



Curriculum Vitae

Dr. Aymen I. Zreikat (د. أيمن زريقات)

Name : Aymen I. Zreikat.
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Languages : Arabic, English , German.
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Academic Qualifications

(1)- **Ph.D.** , School of Informatics, Computing Department, University of Bradford, UK, December, 3, 2003.

Ph.D. Topic: Performance Evaluation of Wireless Mobile Networks:
(Capacity Bounds and Call Admission Control Algorithms for Wireless Mobile Networks in Different Propagation Environments).

(2)- **MS.c** (honour) Computational Engineering (CE) , University of Erlangen-Nurmberg ,Germany, 2000. **(in English).**

Master Thesis Topic : Performance Evaluation of Non-Homogeneous Multi-Server Systems using MOSEL.

(3)- **B.Sc.** Computer Science, Yarmouk University, Jordan, 1986-1990 .

(4)- Secondary School, Jordan, 1986.

Short Biography

I have obtained my B.Sc. in Computer Science from Yarmouk University, Jordan in 1990 and MSc. In Computational Engineering from University of Erlangen, Germany in 2000. Additionally, I have obtained my Ph.D. from Bradford University, UK in 2003. In January, 2001, I have joint the Performance Modelling and Engineering Research Group at the Computing Department of Bradford University, UK. My area of research is in the Performance Evaluation and Resource Management of 3G Wireless Mobile Networks and beyond. I have a set of international Journal and Conference papers in this field and I am responsible for reviewing a set of papers in this area of research. Furthermore, I am a member of some national coordinating committees; (such as the coordinating committee for the management of Queen Rania Al-Abdullah center for Educational Technology, Jordan, April, 2009, committee for Higher Education Accreditation Commission, May, 2009,...etc) and international organizations; i.e., MOSEL group. On 16/3/2004 I have been appointed as an Assistant Professor at the Information Technology Department, Mutah University, Jordan. On 16/3/2009, I have been promoted to Associate Professor in the same University. I am currently teaching some important courses, such as performance evaluation of wireless mobile networks, programming languages, object oriented programming, advanced simulation techniques, Communication Skills, final year projects and some other courses. Additionally, I have been appointed as an Assistant Dean at the Faculty of Science since 1/9/2008-1/9/2010. From 1/9/2010-present, I have been appointed as the chairman of the IT in Mu'tah University.

Administrative Work & Current Position (1/9/2008-present):

- Assistant Dean at the Faculty of Science since 1/9/2008-1/9/2010, Mu'tah University, Jordan.
- Chairman of IT in Mu'tah University from 1/9/2010- present.
- Acting Dean at the Faculty of Science, Mutah University, several times.

Membership of professional bodies

▪ **Outside Jordan:**

- Member of the postgraduate forum in Bradford University, UK, 2003.
- Member of MOSEL research group in the operating system department at the University of Erlangen, Germany:
URL: <http://www4.informatik.uni-erlangen.de/Projects/MOSEL/>
- Member of the "Open Day" program in Bradford University, UK, 2000-2003.
- Member of the evaluation committees for Jordanian and international magazines.

▪ **Inside Jordan:**

- Member of the Committee for Higher Education Accreditation Commission, June, 2011.
- Member of the Committee for Higher Education Accreditation Commission, May, 2009.
- Member of the Coordinating Committee for the management of Queen Rania Al-Abdullah Center for Educational Technology, Jordan, April, 2009.
- Member of the Faculty of Science Council (i.e. Executive Board), 2 times (2007-2008).
- Member of the consultation Council of Karak Governorate, Karak, Jordan.
- Member and head of the student union elections committee in Mu'tah University, Jordan for many times.

- Member of the organizing committee of the first scientific week of the faculty of science, Mutah University, Jordan, 4/5-7/5, 2008.
- Member of the corresponding committee for the appointment of computer science teacher at the ideal school, Mu'tah University, Jordan, 2008.
- Member of the committees corresponding to emission for postgraduate studies.
- Member of the corresponding committees for the appointment of members of the faculty in the Department of Information Technology.
- Head of the technical Committee of the Central Tenders at Mu'tah University, Jordan, 2005.
- Final year project committee, IT department, for both civil and military wings.
- Member of the Committee for discussion of Master Thesis at the University of Jordan in December, 2004.
- Member of the Disciplinary Committee for Students at the Faculty of Science, Mu'tah University, Jordan.
- Member of the supervisory committees of Abdel Hamid Shoman Prize for secondary schools in 2006.

Employment Experience (1990 -present)

- (1)- Associate professor at the department of Information Technology, Mutah University, Jordan (16/3/2009-present).
- (2)- Assistant professor at the department of Information Technology, Mutah University, Jordan (16/3/2004).
- (3)- I have joint the computing department of Bradford University in Jan. 2001 as a Ph.D. student and since that time I was working as a lab supervisor and assisting the lecturers in teaching different courses: Java programming, HTML, Simulation Techniques, Communication skills...etc, for graduate and postgraduate students in different levels (2001-2003).
- (4)- During my study the master in Germany, I was working in the Operating system (O.S) Department in Erlangen University: preparing exercises to the students, TA (Teaching Assistant), (1998-2000).
- (5)- I worked at Siemens AG, Erlangen, Germany as Software maintenance after I finished the master's degree, August-October, 2000.
- (6)- After Military Service, I was working officially in Mu'tah University, Jordan as Teaching Assistance (TA) at the Department of Information Technology..
- (7)- I have been working during the Military Service (2 years) in Mu'tah University, Jordan, Department of Information Technology as Teaching Assistant (TA).
- (8)- From (25/04/1992-7/5/1993): programmer at the General Contracting Company in Amman-Jordan.

Training Courses given to me:

- Training course for the Academic Staff in Mutah University given by Academic Staff Development Centre, Mu'tah University, from 27/04/2004-18/05/2004.
- Training course for the Academic Staff in the department of Information Technology, Mu'tah University given by Microsoft in VB.NET, in 2008.

- An Introduction to UNIX operating systems in the University of Jordan from 25/06/1994-04/07/1994.
- UNIX operating systems applications given by GBM company from 25/04/1995-03/05/1995.

Training Courses given by me:

- Modelling and Simulation of UMTS Networks. Held on 15-19 December 2003 in the Telekom Research and Development Sdn Bhd in Malaysia.

Research Interests:

- Computer Networks.
- Performance Evaluation of Wireless Mobile Networks (uplink, downlink): Capacity bounds and call admission control algorithms.
- Simulation of Queueing theory and Wireless Mobile Networks.
- QoS and Resource Management of Wireless Mobile Networks (2G, 2.5G, 3G and beyond, i.e. Wimax/Wi-Fi Technology).

Research Students and Supervision:

- I currently supervise a group of undergraduate students who are working with final year projects.
- **Abdul Hameed Shoman Foundation** Award for teachers of science in Jordan Elementary and Secondary Schools in 2006: under my supervision, the prize has been given this year to Maher Farah Haddadin for his participation entitled: "**Using computer to do the experiments in the physics lab in stead of the traditional way**".

External Examiner:

- University of Jordan, Master Thesis: Routing of Ad Hoc Networking, Inas Tarawneh, December, 2004.

Grants

- DFG grant for three months: from (1st June/2005-1st August/2005). Grant number: 446 JOR-J 12/11/2005. It was in the field of performance modelling of computer and communication systems, Erlangen University, Germany.
- Partially supported Research by German-Hungarian Bilateral Intergovernmental Scientific Cooperation, *OMFB-DLR* No. *HUN97/015*, *OMFKFP* grant *0004/99* and Hungarian Scientific Research Fund *OTKA-T30685/99*.
- DFG grant for one month: from (1st June/2006-30th June/2006). Grant number: 446 JOR-J 12/11/2005. It was in the field of performance modelling of computer and communication systems as a completion to the work that have been done in the previous visit, PASSAU University, Germany.
- British Council Grant: May, 25th – June 30th /2007. In the field of performance evaluation of broadband wireless networks. (www.getconnectedukjordan.com).

- Ministry of Higher Education and Scientific Research (Scientific Research Support Fund, SRSF) grant, Jordan, October, 2009. The research proposal is entitled: “QoS-Sensitive Resource Management in Wireless Mobile Networks”. (<http://www.srf.gov.jo>).

Activities and Participation in Conferences and Workshops

- Participation in the JUNet-Microsoft Academic Innovation Day, Grand Hyatt Hotel, Amman, Jordan, December 17th, 2007.
- Participation in IMCL conference, Princess Sumaya University, Amman, Jordan, 16-18 April, 2008.
- Participation in International Conference in Telecommunication, IEEE , ICT'2003 Conference, Feb. 23 - Mar. 01, Tahiti, French Polynesia.
- Participation in the Sixth United Kingdom Simulation Society Conference, Emmanuel College, Cambridge, London, UK, April, 2003.
- Participation in the World Wireless Congress, San Francisco, USA, June, 2002.
- Participation in the European Simulation Multi-conference (ESM2001) , Prague, czech Republic, June, 2001.
- Participation in ESS2000 Conference, Hamburg, Germany, September, 28-30, 2000.
- Participation in the 3rd Annual Postgraduate Symposium on the Convergence of Telecommunications, Networking and Broadcasting, Liverpool, John Moores University, UK, 17th-19th, June, 2002.
- Participation in the 2nd Annual Postgraduate Symposium on the Convergence of Telecommunications, Networking and Broadcasting, Liverpool, John Moores University, UK, 17th-19th , pp. 201-205, June, 2001.

Up-To-Date Publications

1. Aymen I. Zreikat: “Performance and Resource Management of Concentric Cells by means of Nominal load space in GSM Systems”, submitted to Wireless Networks Journal, Springer (USA), October, 2010.

2. Aymen I. Zreikat: “QoS-based Performance and Resource Management in 3G Wireless Networks in realistic environments”, Accepted to be published soon in the International Arab Journal of Information Technology.

3. Aymen I. Zreikat, Suleiman Yerima, Khalid Al-Begain: “Performance Evaluation and Resource Management of Heirarchical MACRO-/MICRO Cellular Networks Using MOSEL-2”, Published in Wireless Personal Communications, Springer (USA) , Vol. 44, No. 2, January, 2008.

4. Aymen I. Zreikat: “Performance Evaluation of GSM-Based Networks in Underlay-Overlay Using Maximum Entropy Principle”, *Published in Al-Manarah Journal, Al-Byt University, Al-Mafraq, Jordan, Vol. 14, No. 3, pp. 103-121, 2008.*

5. Ismat Al-Dmour, Khalid-Al-Begain, Aymen I. Zreikat: "Uplink Capacity/Coverage Analysis of WCDMA switched Beam Smart Antennas in CDMA Systems", Published in Wireless Personal Communications, Springer (USA), pp. 1705-1715, Vol. 43, No. 4, 2007.

- 6. Aymen I. Zreikat:** "Numerical solution of one GSM cell using MOSEL-2 language", in *International Arab Journal of Information Technology*, published in IAJIT, Al- Zarqa University, Vol. 4 , No. 2, pp. 133-140, April, 2007.
- 7. Aymen I. Zreikat:** "Performance Evaluation of one UMTS cell by the new modelling specification and evaluation language MOSEL-2", published in *Abhath Al-Yarmouk Journal, Pure Science and Engineering Series*, Yarmouk University, Irbid, Jordan, Vol. 16, No. 1, pp. 105-122 2007.
- 8. Aymen I. Zreikat, Gunter Bolch:** "Performance Evaluation of Queuing Networks with Finite Capacity and non-exponential Distribution using MOSEL-2", Published in AMSE (Association for Modelling and Simulation in the Enterprises), Vol. 12, No. 4, 2007.
- 9. Aymen I. Zreikat :** "Performance of Queueing model of One UMTS cell with R virtual zones by the Maximum Entropy Solution", *Wireless Personal Communications*, Springer (USA), Vol. 39, No. 2, pp. 135-149, 2006.
- 10. Ismat Al-Dmour, Khalid-Al-Begain, Aymen I. Zreikat:** "Capacity Bounds Analysis of switched Beam Smart Antennas in CDMA Systems", *Proceedings of UK simulation (UKSIM2006)*, Oxford, UK, pp. 91-96, 4-6 April, 2006.
- 11. Zreikat A. and Al-Begain K., Smith, K. :** "Comparative Capacity/Coverage Analysis of CDMA Cell in Different Propagation Environments", *Wireless Personal Communications*, Springer (USA), Vol. 28, No. 3, pp. 205-231, 2004,.
- 12. Al-Begain K., Barner J., Bolch G., Zreikat A.:** The Performance and reliability modeling language MOSEL and its applications, *International Journal in Simulation: Systems, Science and technology*, Vol. 3, No. 3-4, pp. 66-80, 2003.
- 13. A. I. Zreikat, G. Bolch, J. Sztrik:** Performance Modeling of Non-Homogeneous Unreliable Multi-Server systems using MOSEL, *International Journal in Computers and Mathematics with Applications*, Elsevier, Vol. 46, pp. 293-312, 2003.
- 14. A. I. Zreikat, Khalid Al-Begain:** Simulation of 3G Networks in Realistic Propagation Environments. *International Journal on Simulation: Systems, Science and Technology*, Special Issue by G. K. Theodoropoulos: Modeling and simulation of Computer Systems, Vol. 4, No. 3-4, September, 2003.
- 15. A. I. Zreikat and K. Begain:** Soft Handover-based CAC in UMTS Systems. *International Conference in Telecommunication*, In Proceedings of ICT'2003 Conference, Feb. 23 - Mar. 01, Tahiti, French Polynesia, pp. 1307-1312, 2003.
- 16. A. I. Zreikat, K. Begain:** Efficient Network-level Call Admission Control Algorithm for 3G Networks, *Sixth United Kingdom Simulation Society Conference*, Emmanuel College, Cambridge, London, UK, April, 2003.
- 17. A. I. Zreikat, K. Begain:** A multi-cell Call Admission Control Algorithm for 3G Networks. *PREP2003 (Book of Abstracts)*, University of Exeter, UK, 14-16 April, 2003.

- 18. K. Begain and A. I. Zreikat:** Interference Based CAC for up-link traffic in UMTS Networks. *In Proceedings of World Wireless Congress*, San Francisco, USA, pp. 298-303, June, 2002.
- 19. A. I. Zreikat, K. Begain:** Power and Interference Based CAC for up-link Traffic in UMTS Networks. East Midlands Conference Center, *Prep2002 (Book of Abstracts)*, University of Nottingham, UK, pp. 1-2, 17-19 April, 2002.
- 20. A. I. Zreikat, K. Begain:** Capacity Analysis and Call Admission Control Algorithms for UMTS Systems. *Proceedings of the 3rd Annual Postgraduate Symposium on the Convergence of Telecommunications, Networking and Broadcasting*, Liverpool, John Moores University, UK, 17th-19th, pp. 74-79, June, 2002.
- 21. A. I. Zreikat , K. Begain:** Power and Interference Based CAC for Up-link Traffic in UMTS Networks. *Proceedings of the Third Informatics Workshop for Research Students*, University of Bradford, Bradford, UK, pp. 15-20, Friday, 25 January, 2002.
- 22. A. I. Zreikat , K. Begain:** A new Call Admission Control Algorithm in UMTS Systems. *Proceedings of the 4th Informatics Workshop for Research Students*, University of Bradford, Bradford, UK, Wednesday, pp. 17-22, 20 November, 2002.
- 23. A. I. Zreikat , K. Begain:** Resource Management in Mobile Networks. *proceedings of the Second Informatics Workshop for Research Students*, University of Bradford, Bradford, UK, Wednesday, 30 May, 2001.
- 24. K. Begain, A. I.Zreikat, Y. Li:** Optimizing Capacity in GSM. *Proceedings of 12th European Simulation Multi-conference (ESM2001)* , Prague, czech Republic, pp. 846-850, June, 2001.
- 25. A. I. Zreikat, K. Begain:** Resource Management in Mobile Networks. *Proceedings of the 2nd Annual Postgraduate Symposium on the Convergence of Telecommunications, Networking and Broadcasting*, Liverpool, John Moores University, UK, 17th-19th , pp. 201-205, June, 2001.
- 26. A. I. Zreikat:** Performance Evaluation of Non-Homogeneous Multi-Server systems using MOSEL, Master Thesis, *Operating System Department, University of Erlangen, Nurmberg*, Germany, July, 2000.
- 27. A. I. Zreikat, G. Bolch:** Performance Modeling of Non- Homogeneous Multi-server systems using MOSEL, *Presentation ESS2000 Conference*, Hamburg, Germany, pp. 570-574, September, 28-30, 2000.

Awards

- Dean's Prize for best paper in the 4th Informatics Workshop for Research Students, University of Bradford, Bradford, UK, November, 2002.
Site: <http://www.brad.ac.uk/admin/pr/pressreleases/2003/deans-prize.php>
- Royal grant for the completion of the bachelor degree at Yarmouk University, 1986.

- Mu'tah University scholarship for the completion of the master degree at Erlangen University, Erlangen, Germany, 1998.
- Ph.D. scholarship partially supported by each Mu'tah University and Bradford University for the completion of the Ph.D. degree at Bradford University, Bradford, UK, 2000.

Teaching and Practical work

- During the period of my Ph.D., I have been working as Teaching Assistant at undergraduate and postgraduate level across the school of Informatics, in the University of Bradford in UK, which comprises of the department of Computing, Cybernetics and Electronic Imaging and media Communications. I have taught the following courses (the name of the course is followed by the abbreviation which is known to be used in most UK Universities):
 - Basic Skills (BITS)
 - Communication Skills (COSK)
 - Introduction to Programming Design and Applications (IPDA)
 - Introduction to Web Technologies (IWT)
 - Software Developments (SD)
 - Computer Communications and Networks (CCN)
 - Network Business and Distributed Information Management (NBDIM)
 - Advanced Simulation Modelling (ASM)
 - Computer Systems and Performance Modelling (CSPM)
 - Graphics and Image Processing (GIP)
 - Mobile Networks Performance Modelling (MNPM)

- **Current Teaching Courses in Mu'tah University**

- 1) Advanced Simulation Techniques.
- 2) Computer Skills (1)&(2), i.e. Visual Basic Programming.
- 3) Java programming language.
- 4) Object Oriented Programming and Concepts.
- 5) Seminar for graduation project.
- 6) C++ programming language.
- 7) Special Topics (2) in Computer Sciences. i.e. Generations of Mobile Networks: 1G, 2G, 3G and beyond (i.e. Wimax Technology).
- 8) Communication Skills.
- 9) Academic Writing Styles techniques.
- 10) Computer Networks.

- I have also previous experience in teaching and working with the followings:

Operating Systems

- 1) Dos.
- 2) Windows.
- 3) VMS.
- 4) Unix.
- 5) Linux.

Programming Languages & Software Packages

- 1) Java programming.
- 2) Basic.
- 3) Fortran.

- 4) Pascal.
- 5) Fox-pro.
- 6) Visual Basic
- 7) C programming, object-oriented programming : (C++ and JAVA).
- 8) MOSEL-2 (MOdelling Specification and Evaluation Language) and its applications.
- 9) Latex and their applications.
- 10) Other Software applications (Windows, HTML, ...etc).
- 11) Simulation packages.

References:

1. Professor **Ekhleif Y. Tarawneh**: President of higher Education Accreditation Commission, currently he is the president of Balqa Applied University, Jordan
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 Research Unit: Head, [The Mobile Computing, Communications, and Networking Research Unit](#)
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