Data Grant Portfolio: **Institutional Data Fellowship Program**

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 Institutional Data Fellowship Program is to educate and train the next generation of researchers in cloud computing. Two different Institutional Data Fellowship Programs will be offered: the Cohort Fellowship Program and the Clinical Computational Fellowship Program. The Cohort Fellowship Program will educate and train computational biologists, mathematicians, and engineers alongside cardiovascular disease experts. The Clinical Computational Fellowship Program will educate and train clinical fellows within computational biology programs. A Program Director is the applicant for this award.

The Institutional Data Fellowship Program seeks to fund institutions to educate and train fellows in the following topics:

- harmonizing and analyzing large datasets using cloud computing to enable best practices in efficient pipelines, methods and compute power within the Institution,
- computational biology to enable a rigorous cross-training environment in the Institution.

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 Institutional Data Fellowship Program is funded at $75,000/year for a total cash amount $150,000 over the two years.
- An additional Amazon Web Services (AWS) service credit is awarded for computational storage and analysis up to $50,0000/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: Two Institutional Cohort Data Fellowship Programs and one Institutional Clinical Computational Data Fellowship Program will be awarded. Each Program has a slot to train one fellow per year

over the course of two years. Training programs are encouraged to train one fellow for two years.

- **Cohort Data Fellowship Program (2 institutional awards)**
  $150,000 ($75,000 per year)
  AWS service credit of $100,000 ($50,000 per year)

- **Clinical Computational Data Fellowship Program (1 institutional awards)**
  $150,000 (75,000 per year)
  AWS service credit of $100,000 ($50,000 per year)

Appropriate Budget Items:
- Salary and fringe benefits of the trainee, plus travel including $1,000 per year for health insurance.
- 10% institutional indirect costs are only allowed to be claimed by the program director's institution. Indirect costs cannot be split among multiple institutions.
- The Institution is specifically requested to outline how the AWS service credit allocation will be utilized for the award in the budget justification. Credits 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.

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 Program Director will be responsible for overseeing the total budget for the award. If awarded, the Program Director and the institution assume an obligation to expend award 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 source. 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: AHA requires both the fellow and sponsor to submit a written semi-annual (twice a year) basis. Additional progress reporting may take the form of written reports, video conferencing, phone calls, and/or face to face visits. Reporting will include narrative description of accomplishments related to research and training, as well as an inventory of any abstracts and publications produced.

<u>Final Assessment</u>**:** Upon completion, fellow and sponsor will be evaluated on the extent to which the description of accomplishments related to research and training were achieved, as well as an inventory of any abstracts and publications produced. Assessment may include publications, citations by other researchers, advancement to faculty rank or other metrics.

Application Submission

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

Program Director Documents

1. Program Director's Plan (14-page limit)
   State the Program you wish to apply for: Cohort Data Fellowship Program or Computational Data Fellowship Program. The Program Director's Plan requires the sections outlined below:

   - **History of Fellowship Training Programs** (2 pages):
     Describe the institution's history of fellowship research programs and/or the institution's ability to attract fellows to this program.

   - **Research Opportunities Available to Fellow** (4-6 pages):
     Provide an outline of representative mentored projects and proposed faculty (up to three) who will serve as sponsors (mentors) at your institution. (The program director may serve as a sponsor.) Describe the research projects available for the fellow and how the projects will incorporate cloud computing. Describe resources and funding available to support the project. Sponsors should be entered into the application form and will be required to provide several documents to support the application. Hyperlinks to the forms are listed below. Training programs are encouraged to train one fellow for two years.

     Include in this section how the proposed projects relate to precision medicine and support the mission of the American Heart Association Institute for Precision Cardiovascular Medicine: **to preserve and prolong health by more precisely predicting, preventing and treating cardiovascular diseases and stroke.**

   - **Training Plan and Proposed Enrichment Activities: Describe enrichment activities offered to the fellow** (1-3 pages):
     Outline and describe the training plan for the fellow including milestones. Also, include examples of enrichment activities include seminars, journal clubs, and instruction in bioethics, protecting human subjects in research studies, scientific writing, peer review, specialty skill training and experimental design.

   - **Recruitment and Selection Process** (1-2 pages):
     Explain how you will recruit and select the fellow. Describe how you will match fellow(s) to research mentors. Include a plan for recruiting fellow(s) from racial and ethnic groups

underrepresented in science. This award is characterized as a slot for a fellow to fill. Applications will a fellow identified are more favorable during peer review.

For United States based institutions: The institution is strongly encouraged to recruit students from racial and ethnic groups that are underrepresented in science (Black/African-American, Hispanic/Latino, Native American, Pacific Islander).

- **Program Evaluation** (1 page):
  Describe metrics to evaluate the quality of each fellow's experience, each research project, and the overall program.

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

2. Institutional Research Project Environment

3. Biographical Sketch of Program Director (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.

Sponsor Applicant Documents

A sponsor, or group of sponsors must be outlined as the mentor for the fellow.

1. Sponsor's Biographical Sketch/Bibliography
   Use of the NIH biographical sketch is required for AHA programs.

2. [Sponsor's Past/Current Trainees](#)
   Sponsor must possess a track record of supporting trainees. While no minimum percent effort is specified, the sponsor must demonstrate that adequate time will be devoted to ensure successful completion of the proposed project.

3. [Sponsor's Grant Support/Funding - Word template](#)
   Sponsor(s) must provide a detailed description of available support, projects available for fellow to work on, and the nature of research activities of each project and how they relate to precision medicine.

OPTIONAL Fellow Documents

1. Optional Fellow BioSketch (5-page limit)
   If the trainee(s) have been identified, include the fellow's biographical sketch. Use the [NIH biographical sketch](#) **Fellowship** Format. The AHA may request a transcript of the fellow's academic record. A fellow does not need to be identified at the time the application is submitted. Fellow must be identified within the first 30 days of the award start date (September – October 1 2017)
   Note:

   *An institution may apply for and receive one or all the Institutional Data Fellowships. The request for multiple fellowships must be justified by the institution, based on how many students can effectively be managed. Each award requires a separate application.

Peer Review Criteria

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

Overall Impact

Reviewers will provide an overall impact/priority score to reflect their assessment of the likelihood for the program to provide a meaningful research experience. To judge the merit of the application, reviewers will comment on the following three criteria, each of which will account for one-third of the overall score.

Training Program, and Environment (1/3rd of the score)

1. Are the research facilities and environment conducive to preparing trainees for successful careers in biomedical research, incorporating data and precision cardiovascular medicine? Is the level of institutional commitment to the training program, including administrative and research training support, sufficient to ensure the success of the program?
2. Do the proposed research projects that fellows could be imbedded in/exposed to provide opportunities for trainees to acquire state-of-the-art scientific knowledge, methods, and tools that are relevant to the goals of the training program, including cloud computing?
3. Does the program provide appropriate inter- or multidisciplinary research training opportunities?

4. Is the proposed training program likely to ensure trainees will be prepared for research-intensive and/or research-related careers using cardiovascular and stroke data?
5. Does the program propose a rigorous evaluation plan to assess the quality and effectiveness of the training?

Fellowship Recruitment Plan (1/3rd of the score)

1. Does the application contain a recruitment plan with strategies to attract well-qualified fellowship candidates?
2. Are there well-defined and justified selection criteria?
3. Is a procedure in place that sponsor/fellow teams will follow to compete for the AHA funds granted to the institution?
4. Is a fellow already identified? If so, does the trainee have prior research experience and/or publications?

Assessment of the Program Director and Sponsors (1/3rd of the score)

1. Does the Program Director have the scientific background, expertise, time commitment, and administrative and training experience to provide strong leadership, direction, management, and administration of the proposed research training program?
2. Do the proposed sponsors possess appropriate expertise and training to support trainees? Do the proposed sponsors have strong records as researchers, including recent publications relevant to the research program and successful competition for research support in areas directly related to the proposed research training program? Do the proposed sponsors have strong records of training fellows? Do the proposed sponsors have records of training fellows in cloud computing or knowledge of integrating cloud computing in research?
3. Do the sponsor / co-sponsors must demonstrate that the fellow will be provided with a meaningful experience?

   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.

Institutional Eligibility

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.

Eligibility for this awards is limited to a health professional school or college: Accredited public or non-profit private school/college that grants a terminal health professional degree (e.g., MD, DDS, DO, PharmD, BSN, DVM, DrPH, OD, DPT, DC, ND, DPM).

Funding is permitted for awards made through the AHA Institute for Precision Medicine for projects conducted at institutions outside the United States which meet foreign equivalency determinants for non-profit status.

Program Director Eligibility

The program director is the applicant for this award. The program director may also be the sponsor for the fellow. At the time of application, he/she must:

- hold an M.D., Ph.D., D.O. or equivalent terminal doctoral degree and must meet institutional requirements for grant submission;
- possess a demonstrated track record of providing mentoring to trainees;
- be a full-time faculty member at the level of assistant professor (or equivalent) or above;
- provide a detailed description of institutional support that is available to sponsors and trainees;
- list potential sponsors, along with brief details about their background and nature of work;
- outline how potential fellowship awardees will be identified and recruited;
- provide the procedure that sponsor/fellow teams will follow to compete for AHA funds granted to the institution.
- While no minimum percent effort is specified, the Program Director must demonstrate that adequate time will be devoted to ensure successful completion of the proposed project.
- 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 award.

Sponsor Eligibility

It is imperative that the fellow receive counsel and direction from a sponsor who is an established investigator invested in the progress of the project. A single sponsor may have no more than two AHA-supported fellows (predoctoral or postdoctoral) at any time.

At the time of application, the Sponsor 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 non-U.S. based institution which meets foreign equivalency determinants for a non-profit in the United States.

Sponsor 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.

Fellow Eligibility

Candidate fellows must hold an M.D., D.O. or equivalent terminal clinical doctoral degree for the computational fellowship, and a Ph.D. or equivalent for the cohort fellowship. 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 fellowship. The position for the fellow is a space provided to the awarded Institution. The fellow selected by the Institution must be identified.

- At the time of award activation, the candidate may have no more than three years of postdoctoral research training or experience (excluding clinical training).
- The awardee will be expected to devote at least 80 percent of full-time work either to research or to activities pursuant to independent research (instead of administrative, clinical, or teaching responsibilities).
- This award is not intended for individuals of faculty rank.

    Exceptions:
    - M.D. or M.D./Ph.D. with clinical responsibilities who needs instructor or similar title to see patients, but who devote at least 80% full-time to research training.
    - R.N./Ph.D. with faculty appointment. Awardee will be expected to devote his/her time to research or activities directly related to the development into an independent researcher. All other eligibility criteria apply.
- At the time of award activation, the awardee may not be pursuing a doctoral degree.
- Fellows who are part of an AHA Strategically Focused Research Network are excluded.

Citizenship

A fellow working at a U.S. based institution must have one of the following designations:

- U.S. citizen.
- Permanent resident.
- Pending permanent resident (any resident who has an approved I-765 form and has submitted an I-485 application with the United States Citizenship and Immigration Services).
- E-3 Visa - specialty occupation worker.
- F1 Visa - student.
- 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 – North American Free Trade Agreement (NAFTA) professional.
- G-4 Visa - family member of employee of international organizations and NATO

For awards to non-U.S. based institutions, fellows must hold temporary department appointment or equally

eligible position for a fellowship at a foreign University which meets foreign equivalency determinants for a non-profit in the United States.

Fellow must meet American Heart Association citizenship criteria and research status if at a non-U.S. based institution 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.

An awarded fellow must maintain one of the designations listed above throughout the duration of the award.

>**Note:** A Postdoctoral Fellowship applicant who is outside the United States at the time of application must provide visa documentation prior to award activation and will be unable to transfer this award to another institution.

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

Fellows 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 awardees 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.