



AI + Medicine for High Impact (AIM-HI) Challenge Awards

University of Maryland, College Park (UMCP) and University of Maryland, Baltimore (UMB) leadership seeks to fund big research initiatives in the fields of artificial intelligence + medicine that will contribute to major scientific discoveries, secure sizable extramural funding, and ideally lead to a meaningful improvement in quality of patient care or treatment.

There is world-class expertise at UMB in a range of medical and health areas; there is world-class expertise in multiple applications and uses of AI in a number of colleges at UMCP. We expect that uniting these complementary efforts in pursuit of AI + medicine initiatives will lead to major scientific breakthroughs with the potential to secure significant extramural funding. For example, these joint efforts may lead to projects in multifactorial biomarker diagnostics; predictive medical algorithms that leverage continuous streaming medical datasets; the optimization of AI applications for imaging evaluation/ diagnosis in radiology, pathology, omics, etc.

We expect to fund two or three teams to support this effort. Each team will be provided up to \$200K per year, for a maximum of 3 years, making a total of \$600K per project available. To acquire the second and third years of funding, demonstrable progress must be met.

In advance of the RFP deadline of November 15, 2019, there will be opportunities for sharing expertise and identifying collaborators between the Baltimore and College Park campuses.

Team Requirements

Teams *must include* a minimum of *one senior, well-funded faculty member from UMB and one senior well-funded faculty member from UMCP*, along with at least one early career, assistant professor who is a tenure-track faculty member from either campus, with funding less than an NIH R01 award or equivalent.

PI Eligibility

UMCP

All tenure track and professional faculty at the rank of Associate Professor, Associate Research Scientist or higher, whose full-time, home position is at UMCP, are eligible to apply. PIs must be well-funded investigators with significant federal funding from NIH, DOD, or NSF (at a minimum, funding roughly equivalent to an NIH R01 award).

UMB

PIs must be full-time, tenured, or tenure-track faculty members having primary academic appointments at UMB. PIs must be well-funded investigators with significant federal funding from NIH, DOD, or NSF (at a minimum, funding roughly equivalent to an NIH R01 award).

Proposals

- Proposals should aim to allow teams representing both campuses to further develop collaborative activities that will lead to major, highly visible research proposals to federal or private institutions.
- Proposals will be scored on likelihood that projects that will generate pilot data that will ensure each research team is *strategically positioned to acquire a significant federal funding base, such as NIH program project grants or center grants (P-series awards), cooperative agreements (U01 awards), or equivalent large awards from other federal agencies (NSF, DoD) or private institutions.*

Awards

There will be no more than **3 awards** supported. The number of awards will depend on the quality of proposals received, as well as their proposed budgets. Individual investigators may submit multiple proposals but can participate as a PI on only one awarded proposal. The top-ranked proposals, after peer review, will be recommended to the Vice President for Research, who will consult with key stakeholders for final funding decisions. Investigators can serve as collaborators on an unlimited number of proposals.

Required Cost Share

UMCP

UMD's award costs will be split 50/50 between the College/Department/Unit of the UMCP PI and the Division of Research. The final submission must include a completed Universal Funding Form with signatures from the contributing Deans/Chairs/Directors. The [Universal Funding Form](#) can be found on the InfoReady online portal. If you have questions regarding application guidelines, please contact Hana Kabashi ([hskabashi@umd.edu](mailto:hkabashi@umd.edu)).

UMB

UMB's award costs will be split 50/50 between the School of the PI and the UMB Office of Research Development. The final submission must include a completed Universal Funding Form with signatures from the contributing Deans/Chairs/Directors. The [Universal Funding Form](#) can be found on the InfoReady online portal. If you have questions regarding application guidelines, please contact Maggi Smith (msmith@som.umaryland.edu).

Project Expectations

Award recipients are expected to produce sufficient preliminary results so that a proposal for external funding may be submitted by the end of the first year of the award. PIs must commit to submitting a major multi-investigator NIH application for a P-series, U-series, or equivalent federal award (with greater than \$3 million in direct funds) by the end of the first year of funding. The second and third years of funding are contingent upon an aforementioned grant submission by the end of the first and second years, respectively. Awardees will participate in annual Progress Reviews or other events that bridge campuses and bring researchers together.

Recipients will remain faculty members of the participating school throughout the course of the grant, with any substitutions requiring approval in advance. ***If there is a change to the PI/Co-PI from either university during the review process, they must notify the program coordinators immediately.***

Review

Proposals will be evaluated by a committee that will include faculty from UMB and UMCP campuses.

Proposals will be reviewed for: 1) how well the project meets the goals of the program, including the composition of the team of investigators; 2) meeting criteria (e.g., relevance to future public health concerns, significance, innovation, approach, and qualifications of investigative team/environment to carry out the aims); and 3) likelihood of attracting outside funding in the future. The proposals should provide a specific targeted timeline by which objectives can be reasonably achieved. Finally, the proposal should provide a budget that adequately reflects the intended use of the funds with respect to the proposed objectives for each institutional component.

Allowable Expenses

Research supplies; purchase or rental of equipment for new research; travel for research purposes (excluding travel to meetings or symposia); matching funds for research items; and salary support for a temporary positions, such as technicians, research associates (post-docs) and/or graduate students.

Expenses Not Allowed

Salaries for PIs are not allowed. Other expenses such as secretarial support, general telephone services and postage, alterations or renovations of laboratory space, purchase of laboratory or office furniture, purchase of periodicals and books, and dues and memberships in scientific societies are not allowed. Indirect costs are not covered by these awards.

Conditions of the Award

1. Awards are made to PIs and are not transferable without prior approval by the Vice President for Research and Dean of the College/School of the PI.
2. Equipment purchased with these funds is the property of UMB and UMCP and must remain should the PI leave his/her University.
3. Awardees will have bi-monthly meetings with representatives of UMB and UMCP to evaluate progress; additional updates may be requested.
4. Annual progress report and a final report (after 3 years) will be prepared. All reports will request an updated listing of all presentations, published papers, extramural funds, patents, inventions, or creation of new companies, and technology for commercialization that have resulted, in whole or in part, from the project.
5. Funds should be budgeted for completion and exhausted at the end of the award period. Remaining or unspent funds are to be returned for subsequent competitions.

Application Guidelines

Your proposal must contain the items outlined below, under the page limitations provided. Proposals failing to meet these guidelines will not be considered for funding. Guidelines and forms may be found at: <https://umd.infoready4.com/> for the UMB-UMCP AIM-HI Competition. Anticipated funding start date will be January 1, 2020.

Cover Page (limited to 1 page)

1. **Title of Project**
2. **Names of all Co-PIs** - Specify appointments and home departments; for UMB, any exceptions to the eligibility requirements must be approved by the Dean of the participating school prior to submission of a proposal.
3. **Statement of Collaborative Effort** – A specific statement as to how the collaboration between the investigators from each campus is necessary to move this research proposal forward is requested. This should include processes for maintaining communication and interactions between campuses and monitoring of equitable distribution of intellectual involvement.

Proposed Research (maximum 5 single-spaced pages) including

1. **Specific Aims** - Describe the overall strategy, methodology and analyses to be used to accomplish the specific aims of the project. Include how the data will be collected, analyzed and interpreted, as well as any resource sharing plans, as appropriate.
2. **Project Description** - (including Project Plan, expected outcomes) include two or three sentences describing the public health relevance of the project.
3. Please comment on how this interaction will impact the research program's future direction and the following:

Significance: 1) Explain the importance of the problem or critical barrier to progress in the field that the proposed project addresses; 2) explain how the proposed project will improve scientific knowledge, technical capability and/or clinical practice in one or more broad fields; and 3) describe how the concepts, methods, technologies, treatments, services or preventative interventions that drive this field will be changed if the proposed aims are achieved.

Innovation: 1) Explain how the application challenges and seeks to shift current research or clinical practice paradigms; 2) describe any novel theoretical concepts, approaches or methodologies, instrumentation or intervention(s) to be developed or used, and any advantage over existing methodologies, instrumentation or intervention(s); and 3) explain any refinements, improvements or new applications of theoretical concepts, approaches or methodologies, instrumentation or interventions.

Budget (limited to 2 page)

1. Total amount of Funds being requested and expected timeframe of project; individual and detailed budgets for each campus.
2. **Identified Future Funding Source** - be explicit; please detail which program in which agency will be targeted for a future application.

Additional Information

Biosketches – NIH format (all faculty); References (including full titles)

Completed/Signed Universal Funding Form

Both PIs must secure signatures from their contributing Deans/Chairs/Directors on the Universal Funding Form, indicating their financial commitment to the required cost share. This should be done on one form, if possible, or two forms at most (one for UMCP signatures, one for UMB signatures). Contributions from any combination of college/school/department/other at both institutions should equal 50% of the total proposal request.

Submission

Proposals must be submitted to InfoReady Seed Grant and Limited Submission Portal, <https://umd.infoready4.com/> for the UMB-UMCP AIM-HI Competition prior to 11:59 pm EST on November 15, 2019.