Frontiers of Multicore Computing Workshop
Program Agenda
August 26-28, 2008
University of Maryland, Baltimore County (UMBC)

August 26:
1:30- 6:30 PM   Registration   University Center B-43
2:00- 5:00   **Tutorials** (IBM, Gedae, etc.)   "
5:00- 6:30   **Icebreaker**   ITE 436

August 27:
7:30 – 9:00 AM   Registration & Lite Breakfast   University Center B-43
9:00 - 9:15 AM   **Welcome   President F. Hrabowski, UMBC**
                                Dean W. DeVries, COEIT
                                E. Corbin, IBM Syst & Tech Dev.

9:15 – 10:00   **Keynote Speaker: Andrew White, LANL**
                    "Breaking the Petaflop Barrier "   Proj. Mgr. Roadrunner
10:00- 10:20   Break
10:20- 12:00   **Multicore Optimizations for Geoscience**
        Geophysical Data Processing: Computing with Intensity   P. Bording, Mem. U/CA
        Climate Model Radiation on the Cell   S. Zhou, T. Clune NG/GSFC
        WRF with Chemistry for Hurricanes on the Cell   A.Arking, P.Ma JHU
        Fast Transforms using the Cell B.E. Processor   D. Bader   Ga.Tech
        360 TFlops Molecular Dynamics on the Roadrunner   T. German LANL

12:00 -1:30   Lunch/Exhibit

1:30 -2:10   **Keynote Speaker: Ram Rajamony**, IBM Research, Austin
                "*IBM's Next Challenge: Highly Productive Exaflop Solutions* **.** "
2:10 –2:30   Break
2:30 – 3:30   **Multicore Applications for Aerospace**
                Towards a Service Oriented 50 year Global Satellite Radiance
                Climate Data Record   M. Halem UMBC
                Large- scale Scientific Visualization on Multicore Processors J. JaJa UMCP
                MapReduce for the Cell B.E.   K. Sankaralingam U/WISC

3:30 –4:40   **Panel Discussion:** R. Golliver, **Intel**,   M. Aguilar, **IBM**
                                R. Schooler,**Tilera**,   M.Raymond, **SGI**
4:40 – 5:20   **Student Presentations**
                Extreme Computing   D. Chapman, M. Ritzie
                2-D Var Data Assimilation   L.Georgias UMBC
5:20 –6:30   **Reception**   Exhibit Room

6:30- 8:00   **Banquet and Speaker: T. Sterling LSU**
                "*Entering the Petaflop Era*"

August 28:

9:00 – 9:40   **Keynote Speaker: G. Rochon** Purdue Univ.
            "*A Virtual Terrestrial Observatory*"   Chief Sci. Rosen Sch. Adv Comp.
9:40– 10:00   Break

10:00 –12:00   **Multicore Applications for Defense**
PVTOL: *Providing Productivity, Performance, and Portability to DoD*
 Signal Processing Applications on Multicore Processors   N. Bliss MIT Lincoln Labs
DoD Application Performance on Multicore Architectures   T. Simon US Army
ERDC
TB Suffix Arrays for String Searches on Cell B.E,   M. Ferguson, Lab Tel. Sci.
Turbulent Fluid Flow Applications on the LANL Roadrunner   P. Woodward LCSE
Multicore processors for Dangerous Applications   R. Schooler, Tilera Corp.
Multicore Applications on Larrabee   P. Hanrahan Army HPR Ctr. (tbd)

12:00 –1:30   Lunch

1:30 –2:10   **Keynote Speaker:**
            Programming Models for Cell B.E.   W. Lundgren , Gedae

2:10 – 3:10   **Multicore for Digital Media and Bio-Medical Applications**
            An Interactive City   S.Brown UC
            A Cell Algorithm for Medical Imaging   J. Tilton GSFC
            Extracting Content from Wikipedia   T. Finin UMBC
            Analyzing Social Networks   A. Joshi/A. Java UMBC

3:10 – 3:30   **Concluding Remarks / Adjourn**   **E.Corbin /R.Szabo/ IBM**
                                      M. Halem/ MC^2