

Professor Mamoon Ali Hamad Ahmed

Professor of Mathematics
Director, El Hassan Library
Director, Center of Excellence in Library Services (CELSJPU)
Princess Sumaya University for Technology (PSUT), Amman, Jordan
Jordanian / Permanent Resident of Canada
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Professional Profile

Professor of Mathematics with extensive experience in higher education, academic leadership, research, and university administration. Expertise includes operator algebras, Hecke algebras, graded rings and modules, algebraic graph theory, and mathematical modeling. Proven leadership in academic administration and accreditation support. Strong record of international teaching, research publications, conference participation, and committee service across Jordan, Australia, Qatar, and the UAE.

Education

Ph.D. in Mathematics — 2008
School of Mathematical and Physical Sciences
The University of Newcastle, Australia

M.Sc. in Mathematics — 2004
School of Mathematical and Physical Sciences
The University of Newcastle, Australia

B.Sc. in Mathematics — 1998
Yarmouk University, Jordan

Academic Appointments

Professor of Mathematics
Princess Sumaya University for Technology (PSUT), Jordan
May 2025 – Present

Associate Professor of Mathematics

Princess Sumaya University for Technology (PSUT), Jordan
September 2019 – May 2025

Visiting Associate Professor

Higher Colleges of Technology, United Arab Emirates
September 2019 – August 2021

Associate Professor

Department of Basic Sciences, PSUT, Jordan
July 2018 – August 2019

Assistant Professor

Department of Basic Sciences, PSUT, Jordan
September 2014 – July 2018

Visiting Assistant Professor

Department of Mathematics, Statistics and Physics
Qatar University, Qatar
September 2012 – August 2013

Assistant Professor

Department of Mathematics and Statistics
Al-Hussein Bin Talal University, Jordan
July 2008 – August 2012

Teaching Assistant

Department of Mathematics
The University of Newcastle, Australia
June 2003 – July 2007

Administrative Leadership

Director, El Hassan Library

Princess Sumaya University for Technology, Jordan
September 2024 – Present

Director, Center of Excellence in Library Services (CELSJPU)

Princess Sumaya University for Technology, Jordan
September 2024 – Present

Vice Dean, King Abdullah II School of Engineering

Princess Sumaya University for Technology, Jordan
September 2018 – September 2019

Acting Dean, King Abdullah II School of Engineering
Princess Sumaya University for Technology, Jordan
June 2018 – September 2018

Assistant Dean, King Abdullah II School of Engineering
Princess Sumaya University for Technology, Jordan
September 2017 – September 2018

Chair, Department of Mathematics and Statistics
Al-Hussein Bin Talal University, Jordan
September 2009 – September 2010

Research Interests

- Operator Algebras and C*-Algebras
 - Hecke Algebras
 - Graded Rings and Modules
 - Algebraic Graph Theory
 - Mathematical Biology
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Selected Publications

1. Ahmed, M. A. and Pryde, A. J. "Semigroup crossed products and the Toeplitz algebras of lattice-ordered groups." *Journal of Mathematical Analysis and Applications*, 364 (2010), 498–509.
2. Ahmed, M. A. "The Hecke Algebra $H(PQ, PZ)$ arising in number theory." *International Journal of Pure and Applied Mathematics*, 107(3), 723–748, 2016.
3. Ahmed, M. and Moh'd, F. "Group graded types of Bezout Modules." *Communications of the Korean Mathematical Society*, 32(3), 523–534, 2017.
4. Ahmed, M. and Moh'd, F. "The Hecke algebra $H(PQ; PZ)$ and its relation to the crossed product $H(PQ+ ; PZ) \times \{-1, 1\}$." *Italian Journal of Pure and Applied Mathematics*, 39, 569–578, 2018.
5. Ahmed, M. "Commutator ideals in C-crossed products by hereditary subsemigroups." *Annals of Functional Analysis**, 10(3), 370–380, 2020.
6. Ahmed, M. "The ideal structure of C-algebras related to lattice-ordered groups." *Annals of Functional Analysis**, 13, 44, 2022.

7. Moh'd, F., Ahmed, M., and Refai, M. "Flexible Modules and Graded Rings." *Boletim da Sociedade Paranaense de Matemática*, 41, 2023.
 8. Moh'd, F. and Ahmed, M. "Simple-intersection graphs of rings." *AIMS Mathematics*, 8(1), 1040–1054, 2023.
 9. Ahmed, M. "Amenable Quasi-lattice Ordered Groups and True Representations." *Boletim da Sociedade Paranaense de Matemática*, 41, 2023.
 10. Ahmed, M. and Moh'd, F. "A new intersection-graph type for modules." *Communications in Algebra*, 52(5), 2065–2078, 2024.
 11. Ahmed, M. "Universal Covariant Representations and Positive Elements." *Azerbaijan Journal of Mathematics*, 15(1), 44–52, 2025.
 12. Moh'd, F. and Ahmed, M. "A simple intersection-graph of a ring approach to solving coloring optimization problems." *Communications in Combinatorics and Optimization*, 10(2), 423–442, 2025.
 13. Alsoboh, A., Amourah, A., Alnajar, O., Ahmed, M., and Seoudy, T. "Exploring q-Fibonacci Numbers in Geometric Function Theory." *Mathematics*, 13(8), 1294, 2025.
 14. DarAssi, M. H., Yasin, O., and Ahmed, M. "A Semi-Analytical Method to Solve the FitzHugh–Nagumo Equation." *Journal of Interdisciplinary Mathematics*, Vol. 28 (2025), No. 4, pp. 1489–1504.
 15. Ahmed, M., and Moh'd, F., The graded annihilating submodule graph. *AKCE International Journal of Graphs and Combinatorics*, 22(3), 270–278, 2025.
 16. Moh'd, Fida and Ahmed, Mamoon. "Ring graph induced by a ring endomorphism", *Open Mathematics*, vol. 23, no. 1, 2025, pp. 20250197.
 17. F. Moh'd, M. Ahmed, A. Soboh and A. Al Maqbal, "A Graded Zero-Divisor Graph Arising From Group-Graded Modules." *Journal of Mathematics*, 2026, 3048392.
 18. Moh'd, F. and Ahmed, M. "Extending the Anderson–Livingston zero-divisor graph via unfaithful modules." *Applicable Analysis and Discrete Mathematics*, 2026.
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Teaching Experience

Courses taught and coordinated include:

- Calculus I, II, and III
- Linear Algebra

- Differential Equations
- Partial Differential Equations
- Vector Calculus
- Abstract Algebra
- Topology
- Discrete Mathematics
- Statistics for Engineering Students
- Calculus for Business Students
- Algebra and Pre-Calculus

Institutions:

- The University of Newcastle, Australia
 - Al-Hussein Bin Talal University, Jordan
 - Qatar University, Qatar
 - Higher Colleges of Technology, UAE
 - Princess Sumaya University for Technology, Jordan
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University and Committee Service

- University Council Member, PSUT (2023–Present)
 - Credit Transfer Committee, PSUT (2022-2025)
 - Quality Assurance Committee, PSUT (2021-2025)
 - Students' Disciplinary Committee Member, PSUT (2022–2025)
 - School of Engineering Council Member, PSUT (2023–2024)
 - School of Engineering Council Secretary, PSUT (2016–2018)
 - ABET Accreditation Committee Secretary, PSUT (2017–2018)
 - Admission and Registration Deanship Council Member, PSUT (2017–2018)
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Awards and Honors

- Honor Certificate for achieving first rank, Yarmouk University (1997–1998)
 - Special University PhD Scholarship, The University of Newcastle, Australia (2006)
 - Talk Prize, Annual Canadian Operator Algebra Symposium (2010)
 - Erasmus Mundus PEACE II Mobility Award, Universidade de Santiago de Compostela, Spain (2017)
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Conferences and Professional Activities

Selected international conferences and workshops include:

- Australian National University Summer Mathematics School, Canberra, Australia (2005)
 - Annual Canadian Operator Algebra Symposium, Canada (2010)
 - Conference on Applied and Industrial Mathematics (CAIM), Romania (2015, 2016, 2017)
 - SIAM Southeastern Atlantic Sectional Conference, USA (2018)
 - IMACS International Conference on Nonlinear Equations, USA (2019)
 - Georgian Mathematical Union International Conferences, Georgia (2022, 2024)
 - Tenth Congress of Romanian Mathematicians, Romania (2023)
 - International Conference on Mathematics and Computers in Sciences and Industry (MCSI), Greece (2025)
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Skills

- LaTeX and academic typesetting
 - Blackboard and e-learning systems
 - Academic administration and leadership
 - Accreditation and committee coordination
 - Strong written and verbal communication skills in English and Arabic
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Languages

- Arabic: Native
 - English: Fluent
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Referees

Professor Alan J. Pryde

School of Mathematical Sciences
Monash University, Australia
Email: alan.pryde@monash.edu

Professor M. Jaradat

Department of Mathematics, Statistics and Physics
Qatar University, Qatar
Email: mmjst4@qu.edu.qa

Professor Mahmoud Assi

Department of Basic Sciences
Princess Sumaya University for Technology, Jordan
Email: m.assi@psut.edu.jo