

WELDING AND JOINING

TECHNICAL STRENGTHS

- Collision welding – a brand new, patented method for welding dissimilar and very strong metals
- Lightweighting, multi-material structures (magnesium, aluminum, titanium)
- Vaporizing foil actuator (VFA) metalworking for impulse processes on a small scale
- Simulation-driven welding assembly, weld design and stress analysis, and welding process modeling
- Instrumentation and design solutions
- Resistance spot welding
- Weld process optimization
- Failure analysis of welds
- Conformal joining
- High velocity joining



FACILITIES

- OSU Welding Engineering Laboratory
- Plastics and Composites Joining Laboratory
- Institute for Materials Research
- Center for Integrative Materials Joining Science for Energy Applications

KEY EXPERTISE

- John Lippold, COE Distinguished Professor, Materials Science & Engineering; Director, Manufacturing and Materials Joining Innovation Center (M²AJIC)
- Avraham Benatar, Associate Professor, Department of Materials Science & Engineering Welding Engineering Program
- David Phillips, Associate Professor, Department of Materials Science & Engineering Welding Engineering Program
- Glenn Daehn, Executive Director, Ohio Manufacturing Institute and Professor, Materials Science & Engineering
- Anthony Luscher, Associate Professor, Mechanical & Aerospace Engineering
- Wei Zhang, Associate Professor, Materials Science & Engineering