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RHSP NEWSLETTER

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Sciences Program



U.S. AMBASSADOR AND CDC DIRECTOR VISIT RHSP

On a landmark visit on 10th September 2024, the U.S. Ambassador to Uganda, William W. Popp, along with CDC Center for Disease Control (CDC) Country Director Dr. Mary Boyd and National Institute of Health (NIH) Uganda Scientific Director Dr. Steven Reynolds, toured the Rakai Health Sciences Program (RHSP) headquarters in Kalisizo, Kyotera District.

This visit underscores the critical partnership between the U.S. and RHSP, a collaboration that has been transforming global health through groundbreaking HIV research and HIV prevention, care and treatment services for over three decades.

Since our inception in 1987, RHSP has become a beacon of hope in the fight against HIV/AIDS. Supported by more than \$200 million in U.S. funding through PEPFAR, NIH, and CDC, RHSP has grown into a driving force in health research, shaping global HIV prevention and treatment policies. The program currently receives 93% of its funding from the U.S., a testament to the trust and commitment of American people's support in RHSP's innovative and high-impact Research work.



During their visit, the U.S. delegation received a firsthand look at the tangible effects of this partnership. RHSP's extensive research portfolio, particularly NIH-funded studies in HIV prevention, care and treatment, has not only contributed to saving countless lives but has also provided hundreds of jobs for local research and administrative staff. This long-standing collaboration has fostered scientific innovation while empowering communities, elevating both local and global public health efforts.

The team also visited Bitabago Village in Rakai District, where they interacted with the Rakai Community Cohort Study (RCCS)—one of the world's largest and longest-running population-based HIV surveillance longitudinal cohort. Here, Ambassador Popp engaged directly with RHSP's research staff and study participants, gaining insight into how the RCCS has informed life-saving HIV interventions.

"Tremendous work has been done here over the years and we shall continue to invest in RHSP, which is renowned for conducting world class research and development interventions," said Ambassador Popp.

The delegation's visit reaffirms the U.S' unwavering commitment to working hand-in-hand with Uganda in tackling HIV, strengthening healthcare systems, and confronting emerging global health challenges. As RHSP continues to make strides in HIV prevention, its work remains a testament to the power of partnership, innovation, and community engagement.



Ambassador William Popp, Dr. Mary Boyd visiting RCCS camp in Bitabago village.

NIH/NIAID TEAM VISIT: A STEP TOWARDS TRANSFORMING DATA MANAGEMENT AND SCIENTIFIC RESEARCH AT RHSP



We recently had the honor of hosting a distinguished delegation from the National Institutes of Health (NIH) and the National Institute of Allergy and Infectious Diseases (NIAID) at the Rakai Health Sciences Program (RHSP). The team was led by James Cherry, Associate Director and Chief of the Research Technology Branch, and included KaryInn Noble, Communications and Outreach Lead, Christopher Whalen from the Office of Cyber Infrastructure and Computational Biology, and Steven Reynolds, NIH Director, among other RHSP members. Their visit was part of an onsite inspection aimed at exploring opportunities to elevate data management practices within RHSP.

The highlight of the visit was an engaging discussion centered around the Rakai Community Cohort Study (RCCS), where the NIH/NIAID team and RHSP leadership exchanged ideas on leveraging digital innovation to improve data collection processes. The transition from traditional paper-based systems to a comprehensive digital platform is a priority for RCCS, as it stands to streamline operations and boost the efficiency of data collection. This move towards digitization is expected to not only make fieldwork more effective but also to enhance the quality and accessibility of data for scientific research.

Challenges in data collection and the need for digitization

During their visit, the NIH/NIAID team had the opportunity to hear from our field teams about the unique challenges faced in data collection. Many of our RCCS field staff work under extreme weather conditions, often in remote areas where data collection is further complicated by the use of bulky, paper-based systems.





The difficulties involved in handling and storing large volumes of physical documents can lead to delays, inaccuracies, and lost data, which impacts the integrity and timeliness of research outputs.

Implications for scientific research

The benefits of digitizing data collection extend beyond immediate operational improvements. For RHSP, this transition has profound implications for scientific research. By enhancing data accuracy and enabling more efficient data handling, a digital platform will provide researchers with higher-quality data that can be analyzed in real-time. This will allow for a more agile research process, where insights can be derived and acted upon quickly.

Additionally, with improved data accessibility, RHSP can foster greater collaboration with research partners and institutions. The availability of up-to-date, high-quality data will strengthen partnerships, attract new research opportunities, and position RHSP as a leader in the field of health research in Africa.

The NIH/NIAID visit has underscored the importance of embracing innovation in data management. By investing in digital solutions, RHSP is not only enhancing its operational capabilities but also laying the groundwork for future advancements in scientific research. We are excited to move forward with these developments and continue our journey toward a fully digitized research environment.

In pictures:

James Cherry, KaryInn Noble, Christopher Whalen and RHSP leadership visited RCCS census activity in Lwanda village, Kyotera district and RCCS camp in Bitabago village, Rakai District where they interacted with both staff and study participants.

INSTEP STUDY TRIAL LAUNCHED IN COLLABORATION WITH JOHN HOPKINS UNIVERSITY

The Rakai Health Sciences Program (RHSP), in collaboration with The Johns Hopkins University (JHU) launched the Integrated Female Sexually Transmitted Infection Testing for HIV Epidemic Control through PrEP (INSTEP) study.

This initiative represents a significant step forward in the fight against HIV and sexually transmitted infections (STIs) in Africa, specifically targeting the health outcomes of women and girls in Uganda. This will significantly enhance HIV prevention efforts, particularly among women at high risk of both STIs and HIV.

The INSTEP study will engage about 5,000 participants, all of whom will contribute to a greater understanding of how integrated STI testing can influence HIV prevention strategies. By focusing on improving reproductive and sexual health outcomes, this randomized trial seeks to identify whether incorporating diagnostic STI testing into the existing pre-exposure prophylaxis (PrEP) screening methods can lead to better PrEP uptake and adherence among women.

One of the core motivations behind the INSTEP study is the recognition that many STIs remain asymptomatic, making them challenging to diagnose and treat. This study aims to bridge that gap by incorporating diagnostic STI testing into the current PrEP screening processes.



Professor Kate Grabowski with the INSTEP study team at Rakai Health Science Program office in Kalisizo, Kyotera District.





Key staff from RHSP with some international students during a scientific presentations.

The outcomes of this trial have the potential to inform public health policies and practices, leading to broader, more effective interventions that could be scaled up to improve health outcomes on a larger scale.

The team, under the guidance of the US Principal Investigator(PI), Kate Grabowski, and Ugandan PI Ronald Galiwango conducted extensive discussions to finalize the study procedures and tools. These discussions were instrumental in aligning all team members with the study's goals and ensuring that the research is conducted to the highest standards.

As the INSTEP study progresses, we will continue to share updates and insights from this impactful project. Stay tuned for more information on how this research is shaping the future of HIV and STI prevention in Africa.

Dr. Andrew Redd presents innovative HIV Reservoir research projects at RHSP

Dr. Andrew Redd, Head of the International Virology Unit at the US National Institute of Allergy and Infectious Diseases (NIAID) visited the RHSP Head offices in Kalisizo, Kyotera District to present two new projects exploring the HIV reservoir in Uganda.

One of the projects, a collaboration with researchers at the US Vaccine Research Center, aims to learn more about why some cells infected with HIV survive for the lifetime of individuals living with HIV, and what differences those infected cells have between people.

The second project is a collaboration with scientists from the University of Melbourne in Australia to design a treatment using several cutting edge technologies that could target the HIV hiding in cells and turn it on in a way that allows for the body's natural immune response to find the cell and destroy it.



Dr. Redd presenting the study to RHSP team members.

Both of these projects are integral components of the RHSP latency program, which is dedicated to exploring original approaches to curing HIV. The latency program focuses on understanding and targeting the HIV reservoir—the small number of cells where the virus can hide and remain undetected by the immune system, even during antiretroviral therapy. By advancing research in this critical area, RHSP aims to contribute to global efforts to find a cure for HIV and improve the lives of those affected by the virus.

Dr. Redd's visit and the presentation of these research projects highlight that partnerships are essential for driving forward the scientific discoveries needed to overcome the challenges posed by HIV latency and ultimately achieve a cure.

The RHSP team is excited about the potential impact of these studies and remains committed to supporting innovative research that can lead to meaningful progress in the fight against HIV. As these projects move forward, we will continue to share updates on their progress and the insights they generate.

BRIDGING THE ORAL HEALTH GAP: Dr. Abbas Jessani's Collaborative Mission in Uganda

In an effort to address oral health disparities, Dr. Abbas Jessani from Schulich School of Medicine & Dentistry, Western University, and the RHSP team conducted a series of community engagement sessions in Uganda, uniting stakeholders, community leaders, healthcare providers, and local residents.

These sessions, facilitated by the Rakai Health Sciences Program (RHSP) highlighted a pressing issue: the limited access to comprehensive oral healthcare in the region. The discussions shed light on profound barriers affecting oral health, ranging from lack of awareness to limited integration within the broader healthcare system.



Dr Abbas Jessani and Robert Ssekubugu taking the team of stakeholders and RHSP staff through the oral health study presentation.



The sessions proved to be transformative, with community members voicing a strong desire for oral health to become a routine part of their healthcare experience. Their enthusiasm and engagement underscored the significance of Dr. Jessani's visit and the importance of this project, which has already begun to lay the foundation for change.

The team is committed to advancing this mission, with plans to create sustainable oral health programs that resonate with community needs. The project embodies a shared vision of building a healthier future, one that is rooted in meaningful collaborations and a deep commitment to making a lasting impact on oral health in Uganda.

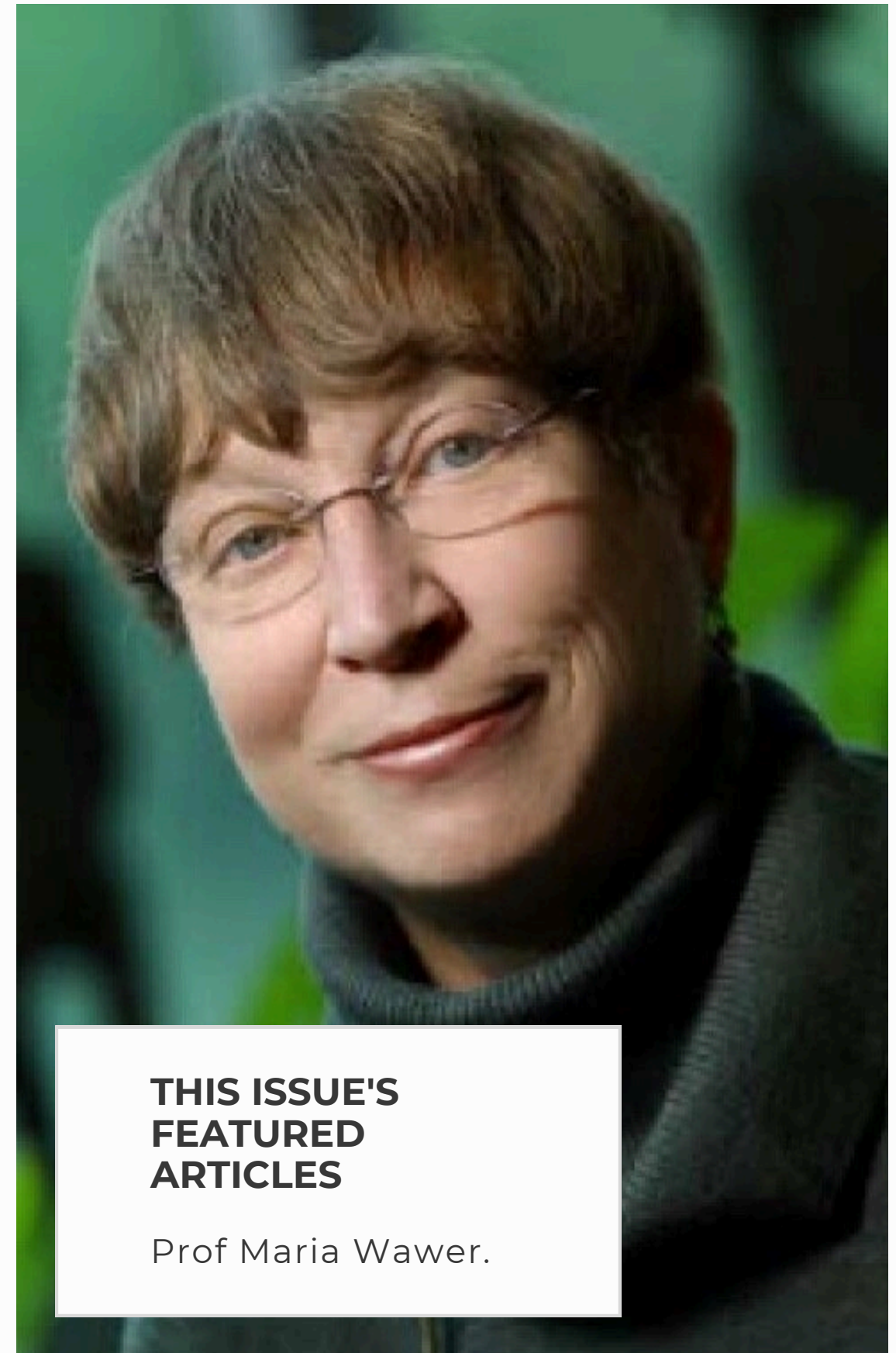
CELEBRATING THE LEGACY OF PROFESSOR MARIA WAWER AS SHE RETIRES FROM JHU

In June 2024, we celebrated an incredible achievement of our co-founder, [Professor Maria Wawer](#) as she retired from the Johns Hopkins Bloomberg School of Public Health.

To mark this milestone, Professor Maria was joined by [Professor David Serwadda](#), a founding member; Professor [Ronald H. Gray](#), a board member; and Assistant Professor Kate Grabowski, a collaborator from Johns Hopkins School of Medicine.

Reflecting on her impact, many have shared their heartfelt memories and gratitude. One former student recalled, “I have fond memories of taking a course taught by Dr. Wawer while an MPH candidate at the Columbia University Mailman School of Public Health. Dr. Wawer, thank you for all you have done — through hard work, teaching, and inspiring others.”

Another testimonial echoed this sentiment, highlighting the profound impact of her work: “It is a great honor, Prof. Maria, you have made a lasting impact on the lives of millions of Ugandans and others, particularly in curtailing the burden of HIV and AIDS through your groundbreaking research. I am humbled by the significant contributions you have made.”



**THIS ISSUE'S
FEATURED
ARTICLES**

Prof Maria Wawer.



Top picture: Professors; David Sserwada, Maria Wawer and Ronald H. Gray .

Bottom picture: Professors; David Sserwada, Kate Grabswoki, Ronald H. Gray and Maria Wawer having an intimate retirement celebration.



Among those who honored Professor Wawer's legacy was Assistant Professor Kate Grabowski, who emphasized the transformative nature of Maria's work.

Dr. Grabowski celebrated Professor Wawer as the founder of the Rakai Community Cohort Study (RCCS), a pioneering research initiative that provided critical insights into HIV transmission.

This cohort has been instrumental in demonstrating that HIV viral load is the key determinant of transmission and that voluntary medical male circumcision (VMMC) reduces male HIV risk by 60%. As Dr. Kate noted, "In the early 2000s, few men had access to VMMC or ART. Now, thanks in part to Maria's efforts, over 90% of people with HIV in southern Uganda are on treatment, and VMMC is widely available. HIV incidence is down 80%. Her contributions are immeasurable."

The RHSP family would like to re-echo these sentiments, celebrating the mentorship and guidance that have shaped their paths.

This milestone marks not just the end of her lecturing career but also the beginning of countless opportunities to mentor more scientists and dedicate her time to the RHSP mission.

We are immensely proud of Prof. Maria's accomplishments and the perseverance that brought her this far.

Click [here](#) to read more interesting stories of impact, messages of admiration and inspiration curated by friends and colleagues to celebrate Professor Maria Wawer outstanding work at JHU. *This kudoboard was compiled by Jade Jackson.*

RHSP STAFF EMPOWERED BY JOHNS HOPKINS UNIVERSITY TO ADVANCE NCD RESEARCH

A team of Rakai Health Science Program staff had an opportunity to participate in the Johns Hopkins University School of Tropical Medicine Summer Institute.

The team, consisting of Dr. Joseph Ssuuna, Asani Kasango, and Royfred Kateregga, attended a course on "Chronic Diseases in Low- and Middle-Income Countries: Prevalence and Epidemiology" from the 15th to the 19th of July 2024.

"This experience was not only a deep dive into the intricacies of non-communicable diseases (NCDs) but also a learning journey that has equipped us with valuable insights to bring back to our communities," Dr. Ssuuna explains.

According to the team, the course provided an in-depth exploration of NCDs, with a particular focus on their prevalence and epidemiology in low- and middle-income countries (LMICs). Throughout the week, the team engaged in intensive in-person lectures and dynamic group discussions. These sessions were a platform for sharing experiences from diverse settings, which broadened their understanding of the global and regional challenges posed by NCDs.

Among the major areas of focus were the burden of NCDs in LMICs, risk factor assessment, and the significant health system challenges these countries face.

"We delved into the critical link between ambient air pollution—both indoor and outdoor—and the rise of cardiovascular and respiratory disorders," Asan Kasango explained.



Dr. Joseph Ssuuna, Asani Kasango, and Royfred Kateregga on their trip to John Hopkin's University.



RHSP staff with a group of students during the summer training.

Additionally, they reviewed data from various ongoing and completed projects, which highlighted practical interventions and the stark comparison of the NCD burdens between high-income countries (HICs) and LMICs. These insights were important in recognizing the gaps in health information systems and the urgent need for improvement.

The key takeaways from this experience according to the team highlight the alarming impact of NCDs, which are now the leading cause of mortality worldwide.

The course emphasized the necessity for evidence-based interventions, making it clear that further research is crucial in the fight against these diseases.

“We also recognized the pressing need for greater engagement with policymakers to increase focus and funding for NCD programs,” the team emphasized.

This experience would not have been possible without the tremendous support received from the entire JHU team and Fogarty International, which covered travel, accommodation, and meals, and most importantly, facilitated the invaluable exchange of knowledge.

Additionally, the team extend sincere gratitude to the RHSP team for the support which ensured their participation through transportation arrangements, visa recommendations, and the provision of study leave.

“This experience has inspired us and better prepared us to address NCDs in our communities. The knowledge we've gained will shape our work and help us make a real impact in public health. We're committed to applying what we've learned and working with our partners to tackle the challenges of NCDs in LMICs,” the team shared reflections on their experience .

RHSP DATA MANAGEMENT TEAM COMPLETES DFDISCOVER TRAINING



RHSP Data management team during a training session with Michael Holdsworth.

In July, the RHSP Data Management Team participated in a four-day training session on the DFdiscover Clinical Data Management System (CDMS). The training was conducted by Michael Holdsworth and Telsa de Lange from the Office of Cyber Infrastructure and Computational Biology (OCICB), [The National Institutes of Health \(NIH\)](#).

DFdiscover is an agile CDMS solution that supports data collection from multiple sources, including Electronic Data Capture (EDC) and paper. This will provide flexibility, quality, and speed in the daily tasks of collecting, verifying, and analyzing clinical data by the data team.

A highlight of the training was learning to develop mobile data collection solutions using DFcollect, an integral part of the DFdiscover ecosystem. This new skill will allow the team to streamline data collection processes in various field settings. Additionally, the training sessions included a comprehensive review of Data Standard Operating Procedures (SOPs) and Good Clinical Data Management Practices, ensuring the team adheres to the highest industry standards.

This training marks a significant step forward for the RHSP Data Management Team, equipping them with the latest tools and knowledge to improve their efficiency and effectiveness in managing clinical data.

We are excited to see the positive impact these new skills and systems will have on our work. Stay tuned for more updates on our progress.

RHSP LABORATORY: EXPANDING OUR COMMITMENT TO COMMUNITY HEALTH



One of the RHSP Lab clinicians testing blood samples in the field.

The Rakai Health Science Program (RHSP) is proud to announce the expansion of its laboratory services, offering a broader range of comprehensive health screenings to the communities of Kyotera, Rakai, and neighboring districts. This enhancement includes vital diagnostic tests such as liver and kidney function tests, lipid profiles, HIV testing, and more—all available at subsidized rates.

This expansion is a significant step toward addressing the healthcare needs of our growing community. By providing these essential services locally, RHSP is making high-quality healthcare more accessible and reducing the burden of long and costly travel for patients. With our enhanced laboratory capabilities, we aim to deliver convenient and affordable care, ensuring that residents can receive the medical attention they need close to home.

What This Expansion Means for Our Community:

- **Affordable Care:** Our high-quality diagnostic tests are now available at subsidized rates, making essential healthcare more accessible.
- **Local Access:** With our expanded services, you can receive comprehensive healthcare close to home, significantly reducing the need for long and costly travel.

Recently, we hosted a successful sensitization meeting with local healthcare practitioners to discuss collaborative strategies for enhancing healthcare delivery in our region. By integrating our advanced diagnostic services with local health centers, clinics, and hospitals, we aim to provide comprehensive, accessible care right here in our community.

Pictorial: images from the lab sensitization meeting with health care practitioner from Kyotera, Rakai and surrounding areas.



Left: Group image RHSP staff and health care practitioners from Kyotera.



Right: The RHSP Lab team presenting to the health care practitioners and giving them a tour of the lab at Kalisizo Station.



RHSP LABORATORY IMPLEMENTS A QUALITY MANAGEMENT SYSTEM (QMS) BASED ON ISO STANDARD 15189.



Inside the RHSP lab.
One of the staff organizing blood samples.

In December 2022, ISO 15189:2012 edition was revised to ISO 15189:2022 leading to significant changes that necessitate various modifications to the quality management system.

To aid the transition process and ensuring ongoing appropriateness, sufficiency, effectiveness, continual improvement of the QMS to support research and patient care, there was need to train laboratory staff on ISO 15189:2022 as a way of providing a framework for performance and interpretation of the new ISO edition requirements.

The training was conducted on 5th to 9th August 2024 at the Rakai Health Sciences Program conference room by trainers from the MOH/NHLDS and JCRC-SPHLS project (Mrs. Mutua Diana & Mr. Kisawuzi Christopher) and focused on helping staff understand the changes between 3rd and 4th ISO 15189 editions and providing a detailed understanding of ISO 15189:2022 requirements including how a laboratory can practically demonstrate quality, competence, impartiality and consistency in accordance with this standard.

Staff appreciated the new ISO edition requirements including the risk-based approach implementation, management of Point of care testing (POCT) units, impartiality and confidentiality, requirements regarding patients among others. Trainees were also engaged in practical session for risk management based on ISO 22367 and root cause analysis.

GRANTS, SCIENCE AND TRAINING UPDATES



A group picture of some of the international students who did their internship at RHSP.

Training and Capacity Building

Training is essential for addressing critical gaps in research and developing innovative solutions for current health challenges.

Two RHSP staff members have completed their doctoral training, six are on track to complete their MPH by January 2025, and one has enrolled in a PhD program in immunology.

Additionally, RHSP hosts undergraduate and graduate students from national and international institutions for internships. This year, we welcomed 15 international and 8 national students for internship placements.

Grant Proposals:

Securing funding and resources is a key priority for RHSP. This year, we submitted eight grant proposals to various donor agencies to support research and training initiatives.

Scientific Writing and Productivity:

The program has made significant strides in scientific productivity through analysis, writing, publishing, and participation in conferences. RHSP was represented at major events, including the Conference on Retroviruses and Opportunistic Infections (CROI 2024) and the International AIDS Society Conference (IAS 2024). At these conferences, a total of 12 abstracts were presented: 11 at CROI (4 oral and 7 posters) and 1 poster at IAS. This year, RHSP has published 24 manuscripts in peer-reviewed journals.



RHSP CULTURAL DAY CELEBRATIONS: TO BE UGANDAN , TO SERVE UGANDA



Some of the RHSP staff team who participated in the cultural day celebrations on 8th October 2024.

In a vibrant display of unity and cultural pride, the Rakai Health Sciences Program (RHSP) staff embraced the diverse cultures of Uganda by donning traditional attire on October 8th, 2024. This event, held in the spirit of Uganda's 62nd Independence Day, showcased the rich cultural heritage of the nation and fostered a strong sense of togetherness among the staff.

The event was a colorful celebration with staff members proudly wearing traditional outfits such as Gomesis, Kanza, Mushanana, Kitengi, Lesu, Karimojong Attire, Bark Cloth, Arabian and Grass Skirts. Each attire represented the unique cultural identity of different Ugandan communities. Some staff members also carried hand bags made of banana fiber, adding an extra touch of traditional craftsmanship.

The staff walked down an aisle, presenting their outfits to a panel of judges, who will later award prizes for the best dressed and most creative participants. The decorations for the event included traditional items such as drums, spears, and bark cloth, which added to the festive atmosphere.

The enthusiasm among the staff was heartfelt.

One participant expressed, "Why don't we do this more often?" Another suggested, "This day should be marked as a public holiday in RHSP." The event not only celebrated Uganda's independence but also highlighted the independence of Buganda, adding a layer of historical significance.

The community's reaction was one of intrigue and curiosity. Patients and visitors were fascinated by the cultural attire, often asking, "Why are we dressed the way we are?" While the immediate impact on the local community was subtle, the event certainly sparked interest and engagement.

This year marks 62 years since Uganda gained independence in 1962. Uganda's Independence Day is a significant occasion that celebrates the nation's freedom from colonial rule and its rich cultural diversity. The RHSP's cultural day is a testament to this spirit, proudly celebrating what it means to be Ugandan and serve communities in Uganda.

RHSP's commitment to community-based research and health service delivery has made a significant impact on the lives of many. Through initiatives like the Rakai Community Cohort Study (RCCS), RHSP has provided critical data on HIV transmission and the effectiveness of health interventions.

The staff at RHSP are at the heart of its success. We create a positive and supportive work environment, promoting a healthy work-life balance through on-site medical care and various wellness programs.

RHSP INFRASTRUCTURE

RHSP has revolutionized datacenter server cooling by transitioning from air cooled servers to immersion cooled servers. Immersion cooling is a modern and environmentally friendly approach to cooling servers in data centers. Instead of relying on traditional air-cooling methods, immersion cooling submerges servers directly into a bath of dielectric, non-conductive liquid. Since heat transfers to a fluid at a faster rate than air, this technique allows for efficient heat dissipation and offers several advantages over conventional air-cooling systems.

The installation of the immersion cooling system at RHSP is a significant step towards promoting reduction in greenhouse gas emissions and climate health equity.

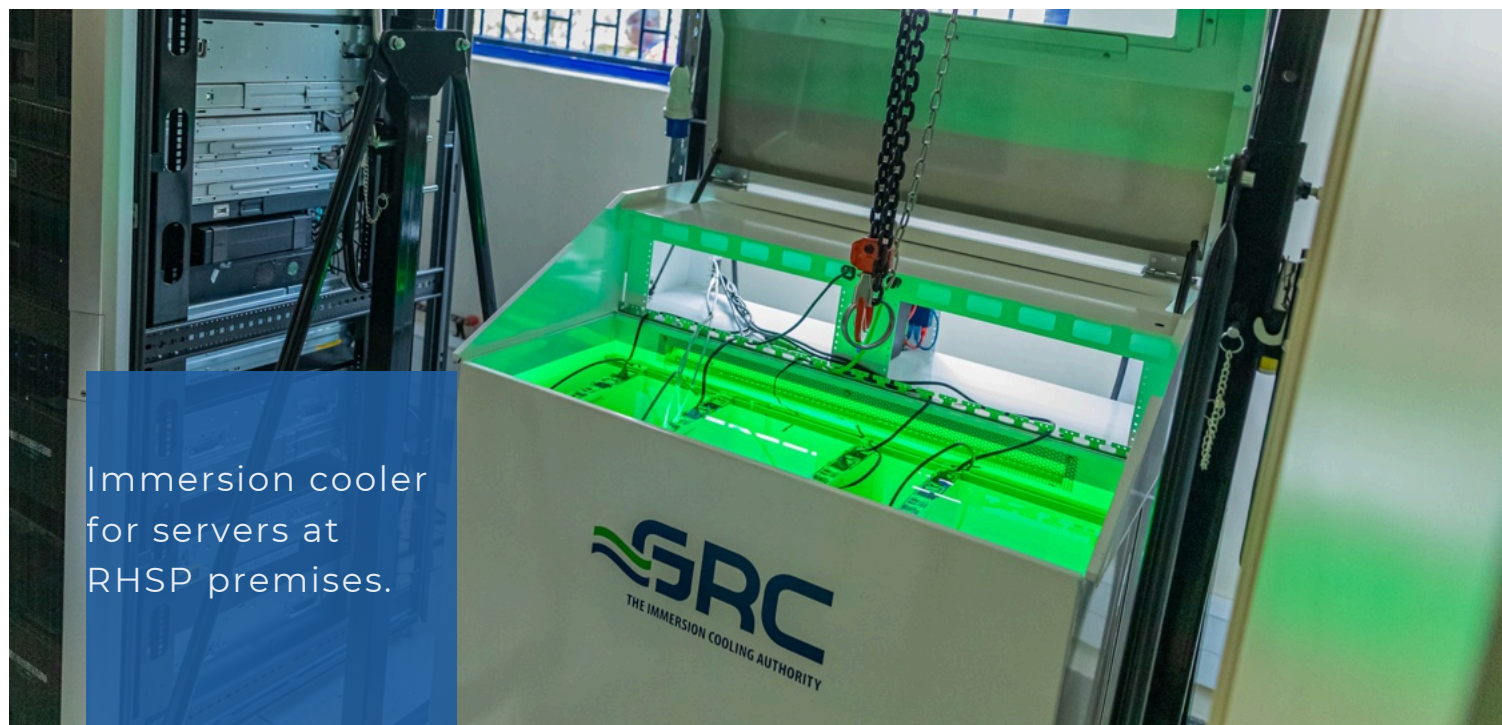
By harnessing the power of immersion cooling, RHSP is realizing remarkable improvements in datacenter server sustainability, availability, and IT operational cost reduction. Server immersion cooling at RHSP has brought a multitude of benefits like energy efficiency, Space efficiency, hardware longevity, potential for heat reuse and reduced environmental impact.



Solar system at RHSP Headquarters in Kalisizo.

At the Rakai Health Sciences Program (RHSP), our cutting-edge laboratories are fully powered by a strong solar energy system. This transition to renewable energy not only supports our high-impact research but also highlights RHSP's commitment to environmental sustainability.

By utilizing solar power, we have significantly reduced our carbon footprint, contributing to a cleaner, greener environment. This shift positively impacts both the planet and the people in our communities by promoting energy independence, lowering operational costs, and ensuring reliable power for critical healthcare services. As RHSP, we are dedicated to responsible innovation and long-term environmental stewardship.



Immersion cooler for servers at RHSP premises.



RHSP INFORMATION

Social media platforms



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www.rhsp.org



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