



ZAMBIA ACADEMY OF SCIENCES



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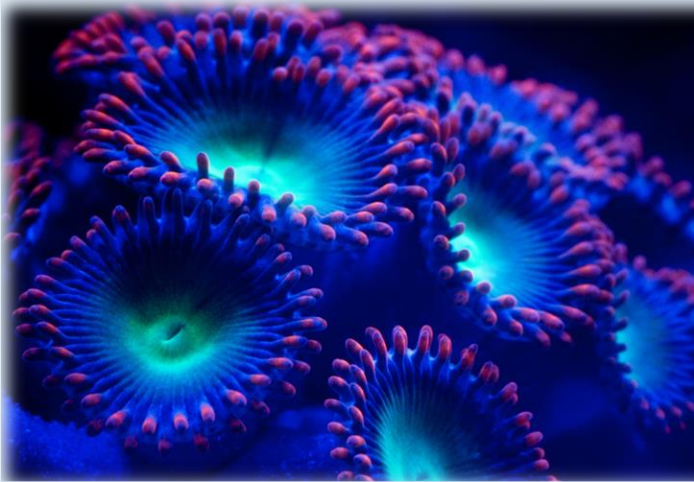
ZaAS

INSIGHTS AND UPDATES

Esteemed Members,

This September edition of the ZaAS Newsletter highlights key topics in child development, science, health, and opportunities. It features a podcast by Professor Kavwanga E.S. Yambayamba and Mr. Emmanuel Chisalu on building resilience in children, offering insights for parents and educators on nurturing this critical skill. In science news, discoveries such as a deep-water reservoir on Mars and the potential to reduce aviation's climate impact by cutting contrails are discussed, along with Ethiopia's transition to electric vehicles powered by clean energy. The newsletter also showcases Prof. Cyprian Katongo's contributions to fish genetics and biodiversity research in Zambia.

In health and well-being, the newsletter addresses Vitamin D deficiency, outlining its symptoms and ways to boost levels. It also highlights upcoming opportunities, such as fellowships and courses in the fields of science and leadership, including the African Research Fellowship and the Mo Ibrahim Leadership Fellowship.



ZaAS NEWS

Child Development: Building Resilience

Watch this Child Development podcast by the ZaAS Immediate Past President and Fellow, Professor Kavwanga E.S. Yambayamba and Mr. Emmanuel Chisalu. This podcast episode focuses on the essential topic of building resilience in children, exploring how this skill helps them navigate emotional, mental, and social challenges. It offers practical strategies, expert insights, and real-life examples to help parents, educators, and communities nurture resilience from an early age.

Whether you are a parent, teacher, or someone invested in children's well-being, this episode provides valuable guidance on empowering the next generation to adapt and thrive in an ever-changing world. To watch the podcast, click [here](#)

Additionally, watch this [video](#) by Professor Yambayamba on the importance of investing in human capital.

SCIENCE NEWS

Deep Reservoir of Liquid Water Discovered Beneath Mars' Surface

Scientists have discovered a reservoir of liquid water deep beneath the surface of Mars, based on seismic data from NASA's Mars Insight Lander. The lander, which recorded vibrations from Mars quakes over four years, revealed signs of water located 10 to 20 kilometres below the Martian crust. This discovery offers insight into the Martian water cycle and raises new questions about the planet's history and potential habitability. Despite the presence of water, accessing it would be challenging due to its deep location, complicating any future plans for human colonization of Mars. [Read More](#)

Reducing Aircraft Contrails Could Cut Aviation's Climate Impact by 40%, Study Suggests

A new study by the University of Cambridge has found that reducing the long-lasting clouds, or contrails, formed by aircraft could decrease aviation's contribution to global warming by up to 40%. Contrails, created when airplane exhaust mixes with cold air at high altitudes, act like a blanket, trapping heat. The study suggests rerouting flights to avoid particularly cold and humid airspaces where persistent contrails are formed. Researchers recommend international trials and further reforms in aviation to mitigate its climate impact, as the sector is projected to double its emissions by 2050. [Read More](#)

Ethiopia Leads Africa's Shift to Electric Vehicles with Bold Policy and Clean Energy

Ethiopia is leading a rapid transition to electric vehicles (EVs) after becoming the first country to ban the import of gas-powered passenger vehicles in 2024. The government has reduced import taxes on EVs to 15%, leveraging the country's abundant clean hydropower, which generates 96% of its electricity, making EVs a more affordable and sustainable option. This shift is boosting local EV assembly and production, with growing demand, particularly among higher-income groups. While EVs are still costly, the government is promoting electric buses and public transportation to make them accessible to more people. [Read More](#)

QUOTE

People who think they know everything are a great annoyance to those of us who do.

Isaac Asimov



MEMBER FOCUS

PROFESSOR CYPRIAN KATONGO – VICE PRESIDENT, ZAMBIA ACADEMY OF SCIENCES

Professor Cyprrian Katongo is a seasoned academic and researcher with expertise in fish genetics and evolutionary biology. Currently a Professor of Fish Genetics at UNZA, he has also served as the Head of the Department of Biological Sciences and held various leadership roles within the institution. His extensive training in genomics, bioinformatics, and molecular biology across several international institutions has enabled him to lead significant research projects focused on aquatic biodiversity, DNA barcoding, and the impacts of climate change on fish species in Zambia's water systems. Prof. Katongo has supervised numerous PhD and MSc students, published extensively in reputable scientific journals, and served as an editor for prominent academic publications. He is also actively engaged in public service, notably through UNESCO's Man and Biosphere Programme. Prof. Katongo holds a PhD in Biological Sciences from the University of Zambia (UNZA) and an MSc in Applied Genetics from the University of Birmingham.

PUBLICATIONS

Beijing Declaration: Harnessing Big Data for Accelerating Sustainable Development Goals

At the Fourth International Forum on Big Data for Sustainable Development Goals (FBAS 2024) in Beijing, China, over 700 participants from various nations and organizations adopted the Beijing Declaration on Partnership for Accelerating Sustainable Development through Digital Technologies. The declaration emphasizes the critical role of digital innovations, such as big data, AI tools, and open digital infrastructure, in driving progress towards the Sustainable Development Goals (SDGs). It calls for enhanced global collaboration, capacity building, and the integration of space technologies to address sustainability challenges.

[Read More](#)

United in Science 2024

The United in Science report, coordinated by the World Meteorological Organization (WMO), emphasizes the urgent need for enhanced climate action before the September United Nations Summit of the Future. It indicates that current greenhouse gas emissions are at record levels, risking a potential 3 °C temperature increase this century, which threatens global development. While there has been some progress since the Paris Agreement, a significant emissions gap persists, calling for immediate action. The International Science Council (ISC) plays a crucial role by promoting transdisciplinary collaboration and the integration of diverse knowledge in tackling global challenges. The report also highlights the potential of artificial intelligence, machine learning, and space-based technologies for climate adaptation, along with the Early Warnings for All initiative. [Read More](#)

HEALTH AND WELLBEING

Vitamin D deficiency and how to boost your levels

Signs of Vitamin D Deficiency

1. Tiredness: Chronic fatigue may be linked to low vitamin D levels.

2. Frequent Colds: Low vitamin D can increase the risk of respiratory infections.
3. Bone Pain: A deficiency affects calcium absorption, leading to bone diseases like osteoporosis.
4. Muscle Fatigue/Soreness: Vitamin D supports muscle function; deficiency can lead to muscle pain.
5. Slow Wound Healing: Vitamin D deficiency can impair healing by affecting inflammation control.
6. Hair Loss: Conditions like alopecia areata may be related to low vitamin D levels.
7. Weight Gain: Although not fully understood, low vitamin D is linked to obesity and pre-diabetes.

Ways to boost Vitamin D

1. Sunlight: Early morning sun exposure helps boost vitamin D.
2. Eat fortified foods: plant-based milks, dairy, cereals, and UV-exposed mushrooms.
3. Include egg yolks, oily fish (like salmon and mackerel), and red meat in your diet.

Source: [The Telegraph](#)

OPPORTUNITIES

Opportunities: Fellowships

African Research Fellowship Call 2024/25

Applications are open for the African Research Fellow (ARF) program jointly carried out by ESA and AUC to empower African researchers (PhD or Master's degree with extensive research experience) to engage in Earth Observation (EO) R&D activities relevant to the EO AFRICA Initiative. With this call, ESA offers 1-year fellowships to four African researchers to work at the ESA-ESRIN premises in Frascati (Rome, Italy), collaborating with ESA scientists. Activities in Frascati must begin no later than June 2025. **(Deadline: 30 October 2024)**. [Read More](#)

Mo Ibrahim Leadership Fellowship 2025

Applications for the 2025 Mo Ibrahim Leadership Fellowship are now open. The Fellowships are a 12-month programme designed to support the professional development of future African leaders. The Fellowship programme invites emerging leaders from across Africa to apply to join the 2025 cohort of MIF Fellows and make the most of this opportunity. Fellows are hosted at the following institutions: the African Development Bank, the International Trade Centre and the United Economic Commission for Africa. **(Deadline: 20 November 2024)**. [Read More](#).

TWAS Visiting Expert Programme

This programme provides institutions and research groups in developing countries, especially the Least Developed Countries and those with limited outside contacts, with opportunities to establish long-term links with world leaders in areas of science other than mathematics and physics, and help develop capacity-building in their country. **(Deadline: 7 October 2024)**. [Read More](#)

Opportunities: International Science Council (ISC)

- [Call for nominations](#) for the 2025 International Arctic Science Committee Medal in recognition of exceptional and sustained contributions to the understanding of the Arctic **(Deadline: 31 October 2024)**.
- [Call for inputs](#) to the UNESCO Draft Principles of Open Science Monitoring **(Deadline: 30 November 2024)**.
- [Call for inputs](#) from the climate science community to inform the scoping of the IPCC Seventh Assessment Report. **(Deadline: 2 October 2024)**.
- [Enrollment](#) is open for INASP's "Engaged Research for community and Policy Impact" online course **(Start date: 7 October 2024)**.
- [Call for professorships](#) by the British Academy for internationally recognised established scholars within the social sciences and the humanities overseas to work in the UK. **(Deadline: 23 October 2024)**.

For more ISC Opportunities click [here](#)