



### Personal Info

Name : Dr. Suci Astutik, S.Si., M.Si.  
 Functional position : Associate Professor  
 Structural position : Head of Postgraduate Statistics Study Program  
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 Course taught : 1. Multivariate Analysis  
 2. Econometrics  
 3. Computational Statistics  
 4. Stochastic Process  
 5. Data Analysis  
 6. Biostatistics  
 7. Bayesian Analysis

### Education Background

Program	S1	S2	S3
University	Universitas Brawijaya	Institut Teknologi Bandung	Institut Teknologi Sepuluh Nopember
Department	Statistics	Applied Statistics and Mathematics	Statistics
Year of entry-graduation	1993-1997	2000-2003	2009-2013
Title of final project/thesis/dissertation	Analysis of Multivariate Variance in RAL and Comparison of Test Statistics	Bootstrap Method for Determination of Interval Kriging Prediction of Nickel Level	Development of a Location-Time Rainfall Disaggregation Method with a Bayesian Approach State-Space Model
Supervisor/Promotor	Prof. Dr. Ir. Loekito Adi Soehono, M.Agr. Sc.	Prof. Dr. Sutawanir Darwis	Prof. Drs. Nur Iriawan , M.Ikom, Ph.D.; Dr. Suhartono, S.Si., M.Si.; Dr.



## Research Project

1. Development of Bayesian Vector Error Correction Models in Bruto Regional Export, Import, and Revenue Data in East Java (2020)
2. Development of Fuzzy Geographically Weighted Clustering-Particle Swarm Optimization Analysis using Context-Based Clustering (CFGWC-PSO) in the Study of Dengue Hemorrhagic Fever Endemic Disaster Grouping in East Java based on Factors Causing the Spread of DHF (2020)
3. Development of Hidden Markov Model (HMM) with Bayesian Approach on Rainfall Data for Climate Change Forecasting (2019)
4. Development of Poisson Models in Overdispersion Data for Earthquake Forecasting and Mapping of Leprosy in West Nusa Tenggara (Bayesian Poisson Hidden Markov Models and Geographically Weighted Bivariate Zero Inflated Poisson Regression) (2019)
5. Development of Spatio Temporal Rainfall Models in Hourly Scale through a Combination of Disaggregation Method and Kriging Input Rain Flow Model (2018)
6. Development of Bayesian Posterior Predictive Model in Spatio Temporal Data Disaggregation in High Time Scale (2<sup>nd</sup> Year) (2018)
7. Development of Bayesian Posterior Predictive Model in Spatio Temporal Data Disaggregation in High Time Scale (1<sup>st</sup> Year) (2018)
8. Dynamic Spatial Panel Model of Agricultural Land Value, Case Study of Land Use in BoDeTaBek (2016)
9. Analysis of the Impact of Land Use Externalities in BoDeTaBek on Conservation and Water Absorption Land: Spatial Tobit Model (2015)
10. Zero Inflated Gamma model with covariates in daily rainfall modeling (2015)
11. Modeling Zero Inflated Gamma (ZIG) in Rainfall Data in Sampean Bondowoso Watershed (2014)
12. Development of Bayesian spatio-temporal rain disaggregation algorithm as input to spatial distributed hydrological simulation models in Sampean Bondowoso watershed (2013-2014)
13. Development and Implementation of a Spatial Survival Mixture Model with Conditional Autoregressive (CAR) distribution in WinBUGS for Spatial Data Modeling (2011)



14. Development and Implementation of Spatial Survival Model with Neo-Normal Frailty in WinBUGS for Spatial Data Modeling (2010)
15. Spatial Temporal Autologistic Regression Model (STARM) on Prediction of *Aedes aegypti* Mosquito Spread in East Java (2010)
16. Geographic Information System for Vulnerability Levels and Web-Based Dengue Fever Tele-Diagnosis Service System (2009)
17. Estimation of Autologistic Regression parameters with MCMC (2008)
18. Cross-Validation Techniques in Spatial Regression (Case study: water discharge in the Brantas Sub-Watershed) (2007)

#### Community Development Program

1. Utilization of Statistical Methods for PTK for MGMP Mathematics Teachers in Banyuwangi Regency to Increase Research Capability (2019)
2. Group Analysis Training for Staff of the Citrus and Subtropical Fruit Research Institute (Balitjestro) in Batu (2017)
3. Refreshing Research Methodology through Data Analysis Workshop Using Microsoft Excel for Teachers of SMPN 2 Pagak, Malang Regency (2016)
4. Development of Mathematical Olympiad Material for Statistics for MTs Teachers in Ponorogo Regency (2015)
5. Probability Statistics Training for High School Teachers in Mataram City in the Preparation of the National Science Olympiad (2015)
6. Utilization of Experimental Design and Statistics Software Application for Lecturers and Researchers (2014)
7. Health Information System Training in Tumpang District (2008)
8. Agriculture and Population Information System Training in Tumpang District (2007)

#### Journal Publication

1. Posterior Predictive of Bayesian Vector Autoregressive (BVAR) and Adjusting Transformation on the Spatio Temporal Disaggregation Method: Predict Hourly rainfall data at the outsampled Locations. Pakistan Journal of Statistics and Operation Research Vol. 15 No. 2 (2019).
2. Restricted Maximum Likelihood Method As An Alternative Parameter Estimation in Heteroscedastic Regression. CAUCHY Vol. 5 No. 3 (2018).



3. The effectiveness of robust RMCD control chart as outliers' detector. *Journal of Physics: Conference Series* Vol. 943 No. 1 (2017).
4. Parameter Estimation of Structural Equation Modeling Using Bayesian Approach. *CAUCHY* Vol. 4 No. 2 (2016).
5. Bayesian State-Space Modeling for Spatio-Temporal Rainfall Disaggregation. *International Journal of Applied Mathematics and Statistics (IJAMAS)* Vol. 37 No. 7 (2013).
6. Detection of Spatial Temporal Autocorrelation Using Multivariate Moran and Lisa Method On Dengue Hemorrhagic Fever (DHF) Incidence, East Java, Indonesia. *European Journal of Scientific Research (EJSR)* Vol. 49 No. 2 (2011).
7. Markov Chain Monte Carlo – Based Approaches for Modeling the Spatial Survival with Conditional Autoregressive (CAR) Frailty. *International Journal of Computer Science and Network Security (IJCSNS)* Vol. 10 No. 12 (2010).
8. Designing of Dengue Fever Early Diagnosis System by Utilizing Short Message Service (SMS). *Jurnal Eltek* Vol. 8 No. 1 (2010).
9. GIS Application in Dengue Fever Modeling in Malang City. *Jurnal Eltek* Vol. 7 No. 1 (2009).
10. Cross-Validation Techniques in Spatial Regression (Case study: water discharge in Brantas Sub-Watershed). *Jurnal Natural* Vol. 12 No. 1 (2008).

#### Scientific Paper Presentation in Conference / Scientific Seminar

1. IORA International Conference on Operations Research. Algorithm of Hidden Markov Model with Bayesian Approach on Rainfall Data. Manado, Indonesia, September 19-20, 2019.
2. The 9th Annual BaSIC Science International Conference (BaSIC 2019). Bayesian Vector Autoregressive Moving Average model on hourly rainfall data in Sutami Sub-Watershed. Universitas Brawijaya, Malang, March 20-21, 2019.
3. International Conference on Applied Analysis and Mathematical Modeling (ICAAMM2019). Algorithm of Combining between Kriging and Disaggregation Method on Spatio Temporal Data. Istanbul Gelisim University, Istanbul, Turkey, March 10-13, 2019.



4. International Conference in Mathematics and Applications-Mahidol University (ICMA-MU). Spatio-Temporal Variogram: The Comparison of Spatio-Temporal Covariances Model on Rainfall Data. Mahidol University, Bangkok Thailand, December 16-18, 2018.
5. International Seminar on Mathematics in Industry & International Conference on Theoretical and Applied Statistics (ISMI-ICTAS18). Algorithm of Bayesian VAR on Spatio Temporal Disaggregation Method. UniversitiTeknologi Malaysia, Kuala Lumpur, September 4-6, 2018.
6. Konferensi Nasional Matematika XIX (KNM XIX). Application of Combined Vector Autoregressive Bayesian Model with Adjusting Transformation on Hourly Rainfall Data Generation at Central and Maesan Rain Post Stations. Malang, Indonesia, July 24-26, 2018.
7. Seminar Nasional Matematika dan Pendidikan Matematika. Robust Kriging Interpolation on March 2015 Rainfall Outlier Data in Malang Regency. Lampung, Indonesia, May 6, 2018.
8. The 6th Abu Dhabi University Annual International Conference: Mathematical, Physical Sciences & Engineering Applications (ICMPE2017). Low Time Data Generating Using Disaggregation Method Based On Combination Between Logistic, Gamma Model And Adjusting Procedure. Abu Dhabi, UAE, December 19-21, 2017.
9. Seminar Nasional Matematika dan Terapan (SiMantap). Classification of Citrus Varieties Interstock Inoculated with Group Analysis. Lhouksemawe, Indonesia, November 28-29, 2017.
10. International Conference and Workshop on Mathematical Analysis and Its Application. Bayesian Posterior Prediction on BVAR to Predict Rainfall. Malang, Indonesia, August 02-03, 2017.
11. Seminar Nasional Matematika dan Aplikasinya (SEMNAS MANTAP I). Bayesian Predictive Posterior Distribution Approach on Rainfall Model. Banjarbaru, Indonesia, April 22, 2017.
12. The 7<sup>th</sup> Annual Basic Science International Conference. A ZIG Model Parameter Estimation using MLE and Bayesian Approach on Rainfall Data. Malang, Indonesia, February 7-8, 2017.
13. Konferensi Nasional Matematika XVIII. Modeling Daily Rainfall with Zero Inflated Gamma Bayesian. Pekanbaru, Indonesia, November 2-5, 2016.



14. The 6<sup>th</sup> Annual Basic Science International Conference. Hybrid of Logistic and Gamma Model with Adjusting Procedure on Rainfall Disaggregation. Malang, Indonesia, Maret 2-3, 2016.
15. Seminar Nasional Matematika Dan Pendidikan Matematika Indoms Wilayah Sumatera Bagian Tengah. Modeling Daily Rainfall Data Using Zero Inflated Gamma with Covariates. Padang, Indonesia, October 3, 2015.
16. International Conference on Science (ICOS) 2014. Model on Intermittent and Positively Skewed Rainfall Data. Makassar, Indonesia, November 19-21, 2014.
17. Seminar Nasional dan Musyawarah Nasional Forstas (SEMESTA 2014). Rainfall Modeling with Poisson Gamma Hierarchy Model. Pontianak, Indonesia, 27 February – 1 March 2014.
18. Seminar Nasional Matematika dan Pendidikan Matematika. Identification of Average Hourly Rainfall Data in Multiple Locations. Yogyakarta, Indonesia, November 9, 2013.
19. International Conference on Mathematics, Statistics and Its Applications (ICMSA 2012). Simulation of The Stationary Spatio-Temporal Disaggregation using Bayesian State-space with Adjusting Procedure. Bali, Indonesia, November 19-21, 2012.
20. International Conference on Statistics in Science, Business and Engineering 2012 (ICSSBE2012). Hybrid State-space Model and Adjusting Procedure Based on Bayesian Approaches for Spatio-temporal Rainfall Disaggregation. Langkawi, Kedah, Malaysia, September 10-12, 2012.
21. Seminar Nasional Pascasarjana XII 2012. Modeling Spatio-Temporal Rainfall with Bayesian Autoregressive Vector. ITS, Surabaya, July 12, 2012.
22. International Conference on Mathematics and Sciences. Spatio Temporal Rainfall Disaggregation using MUDRAIN on DAS Sampean Baru. ITS, Surabaya, October 12-13, 2011.
23. Third International Conferences and Workshops on Basic and Applied Sciences 2011. An Exploration of Sampean Watershed Rainfall Data. UNAIR, Surabaya, September 21-22, 2011.
24. The Korean Statistical Society Spring Conference. The Development of Spatial Temporal Rainfall Disaggregation with Bayesian Method. Daejeon, Korea, Mei 20-22, 2010.
25. Seminar Nasional SNS IX. Spatio Temporal Modeling: A Review. ITS, Surabaya, November 7, 2009.



26. International Conference IICMA. Spatial Temporal Autocorrelation Detection of The DHF Case Using Hierarchical Clustering: A Preliminary Study. Universitas Gadjah Mada, Yogyakarta, October 12-13, 2009.
27. International Conference on Mathematics and Statistics 2008. Estimation of Autologistic Regression parameters with MCMC. IPB, Bogor, August 4-5, 2008.
28. Seminar Nasional Basic Science 5. Two-step group analysis on continuous and category variables. UB, Malang, February 16, 2008.

#### Textbook Publication

1. Analisis Multivariat, Teori dan Aplikasinya dengan SAS (2018, UB Press)