermis composed of basal stem cells and differentiated suprabasal layers (Figure B2). In collaboration with experimental partners in biology and medicine, her work quantitatively examined the biomechanical and molecular drivers of basal cell delamination and tissue stratification. This research addresses how sharp boundaries between basal and suprabasal compartments are formed and maintained, and how basal-committed cells overcome these mechanical barriers to migrate upward during homeostasis and disease. Results have been presented at multiple national (U.S.) and international conferences, and a manuscript is in preparation for submission.

Azote is a proud alumna of the African School of Fundamental and Applied Physics (ASP). She is passionate about driving STEM advancement, particularly in biophysics, through research, mentorship, and international collaboration. She also contributes to the scientific community by serving on the African Conference on Physics (ACP2025) Local Organizing Committee and as a member of the ASP selection committee.

THE AFRICAN PHYSICS NEWSLETTER

Where Science Meets Civilization: Uncovering Egypt's Past at NMEC Laboratories

Figure 1: Exterior panorama of the National Museum of Egyptian Civilization. (Photo Credit: NMEC)

Inaugurated in 2021, the National Museum of Egyptian Civilization (NMEC) is more than a showcase of Egypt's magnificent history; it is a dynamic institution dedicated to the study, preservation, and advancement of cultural heritage. As part of its mission to blend ancient legacy with modern science, NMEC launched its scientific research laboratories in 2024. This cutting-edge research complex positions the museum as a regional leader in heritage science and a global center in interdisciplinary cultural heritage research. The laboratories were founded to provide a comprehensive scientific infrastructure, supporting diverse fields including archaeology, conservation, molecular biology, environmental science, and materials analysis. Although each lab specializes in a specific discipline, together they form an integrated ecosystem of knowledge, innovation, and collaboration.

One of the flagship facilities is Africa's first ancient DNA laboratory, which uses advanced genomic technologies to study archaeological remains. This lab offers insight into human ancestry, familial relationships, and the genetic markers of historical diseases, thereby enhancing our understanding of Egypt's ancient populations and their connections to broader human history.

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'The scientific research laboratories at NMEC go beyond being just a research facility; they exemplify an advanced model for how museums can lead in both science and education."

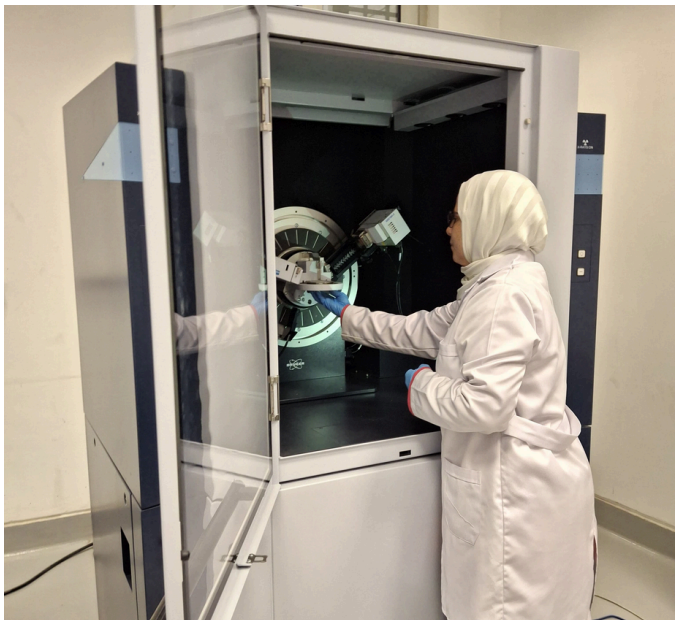

Figure 2: X-ray diffraction (XRD) system in operation. (Photo Credit: NMEC)

Figure 3: Overview of the Inductively Coupled Plasma Mass Spectrometer (ICP-MS) at the NMEC. (Photo Credit: NMEC)

The archaeobotany lab focuses on the study of plant remains, including seeds, wood, and fibers, recovered from archaeological contexts. Reconstructing ancient agricultural systems and environmental conditions sheds light on biodiversity and sustainability in past civilizations.

In addition to its in-house lab equipment, NMEC also owns a mobile laboratory, the first of its kind in Egypt. This mobile facility is equipped with advanced tools, including Raman spectrometers, infrared spectrometers, and X-ray imaging systems, which enable immediate, nondestructive analysis at excavation sites and within other museums. Researchers can perform real-time assessments on artifacts and structures without removing them from their contexts. On the other hand, the X-ray diffraction (XRD) lab determines the crystalline phases of materials. This insight is crucial for uncovering ancient manufacturing techniques and the crystalline properties of materials available to artisans.

The bioarchaeology lab provides critical insights into human health and lifestyle in ancient eras. By analyzing skeletal remains, researchers can determine age, sex, ancestry, the presence of disease, and signs of physical stress. This information helps enhance our understanding of ancient epidemics and relevant modern health problems.

The X-ray laboratory supports high-resolution imaging of mummies and artworks, disclosing hidden structures, composition layers, and internal features. This lab is vital for both authentication and restoration, allowing researchers to study fragile objects without causing physical alterations.

For microstructural analysis of various materials, including ancient textiles and pigments, metal alloys, and biological specimens, the microscopic lab is equipped with a range of optical instruments, including polarized light, stereo, fluorescence, and metallurgical microscopes.

The molecular spectroscopy lab utilizes UV-Vis and fluorescence spectrophotometry to identify organic substances, including proteins, amino acids, and pigments. Its applications range from heritage conservation to the identification of the composition of ancient chemical material used in embalming and other tasks. For higher precision and ultra-sensitive detection of organic compounds, widely relevant to biomedical research, toxicology, and the analysis of ancient residues and environmental pollutants, a modern Liquid Chromatography-Tandem Mass Spectrometry (LC-MS/MS) laboratory is available.

In the microbiology lab, scientists isolate and study microorganisms that lead to the deterioration of cultural objects. The outcomes of such investigations play a vital role in environmental monitoring and the development of biocontrol treatments for artifacts.

The thermal analysis lab examines the thermal behavior, purity, and stability of materials using techniques such as thermogravimetric analysis (TGA), differential scanning calorimetry (DSC), and dynamic mechanical analysis (DMA). These examinations have applications in both material characterization and conservation, as well as industrial materials science for interested collaborating organizations.

Using atomic absorption spectrometry (AAS) and laser ablation-inductively coupled plasma-mass spectrometry (LA-ICP-MS), the Elemental Analysis Laboratory identifies trace and major elements in samples. This information supports studies in archaeology, environmental monitoring, and biomedicine, particularly in the analysis of contaminants and the provenance of materials.

In the Raman spectroscopy lab, the fully nondestructive technique allows the determination of the molecular composition of precious samples, making it ideal for studying pigments, gems, ceramics, and even biological materials. Moreover, the chromatographic unit supports detailed chemical analysis, enabling the decoding of complex organic mixtures, such as resins, oils, and ancient perfumes.

The scientific research laboratories at NMEC go beyond being just a research facility; they exemplify an advanced model for how museums can lead in both science and education. These laboratories are open to collaboration with universities, independent scholars, and research institutions worldwide. Through these partnerships, NMEC promotes a multidisciplinary approach to decoding the past while paving the way for future innovations. In doing so, the museum reaffirms its role not only as a guardian of civilization, but also as a catalyst for global knowledge and scientific progress.

THE AFRICAN PHYSICS NEWSLETTER

ReTEAC: The 1st network for research on energy transition in Central Africa

Figure 1: Group picture at the opening ceremony. First row: The Prime Minister (center), officials of the European Union, UNIDO, ENI Congo, and Brazzaville municipality. Second and third row: Representatives of the research institutions involved in the ReTEAC and local scientific focal points. (Photo Credit: CEO Oyo).

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In the heart of Africa and at the forefront of science

Located in central Africa, the city of Oyo served as a meeting place for experts who stayed for three days after the launch ceremony for the ReTEAC network (from French: Réseau de recherche pour la Transition Énergétique en Afrique Centrale) in the capital city, Brazzaville, on November 3, 2025. During these days, the city — home to the Center of Excellence of Oyo (CEO), inaugurated in 2023 and funded by the Italian oil company ENI Congo, the European Union, the United Nations Industrial Development Organization (UNIDO), and the Congolese government — has been buzzing with renewable energy. At the heart of the discussions was the effective start of the network's activities. The program featured three workshops animated by scientific experts from Central Africa and beyond, focusing on key areas of renewable energy: solar, biomass, wind, and hydropower. These sessions were followed by a brainstorming workshop on defining regional projects involving researchers from different universities in the sub-region around common themes.

A cluster of excellence in renewable energy in Central Africa

This momentum has led to suggestions for elaborating collaborative research proposals in the sub-region. The workload would be divided into work packages led by principal investigators and their teams. The CEO, with its brand-new facilities, will serve as a focal point for conducting cutting-edge experiments. Equipped with state-of-the-art experimental equipment, principal investigators and their team members will be able to carry out their measurements through well-defined mobility programs. This is a godsend, given the acute shortage of experimental equipment in sub-Saharan Africa. For once, researchers will no longer have to make do with the low-cost research they are most of the time confined to.

Figure 2: Breakout sessions and brainstorming among the local scientific focal points and invited experts at the CEO, Oyo. (Photo Credit: CEO, Oyo).

When Oyo breathes, Central Africa lives

Without energy, development cannot follow; energy is at the heart of all activities that promote progress. The CEO is committed to transforming energy into a lever for sustainable development. By serving as the focal point of the ReTEAC network and enabling researchers in the sub-region to realize their potential, the CEO is unleashing energy. Not the consumable kind, but the energy of human creativity, which is latent throughout the sub-region due to a lack of opportunities to express it. All countries will benefit from the products of collaborative research projects. The network generates collective momentum, transnational research priorities, and subregional mobility. These aspects are important for research aligned with urgent local needs such as energy efficiency. All countries from Central Africa were represented at the open ceremony as well as during the technical sessions in Oyo. Participants came from Cameroon, Chad, Gabon, the Central African Republic, Equatorial Guinea, Burundi, Rwanda, Angola, and São Tomé and Príncipe.

A rare occurrence: clearly stated and realized political will

It is with great satisfaction that we must highlight the historic and bold move made by the Congolese government. Committed to a vision of achieving energy efficiency, the ReTEAC aims to contribute to this goal through research. As energy is essential to social and, therefore, political stability, it is safe to say that the Congolese authorities have clearly understood the central role that this network can play, not only in Congo but also throughout the sub-region. Energy shortages are now part of everyday life for citizens, who have come to see continuous access to energy as a rare commodity. The network is then expected to contribute indirectly to the well-being of citizens. It should be noted that the CEO was inaugurated by the President of the Republic himself in 2023 and that the ReTEAC network launch ceremony was held under the patronage of the Prime Minister. As the latter has stated, the success of this network is a top priority for the government, which will spare no effort or political will to ensure its longevity.