

AKIM ADEKPEDJOU

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Education

- 01/05-08/07: Ph.D. in Statistics, Department of Statistics, University of South Carolina-Columbia
Dissertation title: Estimation of Gap-time Distribution with Recurrent Event Data under Informative Monitoring Period
– **Advisor:** Dr. Edsel Peña
- 09/01-05/02: Master in Financial Mathematics, University of Michigan-Ann Arbor
- 09/99-05/01: Master in Statistics, University of Michigan- Ann Arbor
- 10/96-07/98: Master in Applied Mathematics (DEA Mathématiques Appliquées)
University of Dakar, Dakar-Sénégal (West Africa).
Thesis title: Hungarian Constructions with small sample
– **Advisors:** Drs. Gane S. Lo and Richard Emilion
- 10/91-07/96: Bachelor in Pure Mathematics (Maîtrise Mathématiques Pures)
University of Niamey, Niamey-Niger (West Africa)

Academic Positions

- 09/13-Present: Associate Professor of Statistics (with tenure)
Department of Mathematics and Statistics
University of Missouri-Science and Technology (Missouri S&T)
- 09/14-07/15: Visiting Associate Professor of Statistics, on sabbatical leave
Institute of Stochastic and Institute of Financial Mathematics, University of Ulm, Ulm, Germany
- 08/07-08/13: Assistant Professor of Statistics
Department of Mathematics and Statistics, Missouri S&T
- 01/05-08/07: Teaching and Research Assistant
Department of Statistics, University of South Carolina-Columbia
- 09/99-05/02: Teaching Assistant, Department of Statistics, University of Michigan-Ann Arbor
- 10/96-07/98: Teaching Assistant, Department of Mathematics and Computer Science
University of Dakar-Sénégal

Visiting Activities

- Visiting Fellow, Institute of Applied Science, University of Toulouse, France. January 8-19, 2018
- Visiting Fellow, Institute of Applied Science, University of Toulouse, France. May 24-July 13, 2017
- Visiting Fellow, Rhodes University, South Africa. 07/15- 08/23, 2015
- Visiting Scholar, University of Science & Technology of Lille, France. June 3-6, 2015

- Visiting Scholar, University of Toulouse, France. May 5-8, 2015
- Visiting Scholar, University of Science and Technology of Lille, France. April 8-10, 2015
- Visiting Associate Professor (sabbatical leave), University of Ulm, Germany. 09/2014-07/2015
- Visiting Scholar, University Gaston Berger, Saint Louis, Senegal. July 2014
- Visiting Lecturer (multiple times), African School of Economics, Cotonou, Benin.
Courses taught: Mathematical Statistics, Time series Analysis, Advanced Times Series Analysis. 2014-present
- Visiting Scholar, Department of Mathematics and Computer Science
University of Orleans, France. May, 2012
- Visiting Lecturer (multiple times), Institute for Empirical Research and Political Economy, Cotonou, Benin.
Courses taught: Time series analysis and Computational statistics. Two weeks visit in July. 2009-2016
- Visiting Lecturer (multiple times), International Chair in Mathematical Physics and Applications, Cotonou, Benin.
Courses taught: Survival Analysis. Two weeks visit in August. 2014-present

Research Interests

Parametric and Nonparametric Methods in Survival Analysis; Recurrent Events; Applied Stochastic Processes; Reliability Theory; Actuarial Science; Multiple Hypotheses Testing; Complex Survey Data; Rank Based Inference with Missing Data; Spatial statistics

Industry Experience

- 06/02-11/03: Quantitative Analyst, Worldco, New York, NY

Awards and Honors

- Associate Editor, Statistical Methodology, 10/2015-10/2016
- Associate Editor, South African Journal of Statistics, 12/2013-12/2016
- Campus Wide Outstanding Teaching Award, Missouri S&T, 2011 and 2012
The award is given annually, throughout the campus, to about 33 faculty with the best teaching record in the previous academic year
- Outstanding Graduate Student Researcher Award, Department of Statistics, University of South Carolina, April 2006

Scholarly Activities

– *Refereed Journal Publications*

18. Bindele, H. and Adekpedjou, A. Rank-based inference with responses missing not at random, *Canadian Journal of Statistics*, accepted
17. Adekpedjou, A., Olbricht, G., and K. D. Zamba. (2018) Confidence bands for quantiles as a function of covariates in recurrent events models, *Canadian Journal of Statistics*, accepted
16. Fall, M., Lo, G., Adekpedjou, A., and Ndiaye, H. (2017) A supermartingale approach for characterizing the functional Hill process for small parameters, *Mathematical Methods of Statistics*, 26(1), 66-80

15. Adekpedjou, A., De Mel, W., and K. D. Zamba (2015) A Chi-square Goodness of Fit Test Based on Random Cells with Recurrent Events, *Scandinavian Journal of Statistics*, 42(4), 1045-1064
14. Adekpedjou, A. and Stocker, R. (2015) A General Class for Semiparametric Models for Recurrent Event Data. *Journal of Statistical Planning and Inference*, 156, 48-63
13. Habiger, J. and Adekpedjou, A. (2014) Optimal Rejection Curves for Exact False Discovery Rate Control, *Statistics and Probability Letters*, 94, 21-28
12. Adekpedjou, A., Stocker, R. S., and De Mel, W. (2013) A Class of Inferences Procedures for Validating the Generalized Koziol-Green Model with Recurrent Events, *Computational Statistics and Data Analysis*, 62, 83-92
11. Adekpedjou, A., Quiton, J., and Wen, X. (2013) Semiparametric Inference with Correlated Recurrence Time Data, *Statistical Methodology*, 10(1), 1-13
10. Adekpedjou, A. and Peña, E. (2012) Semiparametric Estimation with Recurrent Event Data under Informative Monitoring, *Journal of Nonparametric Statistics*, 24(3), 733-752
9. Zamba, K. D., Adekpedjou, A., and Ming, Y. (2012) Exponential Gap-Time Estimation with Correlated Recurrent Event Models: Application to Neural Firing Data, *South African Journal of Statistics*, 46(1), 155-184
8. Adekpedjou, A. and Zamba, K. D. (2012) A Chi-squared Goodness of Fit Test for Recurrent Event Data, *Journal of Statistical Theory and Applications*, 11(2), 97-119
7. Stocker, R. S. and Adekpedjou, A. (2011) Optimal Goodness of Fit Tests for Recurrent Events, *Lifetime Data Analysis*, 17(3), 409-432
6. Zamba, K. D. and Adekpedjou, A. (2011) Parameter Estimation for Correlated Recurrent Event Data under Informative Monitoring; *Statistical Methodology*, 8(3), 273-290
5. Awuah-Offei, K. and Adekpedjou, A. (2011) Application of Life Cycle Assessment in the Mining Industry, *International Journal of Life Cycle Assessment*, 16(1), 82-89
4. Adekpedjou, A. and Peña, E., and Quiton, J. (2010) Estimation and Efficiency with Recurrent Event data Under Informative Monitoring, *Journal of Statistical Planning and Inference*, 140(3), 597-615.
3. Wen, X., Setondji, M., and Adekpedjou, A. (2009) A Minimum Discrepancy Approach to Multivariate Dimension Reduction via K-means Inverse Regression, *Statistics and Its Interface*, 2(4), 503-511
2. Adekpedjou, A., Quiton, J. and and Peña, E. (2008) Some Aspects Pertaining to Recurrent Event Modeling and Analysis, In *Advances in Mathematical Modeling for Reliability*. IOS Press, Amsterdam. Pages 193-207
1. Adekpedjou, A. and Peña, E. (2008) Semiparametric Estimation with Recurrent Event data under Informative Monitoring, Proceedings of the August 2007 JSM, Salt Lake City, UT

– ***Manuscripts Submitted or Under Revision***

- Adekpedjou, A. and Dabo-Niang, S. Semiparametric inference for spatially correlated recurrent event data (under revision for *Journal of Multivariate Analysis*)
- Geiger, D. and Adekpedjou, A. Corrected phase-type approximations of Gerber-Shiu functions in a heavy-tailed dependent risk model (under review)

– ***Manuscripts under Preparation for Submission***

- Analysis of IBNR claims under Markovian Assumptions (with D. Geiger, in preparation)

- Rank based methods in survey sampling (with Bendele, in preparation)
- Models for Kriging with right censored data (with J-Y. Dauxois, in preparation)
- A class of weighted semiparametric models for recurrent event data (with R. Stocker, in preparation)
- A Semiparametric additive rate models for recurrent events (with R. Stocker, in preparation)

Research Interests

Parametric and Nonparametric Methods in Survival Analysis; Recurrent Events; Applied Stochastic Processes; Reliability Theory; Actuarial Science; Multiple Hypotheses Testing; Complex Survey Data; Rank Based Inference with Missing Data; Spatial statistics

Presentations • Conferences

– *Conference Presentations*

- New directions in survival analysis and spatial statistics
4th Conference of the International Society for Nonparametric Statistics (ISNPS 2018)
Salerno, Italy. June 11-15, 2018 (**Invited talk and Invited session organizer**)
- Semiparametric estimation with spatially correlated recurrent events.
Mathematical Methods in Reliability Conference, Grenoble, France. July 3-6, 2017. (**Invited talk and Two Invited session organizer**)
- Semiparametric estimation with spatially correlated recurrent events.
First International Conference in Econometrics and Statistics, Hong Kong. June 15-17, 2017. (**Invited talk**)
- Confidence bands for quantile as a function of covariates in recurrent events models.
Ninth International Conference of the ERCIM on Computational and Methodological Statistics (ERCIM 2016). University of Seville, Spain. December 9-11, 2016. (**Invited talk**)
- SADA 2016. Applied Statistics for Development in Africa
Session organizer, Scientific committee member, Local organizing committee member, and invited speaker
Cotonou, Benin. November 28-December 3, 2016.
- Recent Advances in Recurrent Events and Spatial Statistics Modeling
Workshop on Statistical Methods for Recurrent Event Data
University of Lille, France. November 2016 (**Plenary Speaker**)
- Workshop on Financial and Actuarial Mathematics
African Institute for Mathematical Science (**Lecturer**)
Short course on "Estimation of Reserve in Actuarial Science: Double Chain Ladder and Ruin Application" Mbour, Senegal. July 11-16
- Semiparametric inference for spatially correlated recurrent event data
3rd Conference of the International Society for Nonparametric Statistics (ISNPS 2016)
Avignon, France. June 11-16. (**Invited talk**)
- Semiparametric inference for spatially correlated recurrent event data.
Eight International Conference of the ERCIM on Computational and Methodological Statistics (ERCIM 2015). University of London, England. December 12-14, 2015. (**Invited talk**)

- Chi-square goodness of fit tests based on random cells with recurrent events. Seventh International Conference of the ERCIM on Computational and Methodological Statistics (ERCIM 2014). University of Pisa, Italy. December 6-8, 2014. (**Invited talk**)
- Optimal rejection curve for exact FDR control. Joint Statistical Meetings (JSM), Boston, MA. August 2014. (**Contributed talk**)
- On some recent results on recurrent events modeling. Southern Regional Council On Statistics, Galveston, TX. June 2014. (**Invited talk**)
- A general class of semiparametric models for recurrent events. Mathematical Methods in Reliability (MMR), Stellenbosch, South Africa. July 2013 (**Invited talk**)
- A random cells based chi-square test with recurrent events. JSM, San Diego, CA. August 2012 (**Contributed talk**)
- A chi-square goodness of fit test with recurrent event data. JSM, Miami, Fl. August 2011 (**Contributed talk**)
- Semiparametric estimation with recurrent event data under informative monitoring. JSM, Denver, CO. August 2008 (**Contributed talk**)
- Semiparametric estimation with correlated recurrent events under informative monitoring. International Biometric Conference (IBC), Dublin, Ireland. July 2008 (**Contributed talk**)
- Estimation and Efficiency with Recurrent Events under Informative Monitoring. South Carolina Chapter of the American Statistical Association, Columbia, SC. April 2007 (**Contributed talk**)
- Estimation and efficiency with recurrent events under informative monitoring. ENAR Spring Meetings, Atlanta, GA. March 2007 (**Contributed talk**)
- Estimation and efficiency with recurrent events under informative monitoring. JSM, Seattle, WA. August 2006 (**Contributed talk**)
- Estimation and efficiency with recurrent events under informative monitoring. IBC, Montreal, Canada. July 2006 (**Contributed talk**)
- Estimation and efficiency with recurrent events under informative monitoring. ENAR Spring Meetings, Tampa, Fl. March 2006 (**Contributed talk**)
- *Seminar/Quolloquim Talks*. All invited
- Rank based estimation with response missing not at random. University of Missouri-Kansas City, February 23, 2018
- Semiparametric estimation with spatially correlated recurrent events, University of North Carolina-Charlotte. October 12, 2017
- Confidence bands for quantile as a function of covariates in recurrent events models. Statistical Research Unit, University of Lille 3, France. November 2016
- Chi-square goodness of fit tests based on random cells with recurrent events. Department of Mathematics & Statistics, University of South Alabama, AL. October 2015
- Chi-square goodness of fit tests based on random cells with recurrent events. Department of Statistics, Rhodes University, SA. August 2015
- Chi-square goodness of fit tests based on random cells with recurrent events. Department of Statistics, Uppsala University, Sweden. April 2015

- Chi-square goodness of fit tests based on random cells with recurrent events.
Institute of Stochastic, University of Ulm, Germany. November 2014
- A general class of semiparametric models for recurrent events.
Mathematics and their applications Research Unit. University of Pau, France. June 2013
- A general class of semiparametric models for recurrent events.
Department of Mathematics, University of Niamey, Niger. May 2013
- A general class of semiparametric models for recurrent events.
Department of Biostatistics, University of Iowa, IA. April 2013
- A general class of semiparametric models for recurrent events.
Department of Mathematics and Computer Science
University of South Carolina-Upstate, SC. September 2013
- Modeling and Inference with Recurrent Events.
Laboratoire Equippe, University of Lille 3, France. May 2012
- Modeling and inference with recurrent events.
Department of Mathematics, University of South Dakota, SD. October 2011
- Modeling and inference with recurrent events.
Department of Statistics, Kansas State University, KS. September 2011
- Estimation of Gap-time distribution with recurrent event data under the generalized Koziol-Green model. Department of Mathematics and Computer Science, Pittsburgh State University, KS. March 2008
- Estimation of Gap-time distribution with recurrent event data under the generalized Koziol-Green model. Department of Mathematics, Truman State University, MO. February 2008
- Estimation of Gap-time distribution with recurrent event data under the generalized Koziol-Green model. Department of Statistics, University of Missouri-Columbia, MO. October 2007
- Estimation of Gap-time distribution with recurrent event data under the generalized Koziol-Green model. Department of Statistics, Case Western Reserve University, OH. September 2007

– *Conferences Attended*

- Statistics days of France, Lille, France. June 1-5 2015 (**Attendee**)
- Workshop on Nonparametric analysis of complex time-to event data. February 26 and 27. University of Ulm, Germany
- Workshop on grant writing techniques. National Science Foundation Day, Cape Girardeau, MO. October 2009 (**Attendee**)
- Junior Researchers Workshop of ENAR, Alexandria, VA. March 2008 (**Attendee**)

Teaching activities

At Missouri University of Science and Technology

– **Undergraduate courses**

- Engineering statistics (multiple offerings)
- Textbook: Probability and statistics for engineering and the sciences by Jay Devore
- Introduction to Probability and Statistics (multiple offerings)
- Textbook: Probability and statistical inference by Hogg and Tanis

– **Graduate courses, PhD and Master levels**

- Advanced Mathematical Statistics I (Ph.D., multiple offerings)
- Textbook: Theory of point estimation by Lehman and Casella
- Advanced Mathematical Statistics II (Ph.D., multiple offerings)
- Textbook: Testing statistical hypothesis by Lehmann and Romano
- Probability and Statistics (Master, multiple offerings)
- Textbook: Probability and mathematical statistics by Bain and Engelhardt
- Mathematical Statistics (Master, multiple offerings)
- Textbook: Probability and mathematical statistics by Bain and Engelhardt
- Statistical Models in Actuarial Science (Master, multiple offerings)
- Textbook: Loss models: from data to decision by Klugman, Panjer and Willmot
- Statistical Models for Life Contingencies (Master, multiple offerings)
- Textbook: Actuarial mathematics for life contingent risks by Dickson and Hardy
- Survival Analysis (Ph.D., multiple offerings)
- Textbook: Statistical models based on counting processes by Andersen et al.
- Stochastic Processes (Ph.D., multiple offerings)
- Textbook: Introduction to probability models by Sheldon Ross
- Reliability Theory (Ph.D., Fall 2012)
- Textbook: System reliability theory and applications by Rausand and Hoyland

- Theory of Pensions and Social Security (Master, Spring 2019)
- Textbook: Actuarial mathematics for life contingent risks by Dickson and Hardy
Teaching at University of Ulm, Germany, sabbatical year 2014-2015
- Time series analysis (PhD)
Textbook: Time series: Theory and methods by Brockwell and Davis, second edition, Springer
- Multivariate time series (PhD)
Textbook: Multivariate time series analysis: With R and financial applications, by Tsay, Wiley
- Seminar in Risk Theory (Master). Students presentations on various topics dealing with risk analysis in actuarial science

Student Direction

– **Current Ph.D. Students**

- Zharah Saimul, Ph.D. (expected, 2021)
- Ravinath Alahakoon, Ph.D. (expected, 2021)
- Priscilla Cojoe, Ph.D., (expected, 2022)

– **Past Ph.D. Students**

- Withanage De Mel, Ph.D., 2014.
Dissertation title: *On some inferential problems with recurrent events.*
Current affiliation: Senior Lecturer in Statistics, and Chair, Department of Mathematics, University of Ruhuna, Sri Lanka

- Daniel Geiger, Ph.D., 2018
Dissertation title:
- Muna Hammuda, Ph.D., 2018
Dissertation title: *Cox-type model for recurrent events and models validation*
- **Master's**
- Tobias Merk, M.S., Actuarial Science, Spring 2018
Thesis title: *Models for high dimensional spatially correlated risks and application to thunderstorm loss data in Texas*
- Larissa Schoef, M.S., Actuarial Science, Spring 2016
Thesis title: *On Double Chain Ladder Techniques for Reserve Estimation*
- Netanya Martin, M.S., Actuarial Science, Spring 2015
Thesis title: *Application Of Loglinear Models To Claims Triangle Runoff Data*
Currently working at SCOR Global Life Americas as an Actuarial Analyst, Kansas city, MO
- Timothy Jansen, M.S., 2012. Currently working as an Actuary at State Farm Insurance
- Vu Ong, M.S., 2011. (current affiliation: Instructor at Missouri S&T)
- **Ph.D. and Master's committee membership, Advising**
- Member of Ph.D. dissertation committees for 23 students (14 Mathematics and Statistics department, 9 campus)
- Member of M.S. thesis committees for 6 students
- Academic advisor for 19 Applied Mathematics undergraduate students with Actuarial Science emphasis (10 graduated, 9 in progress)
- *Research students advisement: Undergraduate Research Experience (OURE)*
 - Jacy Waldrop: Statistical Models for A Posteriori Risk Classification
OURE, April 2013
 - Ellen Ruppert: Statistical Models for A Priori Risk Classification with Application to Insurance data
OURE, April 2012

Department and University Service

- Member, Tenure Policy Committee, 9/2018-8/2019
- Member, Discipline Specific Curriculum Committee in the Sciences 9/2018-8/2019
- Judge for Graduate Fellows Poster Session (Spring 2017 and Spring 2018)
- Member, Policy Committee, 9/2012-8/2013, 9/2016-8/2018, and 9/2018-8/2019
- Member, Non Tenure Track Promotion Committee, 9/2016-8/2017
- Member, Faculty Senate, 9/2016-8/2019
- Member, Undergraduate Policy Committee, 9/2010-8/2013, and 9/2017-8/2018
- Member, Graduate Policy Committee, 8/2015-8/2018
- Member, Academic Freedom and Standards Committee, 9/2015-7/2017
- Member, Outstanding Teaching Award Committee, 9/2015-8/2017
- Member, Graduate Faculty, 9/2007-present
- Member, Statistics Faculty Search Committee, 09/2007-present

- Member, Library Committee, 09/2010-08/2016
- Judge for Missouri S&T 7th Annual Undergraduate Research Conference, 04-10-2012
- Reviewer for Grant Proposal for Missouri Research Board (MRB) for the Spring 2012 Competition
- Member, Parking Committee, 09/2007-08/2010
- Member, Undergraduate Scholarship Committee, 09/2010-08/2013
- Academic advisor for Undergraduate students in Applied Mathematics with Actuarial Science emphasis, Fall 2008-present

Professional Service

- Referee for Statistics in Medicine • Communication in Statistics • Journal of Statistical Planning and Inference • Lifetime Data Analysis • Statistics and Probability Letters
- Chair, Dissertation defense for Mergane, University Gaston Berger, Saint-
- External examiner for University Paris Descartes, Paris, France. November 2014
- External examiner for two dissertations, University Gaston Berger of Senegal. July 2014
- External examiner for University of Pretoria, South Africa. March 2012
- Invited session organizer at the 4th International Conference on Nonparametric Statistics, Salerno, Italy, 6/11-15, 2018
- Two invited sessions organizer at the Mathematical Methods in Reliability conference, Grenoble, France, 7/3-6, 2017
- Reviewer of chapters 1-3 of a Statistics textbook proposal for Chapman & Hall/CRC Press, May 2012
- Chair, Sessions 76, 126, and 574; Joint Statistical Meetings (JSM). Miami, FL, August 2011
- Chair, Session 500, Hypothesis Testing in Neuroimaging. JSM, Denver, CO. August 2008

Professional Membership

- American Statistical Association
- Institute of Mathematical Statistics (IMS)

Others

Fluent in French: reading, speaking, and writing