



**FACULTY FULL NAME:** Abdelhafeez Ahmed Elshekhipy

**POSITION:** Assistant Professor

**Personal Data**

Nationality | Egyptian

Date of Birth | 21-3-1982

Department | Mathematics

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**Language Proficiency**

Language	Read	Write	Speak
Arabic	↗	↗	↗
English	↗	↗	↗
Others			

**PhD, Master or Fellowship Research Title: (Academic Honors or Distinctions)**

Ph. D.	On the stochastic solution process of Navier stokes equations using homotopy WHEP technique
Master	Solutions of partial differential equations related to a rotating disc in a fluid

**Professional Record: (Beginning with the most recent)**

Job Rank	Place and Address of Work			Date
Assistant professor	Math department	College of Science-Imam Abdelruhman Bin Faisa University	Saudi Arabia	2017-Present
Assistant professor	Math department	College of Science-Minia University	Egypt	2013-2017
Lecturer	Math department	College of Science-Minia University	Egypt	2009-2013
Demonstrator	Math department	College of Science-Minia University	Egypt	2004-2009

## Scientific Achievements

### Published Refereed Scientific Researches (In Chronological Order Beginning with the Most Recent)

#	Name of Investigator(s)	Research Title	Publisher and Date of Publication
1	Sameh A Hussein, Sameh E Ahmed, Anas AM Arafa, Abdelhafeez A Elshekhipy	Temperature-dependent electrical conductivity impact on radiative and dissipative peristaltic transport of boron nitride-ethylene glycol nanofluid through asymmetric channels	ZAMM-Journal of Applied Mathematics (2024)
2	Sameh A Hussein, Anas AM Arafa, Abdelhafeez Elshekhipy, Nawal Hassan Almalki, Lulwah AL-Essa, Yasir Akbar	Radiative and dissipative MHD Eyring–Powell nanofluid bioconvective flow through peristaltic waves in the presence of bilateral chemical reaction with Arrhenius activation ...	Numerical Heat Transfer, Part A: Applications (2023)
3	Nawal Hassan Almalki, Abdelhafeez Ahmed Elshekhipy, Ibtesam Shafi Almutairi	A numerical modeling and its computational implementing simulation for generating distributions of the complicated random variable transformations with applications	Applied Numerical Mathematics 2023
4	Aishah Al-Naghmaish, Taher Ghrib, Hassen Dakhlaoui, Nouf K AL-Saleem, Filiz Ercan, Tarek S Kayed, Erdem Elibol, Ismail Ercan, Mesut Yıldız, Abdelhafeez A Elshekhipy, Nawal Almalki	Effect of Al <sub>0.1</sub> Ga <sub>0.9</sub> As thickness on the structural, optical, thermal, and electrical properties of (Al <sub>0.1</sub> Ga <sub>0.9</sub> As)/GaAs heterojunctions	Micro and Nanostructures (2023)
5	Kh Lotfy, Abdelaala Ahmed, A El- Bary, Abdelhafeez El-Shekhipy, Ramdan S Tantawi	A novel stochastic photo-thermo elasticity model according to a diffusion interaction processes of excited semiconductor medium	The European Physical Journal Plus 2022
6	Nouf K. AL-Saleem <sup>a b</sup> , Taher Ghrib <sup>a c</sup> , Aishah AL-Naghmaish <sup>a b</sup> , Abdelhafeez A. Elshekhipy Nawal Almalki , Nabil Gmati <sup>a d</sup> , Najoua Kamoun Turki	Effect of porosity on structural, optical, thermal, and electrical properties of nickel-foam coated graphene sheets	Journal of Materials Research and Technology 2022
7	Taher Ghrib , Nouf K. AL-Saleem , Aishah AL-Naghmaish , Abdelhafeez A. Elshekhipy , Sami Brini , Khaoula Briki , Khaled A. Elsayed	Annealing effect on the microstructural, optical, electrical, and thermal properties of Cu <sub>2</sub> O/TiO <sub>2</sub> /Cu <sub>2</sub> O/TiO <sub>2</sub> /Si heterojunction prepared by sol-gel technique	Superlattices and Microstructure 2022

8	NT Eldabe, GM Moatimid, M Abouzeid, AA El-Shehkipy, NF Abdallah	<a href="#">Semi-analytical treatment of Hall current effect on peristaltic flow of Jeffery nanofluid</a>	International Journal of Applied Electromagnetics and Mechanics 2021
9	WM Hasona, NH Almalki, AA ElShehkipy, MG Ibrahim	<a href="#">Combined effects of variable thermal conductivity and electrical conductivity on peristaltic flow of pseudoplastic nanofluid in an inclined non-Uniform asymmetric channel ...</a>	Journal of Thermal Science and Engineering Applications 2020
10	NT El-Dabe, ME Gabr, AEA Elshehkipy, SA Zaher	<a href="#">The motion of a non-Newtonian nanofluid over a semi-infinite moving vertical plate through porous medium with heat and mass transfer</a>	Thermal Science 2020
11	NT Eldabe, GM Moatimid, M Abouzeid, AA El-Shehkipy, NF Abdallah	<a href="#">Instantaneous thermal-diffusion and diffusion-thermo effects on carreau nanofluid flow over a stretching porous sheet</a>	Journal of Advanced Research in Fluid Mechanics and Thermal Sciences 2020
12	W Hasona, N Almalki, A ElShehkipy, M Ibrahim	<a href="#">Combined effects of thermal radiation and magnetohydrodynamic on peristaltic flow of nanofluids: applications to radiotherapy and thermotherapy of cancer</a>	Current Nanoscience 2020
13	NT Eldabe, GM Moatimid, MY Abouzeid, AA ElShehkipy, NF Abdallah	A semianalytical technique for MHD peristalsis of pseudoplastic nanofluid with temperature-dependent viscosity: Application in drug delivery system	Heat Transfer—Asian Research 2020
14	NT El-Dabe, GM Moatimid, AEA Elshehkipy, NF Aballah	Numerical simulation of the motion of a micropolar Casson fluid through a porous medium over a stretching surface	Thermal Science 2020
15	MG Ibrahim, WM Hasona, AA ElShehkipy	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, 2019
16	WM Hasona, NH Almalki, AA ElShehkipy, MG Ibrahim	Thermal radiation and variable electrical conductivity effects on MHD peristaltic motion of Carreau nanofluids: Radiotherapy and thermotherapy of oncology treatment	Heat Transfer—Asian Research, 2019
17	Nabil T Eldabe, Galal M Moatimid, Abdelhafeez A ElShehkipy, Naglaa F Aballah	Mixed convective peristaltic flow of Eyring-Prandtl fluid with chemical reaction and variable electrical conductivity in a tapered asymmetric channel	Heat Transfer—Asian Research 2019

18	NT Eldabe, GM Moatimid, AA Elshekhipy, Naglaa F Aballah	Numerical simulation of the motion of a micropolar Casson fluid through a porous medium over a stretching surface	Thermal Science, 2019
19	NT Eldabe, GM Moatimid, AA El-Shekhipy, Naglaa F Aballah	Peristaltic Blood Flow with Gold Nanoparticles on a Carreau Nanofluid through a Non-Darcian Porous Medium	Journal of Biomaterials and Nanobiotechnology, 2018
20	MA Elogail, AA Elshekhipy	Approximate analytical solutions to nonlinear peristaltic flow with temperature-dependent viscosity parameters: Application of multi-step differential transform method (MsDTM)	Canadian Journal of Physics, 2018
21	Nabil TM Eldabe, Osama M Abo-Seida, Adel AS Abo Seliem, AA Elshekhipy, Nada Hegazy	Magnetohydrodynamic peristaltic flow of Williamson nanofluid with heat and mass transfer through a non-Darcy porous medium	Microsystem Technologies, 2018,
22	WM Hasona, AA El-Shekhipy, MG 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 2018
23	Kh S Mekheimer, WM Hasona, AA El-Shekhipy, AZ Zaher	Electrokinetics of Dielectric Non-Newtonian Bio Fluids with Heat Transfer Through a Flexible Channel: Numerical Study	Computational Methods in Science and Technology, 2017
24	Nabil TM Eldabe, Osama M Abo-Seida, Adel AS Abo-Seliem, AA ElShekhipy, Nada Hegazy	Peristaltic Transport of Magnetohydrodynamic Carreau Nanofluid with Heat and Mass Transfer inside Asymmetric Channel	American Journal of Computational Mathematics, 2017
25	R. A. Zait, A. A. El-Shekhipy, N. M. Abdo	Stochastic Analysis of Van der Pol Oscillator Model Using Wiener Hermite Expansion Linked by Multi-Step Differential Transform Technique	Int. Journal of Engineering research and Applications, 2016

26	RA Zait, AA El-Shehkipy, NM Abdo	Statistical measures approximations for the Gaussian part of the stochastic nonlinear damped Duffing oscillator solution process application of Hermite	Journal of the Egyptian Mathematical Society, 2016
27	Kh S Mekheimer, WM Hasona, AA El-Shehkipy, AZ Zaher	Electrokinetics of Dielectric Non-Newtonian Bio Fluids with Heat Transfer Through a Flexible Channel: Numerical Study	Computational Methods in Science and Technology, 2017
28	RA Zait, HF Alaam, AA El-Shehkipy, HI Al- Khazrage	Soliton Solutions in a Modified Combined sine-cosine-Gordon Model	International Journal of Pure and Applied Mathematics, 2015
29	Magdy A El-Tawil, AbdelHafeez A El-Shehkipy	Statistical analysis of the stochastic solution processes of 1-D stochastic Navier– Stokes equation using WHEP technique	Applied Mathematical Modelling, 2013
30	Magdy A El-Tawil, AbdelHafeez A El-Shehkipy	Approximations for some statistical moments for the solution process of the stochastic Navier - Stokes equation using WHEP technique	Applied Mathematics & Information Sciences, 2012

### Teaching Activities

#### Undergraduate

#	Course/Rotation Title	No./Code	Extent of Contribution (no. of lectures/Tutorials. Or labs, Clinics)
1	Calculus 1&2	Math 201-College of science –Imam Abdelruhman Bin faisal university- Saudi Arabia KSA	Preparing and teaching
2	Introduction to statistic	College of science –Imam Abdelruhman Bin faisal university- Saudi Arabia KSA	Preparing and teaching
3	Probability 1	College of science –Imam Abdelruhman Bin faisal university- Saudi Arabia KSA	Preparing and teaching
4	Statistics and their applications	College of science –Imam Abdelruhman Bin faisal university- Saudi Arabia KSA	Preparing and teaching
5	Applied statistic	College of science –Imam Abdelruhman Bin faisal university- Saudi Arabia KSA	Preparing and teaching
6	Financial Mathematics	College of science –Imam Abdelruhman Bin faisal university- Saudi Arabia KSA	Preparing and teaching
7	Financial statistics	College of science –Imam Abdelruhman Bin faisal university- Saudi Arabia KSA	Preparing and teaching
8	Demographic statistics	College of science –Imam Abdelruhman Bin faisal university- Saudi Arabia KSA	Preparing and teaching
9	Statistical quality control	College of science –Imam Abdelruhman Bin faisal university- Saudi Arabia KSA	Preparing and teaching

#	Course/Rotation Title	No./Code	Extent of Contribution (no. of lectures/Tutorials. Or labs, Clinics)
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10	Statistical Inference	College of science –Imam Abdelruhman Bin faisal university- Saudi Arabia KSA	Preparing and teaching
11	Probability 2	College of science –Imam Abdelruhman Bin faisal university- Saudi Arabia KSA	Preparing and teaching
12	Research seminar projects from students of statistics track	College of science –Imam Abdelruhman Bin faisal university- Saudi Arabia KSA	Preparing and teaching
13	Probability and statistics	1 <sup>st</sup> level college of science Minia University	Preparing and teaching
14	Engineering statistics	2 <sup>nd</sup> level of biomedical engineering Minia University-Egypt	Preparing and teaching
15	Advanced statistics	4 <sup>th</sup> level of computer science- college of science Minia University-Egypt	Preparing and teaching
16	Probability theory	3 <sup>rd</sup> level of mathematics group -college of education- Minia University-Egypt	Preparing and teaching
17	Mathematical modelling and programing mathematical packages	4 <sup>th</sup> level of mathematics and computer group -college of science- Minia University-Egypt	Preparing and teaching
18	statistical analysis	3 <sup>rd</sup> level of mathematics group -college of education- Minia University-Egypt	Preparing and teaching
19	Math1 (Differentiation & Algebra)	1 <sup>st</sup> level college of science Minia University-Egypt	Preparing and teaching
20	Math1 (Integration & analytical geometry)	1 <sup>st</sup> level college of science Minia University-Egypt	Preparing and teaching
21	Ordinary differential equations	2 <sup>nd</sup> (Math& physics groups)level college of science Minia University-Egypt	Preparing and teaching
22	Mechanics 1 (static )	1 <sup>st</sup> level college of science Minia University-Egypt	Preparing and teaching
25	Engineering Mechanics (Static and dynamic )	Preparatory group-college of engineering- Minia University-Egypt	Preparing and teaching
26	Advance calculus (Partial differentiation and multivariate integration )	2 <sup>nd</sup> level of mathematics group - college of education- Minia University- Egypt	Preparing and teaching
27	Partial differential equationand spatial functions	3 <sup>rd</sup> level of mathematics group - college of education- Minia University- Egypt	Preparing and teaching

1	Statistical analysis of data	M. Sc. Level -college of science Minia University-Egypt	Teaching and preparing
2	Advanced statistical analysis and statistical programing	M. Sc. Level -college of science Minia University-Egypt	Teaching and preparing
3	The computational methods of differential equations	M. Sc. Level -college of science Minia University-Egypt	Teaching and preparing
4	Mathematical software packages	M.Sc. level -College of science – Imam Abdelruhman Bin faisal university- Saudi Arabia KSA	Teaching and preparing
5.	Biostatistics and experimental design	M.Sc. level -College of science – Imam Abdelruhman Bin faisal university- Saudi Arabia KSA	Teaching and preparing

## Postgraduate

### Supervision of Master and/or PhD Thesis

#	Degree Type	Title	Institution	Date
1	M. Sc.	A Numerical Simulation for a Distribution of Univariate Complicated Probabilistic Transformations: A computational Statistical Study for the Random Heat Equation	College of Science –Imam Abdelruhman Bin Faisal university- Saudi Arabia KSA	2019-2021
2	M.Sc.	Statistical analysis for some systems of stochastic differential equations	College of science-Minia University, Egypt	2014-2018
3	M. Sc.	On soliton solutions of some partial differential equations governing important physical models	College of science-Minia University, Egypt	2013-2015
4	Ph.D.	On the stochastic solution processes of some nonlinear probabilistic systems using Wiener- Hermite expansions	College of science-Minia University, Egypt	2013-2016
5	Ph.D.	On the differential transformed method simulation with Pade approximation in studying some mathematical models related to the heat transfer and stability of fluids	College of education- AinShams University, Egypt	2015-2019
6	Ph.D.	A computational simulation for the numerical and analytical treatments related to important mathematical models	College of science-Alazher University, Egypt	2016-2019

**Personal Key Competencies and Skills: (Computer, Information technology, technical, etc.)**

Perfecting the employment of Mathematica software in the following items

1. Training undergraduate and graduate students to create projects related to course topics
2. Presentation of a workshop for the Department of Mathematics (College of Sciences Imam Abdulrahman Bin Faisal University ) on analyzing demographic data of the Covid-19 epidemic through academic year 2021-2022
3. Presentation of a workshop in the initiative of the Faculty of Science for the successful scientific researcher program entitle "Mathematica Software for engineering and science " through academic years 2022-2023
4. Presentation of a workshop in the initiative of the Faculty of Science for the successful scientific researcher program entitle "Employing Wolfram cloud in extracting global data in different fields " through academic years 2022-2023

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