

# Catalyzing global health partnerships and accelerating innovation

The critical role of the WIPO  
Re:Search Partnership Hub  
in facilitating research and  
development for neglected  
tropical diseases



Advances in science, medicine, and technology have enabled high-income countries to dramatically reduce the burden of infectious diseases and even eliminate some diseases from their populations. Many developing countries, however, still struggle with high rates of preventable sickness and death.

A key problem has been a lack of market-driven research and development to create products for preventing, diagnosing, and treating a subgroup of infectious diseases that are common in developing nations—especially the least developed countries. This subgroup consists of neglected tropical diseases, malaria, and tuberculosis (TB).

In 2011, the World Intellectual Property Organization (WIPO) and BIO Ventures for Global Health (BVGH) partnered with leading pharmaceutical companies, academic institutions, and research organizations with a common desire to improve the lives of people suffering from neglected tropical diseases, malaria, and TB. The resulting worldwide consortium is known as WIPO Re:Search. The consortium's primary objective is to catalyze research and development of needed vaccines, diagnostic technologies, and drugs by sharing intellectual property (IP), know-how, technologies, expertise, and related resources.

The WIPO Re:Search Partnership Hub, administered by BVGH, plays a critical role in facilitating collaboration to accelerate innovation among consortium members. The Partnership Hub identifies researchers' needs for IP and related resources to advance product development, finds organizations that may be able to meet these needs, and then helps to forge mutually beneficial collaborations with clearly defined roles, responsibilities, and objectives.

# Addressing diseases of poverty

Neglected tropical diseases, malaria, and TB affect more than 1.5 billion people worldwide. The groups hit hardest are low-income and politically marginalized populations in rural and urban areas within the world's developing and least developed countries. These populations often have little influence on administrative and governmental decisions that affect their health and sometimes seem to have no one who can advocate effectively for their interests.

Many of these diseases are transmitted by insect bites or by worms in the soil. Children and adults typically become infected with disease-causing parasites or bacteria simply by engaging in normal daily activities, such as playing outside, collecting water, doing laundry, or planting crops.

“Collaboration is a critical component of KCCR’s strategy. Membership in WIPO Re:Search provides KCCR with an opportunity to catalyze partnerships with a worldwide network of impressive neglected disease researchers and pharmaceutical companies. We have already initiated our first collaboration with Stanford and are currently engaged in talks with PATH. We anticipate more exciting partnering opportunities in the near future.”



**ELLIS OWUSU-DABO**  
Scientific Director, Kumasi Centre for Collaborative Research in Tropical Medicine (KCCR)  
Kumasi, Ghana





“WIPO Re:Search provides a novel avenue for Pfizer and other pharmaceutical companies to engage in neglected disease research and development initiatives. The Partnership Hub identifies potential partners and facilitates communication between neglected disease researchers and Pfizer scientists. WIPO Re:Search enables Pfizer to share our intellectual property assets, know-how, capabilities, and expertise with researchers in the developing world and elsewhere to accelerate the development of products that will ultimately improve health and development in emerging and developing countries. Pfizer is proud to support WIPO Re:Search.”



**IAN READ**  
Chief Executive Officer, Pfizer  
New York City, New York, United States

Examples of neglected tropical diseases include schistosomiasis, onchocerciasis (river blindness), lymphatic filariasis, dengue fever, trachoma, and soil-transmitted helminths (hookworm, roundworm, and whipworm). These diseases have an enormous impact on individuals, families, and communities. Many can lead to severe disfigurement and disability as well as death. They aggravate poverty and reduce productivity by impairing children’s intellectual development, stunting growth, reducing school enrollment, and limiting the ability of infected individuals to work. They constitute a serious barrier to socioeconomic development and improvement in the quality of life in the world’s poorest countries.

# The role of WIPO Re:Search

The WIPO Re:Search consortium includes pharmaceutical companies, academic and nonprofit research institutions, product development partnerships, and government agencies. Members join WIPO Re:Search as Providers of IP, know-how, and expertise; as Users of these resources; or as Supporters of the consortium. In some cases, members enroll in multiple categories. The consortium is truly global, with members from Africa, Asia, Europe, and North and South America.

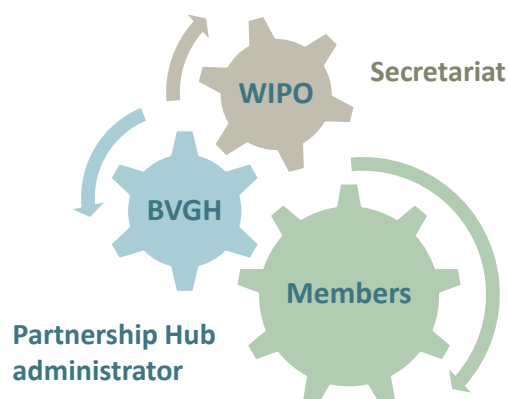
Through WIPO Re:Search, qualified researchers from around the world receive access to the following types of resources:

- Compounds.
- Compound libraries.
- Unpublished scientific results.
- Regulatory data and dossiers.
- Screening technologies and capabilities.
- Platform technologies.
- Expertise and know-how.
- Patents and patent rights.
- Opportunities to be hosted and mentored by scientists at company facilities.

When joining the consortium, members agree to the following guiding principles:

- Providers of IP will offer royalty-free licenses for products made available to least developed countries.
- Members will consider in good faith the issue of access to these products for all developing countries, including those that do not qualify for least developed status.
- Users of IP shared through WIPO Re:Search may retain ownership of new IP but are encouraged to make their inventions available to other consortium members.

- License agreements are individually negotiated between member organizations in accordance with the consortium's guiding principles.



The work of WIPO Re:Search centers around three main areas of activity:

- **A global database.** Hosted by WIPO, this is a publicly accessible, comprehensive database of IP assets—including compounds, enabling technologies, know-how, and other information. The database can be searched through keywords or by Provider, disease, or type of data or product. To access the database, visit [www.wipo.int/research/en/search/](http://www.wipo.int/research/en/search/).
- **Supporting services.** Led by WIPO, these services include general licensing support from WIPO and technical advice provided by WIPO and the World Health Organization.
- **Partnership Hub.** BVGH is the nonprofit administrator of the Partnership Hub, whose work is described in the following section.

For more information about WIPO Re:Search, please visit [www.WIPOReSearch.org](http://www.WIPOReSearch.org).



## CASE STUDY



### AstraZeneca and the University of Dundee

The Partnership Hub facilitated an agreement between AstraZeneca and the University of Dundee to enable a university researcher to explore potential new treatments for neglected tropical diseases. The arrangement is enabling the researcher in Scotland

to test a group of glycogen synthase kinase-3 (GSK-3) inhibitors—originally developed by AstraZeneca for potential treatment of Alzheimer’s disease—against parasites responsible for Chagas disease, leishmaniasis, and sleeping sickness.

The stage was set for this collaboration when AstraZeneca contributed

# The vital work of the Partnership Hub

## Facilitating targeted collaboration

Successful development of vaccines, diagnostics, and drugs requires highly specific expertise and complementary capabilities from a variety of scientific disciplines and organizations. An academic researcher, for example, may not have the expertise, capacity, or resources to conduct preclinical toxicology studies or develop a profile of a compound's pharmacokinetics and pharmacodynamics—capabilities that are available at a large pharmaceutical firm.

The WIPO Re:Search Partnership Hub helps researchers find and partner with organizations that can close gaps in technical expertise and capabilities. The Partnership Hub administrator, BVGH, provides business development and scientific expertise coupled with negotiation and alliance management skills. With this professional support, WIPO Re:Search members can explore new partnership opportunities with confidence that the Partnership Hub will facilitate introductions and communication and then maintain momentum to establish mutually beneficial agreements.

“Having already established a broad network of contacts and collaborators interested in our vaccine development work, we did not initially have high hopes that the Partnership Hub would be particularly helpful. But we have clearly benefitted from signing on and have been pleasantly surprised to see how this mechanism has helped open up several promising new opportunities. We have regular discussions with Jennifer and Roopa to ensure a coordinated approach to partnering, and Sabin intends to continue to leverage the WIPO Re:Search network whenever possible.”



**MICHAEL MARINE**  
Chief Executive Officer,  
Sabin Vaccine Institute  
Washington, DC, United States

28 compounds to the WIPO Re:Search database in 2011. The Partnership Hub then profiled kinase inhibitors, including GSK-3 beta inhibitors, in its January 2012 newsletter. During a January 2012 Keystone conference on drug discovery for protozoan parasites, the Partnership Hub's manager of scientific affairs met with the head of the Drug Discovery Unit at the University of

Dundee. His publications suggested a potential interest in a GSK-3 beta inhibitor contributed by AstraZeneca. The investigator subsequently requested access to a library of related compounds to screen for selectivity to parasite targets.

Partnership Hub staff approached AstraZeneca with the researcher's

request and facilitated communication between the pharmaceutical firm and researcher. An experimental plan and timelines were prepared and shared by the researcher. By July, AstraZeneca and the University of Dundee had signed a material transfer agreement to enable the sharing of compounds.

The Partnership Hub facilitates research collaboration by:

- **Actively identifying collaboration opportunities for members.** BVGH reaches out to members to learn about their research programs, capabilities, areas of expertise, and partnering interests. With this information in hand, BVGH explores and identifies collaboration opportunities that strategically match Providers' contributions with Users' needs based on complementary research interests.
- **Serving as a scientific expert on WIPO Re:Search contributions and neglected tropical diseases.** BVGH understands how the WIPO Re:Search database contributions can be applied to research and product development for neglected topical diseases, malaria, and TB. The Partnership Hub proactively matches these contributions with research programs of potential Users.
- **Fielding requests from the IP database.** Users are encouraged to search the database to identify assets that could support or accelerate their research. Once an asset of interest has been identified, the member contacts the Partnership Hub to learn more about the asset and the type of collaboration the Provider is inviting. BVGH then establishes mutual interest between members and connects the interested parties.



"The Partnership Hub facilitates our collaboration in a manner that matches the partners' views and objectives. It identifies relevant partnership opportunities and helps us leverage pharmaceutical expertise from institutions worldwide to build upon our process development and formulation capabilities. In addition to what we gain through our participation in WIPO Re:Search, Fiocruz develops and provides access to a rich reserve of natural products, research expertise, and manufacturing capabilities."



**JORGE BERMUDEZ**  
Vice President, Production and Innovation in Health, Fundação Oswaldo Cruz (Fiocruz)  
Rio de Janeiro, Brazil

## CASE STUDY



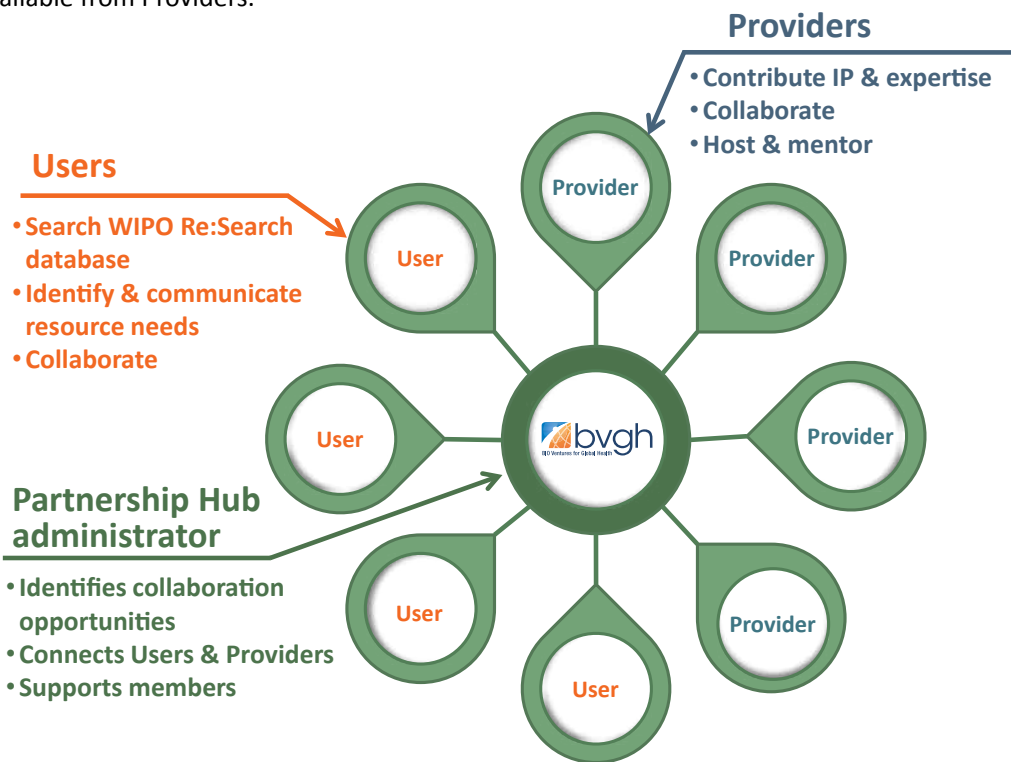
### Stanford University and the Kumasi Centre for Collaborative Research in Tropical Medicine

The Partnership Hub has played a vital role in meeting the needs of Stanford University researchers developing a point-of-care diagnostic kit to detect parasitic worms. Because their approach relies on detecting antibodies

to worm proteins in feces from infected individuals, the researchers need stool samples from appropriate populations to evaluate assay performance. The Partnership Hub facilitated collaboration between the US researchers and the Kumasi Centre for Collaborative Research in Tropical Medicine (KCCR) in Ghana to advance this work.

- **Fielding special requests.** BVGH welcomes special requests for compounds, compound libraries, or other resources that are not captured in the WIPO Re:Search database. Providers are usually willing to explore any request that supports the development of products for neglected tropical diseases, malaria, or TB. Researchers with specific targets or compounds of interest should contact the Partnership Hub to facilitate inquiries into whether these assets could be available from Providers.

- **Facilitating member connections around potential collaborations.** BVGH speaks with members to establish interest in exploring research collaborations. Once mutual interest is established, BVGH connects members so scientists can discuss their research and further explore the possibility of working together and sharing assets. BVGH assists members in the initial stages of developing collaboration agreements.



The origins of this collaboration can be traced to a meeting of the Council on Health Research and Development, held in April 2012 in Cape Town, South Africa. The World Intellectual Property Organization hosted a session on WIPO Re:Search, and the Partnership Hub presented an overview of its work. A scientist from KCCR was enthusiastic about participating.

Partnership Hub staff held a meeting at Stanford in May to learn about its neglected disease programs. A Stanford researcher subsequently reached out to the Partnership Hub to request support in accessing stool samples containing soil-transmitted helminths. The Partnership Hub then facilitated communication between the researchers and staff at KCCR and

Kwame Nkrumah University of Science and Technology in Ghana. By July, KCCR had become a WIPO Re:Search member, and KCCR and Stanford had agreed on terms of a collaboration agreement. By September 2012, Stanford and KCCR were discussing project protocols and the needed approvals from institutional review boards.

- **Recruiting new Users and supporting recruitment of new Providers and Supporters.** BVGH reaches out to potential new Users based on their research programs and ability and desire to develop vaccines, diagnostics, or drugs for neglected tropical diseases, malaria, or TB. In partnership with WIPO, BVGH identifies and recruits researchers worldwide with an emphasis on those from developing countries. BVGH also supports WIPO to bring on new high-quality Providers.
- **Attending meetings to network and stay current on neglected tropical disease research.** BVGH staff attend key conferences, such as the annual meeting of the American Society for Tropical Medicine and Hygiene, to stay abreast of research advances and to meet with existing members and potential new members.
- **Tracking developments in global health and industry.** BVGH staff track developments in global health and industry and review relevant scientific literature to provide evidence-based consultation and service to members.
- **Developing resources to support members in achieving their research objectives.** Partnership Hub resources include a “Funders Database” summarizing key neglected tropical disease funding

opportunities, as well as scientific summaries highlighting WIPO Re:Search contributions and their application to neglected disease research. These resources and others can be found at <http://www.bvgh.org>.

## Getting results

Twenty-four organizations were members of WIPO Re:Search when the consortium was launched in 2011. Since then, BVGH and WIPO have steadily expanded membership. As of October 2012, the consortium has more than doubled in size, with more than 50 members across the globe.

By October 2012, the Partnership Hub had facilitated ten agreements between WIPO Re:Search members. Many more agreements were in advanced stages of negotiation, and additional collaboration ideas and agreements were in early development.

BVGH staff have presented information on the Partnership Hub and networked with existing and potential consortium members at many scientific conferences and meetings. These include the Biotechnology Industry Association convention, the American Society of Tropical Medicine and Hygiene annual meeting, and the general assembly of the International Federation of Pharmaceutical Manufacturers & Associations.

## CASE STUDY



### Emory University and the National Institutes of Health

The Partnership Hub facilitated a collaboration between a professor at Emory University in Atlanta, Georgia, and dengue biology experts at the National Institutes of Health (NIH) to investigate potential new

treatments for dengue fever. This work focuses on further exploring and confirming the potential usefulness of compounds called RNA-dependent polymerase inhibitors.

The story began when the vice president for research at Emory University invited BIO Ventures for

“The Partnership Hub provides a unique and necessary service for neglected tropical disease researchers and organizations. Jennifer and Roopa have quickly connected me with partners who have the interest and capabilities to further evaluate our promising lead compounds for malaria. They have reconnected me with prior collaborators and have presented a number of interesting collaboration opportunities to our faculty. We look forward to establishing many relationships and meaningful collaborations with the support of the Partnership Hub.”



**WESLEY VAN VOORHIS**  
Head, Division of Allergy and Infectious Diseases, Department of Medicine, University of Washington Seattle, Washington, United States



## Improving health, advancing research, and developing markets

The WIPO Re:Search Partnership Hub helps to establish promising collaborations to advance research and development of products for neglected tropical diseases, malaria, and TB. It facilitates communication, alignment, and transparency while helping to establish material transfer agreements, confidential disclosure agreements, collaborations, and licenses between consortium members. The Partnership Hub’s work is based on a fundamental belief that collaboration for innovation is critical to improving the health and well-being of people in the world’s least developed countries who have too often been unable to benefit from global progress in science, medicine, and technology.

The Partnership Hub benefits researchers around the world by helping them gain free access to valuable intellectual property and related resources for developing new vaccines, diagnostic technologies, and drugs for diseases affecting the world’s poorest and most vulnerable populations. Pharmaceutical companies and other groups holding these assets benefit by expanding their role in global health and development, by establishing good relationships with researchers around the world, and by helping to develop future markets for health products.

Global Health to present information on WIPO Re:Search and the Partnership Hub to faculty members. A university chemistry professor and director of the Emory Institute for Drug Discovery said he believed compounds he was developing might have value for the treatment of dengue, but he

needed to consult with an expert in dengue biology.

Partnership Hub staff recommended two WIPO Re:Search members with appropriate expertise, and the professor chose to explore working with biologists at the NIH. After being connected by the Partnership Hub, the

professor and the NIH dengue program officer established a Nonclinical Evaluation Agreement so the NIH could provide “in-kind” services leveraging internal expertise in dengue biology to characterize the professor’s compounds and share insights.



## For more information

To learn more about the Partnership Hub, please visit [www.bvgh.org](http://www.bvgh.org). This web page includes links to a monthly Partnership Hub newsletter.

*For additional information about the Partnership Hub, please contact:*

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WIPO Re:Search is a worldwide consortium whose primary objective is to catalyze research and development of needed vaccines, diagnostic technologies, and drugs by sharing intellectual property, know-how, technologies, expertise, and related resources.

To learn more about WIPO Re:search, please visit [www.wipo.int/research](http://www.wipo.int/research).

