

C.V.

First: General Information

Name: Dr. Mowafaq Muhammed Tawfeeq Abdullah Al-Kassab

Place and Date of Birth: Iraq - Mosul -5th, March ,1953

Marital Status: Married

Number of Children: 6

Religion: Muslim

Current Working and Title:

Professor of Mathematical Statistics / Department of Mathematics
Education/Faculty of Education/Tishk International University. Erbil.

E-mail mowafaq.muhammed@ishik.edu.iq

Mobile No. 009647710343401 009647511557356 00962795469669

Date of Appointment: 1975

General Specialization: Mathematics

Minor: Mathematical Statistics

Interests: programming language Fortran IV, Numerical analysis, and
Mathematics.

Administrative Functions:

1- Official computer unit of the Department of Mathematics / College of
Education / University of Basra for the period 1982-1986.

2- Chairman, Department of Mathematics / Faculty of Education / University of
Mosul for the period 1986-1988.

3 – Chairman, Department of Statistics / College of Management and Economics /
University of Mosul for the period 26/9 / 1992- 12/12/1996.

4 – Chairman, Department of statistics / Faculty of Computer Sciences and
Mathematics / University of Mosul for the studying year 1999-2000.

5- Chairman, Department of Mathematics / College of Arts and Sciences / Al- al- bayt

University, Jordan for the period 21/9/2003 - 1/9/2006.

- 6- Chairman, Department of Mathematics / College of Art and Science / Al al-bayt University for the period 12/2/ 2006 until the return of head of the department from a vacation in 25/6/2006.
- 7- Deputy Dean of the Faculty of Science / College of Science / Al al-bayt University for the period 26/9/2007 - / 9/2010.
- 8- Professor of Mathematical Statistics / Department of Statistics and Informatics/ Faculty of Mathematics and Computer / Mosul / Iraq University of Science from 26/8/2012 and up 1/2/2019.
- 9- Chairman, Department of Accounting / College of Financial and Administrative Sciences Erbil / Iraq from 01/09/2014 up to 31/8/2015 .
- 10 - Professor of Mathematical Statistics / Department of Mathematics Education/Faculty of Education/Tishk International University. Erbil/ Kurdistan Region/Iraq from 2019 till now.

Second: Certificates

- 1- B.Sc. Mathematics and Statistics / Mathematics and Statistics Department / Faculty of Science / University of Mosul / 1975.
- 2 - M.Sc. / University of Manchester / 1979 / U.K.
- 3 - PhD / University of Manchester / 1981/ U.K.

Third: Scientific Titles

1. Research Assistant - 13/ 6 /1977.
2. Lecturer 1/2 / 1982 - 31 / 7/ 1991.
3. Assistant Professor 31/ 7 /1991.
4. Professor - 07/04/1997

Fourth: Workouts

1-Preliminary Studies

I taught the following materials since 1982 in Basra University (Department of Mathematics / College of Education) and (Department of Mathematics of the Faculties of Science and Education and the Department of Statistics / Faculty of Management and

Economics / Faculty of Computer Science / University of Mosul) و (Department of Mathematics / College of Arts and Sciences / University of Al al-bayt /Jordan) and Department of Mathematics Education/Faculty of Educating/Tishk University/Erbil .
 Programming language Fortran IV - Numerical Analysis - Samples - Biostatistics - Mathematical Statistics - decisions - statistical methods - probability theory - the principles of Mathematics random processes - regression analysis - design and analysis of experiments - Life tables-Discrete Mathematics-Foundations of Mathematics-Probability and Statistics. Calculus I, Calculus II, Introduction to Statistics, Probability and Statistics I, & II, Discrete Mathematics, Foundation of Mathematics, History of Mathematics, Biostatistics/ Information Technology, Engineering, and Education Colleges/ Tishk International University, Erbil, Iraq.

2- Graduate Studies

I

taught the following materials since 1986 at the University of Mosul:

Sampling Technique / College of Economics and Administration

Programming language / Department of Educational and psychological Sciences / College of Education

Numerical Analysis / Department of Mathematics / College of Education .

Applied Statistics / Department of Statistics / College of Economics and Administration

Medical Statistics / College of Medicine .

Programming and Educational Statistics / Department of Educational and Psychological Sciences / College of Education

Advanced Mathematics / Statistics Department / College of Economics and Administration .

Statistical Methods / Department of Statistics / College of Economics and Administration

.

Medical Statistics / College of Nursing .

Advanced Biostatistics / Department of Biology / College of Arts and Sciences / Al al-bayt University

Advanced Mathematical Statistics / Mathematics Departments / College of Arts and Sciences / Al al-bayt University .

Advanced Probability / Mathematics Department / College of Arts and Sciences / Al al-bayt University.

Scientific Research Methods in modern mathematics / Mathematics Department / Faculty of Arts and Sciences / Al al-bayt University.

Fifth: Scientific Activities

Published Research:

- 1- "Optimum Sample Size and Swing Detection for Repeated Surveys"
 "Utilitas Mathematica" Vol. 21B, 1982, Canada

- 2- 'Estimating Sample Size in Different Types of Sampling 'Tanmeat Alrafideen Journal, College of Economics and Administration, vol. (28), 1989, Mosul, Iraq.
- 3- 'The Computer and its Effect in the Preparation of Examination Results ' Tanmeat Alrafideen Journal / College of Economics and Administration, vol. (30), 1990, Mosul, Iraq
- 4- ' Optimum Method to Estimate the Residential, green Areas and Road Lengths in Mosul City 'Iraqi Journal of Sciences, No.3, vol. (31),1990, pp (757-764), Baghdad University, Iraq.
- 5- 'Pitfalls of Simple linear regression 'Tanmeat Alrafideen Journal, College of Economics and Administration, vol. (37), 1992, Mosul, Iraq.
- 6- ' Using Goal Programming in the Planning of Production 'Tanmeat Alrafideen Journal / College of Economics and Administration, vol. (37), 1992, Mosul, Iraq.
- 7-Statistical Study of Ultrasound and Its Medical Uses ' journal of Education and Science, vol. (13) ,1993, pp (184-192). Faculty of Education, Mosul, Iraq.
- 8- 'An Approximately Optimal Stratification Using Proportional Allocation'Tanmeat Alrafideen Journal / College of Economics and Administration, vol. (41), 1993, Mosul, Iraq.
- 9- 'A measure for Evaluating the Classroom Performance of the University Faculty Member' Journal of Education and Science, Faculty of Education No. (15), 1994, pp (250-256), University of Mosul, Mosul, Iraq.
- 10- 'Development of Traffic Safety in Iraq' Tanmeat Alrafideen Journal, College of Economics and Administration, vol. (44), 1994, pp (151-167), Mosul, Iraq.
- 11- 'Evaluation of the Level of Performance of Teacher in the Classroom: A practical study' Tanmeat Alrafideen Journal, College of Economics and Administration, vol. (44), 1994, pp (443-456), Mosul, Iraq.
- 12-'Regression Approach to Analysis of Variance' Journal of Sciences for Economics and management, vol.1, no.1,1995, University of Baghdad.
- 13- ' Estimation by Ridge and Least Squares Methods 'proceedings of the seventh Scientific Conference of the Iraqi Association for statistical sciences for the period 3-4/5/1995.
- 14- ' The influence of the Academic Achievement (scientific, art) on the Final Results of Management and Economics Graduates 'Tanmeat Alrafideen Journal, College of Economics and Administration, vol. (47), 1996, pp (211-225), Mosul, Iraq.
- 15- ' Proposed Method for Obtaining the Approximate Stratum Boundaries Using Proportional Allocation' 'Tanmeat Alrafideen Journal, College of Economics and Administration, vol. (48), 1996, pp (263-271), Mosul, Iraq.
- 16- ' Computer System for Training Medical Students ' Tanmeat Alrafideen Journal, College of Economics and Administration, vol. (49), 1996, pp (31-37), Mosul, Iraq.
- 17- ' A comparison of Approximate Methods for Obtaining Stratum Boundaries Through the Application on the Agricultural Areas of the Country 'Tanmeat Alrafideen Journal, College of Economics and Administration, vol. (49), 1996, pp (201-217), Mosul, Iraq.

- 18- 'Approximately Optimal Stratification Using Neyman Allocation' Tanmeat Alrafideen Journal, College of Economics and Administration, vol. (50), 1997, pp (31-37), Mosul, Iraq.
- 19- 'Proposed Method for Obtaining the Stratum Boundaries Using Neyman Allocation' Tanmeat Alrafideen Journal, College of Economics and Administration, vol. (52), 1997, pp (287-299), Mosul, Iraq.
- 20- 'Estimating Sample Size in Simple Random Sampling' Tanmeat Alrafideen Journal, College of Economics and Administration, vol. (52), 1997, pp (303-317), Mosul, Iraq.
- 21- 'Using Linear Model to Obtain Stratum Boundaries Depending on Nyman Allocation' proceedings of the ninth Scientific Conference of the Iraqi Association for statistical sciences 1997.
- 22- 'Using Linear Model to Obtain Stratum Boundaries Depending on Proportional Allocation-Comparative Study' Mutah Journal Publication of research studies, Vol. 12, issue (4) year 1997, pp (195-209), Mutah University, Jordan.
- 23- 'Using Mean Squares Error Criterion to compare the Estimators of Least Squares and the Biased Regression methods' Tanmeat Alrafideen Journal, College of Economics and Administration, vol. (55), 1998, pp (337-349), Mosul, Iraq.
- 24- 'Goal Programming as an Alternative to Least Squares and Ridge Methods' Proceedings of the Tenth Conference of the Iraqi Association for Statistical Sciences 13/5/1998.
- 25- 'The Suggested Methods for Obtaining Stratification Boundaries Using Nyman Allocation' Published in Proceedings of the Sixth Scientific Conference of the Faculty of Management and Economics of the University of Baghdad. (Special issue 1999), pp (1098-1116).
- 26- 'Using Bivariate Linear Model in Stratification' Tanmeat Alrafideen Journal, College of Economics and Administration, vol. (57), 1999, pp (143-151), Mosul, Iraq.
- 27- 'Using the Generalized Mean Squares Error criterion to Compare the Estimators of Least Squares and Biased Regression Methods' Tanmeat Alrafideen Journal, College of Economics and Administration, vol. (57), 1999, pp (153-164), Mosul, Iraq.
- 28- 'Bivariate Regression Analysis in Stratified Sampling-Comparative Study' Tanmeat Alrafideen Journal, College of Economics and Administration, vol. (58), 1999, pp (113-122), Mosul, Iraq.
- 29- 'Using Principal Components Technique to Treat the problem of Collinearity' Tanmeat Alrafideen Journal, College of Economics and Administration, vol. (58), 1999, pp (223-235), Mosul, Iraq.
- 30- 'Using Discriminate Function to Accept the Students at the College of Physical Education' Alrafideen Journal of Sports Sciences, vol.5, No. 12, 1999.
- 31- 'On the Problem of Optimum Stratification Using Proportional Allocation' Proceedings of the 11th Conference of the Iraqi Association for Statistical Sciences for the period 25-26/8/1999.
- 32- 'Using Factor Analysis to Study the Variables Affecting the Outcomes of Pregnancies at risk' Tanmeat Alrafideen Journal, College of Economics and Administration, vol. (59), 2000, pp (223-235), Mosul, Iraq.
- 33- 'Two Approximate Methods for Bivariate Stratification' Tanmeat Alrafideen Journal, College of Economics and Administration, vol. (60), 2000, pp (155-167), Mosul, Iraq.

- 34-'Using Some Methods of Estimation to Determine the Demand Function for Money'
Tanmeat Alrafideen Journal, College of Economics and Administration, vol. (61),
2000, Mosul, Iraq.
- 35-' Filtering Projects in Nineveh – A statistical Study ' Tanmeat Alrafideen Journal,
College of Economics and Administration, vol. (62), 2000, Mosul, Iraq.
- 36- 'Using Discriminatory Method to Classify the Pregnant According to Copland
Degrees of Severity ' Tanmeat Alrafideen Journal / College of Economics and
Administration, vol. (63), 2000, pp (185-192), Mosul, Iraq.
- 37- 'Approximate Methods to Find the Variance of the Stratified Sample Mean for
Bivariate Regression Analysis ' Proceedings of Scientific Conference of Statistics
for the period 30-31/8/2000.
- 38- 'Using Some Linear Models for Determining the Factors Affecting the Weight of
Chickens ' Proceedings of Scientific Conference of Statistics for the period 30-
31/8/2000.
- 39- ' Factors Affecting the Rate of Conversion of Heptanes to Acetylene in launching of
Airplane –Comparative Study ' Tanmeat Alrafideen Journal, College of Economics
and Administration, vol. (64), 2001, pp (231-240), Mosul, Iraq.
- 40- ' Using Simulation Technique to Compare Ridge Regression Estimators ' Journal of
Education and Science, vol.49,2001, Faculty of Education, University of Mosul.
- 41-' Optimum Allocation of the Stratified Sample Size for multivariate surveys '
Proceedings of the Second Scientific Conference of the Faculty of Arts and Sciences,
Al-albays University for the period 8-9/5/2002.
- 42-'A Comparison Between Latent Roots and Least Squares Regression Methods Using
Simulation technique ', Journal of Applied Sciences, the first issue of volume VIII,
2006, University of applied sciences, Jordan.
- 43-' Approximation Method in Finding Optimum Stratum Depending on Neyman
Allocation Applied on Beta Distribution ' Proceedings of the 12th WSEAS Int.,
Conf. on APPLIED MATHEMATICS, Cairo Egypt, December 29-31, 2007.
- 44- 'The Probability Distribution for the Biased Estimator of the Ridge Regression'
Iraqi Journal of Statistical Sciences-volume 8, number 14, 2008.
- 45- 'A Comparison Between Unbiased Ridge and Least Squares Regression Methods
Using Simulation Technique ' Journal OF Modern Applied Statistical Methods, Vol.
9, no. 2, 2010, USA.
- 46- 'A Monte Carlo Comparison Between Ridge and Principal Components Regression
Methods 'Applied Mathematical Sciences, No.42, vol.3, pp2085-2098, 2009.
- 47' A Comparison Between Some New Class of Biased Estimators Using Simulation
Technique' Journal of the Association of Arab Statisticians (JASU)No,157,
vol.1,2011, Jordan.
- 48-'On the Effect of Stratification When Two Stratifying Variables Are Used (A New
Method) ' The Third Conference on Mathematical Sciences CMS'2011 ,27-
29/4/2011, at "Zarqa university", Jordan.
- 49- 'A Comparison Between Ridge Regression and least absolute value Using Simulation
Technique' The Third Conference on Mathematical Sciences CMS'2011 ,27-
29/4/2011, at "Zarqa university", Jordan.
- 50- 'The Distribution of the Outflow for Linear Reservoirs Using Fast Fourier
Transformation Method 'Iraqi Journal of Sciences, vol. 22, pp (1-14), 2012, Iraq.

- 51- 'On the Effect of Stratification When the Two Stratifying Variables Having Bivariate Normal Distribution' Journal of Advanced Social Research Vol.2 No.2, April 2012, 101-109.
- 52- 'An Empirical Study of Bivariate Stratification' Journal of Applied Statistical Science, vol.20, No.4, pp (383-392),2012, Nova Science Publishers, Inc.
- 53- 'Prediction of the factors affecting the capital in Jordan ' Iraqi Journal of Science (25), 2113.
- 54- 'On the Effect of Stratification When Two Independent Stratifying Variables Are Used ". Iraqi Journal of Statistical Sciences (25) 2013.
- 55- 'Approximation method in finding optimum stratum depending on Proportional allocation applied on Beta distribution' Tanmeat Alrafideen Journal, College of Economics and Administration, (36),114,2014, Mosul, Iraq.,
- 56- ' Prediction of the Most Important Factors Influencing High Blood Pressure 'Proceedings of the International Conference of Arab IACMC-2014 period 23-25 April 2014.
- 57- 'The Requirements of the Organizational Innovation Development in Modern Communications' organizations ' Field Study. Proceedings of the Fourteenth Annual International Scientific Conference at Zeytona University, 20-22, April 2015.
- 58- 'A Genetic Algorithm to Determine the Stratum Boundaries Using Proportional Allocation' BEST: International Journal of Management, Information, Technology and Engineering (BEST: IJMITE), Vol. 3, Issue 7, Jul 2015.
- 59- 'Using Particle Swarm Optimization to Determine the Optimal Strata Boundaries' Journal of Advances in Mathematics, Vol .11, No.1, 2015.
- 60- 'Using Artificial Bee Colony Algorithm to Determine the Optimal Strata Boundaries' BEST: International Journal of Humanities, Arts, Medicine and Sciences, Vol. 3, Issue 12, Dec 2015, 227-238.
- 61- 'Using Artificial Bee Colony Algorithm to Determine the Optimum Stratum Boundaries Depending on Neyman Allocation' Journal of The International Association of Advanced Technology and Science, Vol 2, Issue 3, March 2016.
- 62- 'Application of Latent Roots Regression to Multicollinear Data 'Journal of Advance Research in Computer Science and Engineering, Vol .4, No.12, 2017.
- 63- 'Studying the Effect of Some Variables on the economic Growth Using Latent Roots Method' *International Journal of Advanced Research in Computer Engineering & Technology (IJARCET) Volume 8, Issue 11, November 2019* , ISSN: 2278 – 1323.
- 64- 'Optimum Stratum Boundaries Using Artificial Bee Colony and Particle Swarm Optimization' Proceedings of the International Conference of Arab IACMC-2019 period 24-26 April 2019, Zarqa University, Jordan.
- 65- "A COMPARISON BETWEEN RIDGE REGRESSION AND LEAST ABSOLUTE VALUE USING SIMULATION TECHNIQUE", Journal of Advances and Applications in Statistics. Volume 60, Number 2, 2020, Pages 137-146.
- 66- "Performance of the New Ridge Regression Parameters "Journal of Advances in Mathematics and Computer Science 34(5): 1-9, 2019; Article no. JAMCS.53467.
- 67- "A MONTE CARLO COMPARISON BETWEEN LEAST SQUARES AND THE NEW RIDGE REGRESSION PARAMETERS" Journal of Advances and

- Applications in Statistics. Volume 62, Number 1, 2020, Pages 97-105.
- 68- "USING RIDGE REGRESSION TO ESTIMATE SOME VARIABLES AFFECTING THE IRAQI STOCK EXCHANGE INDEX" *Journal of Advances and Applications in Statistics*. Volume 69, Number 2, 2021, Pages 191-202, <http://dx.doi.org/10.17654/AS069020191>
- 69- "Approximate Methods to Obtain the Optimum Stratum Boundaries: A Comparative Study" *Eurasian Journal of Science & Engineering*. Volume 7, Issue 1, 2021, Pages 197- 204.
- 70- "Using Linear Regression Analysis to Study the Recovery Cases of COVID 19 in Erbil, Kurdistan Region" *Drugs and Cell Therapies in Hematology*. Volume 10, Issue 1, 2021, 1226-1239.
- 71- "Dynamics of High School Certificate Examinations Demand: A Case Study of Kurdistan Region, Iraq" *Eurasian Journal of Science & Engineering*. Volume 7, Issue 2, 2021, Pages 1-9.
- 72- "THE EFFECT OF SOME MACROECONOMIC VARIABLES ON STOCK MARKET MOVEMENT IN IRAQ" *Journal of Advances and Applications in Statistics*. Volume 73, Number 1, 2022, Pages 1-16, <http://dx.doi.org/10.17654/0972361722008>.
- 73- "Factors Affecting Number of Born Children in Iraq" *JOURNAL OF ALGEBRAIC STATISTICS* Volume 13, No. 2, 2022, p. 955 – 966.
- 74- "Investigating Multicollinearity in Factors Affecting Number of Born Children in Iraq" *JOURNAL OF ALGEBRAIC STATISTICS* Volume 13, No. 2, 2022, p. 967 - 974.
- 75- "Access to and Utilization of Information and Communication Technology by the Teaching Staff at Tishk International University" *Eurasian Journal of Science & Engineering*. Volume 8, Issue 1, 2022, Pages 203-212. Doi:10.23918/eajse.v8i1p203
- 76- "The Use of One Sample t-Test in the Real Data" *Journal of Advances in Mathematics*. Volume 21, 2022, pages 134-138, DOI: <https://doi.org/10.24297/jam.v21i.9279>.
- 77- "THE USE OF TWO-SAMPLE t-TEST IN THE REAL DATA" *Journal of Advances and Applications in Statistics*. Volume 81, Number 1, 2022, Pages 13-22, <http://dx.doi.org/10.17654/0972361722071>
- 78- "Factors affecting the achievement of demand in high school certificate examination in Erbil, KRG, Iraq. AIP Conference Proceedings 2554, 030003 (25/1/2023); <https://doi.org/10.1063/5.0104430>
- 79- "FACTORS AFFECTING THE MOTIVATION OF STUDENTS SPEAKING SKILLS' PROGRESS" *Journal of Advances and Applications in Statistics*. Volume 86, Number 2, 2023, Pages 157-166, <http://dx.doi.org/10.17654/0972361723021>
- 80- "DESCRIPTIVE STATISTICS FOR FINDING THE IMPACT OF PEER FEEDBACK ON WRITING SKILL EMPOWERMENT IN EFL CLASS" *Journal of Advances and Applications in Statistics*. Volume 87, Number 2, 2023, Pages 225-236, <http://dx.doi.org/10.17654/0972361723035>.
- 81- "Investigating Multicollinearity in Factors Affecting Number of Born Children in Iraq" *Springer Proceedings in Mathematics & Statistics book series (PROMS, volume 418)*, 30 May 2023, Pages 81-91, https://link.springer.com/chapter/10.1007/978-981-99-0447-1_7

- 82- "Using Ridge Regression to Estimate Factors Affecting the Number of Births. A Comparative Study" Springer Proceedings in Mathematics & Statistics book series (PROMS,volume 418), 30 May 2023, Pages 183-194, https://link.springer.com/chapter/10.1007/978-981-99-0447-1_15
- 83- "New Estimations for Zeros of Polynomials Using Numerical Radius and Similarity of Matrices" Springer Proceedings in Mathematics & Statistics book series (PROMS,volume 418), 30 May 2023, Pages 461-474, https://link.springer.com/chapter/10.1007/978-981-99-0447-1_41
- 84- "Mathematics Learning Challenges and Difficulties: A Students' Perspective" Springer Proceedings in Mathematics & Statistics book series (PROMS,volume 418), 30 May 2023, Pages 311-323, https://link.springer.com/chapter/10.1007/978-981-99-0447-1_27
- 85- "Investigating the Causes of the Decline in Mathematics Performance Among High School Students in Iraq: A Teacher's Perspective" YMER, VOLUME 22: ISSUE 06 (June) – 2023, Pages 919-930. <https://ymerdigital.com/current-issue/?cpage=4>
- 86- "Understanding Challenges of Mathematics Education in Iraq: A Focus on Kurdistan Region" YMER, VOLUME 22: ISSUE 06 (June) – 2023, Pages 931-946. <https://ymerdigital.com/current-issue/?cpage=4>.
- 87- "Loss of Economic Returns for Not Investing in Green Residential Buildings in the Kurdistan Region of Iraq: A Sustainable Perspective" Springer Proceedings of the 18th SICB "Sustainability and Cutting-Edge Business Technologies" Volume 2, 27 August 2023, pages 138-146. https://doi.org/10.1007/978-3-031-42455-7_13
- 88- "Trends in the Development of Information and Communication Technology Indicators and Their Impact on the Sustainable Development of the United Arab Emirates for the Period 2000–2022. Springer Proceedings of the 18th SICB "Sustainability and Cutting-Edge Business Technologies" Volume 2, 27 August 2023, pages 186-193. https://doi.org/10.1007/978-3-031-42455-7_17
- 89- "Utilization of Information and Communication Technology (ICT) by Faculty Members at Information and Communication Technology College Al-Zaytoonah University in Jordan" International Conference on Information Technology (ICIT) 2023, pp806-810. DOI: [10.1109/ICIT58056.2023.10225928.IEEE](https://doi.org/10.1109/ICIT58056.2023.10225928).

Authored and Translated Books:

An authored Book Titled "Programming and Numerical Analysis" Mosul University press 1988.

Articles and Scientific Consulting:

1. scientific articles entitled (Electronic and Computer past and present), Revolution newspaper in 01/13/1986.
2. scientific article entitled (the electronic brain of the human mind), Revolution newspaper in 04/15/1987.
3. scientific article entitled (Electronic and Computer programs and languages), Revolution newspaper in 03/31/1988.

Scientific Advices:

Hundreds of scientific consulting in the field of statistics are given for many of the researches and under graduate and post graduate students of the departments of mathematics , statistics , economics , administration ,biology and medicine in Mosul , Basrah , Salah-aldeen Universities , Iraq and Al- albayt University , Jordan .

Scientific Supervision

One Ph.D. and thirty-four M.Sc. students from four different countries were under my supervision at the departments of Mathematics and Statistics colleges of Sciences, Economics and Administration, Computer Sciences and Mathematics, Mosul University, Iraq and Al- albayt University, Jordan.

Research Links

<https://scholar.google.com/citations?hl=en&user=TZ9xBCoAAAAJ>

<https://www.researchgate.net/profile/Mowafaq-Al-Kassab>

<https://staff.tiu.edu.iq/team-members/mowafaq-mohammad/>

<https://orcid.org/my-orcid?orcid=0000-0002-9471-528X>

<https://www.scopus.com/authid/detail.uri?authorId=35796838700>

<https://livedna.net/account/index.php>

<https://www.linkedin.com/in/mowafaq-alkassab-1219a044/>