

Overview of TACC

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Fall 2018

Your instructors

Victor Eijkhout (12:30 section)

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work at the
Texas Advanced Computing Center

So where is TACC?



How do you get to TACC?



Pickle Campus

Formerly Balcones Research Center,
location of some of the best wildflowers in Austin.



TACC

- Started in 2001 with 10-ish people, now 130
- UT has had computing centers before; in 2001 TACC became independent unit: falls under VP for research.
- First major supercomputer in 2008: Ranger.
- Currently: Stampede2, #12 in the world and largest academic computer in the U.S.

TACC now

- 130-ish people, divided in Systems, High Performance Computing, Computational Biology, Big Data, Visualization, Outreach (and more) groups.
- 15 platforms
- 200 public data collections
- 30 web portals with 35k users
- new 10MWatt data center
- second new building in 10 years

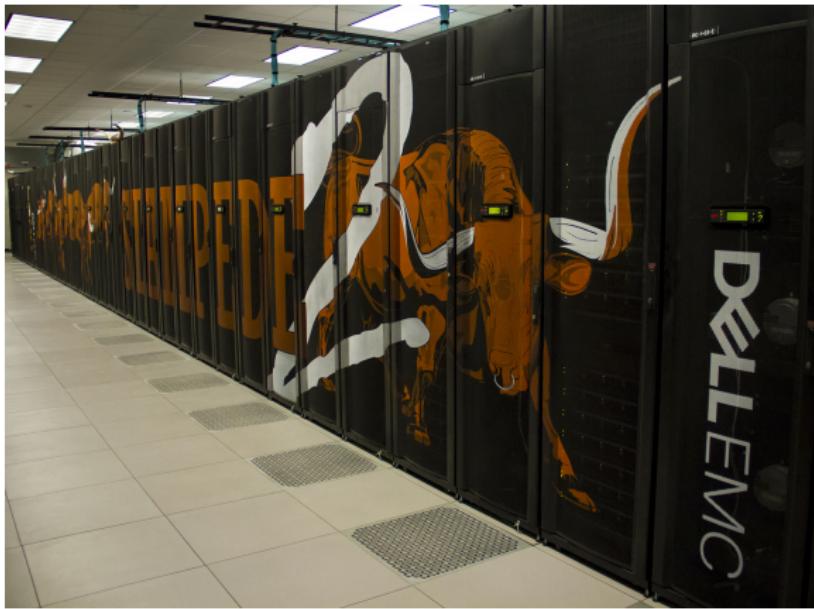
Stampede2

- Our current biggest machine: cost \$50M
- 4000 nodes with Intel ‘Knights Landing’ Xeon phi;
1700 nodes with two Skylake server processors.
- 75 miles of cabling, up to 4.5Mwatt power
- TACC’s machines are popular and reliable:
Stampede1 was used by 5000 users, up 98% of the time,
8 million jobs over its lifetime.

Stampede1



Stampede2



Stampede cabling



Maverick2

GPU machine



Btw, this picture is not sideways:
the machine hangs in a bath of HEB-\$1/bottle-mineral oil
(ok, slightly better than that)

Lonestar5

Our Cray



Hikari



Hikari cooling



Big data

- Wrangler: big data machine with lots of SSDs
- Rustler: hadoop cluster
- Stockyard: 20Pbyte spinning disc (shared between all clusters)
- Ranch: 50Pbyte of tape

Wrangler



Clouds

- Rodeo: early cloud machine
- Chameleon: cloud research
- Jetstream: for educational use

Jetstream



Catapult

Microsoft FPGA machine learning platform



Stockyard

Mass storage

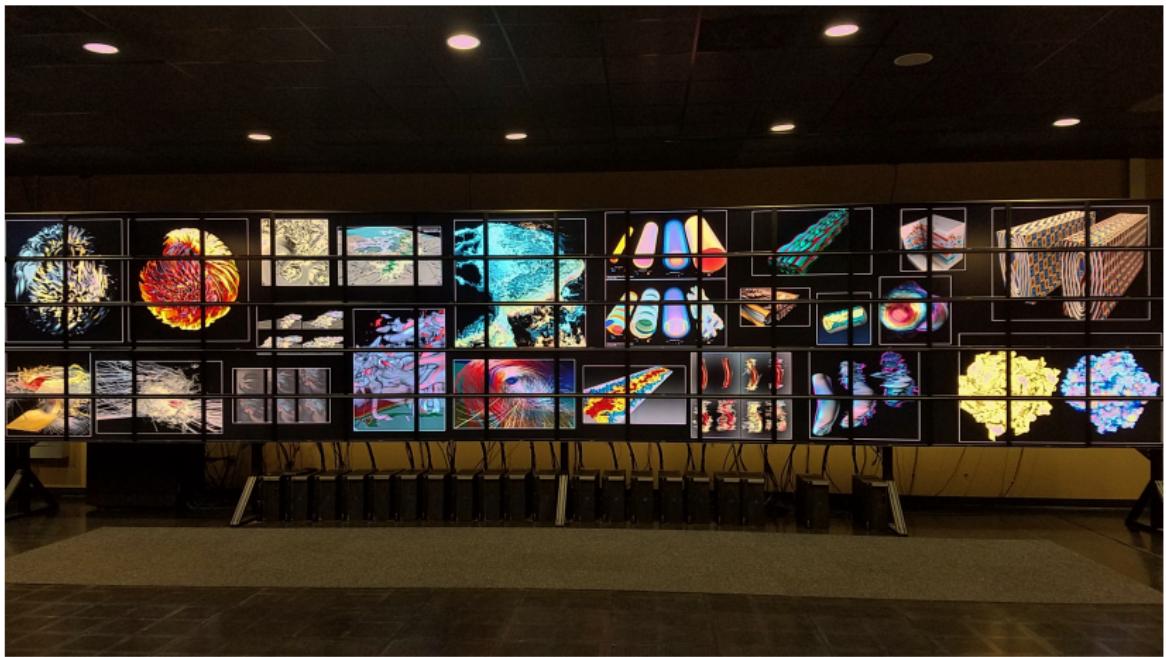


Visualization lab (POB)

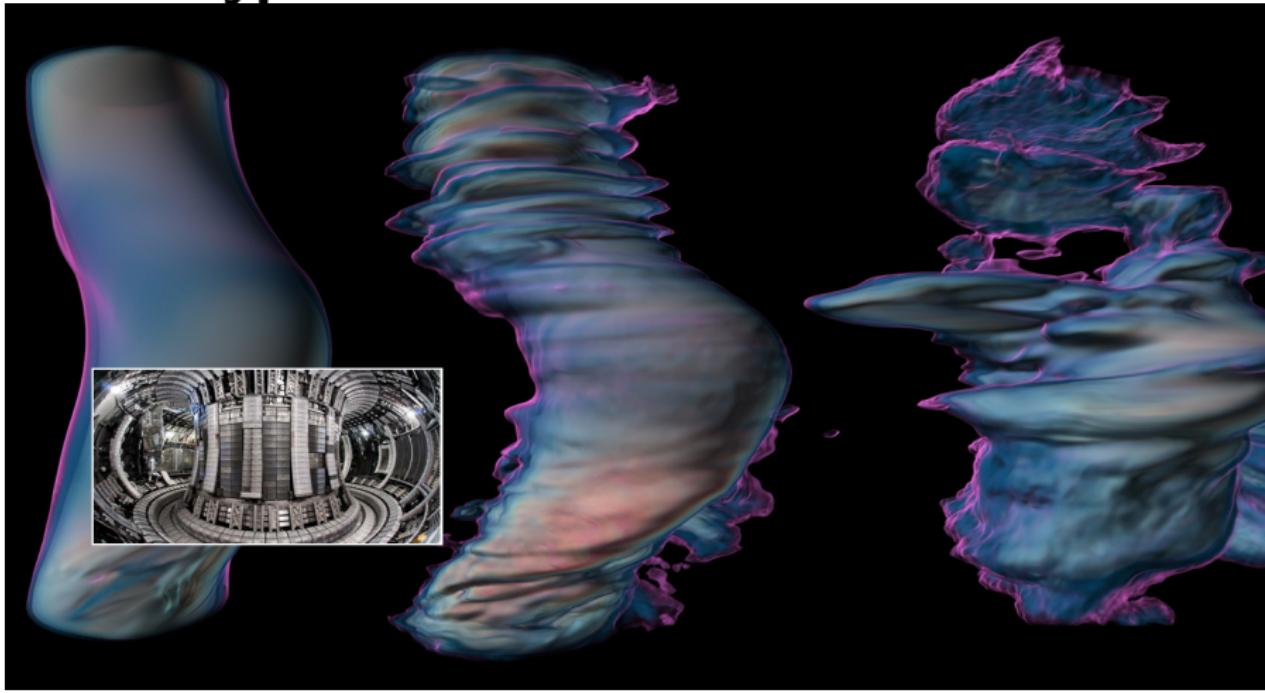


A picture is worth a thousand...

Our graphics people can help you understand your results (and sell your research) through high quality visualization.



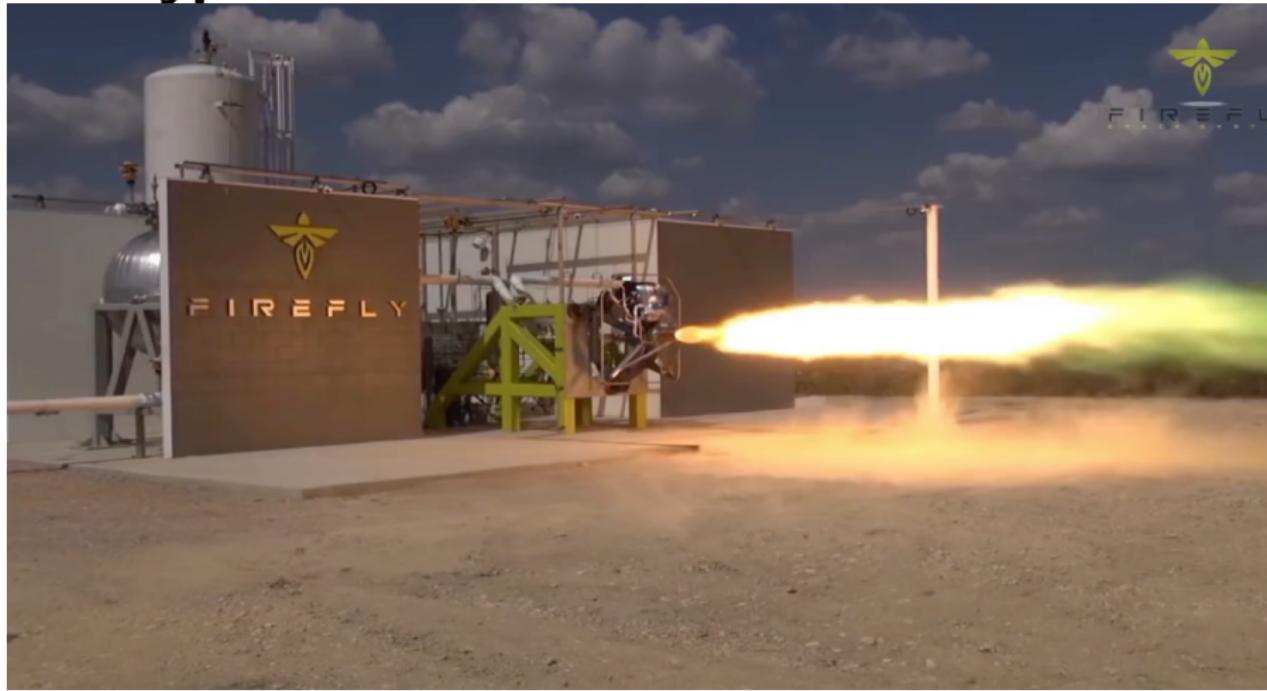
Typical academic customer



Non-typical academic customer



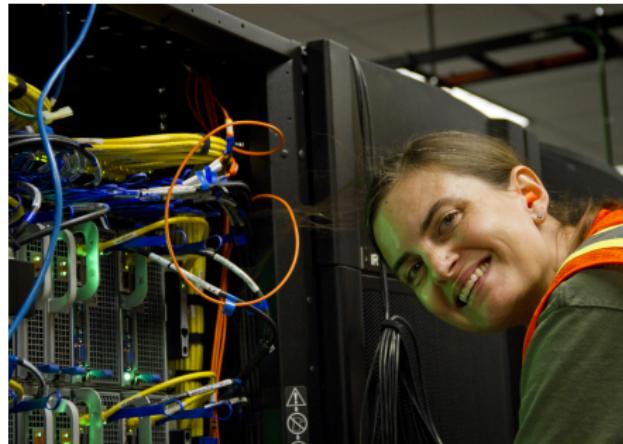
Typical non-academic customer



We're very hands-on



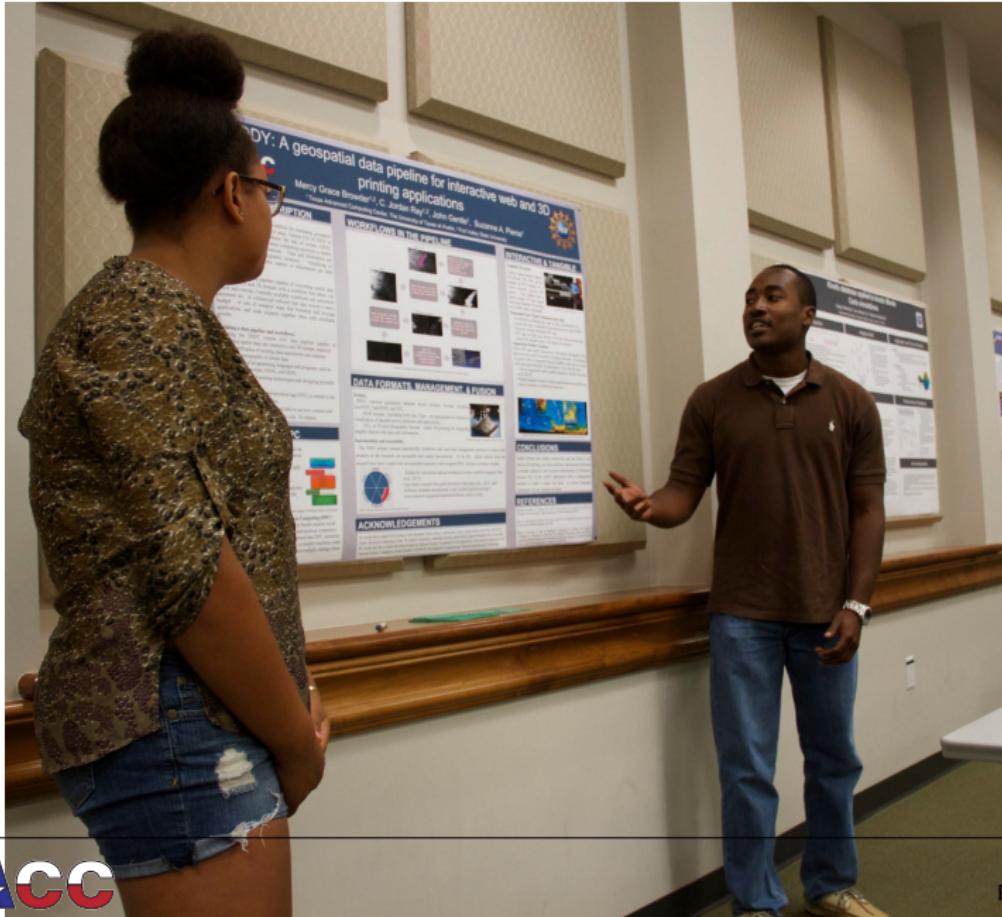
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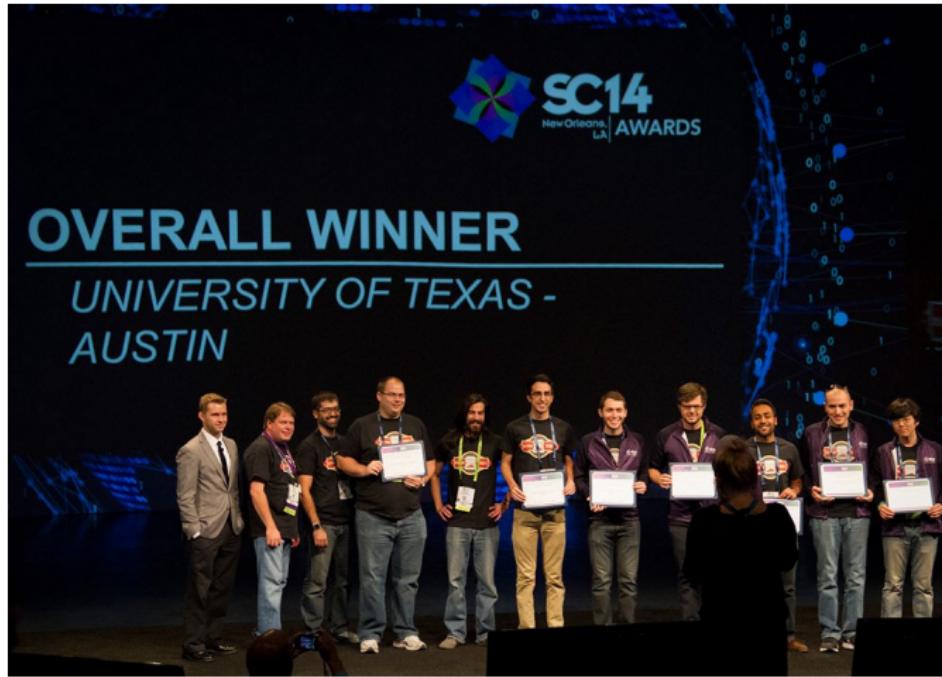
We're very hands-on



Student activities: REU



Student cluster competition



Outreach: Code at TACC



We keep growing



Our new building



TACC is a nice place to be

