

Hammed Olawale Fatoyinbo
School of Fundamental Sciences
Massey University
Manawatū
New Zealand

Email: h.fatoyinbo@massey.ac.nz
Twitter: [@HamfatF](https://twitter.com/HamfatF)
ORCID iD: [0000-0002-6036-2957](https://orcid.org/0000-0002-6036-2957)
Homepage: <https://hamfat.github.io>

Education

- **Massey University, Manawatū, New Zealand** March 2021
Ph.D. Mathematics
- **African Institute for Mathematical Sciences, Ghana** June 2014
M.Sc. Mathematical Sciences
- **Federal University of Technology, Akure, Nigeria** November 2012
B.Tech. Industrial Mathematics
- **The Federal Polytechnic, Ede, Nigeria** January 2008
Diploma Statistics

Employment

- **Research Officer in Mathematics** June 2021 – present
School of Fundamental Sciences, Massey University
- **Academic Assistant** August 2019 – January 2021
School of Fundamental Sciences, Massey University
- **Graduate Assistant in Mathematics** January 2017 – January 2020
School of Fundamental Sciences, Massey University
- **Instructor: Mathematics and Physics** December 2015 – November 2016
Al-Hikmat Science College, Nigeria
- **Industrial Training** April 2011 – October, 2011
Ministry of Education, Lagos State Secretariat, Nigeria
- **Instructor** September 2008 – February 2010
D Professional Academia, Lagos, Nigeria

Awards, Grants & Honours

- **SIAM Travel Award** April 2021 and July 2021
SIAM DS21 and AN21
 - Awarded SIAM student travel awards to attend the SIAM conference on Applications of Dynamical Systems and present a contributed talk at the SIAM Annual Meeting.
- **Travel Grant** February 2020
School of Fundamental Sciences, Massey University
 - Awarded SFS postgraduate student travel grant to attend and present a contributed talk at the ANZIAM Conference, Hunter Valley, Australia.
- **ANZIAM Poster Prize** December 2019
2019 NZMS Colloquium

– My research poster was awarded the second prize for poster presentation.

- **PhD Tuition Scholarship** January 2017 – December 2020
School of Fundamental Sciences, Massey University
- **MSc Scholarship** August 2013 – June 2014
African Institute of Mathematical Sciences, Ghana
- **Best Graduating Student** November 2012
Department of Mathematical Sciences, Federal University of Technology, Akure
- **Silver and Bronze Medals** June 2011 and June 2012
National Mathematics Competition for University Students (NAMCUS)
 - NAMCUS is a national mathematics organised annually by the National Mathematical Centre for university students. I represented my university in the 2011 and 2012 editions, I won bronze and silver medals, respectively.
- **Branding FUTA Award** November 2011 and November 2012
Federal University of Technology, Akure
 - Given to students and staffs in recognition of their academic excellence and research. The school management recognised my success at the national mathematics competition in the year 2011 and 2012.
- **Best Graduating Student** January 2008
Department of Mathematics and Statistics, Federal Polytechnic, Ede
- **Polytechnic Scholar Award** September 2016
Federal Polytechnic, Ede
 - Given to students in recognition of their academic excellence.

Research Publications

1. **H.O. Fatoyinbo**, R.G. Brown, D.J.W Simpson, & B. van Brunt, *Numerical Bifurcation Analysis of Pacemaker Dynamics in a Model of Smooth Muscle Cells*. Bull. Math. Biol., **82**, 95, (2020); ([link](#))
2. A. Abidemi, **H.O. Fatoyinbo**, & J.K.K. Asamoah, *Analysis of Dengue Fever Transmission Dynamics with Multiple Controls: A Mathematical Approach*, 2020 International Conference on Decision Aid Sciences and Application (DASA), Sakheer, Bahrain, 2020, pp. 971-978; ([link](#))
3. **H.O. Fatoyinbo**, S.S. Muni & A. Abidemi *Influence of Sodium Inward Current on Dynamical Behaviour of Modified Morris-Lecar Model*. (Submitted); ([arxiv](#))
4. A. Abidemi, **H.O. Fatoyinbo**, *Mathematical Analysis of Optimal Cost-effective Control of COVID-19: A Case Study*, To appear
5. **H.O. Fatoyinbo**, R.G. Brown, D.J.W Simpson, & B. van Brunt, *Pattern Formation in a Spatially-Extended Model of Pacemaker Dynamics in Smooth Muscle Cells*. (Submitted); ([arxiv](#))

Other Publications

1. **H.O. Fatoyinbo**, *Pattern Formation in Electrically Coupled Pacemaker Cells*. PhD Thesis, Massey University, Manawatū, New Zealand, 2021. ([link](#))
2. **H.O. Fatoyinbo**, *Solitons*. Master's Thesis, African Institute of Mathematical Sciences, Ghana, 2014. ([link](#))

Teaching Experience

- Teaching Assistant (Massey University)
 - Calculus, 160.101 Semester 2, 2021
 - Introductory Mathematics for Science, 160.104 Semester 2, 2020
 - Agri-Statistics, 161.140 Semester 1, 2020
 - Foundation Mathematics 1 Semester 1, 2019
 - Calculus, 160.101 Semester 2, 2018
- Instructor (Al-Hikmat Science College)
 - Mathematics and Physics (Year 9–12) Term 1&2, 2016
 - Mathematics and Computer Lab (Year 6–8) Term 1&2, 2016
- Instructor (D’Professional Academia)
 - Mathematics and Physics (Year 9–12)

Selected Contributed Talks

- **SIAM AN21** July 2021
Virtual
 - Formation and Propagation of Excitation Waves in a Model of Electrically Coupled Pacemaker Cells.
- **SMB Annual Meeting** June 2021
Virtual
 - Stability of Travelling Waves in Electrically Coupled Smooth Muscle Cell. ([abstract](#))
- **ANZIAM** February 2021
Virtual
 - Stability of Travelling Waves in a Model of Pacemaker Cells.
- **UNCG Regional Mathematics and Statistics Conference** November 2020
Virtual
 - Influence of sodium inward current on dynamical behaviour of modified Morris–Lecar model. ([abstract](#))
- **eSMB** August 2020
Virtual
 - Spatiotemporal Dynamics in Spontaneous Excitable Cells. ([abstract](#))
- **ANZIAM** February 2020
Hunter Valley, NSW, Australia
 - Spatiotemporal Pattern Formation in a Model of Electrically Coupled Smooth Muscle Cells.
- **NZMS** December 2019
Massey University, Palmerston North, New Zealand
 - Spatiotemporal Pattern Formation in a Model of Electrically Coupled Smooth Muscle Cells.

- **3MT Competition** July 2019
 - *Massey University, Palmerston North, New Zealand*
 - Is there CHAOS in the brain?
- **NZMS** December 2018
 - *University of Otago, Dunedin, New Zealand*
 - Emergence of Spatiotemporal Patterns in Pacemaker Coupled Excitable Cells.
- **NZMASP** November 2018
 - *Waikanae, New Zealand*
 - Pattern Formation in Pacemaker Dynamics of Coupled Excitable Cells.
- **SFS Postgraduate Seminar** October 2017
 - *Massey University, Palmerston North, New Zealand*
 - Pattern Formation in a Reaction-Diffusion Systems.
- **Student Seminar** November 2013
 - *African Institute of Mathematical Sciences, Ghana*
 - Solitons

Poster Presentations

- **Dynamics Days Europe (2020)**, *Spatiotemporal Chaos: Complex Dynamics in a Model of Coupled Smooth Muscle Cells.*; ([poster](#))
- **Mathematical Models in Biology: from Information Theory to Thermodynamics (2020)**, *Pattern Formation in Gap-junction Coupled Smooth Muscle Cells.* ([poster](#))
- **NZMS Colloquium (2019)**, *Spatiotemporal Pattern Formation in a Model of Electrically Coupled Smooth Muscle Cells.* ([poster](#))

Academic Activities

- Refereed research article for Nonlinear Dynamics, 2021
- Co-organiser L^AT_EXworkshop for SFS postgraduate students, Massey University, October 2020
- Judge for SIMIODE SCUDEM V Competition, December 2020
- Marker and Reviewer for the Massey University Mathematics and Statistics (M3S) Quiz for Year 12 students, 2018 and 2019
- Co-organiser New Zealand Mathematics and Statistics Postgraduate Conference held at Waikanae, November 2018
- Member of NZMS, ANZIAM, SIAM & SMB
- Student Volunteer, Professional & Continuing Education (PaCE), Massey University, March 2017
- School Outreach, Biriwa Village, Ghana

Other Services

- **Community and Volunteer Services**

- NZ Rural Games, Kelly Sport Palmerston North, 2018 and 2019
- NZ Racketlon Championship held in Palmerston North, 2018
- National Secondary School Volleyball Championships held in Palmerston North, 2017
- Te Apiti Whanau Challenge, Sport Manawatu, 2017

- **Leadership**

- President, Massey Muslim Society, Massey University, 2018
- President, Muslim Corpers Association of Nigeria, Kogi State, Nigeria, 2016
- Member, Drug Free Club, National Youth Service Corps Kogi State, 2016
- Financial Secretary, Mathematics Students Association, FUTAkure, 2011
- Chief Clerk, Mathematics and Statistics Students Association, FedPolyEde, 2006

Computer Language Capabilities

- Matlab, Python, L^AT_EX, XppAut, AUTO, MATCONT(m), Maple

Referees

Dr. David J. W. Simpson
School of Fundamental Sciences
Massey University, New Zealand
D.J.W.Simpson@massey.ac.nz

Dr. Richard G. Brown
School of Fundamental Sciences
Massey University, New Zealand
R.G.Brown@massey.ac.nz

Assoc. Prof. Bruce van Brunt
School of Fundamental Sciences
Massey University, New Zealand
B.vanBrunt@massey.ac.nz

Prof. Patrick Dorey
Department of Mathematical Sciences
Durham University, United Kingdom
p.e.dorey@durham.ac.uk