Global Industrial Revolutions

• The first Industrial Revolution was characterized by steam and water.
• The second Industrial Revolution was the introduction of electricity to mass produce things.
• The third is characterized by the internet, communication technologies, and the digitalization of everything.
• The fourth Industrial Revolution is the concept of blurring the real world with the technological world.
Industry 4.0: The new industrial revolution

- German initiative
- Identified 9 pillars of technological advancement
  - Additive manufacturing
  - Augmented reality
  - Big data and analytics
  - Autonomous robot
  - Simulation
  - Horizontal and vertical system integration
  - The Industrial Internet of Things
  - Cybersecurity
  - The cloud

Collaborative interactions in a Smart Factory
Source: Trumpf / Forschungsunion Wirtschaft & Wissenschaft
Disruptive Technologies in Manufacturing

• The Internet of Things
  • Dr. Roberto Gallardo - Associate Extension Professor in the Extension Center for Technology Outreach, Mississippi State University

• Big Data and Data Science
  • Dr. Roger King - Executive Director Institute for Computational Research in Engineering and Science (ICRES), Mississippi State University

• Laser Based Additive Manufacturing
  • Dr. Scott Thompson – Assistant Professor Department of Mechanical Engineering, Mississippi State University