

# Moussa Doumbia

## Curriculum vitae

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## EDUCATION

Data Science Fellow at Flatiron School | Ph.D. in Mathematics, Howard University, Washington, DC (2017)

Thesis Title: Malaria Parametric Models With Applications To The Disease Incidence In Mali And Nigeria.

Ph.D. Adviser: Dr. Abdul-Aziz Yakubu

B.A. in Mathematics, Summa Cum Laude, UDC, Washington, DC (2007)

## CONTINUING EDUCATION

[Data Science Fellow at Flatiron School, Washington, DC \(2019\)](#)

The Data Scientist's Toolbox, Johns Hopkins University (2018)

R Programming Certificate, Johns Hopkins University (2018)

## EMPLOYMENT

### Howard University, Washington, DC

Lecturer, Department of Mathematics (2017 - present)

### Service to the Department

Coordinator of all pre-calculus final exams (2018)

Chair of the graduate students' seminar (2015)

### New Hope Academy, Landover, MD

Algebra Teacher (2015 - 2016)

## RESEARCH INTERESTS

Applied mathematics, especially, applications of ordinary differential equations to model infectious diseases and applications of Optimal Controls theory to infectious diseases

## PUBLICATION(S)

[1] Moussa Doumbia and Abdul-Aziz Yakubu, "Malaria Incidence And Anopheles Mosquito Density In Irrigated And Non-Irrigated Villages Of Niono In Mali" Vol. 22, no. *Discrete and Continuous Dynamical Systems - Series B (DCDS-B)* (January 2017).

## AWARDS AND ACHIEVEMENTS

**Best Oral Presenter award**, Research day at Howard University, (April 2013).

**Outstanding Poster Presenter award**, South Africa-US Conference in Mathematical Methods in Systems Biology and Population Dynamics, Cape Town, (January 2012).

**Visiting Scholar, Mathematical Biosciences Institute, Ohio State University** (January 2011-August 2011)

**Edward A. Bouchet Fellowship** Howard University (2008 - 2013).

Academy Excellent award, University of the District of Columbia (2007).

**Who's Who of American Colleges and Universities** In Recognition of outstanding merit and accomplishment as a student at University of the District of Columbia, (2007)

**Dean's List, University of the District of Columbia** (2004 - 2007).

## INVITED TALKS

**Joint Mathematics Meetings:** "Asymptomatic Malaria Infections in Pregnant Women of Ngbo in Ohaukwu local Government Area of Ebonyi State of Nigeria." Baltimore Convention Center(2019).

**AMS Special Session** "Malaria Incidence and Anopheles Mosquito Density in Irrigated and Adjacent Non-Irrigated Villages of Niono in Mali." Georgetown University (2015)

**CCICADA Retreat** " Malaria Incidence and Anopheles Mosquito Density in Irrigated and Adjacent Non-Irrigated Villages of Niono in Mali". Rensselaer Polytechnic Institute in Troy (2014).

**CCICADA Retreat** "Non Severe, Severe, and Asymptomatic Malaria Cases Among Pregnant Women in Nigeria". Texas Southern University, Houston TX (2013)

**South Africa-US Conference in Mathematical Methods in Systems Biology and Population Dynamics** *Poster*, South Africa, Cape Town (2012)

**MBI-NIMBioS-CAMBAM's Summer graduate school**" Optimal Strategy For Controlling The Severity of Wild Life Disease Epidemics due to Harvesting", MBI, Ohio State University (2011)

**MBI-NIMBioS-CAMBAM's Summer graduate school** "Malaria in Irrigated and Adjacent Non-Irrigated Villages of Niono in Mali", McGill University, Toronto, CA (2009)

## CONFERENCE ACTIVITY

**Panels Organized:** NSF-CBMS Regional Conference Mathematical Biology: Modeling and Analysis at Howard University (May 2018).

**Discusant:** CCICADA : The 2017 Annual Meeting of the Command, Control & Interoperability Center for Advanced Data Analysis Howard University ( 2017).

## **PRESENTATIONS**

Workshop on Precision Medicine "Asymptomatic Malaria Infections in Pregnant Women of Ngbo in Ebonyi State of Nigeria." Howard University (April 2016).

SACNAS National Conference. The Diversity in STEM Conference "Malaria Incidence and Anopheles Mosquito Density in Irrigated and Adjacent Non-Irrigated Villages of Niono in Mali." Gaylord National Resort and Convention Center (October 2015).

MPE 2013+ Workshop on Management of Natural Resources, "Malaria Incidence and Anopheles Mosquito Density in Irrigated and Adjacent Non-Irrigated Villages of Niono in Mali". Howard University (June 2015).

Research Day " Non Severe, Severe, and Asymptomatic Malaria Cases Among Pregnant Women in Nigeria". Howard University (April 2013). .

Research Day "Malaria Incidence and Anopheles Mosquito Density in Irrigated and Adjacent Non-Irrigated Villages of Niono in Mali". Howard University (April 2010).

Research Day at Howard University "Malaria in Irrigated and Adjacent Non-Irrigated Villages of Niono in Mali", Howard University (April 2009).

## **WORKSHOP ATTENDED**

Modeling of Mathematical Modeling of Neuropathies and Neuropsychiatric Illnesses Howard University (April 2017).

Frontiers in Mathematical Oncology: Young Investigators Conference, University Of Maryland, College Park (April 2017).

KI-Net Conference: Groups and interactions in data, networks and biology Jointly sponsored by the Ki-Net and the Center for Nonlinear Analysis, Carnegie Mellon University, (May 2015).

Workshop on Modeling Infectious Diseases, Howard University (December 2016).

Workshop on Precision Medicine , Howard University (April 2016).

Workshop on the Treatment of Cancer Howard University (December 2015).

## **TEACHING EXPERIENCE**

### **Howard University**

Pre-Calculus (Spring 2019)

College Algebra I (Spring 2019)

Pre-Calculus (Spring 2019)

Applied Calculus ( Fall 2018)

College Pre-Calculus (Fall 2018)

College Algebra I (Fall 2018)  
Calculus III ( Summer 2018)  
College Algebra II ( Summer 2018)  
Pre-Calculus (Spring 2018)  
College Algebra I (Spring 2018)  
Pre-Calculus (Spring 2018)  
College Algebra II (Spring 2018)  
Probability& Statistics ( Fall 2017)  
Applied Calculus ( Fall 2017)  
College Algebra I ( Fall 2017)  
Calculus III ( Summer 2017)  
College Algebra I ( Summer 2017)  
College Algebra II ( Summer 2017)

### **New Hope Academy**

Algebra (Fall 2015)  
Algebra (Spring 2016)

### **ADDITIONAL INFORMATIONS**

Coordinator of all pre-calculus final exams (2018)  
Chair of the Graduate Students Seminar 2014-2015  
Volunteer at Young African Leader, The World Bank Group - IMF/African Society. ( 2014)  
General Treasurer of the Malian Association in the DMV area (2015 - 2017)  
Fluent in French, English and limited knowledge in Spanish  
Familiar with Excel, HTML, LATEX, MATHEMATICA, Git, Github, Python,R and STATA  
Enjoys running and playing soccer