

RIZAVEL C. ADDAWE

CURRICULUM VITAE



Professor 3

Department of Mathematics and Computer Science,
University of the Philippines Baguio, Governor Pack Road,
Baguio City, 2600 Philippines

Scientist 1

2020-2022

Education

- 2018:* **PhD, Statistics**
School of Statistics,
University of the Philippines Diliman (UP Diliman),
Quezon City, Metro Manila, Philippines
- 2004:* **M.S., Statistics**
School of Statistics,
University of the Philippines Diliman (UP Diliman),
Quezon City, Metro Manila, Philippines
- 1991:* **B.S., Mathematics**
Saint Mary's University,
Bayombong, Nueva Vizcaya

Ph.D. Thesis

Title: **Differential Evolution-Simulated Annealing (DESA)
Optimization Algorithm, its Mathematical Frameworks and Applications**

Master's Thesis

Title: **DESA: Differential Evolution-Simulated Annealing
for Fitting Linear Combination of Gaussians to Data**

Affiliation and Positions Held at UP Baguio

- 2021 - present: **Professor 3**
Department of Mathematics and Computer Science
University of the Philippines Baguio, Philippines
- August 2022 - July 2023: **UPB Quality Assurance Officer**
University of the Philippines Baguio, Philippines
- 2010 - 2012, August 2020 - present: **Chair**
Department of Mathematics and Computer Science
University of the Philippines Baguio, Philippines
- August 2018-July 2019: **Faculty Coordinator**
Learning Resource Center
University of the Philippines Baguio, Philippines

Membership in Technical Groups

- 2022-present: **Member**
Cordillera Regional Health Research and Development Consortium
La Trinidad, Benguet, Philippines
- 2009-present: **Board Member**
Research Ethics Committee
Baguio General Hospital & Medical Center
Baguio, Philippines
- 2007 – 2022: **Board Member**
Mathematical Society of the Philippines – CAR
Regions 1&2 Chapter
- January 2007 - 2015: **Research Consultant**
Baguio General Hospital Medical Center (BGHMC)
Baguio City, Philippines
- 2010-2018: **Technical Review Consultant**
Research Ethics Committee (REC)
Baguio General Hospital Medical Center (BGHMC)
Baguio City, Philippines

Scientific, Academic, & Prestigious Awards Received

Award: **COVID-19 Data Analytics Volunteer Regional Awardee**
Year Received: 2020

Award: **One UP Professorial Chair**
Year Received: 2021-2023

Award: **UP International Publication Award**
Year Received: 2016, 2017, 2018, 2019, 2020, 2021, 2022

Award: **UP Baguio Dissertation Grant**
Year Received: 2018

Award: **UP System PhD Fellowship Grant**
Year Received: 2016, 2017, 2018

Award: **CHED-PhD Study Grant**
Year Received: 3 years

Projects Presently Being Handled (ongoing)

Title/Description: Analysis of Mosquito-Related Cases in Baguio City Using Geographic Information System

Position: Main Proponent

Client: Baguio City Health Services Office (BCHSO)

Period: January 2023 - present

Title/Description: Modelling And Simulation of The Spread Of Sars-Cov-2 Taking Into Account Different Interventions At Different Demographic Scales And Context

Position: Co-investigator

Client: UP System

Period: January 2021 - present

Title/Description: Valorization of Agri-food Ultrasound assisted Extraction of Oil and Polyphenols from Cherry Rejects of Cordillera Grown Arabica Coffee

Position: Project Staff Level 3

Client: Department of Biology, College of Science, Univeristy of the Philippines-Baguio with Department of Science and Technology (DOST)

Period: April 2021 - March 2022

Title/Description: Exploratory Data Analysis (EDA) of Baguio City Cases Daily Updates

Position: Volunteer Team Leader

Client: Baguio City Health Services Office (BCHSO)

Period: March 2020 - present

Projects Handled (completed)

- Title/Description: Popularizing Access to Biodiversity information data and Conservation Opportunities (PABIDACO)
Position: Statistician
Client: Department of Biology-College of Science-UPB with Cordillera Studies Center
Period: February - March 2021
- Title/Description: Validating use of antigen testing for active surveillance of close contacts of COVID-19 Confirmed cases in Baguio City
Position: Statistician
Client: Baguio City Health Services Office and DOH-CAR
Period: September - October 2020
- Title/Description: Validating use of antigen testing for active surveillance of close contacts of COVID-19 among travelers in Baguio City
Position: Statistician
Client: Baguio City Health Services Office and DOH-CAR
Period: October - December 2020
- Title/Description: Exploratory Data Analysis (EDA) of Baguio City Cases Daily Updates
Position: Main Proponent
Client: Baguio City Health Services Office (BCHSO)
Period: December 2021 - October 2022

Trainings

- Course: Workshop on Complex Systems Modelling & Simulation.
School of Mathematical Sciences, Universiti Sains Malaysia (USM),
(CoSMoS 2019): IoT and Big Data Integration
Conducted by: School of Mathematical Sciences (PPSM), USM, Penang, Malaysia.
Dates: April 8-11, 2019
- Course: International Workshop in Mathematical Biology (IWOMB).
Bohol Bee Farm, Panglao Island, Bohol, Philippines
Conducted by: Systems Biology and Biomathematics, Philippines
Dates: January 6-10, 2019
- Course: Validation Workshop on the Development of a Data Privacy
Toolkit for Research Involving Human Participants in the Philippines
Conducted by: Social Sciences and Philosophy Research Foundation, Inc.
Dates: July 24, 2019
- Course: Ethics in Research
Conducted by: PCHRD
Dates: August 13, 2019
- Course: Translating Research to Policy
Conducted by: CRHRDC
Dates: November 16, 2019
- Course: COVID-19 Monitoring Platform: Unlocking FASSSTER
Conducted by: PCHRD / DOST
Dates: August 24-26, 2020
- Course: UP QA Training Workshop on How to Do QA Assessments
Conducted by: AUN-QA Network and Education Quality International (EQI)
Dates: October 25 - November 5, 2021
- Course: THE 4th AUN-QA TRAINING WORKSHOP FOR ACCOMPLISHING
PROGRAMME ASSESSMENT (ONLINE) (Tier 1, Version 4.0)
Conducted by: ASEAN University Network
Dates: May 2-23, 2022
- Course: Workshop on Writing Self-Assessment Report (SAR) for
Successful AUN-QA Programme Assessment (V.4.0)
Conducted by: UP System Quality Assurance
Dates: October 10, 12, 14, 17, 19, 21, 24, and 26, 2022

Google Scholar Citations

Rizavel C. Addawe

Publications for the Last 6 Years (2017-2022)

1. Marigmen, J. L. D. C., Addawe, R. C. (2022a). **Climatic influences on dengue incidence in Baguio city, Philippines: A multiple linear regression approach.** *AIP Publishing*. <https://doi.org/10.1063/5.0092781>
2. Mina, R. J. S., Addawe, R. C. (2022). **A social network analysis of COVID-19 transmission in Rosales, Pangasinan, Philippines.** *AIP Publishing*. <https://doi.org/10.1063/5.0092746>
3. Taclay, K. D., Taclay, R. J., Dizon, W. T., & Addawe, R. C. (2022). **COVID-19 pandemic in Baguio city, Philippines: A spatio-temporal analysis.** *AIP Publishing*. <https://doi.org/10.1063/5.0092722>
4. Marigmen, J. L. D. C., Addawe, R. C. (2022b). **FORECASTING AND ON THE INFLUENCE OF CLIMATIC FACTORS ON RISING DENGUE INCIDENCE IN BAGUIO CITY, PHILIPPINES.** *Vol 1 No 1 (2022): Journal of Computational Innovation and Analytics*, 1(Number 1), 43–68. <https://doi.org/10.32890/jcia2022.1.1.3>
5. Rizavel C. Addawe, Jhunas Paul T. Viernes, Wilfredo R. Dizon, Shilden Grail S. Domilies, Criselda P. Libatique, Raya Elaine N. Gueco and Donnabel T. Panes. **Exploratory data analysis of COVID-19 cases in Baguio city, Philippines.** *AIP Conference Proceedings* 2423, 070018 (2021); <https://doi.org/10.1063/5.0075437> [with international paper presentation in Dec2020]
6. Joseph Ludwin D. C. Marigmen and Rizavel C. Addawe. **Analysis on the onset of dengue outbreaks in Baguio City.** *AIP Conference Proceedings* 2423, 070012 (2021); <https://doi.org/10.1063/5.0075339> [with international paper presentation in Dec2020]
7. Jhunas Paul T. Viernes, Rizavel C. Addawe, Shilden Grail S. Domilies, Criselda P. Libatique, Wilfredo T. Dizon, Raya Elaine N. Gueco and Donnabel L. Tubera-Panes. **Contact tracing and expanded testing of COVID-19 cases in Baguio city, Philippines.** *AIP Conference Proceedings* 2423, 070021 (2021); <https://doi.org/10.1063/5.0075439>. [with international paper presentation in Dec2020]
8. Joseph Ludwin D. C. Marigmen, Louie Ville A. Balino and Rizavel C. Addawe. **Analysis of dengue incidence in Baguio, Philippines.** *AIP Conference Proceedings* 2423, 070011 (2021); <https://doi.org/10.1063/5.0075342>. [with international paper presentation in Dec2020]
9. Ignacio N., Liwag R., Addawe R. (2021) **Spatiotemporal Analysis of Typhoid Cases in Baguio City, Philippines.** In: Mohd M.H., Misro M.Y., Ahmad S., Nguyen Ngoc D. (eds) Modelling, Simulation and Applications of Complex Systems. CoSMoS 2019. *Springer Proceedings in Mathematics & Statistics*, vol 359. Springer, Singapore. https://doi.org/10.1007/978-981-16-2629-6_16.
10. Addawe R., Angeles G.M., Balolong M. (2021) **Spatio-Temporal Analysis of Measles Cases in Baguio City, Philippines from 2010–2018.** In: Mohd M.H., Misro M.Y., Ahmad S., Nguyen Ngoc D. (eds) Modelling, Simulation and Applications of Complex Systems. CoSMoS 2019. *Springer Proceedings in Mathematics & Statistics*, vol 359. Springer, Singapore. https://doi.org/10.1007/978-981-16-2629-6_15.

11. Balino L.V.A., Caasi K.S., Addawe R.C. (2021) **Spatio-Temporal Distribution of Dengue Infections in Baguio City**, Philippines. In: Mohd M.H., Misro M.Y., Ahmad S., Nguyen Ngoc D. (eds) *Modelling, Simulation and Applications of Complex Systems. CoSMoS 2019. Springer Proceedings in Mathematics & Statistics*, vol 359. Springer, Singapore.
12. Corsino-Addawe, R. (2019) **Analysis of the indicators of students' performance in undergraduate mathematics program**. *AIP Conference Proceedings* 2184 (1), 050004
13. Addawe R.C. (2019) **Analysis of the SA-like selection operator in differential evolution-simulated annealing (DESA) optimization algorithm**. *AIP Conference Proceedings* 2184 (1), 060067
14. Addawe J.M., Baoanan Z., Addawe R. (2019) **Modeling and Experimental Data on the Dynamics of Predation of Rice Plants and Weeds by Golden Apple Snail (*Pomacea Canaliculata*)** *Dynamical Systems, Bifurcation Analysis and Applications*, 51-65.
15. Padilla JRF, Pilar KCN, Bitanga CAG, Bumengeg, LN, Addawe, RC. (2018) **Incidence of food and water-borne diseases in Baguio City**. *AIP Conference Proceedings* 2138 (1), 050024
16. Addawe RC, Magadia JC. (2020) **Stability Analysis of DESA Optimization Algorithm** *International Conference on Numerical Computations: Theory and Algorithms*, 17-31
17. Fernandez FQR, Montero NB, Po III RB, Addawe RC, Diza HMR. (2018) **Forecasting Manila South Harbor Mean Sea Level using Seasonal ARIMA Models**, *Journal of Technology Management and Business* 5 (1).
18. Fernandez FR, Po III R, Montero N, Addawe R. (2017) **Prediction of South China sea level using seasonal ARIMA models**. *AIP Conference Proceedings* 1905 (1), 050018
19. Aquino RL, Alcantara NLMT, Addawe RC. (2017) **A hybrid ARIMA and neural network model applied to forecast catch volumes of *Selar crumenophthalmus***. *AIP Conference Proceedings* 1905 (1), 050006
20. Natividad GMR, Cawiding OR, Addawe RC. (2017) **An application of seasonal ARIMA models on group commodities to forecast Philippine merchandise exports performance**, *AIP Conference Proceedings* 1905 (1), 050031
21. Magsakay CB, De Vera NU, Libatique CP, Addawe RC, Addawe JM. (2017) **Treatment on outliers in UBJ-SARIMA models for forecasting dengue cases on age groups not eligible for vaccination in Baguio City, Philippines**. *AIP Conference Proceedings* 1905 (1), 050028
22. Cawiding OR, Natividad GMR, Bato CV, Addawe RC. (2017) **Forecasting typhoid fever incidence in the Cordillera administrative region in the Philippines using seasonal ARIMA models**. *AIP Conference Proceedings* 1905 (1), 050012
23. Addawe RC, Addawe JM, Sueno MRK, Magadia JC. (2018) **Differential evolution-simulated annealing for multiple sequence alignment**. *J. Physics: Conf. Series* 893 (1), 012061

24. Addawe, R. C., Addawe, J. M., Magadia, J. C. (2016, October). **Optimization of seasonal ARIMA models using differential evolution-simulated annealing (DESA) algorithm in forecasting dengue cases in Baguio City.** *In AIP Conference Proceedings* (Vol. 1776, No. 1, p. 090021). AIP Publishing LLC.
25. Addawe, R. C., Addawe, J. M., Sueno, M. R. K., Magadia, J. C. (2017, October). **Differential evolution-simulated annealing for multiple sequence alignment.** *In Journal of physics: conference series* (Vol. 893, No. 1, p. 012061). IOP Publishing.
26. Addawe, R., Adorio, E., Addawe, J., Magadia, J. (2006, May). **DESA: A hybrid optimization algorithm for high dimensional functions.** *In Proceedings of the Eight IASTED International Conference on Control and Applications* (pp. 316-321).
27. Addawe, R. C. (2019, December). **Analysis of the SA-like selection operator in differential evolution-simulated annealing (DESA) optimization algorithm.** *In AIP Conference Proceedings* (Vol. 2184, No. 1, p. 060067). AIP Publishing LLC.
28. Addawe, J., Baoanan, Z., Addawe, R. (2019). **Modeling and Experimental Data on the Dynamics of Predation of Rice Plants and Weeds by Golden Apple Snail.** *Dynamical Systems, Bifurcation Analysis and Applications: Penang, Malaysia, August 6–13, 2018*, 295, 51.
29. Addawe, R. C., Addawe, J. M., Magadia, J. C. (2016, November). **Alternative robust estimators for autoregressive models with outliers using differential evolution algorithm.** *In AIP Conference Proceedings* (Vol. 1787, No. 1, p. 020009). AIP Publishing LLC.
30. Addawe, R. C., Baoanan, Z. G. (2015). **Ensembling Classifiers: An Application to Food Type Classification of Genus Conus.** *INTERNATIONAL JOURNAL OF APPLIED MATHEMATICS STATISTICS*, 53(4), 242-249.