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Jennifer Doudna, Ph.D., and Emmanuelle Charpentier, Ph.D.,
Win 2014 Dr. Paul Janssen Award for Biomedical Research

SAN DIEGO – June 24, 2014 – Johnson & Johnson today named Dr. Jennifer Doudna of the the University of California, Berkeley, and Dr. Emmanuelle Charpentier, of the Hannover Medical School and Helmholtz Centre for Infection Research (HZI), Germany and The Laboratory for Molecular Infection Medicine Sweden (MIMS), Umeå University, Sweden, the winners of the 2014 Dr. Paul Janssen Award for Biomedical Research. Their collaboration led to the discovery of a new method for precisely manipulating genetic information in ways that should produce new insights in health and disease, and may lead to the discovery of new targets for drug development.

“Their discovery of this new DNA editing strategy is considered one of the most significant breakthroughs in molecular biology in the past decade,” said Paul Stoffels, MD, Chief Scientific Officer, Johnson & Johnson. “We are pleased to be able to recognize two researchers whose insights, persistence and collaboration have led to a significant leap in our understanding and ability to manipulate genetic processes. The work of Drs. Doudna and Charpentier has the potential to make a significant impact on human health, which is the very heart of Dr. Paul’s legacy, as well as our mission at Johnson & Johnson.”

The Dr. Paul Janssen Award for Biomedical Research was created by Johnson & Johnson to honor the legacy of one of the most passionate, creative and productive scientists of the 20th century, Dr. Paul Janssen (1926-2003). Dr. Paul – as he was known in the scientific community – founded Janssen Pharmaceutica, which was acquired by Johnson & Johnson in 1961. His work led to the development of more than 80 transformational medicines in several fields, including pain management, psychiatry, infectious disease and gastroenterology.

“The transformational research by Drs. Doudna and Charpentier has uncovered molecular details of an amazing bacterial immunity mechanism. Their findings enable dramatic improvements in the speed, efficiency and flexibility of genome editing,” said Dr. Craig Mello, professor of Molecular Medicine, University of Massachusetts Medical School and investigator, Howard Hughes Medical Institute, and chair of the Dr. Paul Janssen Award independent selection committee. “It is widely applicable in biomedical research and its practical applications extend to engineering the genes of plants and animals.”

Doudna, Charpentier and their colleagues determined that Cas9 – an enzyme specialized for cutting DNA – can be programmed with single RNA molecules to cleave specific DNA sites, creating a simple and versatile system for genome targeting and editing. This new understanding enables researchers to rapidly model human disease alleles in the laboratory, speeding the search for new drug leads and opening new doors for the treatment of human genetic disorders.

Dr. Doudna is a Howard Hughes Medical Institute Investigator, the Li Ka Shing Chancellor's Chair in Biomedical and Health Sciences, and Professor of Biochemistry, Biophysics and Structural Biology at the University of California, Berkeley; and Dr. Charpentier is Alexander von Humboldt Professor at Hannover Medical School (MHH), Head of the Department "Regulation in Infection Biology" at the Helmholtz Centre for Infection Research (HZI) in Braunschweig, Germany, and Guest Professor at The Laboratory for Molecular Infection Medicine Sweden (MIMS) at Umeå University.

“I have always focused on basic research, motivated by a desire to understand the world,” said Dr. Doudna. “I am very happy about the possibility that this research can lead to something that can be used therapeutically and improve people’s health.”

“I am pleased to join the list of exceptional past winners of the Dr. Paul Janssen Award for Biomedical Research,” said Dr. Charpentier. “I am excited about the potential of our findings to make a real difference in people’s lives. The discovery demonstrates the relevance of basic research and how it can transform application in bioengineering and biomedicine.”

The winners of the Dr. Paul Janssen Award for Biomedical Research are chosen by an independent selection committee of the world’s most renowned scientists. The Award, which includes a $100,000 prize, shared by the two winners, will be presented to Drs. Doudna and Charpentier at ceremonies in the U.S. and Belgium in September.

Drs. Doudna and Charpentier will be honored today at parallel receptions at the 2014 BIO International Convention in San Diego, and The EuroScience Open Forum in Copenhagen. Videos of their acceptance comments can be viewed here: Dr. Charpentier at http://youtu.be/QWspSkFzeMU and Dr. Doudna at http://youtu.be/f9WbVicsX-o.

About The Dr. Paul Janssen Award for Biomedical Research
Dr. Paul Janssen was one of the 20th century's most gifted and passionate researchers. He helped save millions of lives through his contribution to the discovery and development of more than 80 medicines, four of which remain on the World Health Organization's list of essential medicines. The Dr. Paul Janssen Award for Biomedical Research was established by Johnson & Johnson to honor the memory of Dr. Paul. Past winners include Craig Mello, Marc Feldmann, Sir Ravinder Maini, Axel Ullrich, Erik De Clercq, Anthony S. Fauci, Napoleone Ferrara, Victor Ambros, Gary Ruvkun and David Julius. Learn more at www.pauljanssenaward.com.

About the Selection Committee
The Dr. Paul Janssen Award independent selection committee is composed of some of the world's leading scientists, including National Medal of Science winners, Nobel Laureates, members of the National Academy of Sciences and past winners of The Dr. Paul Janssen Award. The 2014 Selection Committee includes:

- Craig Mello, Ph.D., (chairman) professor of Molecular Medicine, University of Massachusetts Medical School and investigator, Howard Hughes Medical Institute; 2006

Nobel Laureate in Physiology or Medicine; 2006 Dr. Paul Janssen Award for Biomedical Research winner; member, National Academy of Sciences

- Bruce Beutler, M.D., Regental Professor, Director, Center for the Genetics of Host Defense, University of Texas Southwestern Medical Center; 2011 Nobel Laureate in Physiology or Medicine winner; 2011 Shaw Prize winner; 2009 Albany Medical Center Prize in Medicine and Biomedical Research winner; member, American Academy of Arts and Sciences
- Elizabeth Blackburn, Ph.D., Morris Herzstein Professor of Biology and Physiology, Department of Biochemistry and Biophysics, University of California, San Francisco; 2009 Nobel Laureate in Physiology or Medicine; 2006 Albert Lasker Medical Research Award winner; 2007 one of TIME Magazine's 100 Most Influential People
- Michael Brown, M.D., Paul J. Thomas Professor of Molecular Genetics and Director of the Jonsson Center for Molecular Genetics, UT Southwestern; 1985 Nobel Laureate in Physiology or Medicine; 1988 National Medal of Science (United States)
- Robert Langer, Sc. D., David H. Koch Institute Professor of Chemical Engineering, Massachusetts Institute of Technology; 2006 National Medal of Science winner; Charles Stark Draper Prize winner; 2008 Millennium Prize winner; member, National Academy of Engineering, National Academy of Sciences, Institute of Medicine
- Rebecca Richards-Kortum, Ph.D., Stanley C. Moore Professor of Bioengineering and Professor of Electrical and Computer Engineering, Director of Rice 360°: Institute for Global Health Technology, Rice University; fellow, American Institute for Medical and Biological Engineering; 2010 Pritzker Distinguished Scientist and Lecturer of the Biomedical Engineering Society Annual Meeting; 1999 Y.C. Fung Young Investigator Award from the American Society of Mechanical Engineers
- Axel Ullrich, Ph.D., Director, Department of Molecular Biology, Max Planck Institute of Biochemistry, Germany; winner, 2009 Dr. Paul Janssen Award for Biomedical Research; 2010 Wolf Prize winner
- Huda Zoghbi, M.D., Professor, Baylor College of Medicine; investigator, Howard Hughes Medical Institute; Director, Jan and Dan Duncan Neurological Research Institute; member, National Academy of Science and the Institute of Medicine; member, Lasker Award jury; E. Mead Johnson Award for Pediatric Research winner

About Johnson & Johnson

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