

Dr. Hector R. Siller

Department of Engineering Technology

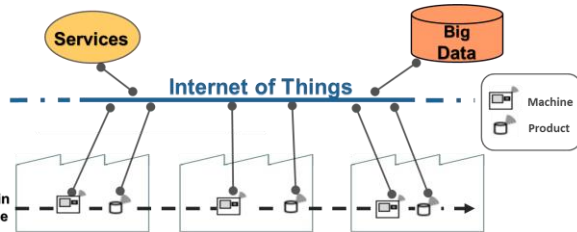
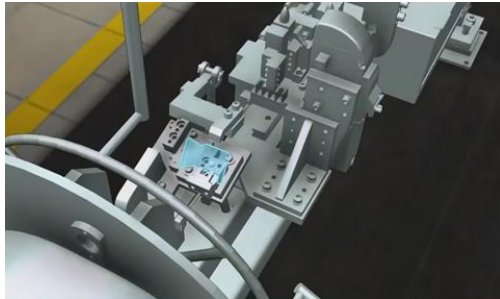
Assistant Professor

Advanced Manufacturing: Additive Manufacturing, Micromechanical Processes, Metrology and Digital Manufacturing

Applications: Biomedical, Aerospace, Automotive and Oil & Gas Industries



Digital Manufacturing for the Industry 4.0



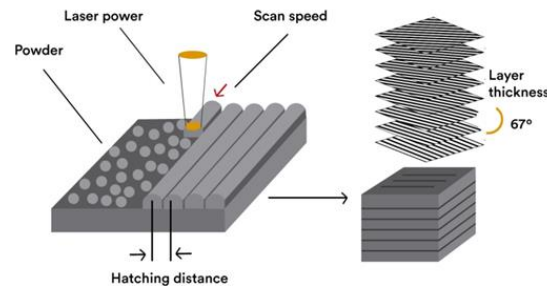
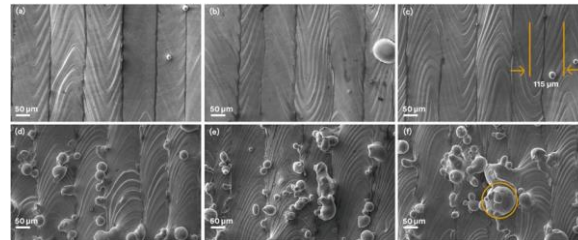
Ongoing Research:

- Virtual Assembly Training in Automotive Industry based in Serious Games Systems
- Cyber-Physical Systems for Digital Manufacturing

Applications:

- Engineering Technologies Teaching
- Automotive and Aerospace Manufacturing
- Oil & Gas Repairing and Re-manufacturing

Additive Manufacturing



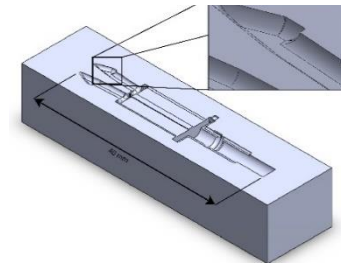
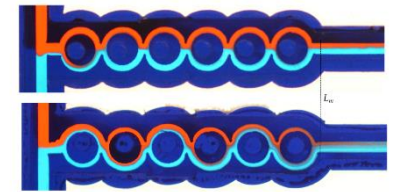
Ongoing Research:

- Process Lifecycle Assessment
- Hybrid Manufacturing (Additive + Subtractive)
- Surface Integrity and Hydrophobicity

Applications:

- Biomedical Devices
- Aerospace Components
- Mold & Die Manufacturing
- Oil & Gas Components

Micromechanical Processes



Ongoing Research:

- Micromachining of Sculptured Surfaces
- Low Cost Manufacturing Processes
- Micro-mixers for Passive Mass Transfer

Applications:

- Extreme Point-of-Care Devices
- Micro Injection Molds
- Lab-on-a-Chip and Organ-on-a-Chip Technologies
- MEMS and Energy Harvesting