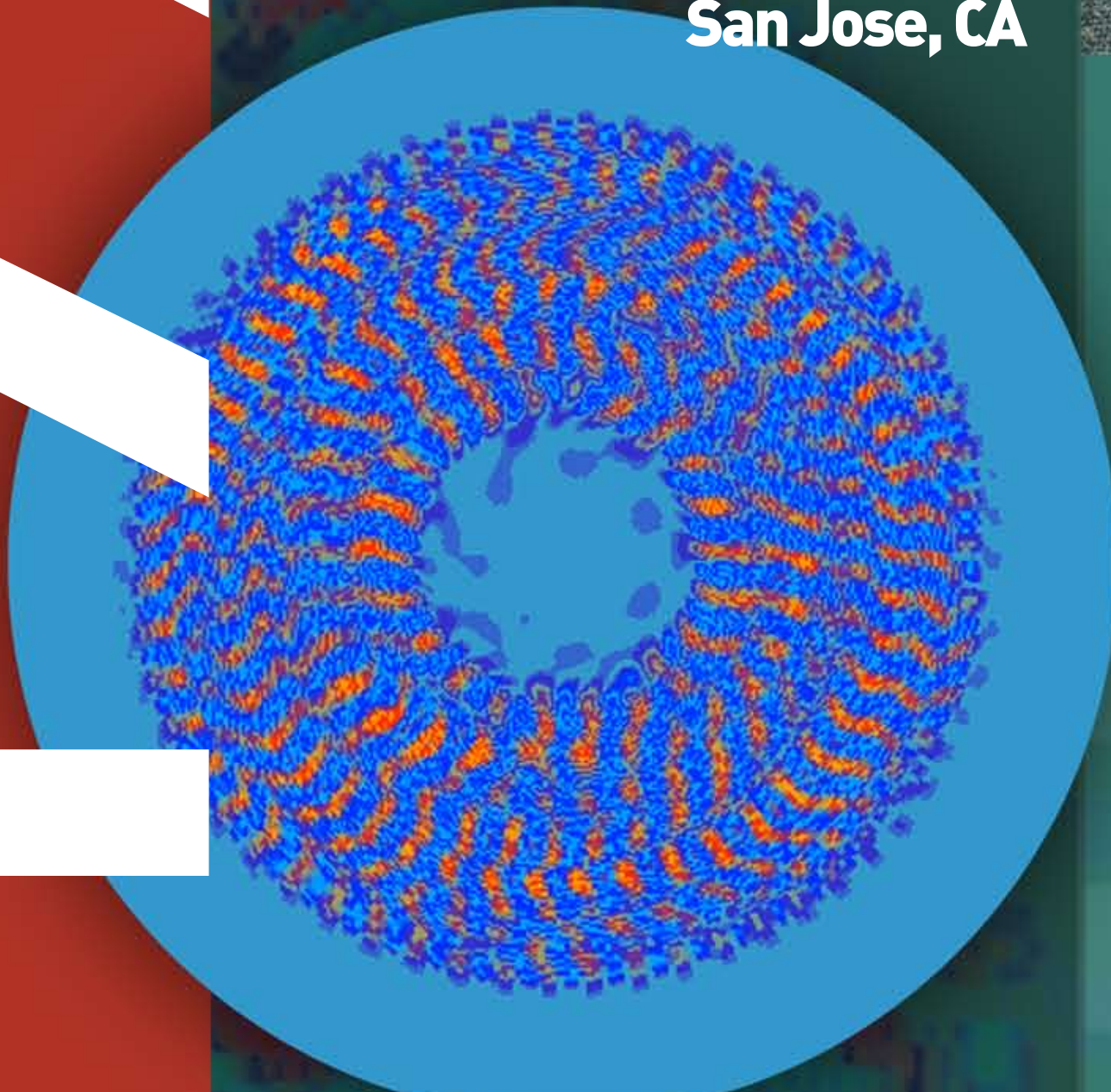


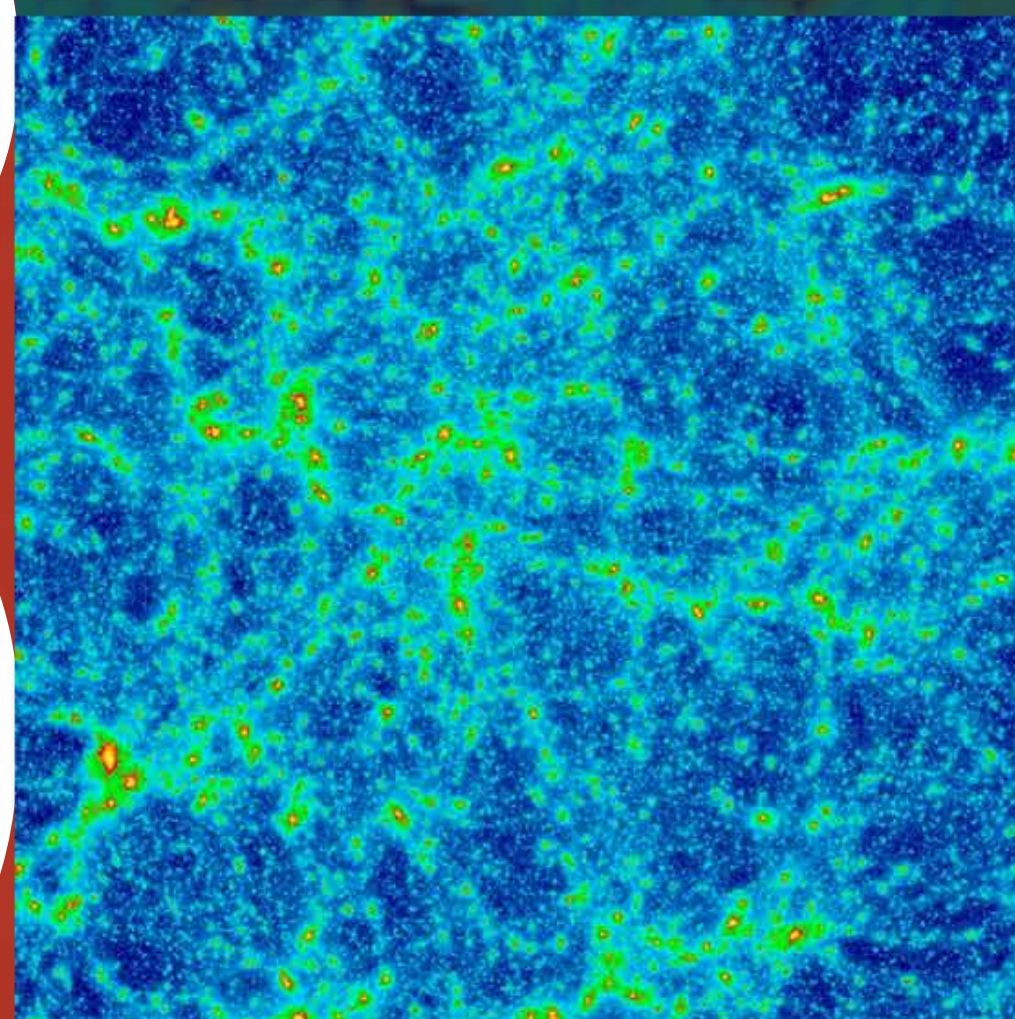
# 20 Years Unleashing the Power of HPC

# SC97

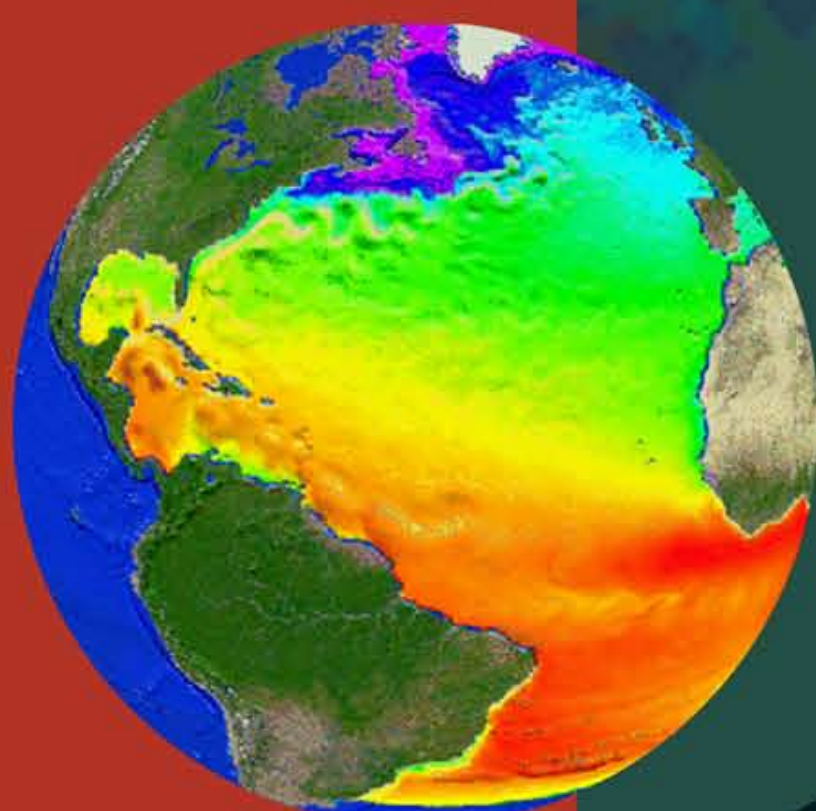
1997 Chair  
Dona Crawford  
San Jose, CA



Numerical tokamak model visualization



Gravitational n-body simulation



POP global climate model visualization

## 1997

Notable Systems first mentioned this year in the proceedings:

- SGI Origin 2000
- ASCI Red
- Convex Exemplar SPP 2000
- Cray T-90

### Notable Processors

- Intel Pentium Pro
- Sun UltraSPARC-II
- DEC Alpha 21164

### Noteworthy Architecture Topics

- Beowulf clusters
- Heterogeneous distributed parallel computing
- Checkpointing and recovery on distributed parallel systems
- Gang scheduling

### Notable Operating Systems

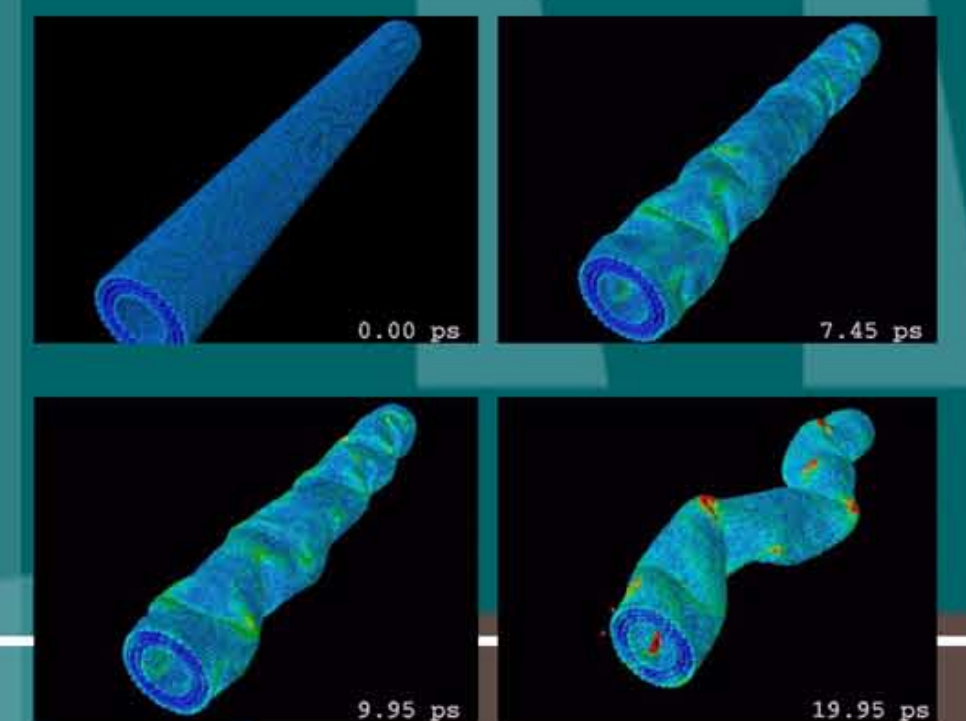
- Microsoft Windows NT
- Linux

### Notable Programming Languages

- PCP
- SHMEM

### Research Machines

- QCDSF



Carbon nanotube deforming under strain

Table 1: Historical memory latencies

System	Memory latency [ns]	Clock speed [ns]	Ratio	FP ops per clock period	FP ops to cover memory latency
CDC 7600	275	27.5	10	1	10
CRAY 1	150	12.5	12	2	24
CRAY X-MP	120	8.5	14	2	28
SGI Power Challenge	~760	13.3	57	4	228
CRAY T3E-900	~280	2.2	126	2	252