

MUHAMMAD UMAR QASIM

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EDUCATION

Ph.D. Information Systems New Jersey Institute of Technology, USA	2005 – 2010
MS Information Systems New Jersey Institute of Technology, USA	2003 – 2005
MBA Management Information Systems Hamdard University, Pakistan	1997 – 1999
BCS (Hons) Computer Science Hamdard University, Pakistan	1994 – 1997

TEACHING & RESEARCH INTERESTS

- **Information Systems** (Management, Evaluation, Usability)
- **Data Management** (Databases, Data optimization, Data Curation)
- **Application Development** (Web/software development, Programming Languages)
- **Information Extraction** (Information retrieval/extraction/filtering, Text/Data Mining)
- **System Analysis and Design** (Requirement engineering, Software Engineering)
- **Information Collection** (Digital Libraries, Content management, Digital Preservation)
- **Computer Networks** (Wireless Sensor Networks, Body Area Networks)

TEACHING EXPERIENCE

Associated Faculty Member Yorkville University, Canada	2014 – 2015
Part-time Lecturer Faculty of Computer Science, Dalhousie University, Canada	2009 – 2011
Sessional Lecturer DeGroote School of Business, McMaster University, Canada	2009 – 2009
Instructor College of Computing Sciences, New Jersey Institute of Technology, USA	2006 – 2006
Adjunct Professor Institute of Leadership & Management, Pakistan	1998 – 2000

INDUSTRY EXPERIENCE

Digital Preservation Officer

2012 – Present

University of Alberta, Canada

- Play a leading role to ensure the preservation of digital resources at the University.
- Manage the UAL web archiving program, the multimedia streaming service and the digital forensic/archeology work.
- Research, develop, document and implement a digital preservation program for the University.
- Establish policies and best practices for the long-term accessibility of digital materials.
- Identify at-risk collections and apply appropriate preservation strategies.
- Identify and prepare necessary documentation as required for Trusted Digital Repository certification and ensure compliance with TDR accreditation standards.
- Monitor and review digital preservation operations for quality assurance and compliance with standards.
- Develop and implement measures that support the identification of and planning for resources associated with digital preservation work.
- Represent the University in cooperative projects or programs in digital preservation.

Associate Director (Acting), University Web team

2011 – 2011

Dalhousie University, Canada

- Redesigned university website and university portal site.
- Lead information architecture and usability efforts.
- Defined site structure, navigation and page layout by creating site maps and wire frames.
- Wrote use cases and UI specifications.
- Assessed interface usability.
- Managed content inventories.

Systems Developer

2009 – 2011

Dalhousie University, Canada

- Lead the user interface development of the libraries' web-based services, digital imaging, database development projects, data archiving and data services.
- Designed and conducted user studies to evaluate various interfaces and compiled results to recommend and implement system improvements.
- Participated in the development, maintenance and configuration of the infrastructure supporting technology-based services of the library's installation and the configurations of web servers and related applications.

Digital Initiatives Research Intern

2008 – 2009

McMaster University, Canada

- As part of the Digital Initiatives group, investigated and evaluated the Endeca information access platform.
- Developed a recommender system prototype for the library catalog using state-of-the-art technologies.

Research Assistant

2005 – 2008

New Jersey Institute of Technology, USA

- Worked on two research projects, GRE & DLSI, funded by National Science Foundation / National Science Digital Library research grants.

- The General Recommendation Engine (GRE) provides recommendations for the National Science Digital Library collections. GRE is developed by combining three next generation approaches to recommendations: collaborative-filtering, content-based and knowledge-based recommendations to craft the best set of links to related information. Used visual studio .net, c#, vb.net, visual C++, asp.net and SQL Server. Also developed and integrated NJIT library, DLESE, Econport and Teachers Domain demo websites with GRE.
- The Digital Library Service Integration (DLSI) infrastructure provides a systematic approach for integrating digital library collections and services. Developed applications for lightweight integration between heterogeneous systems in digital libraries. Lightweight integration is achieved by the use of wrappers to identify similar concepts in diverse systems and provide information and services for these items of interest. Used Java and MySQL for implementation.

Analyst Programmer

2003 – 2005

MCMC, New Jersey, USA

- Architected and developed information systems for the organization.
- Developed the Active Server Pages and COM components for these applications.
- Used Visual Basic, Visual InterDev, ADO, SQL Server, VB Script & JavaScript to build software.

Analyst Programmer

2001 – 2003

Reason Technologies, New York, USA

- Architected and developed information systems for various client companies.
- Developed the Active Server Pages and COM components for these applications.
- Used Visual Basic, Visual InterDev, ADO, SQL Server, VB Script & JavaScript to build software.
- Designed developed and implemented projects and led a team of developers.
- Operated successfully within designated time in a tight schedule.
- Mentored the developer team, guiding them throughout the ongoing projects.

Programmer / System Analyst

2000 – 2001

SoftSource Inc., Atlanta, USA

- Worked on B2B application for SolutiaNet which provides intelligent business solutions to help analyze, optimize and organize businesses.
- Application contains information about business and industrial products and services, auction and exchange market, consulting services, educational courses, user training and technical support.
- Project required upfront planning, analysis, design and development.
- Developed web pages using ASP, VBScript, Microsoft Visual Interdev, whereas the back-end database work was done in SQL Server.

Analyst Programmer

1998 – 2000

Institute of Leadership and Management, Pakistan

- Responsible for the development of software applications for internal departments.
- Developed Client/Server applications using Visual Basic and Microsoft Access.
- For 3-tier compliant software, used Microsoft Transaction Server as a middle tier, SQL Server 7 as a database and a thin client user interface using ADO Object Model for Visual Basic 6.
- Involved in the total software development life cycle from depicting business flow charts, data model, entity-event relationship, developing business objects and coding for the same.

Programmer

1997 – 1998

Bata International, Pakistan

- Designed and developed software for the finance department of this multinational organization.

- The system was developed to store the information of all the payments from their retail stores and agencies across Pakistan.
- All the transactions in their bank accounts and reconciliation with these accounts regarding stores and agencies were managed through this software.
- Skills included extensive Microsoft Access including extensive Visual Basic programming and subroutine design. Involved in all phases of the system development life cycle.

PUBLICATIONS

Journal

- Muhammad Babar Rasheed, Nadeem Javaid, Muhammad Imran, Zahoor Ali Khan, Umar Qasim, and Athanasios Vasilakos. "Delay and energy consumption analysis of priority guaranteed MAC protocol for wireless body area networks." *Wireless Networks* (2017) 23: 1249. doi:10.1007/s11276-016-1199-x.
- Sahar Rahim, Nadeem Javaid, Ashfaq Ahmad, Shahid Ahmed Khan, Zahoor Ali Khan, Nabil Ali Alrajeh, and Umar Qasim. "Exploiting heuristic algorithms to efficiently utilize energy management controllers with renewable energy sources." *Energy and Buildings*, vol. 129, 1 October 2016, pp. 452-470, ISSN 0378-7788, doi:10.1016/j.enbuild.2016.08.008.
- Tayyaba Liaqat, Mariam Akbar, Nadeem Javaid, Umar Qasim, Zahoor Ali Khan, Qaisar Javaid, Turki Ali Alghamdi, and Iftikhar Azim Niaz. "On Reliable and Efficient Data Gathering Based Routing in Underwater Wireless Sensor Networks." *Sensors* 2016, 16(9), 1391; doi:10.3390/s16091391.
- Hina Nasir, Nadeem Javaid, Muhammad Sher, Umar Qasim, Zahoor Ali Khan, Nabil Ali Alrajeh, and Iftikhar Azim Niaz. "Exploiting Outage and Error Probability of Cooperative Incrementa
- Muhammad Babar Rasheed, Nadeem Javaid, Ashfaq Ahmad, Muhammad Awais, Zahoor Ali Khan, Umar Qasim, and Nabil Ali Alrajeh. "Priority and delay constrained demand side management in real-time price environment with renewable energy source." *International Journal of Energy Research* 40, no. 14 (2016): 2002-2021. doi: 10.1002/er.3588.
- Muhammad Babar Rasheed, Nadeem Javaid, Ashfaq Ahmad, Mohsin Jamil, Zahoor Ali Khan, Umar Qasim, and Nabil Ali Alrajeh. "Energy Optimization in Smart Homes Using Customer Preference and Dynamic Pricing." *Energies* 2016, 9(8), 593; doi:10.3390/en9080593.
- Muhammad Babar Rasheed, Nadeem Javaid, Muhammad Awais, Zahoor Ali Khan, Umar Qasim, Nabil Ali Alrajeh, Zafar Iqbal, and Qaisar Javaid. "Real Time Information Based Energy Management Using Customer Preferences and Dynamic Pricing in Smart Homes." *Energies* 2016, 9(7), 542; doi:10.3390/en9070542..
- Nadeem Javaid, Ashfaq Ahmad, Anum Tauqir, Muhammad Imran, Athanasios Vasilakos, Zahoor Ali Khan, and Umar Qasim. "Modeling induction and routing to monitor hospitalized patients in multi-hop mobility-aware body area sensor networks." *EURASIP Journal on Wireless Communications and Networking*, vol. 2016, pp. 147, issn. 1687-1499. doi: 10.1186/s13638-016-0643-z.
- Danish Mahmood, Nadeem Javaid, Nabil Ali Alrajeh, Zahoor Ali Khan, Umar Qasim, Imran Ahmed, and Manzoor Ilahi. "Realistic Scheduling Mechanism for Smart Homes." *Energies* 2016, 9(3), 202; doi:10.3390/en9030202.

- Sidrah Yousaf, Nadeem Javaid, Umar Qasim, Nabil Ali Alrajeh, Zahoor Ali Khan, and Mansoor Ahmed. "Towards Reliable and Energy-Efficient Incremental Cooperative Communication for Wireless Body Area Networks." *Sensors* 2016, 16(3), 284; doi:10.3390/s16030284.
- Ashfaq Ahmad, Nadeem Javaid, Nabil Ali Alrajeh, Zahoor Ali Khan, Umar Qasim, and Abid Khan. "A Modified Feature Selection and Artificial Neural Network-Based Day-Ahead Load Forecasting Model for a Smart Grid." *Applied Sciences* 2015, 5(4), 1756-1772; doi:10.3390/app5041756..
- Nadeem Javaid, Naveed Ilyas, Ashfaq Ahmad, Nabil Ali Alrajeh, Umar Qasim, Zahoor Ali Khan, Tayyaba Liaqat, and Majid Iqbal Khan. "An Efficient Data-Gathering Routing Protocol for Underwater Wireless Sensor Networks." *Sensors* 2015, 15(11), 29149-29181; doi:10.3390/s151129149.
- Kamran Latif, Nadeem Javaid, Malik Najmus Saqib, Zahoor Ali Khan, Umar Qasim, Basharat Mahmood, and Manzoor Ilahi. "Energy Hole Minimization with Field Division for Energy Efficient Routing in WSNs." *International Journal of Distributed Sensor Networks*, vol. 2015, Article ID 953134, 13 pages, 2015. doi:10.1155/2015/953134.
- Muhammad Babar Rasheed, Nadeem Javaid, Ashfaq Ahmad, Zahoor Ali Khan, Umar Qasim, and Nabil Ali Alrajeh. "An Efficient Power Scheduling Scheme for Residential Load Management in Smart Homes." *Applied Sciences* 2015, 5(4), 1134-1163; doi:10.3390/app5041134.
- Mariam Akbar, Nadeem Javaid, Zahoor Ali Khan, Umar Qasim, Turki Ali Alghamdi, Saad Noor Mohammad, Syed Hassan Ahmed, Majid Iqbal Khan, and Safdar Hussain Bouk. "Towards Network Lifetime Maximization: Sink Mobility Aware Multihop Scalable Hybrid Energy Efficient Protocols for Terrestrial WSNs." *International Journal of Distributed Sensor Networks*, vol. 2015, Article ID 908495, 16 pages, 2015. doi:10.1155/2015/908495.
- Amara Umar, Nadeem Javaid, Ashfaq Ahmad, Zahoor ALi Khan, Umar Qasim, Nabil Ali Alrajeh, and Amir Hayat. "DEADS: Depth and Energy Aware Dominating Set Based Algorithm for Cooperative Routing along with Sink Mobility in Underwater WSNs." *Sensors* 2015, 15(6), 14458-14486; doi:10.3390/s150614458..
- Nadeem Javaid, Zahoor Ali Khan, Umar Qasim, Mohsin Jamil, Mohammad Ishfaq, and Turki Ali Alghamdi. "Modeling Routing Overhead of Reactive Protocols at Link Layer and Network Layer in Wireless Multihop Networks." *Mathematical Problems in Engineering*, vol. 2015, Article ID 105245, 14 pages, 2015. doi:10.1155/2015/105245
- Nadeem Javaid, Mohsin Raza Jafri, Sheeraz Ahmed, Mohsin Jamil, Zahoor Ali Khan, Umar Qasim, and S.S. Al-Saleh. "Delay-Sensitive Routing Schemes for Underwater Acoustic Sensor Networks." *International Journal of Distributed Sensor Networks*, Volume 2015 (2015), Article ID 532676, 13 pages, doi:10.1155/2015/532676.
- Ashfaq Ahmad, Nadeem Javaid, Zahoor Ali Khan, Umar Qasim, and Turki Ali Alghamdi. "((ACH)²): Routing Scheme to Maximize Lifetime and Throughput of Wireless Sensor Networks," *Sensors Journal, IEEE* , vol.14, no.10, pp.3516,3532, Oct. 2014. doi: 10.1109/JSEN.2014.2328613.
- Nadeem Javaid, Mohsin Raza Jafri, Zahoor Ali Khan, Umar Qasim, Turki Ali Alghamdi, and Ali Asghar Mozaffari. "iAMCTD: improved Adaptive Mobility of Courier Nodes in Threshold-Optimized DBR Protocol for Underwater Wireless Sensor Networks." *International Journal of Distributed Sensor Networks*, vol. 2014, Article ID 213012, 12 pages, 2014. doi:10.1155/2014/213012.

- Nadeem Javaid, Ashfaq Ahmad, Azizur Rahim, Zahoor Ali Khan, Mohammad Ishfaq, and Umar Qasim. "Adaptive Medium Access Control Protocol for Wireless Body Area Networks." *International Journal of Distributed Sensor Networks*, vol. 2014, Article ID 254397, 10 pages, 2014. doi:10.1155/2014/254397.
- Ashfaq Ahmad, Nadeem Javaid, Umar Qasim, Mohammad Ishfaq, Zahoor Ali Khan, and Turki Ali Alghamdi. "RE-ATTEMPT: A New Energy-Efficient Routing Protocol for Wireless Body Area Sensor Networks." *International Journal of Distributed Sensor Networks*, vol. 2014, Article ID 464010, pp. 9, 2014. doi:10.1155/2014/464010.

Conference Proceedings & Other

- Umar Qasim, Corey Davis, Alex Garnett, Steve Marks, Michael Moosberger. *Working Together to Preserve Canadian Research Data: Portage's Disaggregated Preservation Service Model*. IDCC 2018 Barcelona, Spain.
- Umar Qasim, Sam-Chin Li. *Working Together Toward a Shared Vision: Canadian Government Information Digital Preservation Network (CGI DPN)*. *Web Archiving and Digital Libraries (WADL-2017)* Toronto, Canada.
- Umar Qasim, *WARC-Portal: A Tool for Exploring the Past*. *Web Archiving and Digital Libraries (WADL-2017)* Toronto, Canada.
- Chuck Humphrey, Dugan O'Neil, Umar Qasim. *Archiving*. *High Performance Computing Symposium (HPCS-2017)*. Kingston, Canada.
- Sardar Mehboob Hussain, Ayesha Zafar, Rabiya Khalid, Samia Abid, Umar Qasim, Zahoor Ali Khan and Nadeem Javaid, "An efficient scheduling of electrical appliance in micro grid based on heuristic techniques", *The 11th International Conference on Complex, Intelligent, and Software Intensive Systems (CISIS)*, 2017, pp. 164-173. doi:10.1007/978-3-319-61566-0_15
- Adia Khalid, Ayesha Zafar, Samia Abid, Rabiya Khalid, Zahoor Ali Khan, Umar Qasim, and Nadeem Javaid, "Cuckoo Search Optimization Technique for Multi-objective Home Energy Management", *The 11th International Conference on Innovative Mobile and Internet Services in Ubiquitous Computing (IMIS)*, 2017, pp. 520-529. doi:10.1007/978-3-319-61542-4_50
- Adnan Ahmed, Awais Manzoor, Asif Khan, Adnan Zeb, Hussain Ahmad Madni, Umar Qasim, Zahoor Ali Khan and Nadeem Javaid, "Performance Measurement of Energy Management Controller Using Heuristic Techniques", *The 11th International Conference on Complex, Intelligent, and Software Intensive Systems (CISIS)*, 2017, pp. 181-188. doi:10.1007/978-3-319-61566-0_17
- Malik Ali Judge, Awais Manzoor, Fahim Ahmed, Saqib Kazmi, Zahoor Ali Khan, Umar Qasim, and Nadeem Javaid, "Monitoring of power transmission lines through wireless sensor networks in smart grid", *The 11th International Conference on Innovative Mobile and Internet Services in Ubiquitous Computing (IMIS)*, 2017, pp. 162-170. doi:10.1007/978-3-319-61542-4_15
- Muhammad Zain Siddiqi, Naveed Ilyas, A. Aziz, H. Kiran, S. Arif and J. Tahir, Umar Qasim, Zahoor Ali Khan, and Naveed Javaid, "Optimized Energy Efficient Routing using Dynamic Clustering in Wireless Sensor Networks", *The 11th International Conference on Complex, Intelligent, and Software Intensive Systems (CISIS)*, 2017, pp. 617-626. doi:10.1007/978-3-319-61566-0_57

- Awais Manzoor, Fahim Ahmed, Malik Ali Judge, Adnan Ahmed, Mirza Amaad Ul Haq Tahir, Zahoor Ali Khan, Umar Qasim, and Nadeem Javaid, "User comfort oriented residential power scheduling in smart homes", The 11th International Conference on Innovative Mobile and Internet Services in Ubiquitous Computing (IMIS), 2017, pp. 171-180. doi:10.1007/978-3-319-61542-4_16
- Samia Abid, Ayesha Zafar, Rabiya Khalid, Sakeena Javaid, Umar Qasim, Zahoor Ali Khan, and Nadeem Javaid, "Managing Energy in Smart Homes using Binary Particle Swarm Optimization", The 11th International Conference on Complex, Intelligent, and Software Intensive Systems (CISIS), 2017, pp. 189-196. doi:10.1007/978-3-319-61566-0_18
- Farwa Ahmed, Saba Gul, Muhammad Amir Khalil, Arshad Sher, Zahoor Ali Khan, Umar Qasim, and Nadeem Javaid, "Two hop adaptive routing protocol for underwater wireless sensor networks", The 11th International Conference on Innovative Mobile and Internet Services in Ubiquitous Computing (IMIS), 2017, pp. 181-189. doi:10.1007/978-3-319-61542-4_17
- Saqib Kazmi, Hafiz Majid Hussain, Asif Khan, Manzoor Ahmad, Umar Qasim, Zahoor Ali Khan and Nadeem Javaid, "Balancing Demand and Supply of Energy for Smart Homes", The 11th International Conference on Complex, Intelligent, and Software Intensive Systems (CISIS), 2017, pp. 1000-1008. doi:10.1007/978-3-319-61566-0_94
- Fozia Feroze, Itrat Fatima, Saman Zahoor, Nabeeha Qayyum, Zahoor Ali Khan, Umar Qasim, and Nadeem Javaid, "User satisfaction based home energy management system for smart cities", The 11th International Conference on Innovative Mobile and Internet Services in Ubiquitous Computing (IMIS), 2017, pp. 190-199. doi:10.1007/978-3-319-61542-4_18
- Zaheer Ahmad, Arshad Sher, Saba Gull, Farwa Ahmed, Umar Qasim, Zahoor Ali Khan, and Nadeem Javaid, "Single hop selection based forwarding in WDFAD-DBR for under water wireless sensor networks", The 11th International Conference on Complex, Intelligent, and Software Intensive Systems (CISIS), 2017, pp. 197-204. doi:10.1007/978-3-319-61566-0_19
- Rabiya Khalid, Samia Abid, Ayesha Zafar, Anila Yasmeen, Zahoor Ali Khan, Umar Qasim, and Nadeem Javaid, "Fuzzy Energy Management Controller for Smart Homes", The 11th International Conference on Innovative Mobile and Internet Services in Ubiquitous Computing (IMIS), 2017, pp. 200-207. doi:10.1007/978-3-319-61542-4_19
- Sahar Rahim, Zafar Iqbal, Nusrat Shaheen, Zahoor Ali Khan, Umar Qasim, Shahid Ahmed Khan, and Nadeem Javaid, "Ant Colony Optimization based Energy Management Controller for Smart Grid", 30th IEEE International Conference on Advanced Information Networking and Applications (AINA-2016), Switzerland, pp. 1154-1159. doi:10.1109/AINA.2016.163
- Adia Khalid, Nadeem Javaid, Abdul Mateen, Bilal Khalid, Zahoor Ali Khan, and Umar Qasim, "Demand Side Management using Hybrid Bacterial Foraging and Genetic Algorithm Optimization Techniques", 10th IEEE International Conference on Complex, Intelligent, and Software Intensive Systems (CISIS-2016), Japan, pp. 494-502. doi:10.1109/CISIS.2016.128
- Muhammad Zain-ul-Abidin, Muhammad, Hammad Maqsood, Umar Qasim, Zahoor Ali Khan, and Nadeem Javaid, "Improved genetic algorithm based energy efficient routing in two-tiered wireless sensor networks", 19th IEEE International Conference on Network-Based Information Systems (NBIS-2016), Czech Republic, pp. 382-386. doi:10.1109/NBIS.2016.81
- Ziaur Rahman, Zaheer Ahmad, Amir Murad, Tanveer Khan, Zahoor Ali Khan, Umar Qasim, and Nadeem Javaid, "On utilizing static courier nodes to achieve energy efficiency with depth based routing for underwater wireless sensor networks", 30th IEEE International Conference on

Advanced Information Networking and Applications (AINA-2016), Switzerland, pp. 1184-1191. doi:10.1109/AINA.2016.170

- Malik Khizar, Abdul Wahid, Khayyam Pervaiz, Mahin Sajid, Umar Qasim, Zahoor Ali Khan, and Nadeem Javaid, "Enhanced Energy Efficient Depth Based Routing Protocol for Underwater WSNs", 10th IEEE International Conference on Innovative Mobile and Internet Services in Ubiquitous Computing (IMIS-2016), Japan, pp. 70-77. doi:10.1109/IMIS.2016.141
- Anwar Khan, Mudassir Ejaz, Nadeem Javaid, Muhammad Qaisar Azeem, Umar Qasim, and Zahoor Ali Khan, "EEORS: Energy Efficient Optimal Relay Selection Protocol for Underwater WSNs", 19th IEEE International Conference on Network-Based Information Systems (NBIS-2016), Czech Republic, pp. 239-245. doi:10.1109/NBIS.2016.74
- Mudassir Ejaz, Anwar Khan, Muhammad, Umar Qasim, Zahoor Ali Khan, and Nadeem Javaid, "Position Aware Mobility Pattern of AUVs for Avoiding Void Zone in Underwater WSNs", 19th IEEE International Conference on Network-Based Information Systems (NBIS-2016), Czech Republic, pp. 332-338. doi:10.1109/INCoS.2016.94
- Tanveer Khan, Israr Ahmad, Waqas Aman, Irfan Azam, Zahoor Ali Khan, Umar Qasim, Sanam Avais, and Nadeem Javaid, "Clustering depth based routing for underwater wireless sensor networks", 30th IEEE International Conference on Advanced Information Networking and Applications (AINA-2016), Switzerland, pp. 506-515. doi:10.1109/AINA.2016.168
- Anwar Khan, Nadeem Javaid, Hassan Mahmood, Sangeen, Zahoor Ali Khan, and Umar Qasim, "EEIRA: An Energy Efficient Interference and Route Aware Protocol for Underwater WSNs", 10th IEEE International Conference on Complex, Intelligent, and Software Intensive Systems (CISIS-2016), Japan, pp. 264-270. doi:10.1109/CISIS.2016.129
- Hina Nasir, Nadeem Javaid, Shaharyar Mahmood, Zahoor Ali Khan, Umar Qasim, and Furqan Ahmed, "Distributed Topology Control Protocols for Underwater Wireless Sensor Networks", 19th IEEE International Conference on Network-Based Information Systems (NBIS-2016), Czech Republic, pp. 429-436. doi:10.1109/NBIS.2016.75
- Khayyam Pervaiz, Abdul Wahid, Mahin Sajid, Malik Khizar, Zahoor Ali Khan, Umar Qasim, and Nadeem Javaid, "DEAC: Depth and Energy Aware Cooperative Routing Protocol for Underwater Wireless Sensor Networks", 10th IEEE International Conference on Complex, Intelligent, and Software Intensive Systems (CISIS-2016), Japan, pp. 150-158. doi:10.1109/CISIS.2016.108
- Anwar Khan, Hassan Mahmood, Zahoor Ali Khan, Umar Qasim and Nadeem Javaid, "A Transmit Power Efficient Non-Cooperative Game Design for Wireless Sensor Networks Based on the Utility and Cost Function", 2016 IEEE 30th International Conference on Advanced Information Networking and Applications (AINA), Crans-Montana, 2016, pp. 311-315. doi: 10.1109/AINA.2016.164.
- Saman Cheema, Nadeem Javaid, Shahzad Amin Sheikh, Zahoor Ali Khan, Umar Qasim, A balanced energy adaptive routing protocol with sector based node selection in underwater wireless sensor networks, 19th IEEE International Conference on Network-Based Information Systems (NBIS-2016), Czech Republic.
- Nusrat Shaheen, Nadeem Javaid, Najmun Nisa, Amber Madeeha Zeb, Zahoor Ali Khan, Umar Qasim, Appliance Scheduling for Energy Management with User Preferences, 10th IEEE International Conference on Innovative Mobile and Internet Services in Ubiquitous Computing (IMIS-2016), Japan.

- Malik Najmus Siraj, Nadeem Javaid, Qaisar Shafi, Zaheer Ahmed, Umar Qasim, Zahoor Ali Khan, Energy aware dynamic routing using SDN for a campus network, 19th IEEE International Conference on Network-Based Information Systems (NBIS- 2016), Czech Republic.
- Abdul Majid, Irfan Azam, Tanveer Khan, Sangeen, Zahoor Ali Khan, Umar Qasim, Nadeem Javaid, reliable interference-aware routing protocol for underwater wireless sensor networks, 10th IEEE International Conference on Complex, Intelligent, and Software Intensive Systems (CISIS-2016), Japan.
- Tayyaba Liaqat, Nadeem Javaid, Ashfaq Ahmad, Zahoor Ali Khan, Umar Qasim, Muhammad Imran, "Energy efficient and reliable data gathering in Underwater WSNs", 30th IEEE International Conference on Advanced Information Networking and Applications (AINA-2016), Switzerland.
- Muhammad Babar Rasheed, Muhammad Awais, Nadeem Javaid, Waseem Nazar, Umar Qasim, Zahoor Ali Khan, Transient stability analysis of an islanded microgrid under variable load, 19th IEEE International Conference on Network-Based Information Systems (NBIS-2016), Czech Republic.
- Usman Shakeel, Naeem Jan, Khizar, Umar Qasim, Zahoor Ali Khan, Nadeem Javaid, DRADS: Depth and reliability aware delay sensitive routing protocol for underwater wireless sensor networks, 10th IEEE International Conference on Innovative Mobile and Internet Services in Ubiquitous Computing (IMIS-2016), Japan.
- Danish Mahmood, Nadeem Javaid, Muhammad Imran, Umar Qasim, Zahoor Ali Khan, Data Fusion for Orientation Sensing in Wireless Body Area Sensor Networks using Smart Phones, Elsevier Pervasive Computing: Next Generation Platforms for Intelligent Data Collection, Edited by Dr. Ciprian Dobre, Prof. Fatos Xhafa, 11/2015.
- Adnan Ahmad, Nadeem Javaid, Saeed Ahmad, Shah Saud, Umar Qasim, Zahoor Ali Khan, Realistic home energy management system using exogenous grid signals, 19th IEEE International Conference on Network-Based Information Systems (NBIS-2016), Czech Republic.
- Arshad Sher, Nadeem Javaid, Ghufraan Ahmed, Saif ul Islam, Umar Qasim, Zahoor Ali Khan, MC: Maximum coverage routing protocol for underwater wireless sensor networks, 19th IEEE International Conference on Network-Based Information Systems (NBIS-2016), Czech Republic.
- Sakeena Javaid, Nadeem Javaid, Muhammad Shoaib Javaid, Sehrish Javaid, Umar Qasim, Zahoor Ali Khan, Optimal scheduling in smart homes with energy storage using appliances super-clustering, 10th IEEE International Conference on Innovative Mobile and Internet Services in Ubiquitous Computing (IMIS-2016), Japan.
- Irfan Azam, Abdul Majid, Tanveer Khan, Sajjad, Zahoor Ali Khan, Umar Qasim, Nadeem Javaid, Avoiding Energy Holes in Underwater Wireless Sensor Networks with Balanced Load Distribution, 10th IEEE International Conference on Complex, Intelligent, and Software Intensive Systems (CISIS-2016), Japan.
- Babar Ali, Nadeem Javaid, Saif ul Islam, Ghufraan Ahmed, Umar Qasim, Zahoor Ali Khan, RSM and VSM: Two New Routing Protocols for Underwater WSNs, 8th IEEE International Conference on Intelligent Networking and Collaborative Systems (INCoS-2016), Czech Republic.
- Muhammad, Nadeem Javaid, Babar Ali, Aqeb Yahya, Zahoor Ali Khan, Umar Qasim, Improved HydroCast: A technique for reliable pressure based routing for underwater WSNs, 10th IEEE International Conference on Innovative Mobile and Internet Services in Ubiquitous Computing (IMIS-2016), Japan.

- Ahmad Raza Hameed, Nadeem Javaid, Saif ul Islam, Ghufuran Ahmed, Umar Qasim, Zahoor Ali Khan, BEEC: Balanced energy efficient circular routing protocol for underwater wireless sensor network, 8th IEEE International Conference on Intelligent Networking and Collaborative Systems (INCoS-2016), Czech Republic.
- M. Ejaz, N. Javaid, H.Maqsood, U. Shakeel, Z. A. Khan and U. Qasim, An Energy Efficient Hybrid Clustering Routing Protocol for Underwa2016 30th International Conference on Advanced Information Networking and Applications Workshops (WAINA), Crans- Montana, 2016, pp. 526-532. doi: 10.1109/WAINA.2016.157.
- Muhammad Hassan Rahim, Nadeem Javaid, Muhammad Bilal Janjua, Muhammad Naeem, Zahoor Ali Khan, Umar Qasim, Comparative assessment of performance for home energy management controller in smart grid, 8th IEEE International Conference on Intelligent Networking and Collaborative Systems (INCoS-2016), Czech Republic.
- Sheraz Hussain, Nadeem Javaid, Muhammad, Israr Ahmad, Umar Qasim, Zahoor Ali Khan, Performance analysis of amplify and forward technique in region based cooperative routing for underwater wireless sensor networks, 10th IEEE Inter- national Conference on Innovative Mobile and Internet Services in Ubiquitous Computing (IMIS-2016), Japan.
- M. Zain-Ul-Abidin, M. A. Khan, N. Javaid, M. Khizar, Z. A. Khan and U. Qasim, Enhanced Single Chain-Based Scheme in Cylindrical Underw 2016 30th International Conference on Advanced Information Networking and Applications Workshops (WAINA), Crans- Montana, 2016, pp. 343-348. doi: 10.1109/WAINA.2016.158
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PROFESSIONAL ACTIVITIES

- **Preservation Expert Group Chair.** Serving as the chair for the Portage Preservation Expert Group (PEG)
- **COPPUL DPN Steering Committee Member.** Member of the Council of Prairie and Pacific University Libraries (COPPUL) Digital Preservation Network (DPN) Steering committee.
- **Track Chair.** The International Conference on Broadband, Wireless Computing, Communication and Applications (BWCCA), 2013/2014/2015
- **Technical Program Committee member.** The International Workshop on Body Area Sensor Networks (BASNet-2013) in conjunction with the 4th International Conference on Ambient Systems, Networks, and Technologies (ANT-2013), Halifax, Nova Scotia, Canada (25-28 June 2013).
- **Technical Committee Chair.** Canadian Government Information Private LOCKSS Network. A PLN of eleven Canadian Universities to preserve the Canadian government information for long term access. (2012/2014)
- **Chair COPPUL DPWG PLN Subgroup.** The Council of Prairie and Pacific University Libraries (COPPUL) is a consortium of 23 university libraries located in Manitoba, Saskatchewan, Alberta and British Columbia. The work of the Digital Preservation Working Group is informed by significant developments in digital preservation currently underway in the memory institution community. (2012/2014)
- **Reviewer.** World Wide Web Journal, World Applied Science Journal, International Journal of Distributed Sensor Networks.

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