Advantages for Participating Companies

Advantages for participating companies include:

- access and guidance to high quality Ph.D. students research,
- participation in a multidisciplinary research center with broad industrial reach,
- possibility to participate in large research projects (leverage of research funds),
- access to students for internships
- a unique teaching approach for learning computational fluid dynamics software based on an academic “boot camp” in the summer,
- access to high performance computers at MSU,
- participation in an industrial challenge program (submission of small project for students to hone their skills for using CFD software),
- access to a network of faculty and industrial researchers
- Biannual Center meetings that rotate amongst the universities.

Research:
New Technology, Modeling, Experiments, and Numerical Simulations for Design

Education:

How to Participate?
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NSF I/UCRC-
Multiphase Transport Phenomena

Multiphase Computational Fluid Dynamics: A Pathway for Innovation and Discovery for the 21st Century.

Member Universities:
Michigan State University (lead)
The University of Akron
The University of Tulsa
University of Central Florida

MSU is an affirmative-action, equal-opportunity institution.
Ongoing Research
Ongoing research projects include: Developing of novel separation technologies for liquid/liquid and solid/liquid systems, studying the performance of coalescence filters using nanoscale fibers, evaluating novel chemical and nanoscale additives for flow assurance in the petroleum industry; testing new Reynolds stress closure model for multiphase flows, studying turbulent transport of a passive additive, modeling gas transport through permeable materials in the pharmaceutical industry, modeling microstructure and rheology of nanoscale suspensions, studying deep water transport of oil; designing porous media for multiphase flows.

Using Theory, Experiments, and Improved Simulations to Solve a Variety of Multiphase Problems

About Industry/University Cooperative Research Centers
The Industry/University Cooperative Research Center for Multiphase Transport Phenomena is part of a network of 55 Industry-University Cooperative Research Centers (or I/UCRC) funded by the National Science Foundation in the United States. The NSF I/UCRC-MTP has four participating universities: Michigan State University, The University of Akron, The University of Tulsa, and The University of Central Florida. Michigan State University is the lead university for the Center for Multiphase Transport Phenomena (MTP).