Multiple Myeloma Research Foundation
2024 Research Fellow Award

Program Guidelines

2024 RESEARCH FELLOWSHIP PROGRAM

About The Multiple Myeloma Research Foundation (MMRF)

The Multiple Myeloma Research Foundation Inc. (MMRF) is the largest nonprofit in the world solely focused on accelerating a cure for each and every multiple myeloma patient. We drive the development and delivery of next-generation therapies, leverage data to identify optimal treatment approaches, and empower myeloma patients and the broader community with information and resources to extend their lives. Central to our mission is our commitment to advancing health equity so that all myeloma patients can benefit from the scientific and clinical advances we pursue. Since our inception, the MMRF has committed over $600 million for research, opened nearly 100 clinical trials, and contributed to the success of most new FDA-approved therapies, which have now tripled the life expectancy of myeloma patients. To learn more, visit https://themmrf.org/finding-a-cure/personalized-treatment-approaches/.

As part of its continuing mission to accelerate a cure for multiple myeloma, the MMRF is committed to providing new research funding opportunities for early career investigators interested in multiple myeloma research.

Program Description:

The MMRF seeks proposals for the 2024 MMRF Research Fellowship Program, an initiative supporting early career researchers at the post-doctorate, medical fellow, or junior faculty levels currently active or interested in research in multiple myeloma. The goal of this initiative is to engage and support early career investigators interested in basic and clinical research focused on multiple myeloma and its precursor conditions, with the goal of advancing our understanding of myeloma disease biology, disease risk, and treatment response and relapse. This program will provide up to $150,0000 of financial support over two (2) years ($75,000/year) to successful applicants.

Furthermore, to enable highly innovative proposals and increase equity of opportunity, the MMRF may also provide applicants with additional support to mitigate technical and institutional infrastructure barriers (e.g., technology and analytical platforms) via access to the MMRF's partner institutions and laboratories.

Key Dates:

- **Friday, March 29, 2024 - Request for Applications (RFA) Issued**
- **Friday, June 28, 2024 - Deadline for Submission of Applications**
- **Monday, September 30, 2024 - Applicant Notification**

Background:

Multiple myeloma is a plasma cell malignancy which is currently not curable but is a treatable disease. In the United States alone, approximately 30,000 new cases will be diagnosed this year and nearly 12,500 people will die from this disease.

Significant advances in our understanding of the pathophysiology and molecular biology of multiple myeloma and precursor conditions (MGUS, SMM) have identified numerous molecular events associated with disease development and progression. These findings have led to improved understanding of disease risk and the development of new therapies for the treatment of multiple myeloma. However, to fully leverage the current armamentarium of therapeutic options and maximize clinical benefit, we still need to understand how to best optimize specific treatment, combine therapy (including sequencing within a combination of agents) and sequence therapies to improve outcomes for all patients.

It is important to note that the prevalence of myeloma and reported clinical outcomes is not equal across all racial groups. Multiple myeloma and its precursor conditions disproportionately affect the Black population relative to other racial groups. There is a ~3x-higher incidence of active myeloma and a 4x-higher incidence of MGUS in the Black population compared with the White population, and the onset of disease occurs approximately 10 years earlier for Black individuals. Research by the MMRF and other teams reveal genetic, immunological and environmental factors contribute to these differences, but the underlying molecular and cellular mechanisms are not fully understood.

Most myeloma patients will relapse on therapy, and consequently, undergo more aggressive therapy with the likelihood of shortened duration of clinical response. Therefore, there continues to be a need for new, novel therapies and drug combinations targeting the mechanisms that drive disease biology and drug resistance. This requires researchers to further dissect the molecular and cellular basis of disease development and progression, response to therapy, mechanisms of drug relapse, and to develop new tools and technologies to monitor for and intercept these events.

The 2024 Program

The MMRF is currently seeking applications for the 2024 MMRF Research Fellowship Program. Areas of interest include but are not limited to the following areas of research:

- **Host immunity in multiple myeloma:**
    - The roles of innate and adaptive immunity in multiple myeloma disease, in disease development and progression, and in the clinical response to therapy.
    - Therapy-directed modulation of the bone marrow immune microenvironment in myeloma.
    - Spatial interactions between myeloma cells and the immune and non-immune microenvironment.
    - The role of infectious diseases in the natural history of multiple myeloma.

- **Disease monitoring: Mechanisms of disease resistance to immune therapy:**
    - Novel approaches and tools for monitoring immune competence and responsiveness to immune and immunomodulatory therapies.
    - Identification of immune biomarkers to monitor response to therapy or development of resistance to therapy in bone marrow and in the periphery.
    - Mechanisms of poor response and early relapse to immune therapies; Optimization of strategy and approaches for early identification of patients insensitive to T cell engaging therapies.

- **Disparity Research:**
    - Molecular, epigenetic, and immunological drivers and events associated with differences in the biology of multiple myeloma and its precursor conditions in racial and ethnic populations.
    - Identification of biomarkers of risk, response to treatment, and progression.
    - Factors influencing the differential participation of racial and ethnic groups in multiple myeloma research studies.

- **Innovative Data Solutions:**
    - Development and application of novel bioinformatics solutions, including artificial intelligence/machine learning approaches, for analyzing and integrating large, complex, high-dimensional global and single-cell multi-omic datasets (immune, molecular, genomic and/or cytogenetic) with clinical data to answer questions of disease risk, treatment relapse and response, disease biology, host immunity and disease monitoring.

Eligibility:

Applications for the 2024 MMRF Research Fellowship Program are requested from researchers at **academic, not-for-profit research institutions in the United States and Worldwide**. The MMRF Fellowship Program does **NOT** require applicants to be US citizens.

Note: Due to US Federal regulations preventing data-sharing with the MMRF, the MMRF cannot accept applications from researchers at Federal Research Institutions (e.g., National Institutes of Health, National Cancer Institute).

Researchers with a Ph.D., M.D. or equivalent degree at the post-doctorate, clinical fellow, or junior faculty level are encouraged to apply.

The following conditions must be met by all applicants:

- Post-doctorate and medical fellows applying for the award must work under the supervision of a research mentor in the multiple myeloma field.
- The MMRF Fellowship program is targeted to early career scientists. Applicants must have obtained their highest degree within 10 years of the application date.

- Applicants may not hold a position higher than Assistant Professor.
- Applicants who are beginning studies in the multiple myeloma field must have a research sponsor/mentor at their institution who is active in the multiple myeloma field, and who can provide guidance to the applicant in the proposed area of research.

The MMRF is committed to providing funding opportunities for Black, Indigenous, and People of Color (BIPOC) scientists and clinicians interested in multiple myeloma research. We **strongly encourage** BIPOC researchers to apply for the MMRF Fellowship program.
The MMRF may be able to provide applicants with support to mitigate technical and institutional infrastructure barriers to their research (e.g., technology or analytical platforms) through access to the MMRF's partner institutions and laboratories. Requests for assistance should be discussed with the MMRF prior to submission of an application.

Process:

All applications are due **Friday, June 28, 2024 at 11:59 PM EST.** All applications **MUST** be submitted via ProposalCENTRAL (https://proposalCENTRAL.altum.com), the MMRF's grant management system. Paper applications will **NOT** be accepted.

Research Fellowship applications are reviewed by external scientists with the appropriate scientific expertise. Scientific ratings use the current NIH scoring system of 1-9 with 1 demonstrating the highest scientific merit and 9 being the lowest. Each proposal will be evaluated and scored by at least two independent reviewers with subject matter expertise and the reviewer scores will be averaged for a final score. The reviewers are instructed to weigh research that appears promising with the previous accomplishments of the applicant, the probability of meaningful results from the proposed research, and the likely contributions of the research to advance the myeloma research community's knowledge of disease biology, diagnosis, and treatment. In addition, support by a research mentor or sponsor must be adequately demonstrated. Furthermore, the study objectives must be reasonable, enabling completion of the Study Aims over the course of the two-year grant period. MMRF will notify all applicants of the outcome of their grant application on September 30/early October 2024.

A short summary of reviewer critiques will be provided to applicants upon request.

Funds Available:

Investigators may request up to $75,000 total costs, including up to 10% indirect costs, per year for a two (2) year period (total award is $150,000).

(a) Permissible Costs.

(i) Salary for the Principal Investigator that has faculty appointments (i.e., Instructor, Professor, etc.,) with the following restrictions:
  (1) the percent salary (with fringe benefits) cannot exceed the percent effort set forth in the approved budget by the MMRF.
  (2) the salary request (with fringe benefits) cannot exceed forty percent (40%) of the total grant request.

(ii) Salaries for the Principal Investigator or professional staff that do not have faculty appointments and technical assistants as necessary with the following restriction:
  (1) the percent salary (with fringe benefits) cannot exceed the percent effort set forth in the approved budget by the MMRF.
  (2) the salary request (with fringe benefits) cannot exceed forty percent (40 %) of the total grant request.

(iii) Salary of other participants in the grant research that have faculty appointments (i.e., Instructor, Professor, etc.,).
  (1) the percent salary (with fringe benefits) cannot exceed the percent effort set forth in the approved budget by the MMRF.
  (2) the salary request (with fringe benefits) cannot exceed forty percent (40%) of the total grant request.

(iv) Minimal but essential permanent equipment which is directly relevant to the grant research.
(v) Publication costs up to a maximum of one thousand dollars ($1,000.00).
(vi) Expendable supplies.
(vii) Other expenses directly related to the conduct of the grant research.
(viii) Travel to attend scientific meetings that are directly related to the grant research. Such travel arrangements shall be subject to the prior written approval of the MMRF and shall not exceed one thousand dollars ($1,000.00).
(ix) Indirect operating costs incurred by the Sponsoring Institution during the grant term in an amount **not to exceed ten percent (10%)** of the total costs.
(x) Notwithstanding the foregoing, in no event shall the base salary exceed the annual Federal capitation imposed by the National Institutes of Health.

(b) Impermissible Costs.

(i) Construction, alteration, maintenance, or rental of buildings or building space.
(ii) Computer equipment, office equipment and furniture.
(iii) Dues for membership in scientific societies.
(iv) Office supplies including, but not limited to, mail/postage costs, copying costs, telephone, fax, internet access or other similar costs.
(v) Tuition, books, and journals.
(vi) Significant Equipment costs.
(vii) Any other costs not specifically permitted by Section a Permissible Cost.

The funds awarded shall be used solely for the purposes specified in the application submitted to the MMRF as executed by the Principal Investigator, collaborating staff and institution in compliance with the budget annexed to the application.

Application Information:

All applications must be electronically submitted through the MMRF grant application web portal on proposalCENTRAL (https://proposalCENTRAL.altum.com). The Fellowship Application instructions are provided below and will also be available on this site.

For all scientific and administrative inquiries, please contact:

Mark Hamilton, PhD
Associate Director,
Translational Research,
Multiple Myeloma Research Foundation,
383 Main Avenue, 5th Floor,
Norwalk, CT 06851.
Direct: (203) 652-0233
Email: hamiltonm@themmrf.org / grants@themmrf.org

CONTRACTING AND TERMS OF AWARD:

Successful applicants whose proposals are selected for the MMRF Fellowship will be issued with a Notice of Award. The successful applicant(s) will provide the MMRF with the name and contact information for a legal representative authorized to negotiate with the MMRF on behalf of their institution. The MMRF reserves the right to withdraw an award if the parties fail to agree to terms within sixty (60**)** days of the Notice of Award.

Failure of applicants and/or their sponsoring institutions to adhere to any of the terms and conditions in the contract shall constitute sufficient grounds for the MMRF, in its discretion, to withhold support until the deficiency is corrected. If the deficiency cannot be corrected, the MMRF or the Sponsoring Institution may terminate the contract upon giving thirty (60) days written notice.

The following terms and conditions are not negotiable. By submitting an application, you are acknowledging that if your application is successful, these terms will need to be approved. MMRF recommends that applicants speak with their grants and contracting offices prior to applying.

Overhead Rate	Shall not exceed 10%
Publicity and Publication	MMRF reserves the right to announce the Institution, Private Investigator (PI) name, and title of the grant research in publications or other communications. MMRF shall receive written notice at least thirty (30) days prior to any publication, exhibition or presentation relating to the grant information (which notification shall include a copy of the materials intended for release, as well as the details of the information to be disclosed and the time, place, and manner of such disclosure). **Credits**. All published works, including, but not limited to, on-line publications, exhibitions, presentations, marketing materials or other disclosures of grant information or summaries thereof by Sponsoring Institution or Principal Investigator must display the designation, "Supported by a Research Grant from the Multiple Myeloma Research Foundation (MMRF)." MMRF shall have the right to include published grant information results on its website or in other MMRF materials.
Data Sharing	MMRF is hereby granted an irrevocable, worldwide, non-exclusive, royalty free, sublicensable license to the de-identified (as defined by HIPAA) data and results generated in the performance of Grant Research to include in the MMRF data repository. Sponsoring Institution and Principal Investigator shall provide de-identified (as defined by HIPAA) data, Experimentals, and results of the Grant Research to MMRF in digital format (as outlined in Exhibit G *Data Requirements* and Exhibit H *Data Dictionary)* for incorporation into data repository along with the Final Report. MMRF may incorporate into data repository de-identified (as defined by HIPPA) data, Experimentals, and results of the Grant Research received with the Final Report at the earlier of eighteen (18) months from receipt, or upon publication of the Grant Research by Sponsoring Institution or Principal Investigator. Sponsoring Institution and

	Principal Investigator agree that once MMRF has incorporated such de-identified (as defined by HIPPAA) data, Experimentals, and results into the data repository, MMRF will have the unrestricted right to use, distribute, share, and publish the de-identified (as defined by HIPPA) data, Experimentals, and results.
Invention Definition	Invention shall mean any discovery, invention, material, method, process, product, biological material, program, trade secret, software, or use, that is or may be patentable, that is conceived or reduced to practice in the course of grant research. Ownership of an Invention shall track inventorship, and inventorship of Inventions shall be determined according to United States patent law.

Disclosure and Assignment of Invention by Principal Investigator	The Sponsoring Institution shall require the Principal Investigator and all other persons engaged in the grant research to promptly: **1.** Disclose all Inventions to the Office of Technology (or the equivalent) of the Sponsoring Institution; **2.** Assign to the Sponsoring Institution all of their right, title and interest in and to all Inventions which are conceived, discovered or conceived or reduced to practice by such person during the course of the Grant Research at the Sponsoring Institution; **3.** Require all such persons to cooperate fully with the Sponsoring Institution in pursuing legal protection for any inventions or improvements thereto, including but not limited to providing assistance in filing and presenting any patent applications for or copyrights on such Inventions or improvements.
Reporting Inventions to MMRF	Institution and/or Principal Investigator shall report any invention or lack thereof to MMRF on an annual basis on or about April 30 and with the Final Report. Notwithstanding the foregoing, all Inventions shall be reported to MMRF in writing within three (3) months after their disclosure to the Sponsoring Institution.
Sponsoring Institution's Duty to Decide on Protection of Invention and Notify MMRF	Sponsoring Institution shall determine whether it will seek patent or other statutory protection for each Invention promptly after such Invention is disclosed to the Sponsoring Institution, and it shall promptly notify MMRF of its decision. Upon MMRF's request, Sponsoring Institution shall notify MMRF when documentation relating to the filing or assertion of rights have published and are publicly available.
Notice to MMRF of Possible Revenue-Generating Agreement	If the Sponsoring Institution contemplates entering into a license, assignment, or other revenue-generating agreement relating to the Invention, the Sponsoring Institution shall give MMRF written notice within thirty (30) days after execution.

Participation in Income	MMRF shall have the right to participate in the income derived from any Invention, unless MMRF explicitly waives such right in writing, and the parties hereby agree that no provision of the Agreement shall constitute such a waiver. This right to participate shall include the sharing of licensing fees and royalties and any other consideration derived from an Invention by Sponsoring

	Institution and/or Principal Investigator at a rate of twenty percent (20%) of net income up to a cap of five (5) times the grant amount funded by MMRF. MMRF's participation in income hereunder shall be paid on a calendar yearly basis and shall be accompanied by copies of all invoices sent by Sponsoring Institution to its licensees, assignees and/or transferees as the case may be. MMRF shall have the right to audit Sponsoring Institution's books with advance written notice and records no more frequently than one time per year to verify the payments hereunder, with the understanding that access to such information shall be limited by any obligations of confidentiality that the Sponsoring Institution has to its licensees, assignees, or transferees.
Impermissible Costs	**1.** Construction, alteration, maintenance, or rental of buildings or building space **2.** Computer equipment, office equipment, and furniture **3.** Dues for membership in scientific societies **4.** Office supplies including, but not limited to, mail/postage costs, copying costs, telephone, fax, modem, DSL, or other similar line costs **5.** Tuition, books, and journals
Informed Consent	The Sponsoring Institution shall ensure that all applicable patient consent forms allow for data sharing in accordance with the data sharing requirements
Subsites	Institution will be responsible for subcontracting with any subsites ensuring that the terms of the subcontracts provide for the same terms and conditions as in the grant agreement between MMRF and Institution.

Multiple Myeloma Research Foundation
2024 Research Fellowship Program
Application Instructions

A. General Requirements

a. Required Format: Applications must be in English using single-spaced text, half-inch margins, using either the Arial or Times New Roman 11- or 12-point font. Page limitations must be observed for each section as described below.

b. Good Standing: Applications will only be accepted from research investigators who are currently in good standing with the MMRF. An applicant will automatically be considered to be in good standing unless they have failed to provide progress reports on prior MMRF-funded grants.

Note: Sections B – E must be completed in the template titled "Prerequisite Information" which is provided as a downloadable file for applicants on the proposalCENTRAL application portal (https://proposalCENTRAL.altum.com). Please download the template, complete each section, and save the document, and then upload as a single PDF file.

B. Abstract

This Section should contain the following:

1) A General Audience Abstract: briefly describe your proposed project in 100 words or less using non-technical language (i.e., at a level that an eighth grader would understand)
2) A Technical Abstract: briefly describe your proposed project in 100 words or less using technical language.

C. Biographical Sketch

This Section should contain the biographical sketches of the Principal Investigator and all key personnel. This must include any personnel who are referenced in the budget. Do not exceed two pages per biographical sketch.

D. Budget

Please provide a detailed budget and budget justification fully outlining specific needs for professional and technical staff and itemized supplies by category. Please see the definition of Permissible and Impermissible charges in the above section on Funds Available. All budget items should be explained under Budget Justification

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E. Other Research Support

Other support is defined as any specific funds or resources, whether governmental, non-governmental or institutional, available to the Principal Investigator (and the other key personnel named in the application) in direct support of their research endeavors. This should include active support and pending support.

Information regarding active or pending sources of support available to the Principal Investigator (and other key personnel named in the application), whether related to this application or not, is an important part of the review and award process and must be included.

Note: Sections F - G should be completed in the template titled "Application Template" which is provided as a downloadable file to applicants through the ProposalCENTRAL application portal. Download the template; complete each section and save the document, and then upload as a single PDF file.

F. Project Description

Limited to **5 pages**, but excluding necessary supporting materials such as references, figures, and tables (see Section G Supporting Materials). The project description should be presented in the following sequence:

a) Specific Aims (approximately 0.5 pages)
b) Scientific Background and Clinical Significance of Proposed Studies (approximately 1.0 pages)
c) Previous Work or Preliminary Data (approximately 1.5 pages)
d) Methods, Model Systems and Assays (approximately 1.0 pages)
e) Plans for Clinical Application of Data (if applicable; approximately 0.5 pages)
f) Resources and Environment including support from research mentor/sponsor (approximately 0.5 page)

If part of the application, Clinical Research protocols must be submitted as materials in the Appendix. Include IRB/Ethical Committee approval/compliance number or indicate pending and an anticipated approval date.

G. Supporting Materials (References, Figures and Tables)

Any referenced publications in the Project Description, Figures, and Tables should be submitted but will not count against the five (5) page limit in Section F of the Project Description.

Note: There is no template provided for Sections H – K. These documents need to be uploaded as separate PDF files. Please see each section for any specific instructions or notes.

H. Request for Resource Support (Optional)

The MMRF may be able to provide access to external research resources and expertise through its network of collaborator institutions and investigators. Applicants who require access to novel or

advanced research technologies and platforms, or expertise, in order to complete the research aims described in their application may request assistance from the MMRF to identify the required resources or expertise. Applicants requesting resource support must provide a brief description of their expected external technical or expertise needs (0.5 pages).

We strongly recommend that investigators contact the MMRF to discuss their resource needs prior to submission of their application. Investigators should contact Dr. Mark Hamilton (hamiltonm@themmrf.org) to discuss resource requests.

I. Letter of Support

As this award is also for junior level investigators including post-doctorate/clinical fellows and junior faculty members beginning their career in myeloma research, these 'new' investigators must include a letter of support with their application. This letter must be from a senior faculty member who is active in the myeloma field and stating that they are able to commit to mentor and/or sponsor the applicant on an as needed basis.

J. Laboratory Animals Statement

For projects which involve laboratory animals, the Institutional Animal Care and Use Committee (IACUC) Approval Date and Animal Welfare Assurance number must be given. Non-US applicants must submit approval documentation from their Animal Ethics Committee.

> **Note:** If an applicant has Laboratory Animal documentation to submit then this documentation must be uploaded as a separate PDF file.

K. Biohazards Statement

An institutional statement and assurances regarding potential biohazards and safeguards must be included. This may not be applicable to applicants from countries outside the US.

> **Note:** The Department of Environmental Health and Safety (or equivalent office) at most institutes and universities can provide the applicant with a letter stating that the laboratory and/or the applicant is in compliance with applicable laws. This is the document that should be submitted.

L. Relevant Publications

A set of the applicant's publication reprints which are relevant to the proposed project can be included. Please be aware that any password protection feature **must** be removed. Many articles when downloaded from journal sites contain password protection to prevent modifications of the document. **Please note:** if the password protection is not removed, reviewers will have difficulty in downloading your application. Applicants will be limited to five (5) publication reprints. Applications with more than five (5) publications will not be accepted. Submitting numerous large files adds to the download time of your application and can add time delays to the submission site.

> **Note:** Applicants may either include all publications in one document as a Publication Appendix or submit each publication as a separate Appendix. Include in the name of the document(s) or

Appendix(s) the following: 1) Applicant's last name and 2) description of the document or appendix. For example: Smith Publication Appendix. PDF (one document with all publications) or Smith Paper on Mouse Model X. PDF and Smith Paper on Myeloma Drug Y. PDF, etc.

M. Signatures:

The signature page is provided as a printable document and is the last step before submitting the application. Applicants should print the signature page, sign (applicant) and then have the appropriate institutional representatives sign the document; e.g., the Institute Signing Official and Finance Officials. **Please check with your institute's Office of Sponsored Programs to ensure you are obtaining the appropriate signatures.** Once signed, the document needs to be scanned, converted to a PDF, and uploaded with the grant application.

Note: This signature page needs to upload as a PDF file. See Section N: Complete and Submit the Application for instructions.

N. Complete and Submit the Application:

All applicants and their institutes' grants and contracts offices must register with proposalCENTRAL (https://proposalCENTRAL.altum.com). All applicants must submit a complete application using this portal.

NOTE: PAPER APPLICATIONS WILL NOT BE ACCEPTED. ALL APPLICATIONS MUST BE ELECTRONICALLY SUBMITTED BY 11:59 PM EST ON JUNE 28, 2024 THROUGH THE ProposalCENTRAL APPLICATION PORTAL.

APPLICATIONS RECEIVED AFTER FRIDAY JUNE 28, 2024 WILL NOT BE CONSIDERED.