



جامعة العلوم والتقنية في الفجيرة
UNIVERSITY OF SCIENCE & TECHNOLOGY OF FUJAIRAH

CURRICULUM VITAE

PERSONAL INFORMATION

Name:	Hussein Ibrahim Abulkasim
Nationality:	Egyptian
Job Title:	Visiting Assistant Professor
College:	Engineering and Information Technology
Department:	Information Technology
Contact Information:	h.hussein@ustf.ac.ae , Office Phone: 604

EDUCATIONAL BACKGROUND

1. Doctorate degree:

University: South Valley University
Country: Egypt
Date of Obtaining degree: 2016
Major: Computer Science
Minor: Cyber security
Title: Securing Cloud Computing using Quantum Cryptography

2. Master degree:

University: South Valley University
Country: Egypt
Date of Obtaining degree: 2012
Major: Computer Science
Minor: Information Security
Title: Steganography based on Gene Expression Programming

3. Bachelor degree:

University: South Valley University
Country: Egypt
Date of Obtaining degree: 2004
Major: Computer Science

PROFESSIONAL EXPERIENCE

From (year)	To (year)	Position	Employer	Country
2022	2023	Assistant Professor	New Valley University	Egypt
2021	2022	Research	Wilfrid Laurier University	Canada
2019	2021	Research Fellow	Toronto Metropolitan University	Canada
2017	2109	Assistant Professor	New Valley University	Egypt
2104	2017	Lecturer	Assiut University	Egypt
2012	2014	Lecturer	University of Jazan	Saudi Arabia
2006	2012	Web Developer	South Valley Unibersity	Egypt

TEACHING EXPERIENCE AREA / COURSES)

- Cryptography
- Digital Forensics
- Introduction to cybersecurity
- Ethical hacking
- Quantum computation and communication
- Introduction in programming
- Data structure and algorithms
- Genetic Algorithm
- Databases
- Web technology
- Information systems
- Infomation Technology Project Managment
- User Interface Design

- Introduction to information security
- Networking
- Web Developing
- Programming languages
- Introduction to computer science (LAB)
- Mathematical applications using computing (LAB)
- Web developing (LAB)
- Database systems (LAB)
- Programming in JAVA (LAB)
- The programming language in Matlab (LabL)
- Object-oriented programming (LAB)
- Introduction to information security (LAB)

RESEARCH AREA

- Cyber Security
- Quantum Cryptography and Quantum Communication
- Cryptanalysis of Current Quantum Cryptographic Protocols
- Quantum Cryptography for IoT Applications
- Theoretical of Quantum Information
- Security of Satellites and Drones
- Blockchain
- IoT Security

PUBLICATIONS

1. Journal Articles

- Adil, Muhammad, Muhammad Usman, Mian Ahmad Jan, **Hussein Abulkasim**, Ahmed Farouk, and Zhanpeng Jin. "An Improved Congestion-Controlled Routing Protocol for IoT Applications in Extreme Environments." *IEEE Internet of Things Journal* (2023).
- Adil, Muhammad, Houbing Song, Spyridon Mastorakis, **Hussein Abulkasim**, Ahmed Farouk, and Zhanpeng Jin. "UAV-Assisted IoT Applications, Cybersecurity Threats, AI-Enabled Solutions, Open Challenges With Future Research Directions." *IEEE Transactions on Intelligent Vehicles* (2023).
- Adil M., Ahmad M, Liu Y., **Abulkasim H.**, Farouk A., Song H. A Systematic Survey: Security Threats to UAV-Aided IoT Applications, Taxonomy, Current Challenges and Requirements With Future Research Directions. *IEEE Transactions on Intelligent Transportation Systems*. 2022 Nov 11.
- Alsuqaih HN, Hamdan W, Elmessiry H, **Abulkasim H.** An efficient privacy-preserving control mechanism based on blockchain for E-health applications. *Alexandria Engineering Journal*. 2023 Jul 15;73:159-72.
- **Abulkasim H.** Plant Leaf Diseases Classification using Improved K-Means Clustering Mechanism and Support Vector Machine Algorithm for Segmentation. *CMC journal* 2023, Accepted.
- Adil M., Ahmad M, Liu Y., **Abulkasim H.**, Farouk A., Song H. A systematic Survey: Security Threats to UAV-aided IoT Applications, Taxonomy, Current Challenges and Requirements with Future. *IEEE internet of things*. doi.org/10.1109/TITS.2022.3220043
- **H Abulkasim**, B Goncalves, A Mashatan, S Ghose. Authenticated Secure Quantum-Based Communication Scheme in Internet-of-Drones Deployment. doi.org/10.1109/ACCESS.2022.3204793.
- **Abulkasim H.**, Mashatan, A., Ghose, S., Security improvements for privacy-preserving quantum multiparty computation based on circular structure. *Quantum Information Processing*. 2022 Jan;21(1):1-2.
- **Abulkasim H.**, Alabdulkreem E, Karim F, Ahmed N, Jamjoom M, Hadjouni M, Abbas S. Crypt- analysis and Improvements on Quantum Key Agreement Protocol Based on Quantum Search Algorithm. *Security and Communication Networks*. 2022 Mar 17;2022.
- **Abulkasim H.**, Alabdulkreem E., Hamad S. Improved Multi-party Quantum Key Agreement with Four-qubit Cluster States. *CMC-COMPUTERS MATERIALS & CONTINUA*. 2022 May 18, 73(1), doi:10.32604/cmc.2022.025727.
- **Abulkasim H.**, Jamjoom M, Abbas S. Securing Copyright Using 3D Objects Blind Watermarking Scheme. *CMC-COMPUTERS MATERIALS & CONTINUA*. 2022 Apr 21, 72(3), doi:10.32604/cmc.2022.027999.
- **Abulkasim H.**, Mashatan, A., Ghose, S., Secure multiparty quantum key agreement against collusive attacks. *Nature - Scientific Reports*. 2021 May 4;11(1):1-8.

- **Abulkasim, H.**, Mashatan A, Ghose S. Quantum-based Privacy-Preserving Sealed-bid Auction on the Blockchain. *Optik*. 2021 Apr 30:167039.
- Elhadad, A., Abbas, S., **Abulkasim, H.**, and Hamad, S. (2020). Improving the security of multiparty quantum key agreement with five-qubit Brown states. *Computer Communications*. Volume 159, (2020):155-160.
- Elhadad, A., Hamad, S., Khalifa, A., and **Abulkasim, H.** (2020). A steganography approach for hiding privacy in video surveillance systems. *Book Chapter: In Digital Media Steganography* (pp. 165-187). Academic Press.
- **Abulkasim, H.**, Farouk, A., Alsuqaih, H., Hamdan, W., Hamad, S., Mashatan, A., Ghose, S. ” Secure dynamic multiparty quantum private comparison”. *Nature - Scientific Report*, 9.1 (2019): 1-16.
- **Abulkasim, H.**, and Alotaibi, A. ”Improvement on ‘Multiparty Quantum Key Agreement with Four-Qubit Symmetric W State’.” *Int J. Theo. Phy.* 58.12 (2019): 4235-4240.
- **Abulkasim, H.**, Farouk, A., Alsuqaih, H., Hamdan, W., Hamad, S. and Ghose, S. ” Improved Dynamic Multi-Party Quantum Private Comparison for Next Generation Mobile Network.” *IEEE Access* (2019): doi:10.1109/ACCESS.2019.2894101.
- **Abulkasim, H.**, Farouk, A., Alsuqaih, H., Hamdan, W., Hamad, S. and Ghose, S. ”Improving the security of quantum key agreement protocols with single photon in both polarization and spatial- mode degrees of freedom.” *Quantum Information Processing* 17, no. 11 (2018): 316.
- **Abulkasim, H.**, Hamad S, Elhadad A. Reply to Comment on ‘Authenticated quantum secret sharing with quantum dialogue based on Bell states’. *Physica Scripta*. (2018) Jan 9;93(2): 027001.
- **Abulkasim, H.**, Hamad S, Khalifa A, El Bahnasy K. Quantum secret sharing with identity authentication based on Bell states. *International Journal of Quantum Information*. June 2017; 15(4), 1750023.
- **Abulkasim, H.**, Hamad S, El Bahnasy K, Rida SZ. Authenticated quantum secret sharing with quantum dialogue based on Bell states. *Physica Scripta*. 2016 Jul 12;91(8):085101.
- Marghny H. Mohamed and **Abulkasim, H.**. Article: Data Hiding by LSB Substitution using Gene Expression Programming. *International Journal of Computer Applications* 45(14):13-20, May 2012.

2. CONFERENCES

- Invited Speaker (online) Quantum-based Cyber security: Opportunities and Challenges. Laser, Optics, and Photonics (GEMLOP22) on Jul 28-30, 2022, Amsterdam, Netherlands
- Speaker (Panel 1: Quantum cybersecurity): The Smart Cybersecurity Network (Serene-risc) 2020 Annual, October 21-22, 2020, in Montréal, Canada.
- Invited Researcher IBM conference CASCON |EVOKE Nov. (2019), Markham, Ontario, Canada.
- Speaker Quantum cryptography for optimal secure computations: Blockchain technology Symposium 18 Feb, University of Toronto. 2020 Toronto, Canada.
- Speaker Quantum cryptography for optimal secure computations: Blockchain technology Symposium 18 Feb, University of Toronto. 2021 Toronto, Canada.
- Presenter Secure quantum private computations: CRL Research Exhibit, December 04, 2019, Ryerson University, Toronto, Canada.
- Section Organizer: Minisymposium “Quantum Information and Quantum Computation” at the V AMMMCS international Conference on Aug 18-23 (2019), Wilfrid Laurier University, Waterloo, Canada.

3. BOOKS AND BOOK CHAPTERS

- Elhadad, A., Hamad, S., Khalifa, A., & **Abulkasim, H.** (2020). A steganography approach for hiding privacy in video surveillance systems. In *Digital Media Steganography* (pp. 165-187). Academic Press.

PROFESSIONAL AND ACADEMIC ACTIVITIES

Scientific activities:

- A **reviewer** for many highly impact journals, such as Scientific Reports, Quantum Information Processing, IEEE Transactions on Industrial Informatics, IEEE Intelligent Transportation Systems,

IEEE Internet of Things Journal, IEEE Access, Physical Review A, IEEE transactions on information theory and others.

- **Associate Editor:** Journal of IET quantum communication.
- **Editorial Board Member:** Journal of Complex and Intelligent Systems.

Master Theses Supervision

I have supervised two master's theses.

Doctorate Theses Supervision

NA

MEMBERSHIP OF SCIENTIFIC ASSOCIATIONS

AWARDS

Funded Research Project: Multiparty Quantum Communications and Cryptography for IoT-Blockchain Applications, Funded by the Academy of Scientific Research and Technology (ASRT), Egypt, Project No. 6626 from 2019-2020, Role: PI, budget: 100000 EGP.