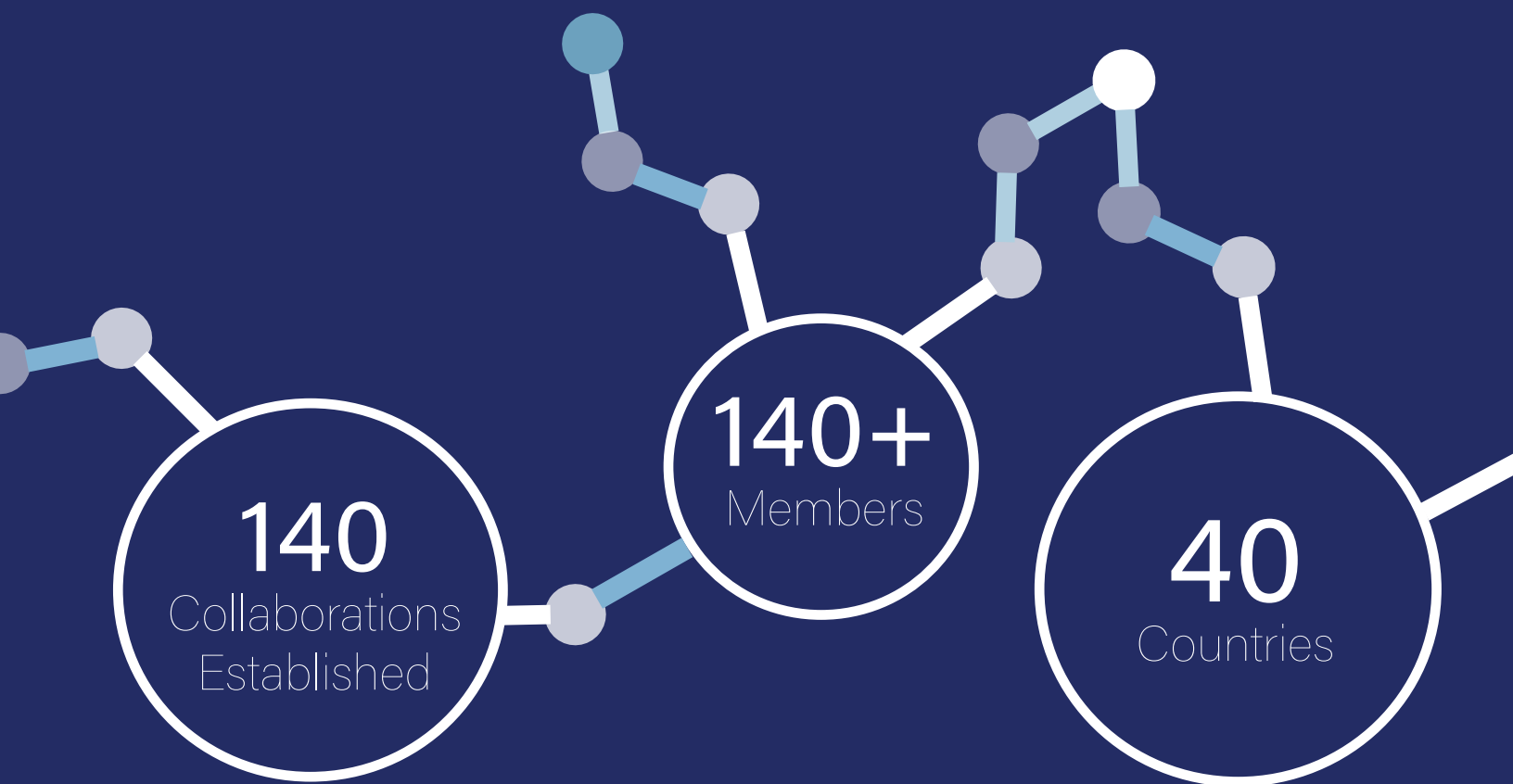




WIPO | Re:Search
Sharing Innovation
in the Fight Against
Neglected Tropical Diseases

BVGH Partnership Hub **ANNUAL REPORT** 2018



2018

Dear WIPO Re:Search Members and Friends,

In these pages we celebrate another successful year for the WIPO Re:Search consortium. Membership has grown to include over 140 organizations representing 40 countries, and we continue to advance our mission each and every day.

In 2018, BVGH established 18 new research and development (R&D) collaborations using our novel targeted partnering approach. Guided by the communications strategy we developed with our partners at the World Intellectual Property Organization (WIPO), we increased awareness of the Consortium through publications, presentations, and an expanded social media presence. With support from the Government of Australia, we bolstered global biomedical R&D capacity by coordinating the placement of 14 East African and Indo-Pacific scientists at advanced research institutions in Australia and the United States, equipping them with important skills and experience that they are now bringing back to their home institutions. All of these activities align with the goals and objectives of the *WIPO Re:Search Strategic Plan, 2017-2021*.

While our central purpose is and always will be to improve the lives of those affected by malaria, tuberculosis, and neglected tropical diseases (NTDs), we also strive to create value for you, our Members. This is especially true at a time when your commitment and hard work are proving more impactful than ever. We look forward to building on our momentum in 2019 and recognize that there is much work left to be done. We thank you for your ongoing support of WIPO Re:Search, and we are eager to continue working with you to make this world a healthier place.



Jennifer Dent
President, BVGH

WIPO Re:Search Membership Benefits

Advancing Business and Corporate Social Responsibility Objectives

- Repurposing of valuable assets to stimulate neglected disease R&D and improve health
- Opportunities to contribute to international dialogue and action on key global health issues (e.g., IP as a driver of R&D innovation, UN Sustainable Development Goals, access to medicines)
- Strengthening of Access to Medicine Index submissions through inclusion of WIPO Re:Search asset-sharing activities



Through WIPO Re:Search, BVGH has connected us with outstanding scientific partners around the world, uniting their expertise and Johnson & Johnson's resources to catalyze neglected disease R&D with the aim of creating new drugs. Without the Consortium, we would not have had the opportunity to share our Jump-stARter library and other assets so broadly, to potentially develop better solutions for these devastating diseases.



*Dr. Paul Jackson
Johnson & Johnson*

Accelerating R&D Programs

- Customized R&D partnership development and alliance management services aligned with Members' priorities and interests
- Access to technologies and expertise from other Members, saving valuable resources and time
- New perspectives on neglected disease R&D through partnerships with endemic-country scientists
- Relationship building with UN agencies (including WIPO and WHO), governments, funders, researchers, and companies

Expanding Global Brand Awareness and Visibility

- Public demonstration of commitment to sharing IP to advance neglected disease R&D
- Members and collaborations highlighted in WIPO Re:Search publications, presentations, and social media platforms

Increasing Scientific Recognition

- Peer-reviewed publications describing collaboration outcomes
- Increased eligibility and competitiveness for research funding



I am grateful to BVGH for introducing me to a major pharmaceutical company — which might not otherwise have returned my calls! — to take my tuberculosis drug discovery research to the next level. We have received not only high-quality compound libraries for screening, but also scientific expertise and logistical support for our ongoing development of the most promising compounds. I am energized by our successes to date and by the prospect of improving tuberculosis treatment for millions of people worldwide.



*Dr. Christina Stallings
Washington University in St. Louis*



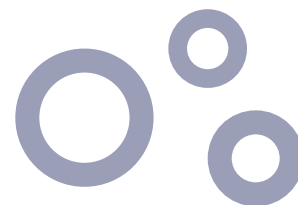
Through WIPO Re:Search, I am collaborating with leading international scientists and companies to repurpose Cameroonian medicinal plants and pharmaceutical compounds as new drugs for human African trypanosomiasis, leishmaniasis, and malaria. Thanks to the Consortium and the partnerships that BVGH has facilitated, I have new scientific publications, additional grant funding to pursue neglected disease R&D, and increased visibility of my research.



*Professor Fabrice Boyom
University of Yaoundé I*

Providing Additional Value for Low- and Middle-Income Country (LMIC) Organizations and Researchers

- Access to cutting-edge R&D resources not available in their home countries
- Opportunities to develop new skills through mutually beneficial collaborations
- Career development enabled by publications and presentations on WIPO Re:Search activities



2018

COLLABORATIONS

Partners	Disease	Asset Shared	Phase	Expected Product
Eisai, IDRI	Leishmaniasis	Compounds	Screening	Drug
Eisai, IDRI	Tuberculosis	Compounds	Screening	Drug
Eisai, U Buea	Onchocerciasis	Compounds	Screening	Drug
GRIDD, U Ibadan	Schistosomiasis	Technology	Hit identification	Drug
GSK, UCSF	Malaria	Compounds	Screening	Drug
J&J, U of T	Soil-transmitted helminthiasis	Compounds	Screening	Drug
J&J, U Yaoundé I	HAT, leishmaniasis, malaria	Compounds	Screening	Drug
J&J, WUSTL	Malaria	Compounds	Screening	Drug
MIT, U Buea	Onchocerciasis	Technology	Discovery	Diagnostic
MIT, U Ibadan	Schistosomiasis	Technology	Discovery	Diagnostic
MMV, UCSF	Malaria	Assay	Preclinical	Drug
MSD*, GW	Tuberculosis	Assay	Hit identification	Drug
Novartis, PHRI	Other (nontuberculous mycobacteria)	Compounds	Screening	Drug
Pfizer, IDRI	Tuberculosis	Compounds	Screening	Drug
Pfizer, WUSTL, GW	Malaria	Expertise	Hit-to-lead optimization	Drug
Takeda, CIDR	Chagas disease, leishmaniasis, malaria, other (cryptosporidiosis, toxoplasmosis)	Compounds	Screening	Drug
U Buea, U Melbourne	Onchocerciasis	Assay	Screening	Drug
UBC, U Buea	Onchocerciasis	Assay	Discovery	Diagnostic

CIDR Center for Infectious Disease Research
GRIDD Griffith Institute for Drug Discovery
GSK GlaxoSmithKline
GW The George Washington University
HAT Human African trypanosomiasis

IDRI Infectious Disease Research Institute
J&J Johnson & Johnson
MIT Massachusetts Institute of Technology
MMV Medicines for Malaria Venture
PHRI Public Health Research Institute

U of T University of Toronto
UBC University of British Columbia
UCSF University of California, San Francisco
WUSTL Washington University in St. Louis

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These new collaborations align with BVGH's targeted partnering strategy by addressing the greatest unmet medical needs through innovative approaches that maximize the likelihood of product success and uptake.



Collaboration Highlights

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Ongoing Collaborations

- **MSD and the Walter and Eliza Hall Institute of Medical Research** received a US \$3.5 million award for antimalarial drug development
- 3 natural product drug discovery teams published peer-reviewed papers
 - **University of South Florida and University of Yaoundé I: *Parasitology Research***
 - **Kwame Nkrumah University of Science and Technology and University of California, San Diego: *Journal of Parasitology Research***
 - **UBC and University of Buea: *PLoS Neglected Tropical Diseases***

Welcome, New Members!

These Members will be critical to expanding the breadth and impact of WIPO Re:Search collaborations.

- **Ahmadu Bello University**
- **Burnet Institute**
- **LifeArc**
- **Public Health Research Institute**
- **University of Florida**
- **University of Papua New Guinea School of Medicine and Health Sciences**
- **Usmanu Danfodiyo University, Sokoto**

New Collaborations

Expanding the Diagnostics Collaboration Pipeline

An **MIT** researcher has shared Ampli Blocks, a set of blocks that provide the platform for diagnostic technology, to support a **University of Buea** researcher's development of a point-of-care (POC) diagnostic device to detect *Onchocerca volvulus* and a **University of Ibadan** researcher's development of a POC diagnostic device to detect *Schistosoma haematobium*.

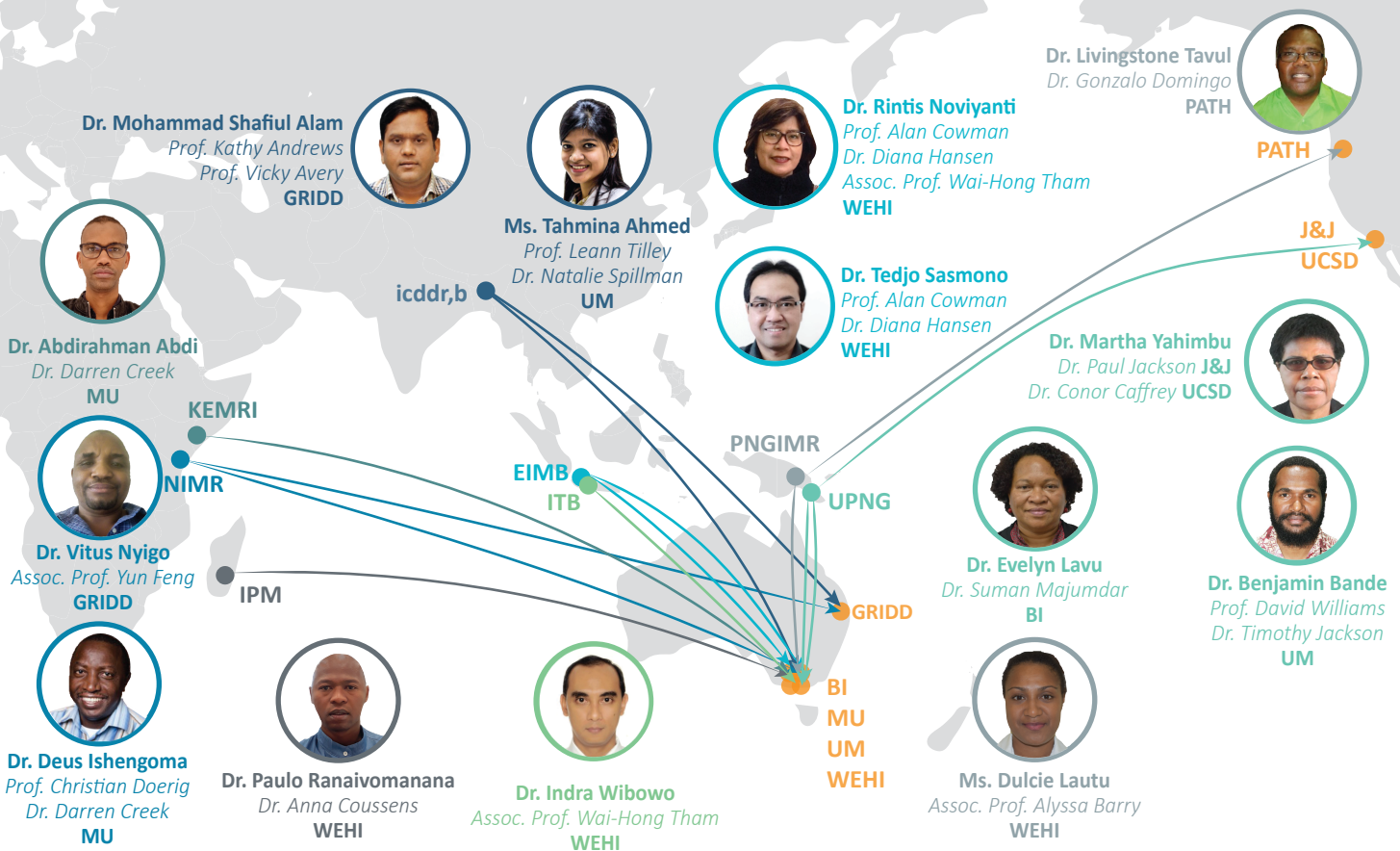
Sharing Industry Expertise to Advance Drug Development

A **Pfizer** scientist provided expertise on transdermal drug delivery to investigators from **WUSTL** and **GW** who are exploring alternative administration techniques for their antimalarial drug candidate.

Repurposing Pharmaceutical Compounds for Drug Discovery

Eisai provided investigators at **IDRI** with selected compounds to screen for activity against *Leishmania donovani* and *Mycobacterium tuberculosis*.

WIPO Re:Search Fellowships



Fellow Institutes

- EIMB:** Eijkman Institute for Molecular Biology
- icddr,b:** International Centre for Diarrhoeal Disease Research, Bangladesh
- IPM:** Institut Pasteur de Madagascar
- ITB:** Institut Teknologi Bandung
- KEMRI:** Kenya Medical Research Institute
- NIMR:** National Institute for Medical Research
- PNGIMR:** Papua New Guinea Institute of Medical Research
- UPNG:** University of Papua New Guinea

Host Institutes

- BI:** Burnet Institute
- GRIDD:** Griffith Institute for Drug Discovery
- J&J:** Johnson & Johnson
- MU:** Monash University
- UM:** University of Melbourne
- WEHI:** Walter and Eliza Hall Institute of Medical Research
- UCSD:** University of California, San Diego

Catalyzing R&D and Improving Global Health

The WIPO Re:Search Fellowship Program is building an international community of researchers to catalyze R&D for neglected diseases. In 2013, the Government of Australia funded training and research fellowships for six African scientists in industry and academic laboratories. Following the success of these fellowships, a second round was initiated in 2017, with 14 researchers selected from East Africa and the Indo-Pacific region.

Key Impacts

- 20 fellowships totaling 100+ months of training
- Grant funding - over US \$750,000 for one fellow
- Career development
 - Promotions
 - Acceptance into Ph.D. program catalyzed by fellowship
 - Adjunct professor position at host institute awarded to fellow
 - Publications and presentations to international audiences
- Continued and new research collaborations



1st Malaria World Congress

Supporting the Congress' aims of convening myriad stakeholders for united and cooperative action against malaria, BVGH organized a colloquium and Congress panel session to

- Present the WIPO Re:Search Fellowship Program to a global audience as a model of best practices for international research collaborations
- Highlight program benefits for fellows, hosts, and funders
- Foster development of a regional network of current and future research leaders from the fellowship cohort

Fellowship Highlights



Dr. Deus Ishengoma developed three grant proposals, published seven papers in peer-reviewed journals, and actively shared his learnings with his students in Tanzania during his fellowship. His collaborations are expected to continue with a pilot study in 2019, which will provide preliminary data for additional joint grant proposals. He will also continue to apply the methods and skills acquired from the fellowship to train the next generation of scientists.



During her fellowship, Ms. Dulcie Lautu used novel genomic approaches to investigate drug resistance genes in malaria parasites that were collected from Papua New Guinea. Facilitated by her fellowship, her Ph.D. program at the University of Melbourne focuses on developing diagnostic tools for genomic surveillance appropriate for developing countries.



The aim of Dr. Abdirahman Abdi's collaboration was to uncover the key molecular mechanisms underlying the human response to infection by malaria parasites. The data obtained during his fellowship will form the basis of a collaborative grant application. He plans to transfer the skills learned to Kenyan researchers and increase the capacity to conduct disease research in Kenya.

Communications

Developed Communications Strategy: Roadmap for outreach to partners and stakeholders

People are Talking about WIPO Re:Search

- Access to Medicine Foundation
- Biotechnology Innovation Organization
- EurekaAlert!
- Intellectual Property Watch
- WIPO Re:Search Members

Publications

- Partnership Hub Snapshot newsletter and 2018 Mid-Year Report
- How to Accelerate Pharmaceutical R&D: A New Framework for Sharing IP with Global Health Researchers
- Creating, Managing, and Advancing Collaborations: The Road to Successful Partnerships



Social Media Promotion

Presentations

- Japan Pharmaceutical Manufacturers Association
- Licensing Executives Society Global Technology Impact Forum
- Malaria World Congress
- MedChemNet Interview
- WIPO General Assembly Side Event

Peer-Reviewed Publications by WIPO Re:Search Investigators

- Conditioned Media and Organic Elicitors Underpin the Production of Potent Antiplasmodial Metabolites by Endophytic Fungi from Cameroonian Medicinal Plants, *Parasitology Research*
- Effect of Phenotypic Screening of Extracts and Fractions of *Erythrophleum ivorense* Leaf and Stem Bark on Immature and Adult Stages of *Schistosoma mansoni*, *Journal of Parasitology Research*
- Filaricidal Properties of *Lantana camara* and *Tamarindus indica* Extracts, and *Lantadene A* from *L. camara* Against *Onchocerca ochengi* and *Loa loa*, *PLoS Neglected Tropical Diseases*

BVGH 2019

GOALS



Collaborations

Establish 12 targeted collaborations
Support ongoing collaborations

+12



Recruitment

Recruit 5 new Latin American Members



Communications

Promote WIPO Re:Search through:

- Collaboration storybook
- Advancing collaborations brochure
- Partnership Hub Snapshot newsletter
- Partnership Hub Mid-Year and Annual Reports
- Social media



WIPO Re:Search Fellowships

Manage ongoing and new fellowships



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