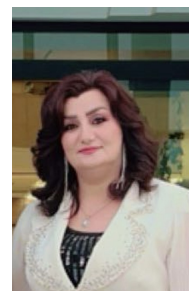


# Azhaar H. Sallo

## Curriculum Vitae

Asst. Professor  
of Mathematics  
☎ (+964) 750 4509510  
✉ [azhaar.sallo@uod.ac](mailto:azhaar.sallo@uod.ac)  
🌐 [www.uod.ac](http://www.uod.ac)  
Homepage



*"you never fail , until you stop trying " - Azhaar H. Sallo*

### Personal Information

Address **Department of Mathematics, Faculty of Science, University of Duhok.**  
Home Address **Tanahi, Duhok, Kurdistan Region of Iraq.**  
Date of Birth **01-02-1976**  
Place of Birth **Bashiqa, Mosul , Iraq**  
Nationality **Iraqi**  
Gender **Female**  
Marital Status **Single**

### Education

#### Education

1987–1993 **High School Degree, Bashiqa, Mosul**  
1993–1999 **Bachelor of Mathematics, University of Mosul, Mosul, GPA – 73.4**  
2000–2002 **Master of Mathematics, University of Mosul, Mosul, GPA – 79**  
Differential Equations  
2019–2023 **Doctorate of Mathematics, University of Duhok, Duhok**  
Differential Equations

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## Masters Thesis

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Title **Some Results in Existence and Uniqueness Theorem for Certain Fractional Differential Equations**

Description This thesis explored and proved several theorems concerning to the concept of existence and uniqueness results for a certain Fractional Differential Equation.

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## Ph.D. Thesis

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Title **On System of Fredholm Integro -Fractional Differential Equations with Variable Coefficients**

Supervisors **Professor Dr. Alias Barakat Khalaf and Professor Dr. Shazad Shawki Ahmed**

Description This thesis aims to improve methods for solving linear Fredholm fractional integral differential equations with variable Caputo derivatives. It employs Banach's fixed point theorem to demonstrate the existing and uniqueness of solutions. Techniques include reviewing fractional operator definitions, applying Modified A Domain Decomposition Method for noise terms handling, and using Bernstein polynomial expansions with collocation techniques. Numerical approximations utilize Clenshaw-Curtis formula, converting equations to operational matrices for solution of Bernstein coefficients. MATLAB programs are employed to validate the effectiveness of these methods through practical examples.

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## EMPLOYMENT HISTORY

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2002–2006 **Assistant Lecturer**, *Department of Mathematics*, University of Mosul, Iraq

2006–2012 **Lecturer**, *Department of Mathematics*, University of Duhok , Iraq

2009–2011 **Head of Department of Mathematics**, *College of Seines*, University of Duhok, Iraq

2012–so far **Assistant Professor**, *Department of Mathematics*, College of Seines, University of Duhok, Iraq

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## Teaching Experience

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First Year Differential and Integral Calculus  
Second year Advanced Calculus and Ordinary Differential Equations  
Third Year Partial Differential Equations and Numerical Analysis  
Fourth year Complex Analysis and General Topology  
M.Sc. Integrals Differential Equations

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## Published Articles

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- 1 **Some Local and Global Existence Theorems on Differential Equation of Non-Integer Order**, *Journal of Rafidain Sciences*, Vol.16 NO.4, , 2005
- 2 **Existence and Uniqueness Theorems on Differential Equations**, *Journal of Education and Science*, Vol.18 NO.2, 2006
- 3 **A local Existence Theorems for Certain Fractional Differential Equations**, *Journal of Education and Science*, Vol.18 NO.2, 2006
- 4 **Solution for Boundary Value Problem of Non- Integer Order in  $L_2$ - Space**, *J.of Gen. Math. Notes*, Vol.6 NO.1, 2011  
with
- 5 **Existence and Uniqueness Solution for System of Nonlinear Fractional Integro-Differential Equation**, *International J. of Scientific and Engineering Research*, Vol.3 NO.6, 2012
- 6 **On Existence and Asymptotic Behavior of the Solution for Fractional Integro-Differential Equation**, *International J. of Scientific and Engineering Research*, Vol.3 NO.5, 2012
- 7 **Existence Of Solutions For Nonlinear Fractional Differential Equation With Integral Boundary Conditions** , *International J. of Scientific and Engineering Research*, Vol.2 NO.10, 2013
- 8 **Numerical Solution of Certain Types of Fredholm-Volterra Integro-Fractional Differential Equations via Bernstein Polynomials**, *Australian Journal of Mathematical Analysis and Applications*, Vol. 18, No 2 (2021), pp. 1–16, with Azhaar H. Sallo & Shazad S. Ahmed
- 9 **Approximate solution of Fredholm type fractional integro-differential equations using Bernstein polynomials**, *Italian journal of pure and applied mathematics*, No. 50 (2023), pp. 524–539, with A. Sallo and Sh. Ahmed

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## Computer skills

LaTeX, Microsoft Office

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## Conferences

- April 2013 Scientific Conference of Zakho University
- April 2019 The 5th Kurdistan International Conference on Science and Technology, University of Duhok, College of Science.