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Content of this Issue

Dr. Tirusew Asefa Receives Fulbright Specialist Award to Ethiopia at the Africa Center of Excellence for Water Management of Addis Ababa University Page 1

ACEWM will serve as co-chair of the newly established Addis Ababa Water Governance Network Page 2

One day training on AMSIC 4 higher education membrane workshop Page 3

ACEWM Co-organized International Conference on Sustainable Innovation in Membrane and Filtration Science for Circular Economy Page 4

Training on Alternative WASH Technologies and WASH Related Businesses Opportunities for Refugees and Host community Page 5

ACEWM with its partners conducted consultative workshop entitled “groundwater resources mapping and assessment in selected woredas and strengthening capacity at regional and woreda levels” Page 6

Gilbert Chifundo has successfully defended his PhD dissertation Page 7

Yilkal Gebeyehu has successfully defended his PhD dissertation Page 8

NORPART Project 2024 Summer School held in Tanzania Page 9

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Dr. Tirusew Asefa Receives Fulbright Specialist Award to Ethiopia at the Africa Center of Excellence for Water Management of Addis Ababa University.

In a significant development for water management research and education in Ethiopia, Dr. Tirusew Asefa, a distinguished expert in the field, and the Lead for the Decision Support Group at Tampa Bay Water in the USA has been awarded the prestigious Fulbright Specialist Award. This recognition allows him to collaborate with the Africa Center of Excellence for Water Management at Addis Ababa University, enhancing the institution's capabilities and facilitating knowledge exchange.

The Fulbright Specialist Program is an initiative of the U.S. Department of State's Bureau of Educational and Cultural Affairs and aims to promote international collaboration in higher education and research. Dr. Tirusew's appointment to this role underscores not only his expertise but also the vital need for advanced water management solutions in Ethiopia, where water scarcity and management challenges are paramount.

During his tenure, Dr. Tirusew will engage in various projects, focusing on innovative strategies for sustainable water resource management, capacity building for local faculty and students, and the development of curriculum enhancements. His work is expected to strengthen the academic programs at the Africa Center of Excellence for Water Management and contribute to building local expertise in the field.



Dr. Tirusew expressed his enthusiasm for the opportunity, stating, "I am thrilled to return to my homeland and work alongside talented faculty and students at Addis Ababa University. Together, we will address critical issues in water management that impact our communities and seek sustainable solutions that ensure access to clean water for all."

This Fulbright Specialist Award not only reflects Dr. Tirusew's personal achievements but also highlights the broader commitment to fostering academic cooperation and development between the U.S. and Ethiopia. Stakeholders in both countries view this collaboration as an essential step toward addressing the challenges of water management and supporting sustainable development goals.

As Dr. Tirusew embarks on this impactful journey, the academic community looks forward to the fruitful outcomes of his collaboration with Addis Ababa University and the lasting benefits it will bring to water management practices in Ethiopia and beyond.



ACEWM will serve as co-chair of the newly established Addis Ababa Water Governance Network

In a milestone initiative to enhance the management and governance of water resources in the capital, the Africa Center of Excellence for Water Management, Addis Ababa University has announced its role as co-chair of the newly established Addis Ababa Water Governance Network. This collaborative effort aims to bring together key stakeholders to address pressing water governance challenges while promoting sustainable practices in the City.

The Addis Ababa Water Governance Network is a coalition of government entities, academic institutions, non-governmental organizations, and community representatives dedicated to improving water governance frameworks in Ethiopia. By fostering partnerships and facilitating dialogue, the network seeks to ensure equitable access to water resources, effective management of strategies, and policies that prioritize sustainability and community involvement.

As co-chair of the network ACEWM will leverage its expertise in water resource management and extensive research capabilities to guide discussions and drive initiatives that seek to strengthen water governance in Addis Ababa and its surrounding areas. The center is recognized for its commitment to developing innovative solutions to water-related challenges, which will be instrumental in the network's efforts.



Prof. Feleke Zewge, the director of ACEWM, expressed his enthusiasm regarding this new role: “We are honored to serve as co-chair of the Addis Ababa Water Governance Network. This platform provides an invaluable opportunity to collaborate with various stakeholders and address the multifaceted challenges of water governance in our city. Together, we can create effective strategies that promote responsible water use and ensure the sustainability of our precious water resources.”

The network will focus on critical areas such as policy development, community engagement, and capacity building, aiming to create a holistic framework for water governance that is responsive to the needs of all stakeholders. Regular workshops, seminars, and outreach programs will be conducted to foster collaboration, share best practices, and mobilize resources effectively.

With the combined efforts of the network's members, the future of water governance in Addis Ababa holds the promise of improved access, equity, and sustainability, ultimately contributing to the broader goals of sustainable development in Ethiopia.

One day training on AMSIC 4 higher education membrane workshop.

In an effort to bolster water management capabilities across the continent, the Africa Center of Excellence for Water Management (ACEWM) recently co-organized a landmark training program focused on Membrane Sciences, Processes, and Applications.

The training gathered experts, academics, and practitioners from various countries to explore the fundamentals and innovations in membrane technology. Participants engaged in lectures and group discussions, all aimed at enhancing their understanding of membrane processes.

Seven topical courses were covered in the training. These include membrane materials and fabrication methods, characterization of porous membranes, membranes for life-manufacture of medicines and blood processing, membranes process for gas separation and air filtration, membrane engineering and integrated processes for water & wastewater treatment, reverse osmosis desalination for seawater/brackish water treatment: next generation membranes and green processes for sustainable development and membrane processes for green energy transition and power generation.



The World Association of Membrane Societies (WA-MS) panel in the presence of WA-MS President – Ranil Wickramasinghe was also held in the training session conducted at ACEWM.

Topics of discussion included Introduction to World Association of Membrane Societies, shifting teaching practices for resilient growth: Is Africa ready? Membrane Knowledge Hub: A University Industry Platform Towards Sustainable Water and Energy Management in Africa (WE Africa), Multitier Mentoring A US Example of promoting STEM careers among disadvantaged groups, and strengthening Africa's membrane training resources for sustainable development: Cooperation with WA-MS and other partners.

One of the key highlights of the training was the emphasis on collaboration among participants from diverse backgrounds. Bringing together professionals from academia, government agencies, and the private sector facilitated exchange and networking that is essential for fostering innovation. Many attendees reported that hearing about practical challenges faced in different regions sparked collaborative ideas that could lead to new solutions.



ACEWM Co-organized International Conference on Sustainable Innovation in Membrane and Filtration Science for Circular Economy.

In a bid to champion sustainable practices in water management and resource efficiency, the 4th African Membrane Society International Congress convened in Addis Ababa, from November 5 to November 8, 2024. This year's event, themed "Sustainable Innovation in Membrane and Filtration Science for Circular Economy," brought together over a hundred professionals, researchers, and enthusiasts from various corners of the globe, all eager to share insights and innovative approaches in membrane technology.

The congress featured a diverse lineup of keynote speakers, including renowned experts in membrane technology and filtration science. Workshops and panel discussions provided a platform for interaction and networking, allowing attendees from academia, industry, and government to explore collaborative opportunities. Researchers showcased breakthrough technologies and innovations in filtration systems that integrate circular economy principles.



Beyond the scientific discourse, the congress emphasized the importance of cultural exchange. Participants enjoyed rich Ethiopian traditions. This blend of science and culture illustrated how interconnected our global challenges are and highlighted the importance of collaborative efforts in addressing them.

The 4th African Membrane Society International Congress has indeed set a powerful agenda for sustainable innovation in membrane and filtration science, reaffirming Africa's emerging role in addressing global water and environmental challenges. As participants return to their respective countries, they carry with them a renewed sense of purpose and commitment to contributing to a more sustainable and equitable future.



Training on Alternative WASH Technologies and WASH Related Businesses Opportunities for Refugees and Host community

In Ethiopia, R-WASH is supported by the German Federal Ministry for Economic Cooperation and Development (BMZ), managed by the German Development Bank KfW, and implemented in collaboration with UNICEF and UNHCR. The programme's focus is on developing a sustainable and integrated water solution for refugees residing in and around the Kebribeyah, Aw-barre, and Shredder camps near Jijiga in Eastern Ethiopia's Somali region.

To strengthen this program, GIZ has invited ACEWM to offer specialized training on alternative and climate-resilient technologies for WASH and the viability of WASH-related businesses in the Kebribeyah, Aw-barre, and Shredder camps and host towns of Somali Regional State. The recent training conducted under the Resilient Water, Sanitation, and Hygiene Program (Climate WASH) in Jijiga, Ethiopia, marks a significant stride toward enhancing the sustainable sanitation system service chain and resilience against climate change. This training focused on assessing alternative and climate-resilient technologies for WASH while also fostering WASH-related entrepreneurial ventures through comprehensive training programs.



Ethiopia faces significant challenges related to water scarcity, especially in vulnerable regions like Somali, which is prone to drought and climate variability. The R-WASH initiative is part of a broader effort to improve WASH conditions in underserved areas, ensuring access to safe water, strengthening the sanitation service chain and promoting hygiene practices.

The training has emphasized the importance of identifying and adopting innovative technologies that can withstand climate constraints.

By equipping local leaders and professionals with the skills and knowledge to train others, the initiative aims to create a ripple effect in knowledge dissemination. This approach not only builds local capacity but also ensures the sustainability of WASH initiatives through community ownership.



ACEWM with its partners conducted consultative workshop entitled “Groundwater resources mapping and assessment in selected woredas and strengthening capacity at regional and Woreda levels”

The Consultative Workshop entitled “Groundwater Resources Mapping and Assessment in Selected Woredas and Strengthening Capacity at Regional and Woreda Levels” marked a significant step in addressing the critical issue of groundwater management in the region. With key participants, including representatives from ACEWM, USAID, Climate Resilient Water, Sanitation and Hygiene (CR WASH) Activity, UNICEF, and the FDRE Ministry of Water and Energy, the workshop brought together a diverse group of stakeholders dedicated to enhancing water resource management.

Groundwater is a vital resource, particularly in regions where surface water sources are scarce or unreliable. As climate change exacerbates water scarcity and affects rainfall patterns, the need for sustainable management of groundwater becomes increasingly urgent. This workshop focused on mapping and assessing groundwater resources, which is essential for informed decision-making and resource allocation. Accurate mapping provides valuable insights into the quantity, quality, and distribution of groundwater, allowing local authorities to manage this resource effectively.



The outcomes of this consultative workshop stand to significantly impact groundwater management in the selected woredas. By fostering dialogue among experts and stakeholders, the workshop aimed to create a coordinated framework for future mapping and assessment initiatives. The insights gained will contribute to crafting strategies that not only improve water resource management but also enhance the livelihoods and resilience of local communities relying on these vital resources.

The consultative workshop on groundwater resources mapping and assessment represents a proactive step toward sustainable water management in the region. By working collaboratively and focusing on capacity building, stakeholders are laying the groundwork for a comprehensive approach to groundwater resource management. As challenges related to water scarcity continue to escalate, the principles and strategies discussed during the workshop will play a crucial role in ensuring equitable and sustainable access to groundwater for generations to come.



Gilbert Chifundo has successfully defended his PhD dissertation

Gilbert Chifundo, who is a national of Malawi, has successfully defended his PhD dissertation titled “Heavy Metal Removal from Wastewater Utilizing an Adsorbent Immobilized on an Inclined Plate Settler”. The study aimed to developing an innovative wastewater treatment prototype integrating Inclined Plate Settlers (IPS) and Composite Adsorbent Coating (CAC) for heavy metal removal from aqueous solutions, improving its practicality for large-scale applications.



Dr Beteley Tekola chaired the defense session with Prof. Yonas Chebude from Addis Ababa University as the main supervisor and Dr Shimeles Kebede from Addis Ababa University as co-supervisor. Prof. Feleke Zewge from Addis Ababa University and Prof., Dr.-Ing Esayas Alemayehu from Jimma University served as the internal and external examiners, respectively.

The Africa Center of Excellence for Water Management extended warm congratulations to Dr. Gilbert Chifundo and wishes him all the best in his future career.



Yilkal Gebeyehu has successfully defended his PhD dissertation

Yilkal Gebeyehu who is academic staff of Debremarkos University, has successfully defended his PhD dissertation titled “Remote Sensing Based Evapotranspiration Modeling for Irrigation Performance Assessment in Jedeb Watershed, Upper Blue Nile Basin, Ethiopia.”

Yilkal’s study compared GEE machine learning algorithms for irrigated area mapping, customized the SEBALI model using high-resolution LULC and Python, and evaluated the performance of a small-scale irrigation scheme using remote sensing in the Jedeb Watershed, Upper Blue Nile.



Yilkal said the main inputs of the study were Sentinel-1, Sentinel-2, Landsat 8, and ERA5 reanalysis data. Random Forest classifier found consistent in mapping irrigated areas. SEBALI was validated using ETa from EC, SWAT+ model, and WaPOR. SEBALIGEEpy provides accurate ETa with fewer missing records. Shimburit scheme showed good equity and satisfactory water distribution among fields and within the field with OCR of 0.54 and 0.43 and mean CWP of wheat estimated 2.49 kg/m³ for the two seasons. The study showed the potential of remote sensing to evaluate irrigation performance and water productivity per field within smallholder irrigation schemes.

Prof. Feleke Zewge chaired the defense session, with Dr. Tena Alamirew from Addis Ababa University, as the main supervisor and Dr. Abebe Demissie from IHE Delft Institute for Water Education, Delft, The Netherlands as co-supervisor.

Dr. Zeleke Agide from Addis Ababa University and Prof. Assefa M. Melesse, from Florida International University, served as internal and external examiners, respectively



NORPART Project 2024 Summer School held in Tanzania

The prestigious NORPART (Norwegian Partnership Programme for Global Academic Cooperation) Summer School was held at the Nelson Mandela African Institution of Science and Technology (NM-AIST) in Arusha, Tanzania from July 1 to July 15, 2024. This annual, intensive program, part of the “North-South Alliance for Inclusive Water, Sanitation, and Hygiene (All4WASH)” initiative, aims to foster knowledge exchange and capacity building in the Water, Sanitation, and Hygiene (WASH) sector. The 2024 edition focused on “On-site Sanitation Systems for Towns and Cities in Sub-Saharan Africa,” addressing critical challenges and showcasing innovative solutions for household and community-level sanitation management.

Objectives of the summer school are to:

- Provide comprehensive insights into the principles, challenges, and solutions related to onsite sanitation systems.
- Explore cutting-edge technologies and practices to improve the efficiency and sustainability of onsite sanitation.
- Create a platform for participants to share knowledge, experiences, and build networks for future collaborations.
- Equip participants with practical skills for designing, implementing, and managing effective onsite sanitation solutions.



Onsite sanitation systems are essential in areas lacking centralized wastewater treatment facilities, particularly in rural and peri-urban settings where infrastructure development is limited. The training was highly informative and provided comprehensive insights into various aspects of onsite sanitation management. Main topics covered included the gender dimension of sanitation; the program also addressed the sanitation challenges faced by ALL4WASH countries, emphasizing the importance of infrastructure investment, community education, and policy reforms. Participants discussed the components of onsite sanitation systems, such as user interfaces, storage, treatment, and conveyance, understanding their integration for effective waste management. Various onsite sanitation treatment technologies were explored, considering their suitability based on local conditions and maintenance capabilities.

The environmental and health impacts of onsite sanitation were discussed, underscoring the need for proper design, maintenance, and community engagement to prevent contamination and disease spread. Urban sanitation planning, governance, and the role of AI in optimizing sanitation services were also introduced.

A field visit to a waste stabilization pond and solar dry bed provided practical insights into wastewater treatment processes. Observing these systems in operation highlighted their effectiveness and the importance of site-specific considerations in sanitation planning.

Mulualem Tefera and Merry Amensisa from Africa Center of Excellence participated in this 2024 ALL4WASH program. They said the training significantly enhanced their understanding of onsite sanitation and equipped them with practical skills applicable to their professional endeavors.

THE QUARTER IN PICTURE

