



# Microbe Biotechnology at Utah State University

**Jeff Broadbent**

Ron Sims

Jon Takemoto

Bart Weimer

Lance Seefeldt

Henry Nowak

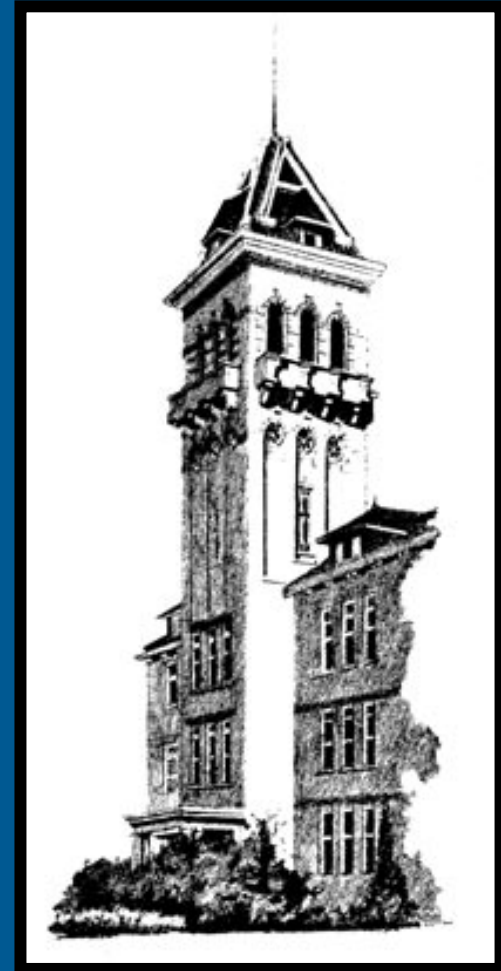


# Why Microbe Biotechnology?

- Immense Economic Potential
  - Human Health
  - Environment
  - Fuels & Chemicals
  - Food Production & Processing
  - Other Industrial Applications
- Impact on 200 Utah Companies and Agencies

# Why Microbe Biotechnology at Utah State University?

- Unique expertise
- Broad-based interests
- Successful collaborations
- Intellectual property



# USU Specialization in Microbe Biotechnologies



1. Bioremediation & Waste Management



2. Food Fermentation & Processing



3. Plants & Soils

# 1. Bioremediation & Waste Management

## Industrial Applications:

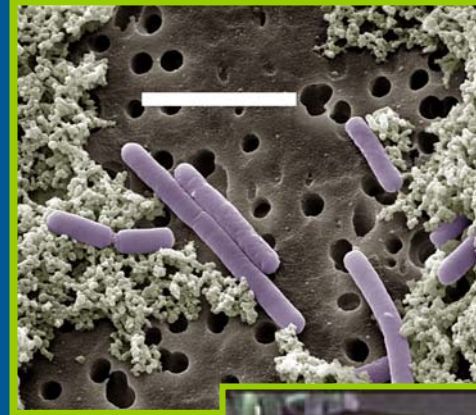
- Bio-Fuels
- Environmental Clean-Up
- Agricultural Waste
- Chemical Feed Stocks



# 2. Food Fermentation & Processing

## Industrial Applications

- Enzymes
- Ingredients
- Starter Cultures
- Food Safety & Antimicrobial agents
- Quality Assurance



# 3. Plants & Soils

## Industrial Applications

- Nitrogen Fixation
- Bioinsecticides
- Microbial Pest Control
- Snow making





# Enhancing Microbe Biotechnology at Utah State

- Strategic hires of researchers that are:
  - High-profile research leaders
  - Well-funded
  - Collaborative
  - Tech transfer-oriented
- Complement existing USU strengths

# USU Actions

- **Nominations solicited from all USU faculty involved in microbial biotechnology research**
- **Faculty in Colleges of Agriculture, Engineering, and Science submitted names for ~30 prospective nominees**
- **Candidates included experts in metabolic and bioprocess engineering, environmental microbiology, cell-cell communication, and biocatalysis**
- **Prioritized list of 11 researchers put forward**
- **Recruitment efforts are currently underway**