

Johnson & Johnson Innovation Announces New Collaborations Advancing Ground-Breaking Biomedical Innovation Around the Globe

Innovation portfolio grows with collaborations advancing potential treatments for obesity and related complications such as diabetes and non-alcoholic steatohepatitis (NASH), novel therapeutics for rheumatoid arthritis; 3-D printing of custom health solutions

New efforts underway to advance global public health through sharing access to Janssen molecular libraries

NEW BRUNSWICK, N.J., June 15, 2017 — [Johnson & Johnson Innovation LLC](#) today announced new collaborations that seek to develop potential treatments for diseases in urgent need of solutions, including obesity and related complications, such as type 2 diabetes and non-alcoholic steatohepatitis (NASH), and rheumatoid arthritis, and advance cutting-edge technologies, including 3-D printing to create customized health solutions.

Additionally, through an effort to advance global public health, the Janssen Pharmaceutical Companies is sharing its molecular compound libraries with collaborators developing treatments for diseases of the developing world. The need for new efforts to fight infectious diseases to prevent pandemics and address other threats was recently highlighted with “The Unseen Enemy,” a documentary sponsored by the Johnson & Johnson Family of Companies. The mission of the film is to raise awareness of the importance of outbreak preparedness and prevention.

“Fulfilling the unmet needs facing patients today requires continued investment in the ideas that could become the healthcare solutions that improve and extend patients’ lives in the future,” said Paul Stoffels, M.D., Chief Scientific Officer, Johnson & Johnson. “Today’s collaborations illustrate Johnson & Johnson Innovation’s continued commitment to identifying and advancing the most innovative ideas – wherever they originate – that could transform patients’ lives, particularly those in most need in developing parts of the world.”

Catalyzing Innovation for Improved Global Public Health

- **Sharing Molecular Libraries to Fight Neglected Diseases and Pandemic Threats** – As part of the Johnson & Johnson global public health commitment, Janssen Pharmaceutica NV (Janssen) has established collaboration agreements with the goal of accelerating the discovery of new treatments for tuberculosis, malaria, neglected tropical diseases (NTDs) and other diseases prevalent in the developing world. Through [WIPO Re:Search](#), the international research consortium led by the non-profit BIO Ventures for Global Health (BVGH) and the United Nations World Intellectual Property Organization (WIPO), Janssen has opened segments of its molecule library – containing a set of 80,000 diverse, high-quality chemical compounds – to the global research community to enable collaborators to identify and advance promising drug candidates.

Key institutions and programs leveraging the opened library include:

- The U.S. National Institute of Allergy and Infectious Diseases (NIAID) of the National Institutes of Health has designed screens they will use to potentially identify compounds from the library that can potentially kill *Mycobacterium tuberculosis*, the etiologic agent of tuberculosis (TB), the world’s leading cause of death due to an infectious agent, with the goal of developing these compounds into new drugs for TB patients. Other TB work includes

collaborations with Washington University in St. Louis and University of California, Berkeley.

- The Center for Discovery and Innovation in Parasitic Diseases at the University of California San Diego, in collaboration with Janssen Discovery Sciences, is boosting discovery of Chagas disease therapies leveraging CRISPR technology in conjunction with Janssen's molecule library and other resources to develop treatments for a debilitating and potentially life-threatening parasitic infection.
- The Walter and Eliza Hall Institute of Medical Research (Australia) is leveraging its high throughput *P. falciparum* assay platform to identify a novel class of small molecules from the library with the requisites of a drug-like scaffold to treat malaria. Selection of the most promising compounds for further development would be performed in collaboration with Janssen.

“By working collectively, the global health community can increase and accelerate the potential to achieve major research breakthroughs for the millions of people worldwide who suffer from these devastating diseases,” said Wim Parys, M.D., Head, R&D Global Public Health, Johnson & Johnson. “Opening our compound libraries and providing our partners access to the research capabilities of the Johnson & Johnson Family of Companies underscores our commitment to accelerate the pace of innovation to broaden our reach and deepen our impact.”

New Collaborations in Johnson & Johnson Innovation Portfolio

The collaborations announced by Johnson & Johnson Innovation today include investments and strategic transactions to advance biomedical research that could ultimately improve patients' lives. The collaborations formed are as follows:

- **Uncovering New Treatment Approaches for Obesity and Related Complications** – The obesity epidemic continues to grow globally, creating an urgent need for new therapeutics delivering stronger efficacy and sustained results for both obesity and obesity related conditions, such as type 2 diabetes and nonalcoholic steatohepatitis (NASH). Janssen Pharmaceuticals, Inc. has formed a multi-project collaboration with the University of California San Diego School of Medicine to identify pathways and mechanisms driving disease progression, as well as clinically useful biomarkers, therapeutic targets and gastric bypass approaches that could yield improved treatments for obesity and related conditions, including NASH, chronic kidney disease (CKD), metabolic liver disease and additional obesity related conditions. Projects under this collaboration will include exploration of animal and cell models of NASH and CKD, discovery of mechanisms invoked by bariatric surgery, disease-related biomarkers and novel therapeutic targets.
- **3-D Printing to Create Customized Health Solutions** – 3-D printing holds the potential to create customized health solutions that can mean increased satisfaction and better outcomes for patients. Johnson & Johnson is working to change the landscape of healthcare through 3-D printing innovations and its affiliate Johnson & Johnson Services, Inc. recently executed a research collaboration with Inkbit Corporation, a 3-D printing startup recently spun out of MIT. The collaboration will help to optimize and validate Inkbit's manufacturing platform. Inkbit has developed a unique multi-material 3-D printing technology that is well suited for highly complex consumer products with integrated electronics.
- **Advancing World-Class Improvements for Contact Lenses** – To help maintain its position as a leader and bring premier innovation to eye health and vision correction, Johnson & Johnson Vision Care formed two distinct, multi-year collaborations with the University of Waterloo in Ontario,

Canada. Johnson & Johnson Vision Care and the Johnson & Johnson Innovation Center in Boston will work closely with leading translational researchers at Waterloo with the aim to develop contact lenses with unparalleled visual performance and new health benefits.

- **Advancing Novel RA Therapeutics** – Rheumatoid arthritis (RA) affects more than 1.3 million adults in the United States and nearly one percent of the world’s population. Janssen Biotech has formed a multi-year collaboration and pre-negotiated option-to-license agreement with Monash University to discover and develop biologic next-generation therapeutics to treat, prevent and intercept RA.
- **Improving Manufacturing Efficiencies** – Johnson & Johnson Consumer, Inc. and SLIPS Technologies, which has developed a unique surface coating technology in which residual process fluids slip right off, have entered into a research collaboration aimed at improving manufacturing process efficiency and saving costs by reducing downtime, waste, energy and water usage.

New Technology Platform Company Joins JLINX

- **Analyzing the Host-Microbiome Relationship** – Clarity Genomics is joining the JLINX incubator and is developing a platform that learns how human microbiome communities interact with the host through analysis of genetic, functional and metabolic data and applies this knowledge to facilitate biomarker discovery and patient stratification for better healthcare.

“Our unique approach to creative deal making has helped us build one of the most robust innovation portfolios in the industry, and through these collaborations we are advancing transformative products that could improve or extend patients’ lives,” said Robert G. Urban, Ph.D., Global Head, Johnson & Johnson Innovation. “The innovative ideas of our collaborators paired with the unmatched resources we can offer through Johnson & Johnson Innovation have advanced multiple programs to key inflection points resulting in acquisition or in-licensing of several technologies.”

Johnson & Johnson Innovation has established more than 20 significant new strategic relationships in 2017 to add to its innovation portfolio, including leading a [\\$900 million Series B financing in GRAIL](#) to support development of blood tests for the early detection of cancer. Several collaborations in the Johnson & Johnson Innovation portfolio have matured to the point of strategic licensing or acquisitions of the programs by members of the Johnson & Johnson Family of Companies this year. In April, DePuy Synthes Products, Inc. announced the [acquisition of 3-D printing technology](#) from Tissue Regeneration Systems, Inc. to create patient-specific, bioresorbable implants to support bone healing in patients with orthopaedic and craniomaxillofacial deformities and injuries. In May, [Janssen Biotech, Inc. announced a worldwide exclusive license and collaboration agreement with Protagonist Therapeutics, Inc.](#) to develop, manufacture and commercialize PTG-200, a first-in-class, oral interleukin-23 receptor antagonist drug candidate in development for the treatment of Crohn’s disease and ulcerative colitis.

About Johnson & Johnson Innovation

Johnson & Johnson Innovation LLC focuses on accelerating all stages of innovation worldwide and forming collaborations between entrepreneurs and Johnson & Johnson’s global healthcare businesses. Johnson & Johnson Innovation provides scientists, entrepreneurs and emerging companies with one-stop access to science and technology experts who can facilitate collaborations across the pharmaceutical, medical device and consumer companies of Johnson & Johnson. Under the Johnson & Johnson Innovation umbrella of businesses, we connect with innovators through our regional Innovation Centers, Johnson & Johnson Innovation | JLABS, Johnson & Johnson Innovation – JLINX, Johnson & Johnson Innovation – JJDC, Inc. and our Business Development teams to create customized deals and novel

collaborations that speed development of innovations to solve unmet needs in patients. For more information, visit www.jnjinnovation.com or follow [@JNJInnovation](https://twitter.com/JNJInnovation).

Cautions Concerning Forward-Looking Statements

This press release contains "forward-looking statements" as defined in the Private Securities Litigation Reform Act of 1995 regarding new collaborations seeking to discover and develop potential treatments for diseases and to advance research and development of healthcare solutions and technologies. These forward-looking statements are based on current expectations and beliefs. However, there are substantial risks and uncertainties that could cause actual outcomes to vary materially from the expectations or projections expressed or implied by Johnson & Johnson Innovation LLC, Johnson & Johnson and their affiliated companies. Risks and uncertainties include, but are not limited to: the potential that the expected benefits and opportunities related to the collaborations may not be realized or may take longer to realize than expected; challenges and uncertainties inherent in research and development of new products, including the possibility that research might not yield beneficial results and the uncertainty of clinical success and obtaining regulatory approvals; competition, including technological advances, new products and patents attained by competitors; changes in behavior and spending patterns of purchasers of health care products and services; and global health care reforms and trends toward health care cost containment. Further discussion of the risks, uncertainties and other factors that could cause actual results to differ from the expectations expressed in this release can be found in Johnson & Johnson's Annual Report on Form 10-K for the fiscal year ended January 1, 2017, including under "Item 1A. Risk Factors," in its most recently filed Quarterly Report on Form 10-Q, including in the section captioned "Cautionary Note Regarding Forward-Looking Statements," and the company's subsequent filings with the Securities and Exchange Commission. Copies of these filings are available online at www.sec.gov, www.jnj.com or on request from Johnson & Johnson. Johnson & Johnson Innovation LLC, Johnson & Johnson and their affiliated companies do not undertake to update any forward-looking statement as a result of new information or future events or developments.

###

Media Contacts

Seema Kumar
Johnson & Johnson
+ 1 908-405-1144
skumar10@its.jnj.com

Meghan Marschall
Johnson & Johnson Innovation
+ 1 201-323-0578
mmarscha@its.jnj.com

Ronan Collins
Johnson & Johnson Global Public Health
+ 47 48842500
rcollin5@its.JNJ.com