

Michael P. McGarry, Ph.D.

Associate Professor
University of Texas at El Paso
El Paso, TX 79968
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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 15, 2023 to March 31, 2024
CNS-2324243, "Travel: NSF Student Travel Grant for 2023 IFIP Networking Conference (IFIP NETWORKING)"
\$15,000

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 = 16, ~2150 total citations, student authors in bold, citation data obtained from Google Scholar)

J20: C. Mendoza, and M. P. McGarry

"Determining Most Likely Links (MLL) for Network Fault Localization",
IEEE Open Journal of the Communications Society, vol. 4, Mar. 2023 (**JCR Impact Factor = 6.3**)

J19: C. Mendoza, and M. P. McGarry

“The Network Link Outlier Factor (NLOF) for Fault Localization“, *IEEE Open Journal of the Communications Society*, vol. 1, Oct. 2020 (**JCR Impact Factor = 6.3, cited 2 times**)

J18: F. Jovel, J. McCartney, P. J. Teller, **E. Ruiz**, and M. P. McGarry

“Neighbor Discovery Message Hold Times for MANETs“, *Elsevier Computer Communications*, vol. 112, Nov. 2017 (**JCR Impact Factor = 4.5, cited 5 times**)

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*, vol. 18, no. 4, Fourth Quarter 2016 (**JCR Impact Factor = 17.188, cited 435 times**)

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 = 7.2, cited 20 times**)

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 = 1.9, cited 7 times**)

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 = 1.9, cited 8 times**) **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 = 1.9, cited 22 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 = 34.4, cited 18 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 = 4.1, cited 84 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 = 4.1, cited 12 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 = 4.1, cited 114 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 = 4.5, cited 8 times**)

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 = 13.8, cited 68 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 = 4.0, cited 28 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 = 34.4, cited 292 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 = 4.1, cited 136 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 = 4.0, cited 101 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 = 8.3, cited 274 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 = 8.3, cited 288 times**)

Conference Articles (Student authors in bold)

C30: M. P. McGarry, and P. Seeling

"From Passive to Passionate: Using Genuine Projects to Motivate Students", *IEEE/ASEE Frontiers in Education Conference*, Washington, DC, October 13-16, 2024

C29: P. Seeling, and M. P. McGarry

"(Almost) Anywhere Virtual Computing Learning Environment: Student Technology Acceptance", *IEEE/ASEE Frontiers in Education Conference*, Washington, DC, October 13-16, 2024

C28: P. Seeling, and M. P. McGarry

"Evolution of a Networking Course - Attitude Changes a Decade and a Pandemic Later", *IEEE/ASEE Frontiers in Education Conference*, Washington, DC, October 13-16, 2024

C27: P. Seeling, M. P. McGarry, and M. Johnson

"Reveal Online Learning Clickstream Data to Provide Actionable Intelligence", *IEEE/ASEE Frontiers in Education Conference*, College Station, Texas, October 18-21, 2023

C26: D. Flores, Y. Sang, and M. P. McGarry

"Transmission Line Outage Detection with Limited Information Using Machine Learning", *North American Power Symposium (NAPS)*, Asheville, North Carolina, October 15-17, 2023

C25: C. Alcantara, V. Dasari, C. Bumgardner, and M. P. McGarry

"Evaluating Features for Network Application Classification", *SPIE Defense and Commercial Sensing Conference (DCS '20)*, Anaheim, California, April 26-30, 2020

C24: C. Mendoza, V. Dasari, and M. P. McGarry

"The Network Link Outlier Factor (NLOF)", *SPIE Defense and Commercial Sensing Conference (DCS '20)*, Anaheim, California, April 26-30, 2020

C23: C. Mendoza, V. Dasari, and M. P. McGarry

"Detecting Network Soft-failures with the Network Link Outlier Factor (NLOF)", *IEEE Big Data Workshop*, Los Angeles, California, December 9-12, 2019

C22: C. Alcantara, V. Dasari, C. Mendoza, and M. P. McGarry

"Auto-Generating Training Data for Network Application Classification", *SPIE Defense and Commercial Sensing Conference (DCS '19)*, Baltimore, Maryland, April 14-18, 2019

C21: C. Mendoza, V. Dasari, and M. P. McGarry

"Using SFP Data to Detect Contaminated Fiber Connectors", *IEEE Latin-American Conference on Communications (LATINCOM '18)*, Guadalajara, Mexico, November 14-16, 2018 (cited 2 times)

C20: C. Macias, V. Dasari, and M. P. McGarry

"OpenTap: software-defined data acquisition", *SPIE Defense and Commercial Sensing Conference (DCS '18)*, Orlando, Florida, April 16-18, 2018

C19: S. Melendez, and M. P. McGarry

"Computation Offloading Decisions for Reducing Completion Time", *IEEE Consumer Communications and Networking Conference (CCNC '17)*, Las Vegas, Nevada, January 8-11, 2017 (cited 80 times)

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 (cited 4 times)

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 (**cited 2 times**)

C13: M. P. McGarry, Y. Luo, and E. Gurrola

“On the Reduction of ONU Upstream Buffering for PON/xDSL Hybrid Access Networks”, *IEEE Global Commun. Conference (Globecom '13)*, Atlanta, Georgia, December 9-13, 2013 (**cited 6 times**)

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 (**cited 2 times**)

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 (**cited 2 times**)

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 (**cited 2 times**)

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 (**cited 2 times**)

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 (**cited 3 times**)

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 (**cited 5 times**)

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 (**cited 2 times**)

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 (**cited 2 times**)

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 (**cited 8 times**)

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 (**cited 9 times**)

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”, *US 9,253,111*

“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:
 - **Herman Ramey MS May 2024** (Software Engineer at SAIC)
 - **Alberto de la Rosa MS December 2022** (Research Staff at Sandia National Lab)
 - **Christopher Mendoza PhD December 2021** (Software Engineer at Microsoft)
 - **Carlos Alcantara MS May 2020** (Software Engineer at SAIC)
 - **Christopher Mendoza MS December 2018** (PhD student at UTEP)
 - **Julio Reyes-Munoz MS May 2018** (PhD student at UTEP)
 - **Salvador Melendez PhD December 2015** (Researcher at White Sands Missile Range)
 - **Esau Ruiz MS May 2015** (Software Engineer at Hewlett Packard)
 - **Elliott Gurrola MS December 2013** (Software Engineer at Texas Instruments)
 - **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):
 - **Rami Haddad PhD August 2011 (Tenured Faculty at Georgia Southern U.)**
 - **Rosish Shakya MS May 2011** (Software Engineer at Dell)

Arizona State University (August 2007-August 2022)

Adjunct Professor

- Led an Ethernet Passive Optical Network dynamic bandwidth allocation research program within my former PhD advisor's lab.
- Co-supervised several theses and two dissertations; serve on theses/dissertation committees.

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 2010-2020; IEEE Infocom 2011-2014; IEEE WCNC 2019, 2021-2024

IEEE International Conference on Communications (ICC) 2010, 2016, 2019-2021

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

Peer-reviewer for various IEEE journals

References

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|----------------------|--------------------|---|-----------------------|
| 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 | Prof. (CMich) | email: patrick.seeling@cmich.edu | phone: (989) 774-3774 |
| Dr. Navid Ghazisaidi | (Verizon) | email: navid.ghazisaidi@verizon.com | phone: (650) 690-5149 |