2008

# Next Gen Sequencing: An Alternative to Culture-Based Microbiological Testing

core for applied genomics and ecology

University of Nebraska Lincoln

# NEXT GEN SEQUENCING:
## AN ALTERNATIVE TO CULTURE-BASED MICROBIOLOGICAL TESTING

### NEXT GEN DNA SEQUENCING ENABLES YOU...

. . .to analyze microbial communities and ecosystems in food products
. . .perform food safety testing
. . .address spoilage and other non-safety issues
. . .optimize food processing
. . .create databases of "good" microbial profiles associated with target product characteristics

### STAY AHEAD OF THE CURVE IN TESTING

- **explore differences between culture and non-culture based diagnostic methods**
- **learn about 16S ribosomal RNA-based identification**
- **discover how Next Gen DNA sequencing can fingerprint microbial communities**
- **see how Next Gen sequencing can replace microbiological testing**
- **learn how to use whole microbial community analysis**

### AT THE END OF THE WORKSHOP YOU WILL. . .

. . .understand the Next Gen process works
. . .evaluate the amount of effort and skills that are necessary for the process
. . .determine the amount of expertise necessary to set up sample preparation in-house versus outsourcing

### OUR EQUIPMENT. . .

- **Agilent Bioanalyzer 2100**
- **Roche- 454 GS FLX Pyrosequencer**
- **Bioinformatics pipelines to analyze the data**

**INQUIRE TODAY AT**
**cage.unl.edu**
**or contact Nina Murray at**
**(402) 472-2816**

**UPON REQUEST**

**Presented by:**
**Core for Applied Genomics and Ecology**
**University of Nebraska–Lincoln**
**http://fpc.unl.edu**

### INSTRUCTION

The workshop will be lead by *Dr. Andy Benson,* Director of CAGE and Professor of Microbiology in the Department of Food Science and Technology at UNL.

The workshop will be largely lecture-based with some lab exercises. This mixed format ensures that you will gain experience:

- identifying bacteria based on 16S ribosomal RNA
- extracting whole microbial DNA from different food samples
- with PCR amplification and Next Gen sequencing of 16S rRNA genes en masse from mixed populations

### REGISTRATION

Registration fee depends on the size of your group and the location of the workshop. As few as 3-4 people is sufficient for us to offer this training. To discuss your needs and interest, please contact Nina Murray at **nmurray2@unl.edu** or fill out an information request form at http://cage.unl.edu



143 Food Industry Complex
P.O. Box 830930
Lincoln, Nebraska 68583-0930

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