TAMUSA RESEARCH RESOURCES

BRICCS/TACCIO MEETING

IZZAT ALSMADI

AGENDA

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1. TAMUSA Research Community
2. Current Research Computing in TAMUSA
3. Challenges faced and help needed

TEXAS A&M, SAN ANTONIO

- With Texas A&M, Central Texas, Texas A&M, San Antonio is the latest institution in A&M system (established in 2009).

- The University is growing fast, (according to the University website), from 2009 to fall 2017, enrollment grew 340 percent. The University currently serves nearly 6,500 students and has graduated more than 8,000 alumni.

COMPUTING AND CYBER SECURITY DEPARTMENT

Existing Programs	New Programs
BS: Computer Science	BS: Cyber Security (2020)
MS: Computer Science	BS: Cyber Engineering Technology (2020)
Bachelors in Business Administration (BBA-CIS) Computer Information Systems (CIS)	MS: Cyber Security (2023)
Bachelors in Applied Arts and Sciences (BAAS-IT)	PhD: Cyber Security (2023)
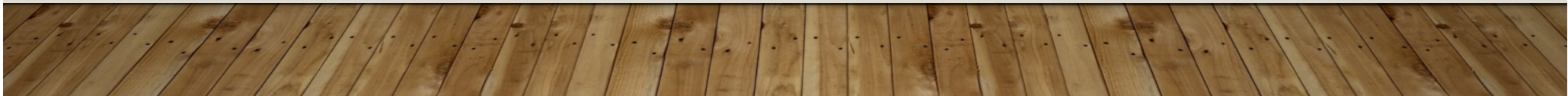
TAMUSA HPC RESEARCH COMMUNITY
## (LOCALLY AND WITH REGIONAL AND NATIONAL PARTNERS): GOALS

- 1. Encourage and develop HPC expertise and community within the University.

- 2. Encourage collaboration and increase the impact of HPC both within the University and beyond.

- 3. Facilitate exchange of ideas and to disseminate cutting edge HPC knowledge via research seminars and conferences.

- 4. Provide an external reference point for communications with the wider community on HPC matters.

WHAT WE HAVE SO FAR ?
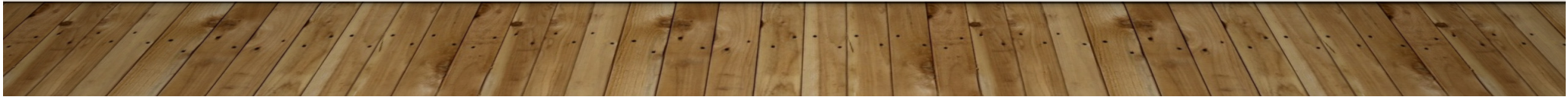
GRANTS

- CCS department has several funded grants from NSF and other agencies.

- But while we applied for several grants related to HPC, none of those proposals was funded.

- Finally, we were able to start an HPC cluster through a system grant

FIRST HPC RESOURCES IN TAMUSA

- An ongoing project to acquire first HPC resources is progressing.

- Money is acquired through a Chancellor Research Initiative grant (CRI) awarded to Texas A&M University-San Antonio, TX, USA, CCS department.

- The cluster will have 20 CPU nodes and 4 GPU nodes.

- With current support, we can only have it local/internal in one building and cannot connect to other institutions.

CHALLENGES/ HELP NEEDED
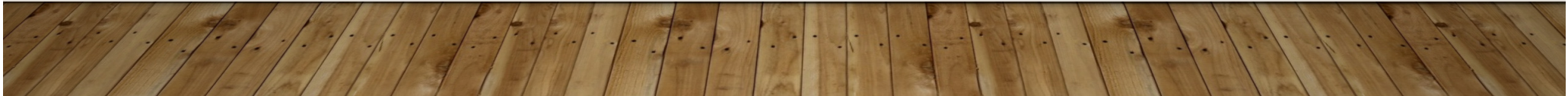
HELP-NEEDED: (1) INFRASTRUCTURE

- On the infrastructure side, we hope we can run/operate and use those resources in the next few years. Its all new so I imagine we will need a lot of help.

- In the current infrastructure, researchers will be only able to use resources from one room in campus.

- (1) We hope we can extend it to all the campus.

- (2) We hope we can allow our researchers to use the resources remotely

- (3) Connect and collaborate beyond the campus resources

BUT IN MY OWN EXPERIENCE, INFRASTRUCTURE IS NOT THE BIGGEST CHALLENGE

- There is a significant learning curve and a significant process to acquire any HPC resources, even for those who are available for "public" users.

HELP-NEEDED: (2) TRAINING AND HUMAN DEVELOPMENT (RESEARCHERS)

- We are relatively a new University with largely undergraduate programs.

- This is the first research computing locally in our campus

- We collected different data about current already existing faculty researchers who use HPC resources from other sources.

- We believe that many others are in real need for such resources.

- Our major challenges, in the near future, will be related to building a local research community.

- Faculty researchers are new to this:

- Many of them are not sure if the problems they have can be solved using HPC

- If yes, they don't know even how (e.g. programming, resources usage, allocation, etc.)

HELP-NEEDED: (3) TRAINING AND HUMAN DEVELOPMENT (ITS SUPPORT)

- Our contract through vendor will cover basic support for HPC infrastructure support

- However, as this is completely new to TAMUSA, we don't have any ITS personnel who can provide any type of support in any form.

- The current grant has little money left to possible pay for graduate students who can be trained (else where) and be able to act as temporary supporting personnel