THE FORUM FOR MEDICAL AFFAIRS

in cooperation with THE AMA COUNCIL ON SCIENCE & PUBLIC HEALTH

GENOMIC ENGINEERING

The Transformative Discovery of Our Time

IMAGINE A WORLD...

...WHERE YOU CAN CUT AND PASTE GENES TO ELIMINATE DISEASE AND CONQUER WORLD HUNGER. THIS ABILITY IS NO LONGER A TWILIGHT ZONE TECHNOLOGY ...IT IS AVAILABLE FOR APPLICATION IF WE CHOOSE TO DO SO.

Objectives:

At the conclusion of this program the participants will:

- **Discuss the basic elements of the CRISPR-Cas9 genome editing technology.**
- **Examine how CRISPR-Cas9 can be used to modify human, animal, and plant genomes.**
- **Describe how CRISPR-Cas9 can be applied to eliminate genetic diseases and expand food supplies.**
- **Summarize the ethical concerns associated with genome editing.**

Sunday, November 13, 2016

1:00 p.m. – 3:30 p.m.

AMA Interim Meeting
Walt Disney World Swan/Dolphin
Swan 6 Ballroom
Orlando, FL

The American Medical Association is accredited by the Accreditation Council for Continuing Medical Education to provide continuing medical education credit for physicians.

The American Medical Association designates this live activity for a maximum of 2.0 *AMA PRA Category 1 Credit™.* Physicians should claim only the credit commensurate with the extent of their participation in the activity.

OVERVIEW AND AMA PERSPECTIVE
Steven J. Stack, MD
Immediate Past President
AMA

SHORT TERM POTENTIAL FOR CRISPR APPLICATIONS IN AGRICULTURE
David Holley, MD
Program Chair
FORUM for Medical Affairs

GENE EDITING TO DECIPHER HUMAN GENETICS
Neville Sanjana, PhD
Core Faculty Member
New York Genome Center
Assistant Professor
Dept. of Biology, NYU

- **Genome engineering, the process of writing/editing DNA in the genome, can test whether a particular genetic variant can cause a disease;**
- **Precise gene editing is enabled by targeted nucleases and cellular double-strand break repair response pathways;**
- **In contrast to other programmable nucleases where a protein determines the target sequence, CRISPR-Cas9 is a RNA-guided nuclease, allowing easy re-programming via short guide RNAs;**
- **Discussion of diverse gene editing applications with CRISPR nucleases, including therapeutic gene editing and gene drives.**

The FORUM for Medical Affairs
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