CURRICULUM VITAE

PERSONAL INFORMATION

- **Name**: MAHMOUD HASSAN DARASSI
- **Place and date of birth**: Zarqa-Jordan, 06/ 24/ 1978
- **Nationality**: Jordanian
- **Marital status**: Married (Son and three daughters)
- **Sex**: Male
- **Phone number**: +962 796668613 (Cellphone)
- **E-mail**: m.assi@psut.edu.jo

EDUCATION

- **Ph.D.** in Applied Mathematics, **The University of Alabama**, USA, 2014, with 4 out of 4. **Rating: Excellent**.
  Dissertation:"Asymptotic Analysis of Mass-Dominated Convection in A Nanofluid"
  Advisor: L. Hadji, email: lhadji@ua.edu.
- **M.A.** in Mathematics, **The University of Alabama**, USA, 2011, with 4 out of 4. **Rating: Excellent**.
- **M.Sc.** in Mathematics, **The University of Jordan**, Jordan, 2002, with 3.37 out of 4. **Rating: Very good**.
  Thesis: "Fuzzy Differential Equations"
  Advisor: Nabil Shawagfeh, email: shawagnt@ju.edu.jo.
- **B.Sc.** in Mathematics, **Hashemite University**, Jordan, 2000, with 3.75 out of 4. **Rating: Excellent**.

WORK EXPERIENCE

Full Professor, Basic Sciences - Princess Sumaya University for Technology, Amman, Jordan, October 2024- Present.

Associate Professor, Basic Sciences - Princess Sumaya University for Technology, Amman, Jordan, September 2019- October 2024.

Assistant Professor, Basic Sciences - Princess Sumaya University for Technology, Amman, Jordan, September 2014- September 2019.

Graduate Teaching Assistant, Mathematics - University of Alabama, Tuscaloosa, USA, January 2009-May 2014.

Lecturer, Mathematics - The Hashemite University, Zarqa, Jordan, October 2002 - January 2009.

AWARDS and ACHIEVEMENTS

- Graduate School fellowship award, **The University of Alabama**, Tuscaloosa, AL35487, Spring 2014 semester.
- Graduate teaching assistantship, **The University of Alabama**, Tuscaloosa, AL35487, 2009-2013.

- Scholarship from The Hashemite University to get a master's in Mathematics, 2000-2002.
- Placed on the University honor list,**The Hashemite University**, Zarqa, Jordan, 1998.
- Placed on the Faculty honor list, **The Hashemite University**, Zarqa, Jordan, 1997,1998,2000.
- University Prize for the Best All Round Graduating Math Student, **The Hashemite University**, Zarqa, Jordan, 2000.
- Erasmus+ grant for one week of mobility teaching at the University of Almeria, Spain, 5-11 February 2017.
- Erasmus+ grant for one week of mobility teaching at the University of Santiago de Compostela, Spain, 13-17 September 2021.
- Erasmus+ grant for one week of mobility teaching at the University of Minho, Portugal, 26 June - 2 July 2022.
- Australian University-Kuwait research grant of 500 KD, 2023.

TEACHING EXPERIENCE

- September 2014 - Now: **Princess Sumaya University for Technology**, Al-Jubaiha Amman 11941, P.O. Box 1438 Jordan
  Full Professor at the Department of Basic Sciences. I taught the following courses:
  Calculus for Business
  Calculus I
  Calculus II
  Calculus III
  Linear Algebra
  Discrete Mathematics I
  Discrete Mathematics II
  Mathematics for Engineering I
  Mathematics for Engineering II
  Statistical Methods
  Statistical Methods for Business
  Statistical Methods for IT
  Numerical Analysis
  Applied Probability for IT
  Applied Probability for Engineering
  Mathematical Decision Making (Graduate course)
  Engineering Decision Making under Uncertainty (Graduate course).
- January 2009 - December 2013: **The University of Alabama**, Tuscaloosa, AL35487
  Teaching Assistant at the Department of Mathematics. I taught the following courses:
  Intermediate Algebra, MATH100
  Finite Mathematics, MATH110 (Online course).
  Precalculus Algebra, MATH112
  Precalculus Trigonometry, MATH113
  Precalculus, MATH115
  Business Calculus, MATH121
  Applied Ordinary Differential Equations I, MATH238.

- September 2002 – December 2008: **The Hashemite University**, Zarqa, Jordan
  Teaching Assistant at the Department of Mathematics. I taught the following courses:
  Linear Algebra I
  Biostatistics
  Statistical Methods I
  Ordinary Differential Equations I
  Calculus I and II
  Statistics for Economics and Business
  Mathematics for Economics and Business

- February 2000 – March 2001: **Ministry of Education**, Jordan
  Teacher of Mathematics.

COMPUTER SKILLS

- MATLAB, MAPLE, LATEX, Decision Tool Suit and MS-Office.

PROFESSIONAL AFFILIATIONS

- **Member, Society for Industrial and Applied Mathematics (SIAM)**

- **Academic Editor, PLOS One Journal.**

LANGUAGES

- **Arabic: mother tongue.**

- **English: fluent.**

PUBLICATIONS

1. **Hadji, L., and DarAssi, M.H.;** *Influence of sedimentation on the threshold for Soret-driven convection in colloidal suspensions*, **Physical Review E, 89, 2014, 013014-1-13.**

2. **DarAssi, M.H.;** *Convection in moderately high concentrated colloidal suspensions*, **International Journal of Pure and Applied Mathematics, 115, 2017, 835-850.**

3. **Ahmad, A, Abu Hour, Y, and DarAssi, M.H.;** *Advance System and Model to Predict Malicious Files Propagation inside Computer Network*, **IET Networks, 8, 2019, 38-47.**

4. **DarAssi, M.H., Safi, M and Hdaibat, B;** *A delayed SEIR epidemic model with pulse vaccination and treatment*, **Nonlinear Studies, 25, 2018, 521-534.**

5. **Safi, M, and DarAssi, M.H.;** *Mathematical analysis of ectoparasite-borne diseases model*, **Mathematical Methods in the Applied Sciences, 41, 2018, 8248-8257.**

6. **Safi, M, and DarAssi, M.H.;** *Mathematical analysis of an age-structured HSV-2 model*, **Journal of Computational Methods in Science and Engineering, 19, 2019, 841-856.**

7. **Muhammad Altaf Khan, Khanadan Khan, Safi M, and DarAssi M.H.;** *A Discrete Model of TB Dynamics in Khyber Pakhtunkhwa-Pakistan*, **Computer Modeling in Engineering and Sciences, 123, 2020, 777-795.**

8. **DarAssi, M.H. and Abu Hour, Y;** *Residual power series technique for solving Fokker-Plank equation*, **Italian Journal of Pure and Applied Mathematics, 44, 2020, 319-332.**

9. **Ahmad, A, Abu Hour, Y, and DarAssi, M.H.;** *Effects of Computer Networks Viruses under the Influence of Removable Devices*, **International Journal of Dynamical Systems and Differential Equations, 10, 3, 2020, 233-248.**

10. **Khader, M, and DarAssi, M.H.;** *Residual power series method for solving nonlinear reaction-diffusion-convection problems*, **Boletim da Sociedade Paranaense de Matemática 39 (3), 177-188.**

11. **Alrabaiah H, Safi M, DarAssi, M.H., Al-Hdaibat B, Saif Ullah, Khan MA, Ali Shah S;** *Optimal control analysis of hepatitis B virus with treatment and vaccination*, **Results in Physics, 2020, 20, 103599.**

12. **Safi, M.A., Al-Hdaibat, B.,DarAssi, M.H., Khan, M.A;** *Global dynamics for a discrete quarantine/isolation model*, **Results in Physics, 2021, 21, 103788.**

13. **DarAssi, M.H. and Safi, M;** *Analysis of an SIRS Epidemic Model for a Disease Geographic Spread* , **Nonlinear Dynamics and Systems Theory 21 (1), 56-67.**

14. **DarAssi, M.H., Safi, M and Ahmad, M;** *Global dynamics of a discrete-time mers-cov model*, **Mathematics 2021, 9(5), 563.**

15. **DarAssi, M.H.;** *Convective Stability of CO2 Sequestration in a Porous Medium*, **Nonlinear Dynamics and Systems Theory 21 (2), 179-192.**

16. **DarAssi, M.H., Safi, M.A., Khan, M.A., Beigi, A., Aly, A.A. and Alshahrani, M.Y;** *A mathematical model for SARS-Cov-2 in variable-order fractional derivative*, **The European Physical Journal Special Topics (2022).**

17. **DarAssi, M.H., Shatanawi, T.M. and Safi, M.A;** *Mathematical Analysis of a MERS-Cov Coronavirus Model*, **Demonstratio Mathematica, vol. 55, no. 1, 2022, pp. 265-276. https://doi.org/10.1515/dema-2022-0022.**

18. **Sun, T.-C.,DarAssi, M.H., Bilal, M., and Khan, M.A.** *The study of Darcy-Forchheimer hybrid nanofluid flow with the thermal slip and dissipation effect using parametric continuation approach over a rotating disk*, **Waves in Random and Complex Media, 2022.**

19. **Li, X.-P., DarAssi, M.H., Khan, M.A., Chukwu C.W., Alshahrani M.Y., Shahrani, M.A., and Riaz, M.B.** *Assessing the potential impact of COVID-19 Omicron variant: Insight through a fractional piecewise model*, **Results in Physics, 2022, 38, 105652.**

20. **Asma, Yousaf, M., Afzal, M.,DarAssi, M.H., Khan, M. A., Alshahrani, M.Y., and Suliman, M.;** *A Mathematical Model of Vaccinations Using New Fractional Order Derivative*, **Vaccines, 2022, 10 (12), 1980.**

21. **DarAssi, M.H. and Safi, M;** *Global dynamics of a discrete SEIR epidemic model with treatment*, **Boletim da Sociedade Paranaense de Matemática, 2023, 41.**

22. **DarAssi, M.H., Khan, M. A., Fatmawati, and Alqarni, M.S.;** *Analysis of the Competition System Using Parameterized Fractional Differential Equations: Application to Real Data*, **Symmetry, 2023, 15 (12), 542.**

23. **Sun, T.-C.; DarAssi, M.H.; Alfwzan, W.F.; Khan, M.A.; Alqahtani, A.S.; Alshahrani, S.S.; Muhammad, T.** *Mathematical Modeling of COVID-19 with Vaccination Using Fractional Derivative: A Case Study*, **Fractal Fract. 2023, 7, 234.**

24. **Allehiany, F.M., DarAssi, M.H., Ahmad, I., Khan, M.A., Tag-eldin, E.M.** *Mathematical Modeling and backward bifurcation in monkeypox disease under real observed data*, **Results in Physics, 2023, 50, 106557.**

25. **DarAssi, M.H., Damrah, S., AbuHour, Y.** *A mathematical study of the omicron variant in a discrete-time Covid-19 model*, **European Physical Journal Plus, 2023, 138(7), 601.**

26. **Alfwzan, W.F., DarAssi, M.H., Allehiany, F.M., Khan, M.A., Alshahrani, M.Y., Tag-eldin, E.M.** *A novel mathematical study to understand the Lumpy skin disease (LSD) using modified parameterized approach*, **Results in Physics, 2023, 51, 106626.**

27. **DarAssi, M.H., Ahmad, I., Meetei, M.Z., Alsulami, M., Khan, M.A., Tag-eldin, E.M.** *The impact of the face mask on SARS-CoV-2 disease: Mathematical modeling with a case study*, **Results in Physics, 2023, 51, 106699.**

28. **, T.A., Meetei, M.Z., Khan, M.A., Hassan, A.M.** *Numerical simulation and analysis of the stochastic HIV/AIDS model in fractional order*, **Results in Physics, 2023, 53, 106995.**

29. **Khan, M.A., DarAssi, M.H., Ahmad, I., Seyam, N.M., Alzahrani, E.** *Modeling the Dynamics of Tuberculosis with Vaccination, Treatment, and Environmental Impact: Fractional Order Modeling* , **CMES - Computer Modeling in Engineering and Sciences, 2024, 141(2), pp. 1365–1394.**

30. **Meetei M.Z., DarAssi M.H., Khan M.A., Koam A.N., Alzahrani E., Ahmadin A.A.,** *Analysis and simulation study of the HIV/AIDS model using the real cases*, **PLoS ONE, 2024, 19(6 June), e0304735.**

31. **Khan, M.A., DarAssi, M.H., Ahmad, I., Seyam, N.M., Alzahrani, E.** *The transmission dynamics of an infectious disease model in fractional derivative with vaccination under real data*, **Computers in Biology and Medicine, 2024, 181, 109069.**

32. **Alqahtani, Z., Almuneef, A., DarAssi, M.H., AbuHour, Y., Al-arydah, M., Safi, M., Al-Hdaibat, B.** *Mathematical analysis of fractional Chlamydia pandemic model*, **Scientific Reports, 2024, 14 (1), 31113.**

33. **Alqahtani, Z., DarAssi, M.H., AbuHour, Y., Almuneef, A.** *Assessing the Role of Vaccination in the Control of Hand, Foot, and Mouth Disease Transmission*, **Mathematics, 2025, 13 (2), 268.**

34. **Al-Hdaibat, B.,DarAssi, M.H., Sabra, R., Al-Ashhab, S.** *On the Recursive Sequence* $x_{n+1} = \frac{a x_{n-1}}{b + c\, x_n\, x_{n-1}}$, **Mathematics, 2025, 13 (5), 823.**

35. **Al-Hdaibat, B., DarAssi, M.H., Ahmad, I., Khan, M.A., Algethamie, R.** *Investigating Tuberculosis Dynamics Under Various Control Strategies: A Comprehensive Analysis Using Real Statistical Data* , **Mathematical Methods in the Applied Sciences, 2025, Published online.**

36. **Al-Hdaibat, B., DarAssi, M.H., Ahmad, I., Khan, M.A., Algethamie, R., Alzahrani, E.** *Numerical investigation of an SIR fractional order delay epidemic model in the framework of Mittag-Leffler kernel*, **Nonlinear Dynamics, 2025, Volume 113, pages 17289–17309.**

37. **AbuHour, Y., Damrah, S., DarAssi, M.H., Alqahtani, Z., Almuneef, A.** *Mathematical analysis of the dynamics of cyberattack propagation in IoT networks*, **PLoS One, 2025, 20 (5), e0322391.**

38. **DarAssi, M.H., Yasin, O., Ahmed, M.** *A semi-analytical method to solve the Fitzhugh-Nagumo equation*, **Journal of Interdisciplinary Mathematics, 2025, 28(4), pp. 1489–1504.**

39. **Meetei, M.Z., DarAssi, M.H., Ahmad, I., Khan, M.A., Isa, N.M., Alzahrani, E.** *Mathematical modeling and optimal control analysis of the monkeypox Clade II infection dynamics under the recent cases of USA*, **Computers and Industrial Engineering, 2025, 209, 111462.**

PROCEEDINGS

1. **DarAssi, M and Hadji, L;** *Analysis of the Interplay Between Sedimentation and Thermophoresis in the Presence of Convection in Colloidal Suspensions*, **Proceedings of the ASME 2014 4th Joint US-European Fluids Engineering Division Summer Meeting, 2014.**

2. **Alsarraj E, Rahamneh T, Alzaq Z, DarAssi M;** *A Study of Using Decision Making Under Uncertainty Tools to Increase the Distance Learning Stakeholders Satisfaction in Jordan*, **Proceedings of the Innovation and New Trends in Engineering, Science and Technology Education Conference, IETSEC2021.**

3. **Damrah, S., DarAssi, M.H., AbuHour, Y.** *Mathematical Modeling for Exploring Spread of Cyberattacks through IoT Devices*, **Proceedings of the International Conference on Science, Engineering Management and Information Technology (SEMIT 2023).**

CONFERENCES and MEETINGS

1. **The 5th International Conference on Applied Mathematics & Computer Science Venice, Italy, September 27-29, 2025.**

2. **American Physical Society (APS) Summit, SESAME Premises, Allan - Al Salt - Jordan, 20-22, May 2025.**

3. **The 9th International Arab Conference on Mathematics and Computations (IACMC 2025), Zarqa University, Zarqa, Jordan, 2025.**

4. **The 22nd International Conference of Numerical Analysis and Applied Mathematics (ICNAAM), Heraklion, Crete, Greece, 2024.**

5. **American Physical Society (APS) Summit, SESAME Premises, Allan - Al Salt - Jordan, March 2024.**

6. **The 8th International Arab Conference on Mathematics and Computations. (IACMC 2023). 10-12 May 2023, Zarqa University, Jordan.**

7. **The SIAM Conference on Computational Science and Engineering (CSE23), Amsterdam-Netherlands, 2023.**

8. **The 7th International Arab Conference on Mathematics and Computations. (IACMC 2022). 11-13 May 2022, Zarqa University, Jordan.**

9. **The 2nd Mediterranean International Conference of Pure & Applied Mathematics and Related Areas, Paris-France, 2019.**
10. **The sixth International Arab Conference on Mathematics, Zarqa University, Zarqa, Jordan, 2019.**
11. **Arizona School of Analysis and Mathematical Physics, Tucson, Arizona, 2018.**
12. **The 42nd SIAM-SEAS conference, Chapel Hill, North Carolina, 2018.**
13. **The World Science Forum, King Hussein Bin Talal Convention Center, Dead Sea, Jordan, 2017.**
14. **The fifth International Arab Conference on Mathematics, Zarqa University, Zarqa, Jordan, 2016.**
15. **Matlab and Applied Mathematics workshop, Al-Hussein Bin Talal University, Ma'an, Jordan, 2016.**
16. **The 40th SIAM-SEAS conference, Athens, Georgia, 2016.**
17. **The 39th SIAM-SEAS conference, Birmingham, Alabama, 2015.**
18. **American Physical Society 65th Annual Fall DFD Meeting, San Diego, California, 2012.**
19. **University of Alabama Applied Mathematics Joint Program Meeting, Huntsville, Alabama, 2009.**

UNIVERSITY and COMMUNITY SERVICES

- **Head of Department of Basic Sciences 2021/2022-Present.**
- **Department Social Committee 2015-2021.**
- **Council Secretary of the Department of Basic Sciences 2016/2017.**
- **Scientific research committee 2017/2018-2020/2021.**
- **School of Engineering Students' Disciplinary Committee 2018 - 2023, 2025-2026.**
- **Disabled students' requirement Committee 2019/2020, 2020/2021.**
- **School of Engineering Council 2018/2019, 2019/2020, 2021/2022, and 2022-2023.**
- **University Council 2018/2019, 2020/2021**
- **JOVITAL project management committee 2018.**
- **Basic Sciences Department faculty hiring committee 2018/2019 - 2025/2026.**
- **TPC chair of the IETSEC 2021 conference.**
- **Jordan Young Scientists competition judge 2023 and 2024.**

- **National Scientific Olympiad steering and organizing committee, 2019/2020-present.**
- **Voluntary trainer with INJAZ on success skills at The Hashemite University, 2002-2008.**
- **Board member at the National Forum for Youth and Culture: Jordan Youth, 2003-2004.**
- **T.O.T. in Conflict Resolution and Mediation, "Friedrich Naumann Foundation and LNCR (Lebanon Network for Conflict Resolution)", Mar. 2002 - Jan. 2003.**
- **Participatory, Gender Sensitive Management of Adolescent Development Programs, "UNICEF and the National Institute for Training (NIT)", July – August 2002.**

MEMBERSHIP IN MASTER'S THESIS COMMITTEES

1.	Hamdi Bani Mufaraj	Solving the Source Identification Problems Elliptic-telegraph with Fourier Transform	Irbid National University
2.	Yahya Jawarneh	Advanced Solution Methods for Fractional Burgers' Equations via the Modified Mohand Transform	Zarqa University
3.	Omar Otoom	Mathematical Analysis of Conjunctivitis Model Incorporating Treatment and Varied Incidence Functions	Hahsemite University
4.	Haneen AboAwad	On Some Definitions of Fractional Calculus .	Hahsemite University
5.	Mosa Alkhawaldeh	Bifurcation Analysis of Some Systems of Nonlinear Difference Equations .	Hahsemite University

REFERENCES

- **Professor Layachi Hadji, Mathematics Department, University of Alabama, USA.**
  E-mail: lhadji@as.ua.edu
- **Professor Osama Abu-Sharkh, Engineering Dean, Princess Sumaya University for Technology, Jordan.**
  E-mail: osama@psut.edu.jo
- **Professor Mohammad Safi. Mathematics Department, Hashemite University, Jordan.**
  E-mail: masafi@hu.edu.jo