

CURRICULUM VITAE

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Citizenship: Canada

Professional Profile

- Research interest in the union of networking, communications and optimization, leading to mathematically rigorous publications in the top journals.
- Recipient of the *Best Paper Award* at IEEE Symposium on Computers and Communications (ISCC 2010), Riccione, Italy, June 2010.
- Coordinator of the Distributed and Networked Systems (DNS) Research Group, University of Sharjah.
- Excellent teaching evaluations, excellent student comments, recipient of two teaching awards.
- Expert in engineering programs accreditation and quality assurance.

Education

- Jan. 2001– Dec. 2004 **Department of Electrical and Computer Engineering,
McMaster University**, Hamilton, Ontario, Canada
- *Ph.D. in Electrical and Computer Engineering*, completed Dec. 2004
 - Supervisor: Zhi-Quan (Tom) Luo
 - GPA: 12.0/12.0
 - Thesis Topic: *Design of Optical Networks: Performance Bounds, Complexity and Algorithms*
- Sept. 1998– Oct. 2000 **Department of Engineering Mathematics and Physics,
Cairo University**, Giza, Egypt
- *M.Sc. in Engineering Mathematics*, completed Oct. 2000
 - Thesis Topic: *Optimization of Computer Communication Network Topologies Using Genetic Algorithms*
- Sept. 1991– July 1996 **Department of Electrical Communications and Electronics,
Cairo University**, Giza, Egypt
- *B.Sc. (honors) in Electronics and Communications Engineering*, completed July 1996
 - Project Topic: *Genetic Algorithms and Its Applications*

Professional Experience

- Jan. 2021–
present **Dept. of Computer Engineering, University of Sharjah**
Professor
- Jan. 2012–
Jan. 2021 **Dept. of Electrical and Computer Engineering, University of Sharjah**
Associate Professor
- Sept. 2006–
Jan. 2012 **Dept. of Electrical and Computer Engineering, University of Sharjah**
Assistant Professor
- July 2005–
August 2006 **Dept. of Electrical and Computer Engineering, University of Toronto**
NSERC Post Doctoral Fellow
Understanding fundamental performance limits of wireless and optical networks, and designing efficient resource allocation algorithms that allow us to approach these limits.
- Dec. 2004–
June 2005 **Dept. of Computing and Software, McMaster University**
Post Doctoral Fellow with the Advanced Optimization Laboratory
Designing and analyzing provably good algorithms for fundamental problems arising in the design of communication networks and VLSI circuit layouts.
- Jan. 2001–
Dec. 2004 **Dept. of Electrical and Computer Engineering, McMaster University**
Research Assistant - Teaching Assistant
- Feb. 1997–
Dec. 2000 **Cairo University, Fayoum Campus**
Teaching Assistant
- Sept. 1998–
Jan. 2000 **The American University in Cairo**
Teaching Assistant, part-time
Conducted laboratory sessions for PHYS221 (Electronic Devices and Circuits)
- Nov. 1999–
Dec. 2000 **Engineering and Research Solutions, Inc., Cairo Branch**
Software Developer, part-time

Research Interests

My research interests lie in the union of networking, communications and optimization. I am currently interested in algorithmic/complexity issues arising in the design of wired and wireless (ad hoc, mesh and/or cellular) networks, with special emphasis on performance limits, resource management algorithms and quality-of-service (QoS). Other interests include approximation algorithms, QoS provisioning, spectrum-efficient routing, multihop wireless networks and 5G systems.

Teaching Interests

Computer and Communication Networks, Optical Networks, Engineering Optimization, Probability and Stochastic Processes, Circuits and Systems, Signals and Systems, Communication Systems, Logic Design, and Introduction to Electrical Engineering

Courses Taught (at the University of Sharjah)

1. 0403443–Computer Networks Design and Analysis (Fall 2017/2018, Fall 2012/2013, **Inaugural Offering** Fall 2011/2012)
2. 0403464–Special Topics in Computer Networks (**Inaugural Offering** Spring 2008/2009)
3. 0403346–Computer Communications and Networks (Spring 2019/2020, Fall 2019/2020, Spring 2018/2019, Fall 2018/2019, Spring 2017/2018, Fall 2017/2018, Spring 2016/2017, Fall 2016/2017, Spring 2015/2016, Fall 2015/2016, Spring 2014/2015, Fall 2014/2015, Spring 2013/2014, Fall 2013/2014, Spring 2012/2013, Fall 2012/2013, Spring 2011/2012, Fall 2011/2012, Spring 2010/2011, Fall 2010/2011, Spring 2009/2010, Fall 2009/2010, Spring 2008/2009, Spring 2007/2008, Spring 2006/2007, Fall 2006/2007)
4. 0403544–Computer Networks Design and Performance (graduate course) (Fall 2007/2008, **Inaugural Offering** Fall 2006/2007)
5. 0403549–Special Topics in Computer Networks (graduate course) (**Inaugural Offering** Spring 2006/2007)
6. 0403540–Computer Networks (graduate course) (Fall 2019/2020, Spring 2017/2018, Spring 2012/2013, Fall 2011/2012, Spring 2009/2010, Fall 2008/2009)
7. 0403346–Computer Communications and Networks Laboratory (Spring 2019/2020, Spring 2018/2019, Spring 2017/2018, Fall 2017/2018, Spring 2016/2017, Fall 2016/2017, Spring 2015/2016, Fall 2015/2016, Spring 2014/2015, Fall 2014/2015, Spring 2013/2014, Fall 2013/2014, Fall 2012/2013, Spring 2011/2012, Spring 2010/2011, Fall 2010/2011, Spring 2009/2010)
8. 0402241–Random Signal Theory (Spring 2019/2020, Fall 2019/2020, Summer 2018/2019, Spring 2018/2019, Fall 2018/2019, Spring 2017/2018, Fall 2017/2018, Spring 2016/2017, Fall 2016/2017, Spring 2015/2016, Fall 2015/2016, Spring 2014/2015, Fall 2014/2015, Summer 2013/2014, Spring 2013/2014)

9. 0402202–Circuit Analysis I (Fall 2013/2014, Spring 2012/2013, Fall 2012/2013, Spring 2011/2012, Spring 2010/2011, Fall 2010/2011, Spring 2009/2010, Fall 2009/2010, Fall 2008/2009, Spring 2007/2008, Fall 2007/2008)
10. 0402203–Circuit Analysis I Laboratory (Fall 2019/2020, Summer 2018/2019, Spring 2014/2015, Fall 2014/2015, Fall 2013/2014, Spring 2010/2011, Fall 2010/2011)
11. 0403201–Digital Logic Design Laboratory (Spring 2019/2020, Fall 2019/2020)

Teaching Evaluation and Recognition

- *I was twice the recipient of the Best Teaching Award by the IEEE Women in Engineering Society, University of Sharjah, May 2009 and May 2007.*
- *My average overall student evaluation for all 92 course offerings at the University of Sharjah is 93%.*
- **Sample Student Comments:**
 - *“This the most useful course I took since I entered university, I like how it’s linked with real life applications and real issues. The way of delivering information was so suitable and great.”*
 - *“The course was very well organized and the professor taught with a lot of enthusiasm.”*
 - *“The doctor explains pretty well. I love how he can make concepts much simpler by connecting them to real life application and examples.”*
 - *“This is the best course I have ever taken in this university. The professor is the best!”*
 - *“The instructor is great. I liked his method of course delivery. I wish to take other courses with him.”*
 - *“The instructor was great, well organized, very cooperative – he is excellent.”*
 - *“Although I have taken/read many networks courses/books, but I feel that it is the first time that I understand computer networks. I really enjoy this course, even if I get an F.”*
 - *“Once I told my friends, I think Dr.Mohamed Saad is a good candidate to make a training program for some proff on 'how to introduce new ideas to students' ”*
- **Sample Dean’s Comments:**
 - *“Super teaching evaluation, reflecting a super teaching performance. Well done. Thanks.”*
Prof. S. Alkass, College Dean.
 - *“The enclosed evaluations are pleasing and reflect the students’ appreciation of your efforts. The College is very pleased and appreciative of your dedication and commitment to teaching excellence.”* **Prof. B. Boashash, College Dean.**

Awards

1. Recipient of the “Best Research Paper Award in Engineering”, 8th Scientific Research Forum 2012, College of Graduate Studies, University of Sharjah, May 2012. Paper: M. Saad, “On Optimal Spectrum-Efficient Routing in TDMA and FDMA Multihop Wireless Networks”, *Computer Communications*, vol. 35, no. 5, pp. 628–636, March 2012.
2. Elevation to “*Senior Member of IEEE*” grade. Only 8% of IEEE members achieve senior membership.
3. Recipient of the *Best Paper Award* at IEEE Symposium on Computers and Communications (ISCC 2010), Riccione, Italy, June 2010. Paper: M. Saad, “Reduced-Complexity Spectrum-Efficient Routing in TDMA Multihop Wireless Networks”.
4. Recipient of the University of Sharjah “Annual Incentive Award for Distinguished Faculty Members”, for excellence in research, April 2010.
5. Nominated for inclusion in the 2015 Edition of **Who’s Who in the World**.
6. Nominated for inclusion in the 2013 Edition of **Who’s Who in the World**.
7. Nominated for inclusion in the 2012 Edition of **Who’s Who in the World**.
8. Nominated for inclusion in the 2011 Edition of **Who’s Who in the World**.
9. Nominated for inclusion in the 2010 Edition of **Who’s Who in the World**.
10. Nominated by the College of Engineering, University of Sharjah, for the *Sharjah Islamic Bank Award for Distinguished Scientific Research*, April 2008. The College of Engineering nominates only *one* of its faculty members to be considered for the award.
11. Recipient of the *Best Teaching Award* by the IEEE Women in Engineering Society, University of Sharjah, May 2009.
12. Recipient of the *Best Teaching Award* by the IEEE Women in Engineering Society, University of Sharjah, May 2007.
13. Recipient of the *Natural Sciences and Engineering Research Council of Canada (NSERC) Post Doctoral Fellowship*, July 2005. This is a prestigious award offered by Canada’s federal government to the most promising researchers.
14. Recipient of the *Nortel Networks Ontario Graduate Scholarship in Science and Technology (OGSST)*, Sept. 2004
15. Nominated for the *Mary Keyes Award for Leadership and Service to McMaster*, May 2004
16. Medal of Honor for Excellence in Undergraduate Education, Faculty of Engineering, Cairo University, Dec. 1996. This medal is awarded by Cairo University to the top 10% students in their respective departments.
17. The Egyptian Government Awards of Excellence in Undergraduate Education, Cairo University, 1995-1996, 1994-1995, 1993-1994, 1992-1993 and 1991-1992. These are awarded by the Egyptian government to the top 2% students in their respective universities.

Scholarly Activities

1. Principal Investigator of the University of Sharjah Targeted Project “Optimal Resource Management for Cloud-Based Fifth Generation Wireless Networks”, AED 130,000, 2016-2018.
2. Coordinator, “Distributed and Networked Systems Research Group”, AED 100,000 per annum, University of Sharjah, 2015-2017.
3. Principal Investigator of the University of Sharjah Seed Project “Resource Management in Wireless Networks: Performance Limits and Algorithms”, AED 20,000, 2006-2008.
4. Was involved in the MITACS (*Mathematics of Information Technology and Complex Systems*) project on “New Interior-Point Optimization Methods and Software for Convex Conic-Linear Optimization with Applications to Solving VLSI Circuit Layout Problems and Digital Communication Systems Design”.
5. *Associate Editor* for *Frontiers in Communications and Networks*.
6. *Journal Reviewer* for the *IEEE/ACM Transactions on Networking*; *IEEE Transactions on Wireless Communications*; *IEEE Journal on Selected Areas in Communications*; *IEEE Transactions on Network and Service Management*; *EURASIP Journal on Wireless Communications and Networking*; *Optics Communications*; *Operations Research*; and *Optimization and Engineering*, *Canadian Journal of Electrical and Computer Engineering*.
7. *Conference Reviewer* for *IEEE GLOBECOM*; *IEEE ICC*; *IEEE VTC*; *IFIP Networking*; *IFIP International Conference on New Technologies, Mobility and Security (NTMS)*; *IEEE International Symposium on Circuits and Systems (ISCAS)*; *International Conference on Embedded Software and Systems (ICISS)*; *IEEE GCC Conference and Exhibition Center (IEEE GCC)*; and the *International Workshop on Signal Processing and its Applications (WOSPA)*.
8. *Technical Program Committee Member* for *IEEE 2015 International Conference on Connected Vehicles & Expo (ICCVE 2015)*, October 19-23, 2015, Shenzhen, China
9. *Technical Program Committee Member* for *M2M and H2H communications coexistence on 5G cellular networks workshop*, in conjunction with *Fifth International Conference on Selected Topics in Mobile & Wireless Networking (MoWNet’2016)*, April 11-13, 2016, Cairo, Egypt.
10. *Technical Program Committee Member* for *International Conference on Connected Vehicles & Expo (ICCVE 2013)*, Las Vegas, 2-6 December 2013.
11. *Technical Program Committee Member* for *5th International Conference on Smart Communications in Network Technologies (SaCoNeT 2014)*, June 18-20 2014, Vilanova i la Geltrú, Spain.
12. *Technical Program Committee Member* for *IEEE Global Communications Conference (GlobeCom 2013)*, Atlanta, Georgia, USA, Dec. 2013.

13. *Technical Program Committee Member* for IEEE International Workshop on SmArt COmmunications in NEtwork Technologies (SaCoNeT-IV), in conjunction with IEEE International Conference on Communication (ICC 2013), Paris, France, June 2013.
14. *Technical Program Committee Member* for International Conference on Communications, Signal Processing and their Applications (ICCSPA 2013), Sharjah, UAE, April 2013.
15. *Technical Program Committee Member* for 6th Joint IFIP Wireless and Mobile Networking Conference (WMNC 2013), Dubai, UAE., April 2013.
16. *Technical Program Committee Member* for IEEE International Workshop on SmArt COmmunications in NEtwork Technologies (SaCoNeT-III), in conjunction with IEEE International Conference on Communication (ICC 2012), Ottawa, Canada, June 2012.
17. *Technical Program Committee Member* for International Conference on Multimedia Computing and Information Technology (MCIT 2010), Sharjah, UAE.
18. *Technical Program Committee Member* for IEEE International Conference on Signal Processing and Communications (IEEE ICSPC 2007), Dubai, UAE, Nov. 2007.
19. *Organizing Committee Member (Chair of Publications and Web)* for International Workshop on Signal Processing and its Applications (WoSPA 2008).
20. *Judge* in the competitions of 11th IEEE UAE Student Day, May 2015.
21. *Judge* in the competitions of 8th IEEE UAE Student Day, May 2013.
22. *Judge* in the competitions of 5th IEEE UAE Student Day, May 2010.
23. *Judge* in the competitions of 4th IEEE UAE Student Day, May 2009.
24. *Judge* in the competitions of 3d IEEE UAE Student Day, May 2008.

Administrative Responsibilities

1. *Member* of the University of Sharjah Advisory Council (**university level**)
2. *Graduate Studies Coordinator*, 2017-present, (**department level**).
3. *Chair* of the Research and Conferences Committee, 2019-present, (**college level**).
4. *Chair* of the ABET Accreditation Committee, 2015-2017, (**department level**). Responsible for preparing of the self-study reports for the EEE and CPE programs, preparing for the ABET visit and co-representing the department in the ABET visit.
5. *Member* of the ABET Accreditation Committee, 2015-2017, (**college level**).
6. *Member* of the Curriculum Committee, 2015-present, (**department level**).
7. *Member* of the *University of Sharjah Strategic Research Domains' Committees* (infrastructure domain), 2009-2014 (**university level**).

8. *Member* of the College Council, College of Engineering, University of Sharjah, 2010-2011 and 2013-2015 (**college level**).
9. *Chair* of the Strategic Planning Committee, 2013-2014 (**department level**).
10. *Member* of the Strategic Planning Committee, 2013-2014 (**college level**).
11. *Chair* of the *Research and Scholarship Committee*, College of Engineering, University of Sharjah, 2009-2010 (**college level**).
12. *Chair* of the *Student Welfare Committee*, College of Engineering, University of Sharjah, 2011-2012 (**college level**).
13. *Research and Scholarship Coordinator*, Department of Electrical and Computer Engineering, University of Sharjah, 2008-2009, 2009-2010 (**department level**).
14. *Chair* of the *Research and Scholarship Committee*, Department of Electrical and Computer Engineering, University of Sharjah, 2007-2008 (**department level**).
15. *Chair* of the *Computer Engineering Program Review Committee*, College of Engineering, University of Sharjah, Fall 2007-2008 (**college level**).
16. *Coordinator* of the *Networking Specialty Group*, Department of Electrical and Computer Engineering, University of Sharjah, 2006-present (**department level**).
17. *Member* of the Computer Engineering Faculty Recruitment Committee, Department of Electrical and Computer Engineering, University of Sharjah, 2006-2007, 2007-2008, 2008-2009, 2012-2013, 2013-2014 (**department level**).
18. *Member* of the *Faculty Affairs Committee*, University of Sharjah, 2009-2011 (**university level**).
19. *Member* of the *Student Affairs Committee*, University of Sharjah, 2007-2008, 2008-2009 (**university level**).
20. *Chair* of the *Graduate Student Committee* in the Department of Electrical and Computer Engineering, McMaster University, July 2002–Dec. 2004 (**department level**).
21. *Member* of the *Faculty of Engineering Graduate Curriculum and Policy Committee*, and member of the *Faculty of Engineering*, July 2002–Dec. 2004 (**college/faculty level**).
22. *Member* of the *Committee to Select a New Chair for the Electrical and Computer Engineering Department*, McMaster University, Nov. 2002–March 2003 (**university level**).

Graduate Student Supervision

4 M.Sc. student (4 graduated)

Undergraduate Student Supervision

I have supervised 75 senior design/graduation project students at the University of Sharjah. Topics included Internet-of-Things (IoT), network resource management, soft computing/optimization tools (e.g., genetic algorithms and particle swarm optimization), autonomic communications, topology adaptation in peer-to-peer networks, cross-layer design in wireless networks, and autonomous quadcopter/drone.

Professional Membership

Senior Member, IEEE;
Member, Egyptian Syndicate of Engineers

Publications

Submitted and Working Journal Papers

- [1] S. Abdallah, A.I. Salameh, M. Saad, M. N. Hindia, “Joint Semi-blind Channel and CFO Estimation in Amplify-and-Forward Two-Way Relay Networks”, submitted for journal publication, Aug. 2018.
- [2] K. Alnajjar, S. Abdallah, M. Saad and A. El-Moursy, “Low Complexity Receivers for Massive MIMO Cloud Radio Access Systems”, April 2018.
- [3] S. Muhaureq, M. Saad and A. El-Saddik, “Echolocation Optimziation Algorithm”, Manuscript, Department of Electrical and Computer Engineering, University of Sharjah, 2010.
- [4] M. Saad, Z.-Q. Luo, “Wavelength-Selective WDM Network Design: How Bad is Shortest Path Routing?”, Manuscript, Department of Electrical and Computer Engineering, University of Sharjah, 2008.

Journal Papers

- [5] M. Baziyad, M. Saad, R. Fareh, T. Rabie and I. Kamel, “Addressing Real-Time Demands for Multi-Robot Path Planning Systems: A Routing Protocol Approach”, accepted for publication in *IEEE Access*, Jan. 2021.
- [6] M. Saad and S. Abdallah, “On Spectrum-Efficient Routing in Interference-Limited Full-Duplex Multihop Wireless Networks”, *IEEE Access*, vol. 9, pp. 11134–11143, Jan. 2021.
- [7] A. El-Moursy, S. Abdallah, M. Saad and K. Alnajjar, “Parallel Two-Way Relay Channel Estimation in Cloud-based 5G Radio Access Networks”, *IEEE Access*, vol. 8, pp. 144077–144091, August 2020.
- [8] W.S. Afifi, A.A. El-Moursy, M. Saad, S.M. Nassar and H.M. El-Hennawy, “A Novel Scheduling Technique for Improving Cell Edge Performance in 4G/5G Systems”, *Ain Shams Engineering Journal (Elsevier)*, July 2020.

- [9] S. Abdallah, M. Saad, K. Alnajjar and M. Masood, “Semi-Blind Joint Timing-Offset and Channel Estimation for Amplify-and Forward Two-Way Relaying”, *IEEE Transactions on Wireless Communications*, vol. 19, no. 4, pp. 2613–2627, April 2020.
- [10] M. Saad and S. Abdallah, “On Millimeter Wave 5G Backhaul Link Scheduling”, *IEEE Access*, vol. 7, pp. 76448–76457, June 2019.
- [11] S. Abdallah, A.I. Salameh and M. Saad, “Spectrum Efficient Joint Frequency Offset and Channel Estimation for Time-Asynchronous Amplify-and Forward Two-way Relay Networks”, *IEEE Access*, vol. 7, pp. 71972–71985, May 2019.
- [12] A. El-Moursy, A. Abdelsamea, R. Kamran and M. Saad, “Multi-Dimensional Regression Host Utilization Algorithm (MDRHU) for Host Overload Detection in Cloud Computing”, *Journal of Cloud Computing (Springer)*, vol. 8, no. 1, June 2019. Available online: <https://rdcu.be/bGFqU>.
- [13] S.T. Muhammad, M. Saad, A.A. El-Moursy, M.A. El-Moursy and H.F.A. Hamed, “CFPA: Congestion Aware, Fault Tolerant and Process Variation Aware Adaptive Routing Algorithm for Asynchronous Networks-on-Chip”, *Journal of Parallel and Distributed Computing*, vol. 128, pp. 151–166, June 2019 (available online March 2019).
- [14] M. Saad, “Non-Isotonic Routing Metrics Solvable to Optimality via Shortest Path”, *Computer Networks*, vol. 145, pp. 89–95, Nov. 2018.
- [15] M. Saad, “Optimal Multi-Commodity Spectrum-Efficient Routing in Multihop Wireless Networks”, *Wireless Communications and Mobile Computing*, vol. 2018, Article ID 7985756, 11 pages, 2018. <https://doi.org/10.1155/2018/7985756>.
- [16] M. Saad, “An Improved Hybrid Genetic Algorithm for Multi-User Scheduling in 5G Wireless Networks”, *International Journal of Internet Protocol Technology*, vol. 11, no. 2, 2018, DOI: 10.1504/IJIPT.2018.10013690.
- [17] M.N. Ba-Hutair and M. Saad, “An Optimal Spectrum-Efficient Routing Protocol for Multi-hop 802.11s Networks”, *International Journal of Internet Protocol Technology*, vol. 10, no. 2, 2017.
- [18] M. Saad, “Joint Optimal Routing and Power Allocation for Spectral Efficiency in Multihop Wireless Networks”, *IEEE Transactions on Wireless Communications*, vol. 13, no. 5, pp. 2530–2539, May 2014.
- [19] T. Rasheed, M.H. Ahmed, O.A. Dobre, Walid Jerjawi and M. Saad, “User Pairing in Cooperative Wireless Network Coding with Network Performance Optimization”, *EURASIP Journal on Wireless Communications and Networking*, vol. 2013, no. 1, Dec. 2013.
- [20] M. Saad, “On Optimal Spectrum-Efficient Routing in TDMA and FDMA Multihop Wireless Networks”, *Computer Communications*, vol. 35, no. 5, pp. 628–636, March 2012.
- [21] M. Saad, “Joint Admission and Power Control for Quality-of-Service in the Wireless Downlink”, *Journal of Network and Computer Applications*, vol. 34, no. 2, pp. 644–652, March 2011.

- [22] I. Kamel, M. Saad and S.A. Muhaureq, “Managing Multi-priority Services in Ubiquitous Computing Applications”, *International Journal of Internet Protocol Technology*, vol. 5, no. 3, pp. 154–165, Sept. 2010.
- [23] M. Saad and S.A. Muhaureq, “Joint Routing and Radio Resource Management in Multihop Cellular Networks Using Particle Swarm Optimization”, *Autosoft Journal – Intelligent Automation and Soft Computing*, vol. 17, no. 1, pp. 61–70, Jan. 2011.
- [24] M. Saad, “Optimal Spectrum-Efficient Routing in Multihop Wireless Networks”, *IEEE Transactions on Wireless Communications*, vol. 8, no. 12, pp. 5822–5826, Dec. 2009.
- [25] M. Saad, T. Terlaky, A. Vannelli and H. Zhang, “Packing Trees in Communication Networks”, *Journal of Combinatorial Optimization*, vol. 16, no. 4, pp. 402–423, Nov. 2008.
- [26] M. Saad, A. Leon-Garcia and W. Yu, “Optimal Network Rate Allocation Under End-to-End Quality-of-Service Requirements”, *IEEE Transactions on Network and Service Management*, vol. 4, no. 3, pp. 40–49, Dec. 2007. (**Among top 4 accessed articles in IEEE Transactions on Network and Service Management, Aug. 2008**)
- [27] M. Saad, Z.-Q. Luo, “Design of WDM Networks Under Economy of Scale Pricing and Shortest Path Routing”, *IEEE Journal on Selected Areas in Communications* (special series on optical communications and networking), vol. 24, no. 4, pp. 26–36, April 2006.
- [28] M. Saad, Z.-Q. Luo, “Reconfiguration with No Service Disruption in Multifiber WDM Networks”, *IEEE/OSA Journal of Lightwave Technology* (special issue on optical networks), vol. 23, no. 10, pp. 3092–3104, Oct. 2005.
- [29] M. Saad, Z.-Q. Luo, “On the Routing and Wavelength Assignment in Multifiber WDM Networks”, *IEEE Journal on Selected Areas in Communications* (special series on optical communications and networking), vol. 22, no. 9, pp. 1708–1717, Nov. 2004.

Book Chapters

- [30] Wael S. Afifi, Ali A. El-Moursy, Mohamed Saad, Salwa M. Nassar and Hadia M. El-Hennawy, “Importance of Cloud Computing in 5G Radio Access Networks”, *Fundamental and Supportive Technologies for 5G Mobile Networks*, eds. S.M. Abd El-Kader and H. Hussein, IGI Global, pp. 255-268, Jan. 2020.
- [31] M. Saad and B. Soudan, “Program Review: Computer Engineering at the University of Sharjah Case Study”, *Engineering Education in the 21st Century: Quality, Globalization and Local Relevance*, eds. A. Shanableh et al., University of Sharjah, pp. 329–337, 2013.
- [32] M. Saad, T. Terlaky, A. Vannelli and H. Zhang, “A Provably Good Global Routing Algorithm in Multilayer IC and MCM Layout Designs”, *Operations Research and Cyber-Infrastructure*, eds. J.W. Chinneck et al., Springer Science+Business Media, pp. 443–454, LLC 2009.

Conference Papers

- [33] S.A. Aboulrous, A.A. El-Moursy, M. Saad, S.M. Nassar and H. Abbas, “Parallel Multi-Hop Routing Protocol for 5G Backhauling Network using HPC Platform”, to appear in *15th IEEE International Conference on Computer Engineering and Systems (ICCES 2020)*, Cairo, Egypt, Dec. 2020.
- [34] S. Ansari, K.A. Alnajjar, S. Abdalla and M. Saad, “Automatic Digital Modulation Recognition Based on Machine Learning Algorithms”, to appear in *Proc. 2020 International Conference On Communications, Computing, Cybersecurity, And Informatics (CCCI)*, Sharjah, UAE, Nov. 2020.
- [35] E.S. Abushabab, M. Mahmoud, M. Saad, A. Alshal and A. Elnashar, “Practical Performance Analysis of Carrier Aggregation (CA) With 256 QAM In Commercial LTE Network”, to appear in *Proc. 1st International Congress on Engineering Technologies*, Irbid, Jordan, June 2020.
- [36] Wael S. Afifi, Ali A. El-Moursy, Mohamed Saad, Salwa M. Nassar and Hadia M. El-Hennawy, “A Dynamic Clustering Approach for Increasing User Throughput in 5G Wireless Networks”, to appear in *Proc. IEEE/IFIP Network Operations and Management Symposium (NOMS)*, Budapest, Hungary, April 2020.
- [37] M. Saad and S. Abdallah, “A Fast Algorithm for Power-Controlled Capacity Maximization in Wireless Networks”, to appear in *Proc. 2019 IEEE International Symposium on Signal Processing and Information Technology (ISSPIT)*, Ajman, UAE, Dec. 2019.
- [38] M. Saad, A.I. Salameh and S. Abdallah, “Energy-Efficient Shortest Path Planning on Uneven Terrains: A Composite Routing Metric Approach”, to appear in *Proc. 2019 IEEE International Symposium on Signal Processing and Information Technology (ISSPIT)*, Ajman, UAE, Dec. 2019.
- [39] S. Abdallah, M. Saad and K. Alnajjar “Joint Channel and Timing-Offset Estimation in Two-way Relays”, to appear in *Proc. 2019 IEEE International Symposium on Signal Processing and Information Technology (ISSPIT)*, Ajman, UAE, Dec. 2019.
- [40] A.I. Salameh, S. Abdallah and M. Saad, “Joint Frequency Offset and Channel Estimation for Two-way Relays in the Presence of Timing Offsets”, *Proc. 2019 International Conference on Communications, Signal Processing and their Applications (ICCSPA)*, Sharjah, UAE, March 2019.
- [41] K. Alnajjar, S. Abdallah, M. Saad and A. El-Moursy, “Low Complexity Receivers for Massive MIMO Cloud Radio Access Systems”, *Proc. 2018 International Conference on Signal Processing and Information Security (ICSPIS)*, Dubai, UAE, Nov. 2018.
- [42] A.I. Salameh, S. Abdallah and M. Saad, “On the Performance of Two-way Relays in the Presence of Frequency Offsets”, *Proc. 2018 International Conference on Signal Processing and Information Security (ICSPIS)*, Dubai, UAE, Nov. 2018.
- [43] M. Ba-Hutair and M. Saad, “A Spectrum-Efficient Routing Protocol for Multi-hop 802.11 Networks”, *Proc. International Conference on Information and Communication Technology Research (ICTRC2015)*, Abu Dhabi, UAE, May 2015.

- [44] M. Saad, "Wireless Capacity Maximization: A Constrained Genetic Approach", *Proc. IEEE International Conference on Communications (ICC 2015)*, London, UK, June 2015.
- [45] M. Saad, "Joint Optimal Spectrum-Efficient Routing and Power Allocation in Multihop Wireless Networks: A Bisection Approach", in *Proc. International Conference on Communications, Signal Processing, and their Applications (ICCSPA 2013)*, Sharjah, UAE, March 2013.
- [46] T. Rasheed, M.H. Ahmed, O.A. Dobre and M. Saad, "Optimal User Pairing in Cooperative Wireless Network Coding with Constrained Power Minimization", in *Proc. IEEE Radio Wireless Week (RWW 2012)*, Santa Clara, CA, USA, Jan. 2012.
- [47] M. Saad and B. Soudan, "Program Review: Computer Engineering at the University of Sharjah Case Study", in *Proc. International Forum on Engineering Education (IFEE 2010)*, Sharjah, UAE, Nov. 2010.
- [48] M. Saad, "Reduced-Complexity Spectrum-Efficient Routing in TDMA Multihop Wireless Networks", in *Proc. IEEE Symposium on Computers and Communications (ISCC 2010)*, Riccione, Italy, June 2010. (**Received the Best Paper Award – Overall Category**)
- [49] M. Saad, "Max-Min Power Control for the Wireless Downlink", in *Proc. Third International Conference on Modeling, Simulation and Applied Optimization (ICMSAO 2009)*, Sharjah, UAE, Jan. 2009.
- [50] M. Saad, "Wireless Downlink Admission and Power Control Under Strict Quality-of-Service Requirements", in *Proc. IEEE Vehicular Technology Conference (VTC 2008)*, Calgary, Canada, Sept. 2008.
- [51] B. Soudan and M. Saad, "An Evolutionary Dynamic Population Size PSO Implementation", in *Proc. International Conference on Information and Communication Technologies: From Theory to Applications (ICCTA 2008)*, Damascus, March 2008.
- [52] M. Saad and S.A. Muhaureq, "Joint Routing and Radio Resource Management in Multihop Cellular Networks Using Particle Swarm Optimization", in *Proc. URSI – National Radio Science Conference (NRSC 2008)*, Tanta, Egypt, March 2008.
- [53] M. Saad and Z.-Q. Luo, "Wavelength Selective WDM Network Design: How Bad is Shortest Path Routing?", in *Proc. IEEE International Conference on Signal Processing and Communications (ICSPC 2007)*, Dubai, UAE, Nov. 2007.
- [54] M. Saad, M. Bettayeb and A.Y. Boubas, "Joint Routing and Radio Resource Management in Multihop Cellular Networks Using Genetic Algorithms", in *Proc. IEEE International Conference on Signal Processing and Communications (ICSPC 2007)*, Dubai, UAE, Nov. 2007.
- [55] M. Saad, A. Leon-Garcia and W. Yu, "Rate Allocation Under Network End-to-End Quality-of-Service Requirements", in *Proc. IEEE GLOBECOM 2006*, San Francisco, California, Nov. 2006.
- [56] M. Saad, T. Terlaky, A. Vannelli and H. Zhang, "Packing Trees in Communication Networks", in *Proc. Workshop of Internet and Network Economics (WINE 2005)*, Lecture Notes in Computer Science, Hong Kong, Dec. 2005.

- [57] M. Saad and Z.-Q. Luo, "Design of Edge-Disjoint Path Protected WDM Networks: Asymptotic Optimality of Shortest Path", in *Proc. IEEE GLOBECOM 2004*, pp. 1000-1004, Dallas, Texas, Nov. 2004.
- [58] M. Saad and Z.-Q. Luo, "Reconfiguration with No Service Disruptions in Multifiber WDM Networks Based on Lagrangean Decomposition", in *Proc. IEEE ICC 2003*, pp. 1509-1513, Anchorage, Alaska, May 2003.
- [59] M. Saad and Z.-Q. Luo, "A Lagrangean Decomposition Approach for the Routing and Wavelength Assignment in Multifiber WDM Networks", in *Proc. IEEE GLOBECOM 2002*, pp. 2818-2822, Taipei, Taiwan, Nov. 2002.
- [60] M. Saad and Z.-Q. Luo, "Routing and Wavelength Assignment in Multifiber WDM Networks", in *McMaster Optimization Conference: Theory and Applications (MOPTA 2002)*, Hamilton, Aug. 2002.
- [61] M. Saad and S. Eid, "A Genetic Algorithm for Joint Optimization of Capacity and Flow Assignment in Packet Switched Networks", in *Proc. 17th National Radio Science Conference, NRSC 2000, Menoufia, Egypt*, Feb. 2000.

Invited Talks

1. Workshop on Advanced Topics in Wireless Communications, University of Sharjah, Sharjah, UAE, April 2009.
Talk: "Joint Admission and Power Control for Quality-of-Service in the Wireless Downlink"
2. Selected Topics in Complex Systems and Applications Forum, University of Sharjah, Sharjah, UAE, April 2008.
Talk: "Resource Management in Communication Networks: Performance Bounds, Complexity and Algorithms".
3. CAIMS-MITACS 2006 Joint Annual Conference, York University, Toronto, June 2006.
Talk: "Rate Allocation Under Network End-To-End Quality-of-Service Requirements".
4. MITACS 6th Annual Conference, Calgary, May 2005.
Talk: "Design of Optical Networks: Performance Bounds, Complexity and Algorithms".
5. SHARCNET Scientific Computing Seminar Series, McMaster University, March 2005.
Talk: "Resource Allocation in Optical Networks: Performance Bounds, Complexity and Algorithms".
6. Advanced Optimization Laboratory (AdvOL) Seminar Series, McMaster University, Department of Computing and Software, Nov. 2004.
Talk: "Design of Optical Networks: Performance Bounds, Complexity and Algorithms".
7. University of Waterloo, Department of Electrical and Computer Engineering, Oct. 2004.
Talk: "Design of Optical Networks: Performance Bounds, Complexity and Algorithms".

8. McMaster University, Computer Networking Group, Nov. 2003.
Talk: “On the Routing and Wavelength Assignment in Multifiber WDM Networks”.
9. McMaster University, Department of Electrical and Computer Engineering, June 2003.
Talk: “Analysis of the Greedy Approach in Problems of Maximum k -Coverage”.
10. University of Toronto, Department of Electrical and Computer Engineering, March 2002.
Talk: “A Lagrangean Decomposition Approach for the Routing and Wavelength Assignment in Multifiber WDM Networks”.
11. McMaster University, Department of Engineering Physics, April 2001.
Talk: “Management and Provisioning of Optical Networks”.

Invited Poster Presentations

1. MITACS 6th Annual Conference, Calgary, May 2005.
Poster: “On the Routing and Wavelength Assignment in Multifiber WDM Networks”.
2. University of Toronto, Department of Electrical and Computer Engineering, August 2004.
Poster: “On the Routing and Wavelength Assignment in Multifiber WDM Networks”.
3. University of Toronto, Department of Electrical and Computer Engineering, March 2003.
Poster: “On the Capacity Design of Edge-Disjoint Path Restorable Optical Networks”.
4. CITO Knowledge Network Conference, Ottawa, Canada, Oct. 2002.
Poster: “A Lagrangean Decomposition Approach for the Routing and Wavelength Assignment in Multifiber WDM Networks”.