

# Michael P. McGarry, Ph.D.

Associate Professor  
University of Texas at El Paso  
El Paso, TX 79968  
(915) 747-6955  
mpmcgarry@utep.edu

## 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: <a href="mailto:reisslein@asu.edu">reisslein@asu.edu</a>	phone: (480) 965-8593
Dr. Violet Syrotiuk	Assoc. Prof. (ASU)	email: <a href="mailto:syrotiuk@asu.edu">syrotiuk@asu.edu</a>	phone: (480) 965-7034
Dr. Patrick Seeling	Assoc. Prof. (CMich)	email: <a href="mailto:patrick.seeling@cmich.edu">patrick.seeling@cmich.edu</a>	phone: (989) 774-3774
Dr. Navid Ghazisaidi	(Verizon)	email: <a href="mailto:navid.ghazisaidi@verizon.com">navid.ghazisaidi@verizon.com</a>	phone: (650) 690-5149