



Pioneering Genomics  
to Positively Impact Life



# Genomic Pioneers

Dr. Venter realized early in his career that the rigidity and risk-adverse nature of traditional research organizations was not always conducive to scientific breakthroughs, so he decided to create one of his own. JCVI, founded in 1992 as The Institute for Genomics Research or TIGR, was a new kind of nonprofit research institute that gave scientists the freedom to pursue disruptive concepts and encouraged innovation to positively impact life.

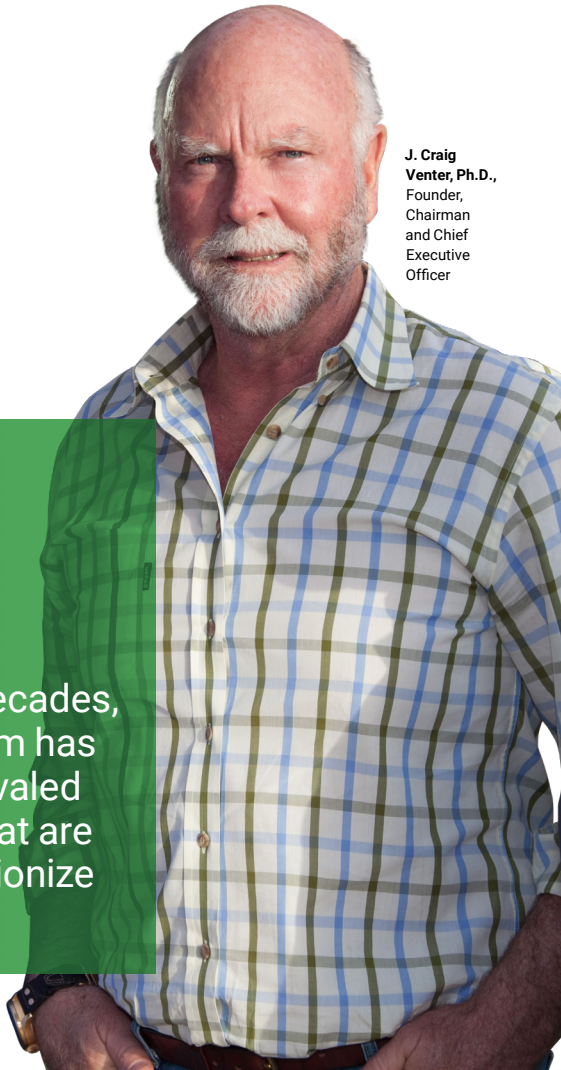


# JCVI

The J. Craig Venter Institute (JCVI) is a world leader in genomic research with 160 scientists and staff who are bold innovators fearlessly pursuing revolutionary ideas. With a long track-record of creativity and an interdisciplinary approach to genomics, JCVI is committed to accelerating foundational scientific research to drive advances in human health and environmental sustainability.

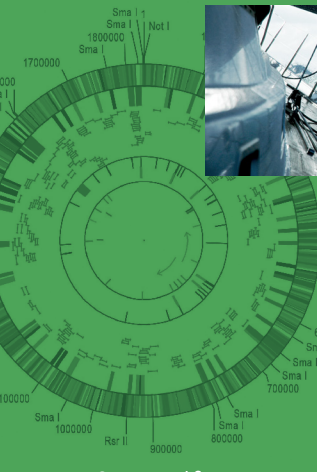


**J. Craig Venter, Ph.D.,**  
Founder,  
Chairman  
and Chief  
Executive  
Officer



For more than two decades, this scientific freedom has inspired a set of unrivaled accomplishments that are continuing to revolutionize genomic research.

# A History of Breakthroughs



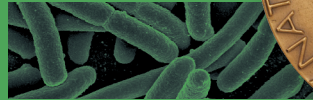
Sequenced first genome of a free-living organism, *H. influenzae*

1995



Discovered more than 80 million new genes and thousands of new species during the Sorcerer II Global Ocean Sampling Expedition

2003



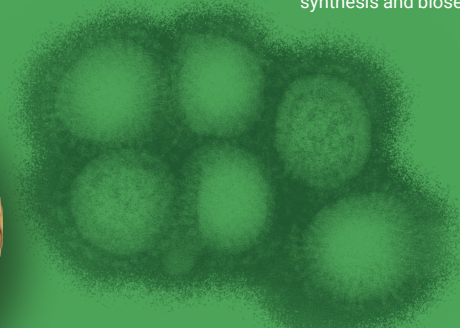
Conducted first metagenomic analysis of human gut microbiome

2006



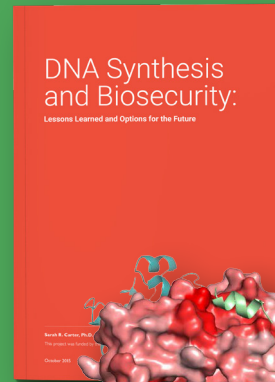
J. Craig Venter receives National Medal of Science from President Obama

2009



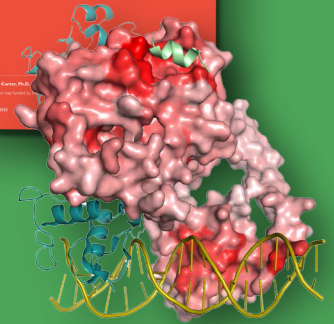
Sequenced over 17,000 influenza genomes and developed algorithm to predict optimal future flu vaccine composition

2013



JCVI-led policy group publishes report on DNA Synthesis and Biosecurity focusing on the lessons learned and options for the future in the field of DNA synthesis and biosecurity

2015



Created 1,000 3-D protein structures to be used for drug and vaccine research

2017

2001

Sequenced first draft human genome



2003

Published first complete human diploid genome, that of Dr. Venter, which encompasses both sets of chromosomes from each parent



Sequenced genome of *Neisseria meningitidis* and identified candidate genes for FDA-approved vaccine

2007

2010

Constructed first synthetic bacterial cell



## What's Next?

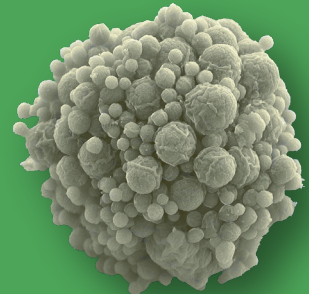
2013

Opened world's first net zero energy biological Laboratory in La Jolla, California

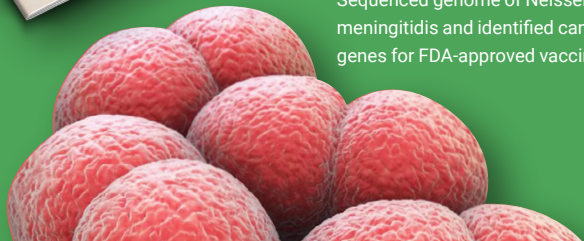


2016

Designed and constructed first synthetic minimal bacterial cell



Today, our researchers are building upon a solid legacy of success as they continue to push the boundaries of genomics to improve our understanding of **human health and performance, environmental sustainability, the microbiome, synthetic biology, and infectious disease.**





# The Future of Genomics

Today, our researchers are building upon a solid legacy of success as they continue to push the boundaries of genomics for the betterment of society. Our scientific programs include:

**Human Health**—genomic interpretation, and understanding the interaction between genotype and phenotype for health optimization

**Human Microbiome**—building on decades of leadership and taking next steps toward viable, safe therapeutics; understanding the microbiome’s role in a variety of diseases

**Infectious diseases**—devoted to understanding mechanisms of pathogen evolution, drug resistance, and virulence.

**Environmental genomics**—focused on discovering the diversity of life in the oceans, soil and air, as well as harnessing microbial processes to help clean up the environment.

**Synthetic biology**—gaining a deeper understanding of basic biology to help advance new approaches to rapid vaccine and therapeutics, and to design alternative energy sources by modifying the metabolic capacity of microorganisms.

**DNA sequencing and analysis**—which underpins our ability to interpret the vast amounts of genomic data generated by JCVI and our collaborators all over the globe.

**Center for Single Cell Genomics (CSCG)**—provides dedicated support for research requiring genomic analysis at the single cell level using novel techniques developed at JCVI.

**JCVI Policy Center**—to examine the societal impacts of advancements in genomics research.

**Science Education**—events, outreach and training programs within our communities to help enhance science literacy and build the next generation of scientists.

## Research Faculty

### Distinguished Professors

J. Craig Venter, Ph.D.  
Hamilton O. Smith, MD, Nobel Laureate in Physiology or Medicine  
Clyde A Hutchison III, Ph.D.

### Professors

Andy Allen, Ph.D.  
Derrick E. Fouts, Ph.D.  
Robert M. Friedman, Ph.D.  
Malcolm Gardner, Ph.D.  
John I. Glass, Ph.D.  
Ewen Kirkness, Ph.D.  
Weizhong Li, Ph.D.  
Todd P. Michael, Ph.D.  
Karen E. Nelson, Ph.D.  
Richard Scheuermann, Ph.D.

### Associate Professors

Christopher Dupont, Ph.D.  
Marcelo Friere, DDS, Ph.D., DMedSc  
Naisha Shah, Ph.D.  
Daniel G. Gibson, Ph.D.  
Sanjay Vashee, Ph.D.

### Assistant Professors

Sinem Beyhan, Ph.D.  
Anna Edlund, Ph.D.  
Norberto Gonzalez-Juarbe, Ph.D.  
Hernan A. Lorenzi, Ph.D.  
Lauren Oldfield, Ph.D.  
Yu (Max) Qian, Ph.D.  
Yo Suzuki, Ph.D.  
Gene Tan, Ph.D.  
Yanbao Yu, Ph.D.  
Lisa Zeigler-Allen, Ph.D.  
Sarah Smith, Ph.D.

## Executive Management



**J. Craig Venter, Ph.D.**,  
Founder, Chairman and  
Chief Executive Officer



**Karen E. Nelson, Ph.D.**,  
President and Professor,  
Genomic Medicine Group



**Heather Kowalski**,  
Chief Operating Officer



**Pamela Brar, MD**,  
Chief Medical Officer



**Marty Stout**,  
Chief Technology Officer



**Julie Adelson, Esq.**,  
VP and General Counsel



**Jill Mullen**,  
Sr. VP, Philanthropy and  
Strategic Alliances



**Antony G. Peake, CRA**,  
VP, Research  
Administration



**Mary Yumul, SPHR**,  
VP, Human Resources



**Richard Scheuermann, Ph.D.**,  
Professor and La Jolla  
Campus Director

# JCVI

J. CRAIG VENTER  
INSTITUTE

**La Jolla, California**  
4120 Capricorn Lane  
La Jolla, CA 92037  
858-200-1800

**Rockville, Maryland**  
9605 Medical Center Drive, Suite 150  
Rockville, MD 20850  
301-795-7000

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