



SciGaP: Apache Airavata Hosted Science Gateways

Marlon Pierce, Suresh Marru, Eroma Abeysinghe, Sudhakar Pamidighantam, Marcus Christie, Dimuthu Upeksha
Science Gateways Research Center, Indiana University
* contact: sgrc@iu.edu

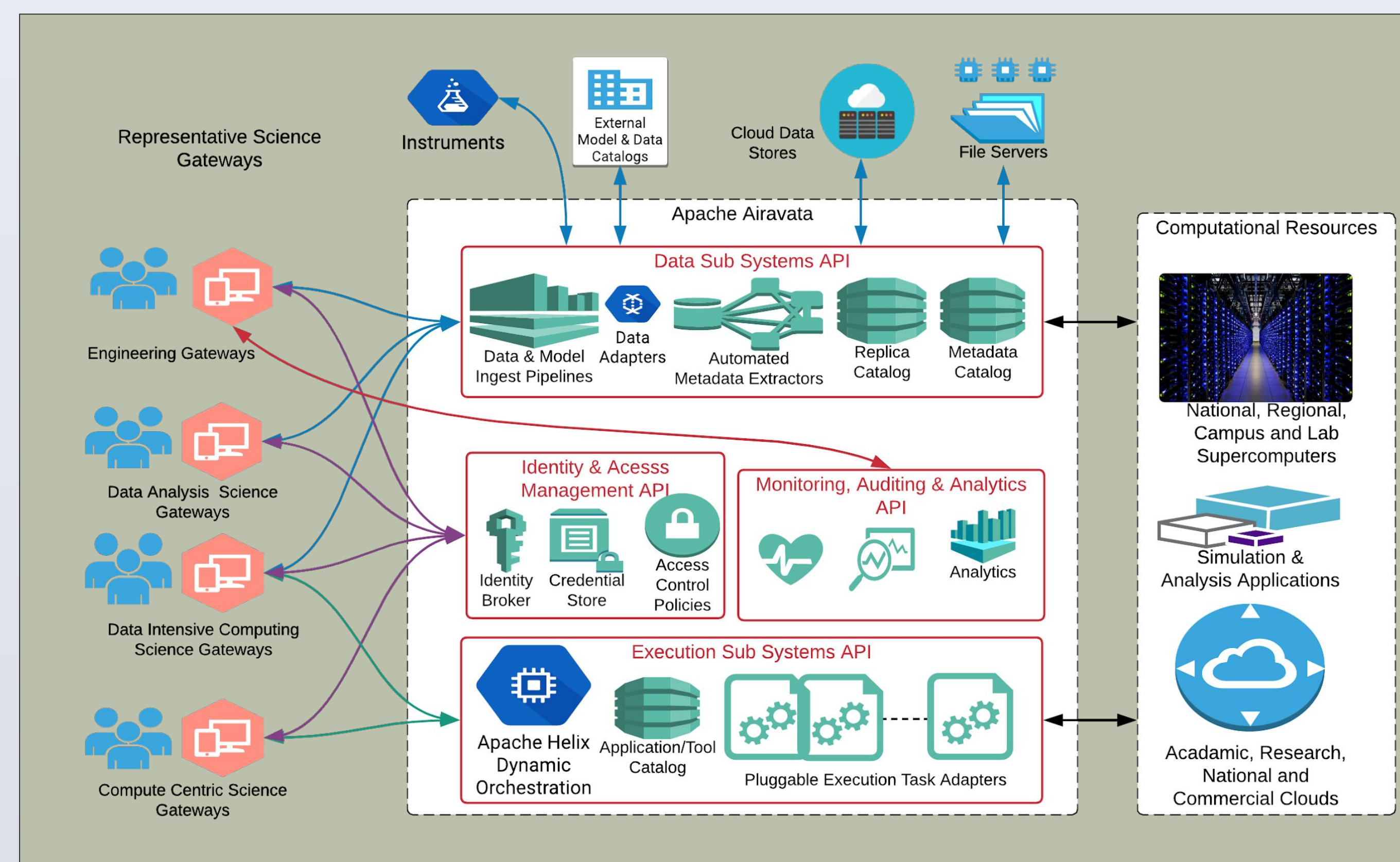
POWERED BY



Introduction

The Science Gateways Platform provides Apache Airavata as a service (<https://scigap.org/>) for building and hosting science gateways for managing the execution of scientific applications on diverse computing resources, capturing metadata about computational experiments, and sharing results with collaborators.

SciGaP gateways represent a diverse group of scientific communities, including **campus gateways**, **science domain gateways**, and **software-as-a-service gateways**.

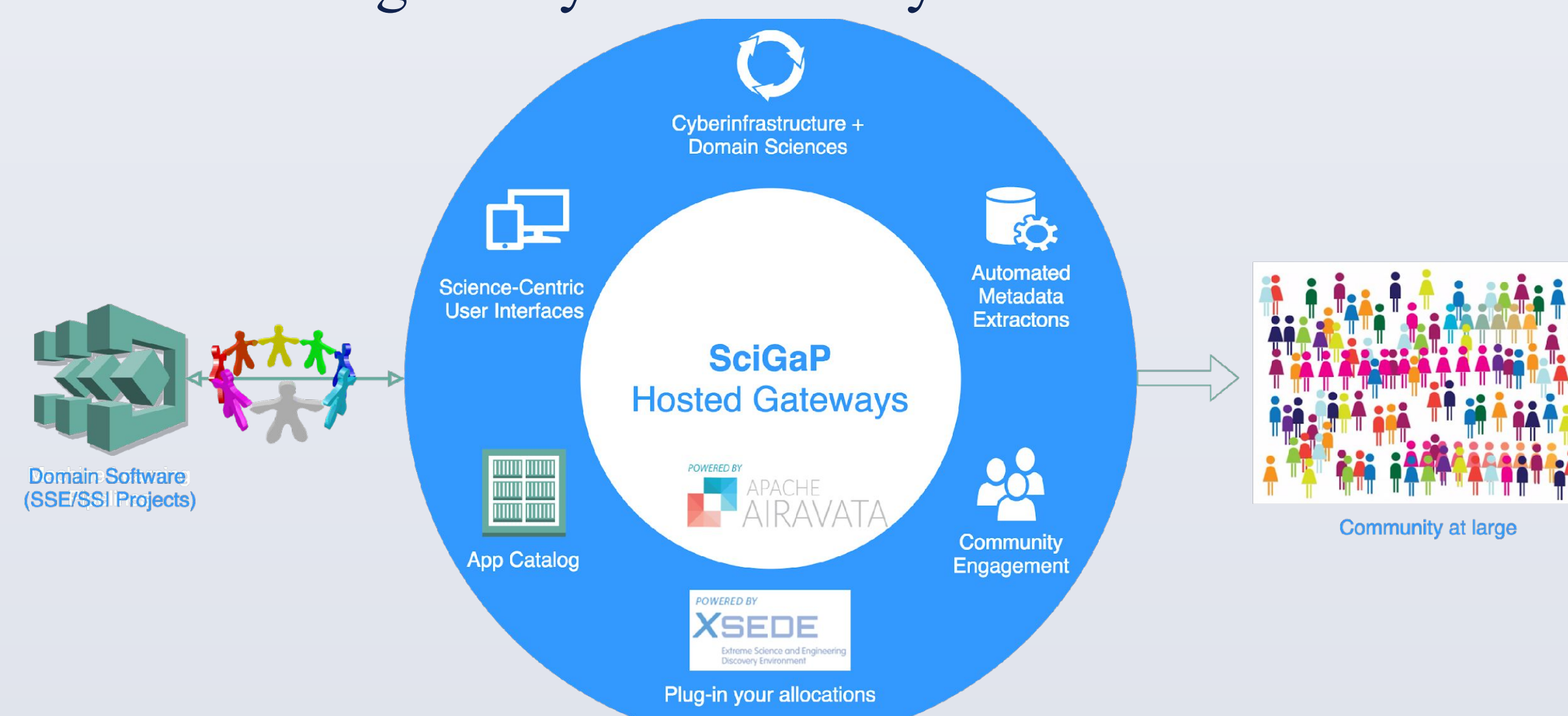


- SciGaP will host, manage, provide basic storage for the gateway.
- Ability to submit jobs to XSEDE resources, campus resources and cloud resources.
- A generic gateway user interface which can be customized as per the needs of the client.
- Gateway can integrate to use campus authentication for users.
- The gateway has interfaces for both gateway administrators and end users.
- Can seamlessly add/remove/update resources, applications without disrupting user experience.

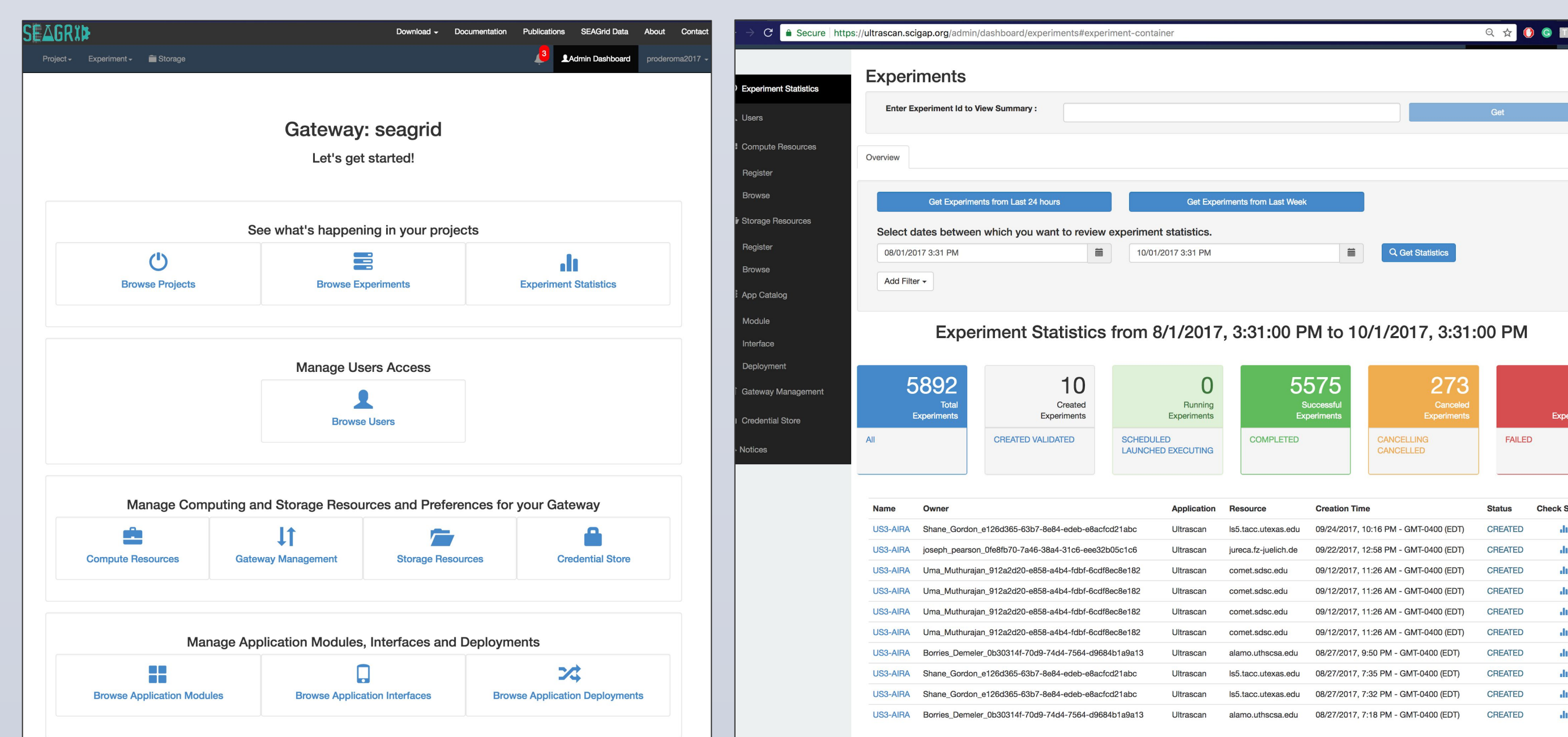
Build your Gateway

The SciGaP service provides hosted services to support gateways. We run the services so you can focus on your community..

- ❖ Request a gateway from SciGaP.org
- ❖ The SciGaP team will work with you to integrate your local computing and storage resources into your gateway.
- ❖ XSEDE resources are centrally available for gateways to use right away with their allocations, community accounts.
- ❖ SciGaP team provides initial consultation for the gateway PI/admin on gateway functionality familiarization.



- ❖ SciGaP provides up to 1 month detailed technical support for gateways to get up and running, followed by optional bi-weekly support calls.
- ❖ Gateways requiring more extensive consultations can request Science Gateway Community Institute support. Examples include custom Web interfaces and desktop client integration.
- ❖ Gateway admins are provided with Admin Dashboard to support their users, from activating their accounts to troubleshooting issues with executions in HPCs.



Admin Dashboard

Job Statistics in Dashboard

Collaborations

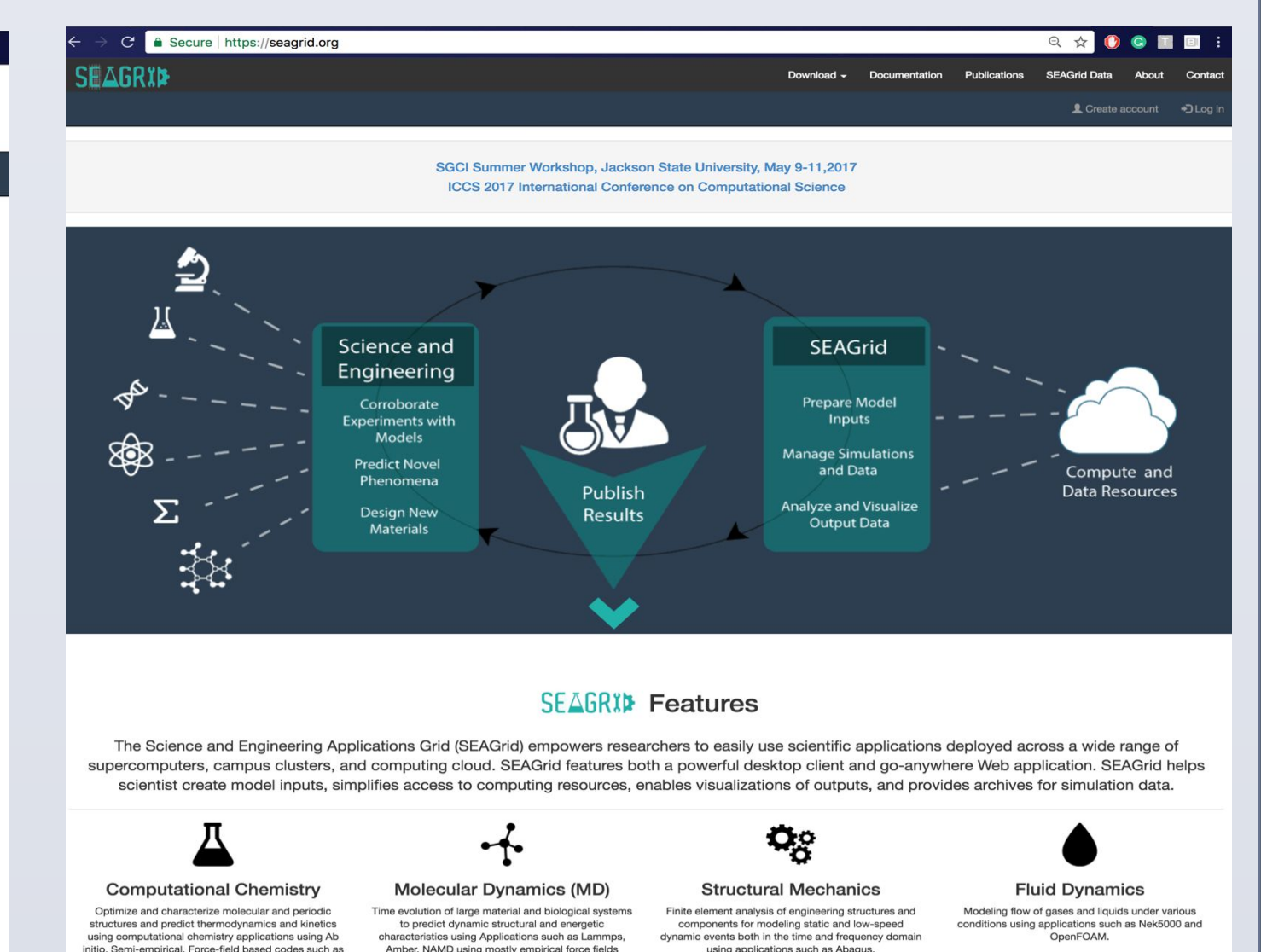
<https://scigap.org/pages/collaborations>

SciGaP Client Gateways

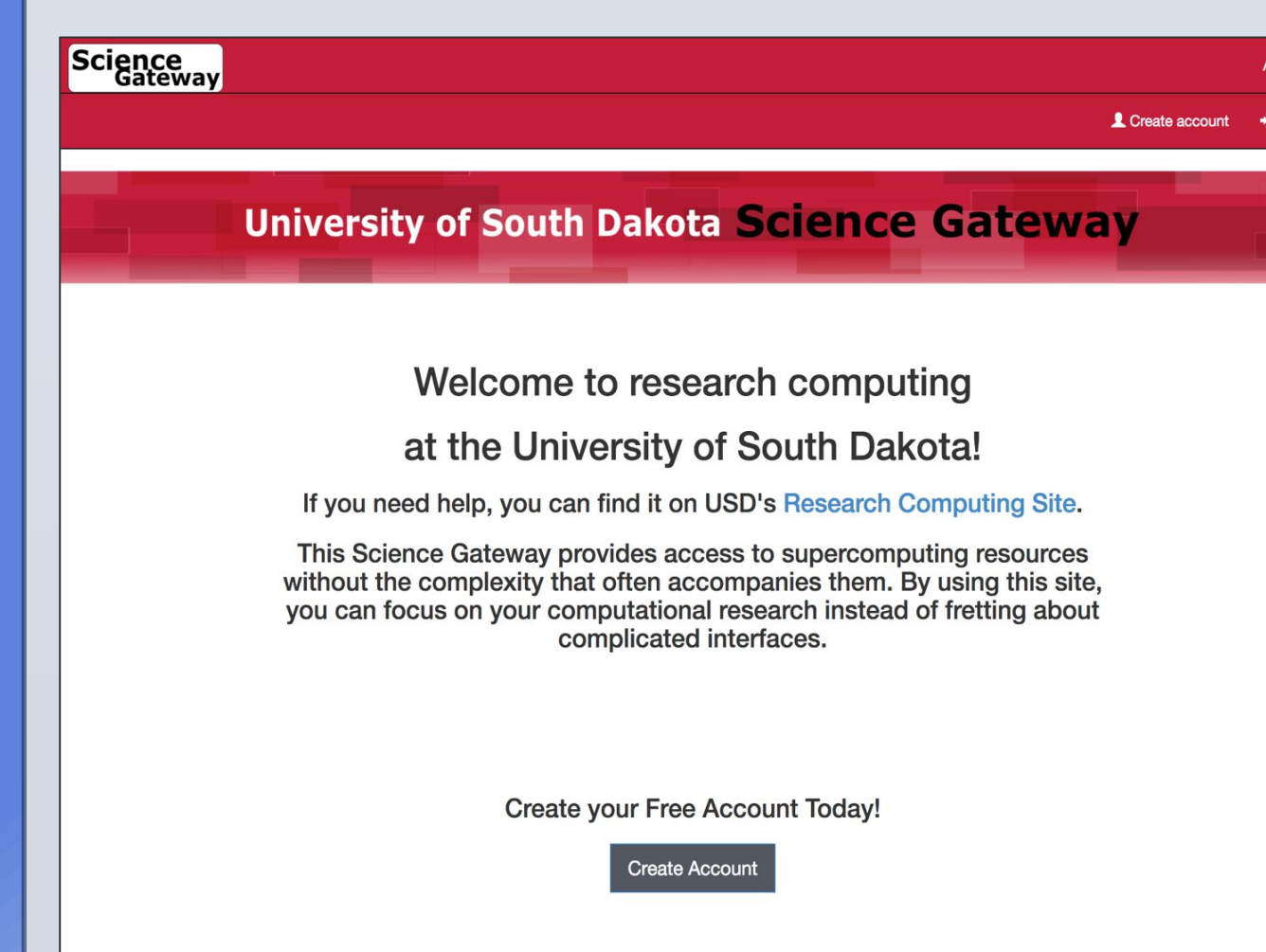
- ❖ **dREG** provides a software-as-a-service gateway that efficiently delivers the developers' bioinformatics applications on XSEDE resources.
- ❖ The **University of South Dakota** campus gateway gives USD users simplified access to a range of popular scientific applications installed on campus clusters.
- ❖ **SEAGrid.org** integrates Web and desktop clients to support advanced usage of computational chemistry and engineering applications.
- ❖ The **SimVascular Gateway** is a software-as-a-service gateway used to deliver SimVascular for classroom usage.



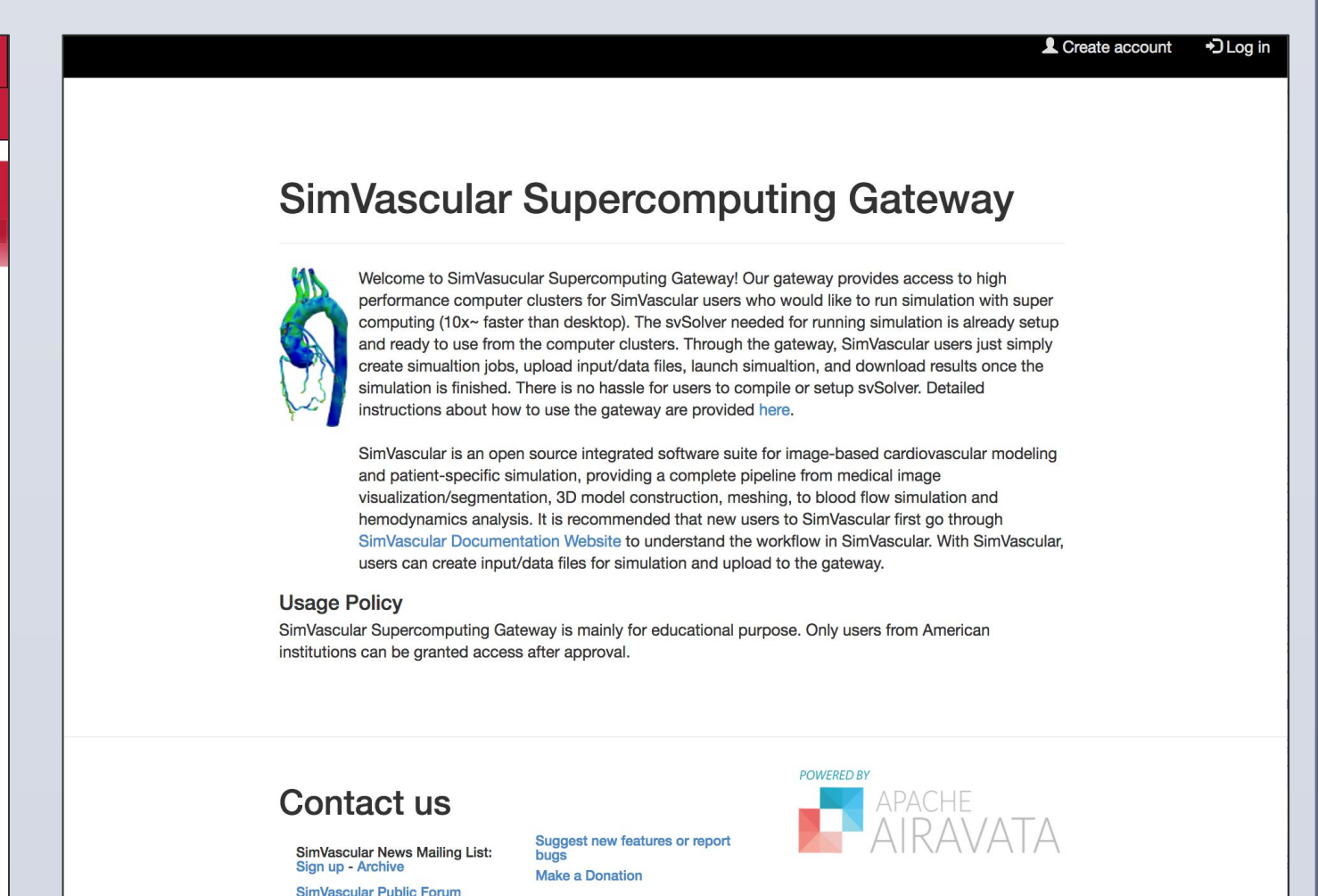
<https://dreg.dnasequence.org>



<https://seagrid.org>



<https://sciencegateway.usd.edu>



<https://gateway.simvascular.org>

Acknowledgements

The authors would like to thank the Apache Airavata project management committee for continued development of a open community science gateway framework. The Apache Airavata project supported by the National Science Foundation ACI award #1339774. Further information:

<http://airavata.apache.org/> <https://scigap.org/>