

Jay D. Keasling Biography

Jay D. Keasling is the Hubbard Howe, Jr. Distinguished Professor of Chemical & Biomolecular Engineering and of Bioengineering at the University of California, Berkeley. He is the Director of the Synthetic Biology Engineering Research Center (Synberc), Associate Laboratory Director for Biosciences at the Lawrence Berkeley National Laboratory, and Chief Executive Officer of the Joint BioEnergy Institute. In addition, Keasling has founded or co-founded four companies, including Amyris, a leading firm in the development of renewable fuels and chemicals.



Keasling is one of the foremost authorities in the field of synthetic biology research, and in particular on metabolic engineering. His work has focused on engineering microorganisms for the environmentally friendly synthesis of small molecules or degradation of environmental contaminants. He led the breakthrough research in which bacteria and yeast were engineered to perform most of the chemistry needed to make artemisinin, the most powerful anti-malaria drug in use today. In 2004, the Bill and Melinda Gates Foundation awarded a \$42.6 million grant to further develop the technology, which is now nearing commercialization. For this research, Keasling received the 2009 Biotech Humanitarian Award from the Biotechnology Industry Organization. Keasling is now applying his synthetic biology techniques towards the production of advanced carbon-neutral biofuels that can replace gasoline on a gallon-for-gallon basis.

Keasling grew up on his family's corn and soybean farm in Harvard, Nebraska, then earned his bachelor's degree from the University of Nebraska, and his graduate degrees in chemical engineering from the University of Michigan. He is the recipient of the American Institute of Chemical Engineers Professional Progress Award (2007) and Scientist of the Year, Discovery Magazine (2006). In 2006, he was cited by Newsweek as one of the country's 10 most esteemed biologists. He is a Fellow of the American Academy for Microbiology (2007) and the American Institute of Medical and Biological Engineering (2000). In 2010 he was elected to the prestigious National Academy of Engineering.