

Data Grant Portfolio: **Methods Validation Grants**

Key Dates

RFA Posted:	February 23, 2017
Application Deadline:	June 29, 2017
AHA Peer Review:	July-August, 2017
Notification of Awards:	August, 2017
Award Start Date:	September 1, 2017

Purpose

The purpose of the Methods Validation Grants is to identify methods to improve the integration and analysis of data within and across large and diverse datasets using cloud computing. A successful grant will include information on how the previous method or tool was used, the evaluation and validation of the proposed method, and the plan for utilizing the AHA Precision Medicine Platform <http://precision.heart.org> to serve the greater scientific community.

The award seeks to test and validate:

- new machine learning algorithms to curate and harmonize data in the cloud;
- new natural language processing methods for electronic health records in the cloud;
- new pipelines to enable more effective and efficient workflows for analyzing data in the cloud;
- new pipelines for data curation in the cloud.

Applicants are highly encouraged to utilize the AHA Precision Medicine Platform and Marketplace of tools, which will be available to the awardees to utilize for the duration of the award <http://precision.heart.org>. For more information about the AHA's Institute for Precision Cardiovascular Medicine, please visit <http://institute.heart.org>.

Award Characteristics

Duration: Award duration is two years. All work must be completed within this timeframe. No-cost extensions will not be permitted.

Award Amount:

- The Methods Validation Grant is funded at \$100,000/year for a total cash amount of \$200,000 over the two years.
- An additional Amazon Web Services (AWS) service credit will be given for computational storage and analysis up to \$150,000/year.
- The Institute Executive Committee reserves the right to determine the final award amount for competitive projects based on need and potential impact.

Number of Awards: Three grants will be awarded.

Prizes

- A \$10,000 cash prize will be awarded each year to the investigator within the Methods Validation Grant

Program who achieves the most significant, impactful progress and accomplishments.

Appropriate Budget Items:

- Salary and fringe benefits of the Principal Investigator, collaborating investigator(s), and other participants with faculty appointments.
- Project-related expenses, such as salaries of technical personnel essential to the conduct of the project, supplies, equipment, travel, and publication costs are unrestricted in accordance with institutional and AHA policies.
- 10% institutional indirect costs are only allowed to be claimed by the awardees institution.

Amazon Web Services (AWS) service credit allocation may be applied toward the use of products listed at <https://aws.amazon.com/products>. The service credits include access to AWS owned products and freeware. Licensing fees that may be incurred by premium solutions on the AWS Marketplace (and not covered by the AWS service credits) may be included as a budget item (above). For more information about the AWS Cloud please visit <https://aws.amazon.com/products/> and see section below (AWS Service Credits). These service credits may be used for computational credits and products supporting the Precision Medicine Platform.

The Awardee will be responsible for overseeing the total budget for his/her grant. The principal investigator and the institution assume an obligation to expend grant funds for the research purposes set forth in the application and in accordance with all regulations and policies governing the grant programs of the American Heart Association.

Data Source: Applications may include data from any existing sources. All data access approval notices are necessary at the time of review.

AHA Precision Medicine Platform: Applicants are highly encouraged to utilize the Precision Medicine Platform (<http://precision.heart.org>) as well as the tools used in support of the Platform to expedite or assist their research. Awardees will be expected to deposit data resulting from the project in the AHA's Precision Medicine platform, recognizing that data owner policies may apply.

Interim Assessment: Awardees must report progress on a semi-annual (twice a year) basis. Progress reporting may take the form of written reports, phone calls and/or face to face visits. Reporting will be focused on achievement of stated milestones as indicated in the project timeline.

Final Assessment: Upon completion, the applicant will be evaluated on the successful completion of the experiments outlined in the specific aims and stated milestones as well as abstracts and publications produced. Final assessment may be in the form of written reports, phone calls, and/or face to face meetings.

Application Submission

Applications must be submitted using the AHA's online submission portal, [Grants@Heart](#). The application requires the following documents.

1. [Research Proposal](#) (5-page limit including figures and tables, not including literature cited)
Include the following sections and information:
 - **Specific Aims**
 - **Significance and Innovation**
 - **Hypothesis and Approach**

- Include in this section how the approaches used will be performed on the AHA Precision Medicine Platform.
- **Expected Outcomes and Deliverables**
- **Timeline and Milestones**

Note: For all applications that include vertebrate animals or human subjects, applicants must explain how relevant biological variables, such as sex, are factored into the research design, analysis and reporting. Furthermore, strong justification from the scientific literature, preliminary data, or other relevant considerations, must be provided for applications proposing to study only one sex.

Format

- Only Portable Document Format (PDF) files will be accepted.
 - Document must be single-spaced.
 - No more than 15 characters per inch (cpi) or an average of no more than 15 characters per inch (includes symbols, punctuation and spaces).
 - No less than ¾" margins allowed.
 - 60 lines per page are the maximum allowed (The average number of lines per page using the font and point size below will be approximately 50-55 lines)
 - Arial Font style, 12-point font size for Windows users; Helvetica Font style, 12-point font size for Macintosh users
 - Figures, charts, tables, graphics and legends may be smaller in size but must be clear and legible
 - 5-page limit
2. [Literature Cited](#) (no page limit)
List all literature citations for your Research Plan. There is no page limit for literature references cited.
- Citation references should be limited to relevant and current literature; be concise and select only those references cited in the Research Plan. Standard abbreviations are acceptable with two exceptions: full titles and full paging must be provided. Use of [EndNote](#), [Mendeley](#), [RefWorks](#) or similar programs is encouraged.
- Each reference must list:
- Authors in the same order as they appear on the paper (list all or up to 15)
 - Title
 - Name of the book or journal
 - Volume number
 - Page numbers
 - Year of publication
3. [BioSketch](#) (5-page limit)
Use of the [NIH biographical](#) sketch is required for AHA programs. Use the NIH **General** Biographical Sketch Format.
4. [Data Access Approval Letters](#) (no page limit)
Include letters of approval of access from the Data Access Committees for all datasets proposed in your work. If you are the owner of the data, please state so in this section. All data access approval notices are necessary at the time of review.

5. [Budget Justification](#) (form)

This section justifies each section of the budget. A component of the budget justification must include a detailed description for the AWS Workspace on the AHA Precision Medicine Platform. For example, include in your proposal how to spend the AWS Service Credits and the amount of space needed over the course of the award in the cloud to store the data.

Peer Review Criteria

Reviewers will comment on the following criteria. Please be sure that you fully address these in your proposal.

Significance and Innovation: Does the project develop or employ novel concepts, approaches, methodologies, tools or technologies to address the question? If the project is completed will it add to the knowledge around cardiovascular diseases and/or stroke or will the project create tools to enhance the sharing of resources for the research community? How does the proposed work enhance the global mission of sharing tools, data and research to build healthier lives free of cardiovascular diseases and/or stroke?

Approach: Are the conceptual framework, design, methods and analyses adequately developed, well integrated, well-reasoned and feasible and appropriate to address the defined question? Does the applicant acknowledge potential problem areas and consider alternative tactics? **Is it reasonable to expect meaningful results to address the question in the award time frame?**

Investigator(s): Is the investigator appropriately trained and well suited to carry out this work? Is the work proposed appropriate to the experience level of the principal investigator and other researchers? Does the investigative team bring complementary and integrated expertise to the project (if applicable)?

Access: Does the investigator have the necessary access to the data in the proposed work?

Note:

*An applicant is prohibited from contacting AHA peer reviewers. This is a form of scientific misconduct and will result in removal of the application from funding consideration and institutional notification of misconduct.

Eligibility

These grants are open to all scientists. Knowledge of biology and/or computer science may be helpful. Collaboration with other scientists (in any field) is optional. Applicants are to provide proposals that adhere to the above broad objectives while specifically addressing the outlined goals.

Faculty/ staff members conducting independent research at time of application. At application, principal investigator must hold an M.D., Ph.D., D.O. or equivalent terminal doctoral degree and must meet institutional requirements for grant submission. There are no field of study restrictions, so long as the applicant demonstrates ability to complete the project proposal with the allotted time and money made available by the grant.

Other than the requirement that the Principal Investigator be independent, eligibility for the AHA Institute for Precision Cardiovascular Medicine Data Grants are in no way restricted upon experience level or seniority. While no minimum percent effort is specified, the principal investigator must demonstrate that adequate time will be devoted to ensure successful completion of the proposed project. If the principal investigator is going to name collaborating investigators, their respective percentage efforts must be documented.

The Institute for Precision Cardiovascular Medicine research awards are limited to non-profit or public institutions, such as: medical, osteopathic and dental schools, veterinary schools, schools of public health, pharmacy schools, nursing schools, universities and colleges, public and voluntary hospitals and other non-profit institutions that can demonstrate the ability to conduct the proposed research. For Institute awards only, applications will be accepted from federal employees and Veterans Administration employees.

At the time of application, the principal investigator must have one of the following designations:

- U.S. citizen
- Permanent resident
- Pending permanent resident. Applicants must have applied for permanent residency and have filed form I-485 with the U.S. Citizenship and Immigration Services and have received authorization to legally remain in the United States (having filed an Application for Employment Form I-765).
- E-3 Visa - specialty occupation worker
- H1-B Visa - temporary worker in a specialty occupation
- J-1 Visa - exchange visitor
- O-1 Visa - temporary worker with extraordinary abilities in the sciences
- TN Visa - NAFTA Professional
- G-4 Visa - family member of employee of international organizations and NATO
- Hold a faculty position at a foreign University which meets foreign equivalency determinants for a non-profit in the United States.

Awardee must meet American Heart Association citizenship criteria and research status if at a foreign university throughout the duration of the award. Applicants are not required to reside in the U.S. for any period of time before applying for American Heart Association funding.

Relevant Policies

Open Science Policies:

Public Access: The AHA requires that all journal articles resulting from AHA funding be made freely available in PubMed Central within 12 months of publication. It will be the responsibility of the author to ensure this occurs.

Open Data: Any research data that is needed for independent verification of research results must be made freely and publicly available in an AHA approved repository within 12 months of the end of the funding period (and any no-cost extension). The programs that are currently exempt include Undergraduate Fellowships, Medical Student Research Fellowships, Pre-doctoral Fellowships, Postdoctoral Fellowships, Mentor/AHA Mentee Awards and Mentored Clinical and Population Research Awards. Please see AHA's Open Science Policy: http://professional.heart.org/professional/ResearchPrograms/AwardsPolicies/UCM_461225_Open-Science-Policy-Statements-for-AHA-Funded-Research.jsp

Awardees will be encouraged to deposit data resulting from the project in the AHA's Precision Medicine Platform. Restrictions may apply to data governance as set forth by the data owner. The AHA Precision Medicine Platform is creating a community of tools and resources for all cardiovascular disease and stroke researchers. For more information on the Precision Medicine Platform and the Institute for Precision Cardiovascular Medicine, visit <http://precision.heart.org> and <http://institute.heart.org>.

The projects described can have no scientific or budgetary overlap with other funded work. Any inventions, intellectual property, and patents resulting from this funding are governed by the AHA Patent, Intellectual

Property and Technology Transfer Policy. The applicant/awardee and institution are responsible for compliance with all American Heart Association research award policies and guidelines for the duration of any awards they may receive. Go to Policies Governing All Research Awards to review AHA policies at http://professional.heart.org/professional/ResearchPrograms/AwardsPolicies/UCM_320256_Policies-Governing-All-Research-Awards.jsp

Federally Funded Data Policies (United States):

Applicants must gain approvals from the appropriate governing body of the dataset owner. There are no restrictions on datasets that can be used, other than being related to cardiovascular health. If the applicant intends to apply using **NHLBI funded data**, they may do so in accordance with NIH and NHLBI data access and data sharing policies.

1. Request controlled access to data through dbGaP/BioLINCC with approval from the study's Executive Committee or the study's described vetting process.
2. Store and access the approved specified dataset within a secure cloud framework - using AWS – following [NIH Guidance](#)
3. Develop the tools, algorithms and other work products outlined within the Data Grant type for which the applicant is applying.
4. Access to any BioLINCC or dbGaP - derived data must follow the respective BioLINCC or dbGaP data use agreements, including the outlined prohibition that states that the data cannot be deposited in another resource or transferred to unapproved third parties.
5. Controlled access and data use policies of the NHLBI are different from the open data policy below. Upon conclusion of the project, the data will not remain on the secure cloud framework. According to the NHLBI-funded studies' data access and data sharing policies as well as terms of the NHLBI-funded studies' data use agreement, the source data will either be destroyed or returned to its source.
6. AHA, AWS and grant awardees will not retain any rights to the source data.
7. Any new data, such as harmonized data, resulting during these awards from developing or applying the tools and algorithms may not be deposited in open access repositories; rather, NIH, NHLBI and NHLBI-funded studies policies must be followed.

Any further access to data used from these NHLBI-funded studies would need to be continuously regulated through BioLINCC and dbGaP. Controlled access and Data Use policies and practices must be adhered to and maintained throughout the duration of the project, including the standard provisions of data destruction and disposition terms consistent with those policies.

Awards are not intended to supplement or duplicate currently funded work. Rather, it is expected that submitted applications will describe projects that are clearly distinct from ongoing research activities in the applicant's laboratory. Minor variations from existing research projects are not sufficient to constitute independent and distinct projects.

Awards are transferable to other institutions. The grantees will maintain fiscal responsibility for the entire award. The appropriate Institutional Officer should sign off on the proposal in AHA's online grants management system, Grants@Heart.

Amazon Web Services (AWS) Service Credits

AWS service credits are applied to an individual AWS account and cover the usage of most AWS services. An AWS account may be obtained by signing up at the AWS website, <http://aws.amazon.com>. Any use of AWS services and credits is governed by the AWS Customer Agreement at <http://aws.amazon.com/agreement> and the AWS Cloud Credits for Research Terms and Conditions at <http://aws.amazon.com/research-credit/terms/>. AWS credits may be used only for fees and charges incurred on or after the date the applicable credit code is applied to the account and only for the specific Services designated by AWS. A list of covered services can be found at <http://aws.amazon.com/research-credits/faq/>.

Award Selection and Other Policies

Final funding recommendations will be approved by the AHA Institute Executive Committee. Awardees will be required to attend the American Heart Association Research Leader's Academy and will be encouraged to attend the annual Institute for Precision Cardiovascular Medicine event at Scientific Sessions. For all other relevant policies and Frequently Asked Questions, please see the [Application Information website](#).