

Omar Alomari, Ph.D.




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Summary

Associate professor of Mathematics at School of Basic Sciences and Humanities at German Jordanian University in Jordan, with a Ph.D. degree in Applied Mathematics from Stevens Institute of Technology in the United States. Held a Dean and a Vice Dean roles at German Jordanian University. Have a vast professional leadership experience in the IT sector in highly reputable American firms. My current research interests are in Discrete Mathematics, Graph Theory and Applied Mathematics.

Highlights

- Dean at the School of Basic Sciences and Humanities / GJU 2019-present.
- Vice Dean at the School of Basic Sciences and Humanities / GJU 2015-2017.
- High students' evaluations and excellent feedback.
- More than 15 years of professional experience in the IT industry/USA.
- Strong Team Leader with demonstrated success in effectively working with multicultural and diverse teams, in all functional areas.
- Project management experience, covering the whole lifecycle from planning, execution to accountability and learning.
- Record of accomplishment at tackling, mitigating, and solving strategic business decisions, as well as technical problems including successful system functionality enhancements.
- Served on multiple academic committees.
- Recipient of the "Excellence in Graduate Research Award" at Stevens Institute of Technology, USA (2012).
- Recipient of the Westerdahl Scholarship (Montclair State University, New Jersey 1995)

-  **STEVENSON**
INSTITUTE of TECHNOLOGY
THE INNOVATION UNIVERSITY® **PhD** in Mathematics, Stevens Institute of Technology, Hoboken, New Jersey, USA (2012).
-  **MONTCLAIR STATE**
UNIVERSITY **MS** in Computer Science and Applied Mathematics, Montclair State University, New Jersey, USA (1996)
-  **BS** in Mathematics and Computer Science, Yarmouk University, Jordan (1989)

Publications and Conferences

Published papers

- M Abudayah, O Alomari, T Sander , Incidence matrices and line graphs of mixed graphs, Special Matrices 11 (1), 2023.
- Alomari, M Abudayah, M Ghanem , On the Cospectrality of Hermitian Adjacency Matrices of Mixed Graphs, European Journal of Pure and Applied Mathematics 15 (3), 1090-1097, 2022.
- Alomari, EK Jaradat, AD Aloqali, W Habashneh, OK Jaradat , Solution for projectile motion in two dimensions with nonlinear air resistance using Laplace decomposition method, J. Math. Comput. Sci. 12, Article ID 126 ,2022.
- M Abudayah, O Alomari, O AbuGhneim , Inverse of Hermitian Adjacency Matrix of a Mixed Graph, Appl. Math 16 (5), 823-828, 2022.
- Abudayah, M. A., Alomari, O., & Sander, T. (2022). Hermitian Adjacency Matrices of Mixed Graphs. European Journal of Pure and Applied Mathematics, 15(3), 841–855.
- M Abudayah, O Alomari, T Sander, On the N-spectrum of oriented graphs, Open Mathematics 18 (1), 486-495, 2020.
- Alomari, M Abudayah, T Sander, The non-negative spectrum of a digraph, Open Mathematics 18 (1), 22-35, 2020
- M Abudayah, O Alomari, Semi Square Stable Graphs, Mathematics 7 (7), 597, 2019.
- E AbuHijleh, M Abudayah, O Alomari, H Al-Ezeh , Matching Number, Independence Number, and Covering Vertex Number of $\Gamma(\mathbb{Z}_n)$, Mathematics 7 (1), 49, 2019.
- M Abudayah, O Alomari, H Al Ezeh, Geodetic number of powers of cycles, Symmetry 10 (11), 592, 2018.
- Alomari, M Abudayah, T Sander, Integral Free-Form Sudoku graphs, Electronic Notes in Discrete Mathematics 68, 47-52, 2018.
- EK Jaradat, O Alomari, M Abudayah, AM Al-Faqih, An approximate analytical solution of the nonlinear Schrödinger equation with harmonic oscillator using homotopy perturbation method and Laplace-Adomian decomposition method, Advances in Mathematical Physics, 2018.
- M Abudayah, O Alomari, T Sander, Spectrum of free-form Sudoku graphs, Open Mathematics 16 (1), 1445-1454, 2018.

- Alomari, M Abudayah, H Al-Ezeh , Graphs whose complement and cube are isomorphic, J. Comb. Math. Comb. Comput 94, 261-271, 2015.
- Alomari, PB Dubovski , Recovery of the integral kernel in the kinetic fragmentation equation, Inverse Problems in Science and Engineering 21 (1), 171-181, 2013

Conference/Presentations

- Omar Alomari and Mohammad Abudayah. Inverse of Hermitian Adjacency Matrix of Mixed Bipartite Graphs . 2021. 52nd Southeastern International Conference on Combinatorics, Graph Theory and Computing. Florida, March 2021.
- Omar Alomari, Mohammad Abudayah and Torsten Sander. Free-Form Sudoku graphs. Discrete mathematics days. Spain, June.2018
- Mohammad Abudayah, Omar Alomari and Hasan Al-Ezeh. Square Complementary Stable Graphs . 2017. 48th Southeastern International Conference on Combinatorics, Graph Theory and Computing. Florida, March 2017.
- Omar Alomari, Mohammad Abudayah and Hasan Al-Ezeh. Semi Square Stable Graphs. Lebanese International Conference on Mathematics and Applications. Lebanon, May, 2015.

Courses Taught

- Calculus Series
- Applied Mathematics For Engineers
- Differential Equations
- Probability and Statistics
- Linear Algebra

Professional Experience



German Jordanian University

Madaba – Amman / Jordan

Associate Professor/Dean

2019 – 2022

Associate Professor

2019 - present

Assistant Professor

2013 –2019

Assistant Professor/Vice Dean

2015 –2017

- Dean of School of Basic Sciences and Humanities.
- Quality Assurance School Committee.
- School Scientific Research Committee.

- German Accreditation Committee.
- E-Learning Committee.
- Study Plan Committee.
- Representing the faculty for strategic school and administrative decision making at school council meetings.
- Actively reviewing, proposing curriculum amendments to meet students' academic and professional needs.
- Recruiting, coaching, training and developing academic staff as needed.
- Successfully managing the faculty teaching schedule for the best of the students, faculty members and teaching process at the University as a whole.
- Promoting and enhancing the quality of research in the Faculty of Science, as well as increasing collaboration with external academic researchers.
- Nominating qualified and ambitious teaching staff for internal and external competitions and awards.
- Planning, allocating and managing the school's annual budget.
- Responsible for the computerized German Jordanian University placement tests for new students including organizing the students into groups, participate in writing the question bank, analyzing the results and communicating the results to the registrar's office.
- Teaching undergraduate courses in Mathematics including Calculus, Differential Equations, Applied Mathematics, and Probability and Statistics.



Xerox Corporation

New Jersey, USA

Senior IT Manager

2003 – 2013

- Lead a team of 30 programmers across 3 different countries: USA, India and Malaysia, to successfully plan, execute, monitor and evaluate multiple projects. Providing technical and advisory support, carrying HRM needs for the team from recruitment and selection to development and testing.
- Successfully managed an entire software development lifecycle from analysis of client needs to prototyping and implementation.
- Optimized Sybase queries and improved programs debugging time.
- Reviewed business specifications and new projects' designs.
- Reviewed and approved project plans, and monitored work progress.
- Attended company meetings and participated in the strategic business decision making.

The nature of the application is to calculate the benefits for Defined Benefits and Health and Welfare plans for large firms in the USA.

Accomplishments

- Improved the timeline of the new clients' implementation by reducing the development time by 50% by participating in implementing a parameterized code generator system in C, Korn Shell, Unix and Sybase database.
- Designed and implemented a process for offshore model to handle workflow, resources, and communication between the business team, on site USA resources and offshore resources.
- Assisted in setting and testing new Sybase and Unix servers integration as well as helped in client integration from one server to another.
- Analyzed complex business issues, generated solutions and tools from a business and technical point, which reduced manual labor and minimized errors.



IT Manager

2000 - 2003

- Managed a team of C/Unix/Sybase programmers.
- Supervised the team, coordinated their daily work, and provided technical support.
- Improved debugging time and reviewed business specifications.
- Helped in new project designs, reviewed and approved project plans.
- Monitored work progress, set goals for my team and wrote annual reviews for my staff.



PricewaterhouseCoopers

New Jersey,

USA

Programmer/Analyst

1997 - 2000

- Reviewed technical project specifications and project plans and provided feedback.
- Implemented the code and executed unit test plans and provided feedback to the business teams.

Computer Knowledge

- **Operating Systems:** Unix, Linux, and Windows.
- **Databases:** Sybase and Microsoft Access.
- **Programming Languages:** C/C++/C#, SQL, Perl , Korn Shell, Visual Basic, Latex, MATLAB, and Mathematica.
- **Online Learning Tools:** Moodle, Zoom and MS Teams

