

## Research Details:

### Chemical and Biosystems Engineering (ChemBioSys)



**Dr. Abhishek S Dhoble**

**Assistant Professor**

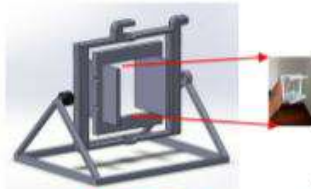
PhD: University of Illinois at Urbana-Champaign, USA

Post Doc: NSF/USDA EAGER, UIUC - USACEHR, USA

#### Research area:

Biochemical Engineering,  
Anaerobic Digestion,  
Cytometric Fingerprinting &  
Machine Learning (CFML),  
Milk Quality

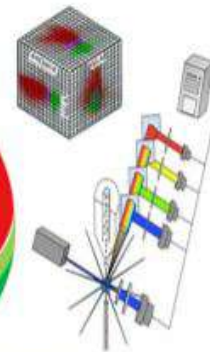
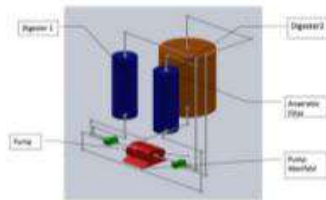
#### Microbiomes under Microgravity!



3-D Clinostat/Random Positioning Machine (RPM) [3D Printed, Arduino™ Controlled]

#### Design & Operation of Bioreactors

Thermophilic (55°C) System: 3-D View

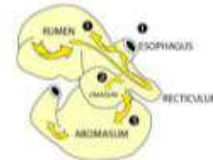
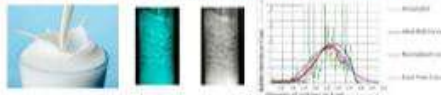


#### Process Identification with Cytometric Fingerprinting & Machine Learning:

- Autoencoders
- Deep Learning
- Random Forests
- Naive Bayes
- Gradient Boosting
- Bag-of-Words



#### Milk Quality Tests/Equipment/App Development



Can we make Flexible Bioreactors?