



FOR IMMEDIATE RELEASE
September 11, 2013

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**GOLDEN GOOSE AWARDS TO RESEARCHERS BEHIND MARRIAGE
ALGORITHM AND NATIONAL KIDNEY EXCHANGE AND THE DISCOVERERS OF
BACTERIUM THAT HELPED LAUNCH BIOTECH INDUSTRY AND GENOMICS
REVOLUTION**

Awardees Will Be Honored at September 19 Event in Washington, DC

The creators of [the Golden Goose Award](#) announced today two more sets of award winners whose federally funded research may not have seemed to have significant practical applications at the time it was conducted but has resulted in tremendous societal and economic benefit.

Mathematicians Lloyd Shapley and David Gale (deceased) and economist Alvin Roth are being recognized for [their work](#) which led to the national kidney exchange and other programs such as the national matching program for new medical residents and hospitals. Microbiologist Thomas Brock and glycobiologist Hudson Freeze are being recognized for [their discovery](#) that helped make possible the biotechnology industry and the genomics revolution.

Representative Jim Cooper (D-TN) first proposed the Golden Goose Award, and it was created in 2012 by a coalition of organizations listed below. Like the bipartisan group of Members of Congress who support the Golden Goose Award, the founding organizations believe that federally funded basic scientific research is the cornerstone of American innovation and essential to our economic growth, health, global competitiveness, and national security. Award recipients are selected by a panel of respected scientists and university research leaders.

“We’ve all read stories about the study with the wacky title, the research project from left field,” Rep. Cooper said. “But off-the-wall science yields medical miracles. We can’t abandon research funding only because we can’t predict how the next miracle will happen.”

“I am proud to once again stand up with my colleagues in a bipartisan manner to promote federal support for basic scientific research,” said Rep. Charlie Dent, also a congressional supporter of the Golden Goose Award. “The Golden Goose Award is an important reminder that ground-breaking achievements in science often begin with basic research that simply would not have been feasible for the private sector alone.”

In 1962, supported in part by the U.S. Office of Naval Research, Drs. Gale and Shapley developed the Gale-Shapley deferred choice algorithm, which provided a means by which a large group of men and women could be matched to maximize marriage stability – they could be paired in such a way as to ensure that no man and woman matched with other mates could both find each other preferable to their own mate. While this might have seemed frivolous at the time

– it was, after all, very theoretical – the algorithm actually led to a number of practical market applications by Dr. Roth. With funding from the National Science Foundation, Dr. Roth’s applications included school choice systems for New York, Boston, and other cities, and the National Resident Matching Program, which pairs new doctors with hospitals nationwide.

Dr. Roth then built on another algorithm developed in part by Gale and Shapley, and also funded by the National Science Foundation, to develop a kidney exchange system that today is responsible for matching thousands of kidney recipients with unrelated kidney donors who otherwise might not have been able to receive kidneys compatible with their immune systems. Dr. Shapley and Dr. Roth received the Nobel Prize in Economics in 2012 for their work. (Dr. Gale had died and was therefore ineligible for the Nobel.)

Dr. Brock and his then-undergraduate research assistant Hudson Freeze visited Yellowstone National Park because they were curious to find out how organisms survived in extreme conditions such as the park’s famed hot springs and geysers. The enzymes produced by one of the bacteria they collected to study – which they named *Thermus aquaticus* – enabled scientists to employ the high heat necessary for the replication and study of its DNA.

Once they were able to replicate and study DNA in this manner, scientists essentially created the field of biotechnology, which then made possible the genomics revolution. These developments have led to extraordinary medical advances in recent decades and promise many more.

The newly announced awardees, or their designees, will receive their awards at the second annual Golden Goose Awards ceremony in Washington, DC, on September 19. They will be joined by Dr. John Eng, whose Golden Goose Award [was announced earlier this year](#). Dr. Eng is being honored for his work with Gila monster venom that led to an important new treatment for diabetes that helps to prevent the onset of complications such as blindness and kidney failure.

Following recent conversations between the Golden Goose Award organizing committee and the Wallace Coulter Foundation, the Foundation decided to decline the Golden Goose Award for Wallace Coulter that was announced earlier this year. The committee agreed to the request. While there can be no doubt as to the extraordinary achievements of Mr. Coulter, who discovered the Coulter Principle and invented the Coulter Counter, the Foundation determined that it could not be certain that federal funding was involved in the discovery of the Coulter Principle, which was the basis for the award.

Additional information about the Golden Goose Award, including videos and other information on the 2012 award winners, can be found at www.goldengooseaward.org.

FOUNDING ORGANIZATIONS:

American Association for the Advancement of Science (AAAS): The American Association for the Advancement of Science is an international nonprofit organization dedicated to advancing science around the world by serving as an educator, leader, spokesperson and professional association. In addition to organizing membership activities, AAAS publishes the *Science* family

of journals as well as many scientific newsletters, books and reports, and spearheads programs that raise the bar of understanding for science worldwide.

Association of American Universities (AAU): The Association of American Universities is a nonprofit association of 59 leading US public and private research universities and two Canadian counterparts. Founded in 1900, AAU today focuses on issues that are important to research-intensive universities, such as funding for research, research policy issues, and graduate and undergraduate education. AAU member universities are on the leading edge of innovation, scholarship, and solutions that contribute to the nation's economy, security, and well-being.

Association of Public and Land-grant Universities (APLU): Founded in 1887, the Association of Public and Land-grant Universities is an association of public research universities, land-grant institutions, and many state public university systems. Its 219 members enroll more than 4.7 million students, award nearly one million degrees annually, and conduct nearly two-thirds of all academic research, totaling more than \$34 billion annually. As the nation's oldest higher education association, APLU is dedicated to excellence in learning, discovery and engagement.

Breakthrough Institute: The Breakthrough Institute is a paradigm-shifting think tank committed to modernizing liberal thought for the 21st Century. Our core values are integrity, imagination and audacity. Our goal is to accelerate the transition to a future where all the world's inhabitants can enjoy secure, free, prosperous, and fulfilling lives on an ecologically vibrant planet.

Progressive Policy Institute (PPI): The Progressive Policy Institute is an independent, innovative and high-impact DC-based think tank founded in 1989. As the original "idea mill" for President Bill Clinton's New Democrats, PPI has a long legacy of promoting break-the-mold ideas aimed at economic growth, national security and modern, performance-based government. Today, PPI's unique mix of political realism and policy innovation continues to make it a leading source of pragmatic and creative ideas. PPI is a nonprofit, 501(c)(3) organization.

Richard Lounsbery Foundation: The Richard Lounsbery Foundation aims to enhance national strengths in science and technology through support of programs in the following areas: science and technology components of key US policy issues; elementary and secondary science and math education; historical studies and contemporary assessments of key trends in physical and biomedical sciences; and start-up assistance for establishing the infrastructure of research projects.

The Science Coalition (TSC): The Science Coalition is a nonprofit, nonpartisan organization of the nation's leading public and private research universities. It is dedicated to sustaining strong federal funding of basic scientific research as a means to stimulate the economy, spur innovation, and drive America's global competitiveness.

Task Force on American Innovation: The Task Force is a coalition of business and business organizations, scientific societies, and higher education associations founded in 2004 to advocate for greater federal investments for basic research in the physical sciences and engineering. The group focuses on the National Science Foundation, the Department of Energy Office of Science,

the Department of Defense research budget, the National Institute of Standards and Technology labs at the Department of Commerce, and NASA.

United for Medical Research: United for Medical Research is a coalition of leading research institutions, patient and health advocates, and private industry that have joined together to seek steady increases in funding for the National Institutes of Health.

Other organizations sponsoring the Golden Goose Award:

American Astronomical Society
American Educational Research Association
American Mathematical Society
American Psychological Association
American Society for Microbiology
American Sociological Association
APS Physics
Association for Psychological Science
Association of American Medical Colleges
The Biophysical Society
Federation of American Societies for Experimental Biology
Gordon and Betty Moore Foundation
IEEE-USA
Texas Instruments