



## MENTORED RESEARCH PROJECT (MRP) APPLICATION GUIDELINES

### BACKGROUND AND PURPOSE

The newly established **Metropolitan AntiViral Drug Accelerator (MAVDA)**, which seeks to develop small molecule antiviral drugs against SARS-CoV-2 and other viruses of pandemic potential, requests applications from highly qualified candidates for Mentored Research Projects (MRPs).

MRPs are intended to increase the availability of qualified researchers and other personnel for antiviral discovery research by providing opportunities to further their professional advancement. MRPs must relate to the Center objectives and may be used to support post-doctoral fellows, early career investigators, or senior investigators new to the field of antiviral discovery and development. MRPs are limited to one or two years, with a range of **\$50,000** to **\$75,000** in direct costs per project per year.

### ABOUT MAVDA

MAVDA was created to engage world-class virologists and academic drug discovery experts, as well as industry professionals centered largely in New York City and New Jersey to develop small molecule drugs suitable for outpatient use against SARS-CoV-2, and other coronaviruses and viruses of pandemic potential. The MAVDA program, led by **Dr. David Perlin** (Center for Discovery and Innovation-Hackensack Meridian Health) and **Dr. Charles Rice** (Rockefeller University), is one of nine national antiviral centers of excellence funded by the National Institutes of Health (NIH)/ National Institute of Allergy and Infectious Diseases (NIAID) under the [Antiviral Drug Discovery \(AViDD\) Centers for Pathogens of Pandemic Concern](#). AViDD research centers target SARS-CoV-2 and other viruses with pandemic potential such as paramyxoviruses, bunyavirales, togaviruses, filoviruses, picornaviruses, and flaviviruses.

MAVDA currently supports Five Projects from academia and industry representing a diverse portfolio of targets and approaches. An integrated network of Pharma-style science cores with highly experienced Core directors ensure that compound identification and optimization proceed efficiently with clear 'Go/No Go' criteria to support compound maturation. The overall MAVDA performance is guided by a world-class scientific advisory Board consisting of industry and academic experts who have developed more than a dozen antivirals and related anti-infectives.

Current MAVDA institutional members include the Center for Discovery and Innovation at Hackensack Meridian Health, Rockefeller University, Columbia University, Memorial Sloan Kettering, Rutgers University, the Tri-Institutional Therapeutics Discovery Institute, Merck, and Aligos Therapeutics, Inc.



The **objectives of the MAVDA** research centers are to

- *Use structural and systems methods to identify potential drug targets shared across key viral pathogens and to generate a diverse pool of novel antiviral lead series and drug candidates with potential to address SARS-CoV-2, as well as to quickly pivot to address future viral outbreaks or pandemics.*
- *Develop inhibitors of 3CLpro, as a proven and highly desirable target. Development of other important targets include Nsp14 and Nsp16 MTase, ExoN, PLpro, Nsp13 helicase, RdRp, as well as identification of novel targets.*
- *Develop approaches to identify novel compounds resulting in validated Hits, early Leads, Leads suitable for immediate optimization, and optimized Leads at or ready for IND-enabling and de-risking studies.*

## MENTOR INFORMATION

The purpose of the MAVDA MRP program is to provide support for an intensive, supervised career development experience in the field of antiviral discovery research. The MAVDA mentor will provide continuous support (in addition to the guidance provided by the applicant's current supervisor) and feedback on the proposed project and aid in the applicant's professional development.

A **list of potential MAVDA participant mentors** is provided below. Applicants are encouraged to discuss their project proposal with their current supervisor and with their help, identify a mentor that best suits the project. In contacting these mentors, please have your fully conceived idea for the proposal and a Specific Aims Page ready for their perusal. Mentor contact information can be found at the respective lab websites. We encourage applicants to copy the current supervisor in writing to a prospective mentor.

Note: If you are already working with a mentor listed here, please discuss eligibility and if an external mentor would be ideal for the goals of this program.

<b>Name of Mentor</b>	<b>Institution</b>
<a href="#">Charles M. Rice, PhD (MPI)</a>	Rockefeller University
<a href="#">David S. Perlin, PhD (MPI)</a>	Center for Discovery and Innovation (CDI)
<a href="#">David D. Ho, MD</a>	Columbia University
<a href="#">Stephen Goff, PhD</a>	Columbia University
<a href="#">Thomas Tuschl, PhD</a>	Rockefeller University
<a href="#">Julian A. Symons, D.Phil.</a>	Aligos Therapeutics, Inc.
<a href="#">Lawrence S. Shapiro, Ph.D</a>	Columbia University
<a href="#">Yosef Sabo, PhD</a>	Columbia University
<a href="#">Alejandro Chavez, PhD</a>	University of San Diego
<a href="#">Dinshaw J. Patel, PhD</a>	Memorial Sloan-Kettering Cancer Center
<a href="#">Jingyue Ju, Ph.D.</a>	Columbia University



<a href="#">James Balkoveck, Ph.D.</a>	Center for Discovery and Innovation (CDI)
<a href="#">Joel Freundlich, PhD</a>	Rutgers University

## APPLICATION DEADLINES AND AWARD DATES

**January 5, 2023** – The deadline for receipt of draft-applications (3-page)

**March 1, 2023** – Notify selected candidates to submit a full application (PHS 398 form)

**April 1, 2023** – Deadline to submit PHS 398 application

**May 16, 2023** – Award start date

## ELIGIBILITY CRITERIA

*Ineligible proposals will not be reviewed. If you have any questions regarding your eligibility, please contact MAVDA Grants Staff at [MAVDAGrants@hnh-cdi.org](mailto:MAVDAGrants@hnh-cdi.org) before submitting a proposal.*

1. Hold a MD, DO, PhD, ScD, or equivalent degree.
2. Eligible candidates include applicants with an academic appointment at the level of postdoctoral fellows, early-stage assistant professors, or later-stage scientists new to the field. Researchers with other early faculty appointments (such as Instructor, Adjunct Track, etc.) may apply but are strongly encouraged to provide a letter of support from their department chair. Researchers appointed to the position of associate professor or higher are not eligible unless they are new to the field.
3. Applicants must have a defined research plan and access to institutional resources to conduct the proposed project. This includes obtaining prior approval from current supervisor.
4. U.S. citizenship is not required; however, all research must be conducted in the U.S.
5. Applications are encouraged from underrepresented racial and ethnic groups, women, members of minority groups, and people with disabilities.
6. All applicants will be considered, although individual candidates with identified mentors and research plans will be given preference.

## GRANT PROCESS

The MAVDA MRP application is a **2-step process**. Only selected candidates will be invited to submit the full application (PHS 398 form) to NIH/NIAID.

### STEP 1: DRAFT APPLICATION

**Deadline: January 5, 2023**

The draft-application (3-page equivalent) is an easy to fill out google form. The instructions for filling out the form are provided below. All questions are required unless stated otherwise. Where noted, templates are available for download.



### Section 1 of 7: General Information about MAVDA and the MRP Program

Enter valid email address.

### Section 2 of 7: Personal Information

Enter name (First name, Last name)

Current Position Title

Current Employer (Name of Current Supervisor, Department, University/Institution)

Email Address of current supervisor

Highest Education (mark that apply)

Email Address (enter your work email address)

Telephone number (mobile/work phone)

Postal Address (include House/Apt number, street name, City, State and Zip code)

### Section 3 of 7: Biosketch

Please upload your Biosketch in this section of the form. [Click here](#) to download NIH Biosketch template. The Biosketch should be in PDF format for upload.

### Section 4 of 7: Research Section

1. Project title

2. MAVDA Mentor Information

Approval from your current supervisor/employer is required.

Prior discussion with your proposed mentor is encouraged. Please refer to the **mentor information section above** for further details.

3. Executive Summary (500-word limit)

The executive summary should include a short abstract of the project and a brief training plan. The abstract should outline how the project directly complements or facilitates one or more primary objective(s) of the MAVDA. The project should be exceptionally innovative. The application should propose a high-risk/high-return project with clear potential for delivering transformational results or paradigm shifts. In short, the summary should provide a brief justification for training opportunities and research goals that align with MAVDA priorities.

4. Research Plan and Applicant Statement

Research Plan (2 Page limit)

Times New Roman/Arial. Font size: use at least 11 pt and at least ½ inch margins

The research plan should include the following elements: specific aims, background and significance, previous work directly related to this research (if available), research plan and methods. The project must directly complement or facilitate one or more primary objective(s) of the MAVDA and be exceptionally innovative. The application should propose a



high-risk/high-return project with clear potential for delivering transformational results or paradigm shifts.

#### Applicant Statement and Training Goals (1 Page limit)

Times New Roman/Arial. Font size: use at least 11 pt and at least ½ inch margins

The Applicant statement should contain the following elements: Please discuss the plans with both your supervisor and the proposed mentor.

- i. Describe your long-term career goals and your reason for choosing the MAVDA mentored program for research training.
- ii. Describe the research training/mentorship you will receive during the fellowship term and how this training will contribute to your career goals. This may include both training in the laboratory and didactic training outside of the laboratory such as courses, workshops, conferences, and networking with other members of the MAVDA consortium.
- iii. Describe your plans beyond the proposed fellowship period and how you imagine your training and research in the Drug Discovery field will continue. As applicable, discuss how the proposed fellowship will facilitate your transition to the next career stage.

5. Indicate virus family you propose to investigate (Check all that apply)

6. Indicate Drug Discovery Stage

Select the primary stage of drug discovery that best fits your proposal (Check all that apply).

#### Section 5 of 7: Preliminary Budget

Please use the template provided here for [budget and justification](#). Convert files into a single PDF file for upload.

#### Section 6 of 7: Demographic Information (Optional)

MAVDA and the NIH are committed to promoting a diverse and inclusive workplace. Given that policy, we are soliciting responses to the demographic items in this grant application.

Your responses are **voluntary** and **confidential**.

The MAVDA-MRP Program is committed to supporting a strong, diverse, and inclusive research workforce. If you choose to provide information such as gender, race and ethnicity, or disability status, it will be used to help MAVDA and our granting programs study applicant demographics through analysis of de-identified aggregate data. Such demographic information will not be available to the reviewers of your research proposal. The information requested include gender, race, and ethnicity.

#### Section 7 of 7: Validation

This section allows you to acknowledge that you are eligible to apply for this grant and have approval from your institution and/or employer. It also allows you to certify the accuracy of the information provided.



## STEP 2: FULL-APPLICATION

**Deadline: April 1, 2023**

Detailed information for submission of PHS398 can be found [here](#).

## EVALUATION CRITERIA

### Significance

- Does the proposed project address an important problem or crucial barrier in the Drug Discovery field for the development of antiviral drugs. For example, as framed by the NIAID Antiviral Program for Pandemics.
- If the aims of the project are achieved, how will scientific knowledge, technical capability, and/or clinical practice be improved?
- Does the project directly complement or facilitate one or more primary objective(s) of the MAVDA?
- Does the application propose a high-risk/high-return project with clear potential for delivering transformational results or paradigm shifts?

### Applicant

- Does the applicant have appropriate experience and training and potential for further success as an independent researcher?
- Is the mentor and proposed research laboratory well suited to the project?
- Does the applicant hold an academic appointment of postdoctoral fellow, Assistant Professor or equivalent? If the applicant has another early faculty appointment (e.g. Instructor, Adjunct, etc.), is there clear indication that they have the support of their institution for an independent research program? If the applicant is an associate professor or higher, does he/she meet the criteria for being “new” the field of antiviral research?

### Innovation

- Is the project exceptionally innovative? Does the application challenge and seek to shift current research or preclinical practice paradigms by utilizing novel theoretical concepts, approaches or methodologies, instrumentation, or interventions?
- What is the strength of the scientific premise, i.e. the quality and strength of the prior research used as a basis for the proposed research question? Please refer to NIH guidelines for more clarification.

### Approach

- Is the research project well-conceived, with clear hypotheses, potential alternative outcomes, and a strong scientific premise, as defined by the NIH guidelines on rigor & transparency?



- Are the overall strategy, methodology, and analyzes well-reasoned and appropriate to accomplish the specific aims of the project?

#### **Environment and Training/Mentorship Plan**

- Are the research facilities, resources, and training opportunities adequate and appropriate, including faculty capable of productive collaboration with the candidate?
- Is the environment for scientific and professional development of the candidate of high quality?
- Does the training/mentorship plan provide a high-quality research training opportunity for early career antiviral drug discovery researchers? Will the opportunity encompass training in research methodology and best practices?
- Is that training targeted to the needs of the specific researcher and their intended career plan?

#### **Budget**

- Reviewers may comment on whether funding is well utilized and sufficient for the proposed project.

#### **CONTACT INFORMATION**

If questions arise about your application and the review process, contact [MAVDAgrants@hmh-cdi.org](mailto:MAVDAgrants@hmh-cdi.org)