Workshop on Batched, Reproducible, and Reduced Precision BLAS

Sponsored in part by

Workshop

- Extending the Basic Linear Algebra Software Library (BLAS)
- Investigate extending the currently accepted standards to provide greater parallelism for small size operations, reproducibility, and reduced precision support.
- This is the beginning of a forum to discuss and formalize.

Have We Been Here Before?

Basic Linear Algebra Subprograms Technical (BLAST) Forum Standard

Basic Linear Algebra Subprograms Technical (BLAST) Forum

August 21, 2001

BLAS Technical Forum Standard

Complete document -- pdf/ps
Individual Chapters
Chapter 1: Introduction -- pdf/ps
Chapter 2: Dense and Banded BLAS -- pdf/ps
Chapter 3: Sparse BLAS -- pdf/ps
Chapter 4: Extended and Mixed-Precision BLAS -- pdf/ps
Appendix -- pdf/ps
Legacy BLAS: C Interface to the Legacy BLAS -- pdf/ps
Journal of Development: Environmental Routines -- pdf/ps
Journal of Development: Distributed-Memory BLAS -- pdf/ps
Journal of Development: Fortran 95 Thin BLAS -- pdf/ps
Journal of Development: Interval BLAS -- pdf/ps
Bibliography -- pdf/ps
Index -- pdf/ps

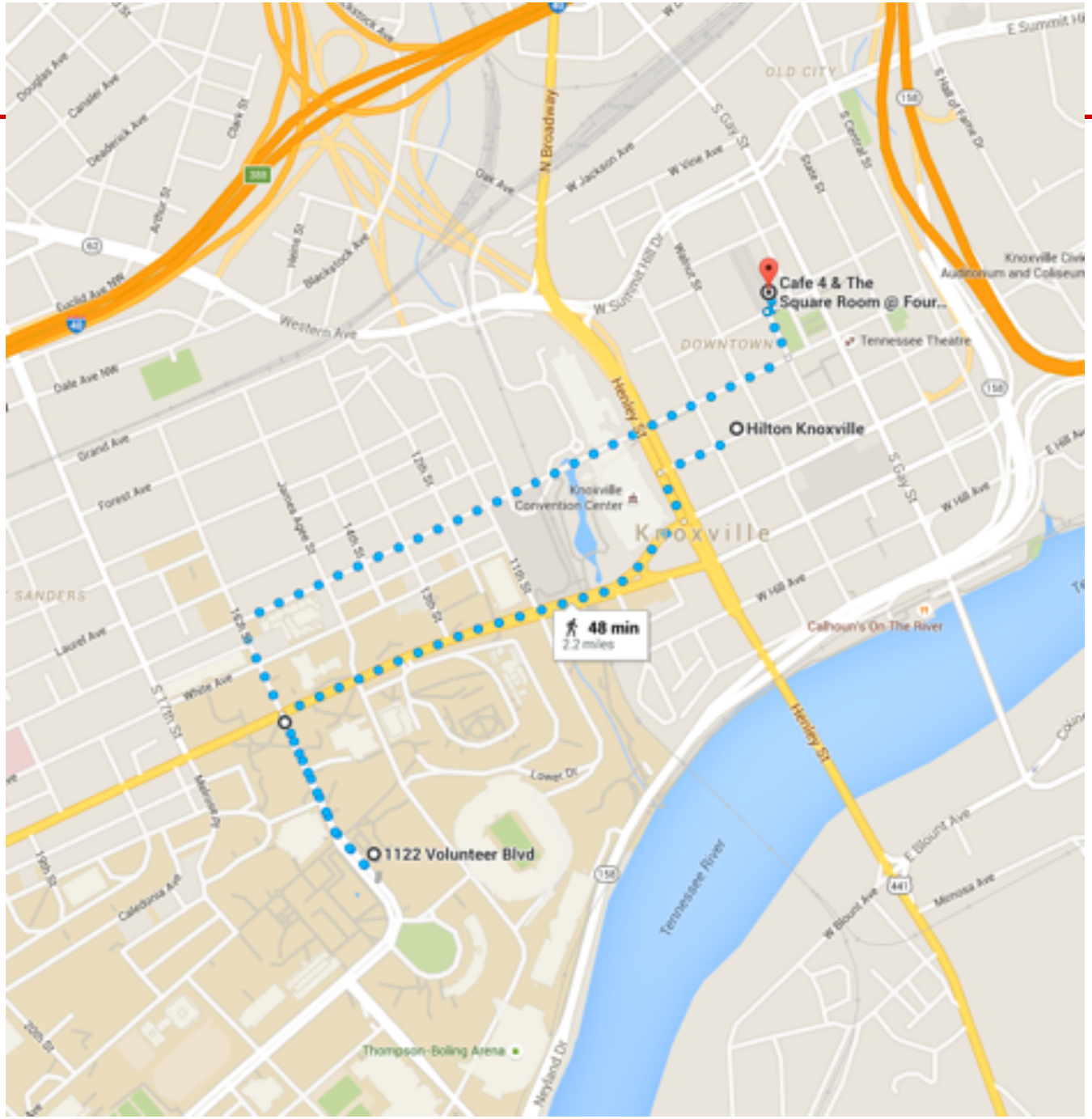
- 300 pages
- Perhaps too much
- Google
  - "BLAS Technical Forum"

Today

Wednesday		
May 18th	Claxton Room 205-206	
8:00 AM	*Breakfast available*	Room 205
9:00 AM	Welcome& Introduction of Participants	Jack Dongarra, UTK
9:30	Overview of the Draft for the Batch BLAS & Discussion	Stan Tomov, UTK
10:00	Reference Implementation and Testing of Batched BLAS Routines	Mawussi Zounon, U of Manchester
10:30	Example of Cholesky's Efficient Implementations	Jakub Kurzak, UTK
11:00	*Break*	Room 205
11:30	Batched Computations: Approaches and Applications	Azzam Haidar, UTK
12:00	Variable Size Batch BLAS	Ahmad Ahmad, UTK
12:20	Batched BLAS in Preconditioning	Hartwig Anzt, UTK
12:40	*Lunch provided*	Room 233
1:20	Sparse Interleaving for Batched	Jonathan Hogg, Rutherford
1:40	Bench-testing Environment for Automated Software Tuning (BEAST)	Piotr Luszczek, UTK
2:10	Deeper-Dive on the GEMM_BATCH Functionality in Intel MKL	Sarah Knepper, Intel
2:40	Reproducible BLAS & Discussion	Jim Demmel, UCB
3:40	*Break*	Room 205
4:00	Reproducibility	Bill Gropp, UIUC
4:30	Reproducibility; Independent Replication	Mike Heroux, Sandia Labs
5:00	BLAS Interface for Different Precisions	Jack Dongarra, UTK
6:00	*Dinner at The Square Room, 4 Market Square, Knoxville, TN*	Sponsored by Intel

Pedro will be collecting the slides.

May 19th	Claxton Room 205-206	
8:00 AM	*Breakfast available*	Room 205
9:00 AM	The H2020 EC NLAFET Project	Bo Kagstrom, Umea University
9:30	XBLAS and More	Greg Henry, Intel
10:00	What's Going on in ATLAS	Clint Whaley, LSU
10:30	Batched Linear Algebra Operations: BLAS for Many Small Problems	David Keyes and Hatem Ltaief, KAUST
11:00	*Break*	Room 205
11:30	*Vendor presentations*	
	Intel	Shane Story, Intel
	ARM	Chris Goodyer, ARM
12:30	*Lunch provided*	Room 233
1:30	*Vendor presentations continued*	
	NAG	Mick Pont, NAG
	MathWorks	Bobby Cheng, MathWorks
	Nvidia	Sharan Chetlur, Nvidia
	Cray	Aaron Collier, Cray
4:00	Wrap up	Jack Dongarra


Cafe 4 & The Square Room @ Four...
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Hilton Knoxville
Knoxville Convention Center
Knoxville
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1122 Volunteer Blvd
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Thompson-Boling Arena
Tennessee River
Henley St
N Broadway
W Jackson Ave
W Vine Ave
W Summit Hill Dr
Western Ave
Clinch Ave
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Grand Ave
Forest Ave
White Ave
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OLD CITY
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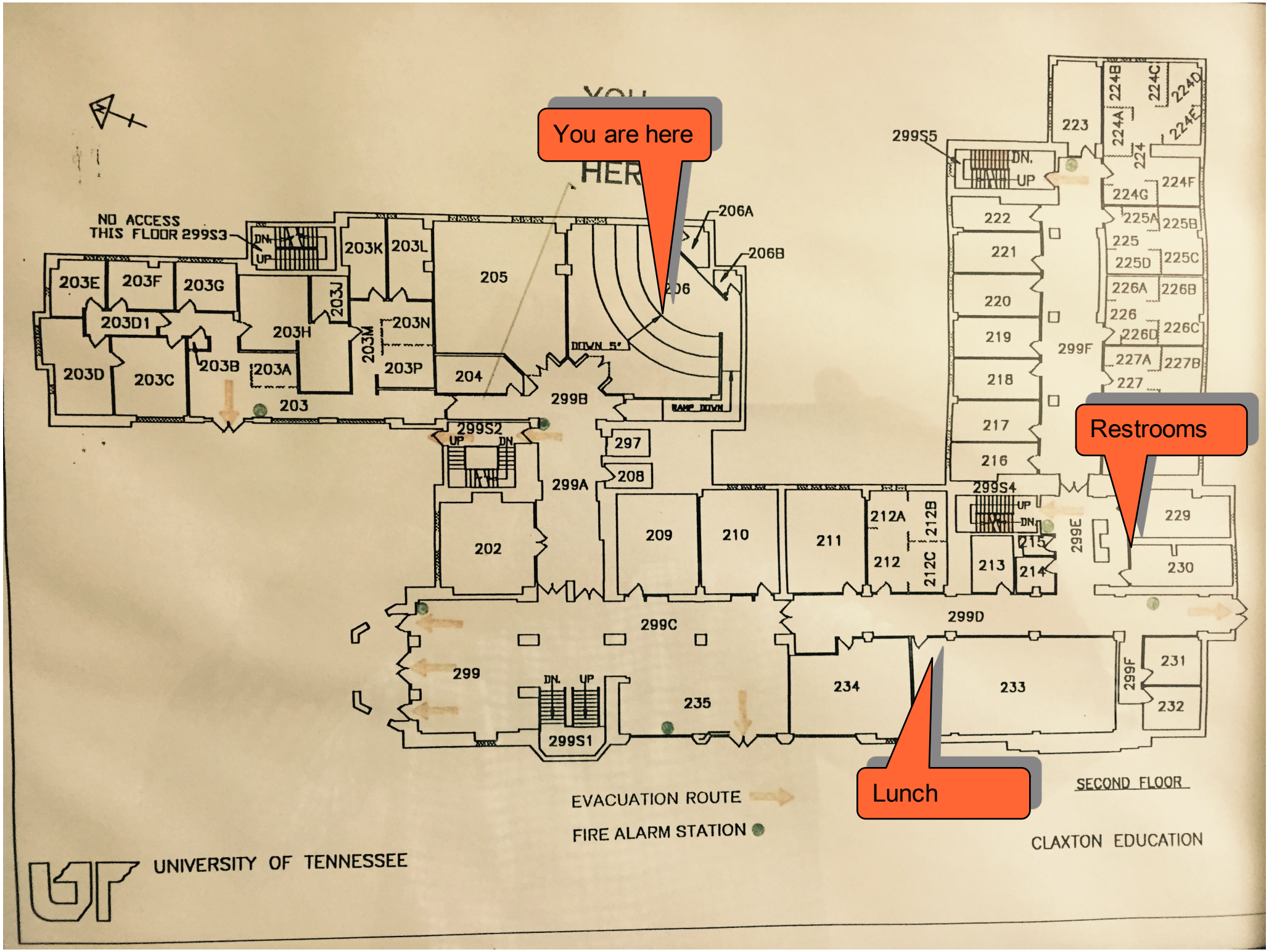
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EVACUATION ROUTE
FIRE ALARM STATION
SECOND FLOOR
CLAXTON EDUCATION
UNIVERSITY OF TENNESSEE

- Thanks again to Intel for sponsoring
  - Pradeep Dubey
- Keep it informal, ask questions
- Wifi
  - Eduroam
  - ut-visitor
- Group picture before lunch outside in front of the building
- Introductions

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