

2008

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

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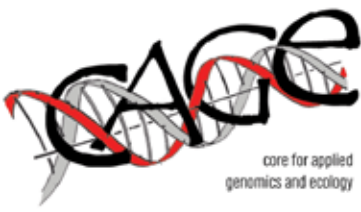
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# NEXT GEN SEQUENCING: AN ALTERNATIVE TO CULTURE-BASED MICROBIOLOGICAL TESTING

## 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

## 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](mailto:nmurray2@unl.edu) or fill out an information request form at <http://cage.unl.edu>

**INQUIRE TODAY AT**  
**[cage.unl.edu](http://cage.unl.edu)**  
**or contact Nina Murray at**  
**(402) 472-2816**

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