

**BOARD OF TRUSTEES
UNIVERSITY OF THE DISTRICT OF COLUMBIA
UDC RESOLUTION NO. 2018 – 14**

SUBJECT: Tenure Approval for Dr. Briana Wellman, School of Engineering and Applied Sciences

WHEREAS, Dr. Briana Wellman is a recently promoted Associate Professor of Computer Science and Information Technology who has petitioned the University of the District of Columbia (“University”) to be granted tenure in the department in which she is qualified; and

WHEREAS, pursuant to 8B DCMR §1462, Dr. Devas Shetty, Dean of the School of Engineering and Applied Sciences, in conjunction with the Computer Science and Information Technology Faculty, has conducted a thorough review of Dr. Wellman’s background and record of achievements in teaching, scholarship and university and community service, highlights of which are set forth on **Appendix A** attached hereto, and on that basis the Dean recommends that Dr. Wellman be awarded tenure; and

WHEREAS, the President has affirmed the promotion from Assistant to Associate Professor for Dr. Wellman, and has further affirmed the recommendation of tenure for Dr. Wellman from the Dean and the Computer Science and Information Technology Faculty, and the President has forwarded their recommendation for award of tenure to the Board of Trustees.

NOW THEREFORE BE IT RESOLVED, that the Board of Trustees of the University approves the award of tenure to Dr. Briana Wellman, School of Engineering and Applied Sciences, at the rank of Associate Professor.

Submitted by the Academic &
Student Affairs Committee:

May 31, 2018

Approved by the Board of Trustees:

June 26, 2018

Christopher D. Bell

Christopher Bell
Chairperson of the Board



FISCAL IMPACT STATEMENT

TO: The Board of Trustees
FROM: Managing Director of Finance *David L. Franklin*
DATE: May 25, 2018
SUBJECT: Tenure Approval for Dr. Briana Wellman

Conclusion

There is no fiscal impact associated with the granting of tenure to Dr. Briana Wellman at the academic rank of Associate Professor in the School of Engineering & Applied Sciences (SEAS) of the University of the District of Columbia (UDC).

The Department Evaluation and Promotion Committee (DEPC) committee conducted a review and prepared a report in order to make a recommendation to the dean regarding tenure for this professor, who joined the UDC faculty in August 2012.

Background

The DEPC committee reviewed Dr. Wellman's teaching, scholarship, and service to UDC, and concluded that she is an excellent teacher who is recognized by her students, faculty members, administrators, and other experts in her field for her track record of strong contributions to undergraduate research involving students, including her development of innovative search algorithms for robot teams to overcome communication constraints. She has also published 17 peer-reviewed papers, additional articles and book chapters, and has been a principal or co-investigator for over \$2.5 million in funding on projects related to robotics and STEM education.

Dr. Wellman is also recognized for her contributions to the UDC community, including serving on numerous University committees, leading the Louis Stokes Alliance for Minority Participation (LSAMP) Program to increase the quality and quantity of students completing baccalaureate STEM degrees, and contributing as co-chair of the Department of Computer Science and Information Technology, showing leadership in ABET accreditation and Computer Science curriculum.

The recommendation of tenure for Dr. Wellman at the academic rank of Associate Professor has been affirmed by the Dean, the Chief Academic Office, and the President. The President has forwarded the recommendation to the Board of Trustees.

Financial Impact

This request has been approved based upon the information provided. There are no anticipated risks at this time.

Appendix A

REPRESENTATIVE ACHIEVEMENTS – TENURE APPOINTMENT

Briana Lowe Wellman

*Assistant Professor
Department of Computer Science and Information Technology
University of the District of Columbia
(202) 274-6695
briana.wellman@udc.edu
<http://csit.udc.edu/~bwellman/>*

OVERVIEW

Co-Chair, Assistant Professor of Computer Science and Information Technology

APPOINTMENTS

Co-Chair of Computer Science and Information Technology 2017-present
University of the District of Columbia, Washington, DC

- Manages the CS and IT programs including hiring adjuncts instructor, supporting enrollment and retention efforts, and academic support of students
- Collects and maintains documentation needed for the Computing Accreditation Commission, ABET

Assistant Professor of Computer Science and Information Technology 2012-present
University of the District of Columbia, Washington, DC

- Conduct research in multirobot systems, autonomous systems, and artificial intelligence
- Teaching: robotics, neural networks, communication networks, database administration, and web page development

Faculty Research Fellow, Naval Research Lab Summer 2014
Laboratory of Autonomous Systems Research, Arlington, VA

- Collaborated with AI and Robotics researchers to design and implement an autonomous UxV system
- Implemented planning algorithms for cooperation in heterogeneous UxV systems

Computer Information Systems Instructor 2006-2012
Shelton State Community College, Tuscaloosa, AL

- Instructed students of all ages in Microsoft applications
- Assessed students and maintain classroom management

Teaching Assistant 2008
University of Alabama, Tuscaloosa, AL

- Instructed students in a beginners programming class using robots
- Managed students in a laboratory classroom setting

Computer Information Systems Instructor 2007-2008
Miles College, Bessemer, AL

- Instructed students on how to use Microsoft applications
- Lectured students on basic computer literacy

INDUSTRY EXPERIENCE

IT Analyst 2006-2007
Southern Company, Birmingham, AL

- Provided consulting and support for new and existing vendor software
- Developed applications using various programming languages

Information System Technician/Programmer, 2004-2006
The University of Alabama, Tuscaloosa, AL

- Developed software systems that interfaced with the Alumni/Advancement databases
- Created data for various mailings, reports and queries using SQL

EDUCATION

Ph.D. in Computer Science 2011
The University of Alabama

"Cooperation paradigms for overcoming communication limitations in multirobot wide area coverage"
Thesis advisor: Monica Anderson Herzog

BS Computer Science 1997-2002
The University of Alabama

PEER-REVIEWED CONFERENCE PAPERS [statistics]

15. Wellman, B. and Amir, U., "Brief Survey of Multirobot Systems Coordination Approaches for Limited Communications", Submitted to IEEE MRS 2017 - International Symposium on Multi-Robot and Multi-Agent Systems , (Dec 2017).
14. Roberts, M., Apker, T., Johnson, B. Auslander, B., Wellman, B., Aha, D., "Coordinating Robot Teams for Disaster Relief", Proceedings of the FLAIRS 28 Conference , (May 2015).
13. Wellman, B., Suriel, T., Erickson, B., Phifer, T., Mayo, and K., Acharya, K., "Effects of Wireless Signal Attenuation on Robot Team Performance", Proceedings of the FLAIRS 27 Conference , (May 2014).
12. Liang, L., Jeong, D., Wellman, B, Manning, M., Barnett, D., Li, C., Yu, B., "Academic Advising Records on GoogleDrive: Sharing, Consistency and Accessibility", Academic Advising Today , (2014).
11. Wellman, B., Dawson, S., Anderson, M, "Multi-robot Coverage Using Observation-based Cooperation with Backtracking", Proceedings of the FLAIRS 26 Conference , (May 2013).
10. Wellman, B., Reynoso, E., Suriel, T., Anderson, M., "Sector-Search with Rendezvous: Overcoming Communication Limitations in Multirobot Systems", Proceedings of the 2013 ASEE Annual Conference and Exposition , (June 2013).
9. Wellman, B., Dawson, S., and Anderson, M., "Using Rendezvous to Overcome Communication Limitations in Multirobot Exploration ", IEEE International Conference on Systems, Man, and Cybernetics (SMC) , (October 9-12, 2011).

8. Wellman, B., Dawson, S., and Anderson, M., "The Effect of Packet Loss on Cooperative Multirobot Systems", Proceedings of the Second International Conference on Sensor Networks and Applications, (November 8-10, 2010).
7. Wellman, B., Dawson, S., and Anderson, M., "The Effect of Packet Loss on Cooperative Multirobot Systems", Proceedings of the Second International Conference on Sensor Networks and Applications, (November 8-10, 2010).
6. Dawson, S., Wellman, B., and Anderson, M., "The Effect of Interaction on Robotic Sensor Network Experiments", Proceedings of the Second International Conference on Sensor Networks and Applications, (November 8-10, 2010).
5. Dawson, S., Wellman, B., and Anderson, M., "Using simulation to predict multi-robot performance on coverage tasks", Proceedings of the IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), (October 18-22, 2010).
4. Wellman, B., Dawson, S., and Anderson, M., "Observation-based Cooperation in Mobile Sensor Networks: A Bio-Inspired Approach for Fault Tolerant Coverage", Proceedings of the 35th IEEE Conference on Local Computer Networks (LCN), (October 4-7, 2010).
3. Wellman, B., Davis, J., and Anderson, M., "Alice and robotics in introductory CS courses", Richard Tapia Celebration of Diversity in Computing, (April 1-4, 2009).
2. Davis, J., Wellman, B., Raines, M., and Anderson, M., "Providing Robotic Experiences Through Object-Based Programming", 2009 Alice Symposium, (June 17, 2009).
1. Wellman, B., Downing, S., Moore, G., and Anderson, M., "Observation-based Cooperation in Mobile Sensor Networks", First International Conference on Sensor Networks and Applications, (November 2009).

JOURNAL PAPERS

3. Dawson, S., Wellman, B., and Anderson, M., "Identification of Issues in Predicting Multi-robot Performance through Model-based Simulations", Journal of Intelligent Control and Automation (ICA), (2011).
2. Anderson, M., Vrbsky, S., Brown, M., Wellman, B., McKenzie, A., "Affecting Attitudes in First-year Computer Science using Syntax-free Robotics", ACM Inroads, (2011).
1. Wellman, B., Anderson, M., Vrbsky, S., "PREOP as a Tool to Increase Student Retention in CS", Journal of the Twenty-Third Annual Consortium for Computing Sciences in Colleges Southeastern Conference, (2009).

BOOK CHAPTER

- Wellman, B., Alexander, Q., Anderson, M., "Multirobot Search Using Bio-Inspired Cooperation and Communication Paradigms", Bio-Inspired Computing and Networking (Auerbach Publications, Taylor & Francis Group, CRC, 2011), Yang Xiao.

FUNDING [≈\$2.5M/5yr]

- National Science Foundation (NSF), "Project Firebirds Reinventing STEM Teaching (Project FRST)", \$2,146,100 (Co-PI, Sept 1, 2015-August 31, 2021).
 - This project recruits and prepares STEM professionals and graduates to become middle school science teachers in the District of Columbia public and charter Schools.
- National Science Foundation (NSF), "Louis Stokes Alliance for Minority Participation", \$63,511 (Project Coordinator, September 1, 2016- August 31, 2017).
- National Science Foundation (NSF), "Project FAST Capacity at UDC's Urban Teacher Academy", \$300,000 (Co-PI, Oct 1, 2012-March 31, 2015).
 - This project focuses on developing a high-quality teacher preparation program for aspiring STEM education teachers to meet the state requirements for licensure in Middle School Science in the District of Columbia. A teacher curriculum and support resources are being developed. Using robotics to teach STEM subjects are included in curriculum and support resources.
- NASA, District of Columbia Space Grant Consortium, "Space Grant Summer Research and Programming Workshops", \$48,000 (PI, August 2015-August 2016).
 - This program increased the number of underrepresented groups that are engaged in STEM research while initiating and cultivating a mentoring relationship among STEM faculty and students. It also encouraged students to learn a programming language.
- NASA, District of Columbia Space Grant Consortium, "Undergraduate Research Experiences for DC Space Grant Consortium", \$49,997 (PI, August 2014-August 2015).
 - This program utilize the research activities of UDC faculty to broaden the participation of groups of traditionally underrepresented students in research for the areas of computer science and engineering.
- NASA, District of Columbia Space Grant Consortium for 2013 Minority Faculty Summer Research, "Adaptive Cooperation and Communication Paradigms in Multi-robot Systems", \$49,000 (PI, May 1, 2013- August 26, 2014).
 - This research focuses on adaptive multirobot systems that can change the way they cooperate and communicate depending on their environment. This project has resulted in one paper and one student poster thus far.
- NSF sponsored Institute for African-American Mentoring in Computing Science (iAAMCS). Academic Year Undergraduate Research (AYUR) Grant, "Astronomic Globular Cluster Inspired Robot Team", \$8,500 (PI, January 1, 2014-May 31, 2014).
 - This project was developed to encourage African-American computer science students to perform research while being mentored by faculty.
- Prairie View A&M University (PVAMU) and Texas Engineering Experiment Station (TEES) National Science Foundation (NSF) ADVANCE-PAID, "Sector Search with Rendezvous in Real Robot Experiments", \$10,000 (PI, June 1, 2012-May 31, 2013).

PRESENTATIONS/INVITED TALKS

- Wellman, B., Computer science education presentations in high school CS courses, Anacostia High School, Washington, DC, Jan 2017-ongoing.

- **Wellman, B.**, NASA Swarmathon Workshop keynote speaker, 2016 Robotics: Science and Systems Conference, University of Michigan, June 18, 2016. I was invited to be a keynote speaker of a workshop at one of the most popular robotics conference, Robotics Science and Systems Conference.
- **Amir, U., Wellman, B.** "Multirobot Levy Walk: Bio-inspired Approach to Exploration", 2014 Grace Hopper Celebration of Women in Computing (GHC 2014), Phoenix, AZ October 2014.
- **Archaya, K., Wellman, B.** "Wireless Signal Attenuation on Robot Team Performance", 2014 Grace Hopper Celebration of Women in Computing (GHC 2014), Phoenix, AZ October 2014.
- **Amir, U. and Archaya, K.** "Bio-inspired Approaches for Multi-robot Control in Exploration". XEROX Research Fellowship Presentations. UDC May 13, 2014.
- **Taborn, N., Wellman, B.**, "Arduino Uno". 2014 UDC STEM Center for Research and Development Closing Activity. July 9, 2014.
- **Wellman, B.**, "Multi-robot Coverage Using Observation-based Cooperation with Backtracking." FLAIRS 26 Conference, St. Pete Beach, FL, May, 2013.
- **Wellman, B.**, "Sector-Search with Rendezvous: Overcoming Communication Limitations in Multirobot Systems." 2013 ASEE Annual Conference and Exposition, Atlanta, GA, June 2013.
- **Wellman, B.**, "Sector Search with Rendezvous in Real Robot Experiments." 2013 PVAMU/TAMU ADVANCE-PAID Professional Development Workshop, Houston, TX, May 2013.
- **Wellman, B.**, "I, Robot and Women Programmers". Showcase on Teaching and Learning, UDC, Washington, DC. May 2013
- **Wellman, B.** "Robotics." 2013 LSAMP Weekly Research Seminar, Washington, DC. June 2013.
- **Wellman, B.**, "STEMulate: Robotics" with Leshell Hatley of UpLigft, Inc. AKA's Girls Rock Conference. Washington, DC. November 2013.
- **Suriel, T., Reynoso, E., Wellman, B.**, "Multi-robot Exploration; Sector with Rendezvous", 2013 ARTSI Student Research Conference, Baltimore, MD March 2013.
- **Suriel, T., Wellman, B.**, "Effects of Wireless Communications on Robot Team Performance", Emerging Researchers National (ERN) Conference in STEM, Washington, DC, February 2014.
- **Dawson S., Wellman, B., and Anderson M.** The Effect of Multiple Robots on Simulation Accuracy. International Conference on Robotics and Automation (ICRA) Workshop on the Role of Experiments in Robotics Research, Anchorage, AK, May 3 - 8, 2010.
- **Wellman, B., Davis, J., Anderson, M.** Cooperative Multirobot Systems, Cyber Physical Systems Luncheon and Senate Briefing, Capitol Hill, Washington, DC, 2010.
- **Wellman, B., Dawson, S.** PREOP: Programming Robotic Experiences as a Tool for Student Retention. BDPA National Technology Conference, Raleigh, North Carolina. 2009.
- **Wellman, B., Anderson, M.** Observation-based Cooperation in Multitrobot Systems. Poster at 2009 Grace Hopper Conference, Tuscan, AZ. 2009.

SYNERGISTIC ACTIVITIES

- Steering Committee Member. Project FAST Capacity at UDC's Urban Teacher Academy: 2012-2015.
- Guest Speaker for Uplight, Inc. 2013 Girls Rock: Emerging Young Leaders Empowerment Conference, STEM-ulate: Exposure is Everything. I presented at a workshop where middle-school girls were provided hands-on experience in robotics.
- Judge. Undergraduate Research Day, Spelman College, 2011. I participated as a judge and gave advice on oral presentations of undergraduate robotics research.
- Wellman, B., Anderson, M. 2009. Google and the National Science Foundation Computer Science Education Leadership Summit in Mountain View, CA. The summit's aim was to better understand the challenges faced with implementation, or insights into teacher recruitment, teacher preparation, and professional development and how to establish computer science curriculum in high school. I presented a project that allow students to program real robots.
- Wellman, B., Dawson, S. 2009. PREOP: Programming Robotic Experiences as a Tool for Student Retention. BDPA National Technology Conference, Raleigh, NC. 2009. I conducted three sessions of an interactive workshop where high school students had the opportunity to learn basic programming concepts and gain hands-on experience with real robots.

AWARDS

- NASA Swarmathon Robotics Competition (2016, 2017)
- UDC's Mrytilla Miner Fellow (2012)
- Grace Hopper Conference Scholarship Recipient (2008, 2009, 2014)
- Richard Tapia Celebration of Diversity in Computing Scholarship Recipient (2009, 2014)

SERVICE

- Department Co-Chair (January 2017-present)
- Department Undergraduate Program Director (August 2014- present)
- Director of UDC LSAMP (August 2016- present)
- Director of UDC NASA Space Grant Consortium (August 2013- 2016)
- Department Undergraduate Program Director (August 2014- present)
- University IRB Committee, Member (August 2013-December 2016)
- Department Undergraduate Curriculum Committee, Chair (August 2014-December 2016)
- University Graduate Council, Member (August 2012-September 2014)
- Department Undergraduate Curriculum Committee, Member (August 2013-present)
- Department Accreditation and ABET, Assistant Director (August 2013-September 2014)
- Department Graduate Curriculum Committee, Member (August 2012-September 2013)

- Department Faculty Search Committee, Member (August 2013-September 2014)
- Department Faculty Evaluation Committee, Member (August 2012-present)
- FLAIRS Conference, Program Committee, Member (2013, 2014, 2015)
- ASEE Mid-Atlantic Conference, Organizing Committee Member, Washington, DC (2013)
- ACM Richard Tapia Celebration of Diversity in Computing, Poster and Scholarship Reviewer (2014, 2015)

RESEARCH SUPERVISION

- Master's Thesis Advisor (Frances Hala: BackRegress: Back Propagation and Logistic Regression Neural Network Hybrid)
- Master's Thesis Committee Member(Andrew Arias: BackRegress: Diversity Optimizing Neighborhood Algorithm)
- Master's Project Advisor (Huyin Dong: Web-based Course Schedule Application)
- Master's Project Advisor(Yan Li: BackRegress: Student Attendance Management System by Scanning QR Code)
- Master's Project Advisor (Harika Yennu: Web Based Blood Bank Management)
- NASA Space Grant Swarmathon Robotics Competition/Research (Frances Hala, Amber Byrson, Benjamin Muyinda, Kadamawi Mulualeni, Khoi Hoang)
- NSF funded The Institute for African-American Mentoring in Computing Sciences (iAAMCS) Mentor (Kamala Mayo)
- SEAS, Xerox Fellowship Advisor of Three Students (Uzma Amir, Kriti Acharya, Francis Hala)
- NASA DC Space Grant Undergraduate Robotics Research Projects (Brad Erickson, Kamala Mayo, Tahj Phifer, Abaynhe Abitew, Kia Atkins, Henry Marroquin, Valdis Ibeh, Manoj Subedi, Sabrina Riddick-Bush, Shalaynia Hairston,)
- Senior Project Mentor (Evanna Reynoso, Tommy Suriel, Marlon Ullon)
- UDC's STEM Center Mentor (Evanna Reynoso, Tommy Suriel, Nequil Taborn)