Curriculum Vitae

Personal Information

Name: Mohamed Salah El-Din Mohamed Mohamed Ali

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Affiliation: Faculty of Engineering, Zagazig University, Egypt

Education

Ph.D. in Applied Mathematics, Zagazig University, 2020
Thesis: Quadrature analysis of piezoelectric plate materials

M.Sc. in Applied Mathematics, Zagazig University, 2016
Thesis: Reaction-Diffusion Analysis Using Block Marching Differential Quadrature Method

B.Sc. in electronics and communication , Zagazig University, 2009

Academic Affiliation

Lecturer, Faculty of engineering, Zagazig University (2020–present)

Teaching Assistant, Faculty of engineering, Zagazig University (2009–2020)

Research Interests

- Differential Quadrature Methods
- Reaction-Diffusion Problems
- Piezoelectric Materials
- Numerical Analysis
- Fractional Differential Equations

Publications

1. M .Salah, R.M. Amer , M.S. Matbuly. Analysis Of Reaction Diffusion Problems Using Differential Quadrature Method. International Journal of Engineering & Technology IJET-IJENS. 13; (2013).

2. M .Salah, R.M. Amer , M.S. Matbuly. An Efficient Method To Solve Thermal Wave Equations. Applied Mathematics. 5; (2014) 327-336.

3. M .Salah, R.M. Amer , M.S. Matbuly. The Differential Quadrature Solution of Reaction-Diffusion Equation Using Explicit and Implicit Numerical Schemes. Applied Mathematics. 5; (2014) 327-336.

4. O. Ragb, M. Salah, M.S. Matbuly, R.M. Amer. Vibration analysis of piezoelectric composite using Sinc and Discrete Singular Convolution differential quadrature techniques. Journal of Engineering and Applied Sciences, (2019): 6540-6553.

5. O. Ragb, M. Salah, M.S. Matbuly, R.M. Amer. Vibration Analysis of Piezoelectric Composite Plate Resting on Nonlinear Elastic Foundations Using Sinc and Discrete Singular Convolution Differential Quadrature Techniques. Mathematical Problems in Engineering, Vol. 2020.

6. Salah, M., Ragb, O., Wazwaz, A.M.: Efficient discrete singular convolution differential quadrature algorithm for solitary wave solutions for higher dimensions in shallow water waves. Waves Random Complex Media (2022).

7. M. Salah, M. S. Matbuly, O. Civalek & Ola Ragb. (2024). Calculation of Four-Dimensional Unsteady Gas Flow via Different Quadrature Schemes and Runge-Kutta 4th Order Method. Advances in Applied Mathematics and Mechanics. 16 (2). 437-458.

8. Ragb, O., Salah, M., Matbuly, M.S. et al. Modeling and Solution of Reaction–Diffusion Equations by Using the Quadrature and Singular Convolution Methods. Arab J Sci Eng 48, 4045–4065 (2023).

9. Mustafa, Abdelfattah, Ola Ragb, Mohamed Salah, Reda S. Salama, and Mokhtar Mohamed. (2023). Distinctive Shape Functions of Fractional Differential Quadrature for Solving Two-Dimensional Space Fractional Diffusion Problems. Fractal and Fractional 7(9): 668.

10. Ragb O, Wazwaz A-M, Mohamed M, Matbuly MS, Salah M. Fractional differential quadrature techniques for fractional order Cauchy reaction-diffusion equations. Math Meth Appl Sci. 2023;46(9):10216-10233.

11. Salah, M., Civalek, Ö. & Ragb, O. Fractional modelling of piezoelectric composite nanobeams via novel numerical schemes. Appl. Phys. A 129, 815 (2023).

12. Ragb, O., Elkhalek, M. A., Matbuly, M. S., Salah, M., Eltaher, M., & Osman, T. (2024). Nonlinear vibration of laminated piezoelectric layered plates with nonlinear viscoelastic support using different DQM techniques. Steel and Composite Structures, 53(1), 1–27.

13. Abdelfattah, W.M.; Ragb, O.; Mohamed, M.; Salah, M.; Mustafa, A. Quadrature Solution for Fractional Benjamin–Bona–Mahony–Burger Equations. Fractal Fract. 2024, 8, 685.

14. Abdelfattah, W.M.; Ragb, O.; Salah, M.; Mohamed, M. A Robust and Versatile Numerical Framework for Modeling Complex Fractional Phenomena: Applications to Riccati and Lorenz Systems. Fractal Fract. 2024, 8, 647.

Teaching Experience

Courses taught at undergraduate and graduate levels include:

- Physics
- Engineering Mathematics
- Numerical Analysis
- Probability and Statistics
- Differential Equations
- Projection Engineering
- Applied Mathematics

Training & Workshops

- Strategic Planning in Academic Institutions
- Effective Communication Skills
- Research Methodologies
- Curriculum Mapping & Program Specification
- ICDL Certification
- Matlab Training
- English Language Courses

Skills

- Numerical Modelling and Simulation
- Strong Research and Analytical Skills
- Academic Writing and Publication
- Computer Skills: Matlab, MS Office, LaTeX
- Languages: Arabic (native), English (very good)