

Basheer N. Al-Duwairi

CONTACT INFORMATION	Department of Network Engineering & Security Jordan University of Science & Technology Irbid 22110, Jordan	+962-799037950 basheer@just.edu.jo
RESEARCH INTERESTS	Network Security, Botnets, Spam Detection, Real-Time Systems	
EDUCATION	Iowa State University , Ames, IA, USA	
	Ph.D., Computer Engineering	Sept. 2002 - May 2005
	<ul style="list-style-type: none">• Thesis Topic: <i>Mitigation and Traceback Countermeasures for DDoS Attacks</i>• Advisors: Manimaran Govindarasu, Ph.D and Thomas Daniels, Ph.D<ul style="list-style-type: none">• Research Excellence Award	
	M.S., Computer Engineering	Sept. 2000 - May 2002
	<ul style="list-style-type: none">• Topic: <i>Combined Scheduling of Hard and Soft Real-Time Tasks in Multiprocessor Systems</i>• Advisor: Manimaran Govindarasu, Ph.D	
	Jordan University of Science & Technology , Irbid, Jordan	
	B.S., Electrical & Computer Engineering	Sept. 1994 - June 1999
ACADEMIC EXPERIENCE	Associate Professor	Oct. 2012 to present
	Department of Network Engineering & Security, Jordan University of Science & Technology	
	Assistant Professor	Sept. 2009 to Oct. 2012
	Department of Network Engineering & Security, Jordan University of Science & Technology	
	Assistant Professor	Sept. 2005 to Sept. 2009
	Department of Network Engineering & Security, Jordan University of Science & Technology	
	Adjunct Professor	Sept. 2008 to Dec. 2011
	New York Institute of Technology, Amman Campus, Jordan	
	DFG Visiting Professor	June 2012 to Aug. 2012
	Technical University of Berlin, Berlin, Germany	
	Research Assistant	Aug. 2002 to May 2005
	Iowa State University, Ames, IA, USA	
	Teaching Assistant	Aug. 2001 to May 2002
	Iowa State University, Ames, IA, USA	
	Teaching Assistant	Sept. 1999 to May 2000
	Hijjawi Faculty for Engineering Technology, Yarmouk University, Jordan.	
ADMINISTRATIVE AND TECHNICAL EXPERIENCE	Director	June. 2010 to Sept. 2011
	Computer & Information Center, Jordan University of Science & Technology	
	Vice Dean	Sept. 2009 to June. 2010

Faculty of Computer & Information Technology,
Jordan University of Science & Technology

Chairman Sept. 2008 to Sept. 2009
Department of Computer Engineering,
Jordan University of Science & Technology

Assistant Dean Sept. 2006 to Sept. 2009
Deanship of Student Affairs,
Jordan University of Science & Technology

Network Engineer June 1999 to Sept. 1999
Jordan Kuwait Bank,
Amman, Jordan

TEACHING
(COURSES
TAUGHT)

1. NES 451 (Basics of Information System Security), Fall 2012, Spring 2013
2. NES 413(Computer Networks Lab), Fall 2012, Spring 2013
3. NES 312 (Fundamentals of Computer Networks), Spring 2012, Spring 2013
4. NES 202 (Introduction to UNIX), Fall 2011, Spring 2012
5. CPE 776 (Cryptography and Network Security), Spring 2011.
6. MGMT 755*- (Security Risk Analysis), Spring 2010.
7. INCS 615* (Network Security and Perimeter Protection), Summer 2008, Fall 2011.
8. CSCI 635* (Probability and Stochastic Processes), Spring 2009.
9. CPE 779 (Special Topics: Advanced Topics in Network Security), Spring 2009
10. CPE 442 (Computer Networks), Fall 2008, Spring 2009, Fall 2009.
11. CPE 542 (Network Security & Management), Spring 2006, Summer 2006, Fall 2006, Spring 2007, Summer 2007, Fall 2007.
12. CPE 341 (Applied Probability and Queuing Theory), Fall 2005, Spring 2006, Fall 2006, Spring 2007, Fall 2007, Spring 2008, Fall 2011.
13. CPE 254 (Digital Logic Design and Computer Architecture). Fall 2005.
14. CPE 255 (Digital Logic Design Lab). Spring 2006, Spring 2008.
15. CS 101 (Introduction to C++), Spring 2011.

REFEREED
JOURNAL
PUBLICATIONS

1. **Basheer Al-Duwairi**, Zakaria Al-Qudah, and Manimaran Govindarasu, "A Novel Scheme for Mitigating Botnet-Based DDoS Attacks", Journal of Networks, Vol 8, No. 2 (2013) pp (297-306).
2. Zakaria Al-Qudah, **Basheer Al-Duwairi**, and Osama Al-Khaleel, "DDoS Protection as a Service: Hiding Behind the Giants", To appear in International Journal of Computational Science and Engineering.
3. **Basheer Al-Duwairi**, Ismail Khater, and Omar Al-Jarrah, "Detecting Image Spam Using Texture Features", International Journal for Information Security Research (IJISR), Volume 2, Issues 3/4, September/December 2012, pp 344-353.

4. **Basheer Al-Duwairi**, Mohammad Marei, Malek Ireksossi, and Belal Rehani, "ConTest: A GUI-Based Tool to Manage Internet-Scale Experiments over PlanetLab", In Proc. JETWI - Journal of Emerging Technologies in Web Intelligence. Vol 4, No 2 (2012), 164-171.
5. **Basheer Al-Duwairi** and Abdul-Raheem Mustafa, "Request diversion: a novel mechanism to counter P2P-based DDoS attacks", In Proc. Int. J. Internet Protocol Technology. Vol. 5, Nos. 1/2, 2010. Pages: 55-64.
6. **Basheer Al-Duwairi** and G. Manimaran, "Novel Hybrid Schemes Employing Packet Marking and Packet Logging for IP Traceback,". In Proc. of IEEE Transactions on Parallel and Distributed Systems (IEEE TPDS), Volume 17 , Issue 5, May 2006, Pages: 403 - 418.
7. **Basheer Al-Duwairi** and G. Manimaran, "Distributed Packet Pairing for Reflector Based DDoS Attack Mitigation," In Proc. Of Computer Communications Journal. Volume 29, Issue 12, 4 August 2006, Pages 2269-2280.

REFEREED
CONFERENCE
PUBLICATIONS

1. Omar Al-Jarrah, Ismail Khater, and **Basheer Al-Duwairi**, "Identifying Potentially useful header features for email spam filtering". In Proc. of the Sixth International Conference on Digital Society (ICDS 2012), Valencia, Spain, Feb. 2012.
2. **Basheer Al-Duwairi**, Ismail Khater, and Omar Al-Jarrah, "Texture Analysis Based Image Spam Filtering". In Proc. the 6th International Conference for Internet Technology and Secured Transactions (ICITST-2011), Abu Dhabi, Dec. 2011.
3. **Basheer Al-Duwairi** and Lina Al-Ibbini, "BotDigger: Autonomous and Intelligent Botnet Detector". In Proc. of the 5th International Conference for Internet Monitoring and Protection (ICIMP 2010), Barcelona, Spain.
4. **Basheer Al-Duwairi** and G. Manimaran, "JUST-Google: A search engine based defense against botnet-based DDoS attacks,". In Proc. IEEE ICC 2009, Dersden, Germany.
5. **Basheer Al-Duwairi** and G. Manimaran, "Victim-Assisted Mitigation Technique for TCP-Based Reflector DDoS Attacks," In Proc. of IFIP Networking May 2005, Waterloo, Ontario, Canada.
6. **Basheer Al-Duwairi** and G. Manimaran, "Intentional Dropping: A Novel Scheme for SYN flooding Mitigation," In Proc. of 8th IEEE Global Internet Symposium/Infocom March 2005, Miami, FL, USA.
7. **Basheer Al-Duwairi** and Tom E. Daniels, "Topology Based Packet Marking," In Proc. of IEEE International Conference on Computer Communications and Networks (ICCCN 2004), Chicago, IL, USA.
8. **Basheer Al-Duwairi** and G. Manimaran, "A Novel Packet Marking Scheme for IP Traceback," In Proc. of IEEE International Conference on Parallel and Distributed Systems (ICPADS 2004), Newport Beach, California, USA.
9. **Basheer Al-Duwairi**, A. Chakrabarti, and G. Manimaran, "An Efficient Packet Marking Scheme for IP Traceback," In Proc. of Networking 2004, Athens, Greece.
10. **Basheer Al-Duwairi** and G. Manimaran, "Combined Scheduling of Hard and Soft Real-Time Tasks in Multiprocessor Systems," In Proc. of International conference on High Performance Computing (HiPC 2003), Hyderabad, India.

NON-REFEREED
CONFERENCE
PUBLICATIONS

1. **Basheer Al-Duwairi**, Natheer Khasawneh, Hanaa Theiabat and Mohammad Fraiwan, "A Prototype of a Centralized Smartphone Botnet for Private Information Collection," Secure Abu Dhabi (SAD 2013).

RESEARCH IMPACT

- h-index on Google Scholar: 6 June 2013
- 142 citations on Google Scholar June 2013

MASTER THESIS
SUPERVISED

1. Abdul-Raheem Mustafa, "Countering P2P-Based Distributed Denial of Service Attacks". May 2008.
2. Ismail Khater, "Hierarchical email spam Filtering". (Co-advised with Dr. Omar Al-Jarrah). August 2011.

SENIOR DESIGN
PROJECTS
SUPERVISED

1. Dana Bataineh and maram Rawashdeh, "Implementation of Mobile Elearning System", Spring 2013.
2. We'am Rababa'h and Duaa Mata, "JUST iReport: Cloud-based mobile phone application to report issues related to JUST campus", Fall2012.
3. Mohammad Marei, Malik Eriqsusi, Belal Rihani, "ConTest: A Visual Manager for Planetlab Experiments", Spring 2011.
4. Duaa Gogazeh, Mona Saleh, Marina Al-Naber, "Bluetooth-Based Patient Monitoring System". Spring 2011.
5. Bashar Al-Shboul and Shady Al-Zoubi, "Bluetooth-Based Announcement System". Spring 2010.
6. Sahar Jaddoa, Ola Abu-Rjei, Amani Bawaneh, "Web-Based Room Occupancy Estimator". Spring 2010.
7. Ghadeer Al-Enzi, Inas Oudat, Worrod Owasat, "Mitigation Tool for SYN Flooding Attacks". Spring 2008.
8. Youssef Mantash and Humam Abushaaban, "Implementation of Anomoly Based Web Phishing Page Detection Tool". Spring 2008.
9. Fidda Al-Kharabsheh and Gharam Al-Afeef, "Intrusion Detection Tool". Spring 2007.
10. Shadi Alawneh and Mohammad Khalili, "Web-Based Course Assignment Tool". Spring 2007.
11. Ruba Al-Absi and Diana Al-Oglah, "Selective Encryption of Compressed and Uncompressed Images". Fall 2006.

PROFESSIONAL
SERVICES

Program Committee Chair/Member

- The Second International Conference on Information and Communication Systems (iCICS 2011), Irbid, Jordan /TPC chair.
- The Third International Conference on Information and Communication Systems (iCICS 2012), Irbid, Jordan /TPC member.
- The Fourth International Conference on Information and Communication Systems (iCICS 2013), Irbid, Jordan /TPC member.

- International Conference on Computing, Networking and Communications(ICNC 2013), San Diego, USA /TPC member.
- International Conference on Computer Communication Networks (ICCCN 2012), Munich, Germany /TPC member.
- IEEE International Conference on Broadband Communications, Networks, and Systems (BROADNETS 2007), North Carolina, USA /TPC member.
- First International Conference on Digital Communications and Computer Applications (DCCA 2007), Irbid, Jordan /Reviewing chair.

Steering committee member

- International Conference on Information and Communication Systems (iCICS)

Peer Review

- Journals
 - IEEE Transactions on Parallel and Distributed Systems
 - Information Security Journal: A Global Perspective
 - Wiley Journal of Security and Communication Networks
- Conferences
 - ICCCN 2012
 - ICC 2007
 - ITNG 2007

Departmental and University Committees at JUST

- Establishment of Center of Excellence in Service Innovation Committee, College of IT, (2011/2012).
- Service Science Management & Engineering Curriculum Development Committee, College of IT, (2/2010-9/2012).
- University Students Disciplinary Committee (9/2008- 9/2012).
- University Academic Development Committee (6/2010-9/2011).
- Training and rehabilitation of university employees Committee (2010/2011).
- University E-portfolio Committee (2010/2011).
- Graduation projects Evaluation Committee. Department of Computer Engineering (2011/2012).
- Accreditation and Quality Assurance Committee, Network Engineering and Security Department, (2009/2010).
- Scientific Research Committee, Network Engineering and Security Department (2009/2010).
- Development of MS program in the Department Network Engineering & Security Committee (2011/2012).
- Course Schedule Committee, Computer Engineering Department, (2008/2009).
- Tenders and Labs Committee. Computer Engineering Department, (2005/2006).
- Graduate Studies Committee, College of IT, (9/2008-9/2010).
- Study Plans and Courses Transfer Committee, College of IT, (2009/2010).
- Scholars Committee, Department of Computer Engineering, (2006-2009).

AWARDS

Research Awards

- Basheer Al-Duwairi, SOA-Based Implementation of JUST Enterprise System in the Cloud , IBM Faculty Award, 2011.
- Basheer Al-Duwairi (PI), Natheer Khasawneh, Mohammad Fraiwan, Characterization and detection of SMS commanded and controlled mobile botnets. Deanship of Research, Jordan University of Science & Technology, 2012.
- Basheer Al-Duwairi (PI), Monther Al-Dwairi, Ahmad Al-Hammouri, Characterization and detection of fast flux Networks, Deanship of Research, Jordan University of Science & Technology, 2011.

Travel Awards

- NSF US-Egypt Workshop on Cyber Security, Cairo-Egypt May 2013
- NSF United-States/Middle-East Workshop On Trustworthiness in Emerging June 2012

- Distributed Systems and Networks, Istanbul-Turkey
- ACM Sigcomm 2004 student travel grant, Portland, Oregon, USA. Oct. 2004
- USENIX Security 2004 student travel grant, San Diego, CA, USA. 2004

Student Awards — Iowa State University, Computer Engineering Department

- Research Excellence Award May 2005
- Second Place Award for Computing Research in the Student Poster Competition, International Symposium on Modern Computing 2003, Ames, IA, USA.

Student Awards — Jordan University of Science & Technology

- Full scholarship from JUST to pursue the M.S. & Ph.D. degrees in Computer Engineering in the USA. 2000 to 2005
- Listed several times on the Collage of Engineering Deans honor list at JUST 1994 to 1999

PRESENTATIONS

Tutorials

- Tutorial Speaker: “Understanding the threat of Botnets”, Half-day tutorial, To be presented at the 5th International Conference for Internet Monitoring and Protection (ICIMP 2010), Barcelona, Spain.
- Tutorial Speaker: “Understanding the threat of Botnets”, Half-day tutorial, The International Conference on Information and Communications Systems (ICICS2009), Amman, Jordan.
- Tutorial Co-Speaker: “Internet Infrastructure Security”, Half-day tutorial, IEEE Hot Interconnects 2005, Stanford University, USA. (Co-speaker: Dr. G. Manimaran, Iowa State University).

Panels and Invited Talks

- Invited talk: “On the Detection of Fast Flux Networks”. NSF- US Egypt Workshop on Cyber Security, Cairo, Egypt, May 2013.
- Panel Speaker, “Network Measurement, Monitoring, and Testbeds”. NSF- US MIDEAST Workshop, Istanbul, Turkey, June 2012. With Sonia Fahmy (convener), Vern Paxson, Kamil Sarac, and Zhi-Li Zhang

Conference Presentations

- “Texture Analysis Based Image Spam Filtering”. In Proc. the 6th International Conference for Internet Technology and Secured Transactions (ICITST-2011), Abu Dhabi, Dec. 2011.
- “BotDigger: Autonomous and Intelligent Botnet Detector”. In Proc. of the 5th International Conference for Internet Monitoring and Protection (ICIMP 2010), Barcelona, Spain.
- “JUST-Google: A search engine based defense against botnet-based DDoS attacks,”. In Proc. IEEE ICC 2009, Dersan, Germany.
- “Intentional Dropping: A Novel Scheme for SYN flooding Mitigation”. In the 8th IEEE Global Internet Symposium/Infocom March 2005, Miami, FL, USA.
- “Topology Based Packet Marking,”. In the IEEE International Conference on Computer Communications and Networks (ICCCN 2004), Chicago, IL, USA.
- “A Novel Packet Marking Scheme for IP Traceback,” In the IEEE International Conference on Parallel and Distributed Systems (ICPADS 2004), Newport Beach, California, USA.

REFERENCES

Manimaran Govindarasu

Professor and Associate Chair Phone: 515-294-9175
 Dept. of Electrical and Computer Engineering E-mail: gmani@iastate.edu
 Iowa State University

Omar Al-Jarrah

Vice President (2010 - 2013)
Jordan University of Science & Technology

Phone: 962-795692223
E-mail: aljarrah@just.edu.jo

Mohammad Al-Rousan

Dean (2008 - 2012)
Faculty of Computer & Information Technology
Jordan University of Science & Technology

Phone: 962-799096034
E-mail: alrousan@just.edu.jo

Rehab Al-Dwairi

Dean
Faculty of Computer & Information Technology
Jordan University of Science & Technology

Phone: +962-2-7201000 Ext. 20000
E-mail: rehab@just.edu.jo

Omar Banimelhem

Chairman
Dept. of Network Engineering and Technology
Jordan University of Science & Technology

Phone: +962-2-7201000 Ext. 22516
E-mail: omelhem@just.edu.jo