The Institute
for Precision Cardiovascular Medicine™

Precision Medicine Platform
Grant Applicant Guide

Institute grant awardees are expected to perform their data analyses on the Precision Medicine Platform (PMP) during the term of their grant. Other grant awardees who request a PMP workspace in support of their research project will also be expected to perform their data analysis on the platform during the term of their grant.

To qualify for a complimentary PMP workspace during the award period of a grant, applicants must first demonstrate their ability to use the secure, cloud-based tool as part of their grant application. Therefore, applicants are given the opportunity to work on the PMP for up to 30 days prior to the application deadline to conduct preliminary data analyses and determine the tools to be used in the workspace to both analyze and visualize data.

Trial Workspace

To obtain a complimentary 30-day trial workspace on the PMP, follow these steps, in order:

1. Initiate the AHA grant application: Go to www.research.americanheart.org to start the application process and obtain an AHA Grant Application ID. You must start the application before you can proceed to the next step.
2. Register on the PMP: Go to www.precsion.heart.org -> Login -> Register
   a. Complete the short form
3. Request a complimentary workspace *at least 5 business days prior to the AHA grant application deadline*
   a. Go to the Search page -> Request Workspace
   b. Complete the form
   c. Disregard any mention of fees. The workspace is being made available to grant applicants for up to 30 days free of charge
   d. Recognize that it can take up to 36 hours for the workspace to be provisioned
   e. You will receive an email notification when the workspace is available for use
4. The Precision Medicine Platform adheres to HIPAA policy and is FedRAMP compliant. Only the applicant and collaborators, co-investigators, or lab members are permitted access. The applicant is responsible for ensuring that all individuals with access to the workspace have the appropriate data access approvals.

Upload Data

To upload sample data onto the PMP, on the [Workspace page](#), click on the Upload icon ⬆. This allows you to upload one or multiple files at a time. Once they are uploaded and you have launched your workspace, the files will be found in the scratch bucket directory.

Data Analysis

The PMP provides a friendly web UI that allows you to write code in various languages (for example, Python, R, Scala), execute the code, and view the results as they are processed. The platform UI is based around the concept of notebook files.

We have included Spark libraries for various languages (e.g. Pyspark, if you're writing Python code) to leverage the full parallel computing power of the Hadoop/AWS EMR platform. You can find examples and code snippets in the sample notebooks that are included on each workspace. Go [here](#) to learn more about workspaces and the various web applications, Jupyter Kernels, packages and tools available on the PMP.

Once you have completed your analysis, create a Jupyter Notebook to include your approach, summary data analysis, information about the data to be used, and a description of the tools you intend to use on the PMP to analyze and visualize data. This notebook must be saved on the workspace in the /mnt/workspace/My_Notebook directory. It is preferred that it be in HTML format. This directory will sync with the Workspace page on the portal.

Share Notebook to Create Static Link

The notebook created in the workspace and saved in the My_Notbook directory will be listed under the My Notebooks & Data section on the [Workspace page](#) of the portal. To the right of the notebook, click on the *Share a Notebook for a Grant Application* icon ↗ to have a static link created to that notebook. When you click this, it will initiate the process to create a static link that will be sent to you via email. Insert the URL in your research proposal write up.

Please note, *only the information in the notebook will be visible to the peer review team*. Therefore, it is imperative that you include everything necessary in the notebook before you request the creation of the link. If you make changes to the notebook after the link is created, you will have to request a new link.

Research Purpose

A successful proposal will include information on the data to be analyzed and how the PMP's infrastructure will be used for the proposed research. To that end, researchers should include

information on the dataset(s) to be used in your study as well as a summary of your preliminary data analysis within the notebook that is created on the PMP. Within your research purpose section, include the static link (URL) to allow the peer review team to review your ability to use the PMP in support of your overall research project. The peer review team will not have access to your workspace, only the notebook that is associated to the link.

Helpful Information

- Grant applicants have up to 30 days of complimentary access to a PMP workspace, ending on the due date of the grant application.
- It can take up to 36 hours to provision a workspace.
- All workspace requests must be received at least five (5) business days prior to the grant application deadline.
- PMP trial workspaces will be shut down at 5pm Central on the grant application due date.
- Data in the trial workspace will not be saved after the application deadline.
- The static link to the PMP notebook must be created prior to the grant application deadline and it is the responsibility of applicants to insert the link (URL) in their research proposals.
- Go here to view the User Documentation for assistance with how to manage the workspace.
- If awarded a grant, an Amazon Web Services (AWS) service credit for use of the AHA Precision Medicine Platform will be provided for computational time, use of AWS tools and infrastructure, and storage, worth up to $50,000 per year.