

# Heyam Hussein Al-Baity

Email Address [halbaity@ksu.edu.sa](mailto:halbaity@ksu.edu.sa)

## Personal data

**Nationality:** Saudi

**Address:** P.O.Box 9516, Riyadh 11423, SA

**Office:** Building 6, third floor, office T1

## Professional Summary

Heyam H. Al-Baity received her PhD degree in Computer Science from the School of Computer Science at the University of Birmingham, UK. She has an MSc in Science of Information Systems from Northeastern University, USA. She received a Bachelor of Science in Computer Science/ Computer Applications from King Saud University in Riyadh, KSA.

## Education

- **PhD in Computer Science**  
University of Birmingham, UK, 2015  
**Thesis Title:** "A Quantum Behaved Particle Swarm Approach to Multi-Objective Optimization"
- **MSc in Science of Information Systems**  
Northeastern University, Boston, USA, 1998
- **BSc in Computer science/Computer Applications**  
King Saud University, Riyadh, KSA, 1991



## Awards

- Prince Bandar bin Sultan award for scientific Excellence 1998

## Work Experience

- **Vice Dean of Female Students Affairs**  
College of Computer and Information Sciences, King Saud University (2018-present)
- **Head of Information Technology Department**  
College of Computer and Information Sciences, King Saud University (2016- 2018)
- **Assistant Professor**  
IT Department, College of Computer and Information Sciences, King Saud University (2015- present)
- **Lecturer**  
IT Department, College of Computer and Information Sciences, King Saud University (1998- 2015)
- **Teaching Assistant**  
Computer Applications Department, College of Computer and Information Sciences, King Saud University (1992- 1998)

## Research Interests

My research mainly focuses on Artificial Intelligence, particularly, Machine Learning, Evolutionary Computations (evolutionary multi-objective optimization, and swarm intelligence) and their applications in science and industry. Currently, I am interested in the following topics:

- Data Science
- Big Data Analytics
- Machine Learning and Data Mining
- Optimization
- Business Intelligence
- Evolutionary Algorithms
- Nature Inspired Algorithms
- Bioinformatics
- Human Computer Interaction

## Teaching Experience

- Advanced Human Computer Interaction
- Data Structures
- Web Designing and Programming
- Fundamentals of Data Base Design
- Programming in C, C++ Languages
- Programming in Java Language

## **Service Activities**

- Member of the Standing Advisory Committee of Scientific Colleges (2016 - present)
- Member of the Standing Committee of External Joint Supervision Program (2016 - present)
- Member of the Sub-Committee of King Saud University Award for Ideal Employee (2018- present)
- College Coordinator (Female Side) in King Saud University Distinguished and Talented Students Program (2015 - 2017)
- Head of the Curriculum Review and Development Committee at the IT Department of the CCIS (2015- 2018)
- Member of the Curriculum Review and Development Committee at the IT Department of the CCIS (2018- present)
- Member of the Education Evaluation Commission- Higher Education Sector (EEC-HES) Committee at the IT Department of the CCIS (2015 - 2018)
- Member of the Project Advisory Committee at the IT Department of the CCIS (2015 - present)
- Member of the Human Resources Committee at the IT Department of the CCIS (2015 - 2018)
- Member of the Graduate Studies Committee at the IT Department of the CCIS (2015 - present)
- Head of the IT Department Portal Committee at the IT Department of the CCIS (2008-2011)
- Member of Makeup Exams Committee at the IT Department of the CCIS (2008-2011)

## **Community Service**

- Reviewer in IEEE Access Journal for two papers, 2019
- Reviewer in the Journal of King Saud University - Computer and Information Sciences (JKSUCIS), 2018
- Reviewer in Behaviour & Information Technology (BIT) Journal, Talyor & Francis, 2017
- Reviewer in the 17<sup>th</sup> IEEE International Conference on Computer and Information Technology (CIT 2017)
- Reviewer in the 15<sup>th</sup> IEEE International Conference on Computer and Information Technology (CIT 2015)
- Academic consultant at New Horizons Institution (2004-2008)
- Academic consultant at Alnahdah Institution (2002-2004)

## Conferences and Symposia Attendance

- The Third Annual Forum of the Vice Presidency of Planning and Development at King Saud University, 2020.
- Women in Information and Communication Technology (ICT) Summit, Ministry of Communications and Information Technology, 2018.
- IEEE Sixth International Conference on Soft Computing and Pattern Recognition, (IEEE SOCPAR), Tunis, August 2014.
- The 19th International Conference on Neural Information Processing (ICONIP 2012), Doha, Qatar, November 2012.
- IEEE World Congress on Computational Intelligence (IEEE CEC 2012). International Convention Centre . Brisbane, Australia, June 2012.
- NICaiA Workshop on Nature Inspired Computation and Its Applications. Computer Science Department. University of Birmingham, UK, April 2012.

## Publications

- Alghunaim, Sara, and Heyam H. Al-Baity. "On the Scalability of Machine-Learning Algorithms for Breast Cancer Prediction in Big Data Context." *IEEE Access* 7 (2019): 91535-91546.
- Heyam H. Al-Baity and Norah I. AlShowiman, "Towards Effective Service Discovery using Feature Selection and Supervised Learning Algorithms" *International Journal of Advanced Computer Science and Applications(IJACSA)*, 10(5), 2019.
- Al-Hudhud, Ghada & Alqahtani, Layla & Al-Baity, Heyam & Alsaeed, Duaa & Al-Turaiki, Isra. (2019). Analyzing Passive BCI Signals to Control Adaptive Automation Devices. *Sensors*. 19. 3042. 10.3390/s19143042.
- Alay N, Al-Baity H. H. A Multimodal Biometric System for Personal Verification Based on Different Level Fusion of Iris and Face Traits. *Biosc.Biotech.Res.Comm.* 2019;12(3).
- Ouertani, Henda, Duaa H. Alsaeed, Heyam Al-Baity, and Nejmeddine Chorfi. "Enhanced algorithms for implementing the spectral discretization of the vorticity-velocity-pressure formulation of Stokes problem." *Mathematical Methods in the Applied Sciences* (2019).
- Al-Zahrani S, Al-Baity H. H. Smart Irrigation Control System Using Internet of Things: An Empirical Study in Kingdom of Saudi Arabia. *Biosc.Biotech.Res.Comm.* 2019;12(2).
- Alhudhud G, Al-Baity H, Alsaeed D. H, Al-Humaimedy A. S, Al-Turaiki I. 3D Echolocating System for the Visually Impaired Based on Bat SONAR Approach.

Biosc.Biotech.Res.Comm. 2019;12(2).

- Alhudhud G, Alsaeed D. H, Al-Baity H, Al-Humaimedy A. S, Al-Turaiki I. iGuard: Mobile Security Guard System with Infrared Biosensor and Google Glass. Biosc.Biotech.Res.Comm. 2019;12(2).
- Al-Baity, Heyam, Duaa H. Alsaeed, Sahar Bayoumi, Nora Al-Twairsh, and Hend Al-Khalifa. "Rejuvenation of the IT Program at King Saud University: A Change Reflecting Local and Global IT Trends." In Proceedings of the 19th Annual SIG Conference on Information Technology Education, pp. 129-134. International World Wide Web Conferences Steering Committee, 2018.
- Heyam Al-Baity. Smartwatches as an Assistive Technology for Arab Elderly: A Case Study. Journal of Engineering Science and Technology (JESTEC), Special Issue on ICCSIT 2018, July (2018) 190-203.
- Zeltani, Kamel, Souham Meshoul and Heyam H. Al-Baity. "On the Convergence and Diversity of Pareto Fronts Using Swarm Intelligence Metaheuristics for Constrained Search Space." IJSIR 9.1 (2018): 20-38. Web. 8 Jan. 2018.
- Heyam Al-Baity, Souham Meshoul, and Ata Kaban. On Extending Quantum Behaved Particle Swarm Optimization to Multi-objective Context. In Proceedings of the IEEE World Congress on Computational Intelligence (IEEE CEC 2012), pp. 1-8, 2012.
- Heyam Al-Baity, Souham Meshoul, and Ata Kaban. Constrained Multi-Objective Optimization using a Quantum Behaved Particle Swarm. The International Conference on Neural Information Processing (ICONIP 2012), Part III, LNCS 7665, pp. 456-464. Springer-Verlag Berlin Heidelberg, 2012.
- Heyam Al-Baity, Souham Meshoul, Ata Kaban and Lilac Alsafadi. Quantum Behaved Particle Swarm Optimization for Data Clustering with Multiple Objectives. IEEE Sixth International Conference on Soft Computing and Pattern Recognition, (IEEE SOCPAR), pp. 215-220, 2014.

## **Training**

- Workshop on Interdisciplinary Research in health Innovation, King Saud University, 2020.
- KAUST (King Abdullah University of Science and Technology) Winter Enrichment Program (WEP 2019).
- Workshop on Essentials of Academic Leadership at King Saud University.
- Women in ICT Summit, Ministry of Communication and Information Technology, 2018.

- KAUST (King Abdullah University of Science and Technology) Saudi Leadership Program in collaboration with the University of Berkeley.
- Workshop on Harmonizing Outputs of University Education with Labor Market's Requirements.
- Workshop for Women Leaders at King Saud University- Phase II.
- Education Evaluation Commission's (EEC) Workshop on Data Analytics.
- Workshop on Researcher Connect Training, British Council.
- Workshop on Big Data Analytics Technologies, The 4<sup>th</sup> Saudi International Conference on Information Technology: Big Data Analysis.
- Workshop on the Role of Administrative Leadership in Promoting the Educational Process.
- Workshop on Reengineering of Administrative Processes: Ascension and Differentiation.
- Workshop on the Use of the Electronic Quality Management System (eQMS).
- Workshop on Nature-Based Computing and its Applications, Birmingham, UK.
- Project management Professional (PMBOK 3rd Edition)
- Workshop in Best Practices in Web Content Management / Social and Scientific Websites.
- Workshop in Active Learning and Teaching Large Classes.
- Workshop in Planning for Effective Teaching Program.