

Global Cardiovascular Disease Funders Forum (GCRFF) Data Challenge

Information Session



American
Heart
Association®

About the GCRFF

- A coalition of major international cardiovascular research funders.
- Improve cardiovascular health worldwide by catalyzing, supporting, and promoting transformational international research efforts in heart, stroke, and circulatory diseases.
- Identify research gaps, coordinate multinational clinical trials, share data, and oversee the international research funding portfolio.

GCRFF Data Challenge

The GCRFF invites scientific researchers to compete in a data challenge to better understand how to improve acceleration of science through funding. The winning project is eligible to receive a \$20,000 USD cash prize.



Goal of the Data Challenge

This data challenge aims to identify gaps in research funding for cardiovascular and stroke science.

How can the organizations that fund cardiovascular and stroke science most effectively fund research to drive discoveries and improve lives?



Research Question Ideas

Identify the current gaps in research funding for cardiovascular and stroke science.

Identify the top funded topics and the return on the investment.

Could use publication number, impact factor of journal, etc.

Publications could be linked to grants through the acknowledgement section where the grant ID and title is usually listed.

Build a prediction model for which funded applications are most successful (i.e. publication record of grantee, area of research)

Current models of “success” used in academia and non-profits include number of publications, impact of the journal, number of citations.

Are there additional variables that best predict success? (changes to guidelines, patents, procedures in healthcare, etc.)

Build an interactive visualization map of GCRFF funding at the institutional level – including # of grants, keywords, amount funded, etc.

Analyze proportion of funding vs. burden of disease to determine if certain areas are underfunded.

Dataset

Grant Funding Data from 11
GCRFF Member Orgs



233,701 grants



Timeframe: 2017-2024*

*Most data is within this range, but there is some data that goes back to 2008.

Dataset

Organization Name	Institution of grantee	Title provided by grant applicant	Type of grant
Name(s) of principal investigator(s)	Start date of grant	End date of grant	Keywords provided by applicant
Abstract provided by applicant	Amount funded	Currency type for funded amount	Funding range

Data & Requirements

- Researchers from academic institutions may apply.
- Must be able to code using Python, R, or SAS. Please review the workspace tools available on the Precision Medicine Platform for more information
- You can bring your own data (BYOD) to use in conjunction with the dataset provided (any additional data should be de-identified).
- Each participant can upload data into their own private workspace on the Precision Medicine Platform; no one else will have access to your data.
- All data must be uploaded/analyzed in a workspace on the Precision Medicine Platform to meet the data challenge submission requirements.

How to participate

1. Visit <https://precision.heart.org/gcrffdatachallenge> for all the details.
2. Review data documentation.
3. Develop your proposal that addresses a specific research question.
4. Register and submit proposal.
5. Get project approved.
6. Analyze data on PMP.
7. Submit your project for a chance to win a cash prize.
8. Publish your work.



Proposal and Registration Form



GCRFF Data Challenge Registration

Thank you for your interest in participating in the Global Cardiovascular Research Funders Forum (GCRFF) Data Challenge. You must submit this form to be considered for the data challenge.

If you are participating as a team with other people, please only submit one form for the entire team.

Please be ready to submit this form in one session as it cannot be saved. We would highly suggest preparing responses to the Research Proposal section in a separate document and then copy/paste your responses into this form and then submit.

PI First Name *

PI Last Name *

Research Proposal

Please provide responses in a few sentences only for each question. We encourage succinct and brief responses.

Working Title of Research Proposal *

Research Aims *

Research Objective *

Significance *

Precision Medicine Platform Portal

Launch your
workspace

Share the
workspace,
manage user
permissions

Adjust
workspace
configuration

Sync files
between the
portal and
workspace

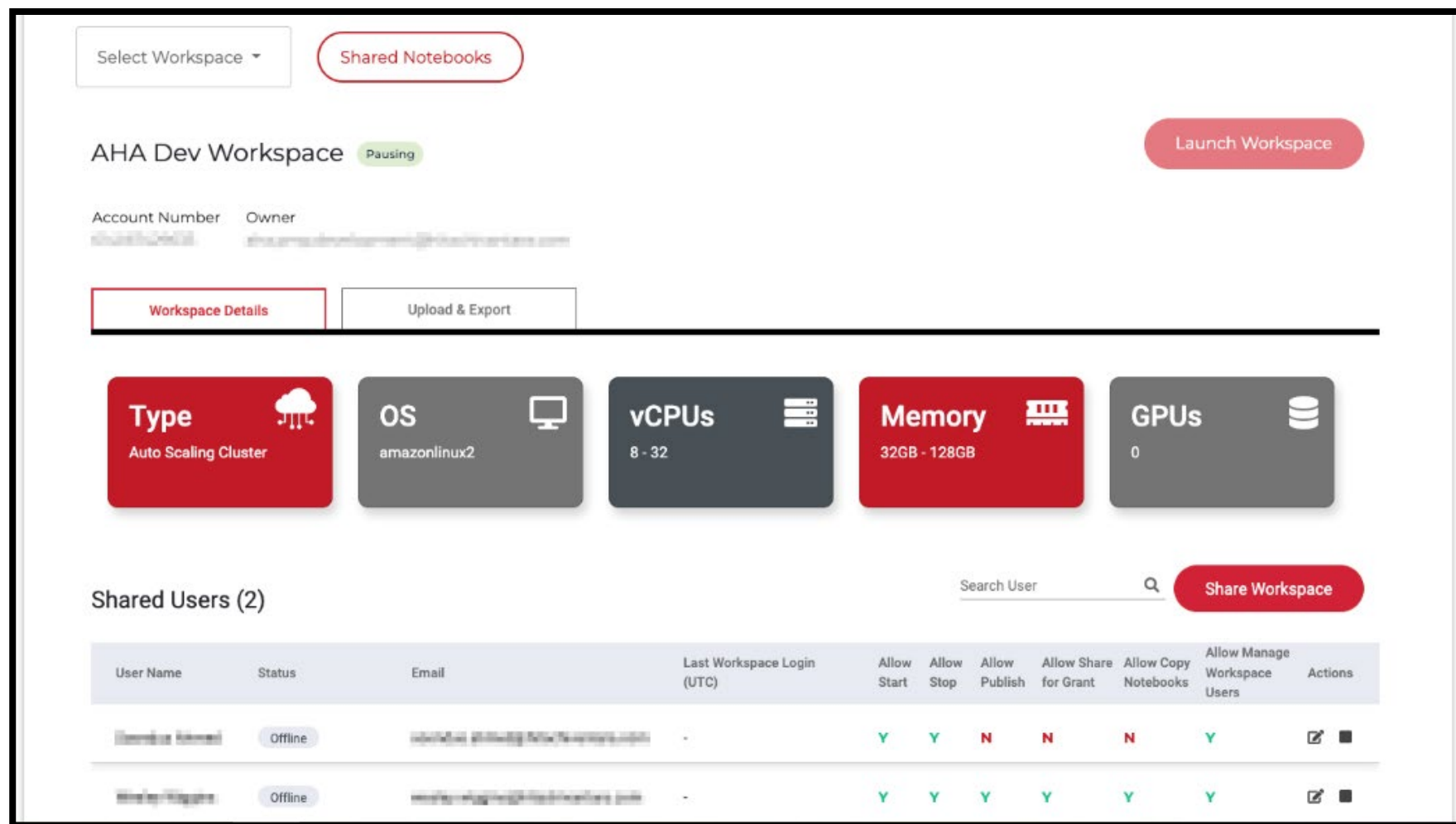
Publish/Share
notebooks

Access the User
Guide

Access dataset
documentation

Submit a
technical
support request

Submit a
question to AHA
staff



The screenshot shows the 'AHA Dev Workspace' interface. At the top, there's a 'Select Workspace' dropdown and a 'Shared Notebooks' button. The workspace is currently in a 'Pausing' state. Below this, there's a 'Launch Workspace' button. The interface displays account information: 'Account Number' and 'Owner'. A tabbed interface shows 'Workspace Details' and 'Upload & Export'. The 'Workspace Details' tab is active, showing various configuration options: 'Type' (Auto Scaling Cluster), 'OS' (amazonlinux2), 'vCPUs' (8 - 32), 'Memory' (32GB - 128GB), and 'GPUs' (0). Below this, there's a 'Shared Users (2)' section with a search bar and a 'Share Workspace' button. A table lists the shared users with columns for User Name, Status, Email, Last Workspace Login (UTC), and various permissions (Allow Start, Allow Stop, Allow Publish, Allow Share for Grant, Allow Copy Notebooks, Allow Manage Workspace Users). The table shows two users, both with 'Offline' status and various permissions.

User Name	Status	Email	Last Workspace Login (UTC)	Allow Start	Allow Stop	Allow Publish	Allow Share for Grant	Allow Copy Notebooks	Allow Manage Workspace Users	Actions
David Kim	Offline	david.kim@aha.org	-	Y	Y	N	N	N	Y	[Edit] [Delete]
Walter Higgins	Offline	walter.higgins@aha.org	-	Y	Y	Y	Y	Y	Y	[Edit] [Delete]

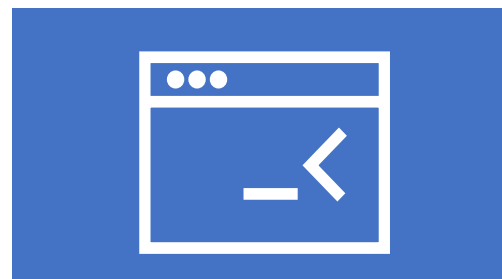
Cloud Computing Workspace



Use tutorials created to help you load, view, and analyze data



Utilize pre-installed analytical tools



Install other software packages necessary for your analysis



Private and secure workspace for you and your research team

Software Applications:

- RStudio
- JupyterHub
- JupyterLab
- SAS
- Various R & Python packages

PRECISION **MEDICINE** PLATFORM

[Precision.heart.org](https://precision.heart.org)

Challenge Timeline

September 30: Proposals due

October 21: Proposals reviewed, accepted proposals notified

October 21-February 21: Analysis period on the PMP for accepted proposals

February 21: Data Challenge Submissions Due

April 7: Submissions reviewed, and finalists notified

April 7 and beyond: Finalists work towards abstract and publication, present at conferences, etc.



Questions?





Thank You.
