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CURRICULUM VITAE

Full Name: Dr. Ma'mon Ahmad Abu Hammad

Department / Faculty: mathematics / Faculty of Science and IT

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https://www.researchgate.net/profile/Mamon_Hammad/stats/report/weekly/2020-10-18

Google Scholar:
https://scholar.google.com/citations?user=x41emgoAAAAJ&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 applid 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)

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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

2018- present: Al- Zaytoonah University.

2009- 2021 : 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 od 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).
  - Mathematical Statistics   (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
  - Probability Theory
  - Applied Probability
  - Mathematical Statistics
  - Applied Statistics
  - Probability and Statistics

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7. Experience of Non-Academic Services

Type of Service	Name of Organization	Place/ Country	Year
Officer	Jordan Armed Forces	Jordan	1988 2014
Director of the Private Office of HRH Princess Alia bint Al Hussein.	HRH Princess Alia bint Al Hussein office.	Jordan	2001-2016
Member of the supreme committee for management of the abattoir sector in Jordan assigned by the Prime Ministry.	Prime Ministry	Jordan	2010-2016

8. Supervision of Graduate Research   (Advisor)

Thesis Title (Master)	Student Name	Year
Properties of Conformable Fractional Nakagami Probability Distribution	Dana Amr Al-Zaytoonah University of Jordan.	2020– 2022
Application of Conformable Fractional Pareto Probability Distribution	Duha Abu Judeh Al-Zaytoonah University of Jordan	2020– 2022

9. Supervision of Graduate Research   (Co-Advisor)

Thesis Title (Master)	Student Name	Year
Bayes Estimation of the Parameters of the Kumaraswamy Probability Distribution	Azezah Hasan Al Abdallah Al-Zaytoonah University of Jordan	2021-2022
Applications and Properties of Conformable Fractional Gamma Three-Parameters Probability Distribution	Raneem Moh'd Alodat Al-Zaytoonah University of Jordan	2021-2022
Application of Conformable Fractional Weibull Probability Distribution	Sondos Rassem Al-Zaytoonah University of Jordan	2020– 2022
Properties of Conformable Fractional Lomax Probability Distribution	Murad Abu Sirrieh Al-Balqa Applied University	2020/2021

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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

10. **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.

11. **Community Service**

1.	2020-2021	Member of the Council of the Faculty of Basic Science and Humanities in German Jordanian University
2.	2020-2022	Member of the Council of the Faculty of Science and Information Technology in Alzaytoonah University of Jordan.
3.	2010-2016	Member of the supreme committee for management of the abattoir sector in Jordan assigned by the Prime Ministry.

12. **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*, Vol. 13 n.11 (2016) pp. 7793-7801. ISI (IF:1.232).

(2) . ISI (IF:1.34).

(3) 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).

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(4) Awad,Adnan**, Abu Hammad Ma'mon**, Distribution of Shannon Statistic from Normal sample, *published in International Journal of statistics*.2007 vol. LXV, n.3, pp.259-279.

(5) **Abu Hammad**, Khalil R, Fractional Fourier Series with Applications, *American Journal of Computational and Applied Mathematics* 2014,4(6):187-191. ISI.

(6) **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).

(7) **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.

(8) **M.Abu Hammad**, R. Khalil , Legender fractional differential equation and legender fractional polynomials, *International Journal of Applied Mathematical Research*,3 (3) (2014) 214-219.

(9) Mohammad Al Horani, **Ma'mon Abu Hammad**, Roshdi Khalil, Variation of Parameters for Local Fractional Non homogenous liner Differential Equations, *Journal of Mathematics and Computer Sciences*, AMS Classification number: 26A33 ISI.

(10) **M.Abu Hammad**, R. Khalil , Systems of Liner Fractional Differential Equations, *Asian Journal of Mathematics and Computer Research*, accepted.

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(scopus).

(11)   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 approch, *ICFDA' 18 The International Conference on Fractional Differentiation and it's Applications at Jordan*, 10 SSRN 3284781.

(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)*.

(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).

(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-TantawyNew method for solving strong conservative odd parity nonlinear oscillators: Applications to plasma physics and rigid rotator. *AIP Advances* 10, 085001 (2020) ,**ISI**.

(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.

(24) Amer Dababneh, B. Sami, **Ma'mon Abu Hammad**, Amjed Zraiqat A new impulsive sequential multi-orders fractional differential equation with boundary conditions. *J. Math. Comput. Sci*. 10 (2020), No. 6, 2871-2890.

(25) Iqbal H. Jebril , Amani Jablawi , **Ma'mon Abu Hammad** , Osamah Ibrahim Khalaf, Equivalences between fuzzy quantum logic complication and fuzzy coimplications classes, *Materials Today*: Proceedings (2021).

(26) Iqbal H. Jebrila , **Ma'mon Abu Hammad** , Ahmad R. Al Aboushic , Musa M. Salahdd Osamah Ibrahim Khalafe, User Satisfaction of Electric-Vehicles About Charging Stations (Home, Outdoor, and Workplace),

Turkish Journal of Computer and Mathematics Education, Vol.12 No.3(2021), 3589-3593.

(27) Raida I. Oudat , Heba S. Abualruz , Nazih KH. Abu Al-Shiek, Eman A. AL-Mashaqba, Rawan A. AL-Hiari, Hala A. Alsoukhni, **Ma'mon A. Abu Hammad,** Sickle Cell Disease in Jordan: The Experience of a Major Referral Center, *Medical Archives*, doi: 10.5455/medarh.2021.75.27-30.

(28) **Ma'mon Abu Hammad**, Adnan M. Awad and Iqbal Jebril, Optimality of Bayesian Estimators: A Comparative Study Based on Exponential Progressive Type II Censored Data, *Journal of Statistics Applications & Probability*,Vol. 10, No. 2(2021), 453-465.

(29) Iqbal Jebril ;**Ma'mon Abu Hammad**, Eman Nouh, Rahaf Hamidi, Yousef Dalahmeh, Salemah Almutlak, Properties of Conformable Fractional Gamma with two parameters Probability Distribution, *2021 IEEE Jordan International Joint Conference on Electrical Engineering and Information Technology (JEEIT).*

(30) **Ma'mon Abu Hammad** ,Iqbal Jebril, Duha AbuJudeh, Yousef Dalahmeh, Siham Ali Abrikah, Properties of Conformable Fractional Rayleigh Probability Distribution, *2021 IEEE Jordan International Joint Conference on Electrical Engineering and Information Technology (JEEIT).*

(31) Amer Dababneh**, Ma'mon Abu Hammad**, Siham Ali Abrikah,Bilal Albarmawi, Amjed Zreqat, Conformable Fractional of Euler Type Equation, *2021 IEEE Jordan International Joint Conference on Electrical Engineering and Information Technology (JEEIT).*

(32) Mutaz Al-Sabbagh, Hassan Al-Zoubi , Tareq Hamadneh , **Ma'mon Abu Hammad**, Tubular Surfaces of Finite Type Gauss map, *Journal for Geometry and Graphics (JGG)*,(2021), 25(1), 45- 52.

(33) Amer Dababneh, Amjed Zraiqat, Abdulkarim Farah, Hassan Al-Zoubi, **Ma'mon Abu Hammad,** Numerical methods for finding periodic solutions of ordinary differential equations with strong nonlinearity, *J. Math. Comput. Sci.*, (2021), 11(6), 6910- 6922.

(34) **Ma'mon Abu Hammad,** Conformable Fractional Martingales and Some Convergence Theorems, *Mathematics*,(2021),(10),6.

(35) **Ma'mon Abu Hammad,**sharifa Alsharif, Alaa Shmasnah and R Khalil .Fractional Bessel differential equation and fractional Bessel functions, *Italian Journal of Pure and Applied Mathematics*, 47(2022),521-531.

(36) **Ma'mon Abu Hammad**, Iqbal H. Jebril, Iqbal M. Batihaand Amer Mansour Dababneh, Fractional Frobenius Series Solutions of Confluent α-Hypergeometric Differential Equation, *Progress in Fractional Differentiation and Applications,* 8(2) (2022),297-304.

(37) Duha Abu Judeh and **Ma'mon Abu Hammad***,* Applications of Conformable Fractional Pareto Probability Distribution*, Int. J. Advance Soft Compu. Appl, 14, (2),(2022),115-124.*

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