

Inclusive Datasets for Machine Learning

AMR

Applicant Webinar

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Speakers

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Meeting Objectives

- Provide potential applicants with an understanding of Lacuna Fund and proposal requirements.
- Provide time for applicant questions about the Request for Proposals (RFP).



Agenda

- 00:00** Welcome, Introduction, Agenda Review
- 00:10** Presentation: Lacuna Fund Overview and Requirements for RFPs, Elements of a Strong Proposal
- 00:40** Presentation: Data Quality and Hosting Considerations
- 00:50** Presentation: Mentorship/Matchmaking Opportunity
- 01:00** Question and Answer
- 01:25** Next Steps
- 01:30** Adjourn



A lacuna is a gap, or a missing portion of a manuscript

Lacuna Fund supports the creation, expansion, and maintenance of equitable training and evaluation datasets that enable machine learning tools to better tackle urgent problems in low- and middle-income contexts globally.

Principles that guide Lacuna Fund:

- Accessibility
- Equity
- Ethics
- Participatory Approach
- Quality
- Transformational Impact



Funders



Additional Funders



Lacuna Fund Governance Structure

Steering Committee

Strategic guidance and overall governance of the Fund

Funder Collaborative

Provides input on key priorities to the Steering Committee and provides a forum for deeper funder collaboration

Technical Advisory Panels

Scope funding processes and select proposals, provide input on domain specific strategies and needs

Secretariat

Manages grants and reporting, provides facilitation, communications, and operational support



Domains for Datasets

Lacuna Fund provides resources for dataset creation, expansion, or maintenance.

Current calls for proposals in these domains:

- **AMR**
- **NLP**

Prior calls for proposals in these domains:

- Agriculture
- Language
- Health
- Climate

Future calls for proposals:

- Other areas where the Steering Committee identifies a need

Funder for AMR

The AMR call for proposals is made possible with generous support from WELLCOME.





Requirements for RFP Antimicrobial Resistance (AMR)

AMR RFP - Purpose

Stated Purpose:

The purpose of this call for proposals is to support efforts to develop open and accessible datasets for machine learning applications related to understanding Antimicrobial Resistance (AMR) in low- and middle-income countries (LMICs) in Africa, Latin America and South and Southeast Asia.

AMR RFP – Need

We see a need for training and evaluation datasets that will help better understand the impacts of AMR and develop interventions to mitigate these impacts. We seek datasets identified by local experts designed to address locally identified needs, so the following are illustrative examples only.

- Datasets to improve Infection Prevention and Control (IPC)
- Datasets for Drug Discovery
- Datasets for global AMR Surveillance and Anticipatory Approaches
- Datasets that support diagnostics
- Datasets containing information on access to antimicrobials and lack thereof
- Datasets improving the basic biological understanding of pathogens and AMR
- Across all datasets, gender-responsiveness, inclusion of key vulnerable groups, especially those bearing the brunt of AMR



What We Are Looking For

- Collecting and annotating new data
- Annotating and releasing existing data
- Expanding and/or maintaining existing datasets and increasing usability
- Linking and harmonizing existing datasets



Proposal Components

- Applicant information
- Proposal narrative
- Project timeline
- Budget and budget narrative
- Due diligence self-reporting form



Eligibility Requirements

- The funder-specific requirements are as follow
 - Be either a non-profit entity, research institution, for-profit social enterprise, or a team of such organizations. Individuals must apply through an institutional sponsor. Partnerships are strongly encouraged as a way to strengthen collaboration and maximize the benefits derived from the use of the datasets, but only the lead applicant will receive funds.
 - The entity must have a mission supporting societal good, broadly defined.

Eligibility Requirements

- Be headquartered in the country or region where data will be collected. The lead applicant must be based in a low- or middle-income country, and must propose work in the same country, or a low- or middle-income country in Africa, Latin America or South or Southeast Asia. For a list of eligible countries, see <https://wellcome.org/grant-funding/guidance/low-and-middle-income-countries>.
- Institutions based in other countries or regions can apply as partners of the lead institution. As stated above, only the lead applicant will receive funds.

Eligibility Requirements

- Have all necessary national or other approvals to conduct the proposed research. The approval process may be conducted in parallel with the grant application, if necessary. Approval costs, if any, are the responsibility of the applicant.
- Have the technical capacity – or the ability to build this capacity through a partnership described in the proposal – to conduct dataset labeling, creation, aggregation, expansion, and/or maintenance, including the ability to apply best practice and established standards in antimicrobial resistance to allow high quality AI/ML analytics to be performed by multiple entities.

Key Dates

June 27: Request for Proposals Open- [Apply - Lacuna Fund](#)

July 12: Questions deadline

Please submit questions to secretariat@lacunafund.org

July 29: Answers posted

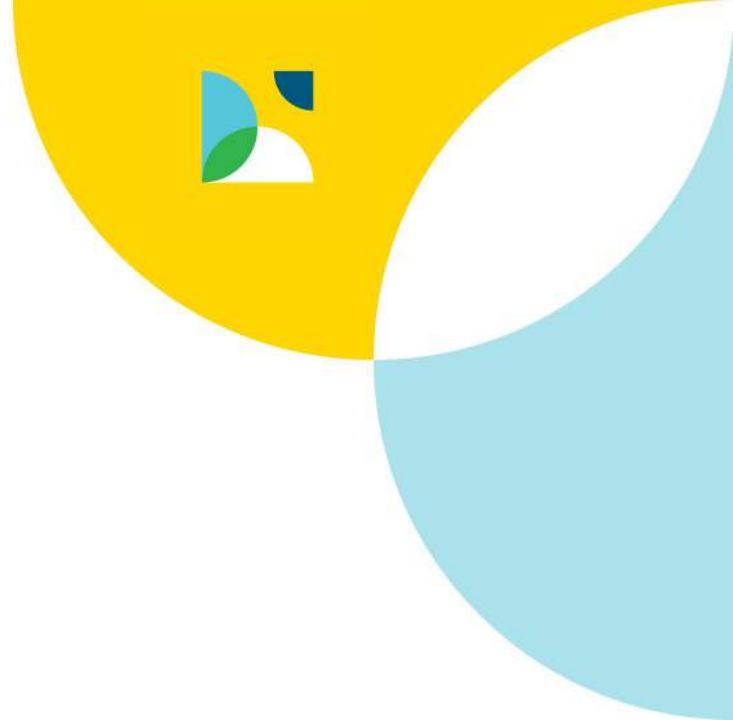
July 26: Last chance to apply for mentorship

August 23: Full proposals due

- **November:** Technical Advisory Panel makes decisions on grant awards
- **December:** Grant Awardees are notified
- **May:** Award Announcements



Elements of Strong Proposals



Elements of Strong Proposals

- **Multi-disciplinary team** - experience in data science and machine learning, AMR
- **Use cases and community engagement**
- Clear **problem statement** and how the proposed dataset or aggregation will help solve the problem
- Specificity about dataset size – should be of **sufficient size and quality** to be useful in future applications
- **Budget** is appropriate for the size of the dataset produced



Elements of Strong Proposals

- **Equity** considerations (gender, socio-economic status, ethnicity, etc.)
- Consideration and plan for potential **privacy and ethics** issues
- Plan for **data management and licensing**
- Working across areas where possible and relevant: time, regions, pathogens, patient outcomes...
- **Budget** is appropriate for the size of the dataset produced



Community Engagement

- Describe previous consultation and/or proposed collaboration with intended beneficiaries.
 - When and where you have met/ will meet with partners
 - How partners will be involved in:
 - Identifying data needs
 - Data collection, labeling
 - Data governance
 - Dataset use
 - How partners will benefit from the new/expanded dataset

Privacy and Ethics

Explain how your team will address:

- a) privacy concerns,
- b) potential for downstream misuse,
- c) possible discrimination vectors (e.g., gender), and
- d) fair and equitable working conditions, if paid labelers are involved in the project.

Describe the process you will use to screen for potential ethical issues (e.g., an institutional review board, etc.).



Data Standards and Sharing



- **F**indable - easy to find on a public, widely used platform
- **A**ccessible - open format (CCBY 4.0)
- **I**nteroperable - data format
- **R**eusable - metadata

- Sustainable - plan for maintenance
- Shared – engaged community of users & plan for sharing dataset once complete

<https://www.go-fair.org/fair-principles/>

Budget and Allowed Costs

- Must be submitted in the Excel template.
- When in doubt, explain!
- Allowed costs include:
 - Training/capacity building;
 - Data collection; labeling; QA/QC or verification; and post-processing;
 - Baseline model;
 - Licensing;
 - Dataset hosting;
 - Open access publication of results;
 - Metadata or data statement;
 - Crowd-sourcing efforts, such as label-a-thons.



Data Quality

- Data profiling - Involves analyzing data to gain insights, including data types, distributions, missing values, outliers, and potential inconsistencies.
- Data cleaning process - Involves handling missing values, correcting errors, removing outliers, resolving inconsistencies, and standardizing data formats.
- Data accuracy - verifying data accuracy by comparing it against trusted sources or expert knowledge.



Data Quality Considerations

1. Hosting and accessibility

- How and where we host data really matters.
- Uptake of a dataset can depend on how and where the dataset is hosted

Where is your dataset currently hosted? What informed that decision?

Hosting and Accessibility

What do you consider when choosing a hosting platform?

- Domain
- Use Case
- Cost

Lacuna Fund Policy:

Flexible to allow for local ownership of data and to be responsive to envisioned use cases for the data. Guided by Lacuna Fund's principles

Hosting and Accessibility - Lacuna Principles



| Accessibility



| Equity



| Ethics



| Participatory Approach



| Quality



| Transformational Impact



2. Dataset Documentation

"In the electronics industry, it is standard to accompany every component with a datasheet providing standard operating characteristics, test results, recommended usage, and other information.

Similarly, we recommend that every dataset be accompanied with a datasheet documenting its creation, composition, intended uses, maintenance, and other properties."

Benefits of Dataset Documentation



- Reproducibility
- Transparency
- Usability

Dataset documentation will show context, structure and content



Dataset Documentation - Lacuna Guidelines

- Datasheet
- Metadata file
- Digital object identifier (DOI)

3. Licensing - Lacuna Guidelines

- Lacuna's Intellectual Property Policy. Datasets and related IP developed with grant funds will:
- Be owned by the subgrantee entity
- Be openly licensed by the subgrantee entity to maximize the potential for responsible release and downstream use of such intellectual property.



Licensing... what is covered?

- Metadata, datasheets, or other information.
- Guidance included with the dataset to guide its use.
- Sample models or other informational tools released with the data.





Mentorship Opportunity: ACTS Mentorship Program

Africa Centre for Technology Studies (ACTS)



The ACTS Mentorship Programme

- **Mission:** ACTS mission is to strengthen the capacity and policies of African countries and institutions to harness science, technology and innovation for sustainable development. The mentorship program will support applicants in developing quality applications as well as guiding them to understand and follow best practices of implementing their projects.
- On a **one-time** basis for this Lacuna Fund call, ACTS will offer applicants from around the world a special opportunity to join the mentorship program where applicants and teams will be matched with a mentor.



The ACTS Mentorship Programme

- Apply on **ACTS website**
[ACTS Mentorship Programme](#)
- Select either participate **“Apply for Mentorship” OR “Apply to be a Mentor”**
- Both forms have similar fields where you will be required to provide your personal information, time zone, your language, area of specialization, proposal thematic area
- We encourage you to prepare a detailed outline or draft proposal before applying for mentorship which will enable you to know your thematic area
- Apply **at least 4 week before the due date, by July 26 2024**
- Mentors will be assigned on a **first come, first-served** basis.
- All applicants are expected to **read and abide by the mentorship programme’s code of ethics and conduct.**

The ACTS Code of Conduct

- Cause no harm
- Free, prior and informed consent
- Confidentiality
- Safety
- No coercion
- Involvement of children (under 18years)
- Gender
- Inclusivity

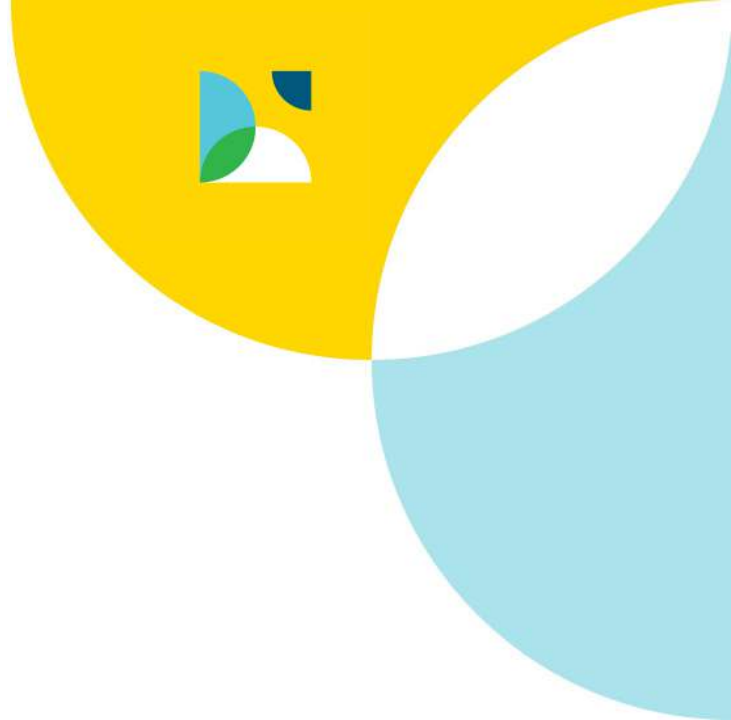
The ACTS Mentorship Programme

Roles of a Mentor

- Providing Mentorship and guiding the applicants to understand the aim of the call
- Building relationships with the mentees and understanding their weakness and strength
- Assisting Mentees by proofreading proposals on an as needs basis
- Guiding mentees on any group roles and conflicts which might arise
- Attending the sessions or discussions of the proposal group or meet separately with lead investigators.
- Discussing relevant work in the proposal area to ensure the proposal is contextualized.



Questions?



Next Steps

- **Submit additional questions to secretariat@lacunafund.org by July 12**
- **Answers posted** publicly on Lacuna Fund Apply page on **July 29**
- **Apply for mentorship as soon as possible and by July 26**
- **Proposals due on August 23**

