

Call for Proposals: IGS Pilot Grant Program

Background: UM-SOM preclinical and clinical samples are invaluable resources for biomedical research. Profiling these samples with high-throughput molecular technologies can yield insights into the fundamental mechanisms of biological systems, disease biology, and therapeutic response. New molecular profiling technologies, including long-read, single-cell, and spatial technologies, can fully characterize the full multi-scale tissue, cellular, and molecular interactions across basic biology and translational research. Large-scale atlases generated with these technologies can provide resources for discovery for entire research programs, fostered through data sharing and integration with public domain data. Further linking atlases from human biospecimens to clinical data can empower translational research discoveries. However powerful, molecular profiling technologies are costly and involve intensive personnel effort in the corresponding bioinformatics analysis needed to interpret them. Team-science efforts, including genomics scientists, can leverage these biological applications to further motivate new multi-omics and bioinformatics technology development that can deepen our understanding of human disease biology. These pilot grants seek to ensure continuity of these genomics-driven research initiatives amidst NIH funding uncertainties, to expand access to molecular profiling for preliminary data generation and applications to translational research, and to expand partnerships with biotech and pharmaceutical companies in team-science research.

Recently, the Institute for Genome Sciences (IGS) established a **Technology Development Hub** within Maryland Genomics to lead R&D in cutting-edge molecular profiling technologies. Our newest efforts are focused on spatial multi-omics, leveraging platforms including the NanoString CosMx Spatial Molecular Imager and the 10x Genomics Visium HD system. These are among the most advanced spatial biology platforms in the world and have significantly expanded our capacity to support spatial multi-omics projects to characterize the cellular and molecular landscape natively in tissues.

Funding Opportunity: IGS is pleased to announce pilot grant opportunities designed to expand access to advanced genomic technologies and team science in biomedical genomics research at UMB. These grants are provided in partnership with the Institute for Health Computing (IHC), Greenebaum Comprehensive Cancer Center, and the University of Maryland School of Medicine. These programs aim to support early-stage genomics research projects, with multiple mechanisms funding both core services and collaborations with IGS faculty. Priority will be given to projects that are generating large-scale profiling datasets that will be shared as UMB atlas projects to lay the groundwork for future collaborative extramural grant applications and educational programs in genomics.

Award Types: Applicants may apply for the following awards.

1. Early-Stage Pilot Projects
2. Spatial Atlas Pilot Projects
3. IGS-IHC Translational Research Pilot Projects
4. Team Science Pilot Projects

Details on goals, eligibility and funding for each award type, application and review processes and post-award requirements are listed below.

1. Early-Stage Pilot Projects

This pilot award provides funds for high-throughput, multi-omics profiling to support high-impact, innovative research focused on generating preliminary data to strengthen and support grant applications from UMSOM investigators.

Scope and Eligibility:

- All UMSOM faculty with collaborators at UMB and affiliated institutions are eligible, with a preference for early-career faculty. Faculty who have not previously used Maryland Genomics services, or who are pursuing a new and innovative research direction, are strongly encouraged to apply.
- Projects should demonstrate a clear trajectory toward future grant applications and funding.
- Priority will be given to novel methodologies, cutting-edge technologies, or transformative conceptual frameworks.
- Applicants are encouraged to discuss proposals with Maryland Genomics in advance.

Budget Specifics:

- **Maximum award amount:** \$25,000 per award
- **Number of awards:** Up to 4
- **Project duration:** Up to 12 months
- **Budget restrictions:** The budget will support data generation and bioinformatics services in Maryland Genomics.

2. Spatial Atlas Pilot Projects

This pilot award provides funds to support the generation of preliminary data for the creation of large-scale spatial molecular tissue atlases to catalyze discovery science in UMSOM research programs. Taking advantage of the latest spatial technologies pioneered in the new Maryland Genomics Technology Development Hub, this award will provide new opportunities for innovative, bi-directional biomedical and genomics technology development research. Dataset dissemination using the IGS data infrastructure, leveraging the secure research environment where appropriate for clinical data, will ensure access, collaboration, and support of educational programs for these cutting-edge datasets.

Scope and Eligibility:

- All UMSOM faculty with collaborators at UMB and affiliated institutions are eligible.
- Projects must propose development of a large-scale tissue atlas with spatial transcriptomics or multi-omics technologies in the Maryland Genomics Technology Development Hub.
- Applications must demonstrate novelty of spatial profiling of the proposed cohort.
- Projects should demonstrate a clear trajectory toward future grant applications and funding with particular emphasis on multi-investigator and multi-institutional grants.
- Datasets generated under this award must be made available to the UMSOM research community after publication or within three years, whichever comes first. Preference will be given to applicants who describe a willingness to share these datasets pre-publication to promote collaborative research, bioinformatics methodology development, and education as UMSOM resources.

Budget Specifics:

- **Maximum award amount:** \$125,000
- **Number of awards:** Up to 2 pilots will be awarded.
- **Project duration:** Up to 24 months
- **Budget restrictions:** The budget will support Maryland Genomics services for spatial data generation



(at least 50% of budget) and collaborative bioinformatics efforts in IGS.

3. IGS-IHC Translational Research Pilot Projects

This IGS-IHC co-sponsored pilot award provides funds to generate high-throughput multi-omics profiling of biospecimens that can be linked to clinical outcomes for translational research. The program is designed to promote clinical / translational genomics research, with the potential to link high-throughput data to clinical outcomes and EHR data. As allowed by the IRB, dataset dissemination using the IGS-IHC data infrastructure, leveraging the secure research environment where appropriate for clinical data, will ensure access, collaboration, and support of educational programs for these cutting-edge datasets.

Scope and Eligibility:

- All UMSOM faculty with collaborators at UMB and affiliated institutions are eligible.
- Projects must profile human biospecimens from UMSOM samples for uses in clinical / translational research.
- Preference will be given for projects that seek to link genomics data to EHR data, clinical outcomes and/or leverage novel technologies in the Maryland Genomics Technology Development Hub.
- Projects should demonstrate a clear trajectory toward translational research objectives and sustainable funding.
- Datasets generated under this award must be made available to the UMSOM research community after publication or within three years, whichever comes first, as allowed by the UMB IRB. Preference will be given to applicants who describe a willingness to share these datasets pre-publication to promote collaborative research, bioinformatics methodology development, and education as UMSOM resources.

Budget Specifics:

- **Maximum award amount:** \$50,000
- **Number of awards:** Up to 2
- **Project duration:** Up to 24 months
- **Budget restrictions:** The budget will exclusively support data generation and bioinformatics analysis of clinical biospecimens in Maryland Genomics.

4. Team Science Pilot Projects

This pilot award provides funds to build new collaborations between IGS researchers and UMSOM researchers outside of IGS to support high-impact, innovative team-science projects focused on generating preliminary data to strengthen and support collaborative grant applications.

Scope and Eligibility:

- Applications must include at least one IGS faculty member and one non-IGS faculty member in a new collaborative project.
- Projects should demonstrate a clear trajectory toward future funding.
- Priority will be given to novel methodologies, cutting-edge technologies, or transformative conceptual frameworks.

Budget Specifics:

- **Maximum award amount:** \$50,000 per award
- **Number of awards:** Up to 4
- **Project duration:** Up to 12 months
- **Budget restrictions:** Funds will support data generation and bioinformatics services in Maryland Genomics (at least 25% of the budget) and collaborative efforts between the IGS and non-IGS faculty labs.



One project will be limited to UM Greenebaum Comprehensive Cancer Center and IGS faculty on cancer-relevant projects.

Application Process for all IGS Pilot Grants:

All applicants are strongly encouraged to discuss proposals and budgets with Maryland Genomics in advance.

Proposal Components:

1. Title, Investigators, and Affiliations
2. Project Summary (250 words)
3. Main proposal components (5 page maximum, excluding references):
 - Background, Significance, Innovation, and Translational Potential (Translational Research Pilot only) (2 pages max)
 - Approach and Methodology (2 pages max)
 - Future Funding Strategy for Grant Proposal or Clinical Study (1 page max)
 - Bibliography
4. Additional documents
 - Planned Use of Maryland Genomics Core (1 page max)
 - Budget and Justification (1 page max)
 - Timeline and Milestones (1 page max)
 - Data sharing (1 page, encouraged for all applications and required for Spatial Atlas Pilot and Translational Research Pilot)
 - NIH Biosketches for PI and Co-Investigators
5. To ensure effective analytical support, budgets must clearly delineate between (1) fee-for-service data analysis; (2) development of new analytical methods or systems; and (3) collaborative support for generating publication- or grant-ready figures. It is recommended that applicants contact Maryland Genomics for assistance in developing analysis support budgets.

Review Process:

Proposals will be evaluated by a review panel composed of the IGS Executive Committee, members of IHC, and UMSOM faculty representatives and, where appropriate, subject matter experts from throughout UMSOM. Review criteria will include:

- Scientific merit and innovation
- Feasibility and clarity of research plan
- Integration of Maryland Genomics technology utilization and development (where appropriate)
- Potential for future collaborative external funding
- Collaborative and interdisciplinary strength
- Justification for use of novel technologies and novelty of cohorts (for Spatial Atlas Pilot Award)
- Clinical importance and potential to link to patient outcomes, profiling of UMMS patients, and integration of genomics with EHR data (for Translational Project)
- Data sharing plan and plans for dissemination of data as a UMSOM resources for research and education/training (required for Spatial Atlas Pilots, encouraged for all applications)

Award Conditions and Post-Award Requirements:



- While investigators may apply for more than one pilot grant, at most one grant will be awarded per PI.
- Awardees must submit a brief final report within 30 days of project completion.
- Investigators will be required to present findings at an IGS-hosted seminar or retreat.
- Publications resulting from the project must acknowledge Maryland Genomics and IGS and include authorship where appropriate.
- Awardees are responsible for any cost overruns.
- Unspent funds cannot be carried forward beyond the duration of the project.
- Any expenses determined to be unallowable under the program will become the responsibility of the awardee.
- F&A costs (indirect costs) will not be provided.
- Funding can only be used for reasonable research staff salaries, research expenses, and Maryland Genomics expenses within the limits described for each award. Faculty salary, travel, and other expenses not expressly allowed are not permitted.
- Applicants are solely responsible for having all appropriate institutional approvals (IRB, IACUC, EHC, etc.) prior to project initiation.

Submission Instructions and timelines:

- Submit proposals as a single PDF to: Luke Tallon (ljtallon@som.umaryland.edu)
- Formatting: 11-point font, 0.5" margins, single spacing.

Deadline for submission: December 1, 2025, 5:00 PM ET.

Funding decisions will be announced by December 31, 2025.

Projects should begin by February 1, 2026.

Contact for Inquiries:

For questions regarding this pilot funding program or Maryland Genomics Services, please contact:

Luke Tallon

Senior Executive Director, Maryland Genomics

Associate Director for Core Services, Institute for Genome Sciences

ljtallon@som.umaryland.edu

Maryland Genomics serves as a high-throughput multi-omics laboratory and data analysis team supporting the scientific programs of the University of Maryland and its collaborators utilizing state-of-the-art technology to generate high-quality genomic data in a cost-effective manner. Our diverse team is composed of bench scientists, bioinformaticians, project managers, and research specialists with extensive experience in planning and managing both small and large-scale projects. Our laboratory assays include high-throughput sequencing, microbiome characterization, transcriptional profiling, and single-cell and spatial characterization. We operate multiple high-throughput sequencing platforms, including Pacific Biosciences, Illumina, and Oxford Nanopore, with a combined annual capacity exceeding 900 trillion bases of high-quality, passed-filter data. We provide single-cell sequencing using the 10x Genomics platform, and digital molecular counting assays on the NanoString nCounter platform. We supply a combination of bioinformatics support services, including: (1) fee-for-service data analysis; (2) development of new analytical methods or systems; and (3) collaborative support for generating publication- or grant-ready figures.

