

CURRICULUM VITAE Professor

Full name: Prof. Mohammad Ahmad Alia.

Department/Faculty, CIS / Faculty of Sciences and IT

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1. Personal Data

Date of Birth: 26th November, 1977
Nationality: Jordanian.

2. Education

- Ph.D. (Computer Science - Information Security/Cryptography)
2008, University Sains Malaysia (USM), Penang, Malaysia,
- M.Sc. (Information Technology, (“A”) 2003,

B.Sc. Computer Science, (83.8%), Al Zaytoonah University of Jordan.
1999-2000, Amman, Jordan



3. Ph.D. Dissertation

Thesis title: *'A New Approach to Public-Key Cryptosystem Based on Mandelbrot and Julia Fractal Set'*.

Research Synopsis: This study shows the possibility of establishing Fractal based cryptosystem algorithm including key exchange protocol, public key encryption algorithm and digital signature scheme, derived from the logical connection between the Mandelbrot and Julia Fractal sets. The security protection of the proposed Fractal cryptosystem depends on the number of iterations and the added variation constants during the iteration of Mandelbrot and Julia functions. This makes Mandelbrot and Julia values jump path chaotically and also it will establish the needed complexity of the proposed schemes. However, we can identify that the proposed Fractal public-key cryptosystem is based on chaotic hard problem. The chaotic nature of the Fractal functions ensures the security of the proposed public-key cryptosystem schemes, and this will prevent a brute force attack.

4. Employment

- 3rd Oct 2019-present** : **Dean of Scientific Research**
28th May 2018 : **Professor**
- 5th Oct 2016- 30th Sep.- 2019** : Faculty Deputy Dean
 Faculty of Sciences and IT
 Al Zaytoonah University
- 28th May 2013- Present** : Associate Professor –
 Head of Computer Information Systems Dept.
 Faculty of Sciences and IT
 Al Zaytoonah University
- Oct. 2009 - Present** : Head of Computer Information Systems Dept.
 Faculty of Sciences and IT
 Al Zaytoonah University
- May 2008 – 27th May 2013** : Assistant Professor -
 CIS Dep. Faculty of Sciences and IT
 Al Zaytoonah University



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- 2008 / 2009 –1st.Sem.** : Lecturer- Part Time -, Information Technology Dep., Petra University.
- 2008 / 2009 –2^{ed} .Sem.** : Lecturer- Part Time -, C.S. Dep., University of Jordan.
- 2006 - 2008** : Research Officer, School of Computer Science, University Sians of Malaysia (USM). I worked as part of Professor Azman Samsudin research group under two projects :
1. “*Cryptography Primitives Based on Chaos Logistic Map*”.
 2. “*Parallelisation Stream Cipher Cryptosystem Based on NP-Hard Problem (PSCC)*”.
- Feb. 2005- Feb. 2006** : Lecturer, Computer Science in the PTTI College – KSA.
- June 2003- Sep 2004** : Lecturer, Computer Science department - Al Zaytoonah University of Jordan.
- Oct 2000– June 2003** : Lab Operator, Computer Science department - Al Zaytoonah University of Jordan

Academic Positions

- Professor, ”, Computer Information Systems Dept., Faculty of Sciences and IT, Al Zaytoonah University
May 28, 2018
- Associate Professor “A”, Computer Information Systems Dept., Faculty of Sciences and IT, Al Zaytoonah University
January 15, 2018
- Associate Professor “B”, Computer Information Systems Dept., Faculty of Sciences and IT, Al Zaytoonah University
May 28, 2018
- Assistant Professor, Computer Information Systems Dept., Faculty of Sciences and IT, Al Zaytoonah University
May 27, 2008

Administrative Positions

- Dean of Scientific Research, Al Zaytoonah University, Jordan, 3rd Oct. 2019- Present.
- Faculty Deputy Dean, Faculty of Sciences and IT, Al Zaytoonah University, Jordan, 5th Oct. 2016- 30th Sep. 2019.



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- Chairman of Computer Information Systems Department, Faculty of Sciences and IT, Al Zaytoonah University, Jordan, Oct. 2009 – 30th Sep. 2019.

5. **Research Interests**

Information Security, Cryptography, Network Security, Cryptocurrency, and System Analysis and Design.

6. **Fellowships and Scholarships**

- “*Cryptography Primitives Based on Chaos Logistic Map*”.
- “*Parallelisation Stream Cipher Cryptosystem Based on NP-Hard Problem (PSCC)*”.

7. **Teaching Experience**

• *Graduate Courses*

- Information Security

• *Undergraduate Courses*

- Information security - Cryptography
- Information Technology
- Networks
- Management Information System (MIS)
- Artificial Intelligence
- Visual Basic 6.0.
- Data Base design
- Network Security
- System Analysis and Design
- Information Systems
- Pascal Programming
- File organization
- C++
- Computer Skills (Win XP and Office XP)
- Java
- Html and Java script
- VB.net and ASP.net



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- Logic Design
- Discrete Structure
- Multimedia

8. Supervision of Graduate Research

Thesis Title (Master)	Student Name	Year
An Improved Approach for secured Mobile Payment System Based on Public-Key Cryptography	Ehap Al Khateeb	2015
An improved Video Stenographic System Based on Exact Matching Algorithm And Random Key -Dependent Data Technique	Maher Al Sarayrah	2017
Increasing The Awareness About Cyber-Crime and Hate Speech in Social Media	Alaa Fahed Al-Abbadi	2019

9. Grants

- Research Project: “A Novel Method for Localising a Randomly Distributed Wireless Sensor Network”, Al Zaytoonah University of Jordan, 24,530 Jordan Dinar, 2017-2015
- Research Project :“Integrated System For Monitoring And Recognizing Students During Class Session”, Al Zaytoonah University of Jordan, 35000 Jordan Dinar 2012-2015

10. Membership of Committees

No.	Dates	Description
1.	2019 oct	DEANS COUNCIL, Al Zaytoonah University – Jordan.
2.	2019 Oc	Scientific Research COUNCIL, Al Zaytoonah University – Jordan(chair)
3.	2020 April	Thesis Examiner, Jordan University
4.	2020 January	Thesis Examiner, JUST
5.	2020 January	Thesis Examiner, PSUT



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6.	2019	Conference Chair: The 9th International Conference on Information Technology - ICIT'2019 – Al Zaytoonah University – Jordan.
7.	2017-Present	International Journal of Network Security and its Applications
8.	2017-Present	World Academy of Science, Engineering and Technology
9.	2015-Present	Deanship of Scientific Research Council
10.	2015, 2018	المجلس التاديبى في الجامعة-جامعة الزيتونة الاردنية
11.	2017	Technical and Organizing Committe: The 8th International Conference on Information Technology - ICIT'2017 – Al Zaytoonah University – Jordan.
12.	2017	Thesis Examiner: Saied Al Saydeh, “Detecting Phishing Emails Using Data Mining Classification Techniques”, Middle East University.
13.	2017	Thesis Examiner: Mayyadah Adnan Abdulridha, “Online Security Protocols for NFC Mobile Payment Application”, Pricess Sumaya University for Technology.
14.	2016	Thesis Examiner: Dayala Rasheed,” A Secure Visual Cryptography System For Identification cards“, A Zaytoonah Universit of Jordan.
15.	2016	Thesis Examiner: Arwa Husien Abu al-Rukab, “ A Robust Method for Copy-Move Forgery Detection”, Zarqa University.
16.	2016	Thesis Examiner: Omar Mijbel Hammad, Master Degree, Voice Encryption Using Twin Stream Cipher Algorithm”, Middle East University, 2016.
17.	2015	Thesis Examiner: Raghda Ahmad Malih, Master Degree, “User Authntication System Using Emoji Pictures Passwords”, Middle East University.
18.	2015	Organizing Committe: The 7th International Conference on Information Technology - ICIT'2015 – Al Zaytoonah University – Jordan, May 2015.
19.	2013	Steering Committe: The 6th International Conference on



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		<i>Information Technology - ICIT'2013 – Al Zaytoonah University – Jordan, May 2013.</i>
20.	2011	<i>Technical Committee: The 5th International Conference on Information Technology - ICIT'2011 – Al Zaytoonah University – Jordan.</i>
21.	2011	<i>Thesis Examiner: Haneen Mohammed Fayoumi, Master Degree, “Secure Authentication Protocol and Key Agreement for Mobile Networks Using Public–Key Cryptography”, Middle East University.</i>
22.	2011	<i>Thesis Examiner: Reem Ali Al-Saidi, Master Degree, “A Secure Electronic Voting Scheme Based on Evox-MA and REVS Protocols”, Middle East University</i>
23.	2009	<i>Technical Committee: The 4th International Conference on Information Technology - ICIT'09 – Al Zaytoonah University – Jordan.</i>

11. Participation in or organization of curricular and/or extra-curricular activities

No.	Curricular	Year
1.	Artificial Intelligent Engineering, Al Zaytoonah University, Jordan	2018,2019
2.	Computer Information Systems, Al Zaytoonah University, Jordan	2019,2017, 2016, 2014
3.	Computer Science, Al Zaytoonah University, Jordan	2017,2019
4.	Multimedia, Al Zaytoonah University, Jordan	2017
5.	Computer Network, Al Zaytoonah University, Jordan	2017
6.	Software Engineering, Al Zaytoonah University, Jordan	2017,2019
7.	Mathematics, Al Zaytoonah University, Jordan	2017,2019
No	Certificate	
1.	Test Construction and Analysis of Results	2017
2.	Arab Council for Training Student of Arabic Universities	2018
3.	Attaining the Quality Assurance Certificate –ZUJ University (5 Stars Certificate)	2018



12. Publications

1. **Mohammad Alia** and Azman Bin Samsudin. New Key-Exchange Protocol Based on Mandelbrot and Julia Fractal Sets. International Journal of Computer Science and Network Security, IJCSNS, vol. 7, no.2, pp. 302-307, 2007.
2. **Mohammad Alia** and Azman Bin Samsudin. A New Public-Key Cryptosystem Based on Mandelbrot and Julia Fractal Sets. Asian Journal of Information Technology, AJIT, vol. 6, no. 5, pp. 567-575, 2007.
3. **Mohammad Alia** and Azman Bin Samsudin. A New Digital Signature Scheme Based on Mandelbrot and Julia Fractal Sets. American Journal of Applied Sciences, AJAS, vol. 4, no. 11, pp. 850-858, 2007.
4. **Mohammad Alia** and Azman Bin Samsudin. Generalized Scheme For Fractal Based Digital Signature (GFDS). International Journal of Computer Science and Network Security, IJCSNS, vol. 7, no.7, pp.99-104, 2007.
5. **Mohammad Alia** and Azman Bin Samsudin. Fractal Public-Key Encryption Protocol. Computer Science Postgraduate Colloquium 2007 (CSPC'07), Universiti Sains Malaysia, 2007.
6. Mahmoud Maqableh, Azman Bin Samsudin and **Mohammad Alia**. New Hash Function Based on Chaos Theory (CHA-1). International Journal of Computer Science and Network Security, IJCSNS, vol. 8, no.2, pp.20-26, 2008.
7. **Mohammad Alia** and Azman Bin Samsudin. Survey on Fractal (Mandelbrot and Julia Sets) Public-Key Cryptosystem. National Conference on Information Retrieval and Knowledge Management (CAMP08), March 2008.
8. **Mohammad Alia** and A. Samsudin. Fractal (Mandelbrot and Julia) Zero-Knowledge Proof of Identity. Journal of Computer Science (JCS), 4(5), pp. 408-414, 2008.
9. Sundaram Sudha, Azman Samsudin and **Mohammad Ahmad Alia**. Group Re-keying Protocol Based on Modular Polynomial Arithmetic Over Galois Field $GF(2^n)$. American Journal of Applied Sciences (AJAS), 6 (9): 1714-1717, 2009.
10. **Mohammed Ahmed Alia** and Abdelfattah A. Yahya. Public-Key Steganography Based on Matching Method. European Journal of Scientific Research, ISSN 1450-216X Vol.40 No.2 (2010), pp.223-231, 2010.
11. **Mohammed Ahmed Alia**. Survey on Mathematical Hard Problems Based Public-Key Cryptosystems. World Academy of Science, Engineering and Technology, 68. 2010.
12. **Mohammad A. Alia**, Adnan A. Hnaif, Hayam K. Al-Anie, Khulood Abu Maria, Ahmed M. Manasrah, M. Imran Sarwar, A Novel Header Matching Algorithm for Intrusion Detection Systems, International Journal of Network Security & Its Applications (IJNSA), Vol.3, No. 4. pp. 59-73. 2011.
13. Hayam K. Al-Anie, **Mohammad A. Alia** and Adnan A. Hnaif. E-Voting Protocol Based On Public-Key Cryptography. International Journal of Computer Science and Information Technology (IJCSIT). Vol.3.No. 4. pp. 87-98. 2011.
14. Mohammad A. Alia. Comparison Study On NP-Hard Problem Based Digital Signature Schemes. International Science And Technology Conference – ISTEK 2011. Istanbul University-Turkey. December 7-9. pp. 149-154. 2011.



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15. Mohammad A. Alia, Adnan A. Hnaif, Hayam K. Al-Anie, Abdelfatah Aref Tamimi. Graphical Password Based On Standard Shapes. Science Series Data Report Journal. Volume 4, Issue 2. pp. 71-79. 2012.
16. Abdallah A. Hlayel and **Mohammad A. Alia**. Solving transportation problems-using the best candidates method. Computer Science & Engineering: An International Journal (CSEIJ). Vol.2, No.5. pp. 23-30. 2012.
17. Omaima N. A., Abdelfatah Aref Tamimi, and **Mohammad A. Alia**. Face Recognition System Based on Different Artificial Neural Networks Models and Training Algorithms. IJACSA, Vol. 4, No. 6, 2013.
18. **Mohammad A. Alia**. Cryptosystems Based on Chaos Theory. The 2nd International Symposium on Chaos, Complexity and Leadership-ICCLS2013. 17th – 19th Dec. 2013. Middle East University. Ankara. Turkey. Book Chapter, Springer
19. **Mohammad A. Alia**, Abdelfatah Aref Tamimi and Omaima N. A. AL-Allaf. Integrated System For Monitoring And Recognizing Students During Class Session. IJMA, Vol. 5, No. 6, 2013.
20. **Mohammad A. Alia**, Abdelfatah Aref Tamimi, and Omaima N. A. AL-Allaf. Cryptography Based Authentication Methods. Proceedings of the World Congress on Engineering and Computer Science 2014 Vol I, WCECS 2014, 22-24 October, 2014, San Francisco, USA.
21. Omaima N. A., Abdelfatah Aref Tamimi, and **Mohammad A. Alia**. Eigen Faces and Principle Component Analysis for Face Recognition Systems: A Comparative Study. INTERNATIONAL JOURNAL OF COMPUTERS & TECHNOLOGY. Vol 14 . No. 4, Feb. 2015
22. Omaima N. A., Abdelfatah Aref Tamimi, and **Mohammad A. Alia**. Real-Time Group Face-Detection for an Intelligent Class-Attendance System. I.J. Information Technology and Computer Science, 06, 66-73. 2015.
23. Adnan A. Hnaif and **Mohammad A. Alia**. MOBILE PAYMENTMETHODBASED ON PUBLIC-KEY CRYPTOGRAPHY. International Journal of Computer Networks & Communications (IJCNC) Vol.7, No.2, March 2015.
24. Ehab M. Alkhateeb, **Mohammad A. Alia**, and Adnan A. Hnaif. An Improved Approach for Secured Mobile Payment System based on Ecies Cryptography. International Journal of Research in Computer Applications & Information Technology. Volume 3, Issue 3, May-June 2015, pp. 28-39, 2015.
25. Ehab M. Alkhateeb, **Mohammad A. Alia**, and Adnan A. Hnaif. The Generalised Secured Mobile Payment System Based on ECIES and ECDSA. ICIT 2015 - The 7th International Conference on Information Technology. May 2015. Amman, Jordan.
26. **Mohammad A. Alia** and Adnan A. Hnaif, The Parallelized Header Matching Algorithm for Intrusion Detection Systems. The 3rd International Conference on Islamic Applications in Computer Science And Technology, 1-3 Oct 2015, Konya-Turkey.
27. Maher A. Alsarayreh, **Mohammad A. Alia**, Khulood Abu Maria , A Novel Image Steganographic System Based on Exact Matching Algorithm and Key-Dependent Data Technique, JATIT journal, Vol.95. No 5.p.p 1212-1224
28. **Mohammad A. Alia**, Combining Public-Key Encryption with Digital Signature Scheme. Chapter in Advances in Intelligent Systems and Computing, Springer , 2016.



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29. Heba N. Kamel, Mohammad A. Alia, Bara'aha. Al Saeq and Eman Abu Maria, A Secure E-Medical Exemption System (E-MES): Jordan Case. International Journal of Network Security & Its Applications (IJNSA) Vol.9, No.2, March 2017.
30. Ahmad AA Al Khatib, **Mohammad A. Alia**, Adnan Hnaif . “Smart System for Forest Fire Using Sensor Network. International Journal of Security and Its Applications. Vol. 11, No. 7 (2017), pp.1-16
31. **Mohammad A. Alia** and Khaled Suwais, “A Novel Steganography Scheme based on Fractal Set. The International Arab Journal of Information Technology-Thomson Reuters (IF: 0.724) (2019)
32. **Mohammad A. Alia**, Adnan Hnaif . Ayman Abdullah, and Eman Abu Maria, “An Improved Authentication Scheme Based on Graphical Passwords ICIC Express Letters: Journal of Innovative Computing, Information and Control Vol. 12. No 11, 2018
33. Ahmad AA Al Khatib, **Mohammad A. Alia**, Adnan Hnaif . “A Novel Method For Localising A Randomly Distributed Wireless Sensor Network International Journal of System Assurance Engineering and Management, Springer, First Online: 20 Dec 2017
34. Adnan A. Hnaif, Ali Aldahoud, **Mohammad A. Alia**, Issa S. Al’otoum and Duaa Nazzal, “Multiprocessing scalable string matching algorithm for network intrusion detection system”, Int. J. High Performance Systems Architecture(Accepted 2018)
35. **Mohammad A. Alia**, Khulood Abu Maria, Maher A. Alsarayreh Eman Abu Maria and Sally Almanasra,”An Improved Video Steganography: Using Random Key-Dependent”, 2019 IEEE Jordan International Joint Conference on Electrical Engineering and Information Technology (JEEIT), 2019-Amman-Jordan.
36. Mohammad Shehab, Ahamad Tajudin Khader, **Mohammad A. Alia**, “Enhancing Cuckoo Search Algorithm by using Reinforcement Learning for Constrained Engineering Optimization Problems”. 2019 IEEE Jordan International Joint Conference on Electrical Engineering and Information Technology (JEEIT), 2019-Amman-Jordan.
37. Tarek Kanan ; Odai Sadaqa ; Amal Aldajeh ; Hanadi Alshwabka ; Wassan AL-dolime ; Shadi AlZu’bi ; **Mohammad A. Alia**.“A Review of Natural Language Processing and Machine Learning Tools Used to Analyze Arabic Social Media”. 2019 IEEE Jordan International Joint Conference on Electrical Engineering and Information Technology (JEEIT), 2019-Amman-Jordan.
38. Eman Abu Maria, Khulood Abu Maria and **Mohammad A. Alia**,” SMART AGENTS IN THE BUSINESS INFORMATION SYSTEM”, ICIC Express Letters: Journal of Innovative Computing, Information and Control , Vol 13 No 11, 2019
39. Khulood Abu Maria, **Mohammad A. Alia**, Maher A. Alsarayreh, Eman Abu Maria,“UN-Substituted Video Steganography” , KSII Transactions on Internet and Information Systems, Vol. 14, No. 1, January 31, 2020
40. Maram Marwan Baroudi, **Mohammad A. Alia**, Abdalla Wasef Marashdih, “Evaluation of Accessibility and Usability of Higher Education Institutions’ Websites of Jordan”, ICICS2020.