

CRPC Parallel Computing Handbook: Applications Overviews

I. List of Application Overviews

1. *Numerical (General) Relativity* — Geoffrey Fox
[Contact: Geoffrey Fox]
(draft on Web site – 5 pages)
2. *Numerical Simulations in Lattice Quantum Chromodynamics* — Urs M. Heller
[Contacts: Geoffrey Fox & Andy White]
(draft on Web site – 7 pages)
3. *Ocean Modeling* — John Dukowicz, Richard Smith, Robert Malone
[Contact: Andy White]
(draft on Web site- 6 pages)
4. *Simulations of Earthquakes* — Geoffrey Fox
[Contact: Geoffrey Fox]
(draft on Web site – 7 pages)
5. *Astrophysics* — Mike Norman
[Contact: Ken Kennedy]
(draft not yet available — target date: unknown)
6. *Weather* — Kelvin Droegemeier
[Contact: Ken Kennedy]
(draft not yet available — target date: unknown)
7. *Rocket Science* — Mike Heath
[Contact: Ken Kennedy]
(draft not yet available — target date: unknown)
8. *Computational Electromagnetics* — Joseph S. Shang
[Contact: Geoffrey Fox]
(draft on Web site – 5 pages)
9. *Applications of Parallel High Performance Computing in Computational Structural Biology* — Zhijun Wu
[Contact: Zhijun Wu]
(draft on Web site – 2 pages)
10. *Parallel Algorithms in Data Mining* — Mahesh V. Joshi, Eui-Hong (Sam) Han, George Karypis, Vipin Kumar
[Contact: Vipin Kumar]
(draft on Web site – 10 pages)
11. *HPC in Signal and Image Processing* — D. R. Prabhu, A. K. Krishnamurthy, S. C. Ahalt
[Contact: ?]
(draft on Web site – 6 pages)

12. **Seismic — Symes**
[Contact: Ken Kennedy]
(draft not yet available — target date: unknown)
13. **Monte Carlo — Michael Mascagni**
[Contact: Geoffrey Fox]
(draft on Web site – 9 pages)
14. **Quasi Real-Time Microtomography Experiments at Photon Sources — Gregor von Laszewski, Mei-Hui Su, Ian Foster, Carl Kesselman**
[Contact: Ian Foster]
(draft on Web site – 6 pages)
15. **Accelerators — Ryne/White**
[Contact: Andy White]
(draft not yet available — target date: unknown)
16. **Electrical Transmission — White**
[Contact: Andy White]
(draft not yet available — target date: unknown)
17. **WebHLA-based Metacomputing Environment for Forces Modeling and Simulation — Wojtek Furmanski**
[Contact: Geoffrey Fox]
(draft on Web site – 8 pages)
18. **Parallel Computing for the Internet — Eric A. Brewer**
[Contact: Geoffrey Fox]
(incomplete draft on Web site)
(need bibliographic information)
(requested source for installation in CRPC book directory - 7 pages, LaTeX)
19. **Web Servers — Peter Druschel**
[Contact: Ken Kennedy]
(draft not yet available — target date: unknown)
20. **Integer and Mixed Integer Programming — Robert Bixby**
[Contact: Ken Kennedy]
(draft not yet available — target date: unknown)