

Amal Helu

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Faculty of Science
University of Jordan
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Jordan

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Education

Ph.D., Statistics
Old Dominion University, Virginia, USA

M.S., Applied Mathematics
University of Alabama at Birmingham, Alabama, USA

B.Sc., Statistics
Yarmouk University, Jordan

Professional Experience

Full Professor 2019 -present
Department of Mathematics, The University of Jordan.

Associate Professor 2017 - 2019
Department of Mathematics, The University of Jordan.

Associate Professor 2011 -2014
Department of Mathematics, The University of Jordan.

Assistant Professor 2006 - 2011
Department of Mathematics, The University of Jordan.

Honors

Winner Scholar
Greek ministry of national education and religious affairs scholar, Greek

Winner Annual Prize
Best paper in the 83rd Annual Meeting of Virginia Academy of Science, USA.

Assistantship
Department of Mathematics and Statistics-Old Dominion University, USA

Honors

Assistantship
Department of Mathematics-University of Alabama, USA.

Dean's Honor List, Yarmouk University

Publications

- Alslman, M. and **Helu, A.** (2023). Reliability estimation for the inverse Weibull distribution under adaptive type-II progressive hybrid censoring: Comparative study. *Statistics, Optimization & Information Computing*, 10, 216-242.
<http://www.iapress.org/index.php/soic/article/view/1638>
- Alslman, M. and **Helu, A.** (2022). Estimation of the stress-strength reliability for the inverse Weibull distribution under adaptive type-II progressive hybrid censoring. *PLoS ONE*, 17(11): e0277514.
<https://doi.org/10.1371/journal.pone.0277514>
- **Helu, A.** (2022). Adaptive Type-II Hybrid Progressive Schemes Based On Maximum Product Of Spacings For Parameter Estimation Of Kumaraswamy Distribution. *Applied and Computational Mathematics*, 11(4): 102-115.
DOI: [10.11648/j.acm.20221104.13](https://doi.org/10.11648/j.acm.20221104.13)
- **Helu, A.** (2022). The principle of maximum entropy and the probability-weighted moments for estimating the parameters of the Kumaraswamy distribution. *PLoS ONE*, 17(5): e0268602.
<https://doi.org/10.1371/journal.pone.0268602>
- **Helu, A.**, Samawi H (2022). Inference on $P(X < Y)$ in Bivariate Lomax model based on progressive type II censoring. *PLoS ONE*, 17(5): e0267981.
<https://doi.org/10.1371/journal.pone.0267981>
- **Helu, A.**, Samawi, H., & Alslman, M. (2022). On Accelerated Failure Time Models Performance under Progressive Type-II Censoring. *Statistics, Optimization & Information Computing*, 10(3), 815-828.
<http://www.iapress.org/index.php/soic/article/view/1446>
- **Helu, A.**, Samawi, H. and Majd Alslman. (2022). "Comparing Some Iterative Methods of Parameter Estimation for Progressively Censored Lomax Data". In press, *Thailand Statistician*.
- **Helu, A.** & Samawi, H. (2021). Statistical Analysis Based on Adaptive Progressive Hybrid Censored Data From Lomax Distribution. *Statistics, Optimization & Information Computing*, 9(4), 789-808.
<https://doi.org/10.19139/soic-2310-5070-1330>
- Musleh, R.M., **Helu, A.**, & Samawi, H. (2020). Kernel-based estimation of $P(X < Y)$ when X and Y are dependent random variables based on progressive type II censoring. *Communications in Statistics-Theory and Methods*, 1-17.
<https://doi.org/10.1080/03610926.2020.1774058>

- **Helu, A.**, Samawi, H., Rochani, H., Yin, J., & Vogel, R. (2020). Kernel density estimation based on progressive type-II censoring. *Journal of the Korean Statistical Society*, 49(2), 475-498. <https://doi.org/10.1007/s42952-019-00022-y>
- Samawi, H., **Helu, A.**, & Rochani, H. (2019). Further Increasing Fisher's Information for Parameters of Association in Accelerated Failure Time Models via Double Extreme Ranks. *Pakistan Journal of Statistics and Operation Research*, 679-700. <http://pjsor.com/index.php/pjsor/article/view/2605>
- Musleh, R. M., **Helu, A.**, & Samawi, H. (2019). Inference on $P(X < Y)$ in bivariate Lomax model. *Electronic Journal of Applied Statistical Analysis*, 12(3), 619-636. <http://siba-ese.unisalento.it/index.php/ejasa/article/view/19214/17949>
- **Helu, A.**, & Samawi, H. (2019). On estimation of overlapping measures for exponential populations under progressive first failure censoring. *Quality Technology & Quantitative Management*, 16(5), 560-574. <https://www.tandfonline.com/doi/full/10.1080/16843703.2018.1481806>
- Samawi, H. M., **Helu, A.**, Rochani, H., Yin, J., Yu, L., & Vogel, R. (2018). Reducing sample size needed for accelerated failure time model using more efficient sampling methods. *Journal of Statistical Theory and Practice*, 12(3), 530-541. <https://doi.org/10.1080/15598608.2018.1431574>
- **Helu, A.**, & Samawi, H. (2017). On Marginal Distributions under Progressive Type II Censoring: Similarity/Dissimilarity Properties. *Open Journal of Statistics*, 7(4), 633-644. <http://file.scirp.org/Html/8-1240901,8343.htm>
- Samawi, M., **Helu, A.**, Rochani, H., Yin, J., & Linder, D. (2016). Estimation of $P(X > Y)$ when X and Y are dependent random variables using different bivariate sampling schemes. *Communications for Statistical Applications and Methods*, 23(5), 385. <https://doi.org/10.5351/CSAM.2016.23.5.385>
- **Helu, A.**, & Samawi, H. (2015). The inverse Weibull distribution as a failure model under various loss functions and based on progressive first-failure censored data. *Quality Technology & Quantitative Management*. http://web.it.nctu.edu.tw/qtqm/upcomingpapers/2015V12N4/2015V12N4_F6.pdf
- **Helu, A.** (2015). On the maximum likelihood and least squares estimation for the inverse Weibull parameters with progressively first-failure censoring. *Open Journal of Statistics*. <http://dx.doi.org/10.4236/ojs.2015.51010>
- **Helu, A.**, Samawi, H., & Raqab, M. Z. (2015). Estimation on Lomax progressive censoring using the EM algorithm. *Journal of Statistical Computation and Simulation*. <http://www.tandfonline.com/eprint/BjtfG6qIxFjrIDMSPYWg/full>.
- Musleh, R. M., **Helu, A.** (2014). Estimation of the inverse Weibull distribution based on progressively censored data: Comparative study. *Reliability Engineering & System Safety*. <http://www.sciencedirect.com/science/article/pii/S0951832014001616>.

- **Helu, A.**, & Samawi, H. (2011). On inference of overlapping coefficients in two Lomax populations using different sampling methods. *Journal of Statistical Theory and Practice*.
<http://www.tandfonline.com/eprint/g2WvXTsq6pYWchkNkWhz/full>
- **Helu, A.**, Samawi, H., & Vogel, R. (2011). Nonparametric overlap coefficient estimation using ranked set sampling. *Journal of Nonparametric Statistics*.
<http://www.tandfonline.com/eprint/JJGc9HdWDGZJWSNJ99PK/full>
- Samawi, H. M., & **Helu, A.** (2011). Distribution-Free Runs Test for Conditional Symmetry. *Communications in Statistics-Theory and Methods*, 40(15), 2709-2718. <http://www.tandfonline.com/doi/pdf/10.1080/03610926.2010.491592>
- **Helu, A.**, Abu-Salih, M., & Alkam, O. (2010). Bayes estimation of Weibull distribution parameters using ranked set sampling. *Communications in Statistics Theory and Methods*, 39(14), 2533-2551.
<http://www.tandfonline.com/eprint/um89pHDS23d3UkE28VGK/full>
- Abu-Saleh, M., & **Helu, A.** (2009). Termination Probability of Sequential Probability Ratio Test Using Modified Rank Set Sampling. *Journal of Applied Statistical Science*.
- **Helu, A.** and Abu-Salih, M. (2008). Seven Confidence Intervals for Poisson Parameter μ ". *International Journal of Applied Science and Computations*.
- **Helu, A.**, & Naik, D. N. (2007). Estimation of sibship correlation via a Kotz-type density function. *Communications in Statistics Theory and Methods*.
<https://doi.org/10.1080/03610920601036432>
- Naik, D. N., & **Helu, A.** (2007). On testing equality of intraclass correlations under unequal family sizes. *Computational statistics & data analysis*.
[http://www.sciencedirect.com/science/article/pii/S0167-9473\(07\)00100-4](http://www.sciencedirect.com/science/article/pii/S0167-9473(07)00100-4)
- **Helu, A.**, & Naik, D. N. (2006). Estimation of interclass correlation via a Kotz-type distribution. *Computational statistics & data analysis*.
<https://www.sciencedirect.com/science/article/pii/S0167947306001356>

Conferences	2018 International Conference on New Advances in Statistics	St-Petersburg 2018
	2016 Joint Statistical Meetings	Chicago-USA 2016
	12th International Conference on Ordered Statistical Data	Greece 2016
	2015 Joint Statistical Meetings	Seattle-USA 2015
	11th International Conference on Ordered Statistical Data	Poland 2014
	33rd Conference on Applied Statistics	Ireland 2013
	International Conference in Probability and Statistics	Hong Kong 2011

Conference on Probability, Statistics & Data Analysis	North Carolina-USA	2011
VI International Symposium on Optimization and Statistics		India 2008
Ordered Statistical Data and Inequalities		Jordan 2007
The Annual Jordanian Conference on Statistics and its Applications	Jordan	2007
The 83rd Annual Meeting of Virginia Academy of Science	Virginia-USA	2005

**Referee for
Scientific Journals**

- Journal of Statistical Computation and Simulation.
 - Communications in Statistics - Theory and Methods.
 - Reliability Engineering and System Safety.
 - Pakistan Journal of Statistics.
 - International Journal of Quality and Reliability Management.
 - Journal of Applied statistics.
 - Simulation Modeling Practice and Theory.
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**Professional
Activity**

- Doctoral dissertation advisor
 - Estimation Of The Inverse Weibull Distribution Based On Progressively Censored Data: Comparative Study, 2013.
 - Estimation Of The Burr-XII Distribution Based on Progressive type-II Censoring Using The EM algorithm, 2012.
 - Bayes Estimation of Lomax Distribution Parameters Using Modified Ranked Set Sampling, 2012.
 - Estimation of $R = P(X < Y)$ when X and Y are dependent random variables under progressive type II censored data, 2017.
 - Have served on 9 Ph.D dissertation committees.
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**Selected
Departmental
And University
Service**

- Mathematics Representative in the Faculty of Science Council 2011-2012.
- Chair of the Fifth Convention of the Graduate Students Research at the University of Jordan 2014.
- Senior Academic Advisor, Mathematics Department, Fall 2017-present.
- Academic Adviser for new Freshmen, September 2007-2009.
- Committee member of the Student Awards of Faculty of Science, the University of Jordan.
- Committee member of Preparing B.Sc. students for Qualifying Exam.
- MATH 131 Coordinator (2008 - present).
- MATH 431 Coordinator (2006 - 2011 & 2018)
- MATH 333 Coordinator (2006 - 2011 & 2019)
- Committee member of the Scientific Research in the Mathematics Department.
- Committee member of computerizing principle of statistics exams.

- Committee member of the Civil Defense.
 - Committee member of the Mathematics Department Maintenance.
 - Committee member in the Development of the Mathematics Department.
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**Teaching
Experience**

- **Undergraduate Courses:**
 - MATH 431: Mathematical Statistics.
 - MATH 436: Risk Theory.
 - MATH 333: Probability Theory.
 - MATH 271: Financial Mathematics.
 - MATH 372: Actuarial Mathematics.
 - MATH 131: Principal of Statistics and Probability.
 - MATH 101 : Calculus I.
 - MATH 102 : Calculus II.
 - How to use Minitab for analyzing statistical data.
 - Programming in SAS.
 - 70-207: Probability and Statistics for Business Applications (at CMU).
 - 36-201: Statistical Reasoning and Practice (at CMU).
 - 36-202: Statistical Methods (at CMU).
 - 73-407: Fundamentals of Statistical Modeling (at CMU).
 - **Graduate Courses:**
 - MATH 737: Biostatistics.
 - MATH 731: Mathematical statistics.
 - MATH 931 Mathematical Statistics.
 - MATH 934 Reliability Theory.
 - MATH 732 Probability Theory.
 - MATH 733 Nonparametric Statistics.
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Computer Skills

- Software programming: SAS, Minitab, Maple, Mathematica, Microsoft Word and Excel.
 - Typography: \LaTeX
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