BVGH Partnership Hub

MID-YEAR REPORT

2018
GOALS
1. Establish eight targeted collaborations
2. Manage ongoing collaborations
3.Advance prioritized collaborations

DELIVERED
1. 10 collaboration agreements—spanning 10 diseases and involving 14 Member organizations in six countries—established as of July 2018
2. 42 ongoing collaborations managed
3. 2 prioritized collaborations advanced to the next stage of product development

Collaborations

New Collaboration Highlights

Leveraging Nigeria’s Natural Resources for Schistosomiasis Drug Discovery

Schistosomiasis affects as many as 240 million people globally. The treatment and control of schistosomiasis relies on a single drug, praziquantel, which was discovered 40 years ago. Professor Alexander Odaibo at the University of Ibadan has identified several crude botanical extracts with activity against Schistosoma. To support Prof. Odaibo’s drug discovery efforts, Professor Yun Jiang Feng at Griffith University agreed to perform activity-guided fractionation to isolate and identify the extracts’ compounds with antischistosomal activity.

Targeting Parasite Bcl-2

Parasitic infections affect over one billion people globally. Drs. Alexis Kaushansky and Bart Staker at the Center for Infectious Disease Research previously demonstrated the efficacy of Bcl-2 family inhibitors in Plasmodium and Toxoplasma models of infection, and were interested in expanding this work to other neglected parasitic diseases. Takeda agreed to provide the investigators with Bcl-2 family inhibitors to test against multiple parasites.
With over 216 million cases in 2016, leading to an estimated 445,000 deaths worldwide, malaria is one of the world’s most devastating diseases. Novel therapeutics are urgently required to populate the antimalarial clinical portfolio, as current therapeutics are becoming less effective due to emerging resistance.

A collaboration between MSD and the Walter and Eliza Hall Institute of Medical Research has demonstrated that aspartyl protease enzymes are attractive drug targets, since they perform essential functions at different stages of the malaria parasite life cycle.

By screening aspartyl protease inhibitor libraries, the collaboration has identified novel drug-like hit compounds that are active against the malaria parasite. With the encouragement and support of BVGH, the Walter and Eliza Hall Institute/MSD team applied and successfully competed for funding from the Wellcome Trust (WT) to accelerate its collaborative research program. For the duration of the award, the joint team will apply the funding from the WT toward increasing the hits’ potency and selectivity against the parasite, with the aim of progressing to a lead optimization stage discovery program.

* known as Merck & Co., Inc. in the United States and Canada

Finding Cures for River Blindness Using Traditional Medicines

Onchocerciasis is the second leading infectious cause of blindness in the world, and yet treatment options remain limited. Professor Fidelis Cho-Ngwa at the University of Buea and Professor Raymond Andersen at the University of British Columbia have been studying the antifilarial activities of two Cameroonian medicinal plants, Lantana camara and Tamarindus indica, locally used to treat onchocerciasis.

The investigators recently co-published their findings, reporting for the first time the anti-onchocercal activities of these locally consumed medicinal plants and identifying a potential lead for further development as an alternative treatment for onchocerciasis.

On the Road to Reducing Cerebral Malaria Fatalities

Cerebral malaria (CM) is one of the most severe complications of malaria, and is often fatal. Professor Alister Craig of the Liverpool School of Tropical Medicine is working to elucidate the mechanisms of CM, and found that inhibition of the protease-activated receptor (PAR) 1 protein might reduce brain swelling and fatality. BVGH connected Prof. Craig with Eisai Co., Ltd., which shared a set of PAR1 inhibitors.

Following promising initial results with the PAR1 inhibitors in an in vitro model of brain barrier function, Prof. Craig was awarded a Medical Research Council Confidence in Concept award. Eisai shared additional PAR1 inhibitors with Prof. Craig to support his continued research of PAR1 inhibitors using more complex models.
WIPO Re:Search has welcomed five new User and Provider Members as of July 2018. All five of these new Members meet our “targeted” recruitment criteria.

“Targeted” Members

Institutes from select countries and regions — Australia, East Africa, and the Indo-Pacific — and organizations with the capacity to fill critical pipeline gaps.

University of Florida

Located in Gainesville, Florida, the University of Florida (UF) attracts over $700 million in research funding annually. Through the Emerging Pathogens Institute, UF researchers are working to prevent and contain new and re-emerging diseases, with a focus on vector-borne diseases, tuberculosis, foodborne illnesses, and antimicrobial resistance (AMR). Through the Institute for Therapeutic Innovation, and new technologies such as a hollow fiber infection model, researchers are optimizing drug regimens to kill pathogens and quell AMR.

LifeArc

Founded in 1992, LifeArc (formerly MRC Technology) evolved from the United Kingdom’s Medical Research Council (MRC). LifeArc is dedicated to improving product development by pioneering new ways to progress great science into greater patient impact. With the fitting role as the arc between academic researchers and market distribution, LifeArc has united a team of researchers with a diversified set of expertise in assay development, compound screening, medicinal chemistry, ADME, and pharmacology to translate scientific progress to product development. From funding opportunities for early-stage research to providing intellectual property management and protection, LifeArc supports products across the diagnostic, antibody engineering, and drug discovery pipelines.

Burnet Institute

Founded in 1986, the Burnet Institute traces its origins to a small virus laboratory with only ten staff. Today, Burnet boasts over 400 staff and students, and an annual budget exceeding AU$50 million. Burnet is on a mission to achieve better health for vulnerable communities by accelerating translational research. Burnet’s programs represent a breadth of technical skills, and include research themes such as maternal and child health and disease elimination.
Funds in Trust (FIT) 2

GOALS
1. Manage FIT2 sabbaticals
2. Develop and publish the FIT2 Summary Report

DELIVERED
1. Six fellowships completed, one underway, and three scheduled to start later this year
2. FIT2 Summary Report in development

In 2016 the Government of Australia contributed funding to WIPO (FIT2) to support the training of East African and Indo-Pacific scientists at research institutes in Australia. BVGH matched trainees with host organizations and developed plans for their research projects and training.

Deus Ishengoma, Ph.D.
- Principal Research Scientist and Head, Laboratory Sciences Department, National Institute for Medical Research (NIMR), Tanzania
- Current FIT2 Fellow at Monash University
Since joining NIMR in 2003, Dr. Ishengoma and his team have implemented over eight antimalarial drug trials, and conducted field and laboratory studies of malaria and other pathogens. Dr. Ishengoma’s research focuses on the genomic basis of susceptibility/resistance to malaria, genomic epidemiology of malaria, and diagnostic capacity of medical laboratories for common infectious diseases in low-income communities. In his FIT2 sabbatical at Monash University, Dr. Ishengoma is studying proteomic and metabolomic signatures of drug-resistant malaria parasites.

Rintis Noviyanti, Ph.D.
- Senior Research Fellow, Eijkman Institute for Molecular Biology (EIMB), Indonesia
- Completed FIT2 Fellowship at the Walter and Eliza Hall Institute of Medical Research (WEHI)
Dr. Noviyanti is a Principal Investigator, Senior Research Fellow, and Head of the Malaria Pathogenesis Unit at EIMB. Dr. Noviyanti’s research interests include understanding host-parasite interactions, studying the genetic aspects of malaria parasites, and relating genomic information of the parasites with the host response. While at WEHI, Dr. Noviyanti worked to identify antigenic targets for naturally acquired immunity to malaria. The results of this research are positioned to inform the design of novel antimalarial vaccines.

“Research partnerships leverage skills, resources, equipment, lab space, personnel – it’s the best joint venture.”
Deus Ishengoma, Ph.D.

2018 Fellow Highlights
FIT2 at the 1st Malaria World Congress
Melbourne, Australia

Supporting the 1st Malaria World Congress' aims of convening myriad stakeholders for united and cooperative action against malaria, BVGH organized a FIT2 colloquium and Congress panel session.

The events provided opportunities to present FIT2 to a global audience, foster development of a regional network of current and future malaria leaders from the FIT2 cohort, and bring together the larger malaria research community to share how FIT2 serves as a model of best practices for international research collaborations, particularly those involving investigators from malaria-endemic countries.

FIT2 Panel Session:
Accelerating Malaria R&D Through International Collaboration

Chaired by Patricia Kelly, Director General of IP Australia, the panel session featured two FIT2 fellows who described how their sabbaticals have prepared them to develop R&D programs at their home institutions and participate in international collaborations. During the session, a FIT2 host highlighted the many ways in which the program benefits mentors as well as trainees and outlined plans for long-term engagement with her fellow. During a panel discussion co-moderated by BVGH and WIPO, the speakers discussed the importance of global partnerships to advance malaria R&D.

FIT2 Colloquium:
FIT2 Partnership Takeaways
Paving a Path Forward

The FIT2 colloquium provided opportunities for FIT2 hosts and fellows to share their experiences and the impacts of their fellowships. The event included a networking session and a roundtable discussion that touched on topics including: how to engage early-career scientists in mutually beneficial collaborations; challenges associated with conducting R&D in low-resource settings, and potential solutions; how the flexibility of the FIT program ensures the greatest possible impact on each fellow’s research and career; and how to ensure the sustainability of the collaborative research projects.

Face Time with FIT2 Participants

While in Melbourne, BVGH and WIPO visited WEHI and Monash University to meet with hosts and fellows and hear firsthand how FIT2 has impacted their research and careers.
Communications

GOALS

1. Develop a WIPO Re:Search communications strategy
2. Bolster WIPO Re:Search communications
3. Increase awareness of WIPO Re:Search:
   - Snapshot readership
   - Publications
   - Social media

DELIVERED

1. WIPO Re:Search communications strategy in development
2. WIPO Re:Search communications strengthened through improved design and increased number of posts
3. Awareness of WIPO Re:Search increased through:
   - Dissemination of the 2017 BVGH Partnership Hub Annual Report to global partners
   - Improved Snapshot readership
   - Expanded following on social media (Twitter and LinkedIn)
   - Publication of paper, co-authored by BVGH and the Access to Medicine Foundation, on the Foundation’s new framework for evaluating industry intellectual property (IP)-sharing agreements

WIPO Re:Search Communications Strategy

In support of the WIPO Re:Search Strategic Plan 2017–2021, the WIPO Re:Search communications strategy outlines a coordinated, effective approach to sharing the Consortium’s important work with key stakeholders, with the aim of engaging WIPO Re:Search partners and enhancing the potential to attract financial support for WIPO Re:Search.