

Hasim Abdalla Obaid Ahmed, Ph.D.

Personal Information

Full Name	Hasim Abdalla Obaid Ahmed
Academic Title / Position	Assistant Professor
Department	General Requirements
College / School	Ahmed Bin Mohamed College
Nationality	Sudan
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Google Scholar / Scopus ID / ResearchGate	

Professional Summary

Mathematical analysis especially for models arise in biology. Constructing efficient numerical methods to solve biological models. Optimal control: applying control strategies to biological models.

1. Academic Qualifications

- **Ph.D. in Applied Mathematics (Bio-Mathematics)**, University of the Western Cape, Cape Town, South Africa.
Year of Completion: 2011.
Dissertation: Construction and Analysis of Efficient Numerical Methods to Solve Mathematical Models of TB and HIV Co-infection.
Supervisor: Prof. Kailash C. Patidar
Co-Supervisor: Dr. Rachid Ouifki.
- **Master of Science in Applied Mathematics**, Industrial Mathematics and Computation, University of Khartoum, Khartoum, Sudan.
Year of Completion: 2002.
- **Honours Bachelor of Science in** Joint subject in Mathematics and Computer Science, University of Khartoum, Sudan.
Year of Completion: 2000.

2. Academic Appointments

- Assistant Professor of Mathematics (Visitor), Department of General Requirements, Ahmed Bin Mohamed Military College, Doha, Qatar.
2019 – 2021.
- Assistant Professor of Mathematics, Department of General Requirements, Ahmed Bin Mohamed Military College, Doha, Qatar.
2021 – Present.
- Assistant Professor of Applied Mathematics, Faculty of Mathematical Sciences, University of Khartoum, Khartoum, Sudan.
2011 – Present.

- Lecturer of Applied Mathematics, Faculty of Mathematical Sciences, University of Khartoum, Khartoum, Sudan.
2003 – 2008.
- Teaching Assistant of Applied Mathematics, Faculty of Mathematical Sciences, University of Khartoum, Khartoum, Sudan.
2000 – 2003.

3. Intellectual Contributions

3.1 Publications in Refereed Journal Articles

H. A. Obaid, R. Ouifki and K. C. Patidar, An unconditionally stable nonstandard finite difference method applied a mathematical model of HIV infection, International Journal of Applied Mathematics and Computer Science 23(2) (2013) 357-372.

H. A. Obaid, R. Ouifki and K. C. Patidar, Analysis of an HIV model with distributed delay and behavior change, International Journal of Biomathematics 8(2) (2015) DOI: 10.1142/S1793524515500175.

H. A. Obaid, Rachid Ouifki and Kailash C. Patidar, A nonstandard finite difference method for solving a mathematical model of HIV-TB co-infection, Journal of Difference Equations and Applications 23(6) (2017) 1105-1132, DOI: 10.1080/10236198.2017.1318859.

Eihab B. M. Bashier, Hasim A. Obaid, Development of an optimal control strategy for the transmission dynamics of HBV epidemic model, Journal of Applied Nonlinear Dynamics 1(1) (2020) 1-6.

Sahar A. Mohamed, Hasim A. Obaid, Eihab B. M. Bashier, Kailash C. Patidar, Optimal Control Strategies Applied to a Mathematical Model of Meningitis, European Journal of Pure and Applied Mathematics, 18(3) (2025) 6129.

3.2 Conference Presentations

H. A. Obaid & K. C. Patidar (2010, September), A Delayed HIV Model with Behaviour Change, Greece.

4. Teaching Experience

4.1 At Ahmed Bin Mohamed Military College

Undergraduate Level:

- Mathematics (Instructor)
- Statistics (Instructor)

4.2 At University of Khartoum

- Graduate-level courses (Instructor):
 - Numerical Software (MATLAB & MAPLE)
 - Advanced Mathematical Methods
 - Optimal Control Theory

- Undergraduate-level courses (Instructor):
 - Basics of Mathematics
 - Calculus
 - Differential Equations
 - Special Functions
 - Mathematical Methods

5. Research Grants and Awards

2008 – Grant for the Ph.D.

Funding Agency: Ministry of Higher Education and Scientific Research

Role: Principal Investigator

Amount Awarded: \$ 54000

Project: Ph.D.

6. Service and Leadership

6.1 Institutional Service

Faculty of Mathematical Sciences, University of Khartoum:

- Member, Board of the Department of Applied Mathematics, 2003 – 2019.
- Member, Examiners Board, 2003 – 2019.
- Member, Research Board, 2012 – 2015.
- Member, Faculty Board, 2012 – 2015.
- Member, Senate of the University of Khartoum, 2012 – 2015.
- Chairman, Faculty Examinations Committee, 2012 – 2015.
- Chairman, Interview Committee for the first-year candidate students, 2012 – 2015.

Secretary of Academic Affairs, University of Khartoum:

- Member, The Examinations and Awards Committee, 2015 – 2019.
- Member, Scientific Trips Committee, 2015 – 2019.
- Member, Senate of the University of Khartoum, 2015 – 2019.
- Member, The Appointments of Teaching Assistants Committee, 2015 – 2019.
- Member, The Admission and Registration Committee, 2015 – 2019.
- Member, The Admission and Registration Executive Committee, 2015 – 2019.
- Member, Board of the Scientific Affairs Secretariat, 2015 – 2019.
- Member, The Training Executive Committee, 2015 – 2019.
- Chairman, The Committee for the Ceremony of the Distribution of Higher and Honorary Doctorate Degrees for the Academic Years 2015 – 2018.
- Chairman, The First Year New Students Reception Committee for the Academic Year 2017-2018.
- Chairman, The Preparatory Committee for Admission and Registration of the first-year candidate students, 2015 – 2019.
- Co-chairman, The Khartoum University Prospectus Committee, 2017.
- Member and Rapporteur, The Review of Regulations and Rules Committee, 2017 – 2019.
- Chairman, The Technical Committee for the Review of Regulations and Rules Committee, 2017 – 2019.
- Member, The Advisory Committee for the Academic Studies, 2017 – 2019.

- Member, The Higher Committee for tuition fees and Student Cases, 2017 – 2019.
- Member, The Training Courses Committee, 2017 – up to date.
- Member, The Digital Content Committee - Technology and Information Network Administration, 2017 – 2019.
- Member, The Software Committee - Technology and Information Network Administration, 2017 – 2019.
- Chairman, The Budget Preparation Committee, 2017 – 2019.
- Chairman, The Examinations and Awards Mini-Committee, 2017 – 2019.
- Member, Preparatory Committee for Internal and Regional Grants for East African States provided by the German Academic Exchange Organization 2018.
- Member, The Committee for the preparation of proposals for the university development projects 2018.
- Member, The Committee for the preparation of the administrative performance report of the University 2018.
- Chairman, The Digital Computing Committee for University Certificates and Results 2018.
- Chairman, The Committee for the unification of university card 2018.

6.2 Professional Service

- Ad Hoc Reviewer for: Journal of Finance, Journal of Banking and Finance, Journal of Corporate Finance.
- Session Chair, [Conference Name], [Year].

7. Relevant Professional Competencies

- Software & Programming:
 - Languages: C, C++, Java
 - Databases: Introduction to Databases, MS Access, SQL
 - Microsoft Office: MS Excel 2016 (Introductory, Medium, Advanced), MS PowerPoint 2016, MS Word 2016
- Languages: English (Fluent).

8. Doctoral / Thesis Supervision

- Completed **M.Sc. Theses Supervised:**
- Ahmed Mohammad Saeed, “Optimal Control Applied in HIV Immunology Model”, 2015.
- Maria Slah Mohammed Abozaid, “Method of Multiple Scales Applied to Ordinary Differential Equations”, 2015.
- Shaimaa Alamein Alhussein Mohmmad, “Exact Solutions of Delay Partial Differential Equations”, 2015.
- Ahmed Salih Alhaj Ahmed, “Local Stability of a Finite Difference Method for Solving a Mathematical Model for Influenza Disease”, 2015.
- Altayeb Mohammed Mustafa Alnour, “A treatment Strategy Applied to a Mathematical Model of Tuberculosis”, 2014.
- Ashraf Awad Elkarim Suliman Osman, “Optimal Control with an Isoperimetric Constraint Applied to Cancer Treatment Model”, 2014.

- Maha Haroon Elsadig Yousif, "An Optimal Vaccination Strategy Applied to a Biological Model", 2014.
- Thuwiba Qais Abdalla Ibrahim, "Optimal Control Strategies Applied to a Mathematical Model of Daily Mood Of Bipolar Patient", 2014.
- Tahani Kheder Ali Mohammed, "Analysis of a Mathematical Model of Cholera with a Behavior Change", 2016.
- Rayan Tawfeig Ahmed Mustafa, "The Effect of Behavior Change on a Mathematical Model of Solid Waste Management", 2016.
- Aalaa Osman Mohamed Ahmed, "The Effect of Vaccination on an (SEIR) Mathematical Model", 2016.

9. Professional Development Activities

Continual Professional Development Course (CPD) for Deans	Khartoum University Center for Advanced Training, University of Khartoum	1 Day	2013	Administrative
Training Course in Quality Assessment and Accreditation in Higher Education	Self-Evaluation and Quality Administration, University of Khartoum	4 Days	2012	Administrative
Training Course in Principles and Concepts of Total Quality Management	Self-Evaluation and Quality Administration, University of Khartoum	3 Days	2012	Administrative
Human Resources for Health Projection Training Course, National continuous Professional Development Center	Federal Ministry of Health in Collaboration with WHO, Khartoum, Sudan	3 Days	2012	Administrative
Training Program for senior Administrative People of Sudanese Universities	Yangzhou University, Yangzhou, Jiangsu Province, China	11 Days	2012	Administrative