



## Hawa Racine Thiam

Assistant Professor of Bioengineering and of Microbiology and Immunology

### Bio

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#### BIO

Hawa Racine Thiam is an Assistant Professor of Bioengineering and Sarafan ChEM-H Institute Scholar at Stanford. Her lab combines microscopy, microfabrication, quantitative Cell Biology and Immunology to investigate the cellular biophysical mechanisms of innate immune cells functions with a particular focus on NETosis; an intriguing cell-scale process during which neutrophils respond to danger signals (e.g., pathogens) by releasing their chromatin to the extracellular environment where it can trap and neutralize pathogens but also worsen inflammation. Hawa Racine's long-term goal is to combine what we learn studying the cellular biophysics of immune cells, together with engineering principles to manipulate, predict and re-design innate immune cells and improve human health.

Hawa Racine earned her high school diploma in Senegal, her B.S in Physics and M.S in Physics for Biological systems from Paris Diderot University, then her Ph. D in Biophysics working with Dr. Matthieu Piel at Institut Curie where she developed microfabricated devices and discovered a novel function of branched actin networks in squeezing the nucleus during immune cell migration under confinement. She then joined Dr. Clare Waterman's lab at the NIH where she combined high-resolution microscopy and other quantitative cell biology approaches to reveal the cellular mechanism of NETosis, opening new avenues for understanding this extreme cell behavior.

#### ACADEMIC APPOINTMENTS

- Assistant Professor, Bioengineering
- Assistant Professor, Microbiology & Immunology
- Member, Bio-X
- Member, Maternal & Child Health Research Institute (MCHRI)
- Institute Scholar, Sarafan ChEM-H

#### ADMINISTRATIVE APPOINTMENTS

- Investigator, Chan Zuckerberg Biohub, (2022-2027)

#### HONORS AND AWARDS

- Investigator, Chan Zuckerberg Biohub (2022-2027)
- Gabilan Faculty Fellow, Stanford University (2022 - 2024)
- Cell Press News 1000 Inspiring Black Scientists in America, Cell Press (2020)
- Stanford.Berkeley.UCSF Next Generation Faculty Awardee, Stanford University, UC Berkeley, UCSF (2020)
- Rising Stars in Biological Engineering, Princeton University (2020)
- ASCB Porter Prize for Research Excellence – Honorable Mention, American Society for Cell Biology (2020)
- Fellow Award for Research Excellence, National Institutes of Health (2019)

- Lenfant Fellowship Award, National Heart, Lung and Blood Institute; NIH (2017-2019)
- 4th year Ph.D. Fellowship, La Ligue Contre le Cancer (2013-2014)
- Ph.D. Fellowship - Curie International Ph.D. Program, Institut Curie (2010-2013)
- Undergraduate Fellowship, The Senegalese Government (2005-2010)

## **BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS**

- Member, American Society for Cell Biology (2013 - present)

## **PROFESSIONAL EDUCATION**

- Postdoctoral Fellow, National Heart, Lung and Blood Institute, NIH , Quantitative Cell Biology, Molecular Biology (2022)
- Ph.D., Institut Curie / Paris Descartes University , Biophysics (2014)
- M.S., Paris Diderot University , Physics for Biological Systems (2010)
- B.S., Paris Diderot University , Physics (2008)

## **LINKS**

- HR Thiam Lab Site: <https://hrthiamlab.stanford.edu/home>

## **Research & Scholarship**

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### **CURRENT RESEARCH AND SCHOLARLY INTERESTS**

Cellular Biophysical Mechanisms of Innate Immune Cells Functions

## **Teaching**

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### **COURSES**

#### **2023-24**

- Microfluidic Device Laboratory: BIOE 301D (Spr)

#### **2022-23**

- Microfluidic Device Laboratory: BIOE 301D, GENE 207 (Win)

### **STANFORD ADVISEES**

#### **Doctoral Dissertation Reader (AC)**

Manish Ayushman, Leslie Chan

#### **Postdoctoral Faculty Sponsor**

Minwoo Kang, Manasi Sawant

#### **Doctoral Dissertation Advisor (AC)**

Ezra Haddad

#### **Doctoral (Program)**

Owen Dunkley

### **GRADUATE AND FELLOWSHIP PROGRAM AFFILIATIONS**

- Bioengineering (Phd Program)
- Biophysics (Phd Program)
- Immunology (Phd Program)