

CURRICULUM VITAE

Full Name: Dr. Ma'mon Ahmad Abu Hammad
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Research gate:
https://www.researchgate.net/profile/Mamon_Hammad/stats/report/weekly/2020-10-18

Google Scholar:

<https://scholar.google.com/citations?user=x41emqoAAAAJ&hl=ar>

1. Personal Data

Date of Birth: 1/3/1969.
 Nationality : Jordanian.

2. Education

- Ph.D (Mathematics / Statistics) 'A' 2008, University of Jordan.
- M.Sc (Mathematics / Statistics) " B' 2004, University of Jordan.
- B.A ((Mathematics) 'B+' 1992, Mutah University.

3. Ph.D. Dissertation

Thesis title : 'Distributions Of Entropy Statistics'

Research Synopsis : Several articles treated asymptotic normality of MLE for entropy measures and applied them to several inferential problems. To study the effect of the sample size on such approximation, this thesis provides the exact distribution of standardized version of MLE of the Shannon and Renyi entropies based on random sample from normal distribution $N(\mu, \sigma^2)$, $N(\theta, \theta)$, $N(\theta, \theta^2)$, gamma of three parameters, and its special cases: (Weibull(α, θ), Laplace(θ), and Rayleigh(θ))



distributions), and compares their exact quantiles with quantiles of the asymptotic distribution of these statistics. Moreover, it suggests modified versions of that statistics and show that this modified versions are much closer to normality than the statistics which are given in the literature even for small samples. Moreover, it derives some properties of the MLE of Shannon and Renyi entropies of the distributions that are considered in this thesis.

The exact distributions of both the Shannon and the Renyi statistics are the same and follow the same extreme value distribution when these entropies are estimated based on random samples from $N(\mu, \sigma^2)$, $G(\alpha, \gamma, \theta)$, $G(\alpha, \theta)$, Weibull(α, θ), Laplace(θ), and Rayleigh(θ).

However, in case of $N(\theta, \theta)$ and $N(\theta, \theta^2)$ the exact distributions are not easy to derive, so we have simulated their percentiles and showed that the distribution of the Shannon and the Renyi statistics are the same and they do not follow an extreme distribution.

4. Employment

2008- 2018 : Lecturer Part Time, University of Jordan. 2011-2012 : Lecturer Part Time, Princess Sumaya University for Technology.

2012-2018: Princess Al Hussien bin Abdullah II Academy of Civil Protection.

2001-2015 : Director of the Private Office of HRH Princess Alia bint Al Hussein.

5. Research Interests

Fractional Differential Equations. Mathematical Statistics. mathematical analytical methods, information theory, modelling and simulation, dynamical system, fuzzy and fractional differential equations.

6. Teaching Experience

- Graduate Courses
 - Biostatistics (Master).
- Undergraduate Courses
 - Stochastic Processes
 - Calculus I , II& III
 - Principle of Statistics
 - Biostatistics
 - Mathematics for business administration and social sciences
 - Ordinary Differential Equations
 - Linear Algebra



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- Probability Theory
- Applied Probability
- Mathematical Statistics
- Applied Statistics
- Probability and Statistics

7. Supervision of Graduate Research (Co-Advisor)

Thesis Title (Master)	Student Name	Year
Bayes Estimation of the parameters of the Log- Normal Distribution.	Siham Abrikah "The University of Jordan".	2019 - 2020
Goodness of Fit Test Based on Information Measure	Ayat Ayaserah "The University of Jordan".	2015- 2016

8. Membership of Committees

1.	2020	Thesis Examiner: Hanneiah AL-Salahat, "Properties, Characterization and Bounds for Ex-tropy Measure of Record Statistics ", The University of Jordan.
2.	2020	Thesis Examiner: Islam. A. AL-Maayteh, "Comparison among Six Algorithms for Generating Minimum Cost Trend Free Factorial Experiments", The University of Jordan.
3	2010- Present	Member of the supreme committee for management of the abattoir sector in Jordan assigned by the Prime Ministry.

9. Publications

- (1) Mohammed Al-smadi, Ased Freihat, **Ma'mon Abu Hammad**, Shaher Momani, Analytical approximations of partial differential equations of fractional order with multistep approach, Journal of Computational and Theoretical Nanoscience, accepted. ISI (IF:1.34).



- (2) Shaher Momani, Omar Abu Arqub, **Ma'mon Abu Hammad**, Za'er Abo-Hammour, A residual power series technique for solving systems of initial value problems, Applied Mathematics & Information Science , Vol. 10 (2016) 765-775. . ISI (IF:1.232).
- (3) Awad,Adnan, **Abu Hammad Mamoun**, Distribution of Shannon Statistic from Normal sample, published in International Journal of statistics.2007 vol. LXV, n.3, pp.259-279.
- (4) **Abu Hammad**, Khalil R, Fractional Fourier Series with Applications, American Journal of Computational and Applied Mathematics 2014,4(6):187-191. ISI.
- (5) **M.Abu Hammad**, R. Khalil, Conformable Fractional Heat Differential Equation, International Journal of Pure Applied Mathematics, volume 94,no,2,2014,215-221,ISSN:1311-8080(PRINTED VERSION);ISSN:1314-3395 (on- line version). (scopus).
- (6) **M.Abu Hammad**, R. Khalil, Abel's Formula and Wronskian for conformable fractional differential equations, International Journal of differential equations and Applications, V13, No,3,2014,177-183, ISSN:1311-2872.
- (7) **M.Abu Hammad**, R. Khalil , Legendre fractional differential equation and legendre fractional polynomials, International Journal of Applied Mathematical Research,3 (3) (2014) 214-219.
- (8) Mohammad Al Horani, **Ma'mon Abu Hammad**, Roshdi Khalil, Variation of Parameters for Local Fractional Non homogenous liner Differential



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Equations, Journal of Mathematics and Computer Sciences, AMS

Classification number: 26A33 ISI.

- (9) **M.Abu Hammad**, R. Khalil , Systems of Liner Fractional Differential Equations, Asian Journal of Mathematics and Computer Research, accepted. (scopus).
- (10) Rokiah Rozita Ahmad, **Ma'mon abu hammad**, Mohammed H Al-smadi, Mohammad alaroud, Omar abu arqub, Shaher Momani, numerical solutions of linear time - fractional klein-gordon equation by using power series approach, ICFDA' 18 The International Conference on Fractional Differentiation and it's Applications at Jordan, 10 SSRN 3284781
- (11) Optimality of Bayesian Estimators: A Comparative Study Based on Exponential Progressive Type II Censored Data. ICFDA' 18 The International Conference on Fractional Differentiation and it's Applications, at Jordan.
- (12) **Mamon Abu Hammad**, Mohammed Al Horani, Alaa Shmasenh, Roshdi Khalil, Ruduction of order of fractional differential equations, Journal of Mathematical and Computational Science, Vol 8, No 6 (2018), 683-688
- (13) **Mamon Abu Hammad** ,Mohammad Alaroud Omar Abu Arqub ,Reem Edwan , Mohammed Al-Smadi ,Shaher Momani ,Solving Fuzzy Fractional IVPs of Order 2B by Residual Power Series Algorithm, 2019 IEEE Jordan International Joint Conference on Electrical Engineering and Information Technology (JEEIT).



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- (14) Shatha Hasan, Mohammed Al-Smadi ,Asad Freihet Omar Abu Arqub, **Ma'mon Abu Hammad**, Shaher Momani, Application of Power Series Method for Solving Obstacle Problem of Fractional Order'. , 2019 IEEE Jordan International Joint Conference on Electrical Engineering and Information Technology (JEEIT).
- (15) Amer Dababneh , Bilal Albarmawi , **Ma'mon Abu Hammad** , Amjed Zraiqat Al , Conformable Fractional Bernoulli Differential Equation with Applications, 2019 IEEE Jordan International Joint Conference on Electrical Engineering and Information Technology (JEEIT).
- (16) **Ma'mon Abu Hammad**, Bilal Albarmawi, A. Shmasneh, Amer Dababneh, Fractional Laguerre Equation and Fractional Laguerre Polynomials, Journal of Semigroup Theory and Applications ,2019, ISSN: 2051-2937
- (17) Roshdi Khalil, Mohammed AL Horaniy, **Mamon Abu Hammad**, Geometric Meaning of Conformable derivative Via Fractional Cords, Journal of mathematics and computer science. 2019, ISSN 2008-949X
- (18) D. M. Moustafa & E. I. El-Awady, **Ma'mon Abu Hammad**, S. A. El-Tantawy, Alvaro H. Salas, Shreif M. E. Ismaeel Impact of dust kinematic viscosity on the breathers and rogue waves in a complex plasma having kappa distributed particles, Waves in Random and Complex Media, 2019, **ISI**.
- (19) **Ma'mon Abu Hammad**, Hamza Alzaareer, Hassan Al-Zoubi Hemen Dutta, Fractional Gauss hypergeometric differential equation, Journal of Interdisciplinary Mathematics, 22(7)(1113–1121).
- (20) **Ma'mon abu hammad**, A. Awad, R. Khalil and E. Aldabbas Fractional Distributions and Probability Density Functions of Random Variables Generated Using FDE, J. Math. Comput. Sci., 10(3)(522-534).



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- (21) **Ma'mon abu hammad**, A. Awad, R. Khalil Properties of Conformable Fractional Chi-Square Probability Distribution, J. Math. Comput. Sci., 10 (1239-1250), ISSN: 1927-5307.
- (22) **Ma'mon Abu Hammad**, Alvaro H. Salas and S. A. El-Tantawy New method for solving strong conservative odd parity nonlinear oscillators: Applications to plasma physics and rigid rotator. AIP Advances 10, 085001 (2020).
- (23) M. Mhailan, **M. Abu Hammad**, M. AL horani, R. Khalil, On Fractional Vector Analysis, J. Math. Comput. Sci. 10 (2020), No. 6, 2320-2326

10. **Reference.**

1- Dr. Mufid M. Azzam

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2- Dr. Shaher Momani

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3- Dr. Adnan Awad

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