

# Eric D. Manley

## *Curriculum Vitae*

Department of Mathematics and Computer Science  
2702 Forest Avenue  
Drake University  
Des Moines, IA 50311  
<http://manley.wp.drake.edu/>

Office: Collier-Scripps 327  
Phone: (515) 271-2177  
Fax: (515) 271-2055  
Email: [eric.manley@drake.edu](mailto:eric.manley@drake.edu)

---

### Education

Ph.D. Computer Science, University of Nebraska – Lincoln, 2009, GPA: 4.0/4.0

**Dissertation:** *Network Coding for WDM All-Optical Networks*

M.S. Computer Science, University of Nebraska – Lincoln, 2006, GPA: 4.0/4.0

**Thesis:** *Optimizing Switch Resources for Path Protection in Optical WDM Mesh Networks*

B.S. Double Major in Computer Science and Mathematics, Honors Program, *Summa Cum Laude*,  
University of Nebraska at Omaha, 2004, GPA: 4.0/4.0

**Honors Thesis:** *Aspect-Oriented Programming Via Program Transformation*

**Honors Thesis:** *Quadratic Solutions of Fourth Degree Diophantine Equations*

### Appointments

Associate Professor of Computer Science, Drake University, Des Moines, IA, 2015 – Present

Assistant Professor of Computer Science, Drake University, Des Moines, IA, 2009 – 2015

### Teaching

#### *Drake University*

CS 10: Preview of Computer Science, *Spring 2013, Fall 2012, Spring 2012, Fall 2011, Spring 2011, Fall 2010, Spring 2010, Fall 2009*

CS 65: Introduction to Computer Science I, *Spring 2019, Fall 2018, Spring 2018, Spring 2017, Fall 2016, Fall 2015, Spring 2015, Fall 2014, Spring 2014*

CS 66: Introduction to Computer Science II, *Spring 2016, Fall 2013, Spring 2013, Spring 2012*

CS 83: Computer Ethics, *Fall 2012, Fall 2010*

CS 135: Programming Languages, *Spring 2015, Spring 2014, Spring 2012, Spring 2011, Spring 2010*

CS 137: Data Structures and Algorithm Analysis, *Spring 2011*

CS 143: Artificial Intelligence, *Fall 2014, Fall 2012, Fall 2010*

CS 160: Operating Systems, *Spring 2010*

CS 161: Compiler Construction, *Fall 2013, Fall 2011, Fall 2009*

CS 167: Machine Learning, *Fall 2018, Fall 2017, Fall 2016, Fall 2015*

CS/STAT 190: Case Studies in Data Analytics, *January 2019, Spring 2018, Spring 2017*

CS/Math/MED 191/192: Capstone (department capstone coordinator), *Fall 2014-Spring 2016*

CS 195: Computer Science for Elementary and Middle School Teachers, *Fall 2016*

FYS 019: Digital Global Citizenship, *Fall 2013*; A Better World: Is there an app for that?, *Fall 2011*

STAT 198: Data-Driven Innovation, *January 2018, January 2017*

Drake University Summer STEM Experience for High-School Students, *Summer 2016, Summer 2015*

Drake University Summer App Camp for Middle-School Students, *Summer 2012*

### *University of Nebraska – Lincoln*

Computer Organization, Laboratory Instructor: 5 semesters

Computer Organization, Recitation Instructor: 7 semesters

Design and Analysis of Algorithms, Teaching Assistant: 2 semesters

Development and Analysis of Efficient Algorithms, Teaching Assistant: 1 semester

Advanced Graph Algorithms, Teaching Assistant: 1 semester

### *University of Nebraska at Omaha*

Math Lab, Teaching Assistant/Tutor, 2 semesters

## **Publications**

### *Peer-Reviewed Publications*

**Eric D. Manley** and Timothy Urness. Easy handwriting recognition. *Consortium for Computing Sciences in Colleges Journal of Computing Sciences in Colleges (to appear)*.

Nick Parlante, Julie Zelenski, Baker Franke, Arvind Bhusnurmath, Karen Her, Kristen Gee, **Eric Manley**, Timothy Urness, Marvin Zhang, Brian Hou, John DeNero, Josh Hug, and Kevin Wayne. Nifty assignments. In *Proceedings of the ACM Technical Symposium on Computer Science Education (SIGCSE)*, pages 588–589, Memphis, Tennessee, March 2016.

David Mascharka and **Eric Manley**. LIPS: Learning based indoor positioning system using mobile phone-based sensors. In *Proceedings of the IEEE Consumer Communications & Networking Conference*, pages 975–978, Las Vegas, Nevada, January 2016.

**Eric D. Manley** and Timothy Urness. Video-based instruction for introductory computer programming. *Consortium for Computing Sciences in Colleges Journal of Computing Sciences in Colleges*, 29(5):221–227, May 2014.

**Eric D. Manley**. Low complexity all-optical network coder architecture. In *Proceedings of the IEEE International Conference on Computing, Networking and Communications (ICNC)*, pages 1046–1050, Honolulu, Hawaii, February 2014.

Timothy Urness and **Eric D. Manley**. Generating interest in computer science through middle-school Android summer camps. *Consortium for Computing Sciences in Colleges Journal of Computing Sciences in Colleges*, 28(5):211–217, May 2013.

Timothy Urness and **Eric D. Manley**. Building a thriving CS program in a small liberal arts college. *Consortium for Computing Sciences in Colleges Journal of Computing Sciences in Colleges*, 26(5):268–274, 2011.

Shivashis Saha, **Eric D. Manley**, and Jitender S. Deogun. Design of an all-optical WDM lightpath concentrator. In *22nd IASTED International Conference on Parallel and Distributed Computing and Systems (PDCS)*, pages 285–288, Marina Del Rey, California, November 2010.

Shivashis Saha, **Eric D. Manley**, and Jitender S. Deogun. Selection of switching sites in all-optical network topology design. In *22nd IASTED International Conference on Parallel and Distributed Computing and Systems (PDCS)*, pages 278–284, Marina Del Rey, California, November 2010.

**Eric D. Manley**, Jitender S. Deogun, Lisong Xu, and Dennis R. Alexander. All-optical network coding. *IEEE/OSA Journal of Optical Communications and Networking*, 2(4):175–191, April 2010.

Shivashis Saha, **Eric D. Manley**, and Jitender S. Deogun. Minimizing network cost in all-optical networks. In *IEEE International Symposium on Advanced Networks and Telecommunications Systems (ANTS)*, New Dehli, India, December 2009.

Huzaifa Al Nahas, Jitender S. Deogun, and **Eric D. Manley**. Proactive mitigation of impact of wormholes and sinkholes on routing security in energy-efficient wireless sensor networks. *Wireless Networks (WiNet)*, 15(4), May 2009.

Charles P. Riedesel, **Eric D. Manley**, Susan Poser, and Jitender S. Deogun. A model academic ethics and integrity policy for computer science departments. In *Proceedings of the 40th ACM Technical Symposium on Computer Science Education (SIGCSE)*, pages 357–361, Chattanooga, Tennessee, March 2009.

**Eric D. Manley**, Jitender S. Deogun, and Lisong Xu. Network coding for optical-layer multicast. In *Fifth International Conference on Broadband Communications, Networks, and Systems (Broadnets)*, London, UK, September 2008.

**Eric D. Manley**, Haitham S. Hamza, and Jitender S. Deogun. On the bandwidth efficiency of pre-crossconnected trails. In *IEEE International Conference on Communications (ICC)*, pages 2294–2299, Glasgow, Scotland, UK, June 2007.

**Eric D. Manley** and Jitender S. Deogun. Location learning for smart homes. In *21st IEEE International Conference on Advanced Information Networking and Applications Workshops (AINA)*, volume 2, pages 787–792, Niagara Falls, Ontario, Canada, May 2007.

**Eric D. Manley**, Haitham S. Hamza, and Jitender S. Deogun. Efficient use of protection bandwidth and switching resources in optical WDM networks. *The OSA Journal of Optical Networking*, 6(4):349 – 368, April 2007.

Huzaifa Al Nahas, Jitender S. Deogun, and **Eric D. Manley**. Secure and energy aware routing against wormholes and sinkholes in wireless sensor networks. In *First International Conference on Communications and Networking in China (ChinaCOM)*, Beijing, China, October 2006. *Invited Paper*.

**Eric D. Manley**, Huzaifa Al Nahas, and Jitender S. Deogun. Localization and tracking in sensor systems. In *IEEE International Conference on Sensor Networks, Ubiquitous, and Trustworthy Computing (SUTC)*, volume 2, pages 237 – 242, Taichung, Taiwan, June 2006.

**Eric D. Manley**. On quadratic solutions of  $x^4 + py^4 = z^4$ . *Rocky Mountain Journal of Mathematics*, 36(3):1027–1031, 2006.

**Eric D. Manley**, Jitender S. Deogun, and Huzaifa Al Nahas. Public-key cryptography in sensor networks. In *IASTED Wireless Networks and Emerging Technologies*, Banff, Alberta, Canada, July 2005.

Huzaifa Al Nahas, Jitender S. Deogun, and **Eric D. Manley**. Security in wireless sensor networks: Issues and protocols. In *Computer Science, Software Engineering, Information Technology, e-Business, and Applications (CSITeA)*, Cairo, Egypt, December 2004.

#### *Conference Papers with Review of Abstract*

Joel Afriyie, Lhito Camson, and **Eric Manley**. Memory constrained camera based obstacle detection for autonomous vehicle navigation. In *Consortium for Computing Sciences in Colleges Central Plains Regional Conference*, Maryville, Missouri, April 2018.

Mahesh Gaya, David Mascharka, Joel Afriyie, Jennifer Steffens, Dominic Sherman, and **Eric Manley**. Adaptive cloud-based indoor positioning system using WiFi fingerprints. In *Consortium for Computing Sciences in Colleges Central Plains Regional Conference*, Lincoln, Nebraska, March-April 2017.

Jennifer Steffins, Alexis Kulash, **Eric D. Manley**, and Timothy Urness. Predicting 2016 u.s. presidential candidate success using twitter and machine learning (*Best Student Paper Award*). In *Consortium for Computing Sciences in Colleges Central Plains Regional Conference*, Lincoln, Nebraska, March-April 2017.

John Gormley and **Eric D. Manley**. Multicast network coded flow in grid graphs. In *Proceedings of the Midwest Instruction & Computing Symposium*, Verona, Wisconsin, April 2014.

David Holcomb, **Eric D. Manley**, Jason Grout, and Alex Hoyer. On the integral coding advantage in unit combination networks. In *Midwestern Graph Theory Conference (MIGHTY)*, September 2012.

William Janssen and **Eric D. Manley**. Classifying networks for network coding. In *Proceedings of the Midwest Instruction & Computing Symposium*, Duluth, Minnesota, April 2011.

### Other Presentations

Jerome Hilscher, **Eric Manley**, Milan Sherman, and Eric Ulrich. Flipped classroom workshop from different perspectives. *Drake Learning Symposium*, August 2014.

Carlyn Crowe, Anisa Fornoff, **Eric Manley**, Amanda McReynolds, Sandra Patton-Imani, Jennifer Perrine, Melissa Sturm-Smith, and Eleanor Zeff. Building reflective engaged citizens from day one: Community engagement, service-learning, and reflection. *Drake Learning Symposium*, August 2014.

**Eric D. Manley**. Light network coding. *Drake University Science Colloquium Series*, February 2012.

### Other Scholarly and Creative Works

**Eric D. Manley**. beauty.py. code poem and video featured in the *Are We Global Yet? The Art and Politics of Public Space (including the virtual)* exhibition at the Anderson Gallery at Drake University, November 13, 2015 - February 12, 2016.

**Eric D. Manley**. The architecture of online public spaces. contributed essay for the *Ethics of New Media* symposium at Drake University, November 2015.

## Grants

**Eric D. Manley** and Christopher P. Porter, \$6600, Computer Vision and Robotics: Design, Construction, and Implementation, *Iowa Space Consortium*, 2017.

**Eric D. Manley**, Timothy Urness, and Dan Alexander, \$1200, Machine Learning in the Cloud: Summer Workshop to Create Linkages Between CS 167 Machine Learning and CS 178 Cloud Computing and Database Systems, *Data Analytics Funds*, 2016.

**Eric D. Manley**, Marcia Laugerman, Alanah Mitchell, Troy Strader, Timothy Urness, and Dan Alexander, \$5650, Summer Workshop on Data Analytics Curriculum Development, *Data Analytics Funds*, 2016.

**Eric D. Manley**, \$3315, Data Analytics Capacity Development Grant Proposal, *Data Analytics Capacity Development Grant*, 2015.

**Eric D. Manley**, \$1200, Course Development Grant Proposal, *Data Analytics Capacity Development Grant*, 2015.

Timothy Urness and **Eric Manley**, \$6000, Summer Camp to Increase STEM Involvement in Middle Schoolers: Let's Build an App For That, *Iowa Space Grant Consortium*, 2012.

**Eric D. Manley**, \$500, Video Tutorials vs. Live Demonstration for Learning Introductory Computer Programming, Drake University Scholarship of Teaching and Learning Faculty Development Program, 2012.

Timothy Urness, **Eric Manley**, Michael Rieck, \$3,465.48, Developing Android Apps to Facilitate and Motivate Student Learning, *Drake Arts & Sciences Technology Fee Grant*, 2011.

**Eric Manley**, Craige Wrenn, Charles Sengstock, Olga Lazareva, Suzanne Clayton, Dorothy Pisarski, Bruce Gilbert, and Clayton Mitchell, \$6,500, LMS Pilot Project Technology Fee Request, *Drake University Technology Fee Grant*, 2011.

**Eric Manley**, Craige Wrenn, Charles Sengstock, Olga Lazareva, Suzanne Clayton, Dorothy Pisarski, Bruce Gilbert, and Clayton Mitchell, \$10,000, LMS Pilot Project Proposal, *Drake University Faculty Development Grant*, 2011.

Timothy Urness and **Eric Manley**, \$1413.31, Developing iPhone Apps to Facilitate and Motivate Student Learning, *Drake University Faculty Development in Technology Program Initiative Grant*, 2010.

Timothy Urness, **Eric Manley**, Michael Rieck, \$5,000, Enhancing Student Learning through Technology: iPod Touch, *Drake University Technology Unit Grant*, 2010.

## Student Mentoring

Faculty Mentor for Sarah Croteau, Keegan Finger, Neil Bhakta, Michael Salato, Vy Ngo, and David Atri Schulle's student research project on robotics and computer vision, 2018-Present

Faculty Mentor for CREW Scholars program for students of color

Senior Capstone Advisor for Maria Socha, Henry Parker, Mina Hamidi, and Alec Roth, 2018.

Faculty Mentor for David Mascharka, Joel Afriyie, Lhito Camson, Blake Trebelhorn, and Romail Dawani's student research project on robotics and computer vision, 2017-2018

Faculty Mentor for Adam Resnick's and Chase Dooley's projects on natural language processing, 2017-2018

Faculty Mentor for Marie Dolleman, Alexis Kulash, Nicole Nieto, Kelsey Olson, and Jennifer Steffen's student research project on analyzing Twitter data for Election Forecasting, 2015-2017

Faculty Mentor for Mahesh Gaya, Joel Afriyie, Jennifer Steffen, and Dominic Sherman's student research project on improvements to the LIPS indoor positioning system, 2016-2017

Faculty Advisor for Drake Math Club 2014-2017

Co-Coach of Drake ACM Programming Contest Team, 2010-2016

Faculty Mentor for Drake Problem Solving, 2009-2017

Faculty Mentor for Eric Zange's student research project on using machine learning to analyze student retention, 2016

Senior Capstone Advisor for Matthew Cullen, Blake Martin, Robert McCann, Laruen Naylor, Kevin Porter, Amelia Santrach, Isaac Shella-Stevens, and Timothy Weber, 2016

Senior Capstone Advisor for Sean Buczek, Derek Charles, Nicholas Giuliani, Jesse Jeun, Larry Saw, Joel Venzke, and Robert Wamba, 2015

Senior Capstone Advisor for Jaxon Gittinger, Bryce Lynn, David Murley, Kanmani Muthusamy, Kok Kuan Ong, Joseph Snee, Kian Stack, James Teague, Conor Wells, and Henry West, 2014

Faculty Mentor for David Mascharka's Drake University Science Collaborative Institute (DUSCI) summer project, *Indoor Localization Using Mobile Phone Based Sensors*, Summer 2014

Senior Capstone Advisor for Nathaniel Allison, Theodore Bartemes, Phillip Beeler, Ross Courtright, Aaron Feldman, Brian Kalina, Nicholas Lucafo, Seirra Smith, and Byron Varberg 2013

Senior Capstone Advisor for Alex Drawbond, Josh Hulsey, Chris Siegel, Matthew Godkin, and Paul Rutledge, 2013

Faculty Mentor for John Gormley's Drake University Science Collaborative Institute (DUSCI) summer project, *Multicast Coded Flow in Grid Graphs*, Summer 2013

Faculty Mentor for prospective chapter of Upsilon Pi Epsilon Computer Science Honor Society, 2012

Faculty Mentor for undergraduate research projects by Alex Hoyer, Matthew Nesslage, John Gormley, and Alex Drawbond, 2012

Drake Math Club Colloquium Talk: *Shared Secrets*, November, 2011.

Faculty Mentor for David Holcomb's Drake University Science Collaborative Institute (DUSCI) summer project, *Coding Advantage in Combination Networks*, Summer 2011

Faculty Mentor for William Janssen's web-design project on the history of St. Petersburg, Russia, Summer 2011.

Faculty Mentor for William Janssen's Drake University Science Collaborative Institute (DUSCI) summer project, *Classifying Network Topologies for Network Coding*, Summer 2010

#### Academic Advisor

2018-2019 academic year: 69 students

2017-2018 academic year: 73 students

2016-2017 academic year: 70 students

2015-2016 academic year: 41 students

2014-2015 academic year: 42 students

2014 Summer advising for new students

2013-2014 academic year: 25 students

2013 Summer advising for new students

2012-2013 academic year: 14 students

2011-2012 academic year: 10 students

2011 Summer advising for new students

2010-2011 academic year: 4 students

2009-2010 academic year: 1 student

## Service

Co-Director of the Data Analytics program, 2016-Present

Computer Science Assessment Committee, 2015-Present

Data Analytics Working Group, 2014-Present

National Alumni Scholarship question writer, 2019

Computer Science Search Committee (chair), 2018

Business Analytics Search Committee, 2016-2017

National Alumni Scholarship Committee, 2015-2017

Drake Undergraduate Science Collaborative Institute (DUSCI) Faculty Advisory Board, 2013-2017

Keynote speaker at College of Arts & Science Awards Ceremony, 2016

Mock Class for Drake Latin Expo, 2016

Chair, College of Arts & Sciences Teacher of the Year Selection Committee, 2016

Ad-hoc Committee for making recommendations to the Teacher of the Year process for the College of Arts & Sciences, 2016

Data Analyst Search Committee (Institutional Research and Assessment staff), 2016

Assessment Coordinator Search Committee (Institutional Research and Assessment staff), 2016

Drake Curriculum Analysis Committee, 2013-2016, Chair 2015-2016

Assessment Coordinator Search Committee, 2016

Computer Science Search Committee, 2015-2016

Presented Mock Class *Making Predictions with Big Data* at National Alumni Scholarship event, 2015

Presented *Technology Literacy without Technology Addiction* to Diocese of Des Moines conference on Internet safety, October 2015

Written Communication Assessment Group, 2015

Integrated Marketing and Communications Steering Committee (TIG IV-1), 2013-2014

Careers in Computer Science presentation for Holy Family School 7th Graders, 2013

Arts & Sciences Council, Drake University College of Arts & Sciences, 2011-2013

Presenter, Actuarial Science Summer Camp for Women and Minorities, 2011-2012

Presenter, Light network coding: Better networks through optical processing, *Drake University Science Colloquium Series*, February 2012.



Ad-hoc Computer Science Curriculum Committee, Drake University Department of Mathematics and Computer Science, 2012

Faculty Incubator Committee, Drake University, 2012

Learning Management Systems Review Committee (*chair*), Drake University, 2011-2012

Math Education Search Committee, Drake University Department of Mathematics and Computer Science, 2011-2012

Book Reviewer: *Ethics for the Information Age* by Michael Quinn, 2011; *Computer Science: An Overview*, 11th ed. by J. Glenn Brookshear, 2012; *Computer Science: An Overview*, 12th ed. by J. Glenn Brookshear and Dennis Brylow, 2013

Poster Judge for Drake University Conference on Undergraduate Research in the Sciences, 2011

Journal Reviewer: IEEE Sensors Journal, IEEE Communications Letters, Elsevier Neurocomputing, IEEE Transactions on Network and Service Management (TNSM), Optik - International Journal for Light and Electron Optics, Optical Fiber Technology, IEEE/OSA Journal of Lightwave Technology (JLT), International Journal of Communication Systems (IJCS), IEICE Transactions on Communications, Transactions on Emerging Telecommunications Technologies, IEEE Transactions on Communications, IEEE Photonics Technology Letters (PTL), , IEEE/OSA Journal of Optical Communications and Networking (JOCN), Elsevier Computer Communications, OSA Journal of Optical Networking (JON),

Conference Reviewer: Annual Conference on Innovation and Technology in Computer Science Education (ITiCSE), IEEE International Conference on Communications (ICC), IEEE Global Communications Conference (GlobeCom), and International Conference on Broadband Communications, Networks, and Systems (Broadnets)

Participated in Q&A session during the Drake Arts & Sciences new faculty orientation session, 2010

Invited Panelist, *Graduate School for Mathematics: Choosing One, Getting In, Staying In*, University of Nebraska at Omaha, November 6, 2009

Moderator, *From the Trenches* Teaching Assistant Workshop Session, University of Nebraska – Lincoln, Department of Computer Science and Engineering, 2006, 2007, 2008

Student Member, Graduate Committee, University of Nebraska – Lincoln, Department of Computer Science and Engineering, 2006 – 2007

## Professional Development

Completed Quality Matters Courses

    Orienting Your Online Learner, 2018

    Evaluating Your Course Design, 2018

Attended Drake Learning Symposium, 2013, 2014

FYS Information Literacy Project participant, Drake University, 2013

FYS Workshop participant, Drake University, 2013

Scholarship of Teaching and Learning Workshop, Drake University, 2012

Information Literacy Workshop, Drake University, 2012

Performance-Task Workshop participant, Drake University, 2011

FYS Writing Program participant, Drake University, 2011

FYS Workshop participant, Drake University, 2010

Attended National Science Foundation Day grant-writing workshop, University of Iowa, October 8, 2009.

## **Awards**

Dean & Sue Wright Outstanding Teacher of the Year, Drake University College of Arts & Sciences, 2014-2015

Department of Computer Science and Engineering Outstanding Graduate Teaching Assistant Award, University of Nebraska – Lincoln, 2008

Graduate Assistance in Areas of National Need (GAANN) Fellowship, University of Nebraska – Lincoln, Department of Computer Science and Engineering, 2006 – 2009

Mary E. and Elmer H. Dohrmann Fellowship, University of Nebraska – Lincoln, Department of Computer Science and Engineering, 2004 – 2006

January 15, 2019