

## Suzanne J. Matthews

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CONTACT INFORMATION	1109 Thayer Hall (D/EECS) United States Military Academy 601 Thayer Road West Point, NY 10996 USA	(845) 938-5577 suzanne.matthews@usma.edu <a href="http://www.suzannejmatthews.com/">http://www.suzannejmatthews.com/</a> US Citizen; TS Clearance
RESEARCH INTERESTS	Parallel Computing, Experimental Computer Science, Data Analysis, Single Board Computers, Computational Biology.	
EDUCATION	<b>Ph.D., Computer Science</b> - Texas A&M University August 2008 - May 2012 Dissertation: "Efficient Algorithms for Comparing, Storing and Sharing Large Collections of Evolutionary Trees"  <b>M.S., Computer Science</b> - Rensselaer Polytechnic Institute August 2006 - May 2008 Thesis: "Visualizing Pathways: An Exploration of the Protein Unfolding Process"  <b>B.S., Computer Science</b> - Rensselaer Polytechnic Institute August 2002 - May 2006 Biology Minor.	
PROFESSIONAL EXPERIENCE	United States Military Academy - West Point, NY 10996 July 2012 - Present ◦ Associate Professor, Department of EE & CS (08/17 - Present) ◦ Cyber Affiliate, Cyber Research Center (01/15 - Present) ◦ Research Fellow, Network Science Center (09/12 - Present) ◦ Assistant Professor, Department of EE & CS (07/12 - 08/17)  Texas A&M University - College Station, TX 77843 June 2008 - May 2012 ◦ Texas A&M University Dissertation Fellow (09/11 - 05/12) ◦ Research Assistant, Department of Computer Science & Engineering (06/08 - 08/11)  Rensselaer Polytechnic Institute - Troy, NY 12180 August 2006 - May 2008 ◦ Rensselaer Master Teaching Fellow (08/07 - 05/08) ◦ Research Assistant, Department of Computer Science (06/07 - 12/07) ◦ Teaching Assistant, Department of Computer Science (08/06 - 05/07; 01/08 - 05/08)  Texas A&M University - College Station, TX 77843 June 2006 - August 2006 ◦ Undergraduate Researcher, CRA-W DMP Program	
HONORS & AWARDS	USMA Research Video Highlight (D/EECS) - West Point 2016 Computer Science Education Excellence Award (D/EECS) - West Point 2016 Dean's Teaching Award Finalist - West Point 2015, 2016 Best Paper, 2015 CCSC Eastern Conference 2015 CRA-W Alum Highlight, Summer-Fall Newsletter 2013 Texas A&M University Dissertation Fellowship 2011 - 2012 NSF ADVANCE workshop participant, Rice University 2011 Clay Williams Distinguished Former Student Scholarship 2011 CSE Graduate Leadership Award, Texas A&M University 2010 Robert P. Ingalls YIIIE Chapter Award, Rensselaer Polytechnic Institute 2008 Master Teaching Fellowship, Rensselaer Polytechnic Institute 2007 - 2008 CRA-W Distributed Mentoring Project Summer Research Award 2006 McGraw-Hill National Merit Scholar 2002 - 2006 Edward J. Bloustein Distinguished Scholar 2002	

EXTERNAL  
RESEARCH  
FUNDING

1. U.S. Army Engineer Research and Development Center, *Increasing the Exposure of Parallel Computing at the United States Military Academy*, PI, \$118,910.00. 2016.
2. Army Research Labs, *Leveraging MapReduce for Anomaly Detection in Smart Grids*, ARL Faculty and Cadet Collaborative Research Program, Co-PI with Dr. Aaron St. Leger, \$3,149.00, 2016.
3. Army Research Labs, *Parallel Author Verification of E-mail*, ARL Faculty and Cadet Collaborative Research Program, PI, \$3,211.60, 2015.
4. Defense Advanced Research Projects Agency, *Leveraging MapReduce for Email Authorship Identification*, Undergraduate Research Opportunity Program (UROP), PI, \$1,000, 2014.
5. Computing Research Association, *Exploring MapReduce for Comparing Large Collections of Phylogenetic Trees*, Collaborative Research Experience for Undergraduates (CREU), PI, \$6,000, 2013.
6. Additional funding of \$46,250.00 received from ARDEC (Co-PI: Dr. Aaron St. Leger), 2016.

PUBLICATIONS &  
PRESENTATIONS

**Invited Presentations (External)**

1. Matthews SJ. "Parallel Computing on the Raspberry Pi". *2017 TeenTech NY Conference*. New York NY, November 2017.
2. Matthews SJ, Brown RA, Adams JC, Shoop E. "An Introduction to Parallel Computing on the Raspberry Pi". 2017 SIAM Conference on Computational Science & Engineering (CSE'17) - Broader Engagement Program. Atlanta GA, March 2017.
3. Brown RA and Matthews SJ. "Roundtable Workshop: PDC in Core Undergraduate Education". *2016 IEEE International Parallel & Distributed Processing Symposium (IPDPS'16)*. Chicago IL, May 2016.
4. Matthews SJ. "Saving the Forest for the Trees: The Case for Preserving Phylogenetic Tree Collections". *ACM International Workshop on Big Data in Life Sciences (BigLS'15)*. Atlanta GA, September 2015.
5. Matthews SJ. "Student Parallella and Student Pi". *2015 CsInParallel Workshop*. Chicago IL, August 2015. *Note: Gave this talk remotely*
6. Matthews SJ and Williams TL. "An efficient and extensible approach for compressing phylogenetic trees". 2011 Evolution Conference, Norman OK, June 2011.

**Peer-Reviewed Journal Articles<sup>1</sup>**

1. Adams JC, Matthews SJ, Shoop E, Toth D, Wolfer J. "Using Inexpensive Microclusters and Accessible Materials for Cost-Effective Parallel and Distributed Computing Education". *Journal of Computational Science Education* 8 (3), p. 2-10. 2017.
  2. Matthews SJ and St. Leger A. "Leveraging MapReduce and Synchronizers for Real-Time Anomaly Detection in the Smart Grid". *IEEE Transactions on Emerging Topics in Computing: Special Issue on Big Data Computing for the Smart Grid*. To appear.
  3. Matthews SJ. "Using Phoenix++ MapReduce to Introduce Undergraduate Students to Parallel Computing". *Journal of Comp. Sci. in Colleges.*, 32(6), pp. 165-174. 2017.
  4. Chewar, C and Matthews SJ. "Lights, Camera Action! Video Deliverables for Programming Projects". *Journal of Comp. Sci. in Colleges.*, 31(3), pp. 8-17. 2016.
  5. Matthews SJ. "Teaching with Parallella: A First Look in an Undergraduate Parallel Computing Course". *Journal of Comp. Sci. in Colleges.*, 31(3), pp. 18-27. 2016.
- Best Paper Award, CCSC Eastern 2015.**
6. Ramirez ZJ\*, Blaine RW, and Matthews SJ. "Augmenting the Remotely Operated Mortar System with Message Passing". *Crosstalk, The Journal of Defense Software*

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<sup>1</sup>Matthews' undergraduate research advisees noted with asterisk (\*).

- Engineering*, 28(6) pp. 12–16. 2015.
7. Matthews SJ. “Heterogeneous Compression of Large Collections of Evolutionary Trees”. *IEEE/ACM Transactions on Computational Biology and Bioinformatics*, 12(4), pp. 807–814. 2015.
  8. Ramakrishnan V, Srinivasan S, Salem SM, Zaki MJ, Matthews SJ, Colon W, and Bystroff C. “GeoFold: Topology-based protein unfolding pathways capture the effects of engineered disulfides on kinetic stability”. *Proteins*, 80(3), pp. 920–934, 2012.
  9. Matthews SJ and Williams TL. “An efficient and extensible approach for compressing phylogenetic trees”. *BMC Bioinformatics*, 12(Suppl 8):S16, 2011. Also technical report No. 2011-5-2, Texas A&M University.
  10. Brammer GR, Crosby RW, Matthews SJ, and Williams TL. “Paper Mâché: creating dynamic reproducible science”. *Procedia Computer Science*, Volume 4, pp. 658–667. 2011. **Finalist in Elsevier Executable Paper Grand Challenge.**
  11. Matthews SJ and Williams TL. “MrsRF: an efficient MapReduce algorithm for analyzing large collections of evolutionary trees”. *BMC Bioinformatics*, 11(Suppl 1):S15, 2010. **Highly Accessed.** Note: presented at Asia-Pacific Bioinformatics Conference (APBC’10).
  12. Sul S, Matthews S, and Williams TL. “Using tree diversity to compare phylogenetic heuristics”. *BMC Bioinformatics*, 10(Suppl 4):S3, 2009.

#### Peer-Reviewed Conference Papers<sup>1</sup>

13. Matthews SJ, Adams A, Brown R, and Shoop E. “Portable Parallel Computing with the Raspberry Pi”. Accepted to the *49th ACM technical symposium on Computer Science Education (SIGCSE’18)*, 2018. To appear.
14. Matthews SJ, St. Leger A. “Leveraging Single Board Computers for Anomaly Detection in the Smart Grid”. Accepted to the *8<sup>th</sup> IEEE Annual Ubiquitous Computing, Electronics & Mobile Computing Conference (UEMCON’17)*. To appear.
15. Deaton S\*, Brownfield D\*, Kosta L\*, Zhu Z\*, Matthews SJ. “Real-Time Regex Matching With Apache Spark”. In *2017 IEEE High Performance Extreme Computing Conference (HPEC’17)*. pp. 1-6. 2017.
16. Kosta L\*, Hunter H, George G, Strelzoff A, Matthews SJ. “Measuring I/O Performance of Lustre and the Temporary File System for Tradespace Applications on HPC Systems”. In *Proceedings of the 2017 ACM Southeast Regional Conference (ACM SE’17)*. pp. 187-190. 2017.
17. Matthews SJ, Blaine RW, Brantly AF. “Evaluating Single Board Computer Clusters for Cyber Operations”. In *2016 International Conference on Cyber Conflict (Cycon US)*. pp. 1-8. 2016.
18. Matthews SJ. “Accurate Simulation of Large Collections of Phylogenetic Trees”. In *Proceedings of the 2015 IEEE International Conference on Bioinformatics and Biomedicine (BIBM’15)*, pp. 113–118. 2015.
19. Hannigan J\*, Matthews SJ, Wickiser JK, and Shakarian P. “A Network-Based Approach for Identifying Cancer Causing Pathogens”. In *Proceedings of the 2014 ACM Southeast Regional Conference (ACMSE ’14)*, Article 56. 2014.
20. Tyson B\*, Betros R\*, Rollings N\*, Figueroa-Cecco J\*, Jones L\*, and Matthews SJ. “Using MapReduce to Compare Large Collections of Phylogenetic Trees”. In *Proceedings of the 2014 ACM Southeast Regional Conference (ACMSE ’14)*, Article 57. 2014.
21. Matthews SJ, Sul S, Williams TL. “A novel approach for compressing phylogenetic trees”. In *Bioinformatics Research and Applications*, volume 6053 of Lecture Notes in Computer Science, pp. 113–124. Springer-Verlag, 2010.
22. Sul S, Matthews S, and Williams TL. “New approaches to compare phylogenetic search heuristics”. In *Proceedings of the 2008 IEEE International Conference on Bioinformatics and Biomedicine (BIBM’08)*, pp. 239–245. 2008.

### Peer-Reviewed Computer Science Education Special Session Papers

23. Adams JC, Caswell J, Matthews SJ, Peck C, Shoop E, Toth D, Wolfer J. “The Micro-Cluster Showcase: 7 Inexpensive Beowulf Clusters for Teaching PDC”. In *Proceedings of the 47th ACM technical symposium on Computer Science Education (SIGCSE’16)*, pp. 81–83. 2016.
24. Adams J, Caswell J, Matthews SJ, Peck C, Shoop E, and Toth D. “Budget Beowulfs: A Showcase of Inexpensive Clusters for Teaching PDC”. In *Proceedings of the 46th ACM technical symposium on Computer science education (SIGCSE’15)*, pp. 344–345. 2015.
25. Parlante, N, Zelenski J, Osera PM, Stepp M, Sherriff M, Tychonievich L, Layer R, Matthews SJ, Obourn A, Raymond D, Hug J, Reges S. “Nifty Assignments”. In *Proceedings of the 46th ACM technical symposium on Computer science education (SIGCSE’15)*, pp. 673–674. 2015.

### Peer-Reviewed Undergraduate Conference Papers<sup>1</sup>

26. Candelario K\*, Booth C\*, St. Leger A, Matthews SJ. “Investigating a Raspberry Pi Cluster for Detecting Anomalies in the Smart Grid”. Accepted to *2017 IEEE MIT Undergraduate Research Technology Conference*. 2017. **Best Paper**. *To appear*.
27. Yan J\*, Matthews SJ. “Applying Clustering Algorithms to Determine Authorship of Chinese Twitter Messages”. Accepted to *2016 IEEE MIT Undergraduate Research Technology Conference*. 2016. *To appear*.
28. Nosco T\*, Jones L\*, Smola J\*, Lass J\*, Bell J, Pulleyblank W, Matthews SJ, and Okasaki C. “Exploring the Oriented Graceful Labeling Conjecture on Lobster Trees”. In *Proceedings of the National Council of Undergraduate Education (NCUR’16)*, 2016.
29. Hwang C\*, Chamberlen D\*, Parros M\*, Russell J, Spruce J, St. Leger A, and Matthews SJ. “Using MapReduce to Detect Anomalies in the Real-Time Smart Grid”. In *Proceedings of the National Council of Undergraduate Research (NCUR’16)*, 2016.

### Technical Reports & Invited Publications<sup>1</sup>

30. Deaton S\*, Hutchison S, Matthews SJ. “Using Machine Learning to Predict the Popularity of Reddit Comments”. *DOD HPC Insights Magazine*. Invited contribution. *In press*. 2017.
31. St. Amour L\*, Ulrich F\*, Kellas A\*, Molnar A\*, and Matthews SJ. “PAVE: Writeprint Creation with MapReduce”. DTIC Technical Report, Accession number AD1005367. Army Research Labs. 2015.

### Peer-Reviewed Posters and Presentations<sup>1</sup>

1. Brownfield D\*, Deaton S\*, Kosta L\*, Zhu Z\*, Matthews SJ. “Leveraging Apache Spark for Real-Time Regex Matching on Bro Log Data”. *Consortium for Computing Sciences in Colleges - Northeastern Region (CCSCNE’17) Undergraduate Research Competition*. **Best Poster**. April 2017. *Poster*. Also won 4<sup>th</sup> place at HPC Day, Dartmouth MA, May 2017.
2. Lee J\*, Lacey A\*, Panto Z\*, Jenkins M\*, Matthews SJ. “A  $k$ -means approach for attributing the authorship of anonymous e-mail”. *National Conference on Undergraduate Research (NCUR 2016)*, April 2016. *Poster*.
3. Horras S\*, Gerber R, Matthews SJ. “Investigating Job Configuration Efficiency on HPC Resources at NERSC”. *National Conference on Undergraduate Research (NCUR 2015)*, April 2015. *Poster*.
4. Kellas A\*, Molnar A\*, St. Amour L\*, Ulrich F\*, and Matthews SJ. “Parallel Author Verification of Email”. *ACM Student Research Competition (SIGCSE’15)*, March 2015. Available from proceedings. *Poster*.
5. Jones L\*, Betros R\*, Tyson B\*, Rollings N\*, Figueroa-Cecco J\*, and Matthews SJ. “Using MapReduce to Compare Large Collections of Evolutionary Trees”. *2014*

- Grace Hopper Conference*, October 2014. *Poster*.
6. Hannigan, J\*, Matthews SJ, Wickiser JK, and Shakarian P. “Leveraging Host Protein Network Topology to Identify Cancer Causing Pathogens”. *2014 ACM Richard Tapia Conference*, February 2014. **Best Poster**. Also awarded **Best Poster** at the *Network Science Poster Competition, Projects Day*, West Point, May 2013. *Poster*.
  7. Matthews SJ and Williams TL. “An efficient and extensible approach for compressing phylogenetic trees”. *Eighth Annual Conference of the MidSouth Computational Biology and Bioinformatics Society (MCBIOS’11)*. **1st Place**. *Abstract appears in conference proceedings*, April 2011. *Oral Presentation*.
  8. Matthews SJ, Sul S, and Williams TL. “Effective phylogenetic compression with TreeZip”, *Informatics for Phylogenetics, Evolution, and Biodiversity (iEvoBio’10)*. Available from *Nature Precedings*: <http://hdl.handle.net/10101/npre.2010.4613.1>. 2010. *Lightning talk*.
  9. Matthews SJ, Sul S, and Williams TL. “TreeZip: A New Algorithm for Compressing Large Collections of Evolutionary Trees”. In *Data Compression Conference (DCC’10)*, March 2010. Available from proceedings (p. 544). *Poster paper*.
  10. Matthews SJ and Williams TL. “Using MapReduce for evolutionary trees on multi-core platforms”. *ACM Student Research Competition (Tapia’09)*, April 2009. *Poster*.

#### **Peer-Reviewed Conference Panels, BOF, & Workshops**

11. Adams A, Brown R, Kawash J, Matthews SJ, Shoop E. “Leveraging the Raspberry Pi for CS Education”. *2018 Technical Symposium on Computer Science Education (SIGCSE’18)*. Baltimore, MD, 2018. *Panel*.
12. Brown R, Adams A, Matthews SJ, Shoop E. “Teaching Parallel & Distributed Computing with MPI on Raspberry Pi Clusters” *2018 Technical Symposium on Computer Science Education (SIGCSE’18)*. Baltimore, MD, 2018. *Workshop*.
13. Matthews SJ, Adams J, Brown R, Shoop E. “Teaching Parallel Computing with OpenMP on the Raspberry Pi”. *2017 Technical Symposium on Computer Science Education (SIGCSE’17)*. Seattle, WA, 2017. *Workshop*.
14. Rahman F, Matthews SJ, Danyluk A, Shaw K. “Can we really do it? - Conducting Significant Computer Science Research in Primarily Undergraduate Institutions (PUIs)”. *2017 Technical Symposium on Computer Science Education (SIGCSE’17)*. Seattle, WA, 2017. *Birds of Feather*
15. Matthews SJ, Marshall B, Walter J, and Williams TL. “Cultivating More Women in Academia”. *2016 Grace Hopper Celebration of Women in Computing Conference (GHC’16)*. Houston, TX. 2016. *Panel*
16. Matthews SJ, Brown RA, Adams JC, and Shoop E. “Parallel Computing with OpenMP on the Raspberry Pi 2”. *2016 ACM Richard Tapia Conference (Tapia’16)*. Austin, TX. 2016. *Workshop*
17. Matthews SJ, Tapia L, Amato N, Walker E. “Navigating the Academic Job Search”. *2013 Grace Hopper Celebration of Women in Computing Conference (GHC’13)*. Minneapolis, MN. 2013. *Panel*
18. Cummings D, Matthews SJ, Tael P, Bowers N and Eberly D. “Fake it Till You Make it: Overcoming Impostor Syndrome”. *2013 Richard Tapia Celebration of Diversity in Computing Conference (Tapia’13)*. Washington DC. 2013. *Panel*
19. Matthews SJ, Cumming D, Lively C, Davis A, and Taylor V. “Faking it: Overcoming Impostor Syndrome”. *2011 Richard Tapia Celebration of Diversity in Computing Conference (Tapia’11)*. San Francisco, CA. 2011. *Panel*
20. Tapia L, Lively C, and Matthews SJ. “Steps to a PhD: A Student’s Perspective”. *2009 Richard Tapia Celebration of Diversity in Computing Conference (Tapia’09)*. Portland, OR. 2011. *Panel*

#### **Invited Talks (Internal)**

21. Matthews SJ. “Why YOU should care about parallel computing: using HPC to

solve problems of critical mass”. *HPC Brown Bag Series*, Center for Innovation and Excellence, December 14, 2017.

22. Matthews SJ. “Parallelizing Data Science Applications of Critical Mass”. *Network Science Center Brown Bag Series*, Network Science Center, February 24, 2016.

## TEACHING & ADVISING

### **Courses Taught (Designer<sup>§</sup>, Course Director<sup>†</sup>)**

- XE 401/402 - Integrative Capstone Experience: AY15, AY16, AY17, AY18
- CS 380 - Computer Organization<sup>§†</sup>: AY16, AY17, AY18-1
- CS 474 - Fundamentals of Computer Theory<sup>†</sup>: AY14-1, AY17-2, AY18-2
- CS 485 - Parallel Computing<sup>§†</sup>: AY15-2
- CS 301 - Fundamentals of Computer Science<sup>§†</sup>: AY13-2, AY14, AY15.
- IT 105 - Introduction to Computing & Information Technology: AY13-1

### **Select Undergraduate Research Students**

- 2LT Leonard Kosta (CY): 05/16 - 05/17. Currently Draper Laboratories Graduate Fellow and graduate student at Boston University.
- 2LT Jinny Yan (CY): 08/15 - 05/16. Currently MIT Lincoln Labs Military Fellow and graduate student at Northeastern University.
- 2LT Lisa Jones (CY): 08/13 - 05/16. 2016 Churchill Scholar; 2016 CRA Outstanding Female Researcher Award; 2016 NSF Graduate Research Fellowship; 2013-2014 CRA-W CREU Awardee. M.S. in Mathematics, Cambridge University.
- 1LT Leo St. Amour (CY): 08/14-05/15. MIT Lincoln Labs Military Fellowship. M.S. in Computer Science, Northeastern University (2017).
- 1LT Frederick Ulrich (CY): 08/14-05/15. MIT Lincoln Labs Military Fellowship. M.S. in Computer Science, Northeastern University (2017).
- 1LT Rosemary Betros (EN): 08/13-05/14. 2013-2014 CRA-W CREU Awardee.
- 1LT Jorge Figueroa-Cecco (IN): 08/13-05/14. 2013-2014 CRA-W CREU Awardee.
- 1LT Nathaniel Rollings (CY): 08/13-05/14. 2013-2014 CRA-W CREU Program.
- 1LT Bryce Tyson (FI): 08/13-05/14. 2013-2014 CRA-W CREU Program.
- 1LT Joseph Hannigan (IN): 08/12-05/14. Honorable Mention, NSF Graduate Research Fellowship.

### **Full List of Undergraduate Research Students**

- CDTs Andres Alejos, Spencer Drakontaidis, Connor Eckert, Mingu Jeong, Michael Ma, Brennan Nesslerala, Evin Rude, Nikolay Shopov, Michael Stanchi
- 2LTs Chris Booth ('17 AR), David Brownfield ('17 CY), Kasey Candelario ('17 FA), Sean Deaton ('17 CY), Colin Hwang ('16 MI), Michael Jenkins ('16 EN), Lisa Jones ('16 CY), Leonard Kosta ('17 CY), Arthur Lacey ('16 CY), Jessie Lass ('16 CY), James Lee ('16 MI), Timothy Nosco ('16 CY), Zachary Panto ('16 FA), Michael Parros ('16 IN), Jakub Smola ('16 CY), Jinny Yan ('16 CY), Zhaozhong “Bob” Zhu ('17 EN)
- 1LTs Rosemary Betros ('14 EN), Jorge Figueroa-Cecco ('15 IN), Joseph Hannigan ('14 MI), Scott Horras ('15 CY), Andreas Kellas ('15 CY), Alexander Molnar ('15 CY), Zachary Ramirez ('14 CY), Nathaniel Rollings ('14 CY), Leo St. Amour ('15 CY), Bryce Tyson ('14 FI), Frederick Ulrich ('15 CY).

### **EE & CS Department Academic Counselor Advisees**

- Class of 2017: 2LTs Taylor Boylan (USAF), Rachel Kim (SC), Jennifer Niemann (FA), Anna Rapp (MI)
- Class of 2016: 2LTs Alissah McGill (SC), Jinny Yan (CY)
- Class of 2015: 1LTs Rebecca Choi (SC), Scott Horras (CY), Michael Milibank (CY), Alexander Molnar (CY), Michael Quintana (SC), Kyle Sandulli, 1LTs Leo St. Amour (CY), Frederick Ulrich (CY)

PROFESSIONAL  
SERVICE &  
ACTIVITIES

**National Service: Conference & Workshop Leadership**

- Student Papers Chair, ICDIS'18 Conference (2018)
- Grace Hopper Celebration of Women in Computing
  - Scholarship Committee Co-chair (2014, 2015, 2016, 2017, 2018)
  - Medical-Technology Track Program Committee (2013)
- ACM SIGCSE Conference
  - Experiential Reports & Tools Program Committee, SIGCSE (2018)
  - Lightning Talk Program Committee, SIGCSE (2017, 2018)
  - Session Chair, ACM SIGCSE Conference (2015)
- Richard Tapia Celebration of Diversity in Computing
  - Scholarship Committee (2013, 2014, 2015, 2016)
  - Workshop Reviewer (2014)
- Program Committee, EduHPC Workshop (2016)
- Session Chair, CCSC Eastern Conference (2015)

**University Service: United States Military Academy**

- *USMA Academic Freedom Advisory Committee*, 2017-Present
- *USMA Dean's Service Award Selection Committee*, 2016-Present
- *CS Program Steering Committee*, (EECS) 2014 - Present
- *USMA Faculty Manual Committee (Formerly Rules Committee)*, 2015
- *2014 ABET Self-Study Chapter Author and PI Writer*, (EECS). Co-wrote initial draft of Chapter 6 of CS Self Study; assessed courses for various PIs.
- *2014 CSG Lead Hiring Committee*, (EECS).
- *2013 EECS Excellence in Teaching in the Core Award Committee*, (EECS).
- *Officer in Charge*, 2013 and 2014 Richard Tapia Conferences. Co-OIC for Tapia 2015.
- *Officer in Charge*, EECS Systems Luncheon (11/16/12, 08/28/13, 09/05/2014), Co-OIC 02/26/15.
- *Assistant Academic Officer in Charge*, Study Tour Duty (10/28/12).
- *Officer in Charge*, 2012 and 2013 Grace Hopper Conference. Co-OIC for GHC 2014.

**Community Service: Workshops, Panels, & Invited Talks**

- *Workshop Leader*, "Hour of Code: Learning Scratch on the Raspberry Pi", West Point Middle School Coding Club, West Point, NY, Dec. 5, 2017.
- *Workshop Leader*, "Hour of Code: Picobot", Brooklyn High Schools (Grand Street Campus), Brooklyn, NY, Jun. 2, 2017.
- *Workshop Leader*, "Hour of Code: Dragon Dash", West Point Middle School Coding Club, West Point, NY, Feb. 21, 2017.
- *Workshop Co-organizer*, CSinParallel 2016 Delaware Valley Regional Workshop. Villanova University, 07/2016.
- *Invited Speaker*, "The Gist of It: Confidential Advice for Women & Minorities in STEM", Society of Women Engineers USMA Chapter Luncheon, West Point NY, January 27, 2016.
- *Invited Speaker*, "Choosing What's Right For You", Grace Hopper Conference Town Hall series, 2015 Grace Hopper Conference, Houston TX, October 15, 2015.
- *Invited Panelist*, "Published Authors' Night", United States Military Academy Prep School, August 27, 2015. With Remi Hajjar, Ruth Beitler, Gerard McGowan, and Anthony Johnson.
- *Workshop leader*, "Hour of Code: Build an App with MIT App Inventor", Project Hope/Detroit Public Schools, Detroit, MI, November 25, 2014. With CDT Alex Molnar, John Borger, Megan Conger, Tre'Anna Smith, Alicia Clark, Alexandra Davis and Alexa Porcaro.
- *Invited Panelist*, "Published Authors' Night", United States Military Academy Prep School, November 5, 2014. With Cindy Jebb, Marc Napolitano, Don Outing, and Remi Hajjar.

- *Workshop leader*, “Hour of Code: Build an App with MIT App Inventor”, STEM for Girls Workshop, United States Military Academy, West Point, NY, March 8, 2014. With Jean Blair and Peggy Leonowich-Graham.
- *Invited Speaker*, “Pitching Yourself Forward”. Speaker, Girls Who Code speaker series, Girls Who Code HQ, Goldman Sachs, New York, NY, August 9, 2013.
- *Invited Speaker*, “Achieving Your Dreams with Computer Science and Engineering”. Speaker, Mother-Daughter Engineering Breakfast, Suffern Middle School, Suffern NY, Feb 2, 2013.

**Conference/Journal Submission Reviewer**

TETC (2016); TPDS (2015); SIGCSE (2014, 2015, 2016, 2017, 2018); Systematic Biology (2012); MCBIOS'12; ISBRA'11; iEvoBio'11

**Professional Development**

1. *Invited Participant*, CSinParallel Workshop, 08/2014
2. *Graduate*, USMA Master Teaching Program, 05/2014
3. *Attendee*, NSF Grant Writing Workshop - Rutgers University, 08/2013
4. *Invited Participant*, CRA-W Career Mentoring Workshop (CMW-E), 03/2013.
5. *Participant*, EECS Faculty Development Workshop, 07-08/2012
6. *Invited Participant*, NSF ADVANCE NIFP workshop, Rice University, 09/2011.
7. *Invited Participant*, CRA-W Grad Cohort (2008, 2009, 2010).

PROFESSIONAL SOCIETIES

USMA ACM-W Chapter Faculty Chair	August 2012 - Present
Member, Association for Computing Machinery	August 2012 - Present
Affiliate, IEEE Computer Society	August 2014 - Present
Student Member, Association for Computing Machinery	August 2007 - July 2012
The Honor Society of Phi Kappa Phi ( $\Phi K \Phi$ )	Inducted April 2010
Upsilon Pi Epsilon International Honor Society ( $\Upsilon \Pi E$ )	Inducted December 2005