CURRICULUM VITAE (C.V.)

As of September 2022

SAED MALLAK

PERSONAL INFORMATION

- **Marital status:** married with 5 children
- **Nationality:** Palestinian
- **Place of Birth:** Tulkarm - Palestine
- **Date of Birth:** October 24, 1971
- **Address:** Palestine Technical University-Kadoorie
  Tulkarm, West Bank, Palestine
- **Mobile:** +970 599 672895
- **Fax**: +970 9 2677922
- **E-mail:** saedmallak@yahoo.com, s.mallak@ptuk.edu.ps
- **Rank:** Professor

ACADEMIC DEGREES

- **Ph.D.**
Mathematics, 2000
Bilkent University, Ankara, Turkey
Thesis: Gibbs measures and Phase Transitions in One-Dimensional Models, January 2000.

- **M.S.**
Mathematics, 1996
  Bilkent University, Ankara, Turkey

Thesis: Non-Stationary Markov Chains, July 1996.

- **B.S.**
  Mathematics with minor in Computer Science, 1993

Yarmouk University, Irbid, Jordan

PH. D DISSERTATION

We studied the problem of limit Gibbs measures in 1-dimensional models. We investigated uniqueness conditions for the limit Gibbs measures for 1-dimensional models. We constructed a 1-dimensional model disproving a uniqueness conjecture for 1-dimensional models. We proved that this conjecture is correct under some natural regularity conditions. We also applied the uniqueness theorem to some 1-dimensional models.

CURRENT RESEARCH INTERESTS

- Mathematical Analysis
- Theoretical Applied Mathematics
- Phase Transitions & Stochastic Processes
- Fuzzy Sets & Systems
- Fractional Derivatives
- Methods of Teaching Mathematics

EMPLOYMENT HISTORY

- 5/3/2020-recent Professor, Department of applied mathematics, faculty of applied sciences, Palestine Technical University-Kadoorie **(PTUK)**

- 11/10/2009-4/3/2020 Associate Professor, Department of applied mathematics, faculty of applied sciences, Palestine Technical University-Kadoorie **(PTUK)**

- 1/9/2022- recent President Assistant for Governance

- 1/8/2018-31/8/2022 Vice President for academic affairs.

- 1/9/2015- 31/8/2017 Vice President for academic affairs.

- 1/9/2014-27/12/2014, President Assistant for Institutional Building

- 10/12/2013-10/6/2014 President Consultant for academic developing.

- 18/11/2012-20/5/2013 Acting President of Palestine Technical University-Kadoorie.

- 11/10/2009-10/10/2013 Vice President for Academic Affairs, Palestine Technical University-Kadoorie.

- Acting President for several times

- 12/4/2006-10/10/2009 - Assoc. Prof., Mathematics & Statistics

Department, Arab American University, Jenin-Palestine **AAUJ**

- 1/9/2002- 11/4/2006   - Asst. Prof.,   Mathematics & Statistics Department, Arab American University, Jenin-Palestine

- 1/9/2008-31/8/2009 Dean of Faculty of Arts and Sciences and Chairman of Mathematics & Statistics Department , Arab American University, Jenin-Palestine

- 1/9/2005- 31/8/2009 Chairman of Mathematics Department, Arab American University, Jenin-Palestine

- 27/9 /2000 – 31/8/2002 – Asst. Prof .Al-Quds Open University, Tulkarm Educational Area, Palestine **QOU**

- 3/2000 – 9/2000- Asst. Prof .Al-Quds Open University (part time), Tulkarm, Jenin and Nablus Educational Areas, Palestine

- 1/9/94 –15/1/2000 Granted Graduate Student – Department of Mathematics, Bilkent University, Ankara-Turkey

- 9/98 – 6/99 Instructor (part time) - Department of Mathematics, Bilkent University, Ankara-Turkey

REFERENCES

- Prof. Dr. Nour Aburob, Palestine Tachnical University President. E-Mail: nourrob@ptuk.edu.ps

- Prof. Dr. Daoud Zatari, Palestine Tachnical University Former President. E-Mail: zatarid@jinan.ps

- Prof Dr. Marwan Awartani, Palestine Technical University, The Previous President.   E-Mail: marwan.awartani@gmail.com

- Prof Dr. Basem Attili, University of Sharjah   , E-Mail: b.attili@sharjah.ac.ae

- Prof. Dr. Ameen Dawwas, Former Vice President for Academic Affairs, Arab American University, Jenin-Palestine

   E-Mail: adawwas@aauj.edu

- Assoc Prof. Azer Kerimov, Department of Mathematics, Bilkent University, Bilkent, 06533 Ankara, Turkey.

   E-Mail: kerimov@fen.bilkent.edu.tr

ARTICLES IN REFEREED JOURNALS & CONFERENCES

A) *Extracted from My Master and Ph. D. Theses*

1. **A. Kerimov**, *Saed F. Mallak*, "Density Gibbs States and Uniqueness Conditions in One-Dimensional Models", *J.Phys. A Math. Gen ISSN 0305-4470 (Print) 1361-6447 (Online)*, **32**, 1999 (3711-3716).

2. **Saed F. Mallak**, Limit Theorems for non-stationary discrete time Markov Chains, Journal of Al Quds Open University, N0.3-Rabia (1) 1425H/April 2004, 7-31

B) *During Assistant Professorship Rank*

1- *Saed F. Mallak,*, Countable extreme Gibbs states in a one-dimensional model with a unique ground state and uniqueness conditions in 1-dimensional models, Global Journal of Pure and Applied Mathematics, ISSN 0973-1768, Vol.1, No.1 (2005), pp. 112-119

2- *Saed F. Mallak,*, A class of 1-Dim. Models with unique ground states that admits phase transitions, Journal of Dynamical Systems and Geometric Theories, ISSN 1726-037X, Vol..3, Number 2 (2005) 109-114

3- *Saed F. Mallak*, Towards: Palestinian School Mathematics Developed in Content and Method within Principles and Standards Liable to Development and Modification (IN ARABIC), Journal of Al Quds Open University for Research and Studies, No.7-Rabia (1) 1427H/April 2006, 415-433.

4- **B. Attili**, *Saed F. Mallak*, Existence of Limit Cycles in A Predator-Prey System with a Functional Response of the form arctan(ax). Communications in Mathematical Analysis ISSN 0973-3841, Vol. 1, No. 1, pp 27-33(June 2006)

C) *During Associate Professorship Rank*

1) *Saed F. Mallak*, From Interacting Particle Systems in 1-Dimensional Models to Non-Homogeneous Markov Chains, ISSN 1818-8532, Proceedings of The Second Conference on Mathematical Sciences CMS' 2008(22-23/10), Zarqa Private University, Jordan

2) *Saed F. Mallak*, **Mohammad Mara'Beh, Abdelhalim Zaiqan**, A Particular Class of Ergodic Finite Fuzzy Markov Chains, Advances in Fuzzy Mathematics, ISSN No. 973-533X Volume 6, Number 2 (2011), pp. 253-268.

3) *Saed F. Mallak*, **Mohammad Mara'Beh, Abdelhalim Zaiqan**, Further Particular Classes of Ergodic Finite Fuzzy Markov Chains, Advances in Fuzzy Mathematics, ISSN No. 973-533X Volume 6, Number 2 (2011), pp. 269-281.

4) *Saed F. Mallak*, Particular Fuzzy Numbers and Their Application to Regular 2x2 Fuzzy Markov Chains: Uncertain Probabilities, Journal of Dynamical Systems and Geometric Theories, ISSN 1726-037X, Vol. 9, Number 2 (2011) 137-150.

5) *Saed F. Mallak, On* the Limit of 2x2 Regular Fuzzy Markov Chains: Uncertain Probabilities, International Journal of Sciences and Advanced Technology (ISSN 2221-8386), Vol. 2 No 8 Month 2012, 19-26.

6) *Saed F. Mallak* **and Duha Bedo,** A Fuzzy Comparison Method for Particular Fuzzy Numbers, Journal of Mahani Mathematical Research

Center (JMMRC), ISSN 2251-7952, Vol2, No1 (2013) pp.1-14

7) *Saed F. Mallak* **and Duha Bedo**, Particular Fuzzy Numbers and a Fuzzy Comparison Method between Them, International Journal of Fuzzy Mathematics and Systems (IJFMS), ISSN 2248-9940, Vol 3, No 2 (2013) pp.113-123

8) *Saed F. Mallak* **and Duha Bedo**, Ranking Particular Fuzzy Numbers Using Area, Mode, Spreads and Weights, Advances in Fuzzy Mathematics (AFM), ISSN No. 973-533X, Volume 9, Number 1 (2014), pp. 7-19.

9) *Saed F. Mallak*, Ranking Exponential k+1-Trapezoidal Fuzzy Numbers with Cardinality, Advances in Fuzzy Mathematics (AFM), ISSN No. 973-533X, Volume 9, Number 1 (2014), pp 55-62.

10) *Saed F. Mallak*, **Duha Bedo, Osama Hamed**, A n e w A p p r o a c h f o r R a n k i n g k + 1 - T r a p e z o i d a l F u z z y N u m b e r s , Advances in Fuzzy Mathematics (AFM), ISSN No. 973-533X, Volume 9, Number 1 (2014), pp 63-76.

11) Suhail Salha, *Saed Mallak*, **Nasooh Sous**, An analytical study of the results of the 2014 Palestinian Mathematics National Olympiad for Students of the First Grade of Scientific Secondary (In Arabic), Journal of Al-Istiqlal University for Research (2019), Vol 4, Number 1, 241-262

12) *Saed Mallak*, Phase Transitions in a Wide Class of One-Dimensional Models with Unique Ground States, Global Journal of Pure and Applied Mathematics. ISSN 0973-1768 Volume 14, Number 2 (2018), pp. 189-194

13) *Saed Mallak*, Interacting Particles Systems Treated as Non Homogeneous Markov Chains, Global Journal of Pure and Applied Mathematics. ISSN 0973-1768, Volume 14, Number 10 (2018) pp. 1419-1423.

14) *Saed F. Mallak*, Some Results on Ergodic Finite Fuzzy Markov Chains Using Max- Min Composition and Restricted Fuzzy Matrix Multiplication, ICAAMM 2019, 8th International Conference on Applied Analysis and Mathematical Modeling, 10-13 March 2019, Istanbul Gelisim University, Istanbul Turkey, ICAAMM2019-Proceedings Book, ISBN: 978-605-69181-0-0 pp. 160-166

15) Thabet Abdeljawad; Fahd Jarad; *Saed F. Mallak*; Jehad Alzabut, Lyapunov type inequalities via fractional proportional derivatives and application on the free zero disc of Kilbas-Saigo generalized Mittag-Leffler, The European Physical Journal Plus, Vol 134 Issue 5, May 2019, **134**: 247

16) Fahd Jarad, Yassine Adjabi, Thabet Abdeljawad, *Saed Mallak*; Hussam Alrabaiah, Lyapunov type inequality in the frame of generalized Caputo derivatives, Discrete and Continuous Dynamical Systems-S, 2021, 14(7): 2335-2355

D) During Professorship Rank

1_ Asad Jihad, Jarrar Rabab, Khalilia Hadi, **_Mallak Saed_** and Shanak Hussein, The Mechanics of the Vibrating Triangle System, Bulletin of the Transilvania University of Brasov Series III: Mathematics and Computer Science, Vol. 1(63), No. 1 - 2021, 27-38.

2_ **_Saed Mallak_**, Doa'a Farekh, Basem Attili, Numerical Investigation of Fuzzy Predator-Prey Model with a Functional Response of the Form Arctan(ax), Mathematics 2021, 9, 1919.
https://doi.org/10.3390/math9161919,
https://www.mdpi.com/journal/mathematics

3_ **_Saed F. Mallak_**, Ghadeer A. Al-Mallak, Nasouh Sos, and Saed Khayat, Using Markov Chains Models to Predict Water Supply and Demand and their Behavior: Case Study from Tulkarm City, to appear in Palestine Journal of Mathematics.

4_ **_Saed Mallak_**, Basem Attili, Marah Subuh, Numerical Treatment of Hybrid Fuzzy Differential Equations subject to Trapezoidal and Triangular Fuzzy Initial Conditions, Computation 2022, 10, 168.
https://doi.org/10.3390/computation10100168
5_ **Saed Mallak,** Deema Abdoh, Predicting the Behavior of Gold Price Using Markov Chains and Markov Chains of the Fuzzy States, Mathematical Statistician and Engineering Applications, Vol. 71 No. 4 (2022), 2906-2920

MISCELLANEOUS

1. A reviewer for a proposal for a new book titled " A Modern Introduction to Fuzzy Mathematics" , 2017, Wiley, USA.
2. Evaluator – Science programs in Palestinian Universities/West Bank (2011).
3. The referee for a textbook in Operations Research- Al Quds Open University (2006)

4. The refree of a paper submitted to the journal of Soft Computing.

5. The referee for several articles submitted to Journal of Al Quds Open University
6. The Chairman of the organizing committee of the Sixth Palestinian Conference on Modern Trends in Mathematics and Physics.

7. An External Examiner for Several master students at an Najah University and Al-Quds University

8. Prepared a proposal for a Master program in Applied Mathematics at AAUJ and it was approved for 2009/2010

9. Prepared a proposal for a Master program in Mathematical Modelling, Palestine Technical University and it was approved for 2018/2019

10. The coordinator of the academic committee of Palestinian National

Olympiad of School Mathematics 2014.

11. Prepared an academic developing plan (2014-2019) for PTUK.

12. Editor in chief of Palestine Technical University Research Journal http://ptuk.edu.ps/ptuk_journal, Vol. 1,No. 1, June 2013.

13. Participated in the regional conference 'Employability of Graduates Case of MENA Region' by a Presentation titled 'Employability Among Graduates of Palestine Technical University-Kadoorie' 12-13 March 2013, Rabat, Morocco. Organized by British Council, ISESCO, African Development Bank and Ministry of higher Education (Morocco).

14. Participated in "A UK study visit on Interpreneurial Leadership Program, London, 14-19/2/2016" by a presentation titled "Research Collaboration: Agriculture".

15. Chairman of the First Palestinian Forum for Teaching and Learning Mathematics, held on 16 may 2012, PTUK.

16. -Two Courses in Real Analysis (Real Analysis One and Real Analysis Two), Two Electronic Courses at Palestine Technical University - Kadoorie (PTUK) E-Learning Web Site
URL: http://moodle.ptuk.edu.ps/course/view.php?id=27
-Principles of Mathematics, An Electronic Course at Palestine Technical University - Kadoorie (PTUK) E-Learning Web Site
URL: http://moodle.ptuk.edu.ps/course/view.php?id=28

17. Prepared a proposal for Math Day at AAUJ and it was organized in May 2009 at AAUJ

18. A Member of the local Organizers Committee of the conference of Nanotechnology for Advanced Material & Devices (Organizations: University of lllinois at Urbana-Champaign, An Najah National University & Palestine Technical University-Kadoorie) (http://conferences.physics.illinois.edu/nano2012//)

19. Attended workshop "Internationalizing your University" of the 2009/2010 Central Euoropean University "CEU" Higher Education Policy and Management Workshop Series, May 10-13, CEU, Budapest, Hungary.

20. Attended workshop " Quality in Higher Education and The Role of IT in Enhancing International Classification of Arab Universities-Towards Universities That Follows Modernity" organized by Petra for Conferences, October 16-20, 2011, Amman, Jordan.

21. A Presentation by Saed Mallak, Hussein Shanak, Rabab Jarar, The reality of scientific research in the field of mathematics in Palestinian universities based on Google Scholar, Palestine Academy for Science and Technology, Ramallah, December 22,2018

22. Attended conference "Education Sustainability to Build Capable Generations to Lead the Future" March 5-8, 2012, Dubai, United Arab Emirates.

23. A member of the editorial board, Palestine Research Journal (under construction by the Palestinian Academic Council).

24. Head of Employee Union April 2006-September 2008, Arab American University, Jenin-Palestine (http://www.empaauj.org).

25. A member of the administrative body of Attil Cultural Sport Club (2006)

26. A member of several committees and associations of Attil town

COUNCILS & COMMITTEES AT AAUJ

1. Faculty Council 2002/2003 , 2005/2006 ,2006/2007 ,2007/2008 &2008/2009

2. University Council 2004/2005 & 2008/2009

3. Deans Council 2008/2009

4. Saudi Scholarship Committee 2004/2005 and Fall 2005

5. Student Credit Fund Committee 2003/2004 & 2004/2005

6. Appeal Committee 2005/2006

7. Scientific Research Committee 2006/2007

COUNCILS & COMMITTEES AT PTUK

1. University Council 2009-2013, 2015-2017 & 2018-recent

2. Deans Council 2009-2013, 2015-2017 & 2018-2020

3. The head of all academic committees 2009-2013, 2015-2017 & 2018-recent

4. Promotion committee 2009-2013, 2015-2017 & 2018-recent

SUPERVISION

Supervisor for The Master Theses:

1. Modeling of Biological Population Using Fuzzy Differential Equations: Fuzzy Predator – Prey Models and Numerical Solutions.

2. Hybrid Fuzzy Differential Equations and Different Numerical Solutions

3. Using Markov Chains, Regression and Time Series Models to Predict Supply and Demand for Water and Their Behavior: Case Study Tulkarm City

4. Using Markov Chain Model and Decision Tree Classifier to Predict the   Behavior of Palestinian Stock Market Prices   : Case Study (Paltel)

5. Forecasting the Behavior of the Global Market Price Using Markov Chain of the Fuzzy States: Case Study Gold Price

6. Discrete and Continuous fractional economic models based on market equilibrium in the frame of different type kernels.

7. Development of Mathematical Models of Solar Energy in Palestine.

8. Mathematical Models Described by Gibbs Measures and Phase Transitions on Cayley Tree.

9. Particular Queuing Models and Simulation Tools: Case StudyAdmitted Students at Palestine Technical University – Kadoorie 2021

10. Using Markov Chains Models and Data Mining Techniques to Predict Students' Academic Performance: Case Study Palestine Technical University

11. Stochastic Mathematical Models for the Spread and Control of Corona Virus: Poisson and SIR Models

12. Predicting Solar Energy in Tulkarm Using Fuzzy Models

TEACHING EXPERIENCE

A- Graduate Courses:

-Real Analysis (Fall 2009/2010)- AAUJ

- Experimental Design and Analysis Biostatistics- PTUK

- Selected Topics from Analysis- PTUK

- Stochastic Processes- PTUK

B- Undergraduate Courses

 (1) Bilkent University

1. Elements of Business Mathematics

2. Elementary Business Statistics

(2)Al-Quds Open University QOU

1. Introduction to Statistics   2. Operations Research

3. Applied Statistics   4. Linear Algebra

5. Abstract Algebra   6. Introduction to general Topology

7. Mathematical Statistics   8. Real Analysis

9. Mathematical Analysis   10. Fundamentals of Mathematics

(3) Arab American University AAUJ

1. Fundamentals of Mathematics 1 and 2   6. Linear Algebra 1 and 2

2. Operations Research 1 and 2   7. Engineering Mathematics

3. Real Analysis   8 Probability Theory

4. Introduction to Topology   9. Statistical Methods

5. Calculus 1 & 2   10. Discrete Mathematics

11. Functional Analysis

(4) Palestine Technical University- Kadoorie PTUK

1. Principles of Mathematics   2. Probability Theory

3. Real Analysis 1   4. Real Analysis 2

5. Special Functions   6. Linear Algebra 2

7. Calculus 1&2   8. Statistical Methods