



Asif Nawaz

✉ Email: asifnawaz78615@gmail.com

Date of birth: 18/08/1993 **Nationality:** Pakistani

EDUCATION AND TRAINING

[05/02/2020 – 10/02/2022]

Master of Science in Mathematics

University Of Wah, Wah Cantt www.uow.edu.pk

City: Wah Cantt

Country: Pakistan

Final grade: CGPA 3.74/4.00

Thesis: Lie Group Approach for Solving Mixed Convection Flow of Maxwell Fluid Model with Slip Effects

Short Description: Two-dimensional upper convected Maxwell fluid and Maxwell nanofluid with magneto hydrodynamics effects and its boundary layer flow has been analysed. Flow is considered through the contracting/stretching sheet with impact of thermal slip, heat source/sink and thermal radiations. The model dimensional equations are formulated with the implication of conservation laws which are then converted to its corresponding dimensionless form by means of suitable transformations. The aims of the study is to study the similarity solution with Lie group approach to the problem of (MHD) mixed convection flow of a Maxwell nanofluid over a convectively heated vertical surface in the occurrence of a chemical reaction. After transformation, the ODE's are solved numerically with the help of MATLAB and their results are showed graphically.

Supervisor: Prof. Dr. Bilal Ahmad

[22/08/2011 – 30/06/2015]

Bachelor of Science in Mathematics

University Of Sargodha www.su.edu.pk

City: Sargodha

Country: Pakistan

Final grade: 3.12/ 4.00 CGPA

Main area of specialization is Applied Mathematics especially in the field of:

- Fluid Dynamics
- Special Relativity
- Theory of Splines
- Integral Equations

WORK EXPERIENCE

[31/01/2020 – 10/02/2022]

MS Research Assistant

University of Wah

City: wah Cantt

Country: Pakistan

- Developed basic research skills related to different arising problems in Mathematics and relating them with existing literature.
- Work for the numerical solutions of different Mathematical models to pursue the effects of heat and mass transfer for fluid models.
- Learn basic knowledge about different software's helpful for representing results in the form of graphs and tables like MATLAB, MAPLE.

[02/06/2016 – 20/08/2017]

Lecturer in Mathematics

Punjab group of colleges, Naushera campus

City: Khushab

Country: Pakistan

- Taught Mathematics at Intermediate and Graduate level.

[22/08/2017 – Current]

Mathematics Teacher

School Education Department

City: Khushab

Country: Pakistan

PUBLICATIONS

[2022]

Thermal Diffusion of Maxwell Nanoparticles with Diverse Flow Features: Lie Group Simulations

Journal: International Communications in Heat and Mass Transfer (Impact Factor = 6.782)

Main Features:

- The thermal influences of Maxwell nanofluid due to vertical flat plates has been considered.
- The applications of chemical reaction and thermal radiation are incorporated.
- The external heat source is also used to modify the energy equation.
- The convective boundary flow assumptions are carried out to perform the analysis.
- The Lie group transformations are carried out to simplify the problem into dimensionless form.
- The Runge-Kutta (RK-4) scheme is implemented to simulate the numerical computations.
- The physical on set of parameters is attributed for velocity, temperature and concentration profiles.

SOFTWARE SKILLS

Software Skills:

MATLAB:

- MATLAB is optimized for numerical computing tasks as it offers a wide range of built-in functions and libraries for Mathematical operations. Its syntax is suitable for engineering and scientific applications.
- MATLAB has provided powerful tools for visualizing data and creating plots. Its plotting functions allow to generate 2D and 3D plots, histograms, contour plots, and more.
- Its Simulink toolbox provided a graphical environment for building and simulating dynamic systems, allowing me to model and analyze the behavior of complex systems before implementation.

MAPLE:

- Programming language for MAPLE was easy to learn and flexible, making it accessible with a range of programming experience.
- MAPLE is used for exploring Mathematical concepts, analyzing data, and presenting results.
- Used MAPLE to work with both symbolic and numerical data that makes it a versatile tool for exploring Mathematical concepts, solving problems, and conducting simulations.

DIGITAL SKILLS

Good knowledge of Microsoft Word / Microsoft Excel / Microsoft Powerpoint / Latex

LANGUAGE SKILLS

Mother tongue(s): Punjabi

Other language(s):

English

LISTENING C1 READING C2 WRITING C1

SPOKEN PRODUCTION C1 SPOKEN INTERACTION C1

Urdu

LISTENING C2 READING C2 WRITING C2

SPOKEN PRODUCTION C2 SPOKEN INTERACTION C2

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

CONFERENCES AND SEMINARS

[27/01/2014] **One Day International Symposia on Pure and Applied Mathematics**

University of Sargodha

Participated in one day international conference on pure and applied Mathematics held at University of Sargodha.

HONOURS AND AWARDS

[10/02/2022] **2nd position in Master of Science in Mathematics Awarding institution:** University of Wah, Wah Cantt

- 2nd position in MS Mathematics batch 2020-2022 at university of Wah, WahCantt

Awarded scholarship on merit basis Awarding institution: University of Wah

- Awarded partially funded scholarship for excellent grades in MS

[08/10/2013] **Awarded Laptop on Merit Basis Awarding institution:** University of Sargodha

- Awarded merit based laptop from Chief Minister of Punjab

VOLUNTEERING

[2022 – Current] **Member of Patients Welfare Society:**

Assisting with access to healthcare services, medications, or medical equipment for those who cannot afford them.

EXTRA CURRICULAR ACTIVITIES:

[2020 – Current] **Sports and Physical Fitness:**

- I am currently working as a Science- Math teacher and Physical Training Instructor (PTI) at Govt. High School Uchhali, District Khushab.
- Participating in sports fosters physical fitness, teamwork, discipline and leadership skills. It also promotes healthy competition and teaches students the resilience in the face of challenges.
- Being the Captain of Uchhali cricket team and winning many tournaments is a significant achievement. It reflects not only individual skill and talent but also effective leadership, teamwork and dedication to the sport.
- This sport has a multifaceted impact on society, contributing to physical well-being, social cohesion, cultural exchange, economic development and individual empowerment.

RECOMMENDATIONS

Chairperson/ Associate Professor

Name: Dr. Qazi Mahmood Ul-Hassan

Email: gazimahmood@uow.edu.pk

Associate Professor/ Chairperson of Department of Mathematics at University of Wah, Wah Cantt.

Assistant Professor

Name: Dr. Bilal Ahmad

Email: bilal.ahmad@uow.edu.pk

Assistant Professor at Department of Mathematics, University of Wah, Wah Cantt.

Assistant Professor

Name: Ayesha Shakeel

Email: ayesha031@hotmail.com

Assistant Professor at Department of Mathematics, University of Central Punjab, Lahore