Curriculum Vitae

Saqib Mubarak
Assistant Professor (C),
Department of Mathematical Sciences,
Islamic University of Science and Technology,
Awantipora Pulwama, Kashmir.

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Education:

- **Ph.D Mathematics**, University of Kashmir, Hazratbal, Srinagar, J & K, India.
  Awarded on: **August 04, 2021.**
  Topic of Ph.D. Thesis: "Mathematical and Numerical Study of Drug and Tracer Diffusion in Biological Tissues", http://hdl.handle.net/10603/449676
  Advisor/ Referee: **Prof. Mukhtar Ahmad Khanday**.

- **M.Sc.(Mathematics)**, University of Kashmir, Hazratbal, Srinagar, J & K, India, in the year 2015 with 1st division.
- **B.Sc.(Mathematics, Physics, Chemistry** & **English)**, University of Kashmir, Hazratbal, Srinagar, J & K, India, in the year 2013 with 1st division.
- Qualified **JKSET** Examination (2018).

Research Interests:

- Mathematical modelling of Heat and mass transfer;
- Drug and tracer Diffusion in biological tissues;
- Compartmental modelling of tracer kinetics;
- Mathematical modelling of COVID-19 transmission dynamics.

Research Experience:

1. **7 years** research experience in the field of Bio-Mathematical modelling.

2. Worked as a Junior Research Fellow in a major project of NBHM DAE (Award no. 2/48(15)/2016-NBHM(RP)RND&II/16941) entitled "Mathematical analysis on the diffusion of drug and its absorption rates in biological tissues: With special reference to transdermal drug delivery system".

List of Publications:-
Papers Accepted/ Published:

1. **Saqib Mubarak**, Local hyperthermic treatment of an advanced in vivo malignant tumor: A compartmental cum mathematical model, Mathematical Methods in The Applied Sciences, 2024, *Accepted*, DOI: 10.1002/mma.10608.

2. **Saqib Mubarak**, M.A. Khanday, A.U.H. Lone, Mathematical analysis based on the eigenvalue approach to study liver metastasis disease with applied drug therapy, NHIB Springer, 2020, **9(1)**, DOI: 10.1007/s13721-020-00231-0.

3. **Saqib Mubarak**, M.A. Khanday, A.U.H. Lone, Variational finite element approach to study heat transfer in the biological tissues of premature infants, Journal of Thermal Biology, 2020, **92**, DOI:10.1016/j.jtherbio.2020.102669.

4. **Saqib Mubarak**, M.A. Khanday, Mathematical modelling of drug-diffusion from multi-layered capsules/ tablets and other drug delivery devices, COMPUTER METHODS IN BIOMECHANICS AND BIOMEDICAL ENGINEERING, 2021, DOI:10.1080/10255842.2021.1985477.

5. **Saqib Mubarak**, M.A. Khanday, A mathematical model to study thermoregulation and heat-transfer processes in hypothermic neonates under variable physiological parameters, COMPUTER METHODS IN BIOMECHANICS AND BIOMEDICAL ENGINEERING, 2022, DOI:10.1080/10255842.2022.2117550.

6. **Saqib Mubarak**, M.A. Khanday, A.U.H. Lone, N. Rasool, An analytical approach to study the drug diffusion through transdermal drug delivery system, Applied Mathematics E-Notes, 2021, **21**, 198-208.

7. **Saqib Mubarak**, M.A. Khanday, A mathematical model on the dynamics of radioactive tracer flow in PET scan, Applied Mathematics E-Notes, 2022, **22**, 383-392.

8. **Saqib Mubarak**, M.A. Khanday, A.U.H. Lone, Pseudo analytic approach to estimate drug transport and release in the annular section of human limbs, Italian Journal of Pure and Applied Mathematics, 2020, **43**, 878-889.

9. M.A. Khanday, **Saqib Mubarak** Mathematical modeling of concentration/ time-activity profiles of radiotracers in positron emission tomography, COMPUTER METHODS IN BIOMECHANICS AND BIOMEDICAL ENGINEERING: Imaging and Visualization, 2022, DOI:10.1080/21681163.2022.2064333.

10. K. Nazir, **Saqib Mubarak**, A.U.H. Lone, R. Bhat, F.A. Zargar, M.A. Khanday, Compartment modelling and eigenvalue expansion to study the drug concentration in capillary and tissue regions surrounding the malignant tumour, NHIB Springer, 2021, **10(2)**, DOI: 10.1007/s13721-020-00275-2.

11. A.U.H. Lone, M.A. Khanday, **Saqib Mubarak**, Explicit finite difference method to estimate oxygen concentration in biological tissues under variable oxygen tension in capillaries, Computational and Mathematical Methods, 2020, DOI: 10.1002/cmm4.1128.

12. A.U.H. Lone, M.A. Khanday, **Saqib Mubarak**, A four-compartment model to estimate oxygen and carbon-dioxide exchange concentrations via blood using eigenvalue approach, South East Asian Journal of Mathematics and Mathematical Sciences, 2021, **17(2)** 367-384.

13. Ahsan Ul Haq Lone, M.A. Khanday, **Saqib Mubarak** Heat distribution and the condition of hypothermia in the multi-layered human head: A mathematical model, COMPUTER METHODS IN BIOMECHANICS AND BIOMEDICAL ENGINEERING, 2022, DOI:10.1080/10255842.2022.2047953.

14. A.U.H. Lone, M.A. Khanday, **Saqib Mubarak**, Mathematical study of pulmonary and intravenous administration of oxygen in biological tissues under hypoxia conditions, South East Asian Journal of Mathematics and Mathematical Sciences, 2022, **18(3)** 381-392, DOI:10.56827/SEAJMMS.2022.1803.32.

Advanced Instructionl Schools, Workshops and Webinars attended:

1. September 13-19, 2017, One week workshop on Research Methodology for Research Scholars of Science, organised by UGC-Human Resource Development centre, University of Kashmir, Srinagar.

2. June 18-20,2019, Three day National level Workshop on Algebra and Analysis, organised by the Department of Mathematics, Central University of Kashmir.

3. August 28-29, 2018, 2-Day National Level Workshop on Geometrical Interpretation of Mathematical Concepts, organised by Department of Mathematics, University of Kashmir in collaboration with Kashmir Mathematical Society and DSRL Ahmedabad.

4. July 23, 2020, Online Workshop on MATLAB, organised by M/S MathWorks in collaboration with Department of Mathematics, SLIET Longowal, Punjab.

5. July 31, 2020, One day International Level Webinar on "Use of Mathematical Modelling in COVID-19 and Cancer Control" organised by the Department of Mathematics and IQAC, Dinabandhu Mahavidyalaya, Bongaon, West Bengal.

6. August 13-14, 2020, A Two-day International Webinar on Algebra, Analysis and Topology, organised by the Department of Mathematics, Bankura University.

Conferences and Paper presentations:

1. December 19, 2017, Presented a Paper titled "*Mathematical models on the transport of drug in tumors*" in **National Conference on "Recent Trends in Pure and Applied Mathematics**" organised by Department of Mathematics, University of Kashmir in collaboration with Kashmir Mathematical Society.

2. April 4, 2018, Presented a Paper titled "*Mathematical study of medicine diffusion in blood-stream of human body*" in **13th session of Jammu and Kashmir Science Congress** at Department of Mathematics organised by University of Kashmir in collaboration with the Jammu and Kashmir State Science, Technology and Innovation Council.

3. June 21, 2019, Presented a Paper titled "*Mathematical analysis of predator-prey interaction among tumor and normal cells*" in **One Day National Seminar on Mathematics and its Applications**, organised by Department of Mathematics, Central University of Kashmir.

4. June 23, 2019, Presented a Paper titled "*Mathematical analysis of predator-prey interaction among tumor and normal cells*" in two day **International Conference on Contemporary Issues in Engineering, Agriculture, Applied Sciences and Humanities** held at NIT, Srinagar, Jammu and Kashmir, India.

5. January 12, 2019, Presented a Paper titled "*Pseudo analytic approach to estimate drug transport and release in the annular section of human limbs*" in **International Conference on Recent Advances in Interdisciplinary Sciences** organised by Department of Electronics, University of Jammu.

Miscellaneous Qualification: Computer Knowledge: Symbolic Programming (Mathematica, Matlab), Typesetting Programming (MikTex, Latex), Presentation Programs (MS Power Point, Corel Presentation, Latex Presentation), MS Word.

Teaching Experience:
Courses Taught: Real Analysis, Algebra, Linear Algebra, Numerical Analysis, Differential Calculus, Number Theory, Laplace Transforms, Statistical Methods, Mathematical Biology, Complex Analysis.

1. Currently working as Assistant Professor (Contractual) in Department of Mathematical Sciences, Islamic University of Science and Technology, Awantipora Pulwama, Kashmir, from 28-October-2024.

2. Worked as Assistant Professor in Department of Mathematics, School of Mech. Engg., Lovely Professional University, Phagwara Punjab, from 08-February-2023 to 26-October-2024.

3. Worked as lecturer in Government Degree College for Women, Baramulla, Jammu and Kashmir from 14-August-2021 to 26-December-2021.

4. Worked as lecturer in Jammu and Kashmir Institute of Mathematical Sciences, Srinagar from 16-February-2022 to 09-April-2022.

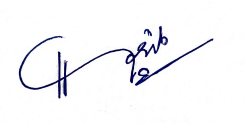
5. Worked as lecturer in Government Degree College for Women, Baramulla, Jammu and Kashmir from 11-April-2022 to 26-December-2022.

Languages known:

- English and Urdu : Read, write & speak fluently.

Personal Details:

Father's Name	Mubarak Ahmad Eitoo
Date and place of birth	July 01, 1993, Sonigam Kulgam, 192232 (J&K)
Nationality	Indian
Religion	Islam
Marital Status/Sex	Engaged/Male



Dr. Saqib Mubarak