Interposers – Silicon, Organic and Glass Course Outline

1. Introduction to Interposers
   - What is an Interposer?
   - 2.5D vs. 3D interposer
   - Why 2.5D interposer?
   - Why 3D Interposer?
   - Interposer Fundamentals
   - Interposer Options

2. Silicon Interposers
   - Historical perspective
   - TSV as an enabling technology
   - Wafer BEOL Si Interposer Process
   - Cost Barrier & Lower Cost Si Interposer Approaches

3. Organic Interposers
   - Low CTE Core Materials
   - Fine Pitch Wiring on Build-up Layers
   - Wafer RDL processes applied to Organic Core for 2.1D Interposers

4. Glass Interposers
   - Why glass?
   - Status of Through Glass Via Technology
   - Latest advances in glass interposers

5. Electrical Design
   - Interposer signal and power delivery
   - Electrical Design & Test challenges

6. Chip & Board Level Interconnections

7. Application Examples
   - Mobile & High Perf Logic-Memory
   - Die Break-up for Improved Yield
   - Photonics
   - RF/Analog/Power/MEMS Integration

7. Manufacturing Infrastructure
   - Wafer Based
   - Panel Based

8. Closing Thoughts