DR. Mohamed Gamal Mohamed Ibrahim

Assistant Professor of Mathematics

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Education

Associate Professor Doctor

Associate Professor - Permanent Mathematics Committee for Promotions - Supreme Council of Universities - Ministry of Higher Education 2025.

Ph.D. Studies

Obtained the Philosophy Doctor of Pure Mathematics - Faculty of Science - El-Azhar University (2019).

Thesis Title:

"Computational Simulation for the Analytical and Numerical Treatment Related to the Important Mathematical Models"

Master Studies.

Obtained the Master's Degree in Pure mathematics – Faculty of Science – Zagazig University (2015).

Thesis Title: "Numerical Treatment for a System of Fractional Differential Equation".

Bachelors Studies

Obtained the Bachelors of Science-Mathematics Department - Faculty of Science – Zagazig University (2011).

(Excellent): Grade in the Graduation project.

Experience

Seven years' experience

- Current Work: Assistant Professor of Mathematics at the International Academy of Engineering and Media Science from (September 2019 to ……).
- Work at the Higher Institute of Thebes at El Maadi (February 2013 to September 2016)
- Work at Higher Institute Technology of Engineering at El Arish (June 2011 to Sept 2012)
- Basic Sciences Instructor Mandate at (El-Shrouk Academy) Since (2012/2013).

1. **M. G. Ibrahim**, Adaptive simulations to pressure distribution for creeping motion of Carreau nanofluid with variable fluid density effects: Physiological applications, Thermal Science and Engineering Progress, 32 (1) 2022, 101337. https://doi.org/10.1016/j.tsep.2022.101337
2. Ouaf, M. E., Abouzeid, M., & Ibrahim, M. G. (2023). Effects of both variable electrical conductivity and microstructural/multiple slips on MHD flow of micropolar nanofluid. Egyptian Journal of Chemistry. https://doi.org/10.21608/ejchem.2023.184388.7407
3. Ibrahim, M. G. (2023). Exact and more accurate solution for boundary value problems using closed-form and numerical methods. International Journal of Advanced Engineering and Business Sciences, 4(1). https://doi.org/10.21608/IJAEBS.2022.161578.1036
4. Ibrahim, M. G., Brini, S., Noureddine, S., & Briki, K. (2023). Technical computations for dependent shear rate effect on magnetized peristaltic transport of synovia with two fluid viscosity models: Arthritis treatments. Heat Transfer, 52(9). https://doi.org/10.1002/htj.22873
5. Ibrahim, M. G., & Abouzeid, M. (2023). Computational simulation for MHD peristaltic transport of Jeffrey fluid with density-dependent parameters. Scientific Reports, 13(1). https://doi.org/10.1038/s41598-023-36277-z
6. Abouzeid, M., & Ibrahim, M. G. (2023). Both micro-structural slips and conductivity variation properties of magneto nanoflow of micropolar fluid. Egyptian Journal of Chemistry. https://doi.org/10.21608/ejchem.2023.228497.8407
7. Noureddine, S., & Ibrahim, M. G. (2023). Numerical simulations for electro-osmotic blood flow of magnetic Sutterby nanofluid with modified Darcy's law. WSEAS Transactions on Fluid Mechanics, 18, 146–156. https://doi.org/10.37394/232013.2023.18.15
8. Abouzeid, M., & Ibrahim, M. G. (2023). Multi-step differential transform method for both Hall currents and mixed convection effects on MHD flow of non-Newtonian fluid with Al2O3 nanoparticles. Egyptian Journal of Chemistry. https://doi.org/10.21608/ejchem.2023.243470.8748
9. Noureddine, S., & Ibrahim, M. G. (2024). 3-D simulations for maximum values of fluid distributions over separated contours on MHD peristaltic flow of pseudoplastic nanofluid in variable electric conductivity: Solar applications. Archive of Applied Mechanics, 94(2), 1–16. https://doi.org/10.1007/s00419-023-02530-0
10. Ibrahim, M. G., & Noureddine, S. (2024). The numerical calculations for the creeping flow of MHD pseudoplastic nanofluid in a mixed uniform and non-uniform channel: Physiological applications. International Journal of Ambient Energy, 45(1), 2305325. https://doi.org/10.1080/01430750.2024.2305325
11. **M. G. Ibrahim**, Numerical simulation for non-constant parameters effects on blood flow of Carreau–Yasuda nanofluid flooded in gyrotactic microorganisms: DTM-Pade application, Archive of Applied Mechanics, 92 (2022) 1643–1654. https://doi.org/10.1007/s00419-022-02158-6
12. **M. G. Ibrahim**, Concentration-dependent viscosity effect on magnet nano peristaltic flow of Powell-Eyring fluid in a divergent-convergent channel, International Communications in Heat and Mass Transfer, 134, 2022, 105987. 10.1016/j.icheatmasstransfer.2022.105987
13. **M. G. Ibrahim**, Numerical simulation to the activation energy study on blood flow of seminal nanofluid with mixed convection effects, Computer Methods in Biomechanics and Biomedical Engineering, 2022, 2063018. https://doi.org/10.1080/10255842.2022.2063018

14. **M. G. Ibrahim**, Naglaa Abdallah, and Mohamed Abouzeid, Activation energy and chemical reaction effects on MHD Bingham nanofluid flow through a non-Darcy porous media, Egyptian Journal of Chemistry, 2022.117814.5310.
 10.21608/ejchem.2022.117814.5310
15. **M. G. Ibrahim** and Hanaa A. Asfour, The effect of computational processing of temperature- and concentration-dependent parameters on non-Newtonian fluid MHD: Applications of numerical methods, Heat Transfer, 55, 2022, 1-18.
10.1002/htj.22432
16. **M. G. Ibrahim**, W. M. Hasina and A. A. ElShekhipy, INSTANTANEOUS INFLUENCES OF THERMAL RADIATION AND MAGNETIC FIELD ON PERISTALTIC TRANSPORT OF JEFFREY NANOFLUIDS IN A TAPERED ASYMMETRIC CHANNEL: RADIOTHERAPY OF ONCOLOGY TREATMENT, Advances, and Applications in Fluid Mechanics, 24(1-2) (2021) 25-55. 10.17654/FM024120025
17. W. M. Hasona, A.A. El-Shekhipy, **M.G. Ibrahim**, Combined effects of magnetohydrodynamic and temperature-dependent viscosity on peristaltic flow of Jeffrey nanofluid through a porous medium: Applications to oil refinement, International Journal of Heat and Mass Transfer, 126 (2018) 700–714. [Science Direct]. https://doi.org/10.1016/j.ijheatmasstransfer.2018.05.087
18. **M.G. Ibrahim**, W.M. Hasona and A.A. ElShekhipy, Concentration-dependent viscosity and thermal radiation effects on MHD peristaltic motion of Synovial Nanofluid: Applications to rheumatoid arthritis treatment, Computer Methods and Programs in Biomedicine 170 (2019) 39–52. [Science Direct].
https://doi.org/10.1016/j.cmpb.2019.01.001
19. Wahed Hasona, Nawal H. Almalki, Abdelhafeez A. El-Shekhipy and **M. G. Ibrahim**, Combined Effects of Variable Thermal Conductivity and Electrical Conductivity on Peristaltic Flow of Pseudoplastic Nanofluid in an Inclined Non-Uniform Asymmetric Channel: Applications to Solar Collectors, Journal of Thermal Science and Engineering Applications, (2020).
[ASME Publish] DOI: 10.1115/1.4044404
20. W. M. Hasona, A. El-Shekhipy and **M. G. Ibrahim**, Semi-analytical solution to MHD peristaltic flow of a Jeffrey fluid in presence of Joule heat effect by using Multi-step differential transform method, New Trends In Mathematical Science, 7 (2019) 123-137.
DOI: 10.20852/ntmsci.2019.351
21. W. M. Hasona, N. H. Almalki, A. A. ElShekhipy, **M. G. Ibrahim**, Thermal radiation and variable electrical conductivity effects on MHD peristaltic motion of Carreau nanofluids: Radiotherapy and thermotherapy of oncology treatment, Heat Transfer—Asian Res., 55 (2019) 1-19.
[Wiley Publisher] DOI: https://doi.org/10.1002/htj.21415
22. Wahed Hasona, Nawal Al-Malki, Abdelhafeez A. El-Shekhipy, and **M. G. Ibrahim**, Combined Effects of Thermal Radiation and Magnetohydro-dynamic on Peristaltic Flow of Nanofluids: Applications to Radiotherapy and Thermotherapy of Cancer, Current NanoScience, (2020).
[BENTHAM SCIENCE] DOI: 10.2174/1573413715666190318161351
23. Hana Abdelhameed Asfour and **M. G. Ibrahim**, "Numerical simulation for SI model with variable-order fractional", New Trends in Mathematical Sciences, 4 (2016) 45-55.
[BISHKA Publisher] DOI: 10.20852/ntmsci.2016217004
24. N A. A. M. Hassan, S. A. Hoda. Ibrahim and **M. G. Ibrahim**, Numerical solution of a system SEIR nonlinear ODEs by Runge-Kutta fourth-order method, International Journal of Computer Applications, 24 (2015) 1-6.
DOI:https://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.736.7612& rep=rep1&type=pdf
25. Ahmed A. M. Hassan, S. A. Hoda. Ibrahim, Amr M. S. Mahdy and **M.G. Ibrahim**, "A new solution of SIR model by using differential fractional transformation method", International Journal of Engineering and Applied Science, 4 (2014) 12-22.
26. Hanaa Abdelhamed Asfour and **M. G. Ibrahim**, On the Differential Fractional Transformation Method of MSEIR Epidemic Model, International Journal of Computer Applications, 113 (2015) 11-16.

27. A. A. M. Hassan, S. A. Hoda. Ibrahim and **M. G. Ibrahim**, Numerical simulation for the fractional SHYP model, Mitteilungen Klosterneuburg Journal (2019).
28. Amr. M. S. Mahdy and **M. G. Ibrahim**, "The analytical approximate solution for SEIR model by using the fractional differential transformations method", Indian Journal of Pure and Applied Mathematics, (2019).

Certificates

- Self-assessment course from the Egyptian Quality Assurance Authority (2022).
- Course Description Course from the Egyptian Quality Assurance Authority (2022).
- National security strategy course at Nasser Military Academy (2019).
- Crisis management course at Nasser Military Academy (2019).
- Train the Trainer (TOT) at Thebes Academy 2015.
- Spss Course 2015.
- Mat lap programming 2010.
- ICDL International Computer Driving License 2014.
- Professional for use (Maple, Mathematica, Scientific Work Place, and Latex).
- I hold a degree in computer experience in the armed force.
- Human Resource management professional Courses (by Internet).
- Organization Structure, Job Analysis, and Job Description (by Internet).

Test of English as a foreign language (Local Toefl) 2015.

Soft Skills (Communication – Presentation – Self Planning – Leadership, Other).

Language skills

- Arabic: Mother's tongue.
- English: very good listening, speaking & writing.

Personal information

- Gender: Male.
- Marital Status: Married.
- Military status: been successfully performing military service (2013).
- Nationality: Egyptian.