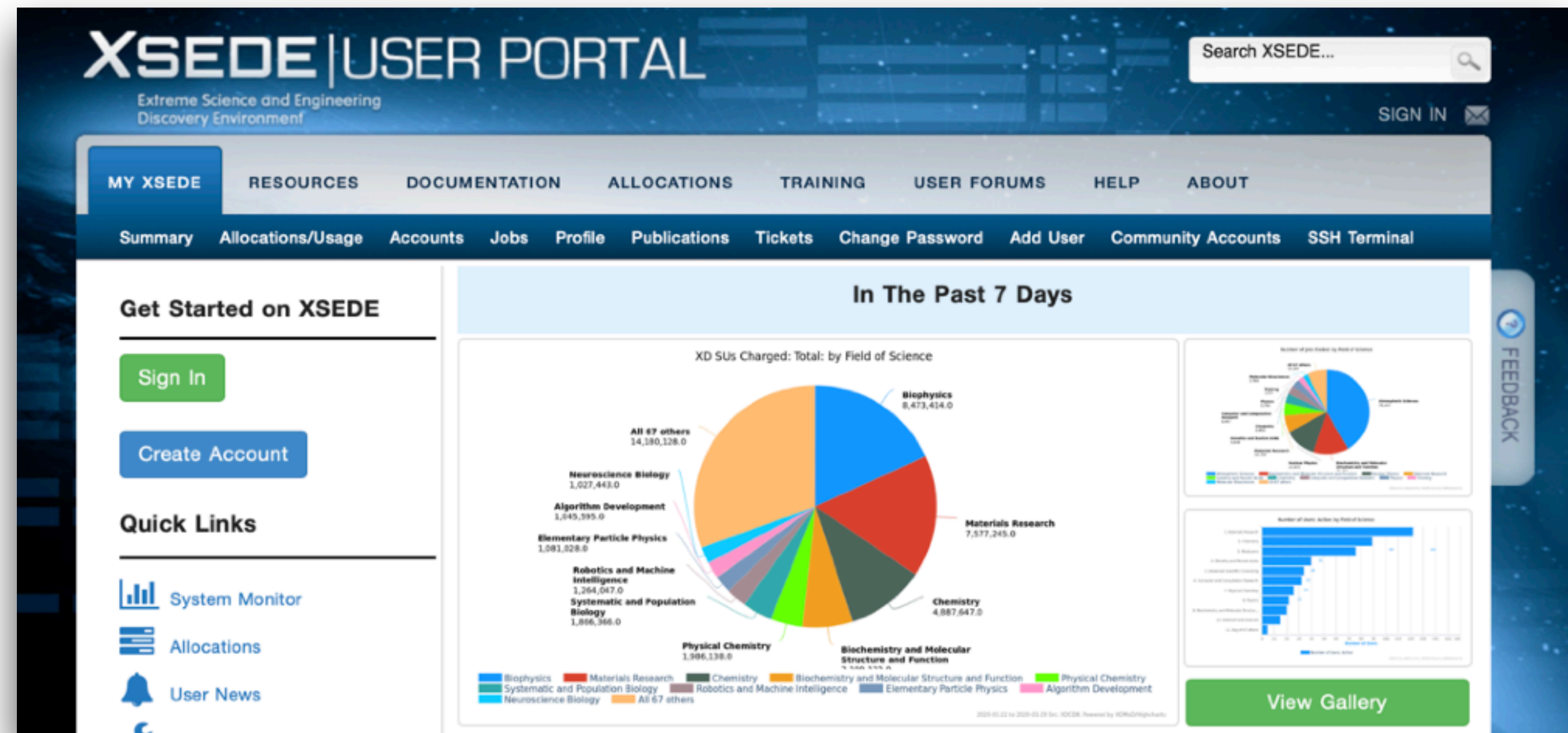


- A lot of what we will work through today is covered in the “Getting started with XSEDE” tutorial.
- This can be found at <http://portal.xsede.org/>. Click on the tabs marked “Documentation” and “Get Started”.
- You should already have
 - an XSEDE account and access to the class allocation
 - signed up for Multi-Factor Authentication with Duo (<https://portal.xsede.org/mfa>)
- So you can start from “Login to your Allocated Resources” on the left pane.



XSEDE | USER PORTAL
Extreme Science and Engineering Discovery Environment

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Getting Started with XSEDE
Last update: October 31, 2019

What is XSEDE?

The Extreme Science and Engineering Discovery Environment (XSEDE) is a virtual collaboration funded by the National Science Foundation that facilitates free, customized access to advanced digital resources, consulting, training, and mentorship. XSEDE helps the nation's most creative minds discover breakthroughs and solutions for some of the world's greatest scientific challenges.

XSEDE's virtual cyberinfrastructure allows scientists to interactively share computing resources, data, and expertise. XSEDE resources may be broadly categorized as follows: High Performance Computing, High Throughput Computing, Visualization, Storage, and Data Services. Many resources provide overlapping functionality across categories.

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Cluster computing



On 7/22/2019, your professor visited the Texas Advanced Computing Center (TACC), home of an XSEDE computing cluster, Stampede2.

- The XSEDE supercomputers are not especially fast computers, but are computing clusters, groups of computing nodes that work together
- The most common way for computational scientists to utilize these computers is to submit a batch job to the queue
 - a batch job contains
 - information about the job, e.g.
 - allocation
 - maximum duration
 - type and amount of resource, e.g. CPUs or GPUs
 - a series of commands, like if you typed them into the terminal
 - The queue
 - is usually managed by a master node
 - prioritizes jobs
 - distributes jobs to worker nodes