

CURRICULUM VITAE

AMPALAVANAR NANTHAKUMAR
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OSWEGO, NY 13126

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AREA OF CONCENTRATION:

1. Statistics
2. Mathematics

PRESENT POSITION: Distinguished Teaching Professor
Department of Mathematics,
State University of New York at Oswego

EDUCATION: Ph.D. in Statistics, May 1989
University of Kentucky, Lexington, Kentucky

M.A. in Statistics, August 1984
Bowling Green State University, Bowling Green,
Ohio

B.Sc. in Math/Statistics, October 1980
University of Jaffna, Jaffna, Sri Lanka

**IMMIGRATION
STATUS:** U.S. Citizen.

AWARDS/Honors:

Sigma-Xi Fellow, Sigma-Xi, The Scientific Research Society- 2020

"SUNY Chancellor's Award for Excellence in Teaching" - 2020

*"SUNY-Oswego President's Award for Excellence in Scholarly
and Creative Activity" - 2018*

Who's Who in America - 2009

*"The COLT Certificate for Teaching Excellence"
SUNY Oswego - 2008*

Who's Who Among America's Teachers and Educators - 2007

*"The Twentieth Century Award for Achievement",
International Biographical Center, Cambridge, England - 2000*

Courses Taught: Time Series Analysis, Design of Experiments, Environmental Statistics, Statistical Quality Control, Regression Analysis, Mathematical Statistics, Mathematical Modeling, Nonparametric Inference, Probability, and Online Introduction to Statistics.

Course Development: Environmental Statistics, Introduction to Statistics (online)

Data Analysis Experience: Used Discriminant Analysis, Factor Analysis, Principal Component Analysis (PCA), Analysis of Variance (ANOVA), Analysis of Covariance (ANCOVA), Multiple Regression Models, Logit Models, Probit Models to analyze Large data sets.

Software used: SAS, MINITAB, MAPLE

PROFESSIONAL EXPERIENCE:

2022 - Distinguished Teaching Professor

2001- 2022 *Professor*
Department of Mathematics,
State University of New York at Oswego,
Oswego, New York

2000- 2001 *Professor*, Department of Mathematics,
University of Tennessee at Martin,
Martin, Tennessee

1995- 2000 *Associate Professor*, Department of Mathematics,
University of Tennessee at Martin,
Martin, Tennessee

1990- 1995 *Assistant Professor*, Department of Mathematics,
University of Tennessee at Martin, Tennessee

1994 Summer: *Visiting Scientist*, Indian
Statistical Institute, Kolkata, India

1993 Summer: *Research Associate*, Ceylon Institute for
Scientific and Industrial Research, Colombo,
Sri Lanka

1988-1990: *Assistant Professor*, Department of Mathematics and
Computer Science, Bloomsburg University,
Bloomsburg, Pennsylvania

COMPUTER / CONSULTING EXPERIENCE:

Used very extensively the statistical software packages such as **SAS**, **SPSS** and **MINITAB** in the statistical data analysis that deal with Regression Analysis, Time Series Analysis, Nonparametric Statistics, Biostatistics, Design of Experiments, Linear Models and Statistical Quality Control.

Has consulted for the Ceylon Institute for Scientific and Industrial Research, and also for McCarthy Associates in Syracuse, New York. The consulting work involved designing of experiments for biological assays and testing the quality of paints and also the quality of rubber.

Has served as a consultant for our faculty colleagues in Biology, Chemistry and Physics in analyzing their Statistical data.

SCHOLARLY ACTIVITY:

Publications in Peer Reviewed Journals:

"A Comparison of Vine and Hierarchical Copulas as Discriminants", ***International Journal of Statistics and Probability*** (2022), 11(4), 13-24.

"Aryabhata I's solution to accrued interest income on principal over time: How was it done?", ***Athenian Academic Periodical*** (2022), 2(1), 25-34.

"A diagnostic test based on a 9-component mixture Gaussian Copula Model", ***International Journal of Statistics and Probability*** (2021), 15(4), 1-9.

"On the use of Copula for Quality Control based on AR(1) model",
Joint with T. Young, and H. Nanthakumar, ***Σmathematics Journal*** (2021), 1-14.

"Estimating the Prevalence of Asymptomatic Type 2 diabetes in Kinshasa, Democratic Republic of Congo", Joint with W. Kadima et al. ***East African Journal of Public Health*** (2021), 15 (1), 44-53.

"A Comparison of Archimedean Copula Models for Approximating Bivariate Skew-Normal Distribution", ***International Journal of Statistics and Probability*** (2020), 9(1), 70-86.

- "On the Error Rate comparison of the Quadratic Discriminant Function, Euclidean Distance Classifier, Fisher's Linear Discriminant Function and the Vine Copulas", **International Journal of Statistics and Probability** (2019), 8(1), 113-119.
- "Stem/Non-Stem Divide Structures Undergraduate Beliefs about Gender and Talent in Academia", Joint with K.A. Bailey, D. Horacek, S. Worthington, S. Preston, and C. Illie. **frontiers in Sociology** (2019), 26(4), 1-9.
- "A Copula Based Test for a Two Component Bivariate Mixture Distribution", **International Journal of Statistical Distributions and Applications** (2017), 3(4), 61-66.
- "Kurtosis of the Sample Mean and the Sample Centroid and its limiting values", **Pakistan Journal of Statistics** (2017), 33(3), 179-189.
- "Multivariate Kurtosis as a tool for comparing Copula Models", **International Journal of Statistics and Probability** (2016), 5(4), 67-78.
- "On the detection of heteroscedasticity by using CUSUM Range distribution", Joint with S. Kanbur and E. Wilson, **International Journal of Statistics and Probability** (2015), 4(3), 88-93.
- "On the Mixture Gaussian Copula to study the suitability of Diagnostic Tests". **Sri Lankan Journal of Applied Statistics**, (2013), 14(2), 121-132.
- "On Copula based discriminant rule" Joint with S. Ganesalingam and S. Ganesh. **Journal of Statistics and Management Systems** (2013), 16(6), 401-417.
- "On the use of Moment Estimators to test for a Zero Inflated Poisson Distribution", **Journal of Applied Statistical Science** (2012), 19(3), 289-294.
- "An analytical expression for the error rate associated with the quadratic discriminant function" Joint with S. Ganesalingam and S. Ganesh. **Journal of Statistics and Management Systems** (2011), 14(6), 1027-1040.
- "A Comparison of Testimation and Schwarz Information Criterion for heteroscedasticity" Joint with S. Kanbur, C. Ngeow, and A. Marsh. **Journal of Statistics and Applications** (2010), 5(3-4), 241-258.
- "Triangular approximation for some symmetric probability distribution" Joint with S. Ganesalingam and Siva Ganesh. **Journal of Statistics and Management Systems** (2009), 12(6), 1183-1193.

- "On the near equivalence of the Testimation and Schwartz Information Criterion (SIC) to study Cepheid Period-Luminosity Relation" Joint with S. Kanbur and C. Ngeow. **Journal of Statistical Theory and Practice** (2009), 3(4), 803-813.
- "Period Luminosity Relations derived from the OGLE-III fundamental mode Cepheids" Joint with S. Kanbur, C. Ngeow, H. Neilson, and J. Buonocorsi. **Astrophysical Journal** (2009), 693, 691-696.
- "Approximation for error rates associated with the discriminant function based on absolute deviation from the mean" Joint with S. Ganesalingam and S. Ganesh. **Journal of Statistics and Management Systems** (2008), 11, 5, 861-881.
- "The Hydrogen Ionization Front-Stellar Photosphere Interaction and the Period-Color Relations of Variable Stars" Joint with S.M. Kanbur and C. Ngeow. **Memorie della, Journal of the Italian Astronomical Society** (2008), 79,3,466-470.
- "Testing the non-linearity of the BVicJHKs Period-Luminosity Relations for the Large Magellanic Cloud Cepheids" Joint with S.M. Kanbur and C. Ngeow. **Astronomy and Astrophysics** (2008), 477, 621.
- "Investigations of the Non-linear LMC Cepheid Period-Luminosity Relation with Testimator and Schwarz Information Criterion Methods" Joint with S.M. Kanbur, C. Ngeow, and R. Stevens. **Publications of the Astronomical Society of the Pacific** (2007), 119, 855, 512-522.
- "A comparison of quadratic discriminant function with discriminant function based on absolute deviation from the mean," Joint with S. Ganesalingam and S. Ganesh. **Journal of Statistics and Management Systems** (2006), 9,2, 441-457.
- "Estimation of Proportion of Success from a Stratified Population: A Comparative Study," Joint with K. Selvavel. **Communications in Statistics** (2004), 33(9), 2245-2257.
- "Fixed-width Estimation of Process Capability Index: C_{pm} ," Joint with K. Selvavel. **American Journal of Mathematical and Management Sciences** (2003), 23(1&2), 93-108.
- "On the Use of Winsorized Mean for Truncated Family of Distributions under Type II Censoring," Joint with K. Selvavel and M. Ali. **Journal of the Korean Data and Information Science Society** (2002), 13,1, 147-156.

- "Sequential Estimation of the Mean of the Logistic Response Function," Joint with Z. Govindarajulu, **Statistics** (2000), 33, 309-332.
- "On the Estimation of $P(X < Y)$ for Truncated Bivariate Exponential Distribution and its Application," Joint with K. Selvavel and J. Michalek, **Journal of Applied Statistical Science** (2000), 10(1), 47-56.
- "Fixed-Width Estimation of the Mean of the Logistic Response Function Using Spearman-Kärber Estimator," Joint with Z. Govindarajulu, **Biometrical Journal** (1999), 4, 445-456.
- "Sequential Estimation of a Function of the Truncation Parameter in One-Truncation Parameter Family of Distributions," Joint with K. Selvavel, **Parisankhyan Samikkha** (1999), 6, 9-18.
- "Characterization of Mixture of Pareto Distributions," Joint with S. Sathananthan and K. Selvavel, **Parisankhyan Samikkha** (1999), 6, 1-8.
- "UMVU Estimation of Parameters in Sampling from Two-Truncation Parameter Families," Joint with K. Selvavel and S. Sathananthan, **Parisankhyan Samikkha** (1996-97), (3,4), 41-46.
- "Sequential Estimation in Two-Truncation Parameter Family of Distributions," Joint with K. Selvavel and S. Sathananthan, **Parisankhyan Samikkha** (1996-97), (3 & 4), 47-69.
- "A Method for Estimation of Ruin Probability Based on Large Claims," Joint with G.R. Dargahi-Noubary, **Journal of Applied Statistical Science** (1997), 5(1), 47-59.
- "Sequential Estimation of Parameters in One-Truncation Parameter Families Under Type II Censoring," Joint with K. Selvavel, **Sequential Analysis** (1996), 15(4), 271-284.
- "A Mixture Based Method for Estimating the Relative Security loading," Joint with G.R. Dargahi-Noubary, **Applied Statistical Science I** (1996), 203-218.
- "A Bayesian Approach to Testing the Equality of Means when the Sample Sizes are Random," Joint with M. Razzaghi, **Applied Statistical Science I** (1996), 69-79.
- "Sequential Estimation in Two-Truncation Parameter Family of Distributions Under Type II Censoring," Joint with K. Selvavel, **Journal of the Italian Statistical Society** (1994), 3(3), 385-396.

"Risk-Efficient Estimation of the Mean of the Logistic Response Function Using the Spearman-Karber Estimator," Joint with Z. Govindarajulu, **Statistica Sinica** (1994), 4(1), 305-324.

"A Locally Most Powerful Test for Detecting a Treatment Effect in the Presence of Non-Responders," Joint with M. Razzaghi, **Biometrical Journal** (1994), 36(3), 373-384.

"A Method for Estimating and Detecting Treatment Effects," Joint with G.R. Dargahi-Noubary, **Computational Statistics** (1992), 7, 301-308.

"On Using Lehman Alternatives with Non-Responders," Joint with M. Razzaghi, **Mathematical BioSciences, an international Journal** (1992), 109, 69-83.

"Stress-Strength Reliability for Designs Based on Large Historic Values of Stress," Joint with G.R. Dargahi-Noubary, **Journal of Computational and Applied Mathematics** (1992), 40, 43-53.

"Rate of Convergence for the Distribution of the Spearman-Karber Estimator," Joint with Z. Govindarajulu, **Communications in Statistics: Theory and Methods** (1991), 20(8), 2577-2588.

Publications in Proceedings:

"A Preliminary Investigation on Piecewise Fixed-Width Estimation of Process Capability Index: C_{pm} " Joint with B.M.de Silva, **Proceedings of the International Sri Lankan Statistical Conference** (2004), 321-331.

"On the Use of Spearman Type Estimator in the presence of covariate," Joint with Z. Govindarajulu, **Proceedings of the Second Hawaii International Conference on Statistics and Related Fields** (2003).

"Perceptually Significant Block-Edge Impairment Metric for Image Coding," Joint with S. Suthaharan, S.W .Kim., and Z. Zhang, **Proceedings of International Symposium on Intelligent Signal Processing and Communications Systems** (2001), 408-413.

"On a comparison of Schwarz Information Criterion and Likelihood Function in the context of piecewise Regression," with M. Haddad, **Proceedings of the Decision Sciences Institute** (1999), 952-954.

"Bottom-up Distortion Method in Statistical Database," Joint with H. Kim, **Proceedings of the Twenty Second Pittsburgh Conference on Modeling and Simulation** (1991), 1050-1056.

Publication in a Book Chapter:

"Economical Predictive Testing in Manufacturing Electronic Circuits," Joint with H. Kim, ***Economics of Design and Test for Electronic Circuits and Systems***, Ellis Horwood, England, 1992.

Articles under Preparation:

"Fixed-width Estimation of the mean of ARIMA(0,0,1) Process: A back-shift approach",

"Ranked set sampling (RSS) of multivariate data"

"On the rate of convergence of RSS Mean"

RESEARCH PAPER PRESENTATIONS:

"Copula Models for Tri-variate Exponential Distribution"
16th Annual International Conference on Statistics, ATINER, June 27-30 2022, Athens, Greece.

"Vedic Mathematics and Its Applications", **25th Annual International Conference on Science, Medicine, and Engineering, TASME, July 3-4 2021, Toronto, Canada. (Virtual Conference)**

"A diagnostic test based on a mixture Gaussian Copula Model"
15th Annual International Conference on Statistics, ATINER, June 28-July 1 2021, Athens, Greece. (Virtual Conference)

"Comparison of Archimedean Copulas for Reliability"
14th Annual International Conference on Statistics, ATINER, June 29-July 2 2020, Athens, Greece. (Virtual Conference)

"Investigation of Markovian Properties of Fibonacci and Tribonacci sequences", **Department of Mathematics, SUNY-Oswego, October 18, 2019**

"A Comparison of Hierarchical and Vine Copulas", **13th Annual International Conference on Statistics, ATINER, July 1-4 2019, Athens, Greece.**

"A Comparison of Gaussian and Skew-Gaussian Copulas", **12th Annual International Conference on Statistics, ATINER, July 2-5 2018, Athens, Greece.**

"A Comparison of Misclassification Error Rates", **11th Annual International Conference on Statistics, ATINER, June 26-29 2017,**

Athens, Greece.

"A Comparison of Quantile Regression and Copula based conditional regression results for body mass index", **10th Annual International Conference on Statistics, ATINER, June 27-30 2016, Athens, Greece.**

"Multivariate Kurtosis as a tool for comparing Copula Models", **Department of Mathematics, Syracuse University, April 19, 2016.**

"Multivariate Kurtosis as a tool for comparing Copula Models", **Department of Mathematics, SUNY-Oswego, April 12, 2016.**

"On using Copulas to test for a two component bivariate mixture distribution". **9th Annual International Conference on Statistics, ATINER, June 29 - July 3 2015, Athens, Greece.**

"Kurtosis of the sample mean and its limiting properties", **Department of Mathematics, SUNY-Oswego, March 3, 2015.**

"A Copula approach to study the suitability of Diagnostic Tests".

8th Annual International Conference in Mathematics and Statistics, ATINER, June 29-July 3 2014, Athens, Greece.

"Copula Models for Cepheid Period-Luminosity Relationship" with E. Wilson , **Department of Mathematics, SUNY-Oswego, November 5, 2013.**

"On moment estimators to test for a Zero-Inflated Poisson Distribution", **7th Annual International Conference in Mathematics and Statistics, ATINER, June 17-20 2013, Athens, Greece.**

"On hidden Markov-Chains for the weather data", **Department of Mathematics, SUNY-Oswego, April 2, 2013.**

"Stochastic Calculus", **Department of Mathematics, SUNY-Oswego, November 13, 2012.**

"On the detection of heteroscedasticity by using CUSUM distribution", **6th Annual International Conference in Mathematics and Statistics, ATINER, June 11-14, 2012, Athens, Greece.**

"On CUSUM Range Distribution to detect error heteroscedasticity" Jointly with S. Kanbur. **Math Club & Astronomy Club, SUNY-Oswego November 9, 2011.**

"On Copula based discriminant rule", **5th Annual International Conference in Mathematics and Statistics, ATINER, June 13-16, 2011, Athens, Greece.**

"Copulas and their applications", Department of Mathematics, SUNY-Oswego, March 9, 2010.

"On the equivalence of Testimation and Schwarz Information Criterion to study Cepheid Period - Luminosity Relation, 3rd Annual **International Conference in Mathematics and Statistics, ATINER, June 15-18, 2009, Athens, Greece.**

"Another Look at simple regression", Department of Mathematics, SUNY-Oswego, November 20, 2008.

"On triangular approximation to some symmetric probability distributions", Department of Mathematics, SUNY-Oswego, October 18, 2007.

"On testimation for Astronomy", Department of Mathematics, SUNY-Oswego, February 20, 2007.

"Antithetic Variable and its application in Statistics" Department of Mathematics, SUNY-Oswego, March 28, 2006.

"A Preliminary Investigation on Piecewise Fixed-Width Estimation of Process Capability Index: C_{pm} " Joint with B.M.de Silva, **International Sri Lankan Statistical Conference**, December 28-30, 2004, Kandy, Sri Lanka.

"On the Use of Spearman Type Estimator in the presence of covariate" **Hawaii International Conference on Statistics and Related Fields**, June 5-8, 2003, Honolulu, Hawaii.

"On the Use of Winsorized Mean for Truncated Family of Distributions under Type II Censoring," **International Conference on Statistics, Combinatorics and Related Areas**, December 19-21, 2001, University of Wollongong, Australia.

GUEST EDITOR:

Co-Edited a special issue of Communications in Statistics (Volume 33, Issue 9) to honor Professor Z. Govindarajulu on his 70th Birthday, September 2004.

Service:

Service to the Profession:

External Examiner:

M.Phil (in Statistics), University of Mauritius, Mauritius
B.Sc (in Statistics), University of Jaffna, Sri Lanka

Editorial Board Member:

American Journal of Theoretical and Applied Statistics

Associate Editor / Reviewer:

Sri Lankan Journal of Applied Statistics

Sigma-Xi Membership Reviewer at the National Level

ATINER Academic Council Member (Athens, Greece)

Outreach Activities and Service:

TASME Pre-University Science Poster Competition Coordinator
(Toronto, Canada)

TJCF Board Member (Boston, Massachusetts)

Chairman, "*Professor Balan Selliah Memorial Scholarship Fund*"
University of Jaffna, Sri Lanka

[Remark](#) about Abbreviations.

ATINER (Athens Institute for Education and Research)

TASME (Technological Advances in Science, Medicine, and Engineering)

TJCF (Trustees of Jaffna College Funds)- Founded in 1877 at Boston, Massachusetts

Service to the University:

Sigma-Xi Oswego Chapter President 2008-2011

Sigma-Xi Oswego Chapter Vice-President 2006-2008

Sigma-Xi Oswego Chapter Treasurer 2004-2006

SUNY-Oswego Committees:

Institute for Global Engagement Board Member 2011 - 2018

IGE-Cultural Committee Chairman 2015 - 2018

IGE-Cultural Committee Member 2018 - 2019

IGE-International Student & Visiting Scholar Committee Chairman
2011 - 2014

CEAC (Chemical and Environmental Advisory Council) Member 2019 -

Department of Mathematics Steering Committee Member 2020 -

Department of Mathematics Curriculum Committee Chairman
2010 - 2014

Department of Mathematics Promotion/Retention/Tenure
Committee Chairman 2014- 2016

Department of Mathematics Promotion/Retention/Tenure Member
2018 - 2020

Library Representative, Department of Mathematics, 2003-Present

Program Coordinator, Applied Mathematical Economics Major

Academic Adviser, Applied Statistics Minor

Served in the past as Subject Coordinator: MAT 158/258/179

GRANTS:

2019-2020

Received 500 dollars from Penfield Library for **Faculty Teaching and Research Collection grant.**

2018-2019

Received a travel grant for 1000 dollars from the Office of International Education at SUNY-Oswego to present a paper in Greece.

2017-2018

Received a travel grant for 500 dollars from the Office of International Education at SUNY-Oswego to present a paper in Greece.

2016-2017

Received a travel grant for 500 dollars from the Office of

International Education at SUNY-Oswego to present a paper in Greece.

2015-2016

Received a travel grant for 1000 dollars from the Office of International Education at SUNY-Oswego to present a paper in Greece.

2014-2015

Received a travel grant for 500 dollars from the Office of International Education at SUNY-Oswego to present a paper in Greece.

2013-2014

Received a travel grant for 1000 dollars from the Office of International Education at SUNY-Oswego to present a paper in Greece.

2012-2013

Received a travel grant for 500 dollars from the Office of International Education at SUNY-Oswego to present a paper in Greece. Also, a grant received for 225 dollars from UUP was helpful to pay for the registration of this Conference held at Athens, Greece. Also, I received \$ 400 as the Penfield Library 2013 Faculty Teaching and Research Collection Grant.

2011-2012

Received a travel grant for 1000 dollars from the Office of International Education at SUNY-Oswego to present a paper in Greece. Also, a grant received for 225 dollars from UUP was helpful to pay for the registration of this Conference held at Athens, Greece.

2010-2011

Received a travel grant for 1000 dollars from the Office of International Education at SUNY-Oswego to present a paper in Greece. Also, a grant received for 225 dollars from UUP was helpful to pay for the registration of this Conference held at Athens, Greece.

2009-2010

Received a grant for 150 dollars from UUP to pay for the reprints of a paper that was published.

2008-2009

Received a travel grant for 1000 dollars from the Office of International Education at SUNY-Oswego to present a paper in Greece.

2004-2005

Received a travel grant for 1000 dollars from the Office of International Education at SUNY-Oswego to present a paper in

Sri Lanka. Also, I received a travel grant for 200 dollars from UUP to present a paper in Sri Lanka.

2002-2003

Received a travel grant for 250 dollars from UUP to present a paper in Hawaii.

2001-2002

Received a **faculty enhancement grant** for 3000 dollars for developing the interdisciplinary statistics projects in the upper-division statistics courses at SUNY-Oswego.

2001-2002

Received a travel grant for 1000 dollars from the Office of International Education at SUNY-Oswego to present a paper in Wollongong, Australia.

1999-2000

Received a **faculty development grant** for 700 dollars at the University of Tennessee at Martin.

1997-1998

Received a **faculty development grant** for 700 dollars at the University of Tennessee at Martin.

1994-1995

Received a grant for 3800 dollars from the **International Mathematical Union**.

1992-1993

Received a **Computer grant** for 1000 dollars at the University of Tennessee at Martin.

PROFESSIONAL MEMBERSHIP and RECOGNITION:

Academic Member, Athens Institute for Education and Research
Athens, Greece (by invitation)

New York Academy of Sciences Member (by invitation)

American Society for the Advancement of Science
(by invitation)

Life Member, Institute for Applied Statistics, Sri Lanka

Sigma Xi, The Scientific Research Society (**Fellow**)

Marquis Who's Who in Science and Engineering

Marquis Who's Who in the World

Marquis Who's Who in America

Marquis Who's Who Among America's Teachers and Educators