

## CURRICULUM VITAE (CV)



### Dr. ZEYAD ABDEL AZIZ MAH'D AL-ZHOUR

د. / زياد عبد العزيز محمود الزهور

IMAM ABDULRAHMAN BIN FAISAL UNIVERSITY (IAU)  
(FORMERLY: UNIVERSITY OF DAMMAM(UoD))

#### ❖ Position:

ASSOCIATE PROFESSOR  
Ph.D / APPLIED MATHEMATICS  
DEPARTMENT OF BASIC SCIENCES & HUMANITIES  
COLLEGE OF ENGINEERING  
IMAM ABDULRAHMAN BIN FAISAL UNIVERSITY (IAU)  
(FORMERLY: UNIVERSITY OF DAMMAM (UoD))  
P. O. BOX 1982, DAMMAM31441, SAUDI ARABIA.

#### ❖ Personal Data

Nationality: Jordanian

Date of Birth: 30 November, 1968

Department: Basic Sciences and Humanities

Official Email: [zalzhour@iau.edu.sa](mailto:zalzhour@iau.edu.sa); [zeyad1968@yahoo.com](mailto:zeyad1968@yahoo.com)

Office Phone No.: 01333-31684

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File Detailing the Social Media Profile Links:

- **Google Scholar:**  
<https://scholar.google.com/citations?user=ffk5u8QAAAAJ&hl=en>
- **Scopus:**  
<https://www.scopus.com/authid/detail.uri?authorId=14059483200>
- **Researcher ID:**  
<http://www.researcherid.com/rid/A-5123-2015>
- **Research Gate:**  
[https://www.researchgate.net/profile/Zeyad\\_Al-Zhour](https://www.researchgate.net/profile/Zeyad_Al-Zhour)
- **ORCID ID:**  
<http://orcid.org/0000-0002-8543-5497>
- **Publons (Clarivate Analytics):**  
<https://publons.com/researcher/1671227/zeyad-al-zhour/>
- **LinkedIn:**  
<https://www.linkedin.com/in/zeyad-al-zhour-b1897341/?originalSubdomain=sa>
- **Academia:**  
<https://iabfu.academia.edu/zalzhour>

## ❖ Language

## Proficiency

Language	Read	Write	Speak
Arabic	Excellent	Excellent	Excellent
English	Very Good	Very Good	Very Good
Others			

## ❖ Personal Characteristics and Computer Skills

Personal Characteristics	Computer Skills
<ul style="list-style-type: none"> <li>✓ Described as responsible, hardworking and ambitious person.</li> <li>✓ Prefer to work in education and research fields, where my performance can be measured with some accuracy.</li> <li>✓ Willing to learn and work fast, able to contribute in teamwork, manage to make due date on time, good communication skills and can work independently.</li> </ul>	<ul style="list-style-type: none"> <li>✓ <u>Control Software:</u> MATLAB, MATIMATICA, MAPLE.</li> <li>✓ <u>Windows Software:</u> MS-Word, MS- Power point, MS- Excel and SWP50.</li> </ul>

## ❖ Academic Qualifications (Beginning with the most recent)

Period / Date	Academic Degree	Place of Issue & Address	Details
May 2003- Jan. 2007 (16 /01/ 2007)	Ph.D	University Putra Malaysia (UPM) 43400, Serdang, Selangor, Malaysia	<ul style="list-style-type: none"> <li>❖ <b>Program:</b> Doctor of Philosophy in Science (Research &amp; Course Work)</li> <li>❖ <b>Major:</b> Applied Mathematics.</li> <li>❖ <b>Specialization:</b> Matrix Differential Equations.</li> <li>❖ <b>Cumulative Average:</b> 4 out of 4 (Excellent – First Honour)</li> </ul>
Oct. 1994 - Oct.1997 (07 /10/ 1997)	MSc.	Al al-Bayat University, Mafraq, 25113, Jordan.	<ul style="list-style-type: none"> <li>❖ <b>Program:</b> Master of Science (Research &amp; Course Work)</li> <li>❖ <b>Major:</b> Mathematics.</li> <li>❖ <b>Specialization:</b> Matrix Analysis</li> <li>❖ <b>Cumulative Average:</b> (Very Good).</li> </ul>
Sep.1990- Sep.1994 (08 /09/ 1994)	BSc.	Mu'tah University, Al-Karak, Jordan	<ul style="list-style-type: none"> <li>❖ <b>Program:</b> Bachelor of Science (Course Work).</li> <li>❖ <b>Major:</b> Mathematics.</li> <li>❖ <b>Cumulative Average:</b> 80.11% (Very Good- First Honour).</li> </ul>

Sep.1988- June1990 (15 /06/ 1990)	Diploma	Zarqa Private College	<ul style="list-style-type: none"> <li>❖ <b>Program:</b> Diploma (Course Work with comprehensive Exams).</li> <li>❖ <b>Major:</b> Mathematics (98% - Excellent -First Honour)</li> <li>❖ <b>Minor:</b> Educational Qualifications (91 % - Excellent- First Honour).</li> </ul>
1975-1987 (1987)	General Certificate of Secondary Education	Beit Kahel Intermediate School Tarqomya Secondary School, Palestine.	<ul style="list-style-type: none"> <li>❖ Primary and intermediate School</li> <li>❖ Secondary School ( 82.1 % - Very good)</li> </ul>

❖ **PhD, Master or Fellowship Research Title: (Academic Honors or Distinctions)**

<b>PhD</b>	Generalizations and Some Applications of Kronecker and Hadamard Products of Matrices
<b>Master</b>	Kronecker Products of Matrices and Some Applications
<b>Fellowship</b>	

❖ **Professional Record: (Beginning with the most recent)**

Job Rank	Place and Address of Work		Date
Associate Professor	Imam Abdulrahman Bin Faisal University (IAU)- (Formerly: University of Dammam (UoD))	Department of Basic Sciences, College of Engineering, Imam Abdulrahman Bin Faisal University- P.O. Box 1982, 31451 Dammam – KSA	From: 05-4-2018 To: Present
Assistant Professor	Imam Abdulrahman Bin Faisal University (IAU)- (Formerly: University of Dammam (UoD))	Department of Basic Sciences, College of Engineering, Imam Abdulrahman Bin Faisal University- P.O. Box 1982, 31451 Dammam – KSA	From: 11-9-2010 To: 04-04-2018
Assistant Professor	Zarqa University	Department of Mathematics- Faculty of Science and Information Technology- Zarqa University - P.O. Box 132222, 13132 Zarqa -	From: 16-9-2007 To: 11-9-2010

		Jordan	
Teacher	Islamic Scientific College	Jabal Amman- P. O. Box 385, 11118 Amman- Jordan.	From: 5-10-1994 To: 12-8-2003

### ❖ Administrative Positions Held: (Beginning with the most recent)

Administrative Position	Office	Date
Chairman	Department of Basic Sciences and Humanities- College of Engineering - University of Dammam - KSA.	From: 05-09-2011 To: 15-1-2016
Chairman	Department of Mathematics - Faculty of Science and Information Technology -Zarqa University - Jordan	From : 14-09-2008 To: 11-09-2010
Chairman of Organizing Committee	Third Conference on Mathematical Sciences--Zarqa University -Jordan	From : 15-09-2009 To : 11-09-2010
Coordinator of Organizing Committee	Second Conference on Mathematical Sciences- Zarqa University-Jordan	From : 01-10-2007 To : 21-10-2008

### ❖ Scientific Achievements

**Published Refereed Scientific Researches** (In Chronological Order Beginning with the Most Recent)

#### **PART (I): Published Refereed Scientific Articles**

#	Name of Investigator(s)	Research Title	Publisher and Date of Publication
1	<u>Zeyad Al-Zhour</u>	Some New Linear Representations of Matrix Quaternions with Some Applications	<i>Journal of King Saud University-Science</i> , Vol. 31 (2019), pp. 42-47. (ISI) Doi: <a href="https://doi.org/10.1016/j.jksus.2017.05.017">https://doi.org/10.1016/j.jksus.2017.05.017</a> <b>Publisher:</b> Elsevier-Thomson Scientific. <b>ISSN:</b> 1018-3647

2	<a href="#">Zeyad Al-Zhour</a>	Notes and Counterexamples on Positive (Semi) Definite Property of Some Matrix Products	<p><i>Ain Shams Engineering Journal</i>, Vol. 9 (2018), pp. 3217-3220.  <b>Publisher:</b> Elsevier Ltd. on behalf of Ain Shams University-Thomson Scientific.  <b>Doi:</b>  <a href="https://doi.org/10.1016/j.asej.2017.11.008">https://doi.org/10.1016/j.asej.2017.11.008</a>  <b>Publisher:</b> Elsevier-Thomson Scientific.  <b>ISSN:</b> 2090-4479.</p>
3	<a href="#">Zeyad Al-Zhour</a>	The General Solutions of Singular and Non-Singular Matrix Fractional Time-Varying Descriptor Systems with Constant Coefficients Matrices in Caputo Sense	<p><i>Alexandria Engineering Journal</i>, Vol. 55, Issue 2 (2016), pp. 1675-1681.  Doi:  <a href="https://doi.org/10.1016/j.aej.2016.02.024">https://doi.org/10.1016/j.aej.2016.02.024</a>  <b>Publisher:</b> Elsevier-Thomson Scientific.  <b>ISSN:</b>1110-0168</p>
4	Zayed Al-Zuhiri, <a href="#">Zeyad Al-Zhour</a> and Khaled Jaber	The Exact Solutions of Such Coupled Linear Matrix Fractional Differential Equations of Diagonal Unknown Matrices by Using Hadamard Product	<p><i>Journal of Applied Mathematics and Physics</i>, Vol. 4, (2016), pp. 432-442.  Doi:  <a href="http://dx.doi.org/10.4236/jamp.2016.42049">http://dx.doi.org/10.4236/jamp.2016.42049</a>  <b>Publisher:</b> Scientific Research  <b>ISSN:</b>2327-4379 (online), 2327-4379 (Print)</p>

5	<a href="#"><u>Zeyad Al-Zhour</u></a>	New Techniques for Solving Some Matrix and Matrix Differential Equations	<p><i>Ain Shams Engineering Journal</i>, Vol. 6, Issue 1, (2015), pp. 347-354.                  Doi: <a href="https://doi.org/10.1016/j.asej.2014.08.009">https://doi.org/10.1016/j.asej.2014.08.009</a>  <b>Publisher:</b> Elsevier-Thomson Scientific.  <b>ISSN:</b> 2090-4479.</p>
6	<a href="#"><u>Zeyad Al-Zhour</u></a>	Extension and Generalization Properties of the Weighted Minkowski Inverse in a Minkowski Space for an Arbitrary Matrix	<p><i>Computers and Mathematics with Applications</i>, Vol. 70, Issue 5, (2015), pp. 954-961.                  Doi: <a href="https://doi.org/10.1016/j.camwa.2015.06.015">https://doi.org/10.1016/j.camwa.2015.06.015</a>  <b>Publisher:</b> Elsevier-Thomson Scientific.  <b>ISSN :</b> 0898-1221</p>
7	<a href="#"><u>Zeyad Al-Zhour</u></a>	Several New Inequalities on Operator Means of Non-Negative Maps and Khatri-Rao Products of Positive Definite Matrices	<p><i>Journal of King Saud University-Science</i>, Vol. 26, Issue 1 (2014), pp. 21-27.                  Doi: <a href="https://doi.org/10.1016/j.jksus.2013.05.002">https://doi.org/10.1016/j.jksus.2013.05.002</a>  <b>Publisher:</b> Elsevier-Thomson Scientific.  <b>ISSN:</b> 1018-3647</p>
8	<a href="#"><u>Zeyad Al-Zhour</u></a>	The General (Vector) Solutions of Such Linear (Coupled)Matrix Fractional Differential Equations by using Kronecker Structures	<p><i>Applied Mathematics and Computation</i>, Vol. 232, (2014), pp. 498-510.                  Doi: <a href="https://doi.org/10.1016/j.amc.2014.01.079">https://doi.org/10.1016/j.amc.2014.01.079</a>  <b>Publisher:</b> Elsevier-Thomson Scientific.  <b>ISSN:</b> 0096-3003</p>
9	Omar Abu Arqub, Ahmad El-Ajou, <a href="#"><u>Zeyad Al-Zhour</u></a> and Shaher Momani	Multiple Solutions of Nonlinear Boundary Value Problems of Fractional Order: New Analytic Iterative Technique	<p><i>Entropy</i>, Vol. 16, No. 1 (2014), pp. 471-493.                  Doi: <a href="http://www.mdpi.com/1099-4300/16/1/471">http://www.mdpi.com/1099-4300/16/1/471</a>  <b>Publisher:</b> MDPI-Thomson Scientific.  <b>ISSN:</b> 1099-4300</p>
10	Ahmad El-Ajou, Omar Abu Arqu, <a href="#"><u>Zeyad Al-Zhour</u></a> and Shahir	New Results on Fractional Power Series: Theory and Applications	<p><i>Entropy</i>, Vol. 15, No. 12, (2013), pp. 5305-5323.                  Doi: <a href="http://www.mdpi.com/1099-4300/15/12/5305">http://www.mdpi.com/1099-4300/15/12/5305</a>  <b>Publisher:</b> MDPI-Thomson Scientific.  <b>ISSN:</b> 1099-4300</p>

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11	Hanifa Zekraoui, <a href="#">Zeyad Al-Zhour</a> and Cenap Özel	Some New Algebraic and Topological Properties of the Minkowski Inverse in the Minkowski Space	<i>The Scientific World Journal</i> , Vol. 2013, (2013), Article ID 765732, 6 pages. Doi: <a href="http://dx.doi.org/10.1155/2013/765732">http://dx.doi.org/10.1155/2013/765732</a> <b>Publisher:</b> Hindawi-Thomson Scientific. <b>ISSN:</b> 1537-744X (online), 2356-6140 (Print)
12	<a href="#">Zeyad Al-Zhour</a>	Efficient Solutions of Coupled Matrix and Matrix Differential Equations	<i>Intelligent Control and Automation</i> , Vol. 3, No. 2, (2012), pp. 176-187. Doi: <a href="http://www.scirp.org/journal/PaperInformation.aspx?PaperID=19244">http://www.scirp.org/journal/PaperInformation.aspx?PaperID=19244</a> <b>Publisher:</b> Scientific Research- An Academic Publisher <b>ISSN:</b> 2153-0661 (online), 2153-0653 (Print)
13	<a href="#">Zeyad Al-Zhour</a>	New Holder-Types Inequalities for the Tracy Singh and Khatri-Rao Products of Positive Matrices	<i>International Journal of Computer Engineering Research</i> , Vol. 3, No. 3, (2012), pp. 50-54. Doi: <a href="https://www.researchgate.net/publication/233955124">https://www.researchgate.net/publication/233955124</a> <b>Publisher:</b> Academic Journals <b>ISSN:</b> 2141-6494
14	<a href="#">Zeyad Al-Zhour</a>	The Total Number of Squares and Rectangles are there in Rectangle (Square) Boards	<i>International Journal of Open Problems in Computer Sciences and Mathematics</i> , Vol. 5, No. 3 (2012), pp.152-159. Doi: <a href="https://www.researchgate.net/publication/233955119">https://www.researchgate.net/publication/233955119</a> <b>ISSN:</b> 1998-6262
15	Adem Kilicman and <a href="#">Zeyad Al-Zhour</a>	On Convergent Infinite Products and Some Generalized Inverses of Matrix Sequences	<i>Abstract and Applied Analysis</i> , Vol. 2011 (2011), Article ID 536935, 20 pages. Doi: <a href="http://dx.doi.org/10.1155/2011/536935">http://dx.doi.org/10.1155/2011/536935</a> <b>Publisher:</b> Hindawi-Thomson Scientific. <b>ISSN:</b> 1687-0409 (online), 1085-3375 (Print)
16	<a href="#">Zeyad Al-Zhour</a> and Mutaz Al-Sabbagh	The Approximation Solutions of Coupled Matrix Riccati Convolution Differential Equations	<i>International Journal of Mathematical Archive</i> , Vol. 2, No. 4, (2011), pp. 452-464. Doi: <a href="https://www.academia.edu/3626445/">https://www.academia.edu/3626445/</a> <b>ISSN:</b> 2229-5046
17	Adem Kiliçman and <a href="#">Zeyad Al-Zhour</a>	Note on the Numerical Solutions of the General Matrix Convolution Equations by Using	<i>Abstract and Applied Analysis</i> , Vol. 2010 (2010), Article ID 106192, 16 Pages. Doi: <a href="http://dx.doi.org/10.1155/2010/106192">http://dx.doi.org/10.1155/2010/106192</a> <b>Publisher:</b> Hindawi-Thomson Scientific.



		the Iterative Methods and Box Convolution Products	<b>ISSN:</b> 1687-0409 (online), 1085-3375 (Print)
18	Adem Kiliçman and <a href="#">Zeyad Al-Zhour</a>	On the Connection between Kronecker and Hadamard Convolution Products of Matrices and Some Applications	<i>Journal of Inequalities and Applications</i> , Vol. 2009 ( <b>2009</b> ), Article ID 736243, 10 pages. Doi: <a href="https://link.springer.com/article/10.1155/2009/736243">https://link.springer.com/article/10.1155/2009/736243</a> <b>Publisher:</b> Springer-Thomson Scientific. <b>ISSN:</b> 1029-242X
19	<a href="#">Zeyad Al-Zhour</a>	Numerical Solutions of the General Matrix Convolution Equations Based on the Iterative Methods and Box Convolution Product	<i>Far East Journal of Mathematical Sciences</i> , Vol. 32, Issue 2, ( <b>2009</b> ), pp. 199-215. Doi: <a href="http://www.pphmj.com/journals/articles/476.htm">http://www.pphmj.com/journals/articles/476.htm</a> <b>Publisher:</b> Pushpa Publishing House-Thomson Scientific. <b>ISSN:</b> 0972-0871
20	Adem Kiliçman and <a href="#">Zeyad Al-Zhour</a>	The Representation and Approximation for the Weighted Minkowski Inverse in Minkowski Space	<i>Mathematical and Computer Modelling</i> , Vol. 37, Issues 3-4, ( <b>2008</b> ), pp. 363-371. Doi: <a href="https://doi.org/10.1016/j.mcm.2007.03.031">https://doi.org/10.1016/j.mcm.2007.03.031</a> <b>Publisher:</b> Elsevier-Thomson Scientific. <b>ISSN:</b> 0895-7177
21	<a href="#">Zeyad Al-Zhour</a>	A Computationally-Efficient Solutions of Coupled Matrix Differential Equations for Diagonal Unknown Matrices	<i>Journal of Mathematical Sciences: Advances and Applications</i> , Vol. 1, No. 2, ( <b>2008</b> ), pp. 373-387. Doi: <a href="http://www.scientificadvances.co.in/artical/1/14">http://www.scientificadvances.co.in/artical/1/14</a> <b>ISSN:</b> 0974-5750
22	<a href="#">Zeyad Al-Zhour</a> , Ameen Aqel and Abdalah Ibrahim	Mathematical Properties of DNA Structure in 3-Dimensional Space	<i>International Journal of Open Problems in Computer Science and Mathematics</i> , Vol. 1, No.2, ( <b>2008</b> ), pp. 214-221. Doi: <a href="https://www.researchgate.net/publication/251293536">https://www.researchgate.net/publication/251293536</a> <b>ISSN:</b> 1998-6262
23	<a href="#">Zeyad Al-Zhour</a> and Adem Kiliçman	The General Representations for the Weighted Drazin Inverse with	<i>East-West Journal of Mathematics, (Contribution in General Algebra II, ICMDA, (2008) pp. 205-216.</i> This Volume is a special volume contains refereed papers presented at the “ <i>International Conference on Discrete Mathematics and Applications (ICDMA</i>



		Applications	2008)", March 5-7, 2008, University of the Thai Chamber of Commerce , Bangkok, Thailand. <b>ISSN:</b> 0125-2526 , 1513-489X
24	Adem Kiliçman and <a href="#">Zeyad Al-Zhour</a>	Vector Least-Squares Solutions of Coupled Singular Matrix Equations	<i>Journal of Computational and Applied Mathematics</i> , Vol. 206, Issue 2, (2007), pp. 1051-1069. Doi: <a href="https://doi.org/10.1016/j.cam.2006.09.009">https://doi.org/10.1016/j.cam.2006.09.009</a> <b>Publisher:</b> Elsevier-Thomson Scientific. <b>ISSN:</b> 0377-0427
25	Adem Kiliçman and <a href="#">Zeyad Al-Zhour</a>	Kronecker Operational Matrices for Fractional Calculus and Some Applications	<i>Applied Mathematics and Computations</i> , Vol. 187, Issue 1, (2007), pp. 250-265. Doi: <a href="https://doi.org/10.1016/j.amc.2006.08.122">https://doi.org/10.1016/j.amc.2006.08.122</a> <b>Publisher:</b> Elsevier-Thomson Scientific. <b>ISSN:</b> 0096-3003
26	<a href="#">Zeyad Al-Zhour</a> and Adem Kiliçman	Some New Connections between Matrix Products for Partitioned and Non-Partitioned Matrices	<i>Computers and Mathematics with Applications</i> , Vol. 54, Issue 6, (2007), pp. 763-784. Doi: <a href="https://doi.org/10.1016/j.camwa.2006.12.045">https://doi.org/10.1016/j.camwa.2006.12.045</a> <b>Publisher:</b> Elsevier-Thomson Scientific. <b>ISSN:</b> 0096-3003
27	<a href="#">Zeyad Al-Zhour</a> , Adem Kiliçman and Malik Hj Abu Hassan	New Representations for Weighted Drazin Inverse of Matrices	<i>International Journal of Mathematical Analysis</i> , Vol. 1, No. 15, (2007), pp. 697-708. Doi: <a href="http://www.m-hikari.com/ijma/ijma-password-2007/ijma-password13-16-2007/index.html">http://www.m-hikari.com/ijma/ijma-password-2007/ijma-password13-16-2007/index.html</a> <b>Publisher:</b> Hikari <b>ISSN:</b> 1312-8876 (Print), 1314-7579 (Online)
28	Adem Kiliçman and <a href="#">Zeyad Al-Zhour</a>	Iterative Solutions of Coupled Matrix Convolution Equations	<i>Soochow Journal of Mathematics</i> , Vol. 33, No. 1 (2007), pp. 167-180. Doi: <a href="http://mathlab.math.scu.edu.tw/mp/scu/00view.asp?eAutoID=88">http://mathlab.math.scu.edu.tw/mp/scu/00view.asp?eAutoID=88</a> <b>Publisher:</b> Soochow University <b>ISSN:</b> 0250-3255
29	<a href="#">Zeyad Al-Zhour</a> and Adem	Some Topics on Weighted Generalized	<i>Malaysian Journal of Mathematical Sciences</i> , Vol. 1, No. 1, (2007), pp. 109-122. Doi: <a href="http://einspem.upm.edu.my/journal/volume1.1.php">http://einspem.upm.edu.my/journal/volume1.1.php</a>

	Kiliçman	Inverse and Kronecker Product of Matrices	<b>Publisher:</b> INSPEM, University Putra Malaysia <b>ISSN:</b> 1823-8343
30	<a href="#">Zeyad Al-Zhour</a> and Adem Kiliçman	Matrix Equalities and Inequalities Involving Khatri-Rao and Tracy-Singh Sums	<i>Journal of Inequalities in Pure and Applied Mathematics</i> , Vol.7, Issue 1, (2006), Article 34, pp. 496-513. Doi: <a href="https://www.emis.de/journals/JIPAM/article618.html?sid=618">https://www.emis.de/journals/JIPAM/article618.html?sid=618</a> <b>Publisher:</b> Victoria University- Thomson Scientific <b>ISSN:</b> 1443-5756
31	<a href="#">Zeyad Al-Zhour</a> and Adem Kiliçman	Extensions and Generalization Inequalities Involving The Khatri-Rao Product of Several Positive Matrices	<i>Journal of Inequalities and Applications</i> , Vol. 2006, (2006), Article ID 80878, 21 pages. Doi: <a href="https://doi.org/10.1155/JIA/2006/80878">https://doi.org/10.1155/JIA/2006/80878</a> <b>Publisher:</b> Springer-Thomson Scientific <b>ISSN:</b> 1029-242X
32	Adem Kiliçman and <a href="#">Zeyad Al-Zhour</a>	Improvements on Geometric Means Related to the Tracy-Singh Products of Positive Matrices	<i>Matematika –Malaysian Journal of Industrial and Applied Mathematics</i> , Vol. 21, No. 2 (2005), pp. 49-65. Doi: <a href="http://www.matematika.utm.my/index.php/matematika/issue/view/33">http://www.matematika.utm.my/index.php/matematika/issue/view/33</a> <b>Publisher:</b> Universiti Teknologi Malaysia <b>ISSN:</b> 0127-8274
33	<a href="#">Zeyad Al-Zhour</a> and Adem Kiliçman	New Algebraic Method for Solving the Axial N- Index Transportation Problem Based on the Kronecker Product	<i>Matematika, Malaysian Journal of Industrial and Applied Mathematics</i> , Vol. 21, No. 2 (2005), pp. 113-123. Doi: <a href="http://www.matematika.utm.my/index.php/matematika/issue/view/77">http://www.matematika.utm.my/index.php/matematika/issue/view/77</a> <b>Publisher:</b> Universiti Teknologi Malaysia <b>ISSN:</b> 0127-8274
34	Adem Kiliçman and <a href="#">Zeyad Al-Zhour</a>	The General Common Exact Solutions of coupled Linear Matrix and Matrix Differential Equations	<i>Journal of Analysis and Computation</i> , Vol. 1, No.1, (2005), pp. 15-29.
35	<a href="#">Zeyad Al-Zhour</a> and Adem Kiliçman	A New Algebraic Method for Solving the Balanced Transportation Problem (BTP) Based on the Kronecker Product	<i>IRSIAM Journal on Applied Mathematics</i> , Vol. 1, No. 1, (2005), pp. 64-80.

## **PART (II): Scientific Research Papers Submitted for Publication**

#	Name of Investigator(s)	Research Title	Journal	Submitted Date
1	Ahmad El-Ajou and <a href="#">Zeyad Al-Zhour</a>	New Results and Computational Technique for Solving Some Linear and Non-Linear Matrix Fractional Differential Equations	<i>International Journal of Applied Mathematics and Computer Science.</i> <b>Publisher:</b> University of Zielona Gora-Thomson Scientific	12-1-2019
2	Ahmad El-Ajou, Moa'ath Oqielat and <a href="#">Zeyad Al-Zhour</a>	Matrix Fractional Taylor's Formula: New Results and Some Applications	<i>Communications in Nonlinear Science and Numerical Simulation.</i> <b>Publisher:</b> Elsevier-Thomson Scientific	17-12-2018

## **PART (III): Scientific Research Papers Presented to Refereed Specialized Scientific Conferences**

#	Name of Investigator(s)	Research Title	Conference and Publication Date
1	<a href="#">Zeyad Al-Zhour</a>	Generalizations of Ando's Geometric Mean on Positive Matrices and Some Related Inequalities	The Third Conference on Mathematical Sciences (CMS'2011), 27-29 April, <b>2011</b>
2	<a href="#">Zeyad Al-Zhour</a>	A Note on the Solution of the General Linear Matrix Differential Equations	International Conference on "Computational Methods and Function Theory (CMFT 2009)", 08-12 June <b>2009</b> .
3	<a href="#">Zeyad Al-Zhour</a> and Adem Kiliçman	The General Representations for the Weighted Drazin Inverse with Applications	International Conference on "Discrete Mathematics and Applications (ICDMA 2008)", 5-7 March , <b>2008</b>
4	<a href="#">Zeyad Al-Zhour</a> and Adem Kiliçman	The Riemann-Liouville Fractional Integral of Matrices with Applications	International Symposium on "Geometric Function Theory & Applications, 22-24 August, <b>2007</b>

### **PART (IV): Completed Research Projects**

#	Name of Investigator(s) (Supported by)	Research Title	Date
1	<a href="#">Zeyad Al-Zhour</a> ( Funded by University of Dammam)	The General Vector Solutions of Such Systems of Matrix Fractional Differential Equations	From: 06-05-2013 To: 06-08-2014
2	Mutaz Al-Sabbagh and <a href="#">Zeyad Al-Zhour</a> ( Funded by University of Dammam)	Computational Algorithm for the K—TH Chow Ring of A T-Variety and Some Applications	From: 06-05-2013 To: 06-05-2014
3	<a href="#">Zeyad Al-Zhour</a> and Mutaz Al-Sabbagh ( Funded by University of Dammam)	Tracy-Singh and Khatri- Rao Products of Matrices and Some Applications	From: 01-02-2012 To: 01-12- 2012
4	<a href="#">Zeyad Al-Zhour</a> and Mutaz Al-Sabbagh ( Funded by University of Dammam)	Convolution Products of Matrices and Some Applications	From : 15-01-2011 To 15-09- 2011

### **PART (V): Current Researches**

#	Research Title	Name of Investigator(s)
1	Representations and Applications of Dual and Hyperbolic Matrices	<a href="#">Zeyad Al-Zhour</a>
2	Matrix Fractional Differential Equations	<a href="#">Zeyad Al-Zhour</a> & Ahmad El-Ajou
3	Conformable Fractional Differential Equations	<a href="#">Zeyad Al-Zhour</a> , Nouf Al-Mutairi & Fatimah Al-Rawajeh

### **PART (VI): Contribution to Scientific Conferences, Symposia and Workshops**

#	Conference (Workshop) Title	Place and Date of the Conference	Extent of Contribution
1	The Pursuit of Excellence in Mentoring in Higher Education	Deanship of Quality and Academic Accreditation, Imam Abdulrahman Bin Faisal University, Saudi Arabia, 6 <sup>th</sup> November, 2018.	Attendance

2	Risk Management Planning in Higher Education	Deanship of Quality and Academic Accreditation, Imam Abdulrahman Bin Faisal University, Saudi Arabia, 21 <sup>st</sup> March, 2017	Attendance
3	3 <sup>rd</sup> International Symposium on Big Data and Cloud Computing Challenges (ISBCC' 16)	VIT University, Chennai Campus, India, 10-11 March, 2016.	Program Committee
4	ملتقى ومعرض السلامة المرورية الثالث – الشباب والسلامة المرورية	University of Dammam, Dammam, Shiraton Hotel, Saudi Arabia, 23 <sup>th</sup> -25 <sup>th</sup> November, 2015.	Attendance
5	Motivating Students and Learning	Dean of Education Development, University of Dammam, Saudi Arabia, 17 <sup>th</sup> November, 2015	Attendance
6	Situation Analysis and Orientation	University of Dammam and Thomson Reuters Strategic Partnership, University of Dammam, Saudi Arabia, 25 <sup>th</sup> May, 2015.	Attendance
7	مؤتمر التميز في تعليم وتعلم العلوم والرياضيات الأول- توجه العلوم والتقنية والهندسة والرياضيات	University of King Suad, Riyadh, Saudi Arabia, 5-6 May, 2015.	Participant
8	Conference: 2 <sup>nd</sup> International Symposium on Big Data and Cloud Computing Challenges (ISBCC15)	VIT University, Chennai Campus, India, 12-13 March, 2015	Program Committee
9	International Conference of Engineering Mathematics and Applications (ICEMA 2014)	Venice, Italy, 12-13 November, 2014	Conference Committee
10	Using Multiple Choice Items to Test Higher-Order Thinking Skills	Deanship of Education Development, University of Dammam, Saudi Arabia, 28 <sup>th</sup> October, 2014.	Attendance
11	Third International Conference on Quality Assurance in Postsecondary Education	University of Dammam, Dammam, Shiraton Hotel, Saudi Arabia, 27 <sup>th</sup> -29 <sup>th</sup> April, 2013	Attendance
12	The Eighth National GIS Symposium in Saudi Arabia	University of Dammam, Dammam, Shiraton Hotel, Saudi Arabia, 15 <sup>th</sup> - 17 <sup>th</sup> April, 2013.	Attendance
13	Teaching Skills in the 21 <sup>st</sup> Century	Dean of Education Development, University of Dammam, Saudi Arabia, 17 <sup>th</sup> -18 <sup>th</sup> February 2013.	Attendance

14	2 <sup>nd</sup> Research Methods and Applied Statistics	College of Applied Medical Sciences- University of Dammam , Saudi Arabia, 4-5 May, 2013	Participant
15	المحاضرة التفاعلية	Deanship of Education Development, University of Dammam, Saudi Arabia, 28 January, 2013.	Attendance
16	Communication Skills	Dean of Education Development, University of Dammam, Saudi Arabia, 03 <sup>th</sup> December, 2012.	Attendance
17	Interactive Lecturing Skills	Dean of Education Development, University of Dammam, Saudi Arabia, 26 <sup>th</sup> November, 2012.	Attendance
18	Building a Learner-Centered Learning Process of a Course Based on Constructivism Concept	Dean of E-Learning and Distance Learning– University of Dammam, Saudi Arabia, 26 <sup>th</sup> -29 <sup>th</sup> March, 2011	Attendance
19	Facilitation will Lead Faculty Participants, Grouped by Colleges/ Clusters, in Discussing Action Plans for the E-Learning and Distance Learning Opportunities in their Disciplines	Dean of E-Learning and Distance Learning– University of Dammam, Saudi Arabia, 26 <sup>th</sup> -29 <sup>th</sup> March, 2011	Attendance
20	The Third Conference of Mathematical Sciences (CMS'2011)	Zarqa University, Jordan, 27 <sup>th</sup> -29 <sup>th</sup> April, 2011.	Committee and Participant
21	Matrix Products on Matrices and Their Applications	Faculty of Science / Girls Faculty / University of Dammam/KSA, 14-05-2011	Speaker
22	Building a Learner-Centered Learning Process of a Course Based on Constructivism Concept	University of Dammam, 26 <sup>th</sup> -29 <sup>th</sup> March, 2011.	Attendance
23	S and T Statistics and Policy Making	ISESCO – Islamic Republic of Pakistan 5 <sup>th</sup> -7 <sup>th</sup> May, 2009.	Attendance
24	Computational Methods and Function Theory (CMFT 2009)	Bilkent University, Ankara, Turkey, 08-12 June, 2009.	Participant
25	Mathematical Properties of DNA	Faculty of Allied Medical Sciences / Zarqa University / Jordan, 18 <sup>th</sup> April, 2008.	Speaker
26	International Conference on Discrete Mathematics and Applications	The University of the Thai Chamber of Commerce, Bangkok, Thailand, 5 <sup>th</sup> -7 <sup>th</sup> March, 2008.	Participant

27	E-Learning Training by using "Moodle System"	Zarqa University, Zarqa-Jordan, 16-20 September, 2007	Participant
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## **PART (VII): Membership of Scientific and Professional Societies and Organizations**

<b>PART (A): Membership in Scientific Communities</b>	
1	Member of " <u>Jordan Society for Scientific Research</u> " " <u>الجمعية الأردنية للبحث العلمي</u> "
2	Member of " <u>Research Group in Mathematical Inequalities and Applications (RGMIA)</u> " Victoria University, Australia & Canada.
3	Chairman of Organizing Committee and a member of Technical Committee of " <u>The Third Conference on Mathematical Sciences (CMS'2011)</u> ", 27 -29 April, 2011, Zarqa University, Zarqa , Jordan
4	Coordinator and a member of Organizing and Technical Committee of " <u>The Second Conference on Mathematical Sciences (CMS'2008)</u> ", 22 -23 October, 2008, Zarqa University, Zarqa , Jordan.
5	Member of " <u>Jordanian-Egyptian Research Team Focusing on Authoring and Translation of Books</u> "
6	Member of " <u>Researcher Gate Scientific Network</u> ".
7	Member of Program Committee of " <u>International Symposium on Big Data and Cloud Computing Challenges (ISBCC 2016)</u> ", 10-11 March, 2016, VIT University Chennai Campus-Schools of Computing Sciences- India.
8	American Mathematical Society (AMS).

<b>PART (B): Membership of Editorial Board (Reviewer) of Refereed Journals</b>	
1	Membership of Editorial Board of " <u>American Journal of Operational Research (AJOR)-USA</u> ", Scientific and Academic Publishing.
2	Membership of Editorial Board of " <u>Journal of Mathematics Sciences: Advanced and Applications</u> , Scientific Advances Publishers.
3	Membership of Editorial Board of " <u>Journal of Pure and Applied Mathematics : Advanced and Applications (JPAM:AA)</u> ", Scientific Advances Publishers.
4	Membership of Editorial Board of " <u>Journal of Algebra, Number Theory : Advanced and Applications</u> , Scientific Advances Publishers.



5	Membership of Editorial Board of " <u>Malaysian Journal of Mathematical Sciences</u> ", INSPEM, University Putra Malaysia.
6	Membership of Editorial Board of " <u>International Journal of Mathematical Archive</u> ", Published by: Scientific Research.
7	Membership of Editorial Board of " <u>International Journal of Applied and Computational Mathematics</u> ", Springer.
8	Membership of Editorial Board of " <u>Advanced in Difference Equations</u> ". Springer.
9	Membership of Mathematical Peer Reviewer of " <u>Computers and Mathematics with Applications</u> ", Elsevier Journal- Published by Thomson Scientific.
10	Membership of Mathematical Peer Reviewer of " <u>Applied Mathematics Letters</u> ", Elsevier Journal- Published by Thomson Scientific.
11	Membership of Mathematical Peer Reviewer of " <u>Mathematical and Computer Modeling</u> ", Elsevier Journal- Published by Thomson Scientific.
12	Membership of Mathematical Peer Reviewer of " <u>World Scientific and Engineering Academy and Society (WSEAS)</u> ", Famous University of Harvard, USA.
13	Membership of Technical Committee of " <u>The Third Conference on Mathematical Sciences (CMS'2011)</u> ", Held on 27-29 April 2011, Zarqa University, Zarqa, Jordan.
14	Membership of Technical Committee of " <u>The Second Conference on Mathematical Sciences (CMS'2008)</u> ", Held on 22-23 October 2008, Zarqa University, Zarqa, Jordan.
15	Membership of Editorial Board " <u>American Journal of Networks and Communications</u> ", Published by Science Publishing Group.
16	Membership of Editorial Board " <u>Scientific Research and Essays</u> ", Academic Journals.
17	Membership of Peer Reviewer of " <u>Advances in Numerical Analysis</u> ", Hindawi Publisher Corporation-USA.
18	Membership Editorial Board of " <u>The Open Numerical Methods Journal</u> ", BENTHAM OPEN- University of Texas-Pan American, Texas, USA., Texas, USA.
19	Membership of Peer Reviewer of " <u>British Journal of Mathematics and Computer Science</u> ", SCIENCEDOMAIN International, UK.
20	Membership of Editorial Board of " <u>Open Journal of Technical Sciences</u> ", Kindi

	Publication.
21	Executive Editor of " <u>Journal of Innovative Research in Engineering and Sciences</u> ", Global Research Publishing.
22	Membership of Editorial Board of " <u>Oriental Journal of Pure and Applied Mathematics</u> ", Research and Analysis International, Italy.
23	Membership of Peer Reviewer of " <u>Journal of the Egyptian Mathematical Society</u> ", Elsevier.
24	Membership of Peer Reviewer of " <u>American Journal of Theoretical and Applied Statistics</u> ", Science Publishing Group, Italy.
25	Membership of Editorial Board of " <u>Advances and Applications in Mathematical Logic and Sciences</u> ", International Scientific Academic Corporation, India.
26	Membership of Peer Reviewer of " <u>International Journal of Advanced Intelligence Paradigms</u> ", Inderscience Publisher.
27	Membership of Editorial Board of " <u>Operation Research and Applications: An International Journal</u> ."
28	Membership of Program Committee "2 <sup>nd</sup> <u>International Symposium on Big Data and Cloud Computing Challenges (ISBCC'15)</u> ", VIT University, Chennai Campus, 12-13 March, 2015, India
29	Membership of Program Committee "3 <sup>rd</sup> <u>International Symposium on Big Data and Cloud Computing Challenges (ISBCC' 16)</u> ", VIT University, Chennai Campus, March 10-11, 2016.
30	Membership of Editorial Board of " <u>American Journal of Computation, Communication and Control</u> ", American Association for Science and Technology (AASCIT).
31	Membership of Peer Reviewer of " <u>International Journal of Applied Mathematics and Computational Mathematics</u> ", Springer.
32	Membership of Peer Reviewer of " <u>Special Matrices</u> ", Poland

## ❖ Teaching Activities

### **PART (I): Undergraduate Program at IAU.**

#	Course/Rotation Title	No./Code	No. Credit Hrs.	Brief Course Description
1	Calculus I	MATH261	5	Functions, Differentiations and Integrations and their applications
2	Calculus II	MATH262	5	Parametric Equations, Vectors, Partial Derivatives, Double and Triple Integrals, Areas and Volumes.
3	Differential Equations	MATH331	3	1 <sup>st</sup> -Order Differential Equations, 2 <sup>nd</sup> Order Differential Equations, Higher Order Differential Equations, Systems of Differential Equations, Laplace Transforms and Power Series Solutions
4	Linear Algebra	MATH302	4	Matrices: operations and Properties, System of Linear Equations, Vector Spaces, Eigen values and Eigen vectors and Some applications.
5	Probability and Statistics	MATH411	4	Basic Concepts of Statistics, Organization and Description of Data, Descriptive Study of Bivariate Data, Probability, Probability Distributions, Discrete and Continuous Distributions, Test of Hypothesis , Correlations and Linear regression.
6	Operation Research	TTENG 441	3	Importance of Operation Research, Linear and Non-Linear Programming, Optimal solutions of Linear Programming by Graphs, Simplex Methods, Big M Methods, Transportation Problems, Graph Theory , Network Problems and Some Engineering Problems.
6	Numerical Methods	MATH 444	3	Numerical solutions of non-linear equations , numerical solutions of systems of linear equations, numerical integration, numerical differentiations and numerical solutions of Parabolic, Hyperbolic and Elliptic partial differential equations.

## **PART (II): Postgraduate Program at IAU**

#	Course/Rotation Title	No./Code	No. Credit Hrs.	Brief Course Description
1	Selected Topics in Differential Equations		3	Solutions of Differential Equations by Laplace Transforms, Fourier Transforms and Power Series, Matrix Differential Equations by using Kronecker Products, Rules of Fractional Calculus , Solutions of Fractional Differential Equations and Matrix Fractional Differential Equations.
2	Research Methodology		2	Planning for preparing Master Thesis and Ph.D Thesis
3	Selected Topics in Analysis		3	Advanced topics in Measure Theory, Topology and Complex Analysis.
3	Special Functions	MATH 555	3	Advanced topics in Special functions such as Gamma and Beta Functions, Mittag-Leffler functions, Fractional calculus and Fractional differential equations.

## **PART (III): Undergraduate at Zarqa University**

#	Course/Rotation Title	No./Code	No. Credit Hrs.
1	Calculus I	0301101	3
2	Calculus II	0301102	3
3	Calculus III	0301201	3
4	Linear Algebra	0301441	3
5	Complex Analysis	0301413	3
6	Introduction to Functional Analysis	0301414	3
7	Numerical Methods	0301472	3
8	Ordinary Differential Equations I	0301203	3
9	Ordinary Differential Equations II	0301403	3
10	Special Functions	0301301	3
11	Integral Transforms	0301401	3
12	Vector Analysis	0301303	3

### **PART (VI): Guest/Invited Lectures for Undergraduate Students**

#	Activity/Course Title and Code	Subject	College and University or Program	Date
1	Seminar	Open Problems on Fractional Calculus	Faculty of Science / Girls Faculty / University of Dammam/KSA.	14-5-2011
2	Seminar	Mathematical Structures of DNA	Faculty of Allied Medical Sciences / Zarqa University / Jordan.	18-4-2008

### **PART (V): Student Academic Supervision and Mentoring**

#	Level	Number of Students	From	to
1	Undergraduate Students	200 students per Academic year	2007	Present
1	Master Students	5 students per Academic year	2007	Present

### **PART (VI): Supervision of Master and/or PhD Thesis**

#	Degree Type	Student Name	Title	Institution	Date
1	Master	Manal Amoudi	Fractional Calculus and Some Applications	Department of Mathematics /Faculty of Science- Girls Faculty/ University of Dammam / Dammam / KSA	15/4/2015
2	Master	Tariq Al-Khoshman	The Weighted Moore-Penrose Inverses of Matrices and Some of Their Applications	Department of Mathematics/ Faculty of Science / al-Al-Bayt University /Al-Mafraq / Jordan	05/8/2010

### **PART (VII): Ongoing Research Supervision**

#	Degree Type	Student Name	Title	Institution	Date
1	Master	Nouf Al-Motairi	Analytic Solutions of some Conformable Fractional Differential Equations by Using Efficient Methods	Department of Mathematics /Faculty of Science- Girls Faculty/ Imam Abdulrahman Bin Faisal University/ Dammam/KSA	6-1-2019 to Present

## **PART (VIII): External Examiner**

#	Degree Type	Student Name	Title	Institution	Date
1	Master	Ameera Sharif Supervisor: Dr. Mohannad Shahwan	Generating Relations of Generalized Hermite Polynomials by Weisner's Group Theoretic Method	Department of Mathematics /Faculty of Sciences- University of Bahrain- Bahrain,	10-12-2018

## **❖ Administrative Responsibilities, Committee and Community Service (Beginning with the most recent)**

### **PART (I): Administrative Responsibilities**

#	From	To	Position	Organization
1	05-09-2011	15-1-2016	Chairman	Department of Basic Sciences and Humanities- College of Engineering - University of Damma - KSA.
2	14-09-2008	11-09-2010	Chairman	Department of Mathematics - Faculty of Science and Information Technology -Zarqa University - Jordan
3	15-09-2009	11-09-2010	Chairman of Organizing Committee	Third Conference on Mathematical Sciences--Zarqa University -Jordan
4	01-10-2007	21-10-2008	Coordinator of Organizing Committee	Second Conference on Mathematical Sciences- Zarqa University-Jordan

### **PART (II): Committee Membership**

#	From	To	Position	Organization
1	1-10-2010	Present	Committee Membership	Jordan Society for Scientific Research - Ministry of Higher Education
2	15-09-2009	11-09-2011	Organizing and Technical Committee	3 <sup>rd</sup> Conference on Mathematical Sciences

3	01-10-2007	21-10-2008	Organizing and Technical Committee	2 <sup>nd</sup> Conference on Mathematical Sciences
4	12-8-2007	Present	Committee Membership	Research Group in Mathematical Inequalities and Applications
5	1-9-2010	15-6-2014	Coordinator Membership	e-Learning and Distance Learning” College of Engineering-University of Dammam
6	11-9-2018	Present	Committee Membership	Egyptian research team focusing on authoring and translation of books in addition to unifying technical terms
7	11-9-2008	11-9-2010	Study Plans Committee	Faculty of Science and IT - Zarqa University, Jordan
8	16-9-2007	Present	Examinations Committee	Department of Mathematics, Zarqa University and Department of Basic Sciences, University of Dammam
9	16-9-2007	Present	Committee Membership	Council of Mathematics Department – Zarqa University and Council of Basic Sciences Department, University of Dammam
10	18-9-2011	15-6-2014	Committee Membership	College Website and e-learning” College of Engineering-University of Dammam
11	1-4-2015	11-3-2016	Committee Membership	International Symposium on Big Data and Cloud Computing Challenges (ISBCC 2016)” – VIT University Chennai Campus-Schools of Computing Sciences

### **PART (III): Scientific Consultations**

#	From	To	Institute	Full-time or Part-time
1	11-5-2014	18-5-2015	Zarqa University	Part-Time
2	1-5-2009	5-8-2010	Al-al Bayt University	Part-Time
3	11-1-2010	5-10-2010	Al-Quds Open University	Part-Time
4	10-10-2018	present	University of Bahrain	Part-Time

### **PART (VI): Volunteer Work**

#	From	To	Type of Volunteer	Organization
1	21-10-2008	22-10-2008	New Day	Jordanian TV



## ❖ Awards and Thankful Letters

#	Name of Award/Letter	Institution	Date
1	Distinguished Scientist in Applied Mathematics Award	Venus International Foundation (VIRA-2018)	11-08-2018
2	Outstanding Research Award (First Place)	University of Dammam / KSA	30-05-2016
3	Outstanding Teaching Award (Second Place)	University of Dammam / KSA	30-05-2016
4	Recognized Effort –Thankful Letter	Zarqa University / Jordan	30-04-2011
5	Recognized Effort –Thankful Letter	Zarqa University / Jordan	07-02-2010
6	Administrative and Recognized Effort -Thankful Letter	Zarqa University / Jordan	07-02-2010
7	Recognized Effort –Thankful Letter	Zarqa University / Jordan	02-11-2008
8	2 Bronze Medals Awards	University Putra Malaysia / Malaysia	2006
9	Silver Medal Award	University Putra Malaysia / Malaysia	2005

### Last Update

15./1/2019