

PLANT CRISPR WORKSHOP

Advanced Teaching and Research
Building
Iowa State University

May 13 to 15, 2019

Highlights

- CRISPR gRNA design
- Plant protoplast preparation
- Protoplast transfection and frequency evaluation
- Design of VIGS constructs
- Inoculation techniques on maize and soybean
- Evaluation of VIGS phenotypes
- VIGS resources for model and crop plants

Plant Genome Editing and Gene Expression:

Hands-on practice on Protoplast transfection and Virus induced gene silencing

Many tools and resources are available for modifying and analyzing the functions of genes in model and crop plants. The purpose of the workshop is to learn and practice laboratory protocols to rapidly edit genes in protoplasts and modify gene expression using virus induced gene silencing (VIGS). During this 3-day hands-on workshop, the participants will learn how to design guide RNAs for CRISPR-Cas gene editing, transfect plant protoplasts, and evaluate frequency of edits. You will also learn how to design VIGS constructs, techniques to introduce constructs into crop plant species, such as corn and soybean, and evaluate silencing phenotypes at the phenotypic and molecular levels. This workshop is designed for researchers who are employing genome-editing and gene expression technologies for both basic and applied plant research.



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Crop Bioengineering Center

<http://cropbioengineering.iastate.edu/>

Contact: Kan Wang (kanwang@iastate.edu); Steve Whitham (swhitham@iastate.edu)