

Carlo Delfin S. Estadilla

Links

[Google Scholar](#)
[ORCID](#)

Personal Info

Email: cestadilla@bcamath.org
Nationality: Philippines

Software Experience

MATLAB

Optimization, ODE simulations, sensitivity analysis, parameter estimation, bootstrapping

Python

Basic analysis

Oracle SQL

Data retrieval using queries, automated procedures for large database

Microsoft Excel and Office

Data cleaning, pivot tables, significance testing

IBM SPSS Statistics

Correlation, crosstabs, regression analysis, cluster analysis, scale analysis for measurement reliability

HTML

Basic email and web layout

LaTeX (Overleaf)

Documentation

Professional Memberships

Society of Mathematical Biology

Member since 2019

Education

2021 – now

Doctor of Philosophy in Public Health

*BCAM – Basque Center for Applied Mathematics
University of the Basque Country*

- Mathematical and Theoretical Biology Group
- Advisers: Maíra Aguiar and Javier Mar
- Current research focus: Cost-effectiveness of COVID-19 vaccines in the Basque Country

2016 – 2018

Master of Science in Applied Mathematics

University of the Philippines – Diliman, Philippines

- Life and Physical Sciences track
- Thesis title: Optimal Control of an HIV/AIDS Epidemic Model using Philippine Data
- Adviser: Aurelio A. de los Reyes V

2013 – 2016

Diploma in Mathematics

University of the Philippines - Diliman, Philippines

2007 – 2011

Bachelor of Science in Psychology

University of the Philippines - Diliman, Philippines

Publications

Estadilla CDS, de los Reyes AA (2020). Optimal strategies for mitigating the HIV/AIDS epidemic in the Philippines. *Mathematical Methods in the Applied Sciences*, 43(18),10690–10710. <https://doi.org/10.1002/mma.6979>

Macalalag JMR, de Lara-Tuprio E, **Estadilla CDS**, Teng TR, Uyheng J, Espina KE, Estuar MRJE, Sarmiento RF. Mathematical analysis of a COVID-19 compartmental model with interventions. *AIP Conference Proceedings* (Accepted Oct 2020).

Estuar MRJE, De Leon M, Benito DJ, de Lara-Tuprio E, **Estadilla CDS**, Teng T, Uyheng J (2020). Towards a science that serves the people: Reflections from the mathematicians and computer scientists of FASSSTERthanCOVID-19. *Philippine Studies: Historical and Ethnographic Viewpoints, Symposium on the COVID-19 Pandemic*, 68(3).

Working Papers

Impact of vaccine supplies and delays on optimal control of the COVID-19 pandemic: Mapping interventions for the Philippines. With Uyheng J, de Lara-Tuprio E, Teng TR, Macalalag JMR, Estuar MRJE. Submitted to *Infectious Diseases of Poverty*, Apr 2021.

Operationalizing a mathematical model of COVID-19 for pandemic response in the Philippines. With de Lara-Tuprio E, Macalalag JMR, Teng TR, Uyheng J, Espina KE, Pulmano CE, Estuar MRJE, Sarmiento RFR.

Awards and Grants

- 2020 – 2021 **United Nations Development Programme Pintig Lab**
Department of Science and Technology – Philippine Council for Health Research and Development
Research grant for FASSSTER
- 2019 – 2020 **Natural Science Research Institute, Philippines**
Research grant for the study *Optimal strategies for mitigating the HIV/AIDS epidemic in the Philippines* (MAT-20-1-03)
- 2019 **Ateneo de Manila University, Philippines**
Conference grant for BIOMATH 2019
- 2016 – 2019 **Department of Science and Technology - Science Education Institute (DOST-SEI), Philippines**
Tuition fee and stipend for MSc studies
Conference grant for BIOMATH 2019

Conference Presentations

- June 2019 **BIOMATH 2019** (Będlewo, Poland)
Contributed talk: *Optimal control of an HIV/AIDS epidemic model using Philippine data*
- June 2018 **De La Salle University Research Congress** (Manila, Philippines)
Contributed talk: *Optimal control of an HIV/AIDS epidemic model using Philippine data*

Teaching Experience

- 2019 - 2021 **Instructor**
Ateneo de Manila University, Quezon City, Philippines
Courses handled: Calculus, Precalculus, Modern Mathematics
- 2018 **Instructor**
University of Santo Tomas, Manila, Philippines
Course handled: Modern Mathematics

Industry and Research Experience

- 2020 - 2021 **Disease Modeller (FASSSTER than COVID-19)**
United Nations Development Programme Pintig Lab
Department of Science and Technology – Philippine Council for Health Research and Development
 - Member of the mathematical modelling team for the COVID-19 epidemic in the Philippines.
 - Produced real-time forecasts for >100 local government units in the Philippines using ODE modelling.
- 2015 – 2016 **Analyst**
HC Consumer Finance, Inc. (Home Credit), Philippines
 - Handled sales and campaign reports through Oracle SQL and Microsoft Excel.
 - Wrote algorithms for campaigns, report outputs, and maintenance procedures of customer and transaction database with at least a million total entries in >50 linked tables leading to the launch of the company's cash loan product.

2011 – 2014 **Analyst**

CoreData Research Services Inc., Philippines

- Produced financial market research reports sold to clients based in the UK, US, Brazil, and South Africa.
- Used IBM SPSS Statistics and Microsoft Excel to handle primary and secondary market data with >100,000 entries.
- Trusted to be sent to our London office to streamline processes with the Philippine office.
- Promoted from a junior position after 1 year.

Certificates

IELTS Academic English Test (taken January 2020)

Overall score: 8.0 out of 9.0 (Evaluation: Very good user, CEFR Level: C1)

- Listening: 8.5
- Reading: 9.0
- Writing: 7.0
- Speaking: 8.0