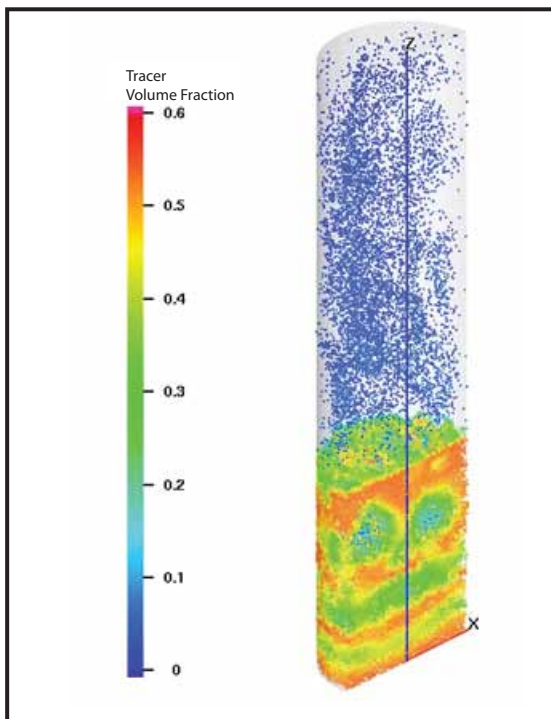
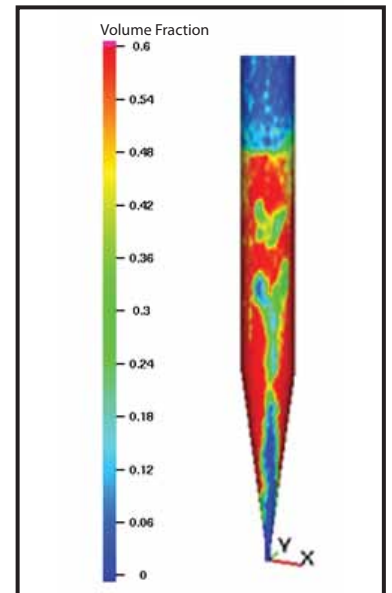


# CFD Modeling

Silicon Chemical Corporation (SCC) provides Computational Fluid Dynamic (CFD) modeling of fluidized beds which is a cost effective way to better understand the fluidized bed reactor system. Simulation studies can be run for a fraction of the cost compared to small scale laboratory testing. SCC modeling services can help you get the information you need to confidently design, start-up, and optimize your reactor.

## Reasons for CFD Modeling:

- Understand and predict behavior in the reactor system with different geometry, flow distribution, chemical species present, operating conditions, and other parameters
- Test reactor design for wear locations and rates, hot spots and heat removal, reaction kinetic models, and other parameters
- Provide support for decisions on maintenance intervals, locations to watch for wear testing, and operating conditions
- Examine operational limits to provide more realistic responses for operator training systems



## Advantages:

- Simulations reduce and can sometimes eliminate the testing that must be done on the actual equipment, and does so at a fraction of the cost of a real world test
- Simulation can test extremes of operation without any safety concerns
- Effect of different operation conditions can be examined without loss of production, or other upsets, making operating plant optimization more easily performed
- Whole new configurations for the reactor system can be examined before they are implemented to find problems beforehand, making changes and start-ups go smoothly
- The simulation can provide detailed information on internal data that would be very difficult to collect experimentally; this increased understanding of the system helps facilitate operation and troubleshooting