Curriculum Vitae

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| **PERSONAL DATA:** |  |  |

**Name:** Associate Professor Dr. Mohammed Mahmod Ahmad Shuaib

**Place of birth:** Kuwait

**Date of birth:** 20/8/1969

**Nationality:** Jordanian

**Current address:** Al-Imam Mohammad Bin Saud University, Department of Computer Sciences, Al-Ahsaa

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**Permanent address:** Amman, Jordan

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Skype name: Mohammed Shuaib;

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| **EDUCATIONAL DATA:** |  |  |

**Ph.D. Degree** in Applied Mathematics, Universiti Sains Malaysia, in 2011. Field: Applied Mathematics; Mathematical Modeling.

**M. Sc. Degree** in Mathematics, University of Jordan, in 2003.

**B.A. Degree** in Educational sciences/ field teacher (Mathematics), University of Jordan, in 1999.

**Diploma,** with specialization in programming, AL Andalus College (AL-Balqa Applied University)

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| **TEACHING EXPERIENCE DATA :** |  |  |

**From 2000 to 2003:** Teaching assistant, University of Jordan.

**From 2003 to 2008:** Lecturer of mathematics, Hail University (Saudi Arabia).

**From 2011 to 2012:** Assistant Professor of mathematics, University of Tabuk (Saudi Arabia).

**From 2012 to 2018:** Assistant Professor of mathematics, Department of Computer Science, College of Al-Share’a and Islamic studies in Al-Ahsaa (Saudi Arabia).

**From 2018 to 2019:** Associate Professor of mathematics, Department of Computer Science, College of Al-Share’a and Islamic studies in Al-Ahsaa (Saudi Arabia).

***Courses have been taught:***

1. In Saudi Arabia

* Al-Imam Mohammad Bin Saud University:

Calculus I and II, Linear Algebra & Differential Equations, Introduction to Probability and Statistics, Scientific Computing, Modeling and Simulation and Discrete Mathematics.

* University of Hail:

(Calculus I and II, Algebra, Linear Algebra, Principles of Algebra, Rings and Fields, Statistics and Probability I and II, Euclidian Geometry, Analytic Geometry.

1. In Malaysia

* Calculus I, Ordinary Differential Equations, Vector Analysis.

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| **Skills** |  |  |

* 1. Teaching several courses in mathematics using simulations.
  2. Implementing mathematical software throughout the courses.

1. Programming using C++, MATLAB and Easy Java Simulation.
2. English Language (reading, writing, speaking, and listening) is very good.

**Community service**

1. Conducting scientific lectures and training courses for faculties and students.

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| **RESEARCH ACTIVITIES** |  |  |

Research activities in Crowd Dynamics and Applications.

***Projects:***

* + **Principal Investigator in** the project entitled “Developing Exit Choice Model for Typical Evacuation Process: Incorporating Individuals Interactions with Fire Spreading”, No. 380807, Al-imam Muhammad Ibn Saud Islamic University. (1439-1440).
  + **Principal Investigator in** the project entitled “Modification of Crowd Dynamics model for Safe Evacuation: Incorporating Prediction ability and Exit Choice Adaption as aspects of Human Intelligence”, No. 370807, Al-imam Muhammad Ibn Saud Islamic University. (from 1/2/1438 till 29/1/1439).
  + **Principal Investigator** in the project entitled “Development of the Investigation Capability Model for the Reproduction of Bidirectional Pedestrian Stream: applications on the Hajj crowd aspects”, No. 350807, Al-imam Muhammad Ibn Saud Islamic University. (from 25/12/1435 till 24/12/1436).
  + **Co-Principal Investigator** in the project entitled “An Improved Investigation Capability Model for the Reproduction of Bidirectional Pedestrian Stream using Harmony Search Optimization Algorithm”, No. S-1434-0183, University of Tabuk. (from 15/3/2013 till 14/1/2013).

***Visiting researcher***:

Universiti Sains Malaysia. (from 6/7/2012 till 27/8/2012).

Universiti Sains Malaysia. (from 17/7/2018 till 16/8/2018).

***Research officer:***

Universiti Sains Malaysia. (from 1/1/2011 till 16/5/2011).

***Publications***: listed below.

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| **Awards** |  |  |

* + - 1. Universal publication award 2019 (granted by IMAM University).
      2. Universal publication award 2018 (granted by IMAM University).
      3. Universal publication award 2017 (granted by IMAM University).
      4. Universal publication award 2016 (granted by IMAM University).
      5. Universal publication award 2015 (granted by IMAM University).
      6. Fellowship, Universiti Sains Malaysia.
      7. Best representation award from the International Conference of Mathematics and Information Security (ICAMIS2009), Egypt.

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| **PUBLICATION :** |

<https://scholar.google.com/citations?user=CCJ7kfUAAAAJ&hl=en>

[1] Shuaib, M. M. (2018). Incorporating intelligence for typical evacuation under the threat of fire. Saf. Sci. 106, 1-9.

[2] Jaber, K. M. Alia, O. M. Shuaib, M. M. (2018). P-HS-SFM: a parallel harmony search algorithm for the reproduction of experimental data in the continuous microscopic crowd dynamic models. Journal of Experimental & Theoretical Artificial Intelligence. 1-21.

[3] Shuaib, M. M. and Zainuddin, Z (2017) Incorporating Intelligence into Exit Choice Model for Typical Evacuation. Sains Malaysiana. 46. 10.

[4] Jaber, K. Shuaib, M. M. Maraqa, R. and Alia, O. M. (2016) A Comparative Taxonomy of Parallel Algorithms for Crowd Dynamics Models and their Simulators. International Journal of Soft Computing. 11 (6) 427-436.

[5] Shuaib, M. M. (2016) Modeling the capability of penetrating jammed crowd to eliminate freezing transition. Chin. Phy. B. **25** 5.

[6] Shuaib, M. M. (2016) Modeling the pedestrian ability of detecting lanes and lane changing behavior. modern applied science **10** 7.

[7] Shuaib, M. M., and Zainuddin, Z. (2015) An investigation capability model for bidirectional pedestrian flow. modern applied science **9** 12.

[8] Shuaib, M. M. (2014) Preserving Socially Expected Crowd Density in front of the Exit for the Reproduction of Experimental Data by Modeling the Pedestrians’ behind Perception. Jstat. (2014) P10037.

[9] Alia, O. Shuaib, M. M. (2014) A Harmony Search Algorithm for the Reproduction of Experimental Data in the Social Force Model. Journal of Applied Mathematics. (2014) 954607.

[10] Shuaib, M. M. Alia, O. Zainuddin, Z. (2013) Incorporating Prediction Factor into the Investigation Capability in the Social Force Model: Application on Avoiding Grouped Pedestrians. Appl. Math. Inf. Sci. 7(1), 323-331.

[11] Zainuddin, Z. Thinakaran, K. and Shuaib, M. (2011). An Age Based Dynamic Respect Factor for Pedestrian Dynamics, Proceeeding of the International Conference on Computer Technology and Development, 3rd, (ICCTD 2011), 25-27 November 2011.

[12] Zainuddin, Z. Shuaib, M. (2011) Modification of the Decision Making Capability in the Social Force Model for the Evacuation Process, Transport theory and statistical physics, (39), pp.1-24.

[13] Zainuddin, Z. and Shuaib, MMA. (2011) Modeling the independence factor and its effect on the preferred force of the Social Force Model in emergency and non-emergency situations. Appl. Math. Inf. Sci. 5 (1), pp. 53-64.

[14] Zainuddin, Z. Shuaib, M. (2010) Modeling the Pedestrian’s Perception for the Social Force Model to reproduce Experimental Data, World Applied Sciences Journal 11 (7), pp. 865-870.

[15] Zainuddin, Z. Shuaib, M. (2010) Incorporating Decision Making Capability into the Social Force Model in Unidirectional Flow. Research Journal of Applied Sciences, 5 (6), 388-393.

[16] Zainuddin, Z. Kumatha, T. Shuaib, M. (2010) Simulation of the Pedestrian Flow in the Tawaf Area Using the Social Force Model. Proceedings of World Academy of Science, Engineering and Technology (72), P 910-915.

[17] Zainuddin, Z. Shuaib, M. (2010) Incorporating the Leader Factor into the Social Force Model for Dependent Pedestrians, 1st International Conference on Fundamental and Applied Sciences (ICFAS2010), 15-17 June.

[18] Zainuddin, Z. Shuaib, M. (2010) The Effect of Incorporating the Investigation Ability into the Social Force Model on the Pedestrian Flow Rate, proceeding of International Conference on Mathematical Applications in Engineering (ICMAE’10), 3-5 August 2010.

[19] Zainuddin, Z. Shuaib, M. (2010) The Effect of Incorporating the Investigation Ability into the Social Force Model on the Efficiency of Motion, proceeding of 4th National Seminar on Hajj Best Practices Through Advances in Science & Technology, 27-29 July 2010.

[20] Zainuddin, Z. Shuaib, M. Abu-Sulyman, I.M. (2010). The Characteristics of The Factors that Govern the Preferred Force in the Social Force Model of Pedestrian Movement, Proceedings of World Academy of Science, Engineering and Technology (62), pp. 977-981

References are available upon request