



SNAS

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EDITORIAL



It is already past the halfway point of 2024. The months of May and June were quite hectic for members of the School of Natural and Applied Sciences. In our internationalization drive, the school hosted visiting researchers from leading international Universities as part of the DEDICATED and ACE II CRAFS project, and our researchers were also hosted abroad and within as part of the MANOME and NORHED II Projects and the UNDP workshops and conferences. The School had several interfaces with the industry, including a marathon of visits by biological sciences students, the Inaugural Symposium for the BSc Actuarial Science (Honours) graduating class and exhibitions at National Bank of Malawi. Our staff continue securing much needed research resources, as evidenced in this issue by the new UNICEF-UNIMA nutrition project and the ACU Commonwealth Climate Resilience Network (CCRN) Grant. As a hub of innovation, we showcase twelve (12) new game changing technologies from our Physics and Electronics graduating class. Our staff portfolio in Physics and Electronics was boosted by members returning from further studies and those who have just joined UNIMA. Enjoy our bulletin.

Professor Cosmo Ngongondo
Executive Dean of School of Natural and Applied Sciences



Project Team at Drobak in Norway during the annual meeting

UNIMA Staff and Students Visit UiO in Norway for NORAD NORHED II Project Meeting

The annual meeting of the project Climate Change and Ecosystems Management in Malawi and Tanzania was held from 17 to 21 June 2023 in Drobak and Oslo, Norway. Hosted by the University of Oslo (UiO), the meeting was attended by postgraduate students and research staff from the project partner Universities namely UNIMA, Mzuzu University (MZUNI), University of Dar es Salaam (UDSM) and UiO. The UNIMA team comprised of Dr Ngcime Mbano (Researcher), Mr Christopher Mfune and Ms Christina Kalima (MSc Students), Mr James Kushe (PhD Student) and was led by Professor Cosmo Ngongondo (ED of the School of Natural and Applied Sciences NAS and Project PI). In addition to progress report presentations on milestones achievement from all partner Universities, the students presented their research work in Lake Malawi Basin and received supervision feedback. On the last day of the meeting, an excursion was undertaken to various water and environment related facilities such as hydropower plants along the Gloma River, the largest river in Norway. The project (NORHED II grant number #63826) is being funded by the Norwegian Agency for Development Cooperation (Norad) for the period 2021 to 2026. The project aims to support a total of 20 MSc and 8 PhD students at UNIMA, UiO, MZUNI and UDSM with full scholarships, while some students receive partial support.



Dr. Maliyoni (left) and Dr. Dzupire (3rd from left) with two of the MSc in Mathematical Sciences students at UiS

Dr. Milliard Maliyoni and Dr. Nelson Dzupire Visit the University of Stavanger in Norway

The University of Malawi (UNIMA), in collaboration with the University of Stavanger (UiS) in Norway, is conducting the Malawi-Norway Mobility Programme in Mathematics and Mathematics Education (MaNoMME) project from 2019 to 2024. This initiative involves the Departments of Mathematical Sciences and Mathematics and Science Education at UNIMA, along with the Department of Education and Sports Science at UiS. As part of this project, selected Master of Science in Mathematical Sciences students attend their first year of coursework at UiS and then return to UNIMA for their research in the second year. Similarly, Master of Education in Mathematics students spend their second year conducting research at UiS. This year, one of the project's activities involved two staff members from the Department of Mathematical Sciences at UNIMA traveling to UiS from June 1st to 8th, 2024. Dr. Milliard Maliyoni and Dr. Nelson Dzupire made this trip to engage with MSc students in Mathematical Sciences at UiS regarding their research proposals, ensuring they are completed before the students return to UNIMA in July 2024 for their second year of study. Additionally, Dr. Maliyoni and Dr. Dzupire delivered a presentation titled "Mathematics in Malawi" to the faculty and postgraduate students at the Department of Mathematics at UiS.



Dr Elias Mwakilama of Department of Mathematical Sciences

Dr Mwakilama Awarded the 2023/24 ACU Commonwealth Climate Resilience Network Grant and Engineering (Wighton) Fellowship

Dr. Elias Peter Mwakilama, Associate Professor of Mathematics in the Department of Mathematical Sciences has been awarded the ACU Commonwealth Climate Resilience Network (CCRN) Grant and the Engineering (Wighton) Fellowship. Through the Association of Commonwealth Universities (ACU) fellowships for early career researchers, Dr Mwakilama will initiate a “data mapping exercise for strengthening resilient agri-food systems” in Malawi and its partner. He will be working under the ppCentre for Resilient Agro-Food Systems (CRAFS), which is part of the World Bank Africa funded Africa Centres of Excellence II Additional Funding (WB-ACE II AF) project. The objective of the data mapping exercise is to build an interoperable database, relevant for researching the complex interactions between smallholder farmer food production and resilience, high yield gaps, food production policies and access, and sustainable methods in Southern Africa. Under the mentorship of Prof Bahman Rostami-Tabar of Forecasting for Social Good

(F4SG) initiative at Cardiff University, UK, one key output from the work is an “elderly-integrated daily rainfall prediction model”. The elderly-integrated rainfall prediction model will be applied to quantify the degree of association between SCFs and IKFs based on the daily predicted rainfall data in Karonga district, Malawi. The process of constructing such a model is based on the hypothesis that the elderly possesses more IK relevant for skillfully predicting daily rainfall patterns subject to their ageing experience. This synthesis research study anticipates generating patterns predicted from IKFs data coming from the elderly and the SCFs data coming from the Department of Climate Change and Meteorological Services (DCCMS).



Dr. Jupiter Simbeye at the Survey Research Centre, Institute for Social Research, University of Michigan, USA

Leslie Kish fellowship exchange visit - Dr. Jupiter Simbeye

Dr. Jupiter Simbeye is participating in a 2-month exchange visit (June 1 - July 31, 2024) as a Leslie Kish Fellow at the Survey Research Center of the University of Michigan, USA. During his visit, he will be conducting research in Survey Methodology under the Sampling Program for Survey Statisticians. This program brings together researchers and practitioners to explore current trends in survey methods and analysis. This engagement will be highly beneficial for Dr. Simbeye professionally and will enhance the teaching and research in complex survey methods and analysis in the Mathematical Sciences Department.



Dr. Milliard Maliyoni during the PRM 03-Quantitative short course at KUHES

Dr. Maliyoni Facilitates a Short Course Module at Kamuzu University of Health Sciences (KUHES)

Dr. Milliard Maliyoni, a Senior Lecturer in Mathematics in the Department of Mathematical Sciences facilitated a module titled "Mathematical Modelling: Introduction and Applications" during an Advanced Short Course in Postgraduate Research Methods (PRM 03-Quantitative) which was held at KUHES, Blantyre Campus from 20th May to 31st May 2024. The short course which was organised by KUHES in collaboration with the Helse-Nord Tuberculosis Initiative (HNTI) and The Malawi-Liverpool-Wellcome Trust Clinical Research Programme, targeted postgraduate students and researchers in fields such as Epidemiology, Demography, Public Health, Biology, Statistics, and Computational Mathematics as well as junior faculty. The short course focused mostly on developing hands-on advanced data driven skills in R statistical computing software, as well as scientific writing and publishing and was facilitated by experts in the fields of complex study designs, statistics, mathematical modelling and epidemiology.



PhD Student presenting progress at the DEDICATED Workshop

Computing Department hosts NORPART-DEDICATED Annual meeting

From 8 to 12 April 2024, UNIMA hosted the annual project meeting of the Norad NORPART Project titled Developing Education with Input from CoordinATED research students (DEDICATED). DEDICATED is a collaboration between University of Malawi (UNIMA), Universidade Eduardo Mondlane (UEM) of Mozambique, University of Dar es Salaam (UDSM) of Tanzania and University of Oslo (UiO) in Norway and meets annually, on a rotational basis.

DEDICATED Project activities include course modules for new/revised study programmes for masters and PhD and students exchange across the participating universities. Under the project, the UiO is implementing a new master programme where students with both health and informatics are eligible and will learn from experiences from similar established programmes with heterogeneous student groups in the partner universities. It also involves exchange of research students and staff where students from the UiO benefit from joint field research in the partner countries and students from partner countries go to UiO for research literature review and writing. DEDICATED is a follow-up project from NORPART-ETHIC project.



Participants at the Bridging the Digital Divide Workshop

UNIMA Staff and Student Rep Attend UNDP Bridging the Digital Divide Workshop

The UNDP held a workshop for public universities from 2nd and 3rd May 2024 at Sunbird Capital Hotel in Lilongwe under the theme “Bridging the digital divide under inclusive digital transformation for Malawi”. UNIMA was represented at the workshop by Computing Department members Dr. Chipso Kanjo, Associate Professor, Dr Francis Kambili-Mzembe, Lecturer and Mr Steve Tsekani, a third-year student in the Computing Department. The workshop aim was to investigate ways that can enhance digital literacy and skills at all levels to ensure efficient use of technology for both personal and professional growth, whilst addressing gender inequalities in digital access and usage among students and young people. Also in attendance were representatives from MZUNI, MUST, MUBAS and ICTAM. UNIMA presented various ICT-related initiatives taking place at UNIMA in relation to the theme of the workshop, including academic programmes and research projects in the Computing Department, developments at the ICT and Business Center, as well as activities such as the annual EduTech conference. Each University was tasked with formulating a work plan highlighting future plans that can bridge the digital divide.



Academic Staff and students at Old Mutual Life Assurance Company

Mathematical Sciences undertake Industrial Attachment Academic Supervision Visits

As part of their workplace experience, Bachelor of Science in Actuarial Science (Honours) students undertake a six months industrial attachment in their fourth year. On 21st May 2024, academic staff in the Mathematical Sciences Department visited the students in Blantyre for academic assessment and supervision visits, which is aimed at monitoring the progress of students at their allocated institutions. The students are interns at various financial institutions namely: Reserve Bank of Malawi, National Bank of Malawi, Old Mutual Life Assurance Company, Vanguard Life Assurance Company, Smile Life Insurance, NICO Life Insurance Company Limited, United General Insurance Company Limited and Prime Insurance Company Limited. The host institutions commended the University of Malawi for the high quality interns.



From left: Rabecca Mkwezalamba, Sellah Munyenyembe, Vitumbiko Chijere Chirwa, Ernest Moyenda, Kiswell Jasi, and Mercy Mulonda

Biological Sciences Students attend the 9th African Population Conference

The 9th African Population Conference (APC) took place at the BICC in Lilongwe from May 20th to 24th, 2024, under the theme **"Road to 2030: Leveraging Africa's Human Capital to Achieve Transformation in a World of Uncertainty."** The conference covered seven sub-themes: *Migration and Urbanization, Data and Methods, Health and Mortality, Fertility/Sexual and Reproductive Health, Education & Human Development, Environment & Climate Change, and Population & Economic Development.* Five students from the Biological Sciences department—Ernest Moyenda (2nd year), Mercy Mulonda (3rd year), Kiswell Jasi (4th year), Rabecca Mkwezalamba (4th year), and Sellah Munyenyembe (4th year)—had their abstract submissions accepted and attended this significant event. Their abstract titles are as follows:

- **Ernest Moyenda:** "Fostering Opportunities for Youth through Employment and Economic Empowerment"
- **Mercy Mulonda:** "Unlocking Malawi's Future: Why Investigating Adolescent Sexual and Reproductive Health and Rights is Crucial"
- **Kiswell Jasi:** "Youth-led Biological Approaches to Combat Climate Change: Examining Policies and Practices for Effective Climate Action in Malawi"
- **Rabecca Mkwezalamba:** "Solid Waste Management as a Key Mitigation Measure for Environmental Conservation and Sustainable Development: The Case of Zomba District"

- **Sellah Munyenembe:** "Evaluating the Impact of UNFPA Interventions in Combating Gender-based Violence and Harmful Practices in Malawi"

Mr. Vitumbiko Chijere Chirwa, a staff member in the Biological Sciences Department, accompanied the students. He expressed immense gratitude for the students' enthusiasm and participation in the conference. He encouraged them to continue building collaborations with scholars and experts across various academic, research, and professional disciplines at national and international level.



Dr Jimmy Namangale

Dr Jimmy Namangale on UN Mission in Johannesburg, South Africa

Dr Jimmy Namangale, Associate Professor of Statistics in the Mathematical Sciences Department attended a United Nations programme on HIV and AIDS modelling workshop jointly organised by UNAIDS, UNICEF, UNFPA and WHO. The workshop took place in Johannesburg 24 - 27 June 2024. The workshop firstly aimed at establishing strategic partnership of East and Southern Africa universities in HIV/AIDS modelling, data analytics and operations research. Secondly, the participants were taken through the mathematics and the statistics used in the current UN accredited software of Spectrum, Naomi and GOALS and South Africa's UN accredited Thembisa software. Thirdly, the workshop wanted to enlighten each of the countries of the need to go the South African way, where mathematicians, statisticians and computer scientists would team up and come up with a more country-specific software for modelling HIV and AIDS. Finally, UNAIDS wanted to have each country HIV/AIDS projection teams work with the academia of mathematical sciences.



Participants during the 2024 Actuarial Sciences Inaugural Symposium in Blantyre

BSc in Actuarial Sciences (Honours) Graduating Class of 2024 Holds Inaugural Symposium in Blantyre

On 31st May 2024, the 2024 graduating class of the Bachelor of Sciences in Actuarial Science (Honours) held a Symposium at Amaryllis Hotel in Malawi. The Inaugural Symposium was held under the theme: “Cultivating Local Expertise: Unlocking Malawi’s Actuarial Potential”. Key topics included the evolution of the insurance industry related to Actuarial Science, actuarial careers, pension remittance and actuaries in banking. The students also showcased their final year research results in areas such as digital currencies, climate extremes and agricultural insurance and life expectancy.

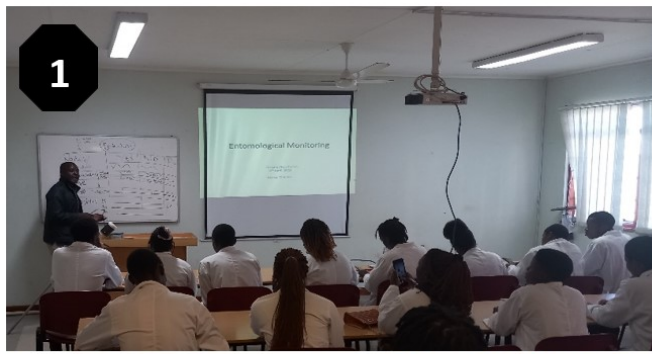
In attendance were key players in the Malawian financial industry including the Reserve Bank of Malawi (RBM), Smile Life Insurance, Vanguard Insurance, Zamara, National Insurance Company of Malawi (NICO), Old Mutual, Insurance Institute of Malawi and Insurance Association of Malawi. The Guest of Honour was the Director of Pensions and Insurance Supervision at Reserve Bank of Malawi, Mr. Paul Nyirenda who stressed on the need to boost the Actuarial Profession in Malawi during his speech titled the relevance of the Actuarial Profession and Actuaries in Malawi. On her part, Dr Lilian Moyo, Managing Director of Vanguard Insurance, challenged the graduating class to explore how best Malawi as a nation can optimise benefits from their rare skills and competencies. Speaking on behalf of the University of Malawi, Executive Dean of Natural and Applied Sciences Professor Cosmo Ngongondo thanked all stakeholders for supporting the Actuarial Science programme in many ways, including internships. Managing Director of Smile Life Insurance, Stain Singo, commended UNIMA for the excellent interns his firm gets from the programme. As a result of the Symposium, some students from the graduating class have already been employment by the financial institutions.



Visiting Dodoma University Faculty with Computing Department members

Computing Department hosts two faculty members from University of Dodoma (UDOM) on Exchange Visit under ACE-II CRAFS Project

The Africa Centres of Excellence (ACE II) CRAFS Project supported the Computing Department to host two faculty members from Dodoma University – Dr, Florence Rashid, Principal of the College of Informatics and Virtual Education (CIVE) under the Department of Electronics and Telecommunications Engineering (ETE); and Dr. Fredric Chali from the Department of Information Systems and Technology (DIS&T). Drs. Rashid and Chali, visited the Computing department from 13th to 28th June, 2024. The staff exchange visit had a purpose to kick-start a south-south collaboration for knowledge sharing; joint research; publications; projects; possible external examiners among other collaborations.



AC-CDAC, 2) MLWP, 3) MBS, 4) Majete Wildlife Reserve

Exploring the Industry: A Marathon of Visits to Institutions by Third-Year Biological Sciences Students

UNIMA emphasizes on supplementing classroom-based lessons with practical industrial applications. To this end, third-year Biological Sciences students on 30th April and 01st May 2024 undertook a marathon of exciting educational visits to four key institutions namely MAC-Communicable Diseases Action Centre (MAC-CDAC), Malawi Liverpool Wellcome Programme (MLWP), Malawi Bureau of Standards (MBS), and Majete Wildlife Reserve.

At MAC-CDAC, students were oriented to the institution's malaria research activities with a focus on Vector Surveillance System, Entomological Monitoring studies, and durability studies of Insecticide Treated Nets (ITNs)/Long-Lasting Insecticide Nets (LLINs). The students also gained insights into how MAC-CDAC conducts household and community-based surveys which are critical in combating malaria in Malawi. The tour continued at MLWP, where the students attended presentations on Health and Safety, MLWP's research themes, research ethics and governance, and immunology (particularly focusing on infection and immunity). Additionally, the students toured the institution's state-of-the-art laboratories, witnessing firsthand the cutting-edge research being conducted. At MBS, the students learned about the meticulous processes involved in standards development and quality assurance. They were introduced to the methodologies and protocols in metrology and testing services, crucial for ensuring the quality

and safety of various commodities. Finally, the visit to Majete Wildlife Reserve offered the students a comprehensive understanding of wildlife biodiversity preservation and ecosystem conservation. The students learned about the institution's activities such as wildlife research and monitoring, species reintroductions, human-wildlife conflict mitigation, and conservation law enforcement through community awareness campaigns and training programs that ensure the park's protection.



CBTM Project Co-Leads, Mrs Lovness Musiyapo and Mr Martin Likongwe

UNIMA Partners UNICEF in Nutrition Tracking Project

On 20th June 2024, the Vice Chancellor of the University of Malawi, Professor Samson Sajidu, signed a partnership agreement with the UNICEF representative in Malawi, Mr. Shadrack Omol for a new project titled **Improving Adoption of Nutrition Practices through Community Behaviour Tracking Mechanism (CBTM)**. Under the partnership, the two institutions will work together in the Nutrition-Sensitive Agriculture- Afikepo Project to track maternal, infant, and young child nutrition (MIYCN) practices and behaviours uptake among households, while ensuring compliance in the National Nutrition Information Systems. The University of Malawi, through the Department of Human Ecology and Agricultural Sciences, has taken the lead in supporting and ensuring data collection and management using a Community Behaviour Tracking Tool (CBTT). This follows successes and lessons from the Afikepo project in 11 districts.

The partnership proposes expanding CBTT to Blantyre, Chikwawa, Nsanje, and Phalombe districts with the aim of strengthening the capacity of various districts

and community-based SUN structures involved in nutrition programs to integrate CBTT through community-level structures such as Village Nutrition Coordinating Committees (VNCCs) and Area Nutrition Coordinating Committees (ANCCs). UNIMA will collaborate with District Nutrition Coordinating Committees (DNCCs) and District Monitoring and Evaluation Coordinating Committees (DMECC) to facilitate data collection, analysis, and discussion for improvement.

The University of Malawi will work with other partners including Farmers Union of Malawi, The Hunger Project and the Malawi Government (District Councils) through the Ministry of Local Government and other Ministries. The University will work with district councils through the DNCC and DMEC, ANCC and VNCC and officers like PNHAO and FNO, who will be key stakeholders in the data management process and data ownership.


The project is being led by Mr Martin Likongwe and assisted by Mrs Loveness Musiyapo, for a total budget of MK1,274,298,947.43, with UNIMA contributing MK261,598,240.60. The project will run from 24th June, 2024 to 21st December, 2024.



Participants at the Bridging the Digital Divide Workshop


Final-Year Physics and Electronics Students Showcase Their Project Systems

On 25th June 2024, final-year Physics and Electronics students showcased their 10 project innovations to management. With funding from National Bank of Malawi



and the University of Malawi, the systems are innovations designed to address various real-life challenges faced by the communities and the industry. In addition to the 10 final-year students' innovations, two other innovations, one developed by Shadreck Kamwana - a second-year Electronics student, and another developed by Mr. Patrick Mzaza - a member of staff in the Physics and Electronics Department who also supervised the students' projects, were also showcased.

The innovations included: a **Biometric Electronic Voting System which can be used during** elections of all kinds, while ensuring reliable electoral processes and credible results; **Biometric Electronic Exam Attendance Register which can be used as an** electronic register in schools and other institutions where registers are used; **An Electronic Toll-gate fee payment system** ideal for revenue collection on the roads as well as in malls and institutions where parking fee is required; **Remote ATM Environment Temperature and Humidity Monitoring System** applicable in ATMs and other environments where temperature and/or humidity need to be monitored such as in Agriculture; **Diesel Generator Remote Monitoring System (DGRMS);** which can be used to monitor generator parameters wherever generators are used for example in schools, hospitals, companies and farm; **Audible and visual alert system for monitoring banking systems** suitable for monitoring performance metrics of machines in data centers institutions, organizations and companies; an **Automated Floating Biogas Digester** which produces biogas of excellent quality and can be a sustainable alternative source of fuel for cooking and biofertilizer which is good for plant growth, thus supporting agricultural practices; **Aerial Bridge (aka Carboatute)** which can be used as a bridge for crossing rivers where the normal bridges are not available; **Effective and Secure Wood-Paper Recycling System** which is a wood-paper recycling system that turns waste wood-paper into egg trays; **Eco-Friendly Waste Management System,** an effective environment-friendly waste management system capable of harnessing energy in waste which can be used for heating water for domestic and industrial use; **MyClass App** which supports online teaching and learning processes in schools and has potential to revolutionize educational processes in the modern world; and **Rain-water harvesting system which is in initial stages of design and is aimed at utilizing rainwater for** domestic purposes as well as for power generation.





A group photo with the Head of IT (designate) of National Bank of Malawi

Final-Year Physics and Electronics Students Showcase their Innovations to Officials at National Bank of Malawi in Blantyre

On 28th June 2024, final-year Physics and Electronics students presented three project systems to officials at the National Bank of Malawi in Blantyre. National Bank of Malawi, as a way of supporting students' innovations in the Physics and Electronics Department, tasked students to develop three systems that address challenges that the bank faces. Firstly, the students were tasked to develop monitors temperature and humidity surrounding the Auto Teller Machines (ATMs). Secondly, the students were asked to develop monitors power back-up generator parameters such as voltage level of generator start-battery, fuel level, coolant condition and radiator-core temperature. The students were also challenged to develop monitors essential computer performance metrics namely: CPU usage, memory usage, disk usage, average response time of servers to client requests and finally transactions queue lengths for bank systems.

In his speech, Mr. Patrick Mzaza, the course lecturer and the students' supervisor thanked the bank for the financial support towards implementation of the projects and the willingness of the bank to support innovations in the department. He also called upon other banks and the industry to emulate the example set by National Bank of Malawi in supporting innovations in universities if the nation is to realize the Malawi 2063 developmental agenda the soonest.

In his remarks Mr. Christopher Chilenga, the Head of IT at NBM (designate) expressed satisfaction with the innovations that the students showcased and asked the students to improve on the systems based on the suggestions and recommendations made by the bank officials. Mr. Chilenga promised that the bank will continue providing support to foster the spirit of innovations in students in order to solve local technological challenges that the industry faces.

ANNOUNCEMENTS



New Staff

The School of Natural and Applied Sciences warmly welcomes the following new academic staff members.



Mr. Harry Khudze joined the Physics and Electronics Department as Staff Associate in Physics and Electronics.



Mr. Lumbani Lowole joined the Physics and Electronics Department as Staff Associate in Physics and Electronics.



Mr. Yamikani Kalolo joined the Physics and Electronics Department as Lecturer in Physics and Electronics.

Completion of studies



The School Congratulates Mr Gracian Tiyamike Taulo, Lecturer in the Department of Physics and Electronics for successfully completing his MSc studies in Nanoscience on May 20th 2024 at the Institute of Basic and Applied Sciences, Egypt-Japan University of Science and Technology (EJUST) in Egypt under the TICAD7 (The

Seventh Tokyo International Conference on African Development) scholarship program. During his studies, He conducted his research at the Graphene Center of Excellence for Energy and Electronics Applications under the supervision of Prof. Ahmed Abd El-Moneim. His thesis, titled "Designing Graphene-based Heterostructures for Enhancing the Performance of Flexible Gas Sensors," primarily focused on heteroatomic doping of graphene derivatives and semiconductor SnO₂ nanoparticles as active nanomaterials for enhanced CO gas detection. In his work on developing gas sensors, he utilized advanced techniques for fabricating flexible electronics, such as 2D and 3D inkjet printing. Gracian has since returned home and reported for his duties.

Publications

The School of Natural and Applied Sciences staff members continue to publish their research work in high level international peer review journals and books. All the publications demonstrate considerable multi-disciplinarity and international collaborations. We are proud to congratulate the following staff members and encourage all members to continue representing the School through publications:

Kadaleka Phiri, I., Zekriti, M. (2024). Design and theoretical analysis of SPR biosensors based on gold-silver alloy and protective top layer for enhanced biosensing applications. *Physica B: Condensed Matter*. 689, p. 416196, doi: <https://doi.org/10.1016/J.PHYSB.2024.416196>.

Amasarao, A., Sunitha, P., Rao, S.R., Sekhar, K.C, **Mmame, B.** (2024). Role of surface and sub-surface ocean parameters on cyclonic storms over Arabian Sea in the recent decades. *Nat Hazards*. <https://doi.org/10.1007/s11069-024-06676-0>

Chibura, T., **Twabi, H.**, Maluleke, K., & Musekiwa, A. (2024). Trends and factors associated with adverse pregnancy outcomes in Zimbabwe, 2005-2015. *South African Medical Journal*, e1399-e1399.

Dzupire, N. C., Gunde, R., & Chirwa, P. B. (2024). Constructing Malawian Ordinary Actuarial Tables: Reflection of the COVID-19 Era. *African Journal of Education*, 7(4), 107.

Daniela Anghileri, Tendai Polite Chibarabada, Agossou Gadedjisso-Tossou, Ailish Craig, Chengxiu Li, Yang Lu, **Ellasy Gulule Chimimba, Oscar Kambombe, Frank Musa, Cosmo Ngongondo, Levis Eneya**, Jean-Marie Kileshye Onema, Abdou Ali, Sosten Chiotha, Jadunandan Dash, Justin Sheffield (2024). Understanding the maize yield gap in Southern Malawi by integrating ground and remote-sensing data, models, and household surveys. *Agricultural Systems* 218-103962 . <https://doi.org/10.1016/j.agsy.2024.103962>.

Isaac Kadono Mwalwimba, Mtafu Zeleza Manda, **Cosmo Ngongondo.** (2024). Flood Vulnerability Assessment in Rural and Urban Informal Settlements: Case Study of Karonga District and Lilongwe City in Malawi. *Natural Hazards*. <https://doi.org/10.1007/s11069-024-06601-5>.

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