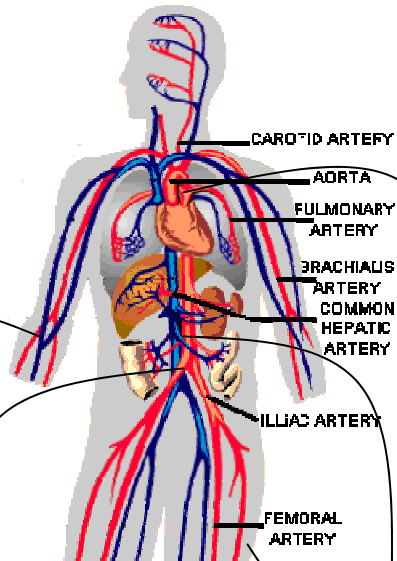
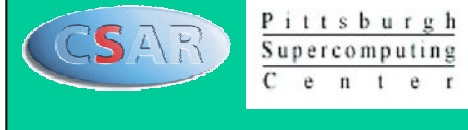
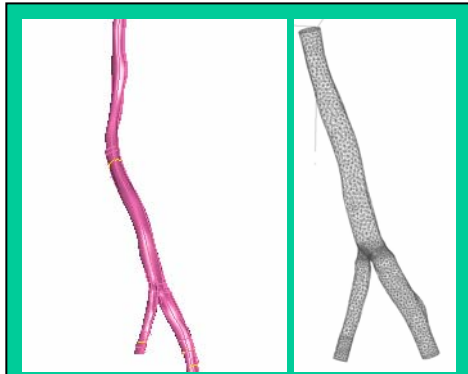
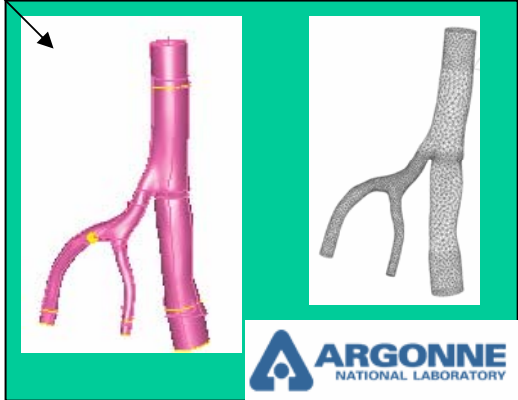
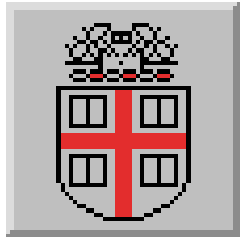
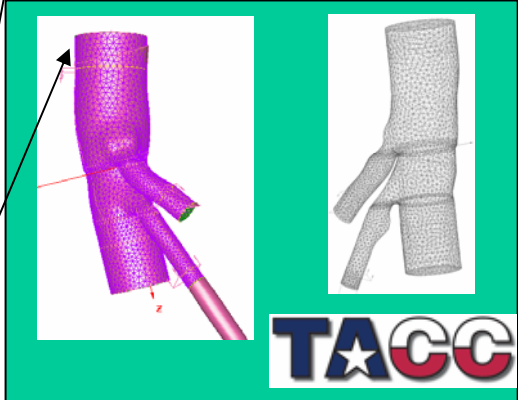
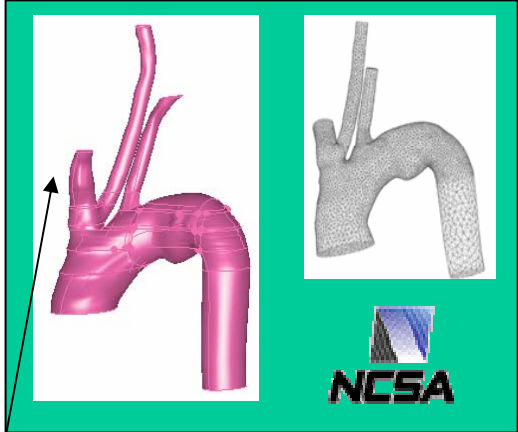


HUMAN ARTERIAL TREE SIMULATION ON TERAGRID

NEKTAR/MPICH-G2
cross-site TG simulation

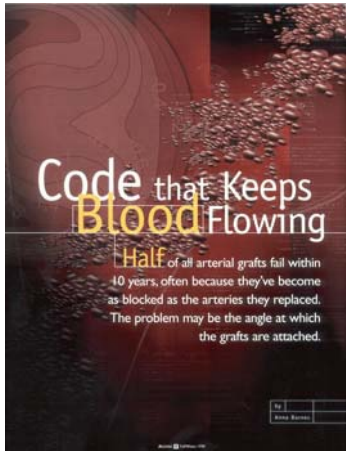


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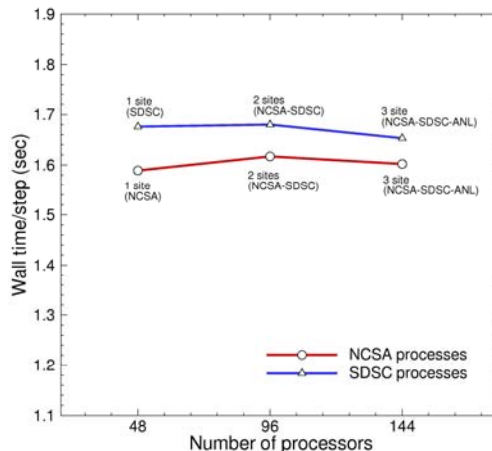
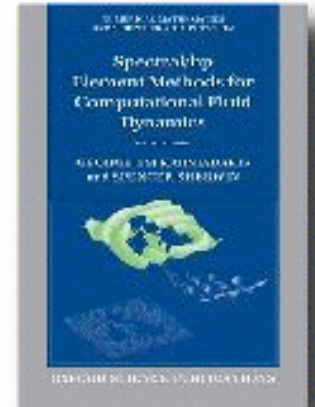
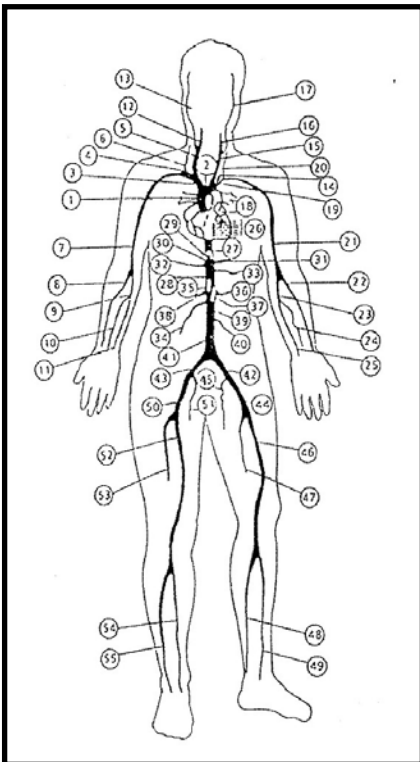
NEKTAR-G2: Cross-Site Simulations on TeraGrid



- **NEKTAR-G2** (freeware) is the first CFD code to run simultaneously on multiple TeraGrid sites. It is based on MPICH-G2 and it was developed by Steven Dong (Brown) and Nick Karonis (ANL).
- The parent code **NEKTAR** (freeware), developed by Karniadakis (Brown) and Sherwin (Imperial College), is based on spectral/hp element methods.

Towards the Digital Human...

- The **Arterial Tree** model is based on 55 main arteries (1D) and 27 bifurcations (3D).
- Fine-resolution TG simulations require of the order of 200 billion nodes and 3-level nested parallelism.



Potentially unlimited scalability...