Dr. James A. Ferguson Emerging Infectious Diseases RISE Fellowship
2027 Mentor Information Session



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Center for Excellence in Public Health Leadership Programs

- *Educational opportunities funded by the Centers for Disease Control and Prevention*
  - **Dr. James A. Ferguson Emerging Infectious Diseases RISE Fellowship**
  - Maternal and Child Health Careers/Research Initiatives for Students Enhancement-Undergraduate Program (MCHC/RISE-UP)

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Dr. James A. Ferguson EID RISE Fellowship

- Instituted in 1989 at the CDC/NCID as an eight-week Summer Research Fellowship Program.
- Originally designed for graduate scholars in the medical and veterinary medicine fields, to explore the broad range of public health career opportunities. Served on NCID's Board of Scientific Counselors.
- First partners: Morehouse School of Medicine and Tuskegee University School of Veterinary Medicine
- Fourth dean of Tuskegee University's School of Veterinary Medicine and first Tuskegee alumnus to serve in that capacity in 1991.The program was renamed in his honor in 1999.

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Educational Topic and Priority Areas

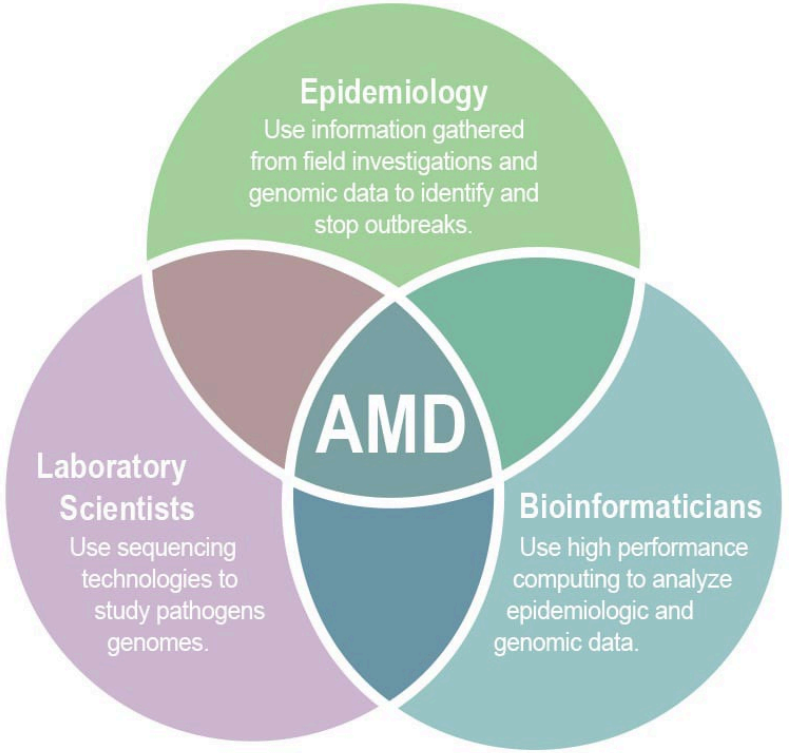
- Public health experiences focusing public health challenges & health promotion
    - CDC Core Priority Areas
    - Infectious Diseases
        - Advanced Molecular Detection (AMD)
        - Waste Water Surveillance (WWS)
    - Maternal and Child Health
    - Mental Health
    - Disabilities

Integrated with Political and Social Determinants of Health to promote health for all

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Advanced Molecular Detection and Wastewater Surveillance

- **Newly CDC funded focus research areas with the Ferguson Fellowships**
- Advanced molecular detection (AMD) integrates traditional epidemiology with next-generation sequencing and bioinformatics to provide detailed information on disease-causing organisms.
- AMD allows public health agencies across the United States to identify and solve outbreaks that, in the past, would not have been detectable.
- AMD is now central to the U.S. public health system's efforts to identify, track, and stop infectious disease.
- Wastewater surveillance is a method to monitor for pathogens within a community. It involves the systematic sampling, processing, and analysis of wastewater to detect the genetic material of targeted pathogens.



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Dr. James A. Ferguson RISE Fellowship

Top 10 Summer Fellowships of 2024

Oct 31, 2023



Top 10 Summer Fellowships of 2026



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Ferguson RISE Fellowship Goals

- Promote knowledge of and commitment to careers in public health.
- Provide graduate students in medical, dental, veterinary medicine, pharmacy, social sciences, and public health professions, with an introduction to public health research careers.
- Provide a mentored research and clinical experiences to develop critical thinking, leadership skills, and opportunities for **scientific presentations and publications.**
- Mentor and introduce students to public health fellowships and career opportunities.

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Ferguson RISE Fellowship Program Highlights N=53 (2026 Cohort: 233 Eligible)

- **16** summer fellows completed their fellowship!
- Welcoming **28** fellows (12-month) representing placements across **13** states
- **9** second-year fellows are supporting and mentoring the first-year fellows
- **8** first-author publications from (2025-2026) published work across both AMD/WWS
- **30** scientific presentations
  - American Public Health Association
  - American Society of Tropical Medicine & Hygiene Conference
  - Virus Genomics, Evolution and Bioinformatics (Wellcome Connecting Science)
  - Testing the Waters
  - Infectious Diseases Week



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2027 Application Forecast

- **Ferguson EID RISE Fellowship (40-50 fellows)**
  - **Kennedy Krieger & Johns Hopkins University School of Medicine, School of Nursing, Bloomberg School of Public Health (lead)**
  - **City University of New York School of Public Health and Health Policy**
  - **Howard University**
  - **Morehouse School of Medicine**
  - **Rollins School of Public Health at Emory University**
  - Children's Hospital of Philadelphia
  - Medical College of Wisconsin
  - Morgan State University
  - National Cancer Institute
  - Rice University
  - Syracuse University
  - University of North Carolina
  - University of Minnesota
  - Wayne State University
  - Yale University
  - ***Olive-View UCLA***
  - Hawaii Department of Health
  - Tennessee Department of Health

Ferguson RISE Fellowship

Public Health Training and Career Exploration

- Core Public Health Knowledge

  Focus on Promotion of Health across all populations
- Infectious Diseases Research Experience
- Research Accountability Groups (RAGS):
  - **Wednesdays 8:00 AM-11:00 AM EST (Summer)**
  - **Thursdays 8:00 AM-10:30 AM EST (12-Month)**
- Weekly Public Health Leaders Seminars
- Professional and Research Development through mentoring
- Abstract Writing
- Presentation Experience
- Leadership Experience (Near-Peer Mentoring)
- Networking/Employment Opportunities
- Research Design & Analysis curriculum
- Scientific Writing curriculum
- Submit to national scientific meeting (e.g., American Public Health Association)
- **Peer-reviewed publication**



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Important Dates

- Both programs are full-time (40 hours per week)
- Summer Program
  - Orientation: **May 31 - June 4, 2027**
  - Research experience: **June 7 – July 30, 2027**
  - Closing Research Symposium (Poster format): **July 29, 2027**

- 12-month Program
  - Orientation: **May 31 – June 11, 2027**
  - Research experience: **June 14, 2027 – May 26, 2028**
  - Closing Research Symposium (~10-minute oral format): **May 25, 2028** (tentative)

Acknowledgment of Federal Funding

This [project/publication/program/website, etc.] [is/was] supported by the Centers for Disease Control and Prevention (CDC) of the U.S. Department of Health and Human Services (HHS) [NU50CD300866] as part of a financial assistance award totaling $ 17,831,124, 100 percent funded by CDC/HHS. The contents are those of the author(s) and do not necessarily represent the official views of, nor an endorsement by, CDC/HHS or the U.S. Government.

I have no conflicts of interest to disclose.

Canvas Learning Management System





https://kennedykrieger.instructure.com/login/canvas

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RAG Shared Excel Sheet

SMART Goal_6/10-16 Literature Review/Study Design/Data Collection	Description of Progress 6/10-16	% Goal Achieved
By 6/16, finish literature review, finalize + approve research question and study design, and get access to/begin to clean data	Completed literature review, received approval for research question, but do not have data access yet	75%
Review literature and create abstract for manuscript submission	Continuing literature review, select data variables, finalizing abstract, learn moderated regression analysis on SPSS, submitted abstract to journal	90%
Submit research question and Hypotheses, begin looking at literature and completing other weekly requirements	Completed requirements early	100%
Finish coding 23 DDRs by next meeting with Dr. F (06/09).	Completed quantiatively coding FY 2026 DDRs and matched each case to the most recent internal & external inspection reports of the facility where they passed as well as the reports that occurred before the date of death. Met with Dr. F to continue developing a plan for analysis. Decided together that quantiative data entry across all DDRs from 2021-present and matching the inspection reports for each case can help inform what kinds of themes we should look for across the inspections and DDRs. Most likely going to do a mixed-methods approach.	100%
Develop the project plan for studying skin-associated pathogens in historical wastewater samples from 2023–2025. Organize the samples by treatment plant, year, and treatment stage, enter the sample information into an Excel sheet, and begin nucleic acid/DNA extraction from selected samples.	I attended the lab meeting on Monday, June 8, where I met the lab members, and briefly discussed my project direction with Dr. S. The project will focus on skin-associated pathogens. On Tuesday, I went to the lab and reviewed historical wastewater samples from 2023–2025 that had already been filtered. I organized the samples by year, treatment plant, and treatment stage (primary influent, secondary effluent, or tertiary effluent). My next steps are to transfer the sample information into an Excel sheet and begin nucleic acid/DNA extraction from selected samples on Thursday and Friday.	80%
By June 16th, the research question will be fully finalized, and the study design, which will include the final draft of my hypothesis, will be fleshed out in collaboration with my research mentor. In addition, I will complete the first draft of my biosketch and review it with my mentor-coach.	Presented my progress at a lab meeting on the 10th and got feedback on the direction I was taking. My mentor gave me critiques on my work so far with AMR Finder Plus and within the meeting, we were able to come up with a potential avenue for what my final project will look like: looking at the evolutionary differences of A. baumanni and Klebsiella Pneumoniae before and after the COVID-19 pandemic, as well as highlighting how the frequency of certain *bla* genes have changed. I also completed my first draft of my biosketch and sent it over to my mentor-coach for feedback.	60%

Professional Development

Continuing Education

- Pathogen Genomics for Public Health Course

There are several opportunities for you to engage with one another and with mentors. Here are some key opportunities over the next 12 months:

- Public Health and Social Sciences-Individual Development Plan - **June**
- Room to Grow Conference - **September**
- Developmental Disabilities Day Annapolis - **February**
- LEND Research Day - **April**

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Research Benchmarks: Summer Program

Week of:	Jun 7	Jun 14	Jun 21	Jun 28	Jul 5	Jul 12	Jul 19	Jul 26
Research questions & hypotheses								
Literature review								
Study design								
Data collection & analysis								
Tables & figures								
Poster preparation								
Poster presentation practice								

Research Benchmarks: 12 Month

	Jun '27	Jul '27	Aug '27	Sep '27	Oct '27	Nov '27	Dec '27	Jan '28	Feb '28	Mar '28	Apr '28	May '28
Research questions & hypotheses												
Literature review												
Study design												
Data collection & analysis												
Tables & figures												
Manuscript preparation												
Oral presentation preparation												

Evaluations

Evaluation type	Timepoint	Deadline
Mentor evaluation	Mid-term	June 2027
	Closing	July 2027
Focus groups	Orientation	May 2027
	Closing	July 2027
Core public health competencies	Pre-test	May 2027
	Post-test	July 2027
Program evaluation		July 2027
Course evaluation		After each course
Speaker evaluation		After each seminar
Symposium evaluation		After each symposium
Alumni questionnaire		Annually each fall

Mentor Readiness

Enhancing Mentoring



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Ferguson RISE Mentorship M^3 Model

- Mentoring Team
  - Research Mentor
  - Ferguson RISE Faculty
- Research Accountability Groups
- myIDP ➡ Public Health and Social Sciences – Individual Development Plan

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PHaSS-IDP

https://www.careersinpublichealth.org/



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Self-Reflection/Self-Assessment

Take the Assessments

Beliefs, and habits, Educational methods include teaching, storytelling, discussion and directed research.



Skills Assessment



Task Assessment



Mission Assessment



Values Assessment

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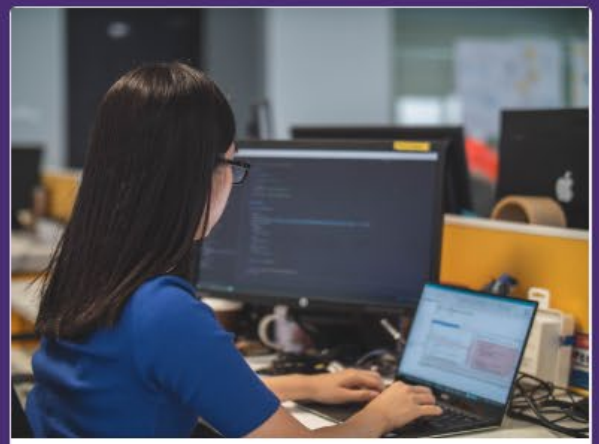
Career Clusters



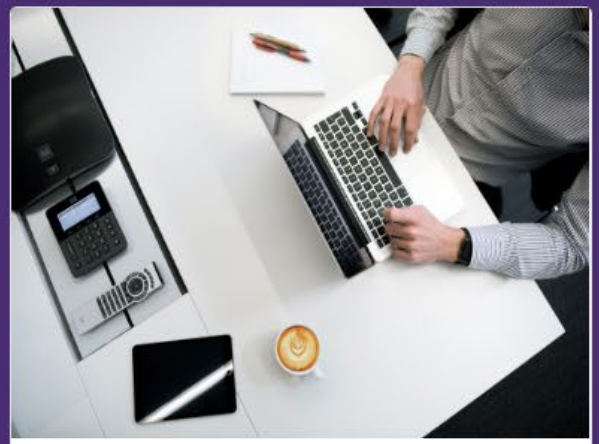
Environmental & Occupational Health, Injury Prevention



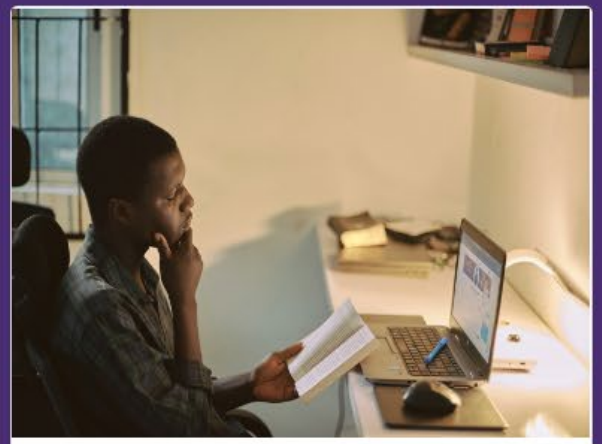
Technology and Informatics



Regulatory Compliance



Emergency Management, Planning, & Preparedness



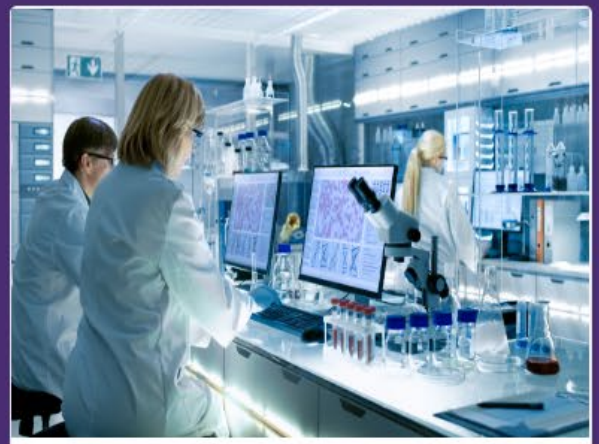
Business Operations and Support



Public Health Practitioner/Direct Service



Nutrition & Exercise



Biostatistics

Mentor Responsibilities

1. Meet regularly with the scholar to create a supportive and successful academic and research environment
2. Set academic and research expectations in collaboration with the scholar
3. Review progress with scholar
4. Ensure scholar is involved in networking activities
5. Prepare scholar for national research presentation
6. Encourage and collaborate on peer-reviewed publications

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Mentor Agreement

We understand that there may be unforeseen public health emergencies that must be addressed; however, as you consider research mentoring, please reflect on the following:

1. Do you have a research project with available data that a Fellow can reasonably complete to the point of data analysis and data presentation within 8 weeks (for summer fellows) or 12 months full time?
2. If you are unavailable, is there a substitute mentor or preceptor who will be able to work with the Fellow?
3. Will all necessary data, equipment, reagents, IRB approval, etc., be available by June 1 for summer fellows?
4. Most importantly, do you have sufficient time to spend with the Ferguson Fellow, i.e., at least 30-60 minutes per week to meet individually with the Ferguson Fellow regarding the Fellows' research and professional development?

Please Note: Ferguson RISE Fellows are expected to produce a poster or oral presentation of their research at the close of their respective programs.

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Data Collection Purpose

Consent for Research Participation
Please note that the information collected in this survey serves a dual purpose.

1. First, the information you provide via this survey is required by the funding agency for program evaluation.
2. Second, with your permission, the information you provide will be used for research purposes (i.e., to test hypotheses about the effectiveness of program curricula and activities).

Participation in this research is voluntary. Your permission (or lack of permission) in this research will have no effect on your current or future relationship with the Center for Excellence in Public Health Leadership at Kennedy Krieger Institute. You may cancel your permission to use your information at anytime by contacting Dr. Harolyn Belcher (CenterforExcellenceNPH@kennedykrieger.org). Your cancellation will not affect information already collected. Only de-identified (or limited, e.g., including dates) data will be used in research publications. We will use the findings from this survey with other data, to evaluate and improve the program. This study has been reviewed and approved by the Johns Hopkins Medical Institutional Review Board [IRB00398423; Principal Investigator: Harolyn M.E. Belcher, MD, MHS]. If you have any questions regarding this survey study, please contact: Harolyn M.E. Belcher, MD, MHS Director, Center for Excellence in Public Health Leadership at Kennedy Krieger Institute 716 North Broadway Baltimore MD 21205 Office:(443) 923-5933 CenterforExcellenceNPH@kennedykrieger.org

I agree that the information provided in this survey can be used for research in aggregate and de-identified (or limited, e.g., dates may be used) format.

- ○ Yes
- ○ No

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Research Detail

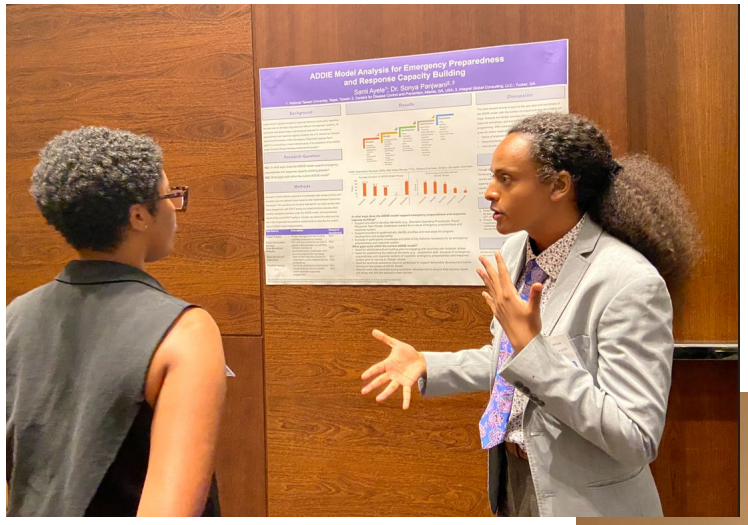
Minimum Skills/Qualifications Required

	Required to complete the project	Willing to provide training
Bioinformatic workflows	☐	☐
Biostatistics - basic	☐	☐
Biostatistics - advanced	☐	☐
Descriptive statistics	☐	☐
Economics	☐	☐
Epidemiologic data visualization	☐	☐
Epidemiology	☐	☐
Genomic/molecular epidemiology	☐	☐
Geographic Information Systems (GIS) (e.g., ArcGIS)	☐	☐
Health, life sciences, or social sciences informatics	☐	☐
Integration of laboratory and epidemiologic data or data visualization	☐	☐
Laboratory protocols - general (e.g., PCR, cell culture)	☐	☐
Laboratory protocols - complex (e.g., advanced molecular detection)	☐	☐
Literature review	☐	☐
Python	☐	☐
R	☐	☐

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Ferguson RISE Fellows at CDC









Ferguson RISE Fellowship Partner Sites

- Kennedy Krieger Institute/Johns Hopkins University School of Medicine, School of Nursing, and Bloomberg School of Public Health

https://www.kennedykrieger.org/training/programs/center-for-excellence-in-public-health-leadership-training/leadership-team

- CUNY School of Public Health
  - **Lynn Roberts, PhD, Site Director**
- Howard University
  - **Terri Adams-Fuller, PhD, Site Director**
- Morehouse School of Medicine
  - **Rosanna Barrett, PhD, MPH, Site Director**
- Rollins School of Public Health at Emory University
  - **Juan Leon, PhD, Site Director**

Mentor Agreement
https://discover.kennedykrieger.org/jfe/form/SV_9sN3V7MSEGhaZsq

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LINKS to Know

IMPORTANT PROGRAM INFORMATION LINKS

1. https://www.kennedykrieger.org/training/programs/center-for-excellence-in-public-health-leadership
2. https://www.kennedykrieger.org/training/programs/center-for-excellence-in-public-health-leadership/ferguson-rise
3. Mentoring Opportunities | Kennedy Krieger Institute

MENTOR AGREEMENT LINK

https://discover.kennedykrieger.org/jfe/form/SV_9sN3V7MSEGhaZsq

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Questions?

Email: Ferguson_Fellowship@kennedykrieger.org

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