Fogarty International Center

Rakai Health Science Program: 30 Years of building capacity to advance research to improve health



Roger I. Glass, M.D., Ph.D.

Director, Fogarty International Center Associate Director for Global Health Research, NIH September 24, 2019







Q and A with Dr Elioda Tumwesigye, former Fogarty trainee and Ugandan Minister of Science, Technology and Innovation

May / June 2017 | Volume 16, Issue 3

■ Full May / June 2017 Global Health Matters newsletter [PDF 1.5M]

"Without Fogarty, I quite simply wouldn't be who I am today."

Dr. Elioda Tumwesigye was hand-picked by President Yoweri Museveni to lead Uganda's Ministry of Science, Technology and Innovation of when it was founded in June 2016. Prior to that, Tumwesigye worked as a medical doctor, led prevention of mother-to-child transmission and other HIV-AIDS programs in Uganda, and has been a member of parliament since 2001. The founder and chair of the first standing committee for HIV-AIDS in an African legislature, Tumwesigye holds an M.D. from Makerere University and a master's degree from Case Western Reserve University in Ohio, which he attended on a Fogarty scholarship.

What impact has Fogarty had on your career?

Without Fogarty, I quite simply wouldn't be who I am today. It all started when I won a scholarship through Fogarty's AIDS International Training and Research Program (AITRP) and Makerere University in Uganda, to do a master's in epidemiology and



How HIV/AIDS fight started in Uganda

By Agnes Kyotalengerire Added 5th November 2018 02:20 PM

It all started in a small fishing community. Patients lost so much weight that residents began to call the disease 'slim'.





The Lancet · Saturday 19 October 1985

SLIM DISEASE: A NEW DISEASE IN UGANDA AND ITS ASSOCIATION WITH HTLV-III INFECTION

D. SERWADDA

N. K. SEWANKAMBO

J. W. CARSWELL

A. C. BAYLEY

R. S. TEDDER

R. A. WEISS

R. D. MUGERWA

A. LWEGABA

G. B. KIRYA

R. G. DOWNING

S. A. CLAYDEN

A. G. DALGLEISH

VOL. 3 NO. 97 SATURDAY 29, DECEMBER 1984 SHS 1004

were a serie tiller diseas

babies re

and new-horn babies were saved in a dramatic eventution when fire raged throu-

Mysterious disease kills 100 people

By STAR Correspondent

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- And to any treds

The disease which started at Kycho-Kaanebulema round to Kyotes June 16, 1987

Vol. XXXIX No. 12

U.S. Department of Health and Human Services

National Institutes of Health

The NIH Record

World Health Officials Focus on AIDS

June 16, 1987

Julie 10, 1

By Blair

Dozen role in t AIDS he ington I

More

epidemi

Dr. George J. Galasso, Office of Extramural Research and Training, was the chairman of the conference's organizing committee. Dr. Kenneth Bridbord, Fogarty International Center, served as co-chairman.

cials, and members of the news media gathered for the largest international scientific gathering to date on the growing AIDS crisis.

Among the topics at the 5-day conference were the search for a vaccine, the latest findings on the spread of AIDS, clinical trials for drug therapies, clinical management, and prevention and control of the disease.

Dr. George J. Galasso, Office of Extramural Research and Training, was the chairman of the conference's organizing committee. Dr. Kenneth Bridbord, Fogarty International Center, served as co-chairman.

"We worked for 2 years on the overall plan

One of the most sobering predictions on the impact of the epidemic was that given by Dr. Jonathan Mann, director of the World Health Organization's (WHO) Special Programme on

One of the most sobering predictions on the impact of the epidemic was that given by Dr. Jonathan Mann, director of the World Health Organization's (WHO) Special Programme on AIDS.

He said the WHO estimated up to 3 million new AIDS cases by 1991. Worldwide, the organization estimates that between 5 and 10 million people are currently infected with human immunodeficiency virus (HIV), the cause of AIDS.

"AIDS has created a worldwide emergency.
Global AIDS control will require billions of
dollars over the next 5 years," Mann said. "The

THE I done Heaten betvice estimates that we

least 1.5 million Americans are already infected with the virus.

JULY/AUGUST 2012

Establishing Fogarty's HIV research training program: Q and A with Fogarty's Dr Ken Bridbord

July / August 2012 | Volume 11, Issue 4

DR. KEN BRIDBORD



Twenty-five years ago, as he world, Dr. Ken Bridbord can the regions where the need of International Training and mentored research projects, Training and Research Programment than 100 developin



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HTPN Award 2019
CUGH Award 2019

Fogarty' 50th Anniversary Volume - 2018

Nalugoda was horrified by the numerous worn-out people he saw wandering around listlessly, open sores evident, and being shunned by all. "I got chills and thought I could not go back," he said.





Fred Nalugoda
Field Director/Pl

Public awareness and the availability of interventions have changed the situation remarkably, Nalugoda noted. "People know about strategies for prevention and stigma has been reduced very much. Now HIV treatment is widely available and denial is not a big issue, especially in Rakai."



Training grants from Fogarty to JHU



- 1988-1997, B. Frank Polk / Harvey Fischman (AITRP)
- Foreskin Tis. 35 years of continuous funding ning in HIV • 1998-2013, Chris Beyrer, (AITRP), Suppl
- 2013-2019, Rop
- 2000-2013, Kon Gray, (ITRPH)
- 2018-2023, Larry Chang (HIVRT)



A review of our records Fogarty Supported Trainee Information



- Individuals supported by Fogarty training: ~141
- Individuals attending ≥2 Fogarty supported training: 36
- Fogarty Supported Degrees:
 - Bachelors 21
 - Masters 69
 - PhD 13
 - DrPH 1
 - Post Doc 8
 - Non-degree training or courses 70







Dr. Maria Wawer



Prof. David Serwadda



Prof. Nelson Sewakambo



Dr. Ronald Gray

Fogarty is proud to have at some time trained or supported the leadership team at Rakai



Dr. Joseph Kagaayi



Dr. Tom Lutalo



Dr. Fred Nalugoda



Dr. Godfrey Kigozi



Notable FIC Supported staff outside RHSP



- Dr. Iga Boaz, Lab Scientist, UVRI
- Lillian Aaca Okui, Medical Officer, Kumi Hospital
- Dr. Dan Naumguzi, Department of Surgery University of KwaZulu-Natal
- Dr. Barbra Nanteza, Uganda Ministry of Health
- Lucy Amaniyo, Medical Doctor, IREX
- Moses Sakor, District Health Officer, Uganda Ministry of Health
- Dr. Stephen Watya, Executive Director, Uro Uganda
- Dr. Hannah Kibuka, HIV Vaccine Researcher

And many others!



Short Term & Non-Degree Training Attended by Fogarty Trainees



- Fogarty Summer Program: Intensive HIV/AIDS Research Overview, Johns Hopkins University
- International Public Health Summer Institute, University of Alabama at Birmingham
- Training in Laboratory Methods for HPV Detection
- Community Health, AMREF Health Africa
- Summer Institute in Epidemiology and Biostatistics Training, Johns Hopkins University
- Pathology Training in HPV detection at RHSP Pathology Laboratory by Johns Hopkins Pathologist
- Liver Biopsy Training at Mulago Hospital in Kampala, Uganda
- Immunohistochemistry of Liver Biopsy, Armed Forces Institute of Pathology (AFIP)
- Fogarty African Bioethics Training Program, Johns Hopkins Berman Institute of Bioethics

Current NIH grants with RHSP sites

Actv	Institution	Project Title	IC	Site (Collaborator) List
	JOHNS HOPKINS	Hard-to-Reach Populations: Implications for		RAKAI HEALTH SCIENCES PROGRAM
R01	UNIVERSITY	Ending the AIDS Epidemic	NIAID	(KAGAAYI, JOSEPH)
R01	JOHNS HOPKINS UNIVERSITY	Improving the measurement of adolescent and adult mortality in low-income countries	NICHD	RAKAI HEALTH SCIENCES PRGRAM (LUTALO, TOM)
R01	COLUMBIA UNIVERSITY HEALTH SCIENCES	Structural and Social Transitions Among Adolescents in Rakai (SSTAR)	NICHD	RAKAI HEALTH SCIENCES PROGRAM (NALUGODA, FRED); UGANDA VIRUS RESEARCH INSTITUTE (NALUGODA, FRED)
R01	JOHNS HOPKINS UNIVERSITY	CHWs, mHealth, and Combination HIV Prevention in a Hotspot: A Randomized Trial	NIMH	RAKAI HEALTH SCIENCE PROGRAM (NAKIGOZI, GERTRUDE)
R01	WASHINGTON UNIVERSITY	Suubi4Her: A Combination Intervention Addressing HIV Risk Behaviors Among Older Adolescent Girls Transitioning into Adulthood in Uganda	NIMH	RAKAI HEALTH SCIENCES PROGRAM (RHSP) (NAKIGOZI, GERTRUDE); REACH THE YOUTH UGANDA (RTY) (MWEBEMBEZI, ABEL)
R01	WASHINGTON UNIVERSITY	Kyaterekera Project: A Combination Intervention Addressing Sexual Risk-Taking Behaviors Among Vulnerable Women in Uganda	NIMH	RAKAI HEALTH SCIENCES PROGRAM (KAGAAYI, JOSEPH); REACH THE YOUTH UGANDA (RTY) (MWEBEMBEZI, ABEL)



Rakai Health Sciences Program



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Our People in Uganda

Rakai Health Sciences Program (RHSP) has more than 370 dedicated staff working in Uganda. Listed here are RHSP investigators and management staff.

Click here to meet our people working at Johns Hopkins University.

David Serwadda, MBChB, MSc, MMed, MPH – Senior Principal Investigator and Director



Dr. Serwadda, infectious disease epidemiologist, is Professor and the Director of the Institute of Public Health at Makerere University in Kampala. He received his MMed from Makerere University and an MPH from Johns Hopkins Bloomberg School of Public Health. Dr. Serwadda was among the first researchers to report

VOICES FROM RAKAI



It is my fifth day here [in a mobile clinic set up in a private home].

Yesterday, I treated more than 70 people. I'm

David Serwadda Nelson Sewankambo Fred Wabwire-Mangen Stephen Watya Tom Lutalo Godfrey Kigozi Fred Nalugoda Noah Kiwanuka Fred Makumbi Joseph Kagaayi Mohammed Kiddugavu Pius Opendi Rebecca Kakembo



A Brief Bibliometric Analysis of the contributions from Rakai

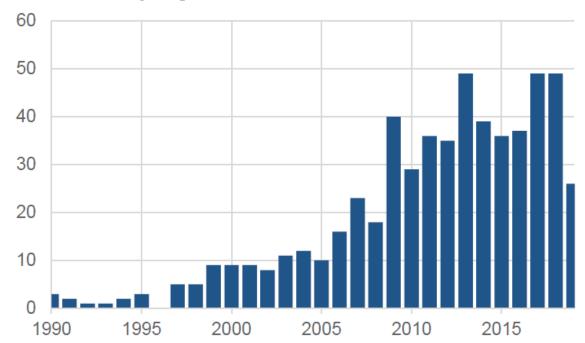


- Web of Science
- Publications specifically mentioning Rakai
- 1984-2018
- Total publications: 573
- Analysis by author, institution, country
- H indices
- Co-authorships

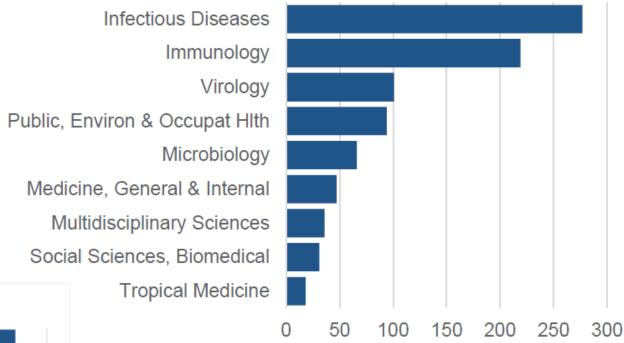
We did not examine first or last positions of authorships

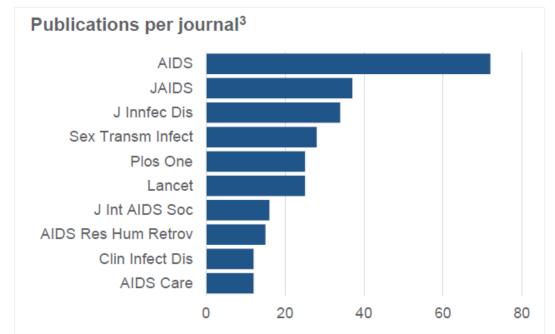
Publications per year

Bibliometric Data

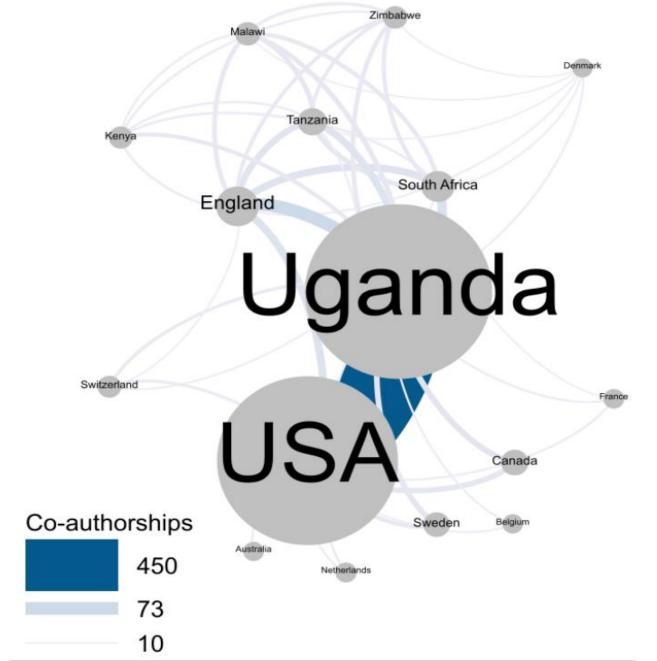


Publications per WOS category²

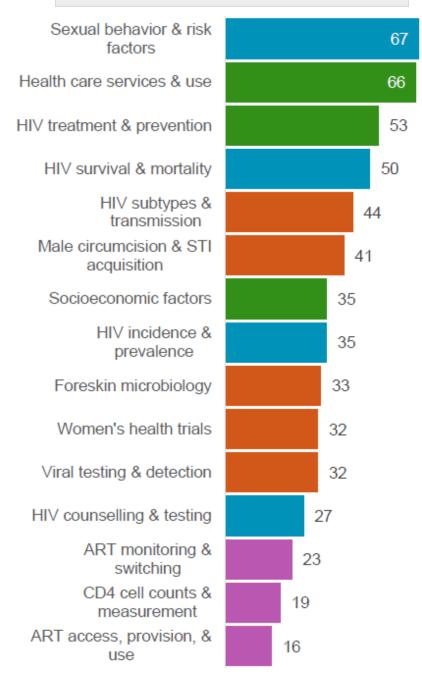




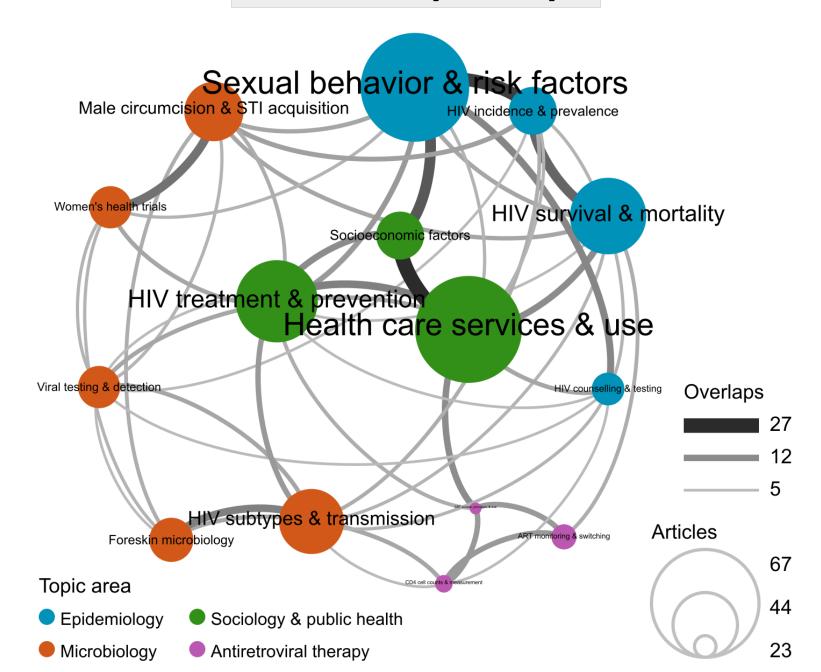
Country co-authorship network

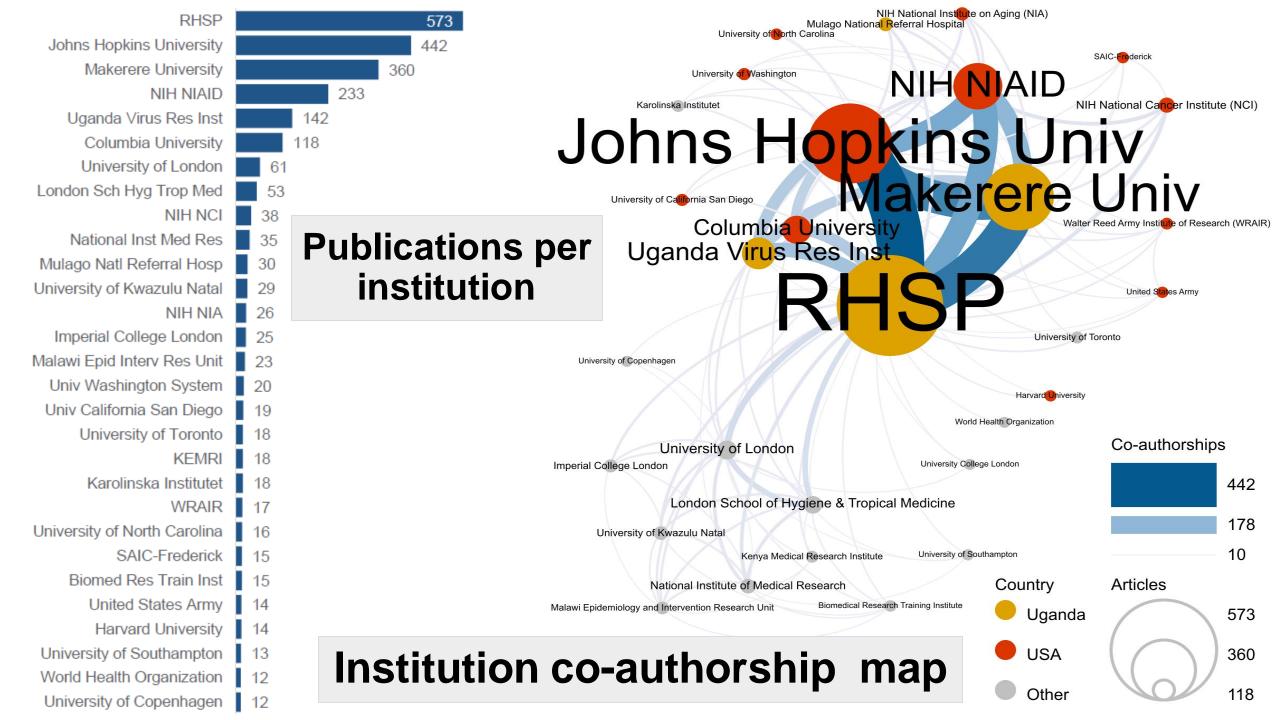


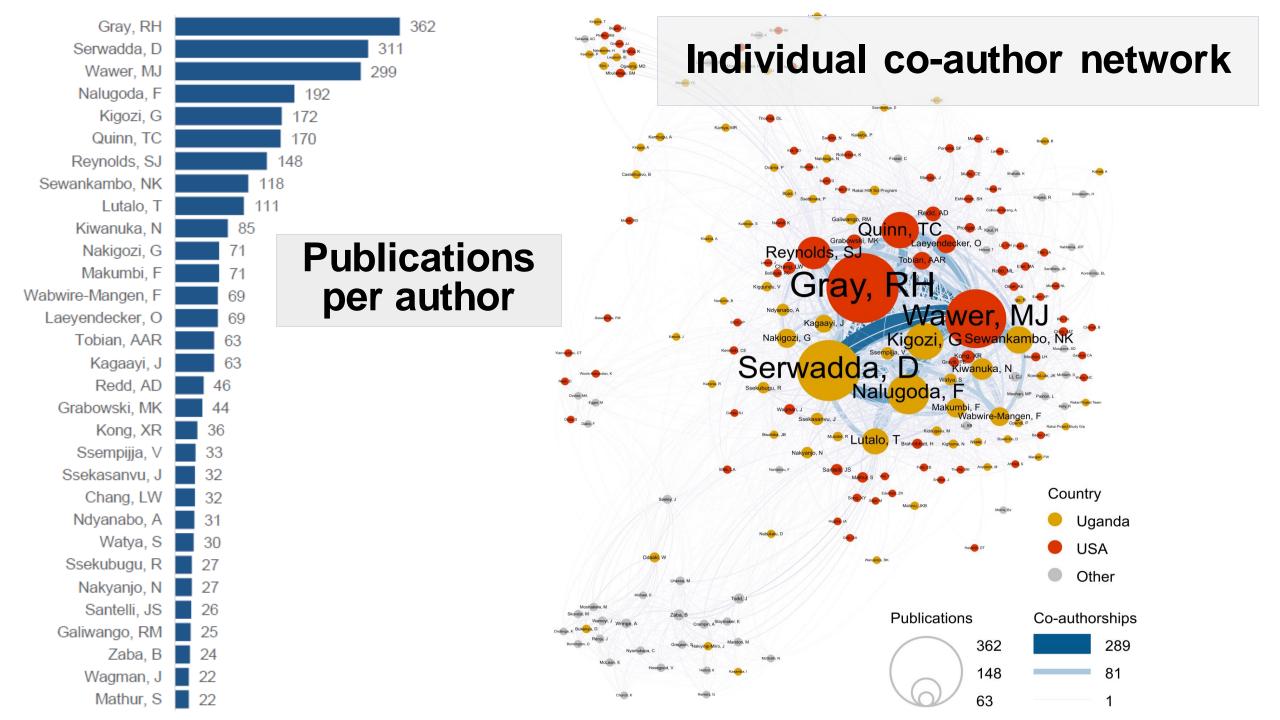
Articles per topic



Article Topic Map







Basic bibliometric indicators

Total publications	573
Total times cited	20,177
Citations per paper	36.49
Median citation count	10
Data set H-Index	69
Category-normalized citation index	1.87
# publications in the top 10% for citations	121
% publications in the top 10% for citations	22%

12 most highly cited articles from Rakai

Times cited

2.062

1,366

886

883

533

430

415

294

247

212

141

100

12 most nightly cited articles from Rakai
Article citation
Quinn, TC et al. 2000. Viral load and heterosexual transmission of human immunodeficiency virus type 1. N Engl J Med 342(13):921.
Gray, RH et al. 2007. Male circumcision for HI√ prevention in men in Rakai, Uganda: a randomised trial. Lancet 369(9562):657.
Wawer, MJ et al. 2005. Rates of HIV-1 transmission per coital act, by stage of HIV-1 infection, in Rakai, Uganda. J Infec Dis 191(9):1403.
Gray, RH et al. 2001. Probability of HIV-1 transmission per coital act in monogamous, heterosexual, HIV-1-discordant couples in Rakai, Uganda. Lancet 357(9263):1149.

Wawer, MJ et al. 1999. Control of sexually transmitted diseases for AIDS prevention in Uganda: a randomised community trial. Lancet

Serwadda, D et al. 1985. Slim disease - a new disease in Uganda and its association with HTLV-III infection. Lancet 326(8460):849.

Tobian, AAR et al. 2009. Male circumcision for the prevention of HSV-2 and HPV infections and syphilis. N Engl J Med 360(13):1298.

Gray, RH et al. 2005. Increased risk of incident HIV during pregnancy in Rakai, Uganda: a prospective study. Lancet 366(9492):1182.

Matovu, JKB et al. 2007. Expanding access to voluntary HIV counselling and testing in sub-Saharan Africa: alternative approaches for

Wagman, J et al. 2015. Effectiveness of an integrated intimate partner violence and HIV prevention intervention in Rakai, Uganda:

Gray, RH et al. 1998. Population-based study of fertility in women with HIV-1 infection in Uganda. Lancet 351(9096):98.

analysis of an intervention in an existing cluster randomised cohort. Lancet Glob Health 3(1):E23.

Sewankambo, NK et al. 1997. HIV-1 infection associated with abnormal vaginal flora morphology and bacterial vaginosis. Lancet

353(9152):525.

350(9077):546.

improving uptake, 2001-2007. Top Med Int Health 12(11):1315.

Control of sexually transmitted diseases for AIDS prevention in Uganda: a randomised community trial THE LANCET

Maria J Wawer, Nelson K Sewankambo, David Serwadda, Thomas C Quinn, Lynn A Paxton, Noah Kiwanuka, Fred Wabwire-Mangen, Chuanjun Li, Thomas Lutalo, Fred Nalugoda, Charlotte A Gaydos, Lawrence H Moulton, Mary O Meehan, Saifuddin Ahmed, the Rakai Project Study Group*, and Ronald H Gray,



N Engl J Med 2000; 342:921-929

Volume 353, Issue 9152, 13 February 1999, Pages 525-535

VIRAL LOAD AND HETEROSEXUAL TRANSMISSION OF HUMAN IMMUNODEFICIENCY VIRUS TYPE 1

THOMAS C. QUINN, M.D., MARIA J. WAWER, M.D., NELSON SEWANKAMBO, M.B., DAVID SERWADDA, M.B., CHUANJUN LI, M.D., FRED WABWIRE-MANGEN, Ph.D., MARY O. MEEHAN, B.S., THOMAS LUTALO, M.A., AND RONALD H. GRAY, M.D., FOR THE RAKAI PROJECT STUDY GROUP

Ronald H Gray, Godfrey Kigozi, David Serwadda, Frederick Makumbi, Stephen Watya, Fred Nalugoda, Noah Kiwanuka, Lawrence H Moulton, Mohammad A Chaudhary, Michael Z Chen, Nelson K Sewankambo, Fred Wabwire-Mangen, Melanie C Bacon, Carolyn F M Williams, Pius Opendi, Steven J Reynolds, Oliver Laeyendecker, Thomas C Quinn, Maria J Wawer

Some Thoughts to Consider: Missed Opportunities

- After 3 decades, we have yet to give a grant directly to Ugandans at RHSP!
- RHSP must have troves of data and specimens that may still have value. How could these be better mined for training and discovery?
- Could RHSP train more young researchers from Uganda, neighboring countries in population health?
- Is the RHSP- JHU a partnership of equals? Has relationship matured as leadership has grown in Uganda?
- Research & training could be enhanced with more attention to data science, social sciences, laboratory studies, HIV co-morbidities, MNCH, Universal Health Careall needed to improve health of the people of Rakai and the wider region.

What goals could RHSP achieve in a decade?

- discrimination; Expand access to Jolans to pursue through CT

 Develop some big bold ideas/plans to pursue through training, government support, and new collaborations! For HIV: Control the epidemic: Reduce incidence and discrimination; Expand access to **PMTCT**
- Train the next generation for research leading to improved health
- Broaden your academic and funding partnerships
- Expand S-S training & collaboration





.....and some recommendations from Fogarty APPLY! APPLY! APPLY!

- Strengthen the Grants Management Office in RHSP or an affiliate with Makerere to take greater advantage of opportunities
- Apply to Fogarty for:
 - Fellows and Scholars positions for U.S. & Ugandan fellowships
 - D43 Training grants in other areas NCDs, GIDs, Implementation science
 - R21 grants on mHealth, Brain, Stigma,
 - K43 awards for foreign scientists
 - Apply for postdoctoral training on the NIH Campus (African Postdoctoral Training Initiative - APTI)
 - Apply for programs from other countries and donors
 - Be the COE for regional S-S training (e.g. DRC)



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NIH Fogarty International Center

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Fogarty's weekly Funding Newsletter for Global Health Researchers provides updates about funding opportunities, notices and announcements from Fogarty, NIH and other organizations that may be of interest to those working in the field of global health research.

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Recent Funding Newsletters

- Funding News Week of September 9, 2019
- Funding News Week of September 2, 2019
- Funding News Week of August 19, 2019
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- Funding News Week of August 5, 2019
- Funding News Week of July 15, 2019
- Funding News Week of July 1, 2019
- Funding News Week of June 17, 2019

June 3, 2019

View a sample of the Fogarty Funding News weekly email, packed with funding opportunities for global health researchers.









worldreport.nih.gov

Open-access, interactive mapping database highlighting biomedical research investments & partnerships from some of the world's largest funders

- Data from 11 agencies, ~295,000 records
- Global view of directly-funded grants & indirectly-funded research collaborations







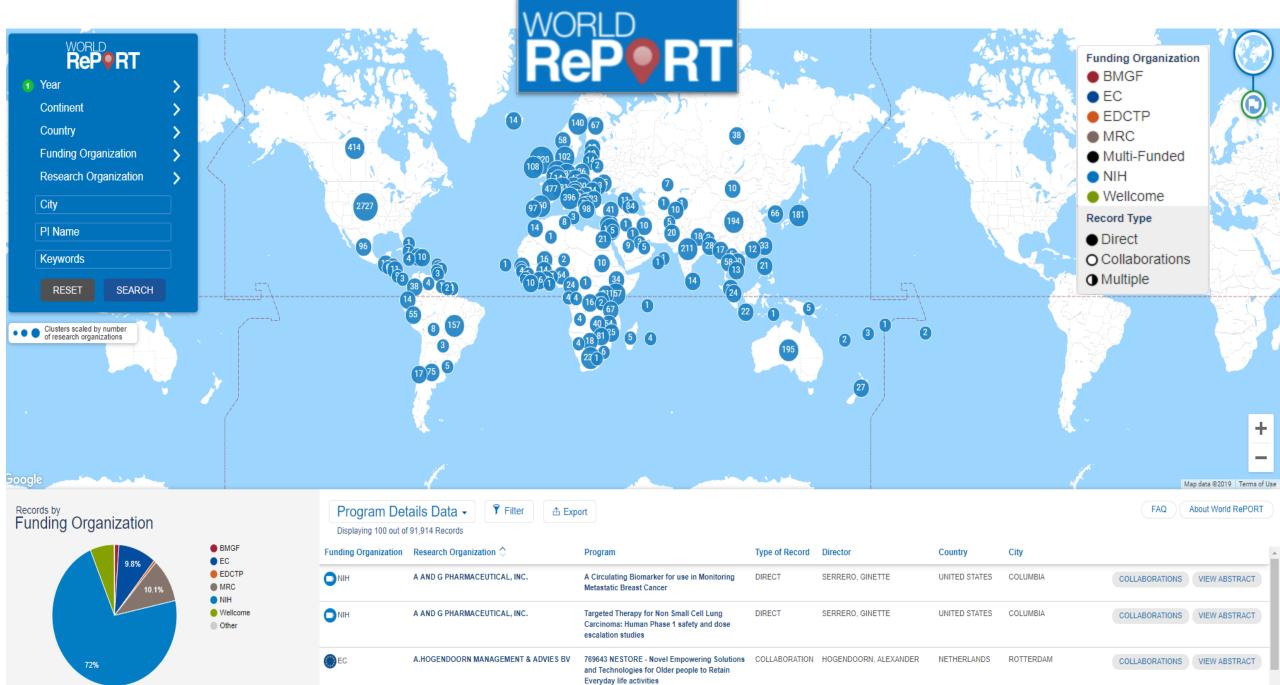












Structure-Function Relationships of Voltage-

Gated Proton Channels

COLLABORATION SOKOLOV, VALERIJ

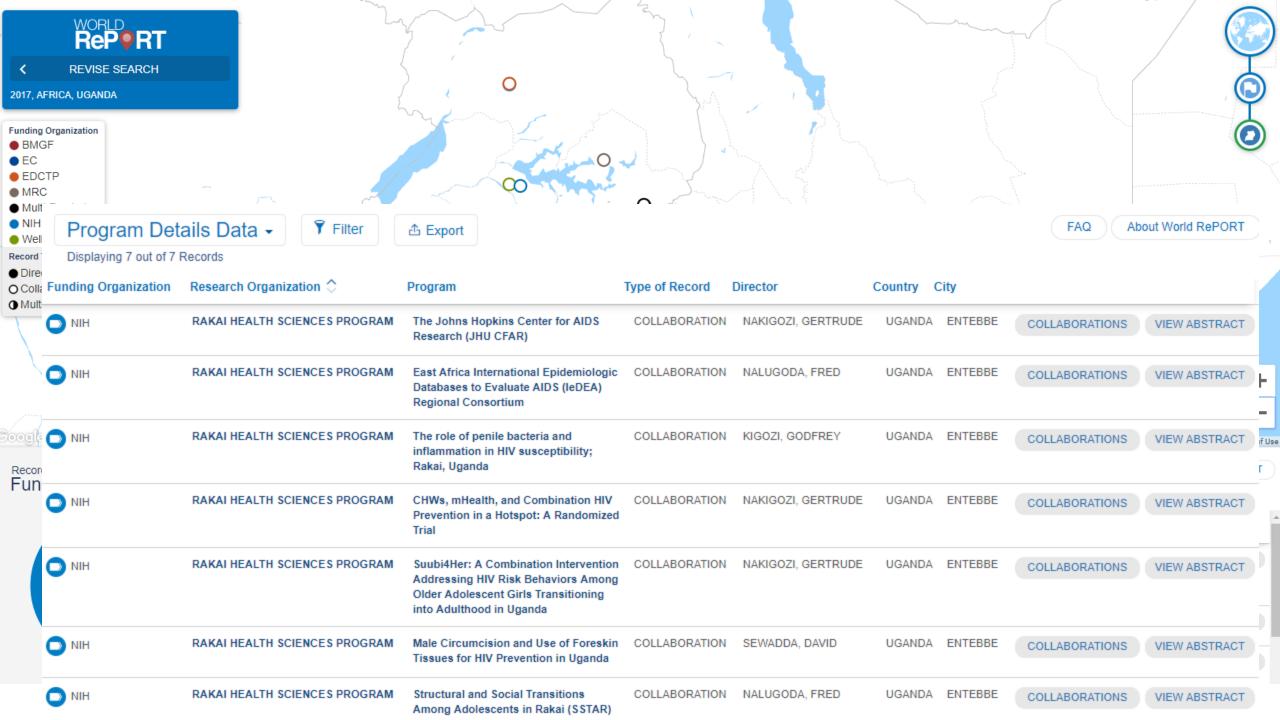
Russia

Moscow

COLLABORATIONS VIEW ABSTRACT

■ NIH

A.N. FRUMKIN INSTITUTE









Discoveries made in Rakai have improved the lives of people living with HIV/AIDS in Uganda and around the world.

Fogarty is proud to have played a role in helping develop your amazing workforce and contributing to your success!

Q and A with Dr Nelson Sewankambo on research and training in Uganda

July / August 2015 | Volume 14, Issue 4

What has Fogarty's role been in Uganda?

We started from a low base, more than 15 years ago, after our country went through a very difficult decade-and a-half of economic decline. Fogarty-supported programs contributed enormously to the recovery of the research platform. Initially, all Ugandans were trained overseas, but over time we established research training programs in Uganda all the way to Ph.D.s and postdocs - we have trained about 30 Ph.D.s now, attributable to Fogarty support overseas and at home. People trained incountry are less likely to remain overseas and it also costs less.



Dr. Nelson Sewankambo

We see high-caliber Ugandan scientists putting in applications as independent PIs [principal investigators] and they are winning grants, not only from NIH but also European countries. Researchers here are themselves training upcoming researchers and are collaborating with global groups, like the International AIDS Vaccine Initiative. Uganda now has five high-quality research labs. Local scientists are not just collectors, sending samples elsewhere, but are interpreting and analyzing the samples. Also, we are setting up sample storage facilities to keep biospecimens for research. Finally, through Fogarty's ethics program, we built a critical mass of well-trained people and are launching a master's program in international research ethics training at Makerere.

Acknowledgements

