

Michael P. McGarry, Ph.D.

Associate Professor
University of Texas at El Paso
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Education

Arizona State University
PhD in Electrical Engineering (August 2007)
MS in Electrical Engineering (December 2004)

Polytechnic Institute of New York University
BS in Computer Engineering (May 1997)

Awards

2011-2012	UT El Paso College of Engineering Dean's Award for Teaching
Fa2011, Sp2013	UT El Paso ECE Department Teaching Award
2009	IEEE Communications Society Best Tutorial Paper Award

Sponsored Projects

National Science Foundation

PI: Michael McGarry; April 1, 2015 to March 31, 2018
ACI-1450997, "IRNC: AMI: Collaborative Research: Software-Defined and Privacy-Preserving Network Measurement Instrument and Services for Understanding Data-Driven Science Discovery"
\$175,430

Huawei Technologies

PI: Michael McGarry; May 1, 2012 to February 28, 2013
YBNW2012050, "Dynamic Bandwidth Allocation for Hybrid PON/DSL Access Networks"
\$40,000

National Science Foundation

PI: Patricia Nava, Co-PI: Michael McGarry; August 1, 2011 to July 30, 2014
CNS-1059430, "II-EN: Virgo 3 – GPU Upgrade to the UTEP Distributed Computing Lab"
\$135,000

Book Chapter

M. P. McGarry, and M. Reisslein "Multi-channel Ethernet Passive Optical Networks"
Broadband Access Networks: Technologies and Deployments, Springer, ISBN: 9780387921303

Journal Articles (h-Index = 11, ~1040 total citations, student authors in bold, citation data obtained from Google Scholar)

J17: A. Thyagaturu, A. Mercian, M. P. McGarry, M. Reisslein, and W. Kellerer
"Software Defined Optical Networks (SDONs): A Comprehensive Survey",
IEEE Communications Surveys and Tutorials, to appear (**JCR Impact Factor = 9.220**)

J16: A. Mercian, E. Gurrola, F. Aurzada, M. P. McGarry, and M. Reisslein
"Upstream Polling Protocols for Flow Control in PON/xDSL Hybrid Access Networks",
IEEE Transactions on Communications, vol. 64, no. 7, Jul. 2016 (**JCR Impact Factor = 1.992**)

J15: E. Gurrola, M. P. McGarry, Y. Luo, and F. Effenberger
“PON/xDSL Hybrid Access Networks“,
Elsevier Optical Switching and Networking, vol. 14, Aug. 2014 (**JCR Impact Factor = 1.137**)

J14: X. Wei, F. Aurzada, M. P. McGarry, and M. Reisslein
“DyCaPPON: Dynamic circuit and packet passive optical network“,
Elsevier Optical Switching and Networking, vol. 13, Jul. 2014 (**JCR Impact Factor = 1.137**)
Runner-up for 2014 Fabio Neri Best Paper Award

J13: A. Mercian, M. P. McGarry, and M. Reisslein
“Impact of report message scheduling (RMS) in 1G/10G EPON and GPON“,
Elsevier Optical Switching and Networking, vol. 12, Apr. 2014 (**JCR Impact Factor = 1.137, cited 10 times**)

J12: R. Haddad, M. P. McGarry, and P. Seeling
“Video Bandwidth Forecasting“, *IEEE Communications Surveys and Tutorials*, vol. 15, no. 4,
Fourth Quarter 2013 (**JCR Impact Factor = 9.220, cited 5 times**)

J11: A. Mercian, M. P. McGarry, and M. Reisslein
“Offline and Online Multi-Thread Polling in Long-Reach PONs: A Critical Evaluation“,
IEEE/OSA Journal of Lightwave Technology, vol. 31, no. 12, Jun. 2013 (**JCR Impact Factor = 2.965, cited 28 times**)

J10: X. Wei, F. Aurzada, M. P. McGarry, and M. Reisslein
“EIBT: Exclusive Intervals for Bulk Transfers on EPONs“,
IEEE/OSA Journal of Lightwave Technology, vol. 31, no. 1, Jan. 2013 (**JCR Impact Factor = 2.965, cited 10 times**)

J9: M. P. McGarry, and M. Reisslein
“Investigation of the DBA Algorithm Design Space for EPONs“,
IEEE/OSA Journal of Lightwave Technology, vol. 30, no. 14, Jul. 2012 (**JCR Impact Factor = 2.965, cited 52 times**)

J8: R. Haddad, and M. P. McGarry
“Feed Forward Bandwidth Indication (FFBI): Cooperation for an Accurate Bandwidth Forecast“,
Elsevier Computer Communications, vol. 35, no. 6, Mar. 2012 (**JCR Impact Factor = 2.099, cited 2**)

J7: M. P. McGarry, M. Reisslein, F. Aurzada, and M. Scheutzow
“Shortest Propagation Delay (SPD) First Scheduling for EPONs with Heterogeneous Propagation Delays“, *IEEE Journal on Selected Areas in Communications*, vol. 28, no. 6, Aug. 2010 (**JCR Impact Factor = 3.672, cited 32 times**)

J6: J. R. Ferguson, M. Reisslein, and M. P. McGarry
“Online Excess Bandwidth Distribution for Ethernet Passive Optical Networks“, *OSA Journal of Optical Networking*, vol. 8, no. 4, Apr. 2009 (**JCR Impact Factor = 0.941, cited 19 times**)

J5: M. P. McGarry, M. Reisslein, and M. Maier
“Ethernet Passive Optical Network Architectures and Dynamic Bandwidth Allocation Algorithms“,
IEEE Communications Surveys and Tutorials, Third Quarter 2008 (**JCR Impact Factor = 9.220, cited 178 times**) **Won the IEEE Communications Society Best Tutorial Paper Award 2009**

J4: M. P. McGarry, M. Reisslein, C. Colbourn, M. Maier, F. Aurzada, and M. Scheutzow
“Just-in-Time Scheduling for Multichannel EPONs“, *IEEE/OSA Journal of Lightwave Technology*, vol. 26, no. 10, May 2008 (**JCR Impact Factor = 2.965, cited 96 times**)

J3: M. P. McGarry, M. Reisslein, M. Maier, and A. Keha
“Bandwidth Management for WDM EPONs“, *OSA Journal of Optical Networking*, vol. 5, no. 9, Sept. 2006 (**JCR Impact Factor = 0.941, cited 84 times**)

J2: M. P. McGarry, M. Maier, and M. Reisslein
“WDM Ethernet Passive Optical Networks“, *IEEE Communications Magazine*, vol. 44, no. 2, Feb. 2006 (**JCR Impact Factor = 4.007, cited 216 times**)

J1: M. P. McGarry, M. Maier, and M. Reisslein
“Ethernet PONs: A Survey of Dynamic Bandwidth Allocation (DBA) Algorithms“, *IEEE Communications Magazine*, vol. 42, no. 8, Aug. 2004 (**JCR Impact Factor = 4.007, cited 230 times**)

Conference Articles (Student authors in bold)

C18: **S. Melendez**, M. P. McGarry, P. J. Teller, and D. Bruno
“Communication Patterns of Cloud Computing“, *IEEE Global Communications Conference (Globecom '15)*, San Diego, California, December 6-10, 2015

C17: **A. Mercian**, **E. Gurrola**, M. P. McGarry, and M. Reisslein
“Improved Polling Strategies for Efficient Flow Control for Buffer Reduction in PON/xDSL Hybrid Access Networks“, *IEEE Asilomar Conference on Signals, Systems, and Computers*, Pacific Grove, California, November 8-11, 2015

C16: M. P. McGarry, and P. Seeling
“Lecture, Narrated Slides, or First Person View? Impact of Presentation on Learning Outcomes“, *IEEE Frontiers in Education Conference (FIE '15)*, El Paso, Texas, October 21-24, 2015

C15: **E. Gurrola**, **S. Melendez**, M. P. McGarry, P. J. Teller, D. Doria, and D. Bruno
“The Effect of Network Delay Estimation Error on Computation Offloading Decisions“, *IEEE International Conference on Cloud Networking (CloudNet '15)*, Niagara Falls, Canada, October 5-7, 2015

C14: M. P. McGarry, Y. Luo, and **E. Gurrola**
“Invited Talk: FTTdp: ONU Complexity Reduction“, *Optical Fiber Communications Conference (OFC '14)*, San Francisco, California, March 9-13, 2014

C13: M. P. McGarry, Y. Luo, and **E. Gurrola**
“On the Reduction of ONU Upstream Buffering for PON/xDSL Hybrid Access Networks“, *IEEE Global Communications Conference (Globecom '13)*, Atlanta, Georgia, December 9-13, 2013

C12: **E. Gurrola**, M. P. McGarry, Y. Luo, and N. Cheng
“Downstream ONU Buffer Modeling for Fiber to the Drop Point“, *OSA Asia Communications and Photonics Conference (ACP '13)*, Beijing, China, November 12-15, 2013

- C11:** R. Haddad, M. P. McGarry, and Y. Luo
“Forecast Grant Sizing for Video Delivery Over Passive Optical Networks”, *IEEE International Conference on Multimedia and Expo (ICME '13)*, San Jose, California, July 15-19, 2013
- C10:** R. Ferzli, M. P. McGarry, and M. A. al-Alaoui
“Effect of Hand Jitter on Video Compression Algorithms for Mobile Devices”, *IEEE International Conference on Communications and Information Technology (ICCIT '13)*, Beirut, Lebanon, June 19-21, 2013
- C9:** M. P. McGarry, **J. Hernandez**, V. R. Syrotiuk, and R. Ferzli
“Minimizing Video Retransmission Delay and Energy Consumption With Caching Routers”, *IEEE International Conference on Multimedia and Expo (ICME '12)*, Melbourne, Australia, July 9-13, 2012
- C8:** M. P. McGarry, P. Seeling, R. Haddad, and **J. Hernandez**
“Accuracy of Video Frame Size Forecasting”, *IEEE International Conference on Electro/Information Technology (EIT '12)*, Indianapolis, Indiana, May 6-8, 2012
- C7:** M. P. McGarry, M. Reisslein, F. Aurzada and M. Scheutzow
“Impact of EPON DBA Components on Performance”, *IEEE International Conference on Computer Communication Networks (ICCCN '11)*, Maui, Hawaii, August 1-4, 2011
- C6:** M. P. McGarry, **R. Shakya**, M. Ohannessian, and R. Ferzli
“Optimal Caching Router Placement for Reduction in Retransmission Delay”, *IEEE International Conference on Computer Communication Networks (ICCCN '11)*, Maui, Hawaii, August 1-4, 2011
- C5:** **J. McAlarney**, **R. Haddad**, and M. P. McGarry
“Modeling Network Protocol Overhead for Video”, *IEEE European Modelling Symposium (EMS '10)*, Pisa, Italy, November 17-19, 2010
- C4:** M. P. McGarry, **R. Haddad**, and **J. McAlarney**
“A New Approach to Video Bandwidth Prediction”, *IEEE International Conference on Ultra Modern Telecommunications (ICUMT '09)*, St. Petersburg, Russia, October 12-14, 2009
- C3:** **J. R. Ferguson**, M. P. McGarry, and M. Reisslein
“When Are Online and Offline Excess Bandwidth Distribution Useful in EPONs?”, *ICST Third International Conference on Access Networks (AccessNets '08)*, Las Vegas, NV, October 15-17, 2008
- C2:** M. P. McGarry, M. Reisslein, C. Colbourn, and M. Maier
“Just-in-Time Online Scheduling for WDM EPONs”, *IEEE International Conference on Communications (ICC '07)*, Glasgow, Scotland, June 24-27, 2007
- C1:** M. P. McGarry, M. Reisslein and V. R. Syrotiuk
“Access Control in Heterogeneous Multichannel Wireless Networks”, *ICST First International Conference on Integrated Internet Ad hoc and Sensor Networks (Intersense '06)*, Nice, France, May 29-31, 2006

Patents and Patent Applications

“Systems and Methods for Allocating Bonding Engines in Network Communications”, *US 8,837,508*

“Bandwidth Distribution Based on Prior Granting Cycles”, *App: US 2014/0241723 A1*

“Transmission Prioritization Based on Polling Time”, *App: US 2014/0241724 A1*

Experience

University of Texas at El Paso (August 2010-Present)

Associate Professor (Tenured)

- Directing a communication networks research laboratory.
- Teaching courses in *communication networks*, *computer architecture*, *operating systems*, and *cloud computing*; between **4.8/5** and **4.9/5** average teaching evaluations each semester.
- Theses/dissertations supervised:
 - **Salvador Melendez PhD December 2015** (Researcher at White Sands Missile Range)
 - **Esau Ruiz MS May 2015**
 - **Elliott Gurrola MS December 2013** (PhD candidate at UTEP)
 - **Jesus Hernandez MS May 2012** (Software Engineer at MSD Ignition)

University of Akron (August 2008-August 2010)

Assistant Professor (Tenure-track)

- Directed a communication networks research laboratory.
- Taught courses in *communication networks*, and *computer architecture*; **3.8/4** teaching evaluation for Fall 2008, **3.86/4** for Spring 2009, **4.43/5** for Fall 2009, and **4.8/5** for Spring 2010.
- Students graduated (continued to advise after I left U Akron):
 - **Rosish Shakya MS May 2011** (Software Engineer at CCI)
 - **Rami Haddad PhD August 2011 (Tenure-track Faculty at Georgia Southern U.)**

Arizona State University (August 2007-Present)

Adjunct Professor

- Led an Ethernet Passive Optical Network dynamic bandwidth allocation research program within my former PhD advisor’s lab.
- Co-supervised several Masters theses and two dissertations.

Service

Editor for:

Elsevier Optical Switching and Networking *Special Issue on PON Supported Networking*

Associate Editor for:

Elsevier Optical Switching and Networking (2014-Present)

IEEE Communications Surveys and Tutorials (2010-Present)

Technical Committee for:

Elsevier Computer Communications (2014-Present)

Session Chair for:

Multimedia Networking session at ICCCN 2011

Technical Program Committee (TPC) Member for:

IEEE Globecom 2010 through 2016; IEEE Infocom 2011 through 2014

IEEE International Conference on Communications (ICC) 2010, 2016

IEEE International Conference on Computer Communications and Networks (ICCCN) 2011

Peer-reviewer for various IEEE journals

References

Dr. Martin Reisslein	Prof. (ASU)	email: reisslein@asu.edu	phone: (480) 965-8593
Dr. Violet Syrotiuk	Assoc. Prof. (ASU)	email: syrotiuk@asu.edu	phone: (480) 965-7034
Dr. Patrick Seeling	Assoc. Prof. (CMich)	email: patrick.seeling@cmich.edu	phone: (989) 774-3774
Dr. Navid Ghazisaidi	(Verizon)	email: navid.ghazisaidi@verizon.com	phone: (650) 690-5149