Legand L. Burge, III, Ph.D.
Howard University, College of Engineering and Architecture,
Department of Electrical Engineering and Computer Science
2300 6th St. NW, LKD Room 2040
Washington, DC 20059, blegand@scs.howard.edu

(A)PROFESSIONAL PREPARATION

Certificate, Cryptology, National Cryptologic School, Ft. Meade, MD 1990
B.S. Computer Information Science/Mathematics, Langston University 1992
M.S. Computer Science, Oklahoma State University 1995
Ph.D. Computer Science, Oklahoma State University 1998
Certificate, Design Thinking – Teaching Learning Studio, Stanford University, 2017

Master's Thesis: A Decentralized Algorithm for Communication Efficient DSM, Advisor: Mitchel Neilsen

Doctoral Dissertation: JMAS: A Java-based Mobile Actor System for Heterogeneous Distributed Parallel Computing, Advisor: K. M. George

(B)APPOINTMENTS

2018 – present Exec. Director, Howard West – Google Tech Exchange
2017 --Visiting Scientific Researcher, Google, Inc.
2016 – present Director HowU Innovate Foundry, Howard University
2014 – present, Managing Partner, XediaLabs LLC
2009 – present Professor, Computer Science, Howard University
2006 – 2016 Chair, Computer Science, Howard University
2005 – 2009 Associate Professor, Systems and Computer Science, Howard University
2004 – 2010 Associate Director, Center for Applied High Performance Computing, Howard University
l999 – 2005 Assistant Professor, Systems and Computer Science, Howard University
1999 – 2001   Assoc. Director, Howard University Future Aerospace Science and Technology Center
1999 – 2001 CTO, USAWelcome.com
1993-1998 – Adjunct Assistant Professor, Computer and Information Science, Langston University
1991-1995 – Computer Analyst, National Security Agency
1992-1998 – Research Assistant, Computer Science, Oklahoma State University
1994-1996 – Computer Consultant (DBA), Mercury Marine
1994 – Software Engineer, Teubner and Associates Inc.

(C)HONORS, AWARDS, AND OTHER DISTICTIONS

1. Presidential Awards for Excellence in Science,
    Mathematics and Engineering Mentoring (PAESMEM) Nomination 2024
2. BEYA Innovation Award, 2018
3. Fellow (AAAS) American Association for the Advancement of Science, 2016
4. Fulbright Scholar Award, 2015 cycle, South Africa – Univ. of South Africa (J. Mtsweni).
5. Faculty Performance Award, 2001, 2002, 2004, 2005, 2006, 2007
6. Eminent Scholar, Tau Beta Pi, 2009
7. Howard University Faculty Author Certificate, 2005, 2006, 2007, 2008.
8. IEEE IAS Committee Prize Paper Award, Oct. 3-7, 2004

9. Presidential accommodation 2004 – National Congress of Black Women (Technology Workshop)
10. Teacher of the year (Dept. of Systems and Computer Science – CEACS), 2003-2004, 2008-2009.
11. Administrator of the Year 2009-2010.
12. Recognition of Contributions to the Computing Profession (Establishment of Howard University Chapter) – Upsilon Pi Epsilon, 2004
13. Who's Who Among American Teachers, 2002
14. Certified Sun Java Programmer/Developer, 2002
15. MacArthur Fellows Program nomination, 2001
16. Distinguish Faculty of the Graduate School of Arts and Sciences Howard University, 2000–present
17. New Faculty Research Award, 2000

(D) MISCELLANEOUS

- National Security Agency, Advisory Board (2024 – present)
- CodePath.org, 665 3rd St, San Francisco, CA 94107 , Advisory Board (2019 – present)
- Digital Pioneers Academy, 709 12th Street, SE Washington, DC 20003, Board Member (2020 – present)
- Accreditation Board of Engineering Technology (ABET), Program Evaluator (2015 – present)
- DC STEM Board (2015 – present)

(E) SECURITY CLEARANCE

- TS/SCI SBI/Poly (1990 -1995, 2024 - present)

(F) MEMBERSHIPS

1. Association for Computing Machinery (ACM)
2. American Association for the Advancement of Science (AAAS)
3. IEEE Computer Society
4. Sigma Xi Honorary Research Society – Associate Member
5. Association for Information Systems
6. Phi Kappa Phi Honorary Society
7. Tau Beta Pi
8. Upsilon Pi Epsilon – Co-Founder Beta Chapter Howard University
9. IRTF – Member of Internet Research Task Force on Disruption Tolerant Networking
10. NTA – National Technical Association

(G) PUBLICATIONS   † - UNDERGRADUATE CO-AUTHOR, ‡ - GRADUATE CO-AUTHOR

Journals (refereed)

1. Michaels P-E, Tonge N, Kalejaiye O, Panthi A, Rai R, Edet M-MG, Erika Ferguson, Legand Burge, Gloria Washington, Anietie Andy. (2024) Analysing loneliness forum posts, the comments they elicit, and the responses to these comments. PLOS Ment Health 1(6): e0000037. https://doi.org/10.1371/journal.pmen.0000037
2. On Measuring Cultural Competence: Instrument Design and Testing, AN Washington, A Romanova, P Nelson, SD Grady, L Burge, 2023 ASEE Annual Conference & Exposition

3. Innovative Courses that Broaden Awareness of CS Careers and Prepare Students for Technical Interviews, J Griffin, L Burge, S Goldman, D Aguierre, JA Cruz, A Alvarez, Journal of Computing Sciences in Colleges 38 (5), 54-64

4. Understanding how to engage black HS boys in computer science through tech innovation and entrepreneurship, GJ Washington, M Meijias, L Burge, Computing in Science & Engineering 22 (5), 20-28

5. Jean Griffin, Legand Burge, Gloria Washington, et. al. Google Tech Exchange: An Industry-Academic Partnership that Prepares Black and Latinx Undergraduates for High-Tech, Journal of Computing Sciences in Colleges, Vol 35, Issue 10, p6-46, April 2020.

6. Tori Rhoulac Smith, Grant Warner, and Legand Burge, "Using Lean Launchpad to Build an Innovation Ecosystem at a Historically Black University", Journal of Engineering Education, Advances in Engineering Education (AEE), Vol 8, Issue 1, May 2020.

7. Rhoulac, T., Warner, G.M., Burge, L, "Using Lean Launchpad to Promote Student Engagement and Persistence", Understanding Interventions Journal, vol 9, issue 1, page 3726, 2018

8. Hui Li, Chunmei Liu, Mugizi Robert Rwebangira, Legand Burge, "Accurate Identification of Mass Peaks for Tandem Mass Spectra Using MCMC Model", Tsinghua Science & Technology 20(5): 453-459 (2015).

9. Kamal Al Nasr, Chunmei Liu, Mugizi Rwebangira, Legand Burge, Jing He, "Intensity-Based Skeletonization of CryoEM Grayscale Images Using a True Segmentation-Free Algorithm", *IEEE/ACM Transactions on Computational Biology and Bioinformatics*, vol. 10, no. 5, pp. 1289 - 1298 (9/2013).

10. Kamal Al Nasr, Chunmei Liu, Mugizi Robert Rwebangira, Legand L. Burge, "A Graph Approach to Bridge the Gaps in Volumetric Electron Cryo-microscopy Skeletons", Bioinformatics Research and Applications, Lecture Notes in Computer Science Volume 7875, 2013, pp 211-223

11. A. Brereton, G. Warner, L. Burge, "An Adaptive Computational Model for Predicting the Density Distribution of the Proximal Femur", Journal on Computing (JoC) Vol.1 No.4, p. 18-23, January 2012

12. Ronald J. Leach; Todd Shurn; Legand L. Burge; Peter A. Keiller; John Trimble "A service model for improving healthcare delivery in rural developing communities" International Journal of Services, Economics and Management (IJSEM), Vol. 4, No. 1, 2012.

13. Hui Li, Chunmei Liu, Legand Burge, William Southerland, "Identification of Two Post- Translational Modifications via Tandem Mass Spectrometry", *International Journal of Computational Biology and Drug Design* 2012;5(3-4):314-24. doi: 10.1504/IJCBDD.2012.049210. Epub 2012, Sep 24.

14. Hui Li, Lauren Scott‡, Chunmei Liu, Mugizi Rwebangira and Legand Burge, "Rapid and Accurate Generation of Peptide Sequence Tags with a Graph Search Approach", Lecture Notes in Computer Science, 2011, Volume 6674/2011, 253-261, DOI: 10.1007/978-3-642-21260-4_25

15. Atkinson, M. ‡, Washington, A., Burge, L. "Network and Non-Network-Based Simulation Models for Creating Crowd Synthesis Motion," International Journal of Research & Reviews in Computer Science; Mar 2011, Vol. 2 Issue 2, p. 423

16. Washington, A., Iziduh, R. †, Sueing, H. †, Jackson, J. †, Burge, L. , and Rwebangira, R.,"The Design of a Simulation for the Modeling and Analysis of Public Transportation Systems as Opportunistic Networks," International Journal of Computer Networks, 2010, vol 2, Issue 4, p 173- 180.

17. Martin, J. ‡, Burge, L., Washington, A.N., and Alfred, M. "Modeling the Spread of Mobile Malware," in International Journal of Computer Aided Engineering and Technology (IJCAET), 2010, Vol. 1, No. 1, pp 3-9.

18. Chunmei Liu, Legand Burge, and Ajoni Blake‡ , "Algorithms and Complexity of the RequestService Problem", Journal of Combinatorial Optimization, Vol. 20, No. 2, Aug 2010: 180-193.

19. Chen P, Liu C, Burge L, Li J, Mohammad M, Southerland W, Gloster C, Wang B. DomSVR: domain boundary prediction with support vector regression from sequence information alone. Amino Acids. 2010 Aug;39(3):713-26.

20. Jiazhen Zhou, Jiang Li, and Legand Burge, "Efficient Scheduling of Pigeons for a Constrained Delay Tolerant Application", EURASIP Journal on Wireless Communications and Networking, Vol. 2010, Article ID 142921, 2010, 7 pages, DOI:10.1155/2010/142921.

21. Peng Chen, Chunmei Liu, Legand Burge, Muhammad Mahmood, William Southerland, and Clay Gloster, "Prediction of Inter-Residue Contact Clusters from Hydrophobic Cores", International Journal of Data Mining and Bioinformatics, Vol. 4, No.6 pp. 722 - 734.
22. Peng Chen, Chunmei Liu, Legand Burge, Muhammad Mahmood, William Southerland, and Clay Gloster, Protein fold classification with genetic algorithms and feature selection, Journal of Bioinformatics and Computational Biology. 2009 Oct;7(5):773-88.
23. C. Liu, L. Burge, A. Blake‡ , "Complexity on the General Request-Service Problem", Journal of Combinatorial Optimization, 2008, in press.
24. C. Liu, A. Blake‡ , and L. Burge, "The Identification of Ion Types in Tandem Mass Spectra Based on a Graph Algorithm", Journal of Scientific and Practical Computing, 2008, Vol 2, No. 1, 46-60.
25. C. Liu, Y. Song, Jiang Li, Moses Garuba, and L. Burge, "An Asymptotic Upper Bound for Tree Widths of Graphs of Bounded Degree", International Journal of Computational Science, 2008, Vol. 2, No. 4, 460-474.
26. C. Liu, Y. Song, and L. Burge, "Parameterized Lower Bound and Inapproximability of Polylogarithmic String Barcoding", Journal of Combinatorial Optimization. 2008, Volume 16, No. 1, 39-49.
27. Ahmed Rubaai, M. Castro‡ , Legand Burge III, and Moses Garuba, "Implementation of Artificial Neural Network-Based Tracking Controller for High Performance Stepper Motor Drives", in IEEE Transactions on Industrial Electronics, Vol. 54, No. 1, February 2007, 218-227.
28. Ahmed Rubaai, Abdul R. Ofoli‡ , Legand Burge III, and Moses Garuba, "HARDWARE IMPLEMENTATION OF AN ADAPTIVE NETWORK-BASED FUZZY CONTROLLER FOR DC-DC CONVERTERS", IEEE Transactions on Industrial Applications, IEEE, vol 41, No. 6, Dec. 2005, 1557-1565.
29. L. Burge and M. Garuba, "The Design and Implementation of the Spacecraft Navigation & Ancillary Information Web Service", In Journal of the National Technical Association (NTA), vol. 75, no. 1, September 2004, pp 21-27.
30. K. Loney and L. Burge, "Optimization of CSMA/CA in Ad hoc Networks using Real-Time Protocols and Advanced Statistical Algorithms", In Journal of the National Technical Association (NTA), vol. 74, no. 1, January 2002, pp 18-23.

Conferences (refereed):

1. M. Mejias, G. Washington, L. Burge, D. -M. Wilson, L. -. M. Kouaho and J. Marshall, "A Framework For Discussing Black Student Threats to Belonging in Computer Science," 2024 Black Issues in Computing Education (BICE), Santo Domingo, Dominican Republic, 2024, pp. 15-20, doi: 10.1109/BICE60192.2024.00011.
2. T. Lightner, E. Lynch, M. Mugo, L. L. Burge and S. J. Austin, "Positioning HBCUs as Sites to Support Computer Science Teachers in Culturally Diverse School Districts," 2024 Black Issues in Computing Education (BICE), Santo Domingo, Dominican Republic, 2024, pp. 74-79, doi: 10.1109/BICE60192.2024.00020.
3. S. K. Aryal, H. Prioleau, G. Washington and L. Burge, "Evaluating Ensembled Transformers for Multilingual Code-Switched Sentiment Analysis," 2023 International Conference on Computational Science and Computational Intelligence (CSCI), Las Vegas, NV, USA, 2023, pp. 165-173, doi: 10.1109/CSCI62032.2023.00032.
4. S. K. Aryal, U. Shah, H. Prioleau and L. Burge, "Ensembling and Modeling Approaches for Enhancing Alzheimer's Disease Scoring and Severity Assessment," 2023 International Conference on Computational Science and Computational Intelligence (CSCI), Las Vegas, NV, USA, 2023, pp. 1364-1370, doi: 10.1109/CSCI62032.2023.00224.
5. Saurav K. Aryal, Ujjawal Shah, Legand Burge, and Gloria Washington. 2023. From Predicting MMSE Scores to Classifying Alzheimer's Disease Detection & Severity. J. Comput. Sci. Coll. 39, 3 (October 2023), 317–326.
6. Toufeeq Ahmed, Aidan Hoyal, Katie Stinson, Jay Johnson, Zainab Latif, Legand L. Burge, Alexander Libin, Guodong Gordon Gao, Nawar Shara, Jamboor K. Vishwanatha: AIM-AHEAD Connect: Online

Collaboration, Mentoring, and Data Science Training Platform to Increase Researcher Diversity and Advance Health Equity. ICHI 2023: 657-662

7. M. Mejias et al., "Equity In The Preparation Of Students For Software Engineering Coding Interviews: ChatGPT as a Mock Interviewer," 2023 Congress in Computer Science, Computer Engineering, & Applied Computing (CSCE), Las Vegas, NV, USA, 2023, pp. 1016-1020, doi: 10.1109/CSCE60160.2023.00169.

8. T. Ahmed et al., "AIM-AHEAD Connect: Online Collaboration, Mentoring, and Data Science Training Platform to Increase Researcher Diversity and Advance Health Equity," 2023 IEEE 11th International Conference on Healthcare Informatics (ICHI), Houston, TX, USA, 2023, pp. 657-662, doi: 10.1109/ICHI57859.2023.00114.

9. Peter McGarvey, Legand Burge: The AIM-AHEAD Data Science Training Core. AMIA 2022

10. Aryal SK, Prioleau H, Burge L. Acoustic-Linguistic Features for Modeling Neurological Task Score in Alzheimer's. Pac Symp Biocomput. 2023;28:335-346. PMID: 36540989.

11. Griffin, Burge, Goldman, Aguirre, Alonso Cruz, Cervantes, Emanuel, Gates, Gillick, Hogan, Hurwitz, Lahorani, Madda, Malomo*, Marroquin, Masharani, Okafor, Onowho*, Pablo, Randolph, "How an Industry-Academic Partnership Addressed Gaps in Undergraduate CS Education", The 11th Computer Science Education Research Conference (CSERC '22).

12. Washington, G., & Mejias, M., & Mejias, M., & Burge, L. L. (2021, July), *Building Computational, Social, Emotional Learning Skills into Undergraduate Computing Education Through Student-led Coding Camps* Paper presented at 2021 ASEE Virtual Annual Conference Content Access, Virtual Conference. 10.18260/1-2--36768

13. Curtis C. Cain, Carlos D. Buskey, Allison J. Morgan Bryant, Gloria Washington, Legand Burge: Research Implications of the Tech Exchange: Immersion of Howard University Computer Science and Informatics Students in Silicon Valley. AMCIS 2019

14. M. Mejias, K. Jean-Pierre, G. Washington and L. Burge, "Underrepresented Groups Threats to Belonging in Computing," *2019 Research on Equity and Sustained Participation in Engineering, Computing, and Technology (RESPECT)*, Minneapolis, MN, USA, 2019, pp. 1-4, doi: 10.1109/RESPECT46404.2019.8985905.

15. Washington, G., Burge, L., Hatley, L. Williams, L. (2018). Engaging HBCU Faculty in Project-Based Learning in Silicon Valley, The Consortium for Computer Sciences in College, Eastern Region – 34th Annual Regional Conference in Cooperation with ACM SIGCSE, October 2018.

16. Mejias, Marlon & Jean-Pierre, Ketly & Burge, Legand & Washington, Gloria. (2018). Culturally Relevant CS Pedagogy-Theory & Practice Pedagogy. Research on Equity and Sustained Participation in Engineering, Computing, and Technology (RESPECT), 2018 At: Baltimore, Maryland, USA, DOI:10.13140/RG.2.2.11030.86089

17. Marlon Mejias, Ketly Jean-Pierre, Dwight Thomas, Gloria Washington, Peter Keiller, Legand Burge, The Project Participation Tier Model: Bridging Perceptions of Computer Science Competency, FECS'17, *The 2017 International Conference on Frontiers in Education: Computer Science and Computer Engineering, p252-255, 2017.*

18. Mtsweni J ; Ernest Ketcha Ngassam; Legand Burge III. A Profile-Aware Microtasking Approach for Improving Task Assignment in Crowdsourcing Services, IST-AFRICA 2016, Durban, South Africa

19. *K. Jean-Pierre, M. Mejias, G. Washington, L. Burge,* (2016) DESIGN AND IMPLEMENTATION OF A STRUCTURED ADAPTIVE INDIVIDUALIZED LEARNING SYSTEM (SAILS) TO ASSIST IN THE SUCCESSFUL MATRICULATION OF STUDENTS IN COMPUTER SCIENCE, *EDULEARN16 Proceedings*, pp. 5587-5593.

20. *M. Mejias, K. Jean-Pierre, G. Washington, L. Burge,* (2016) A SOCIO-TECHNICAL APPROACH TO UNDERGRADUATE COMPUTER SCIENCE STUDENT DEVELOPMENT, *EDULEARN16 Proceedings*, pp. 5403-5413.

21. *Marlon Mejias‡, Ketly Jean-Pierre‡, Qi'Anne Knox‡, Elizabeth Ricks, Legand Burge, A. Nicki Washington*, "Meaningful Gamification of CS Departments - Consideration and Challenges", FECS'15, *The 2015 International Conference on Frontiers in Education: Computer Science and Computer Engineering, p10-16, 2015.*

22. *Ketly Jean-Pierre‡, Marlon Mejias‡, Legand Burge, Kyndra Middleton, Harry Keeling*, " Using Problem-Based Learning in a CS1 Course -Tales from the Trenches", FECS'15, *The 2015 International Conference on Frontiers in Education: Computer Science and Computer Engineering, p10-16, 2015,* p86-90, 2015.

23. Washington, A. N. and Burge, L., Mejias, M. ‡, and Jean-Pierre, K. ‡, Knox, Q. ‡ "Bridging the Divide: Developing Culturally-Responsive Curriculum for K-12 Computer Science Education", SIGCSE '15 Proceedings of the 46th ACM Technical Symposium on Computer Science Education, p. 707-707.

24. Washington, A. N. and Burge, L., Mejias, M. ‡, and Jean-Pierre, K. ‡, Knox, Q. ‡ "Improving Undergraduate Student Performance in Computer Science at Historically Black Colleges and Universities (HBCUs) through Industry Partnerships", SIGCSE '15 Proceedings of the 46th ACM Technical Symposium on Computer Science Education, p. 203-206.

25. Jabu Mtsweni, Legand Burge, The Potential Benefits of Mobile Microwork Services in Developing Nations: Research Opportunities and Challenges, IST-Africa 2014 Conference Proceedings, p1-10, May 2014.

26. Hui Li, Chunmei Liu, Feras Yousef; Mugizi Rwebangira, Legand Burge, Mono-isotope Prediction for Mass Spectra Using Bayesian Network, TSINGHUA SCIENCE AND TECHNOLOGY ISSN 1007-0214 06/10 pp617-623 Volume 19, Number 6, December 2014.

27. Washington, A. N. and Burge, L. "Increasing and Improving K-12 Computer Science Education through Partnerships," Proceedings of the Hawaii University International Conference on Education and Technology, 2013, USA.

28. Washington, A. N. and Burge, L., Mejias, M. ‡, and Jean-Pierre, K. ‡ "The Partnership for Early Engagement in Computer Science (PEECS) Program: Teaching African-American Middle-School Students Computer Science," Proceedings of the 2012 International Conference on Frontiers in Education: Computer Science and Computer Engineering (FECS'12), 2012, USA

29. Hui Li, Jean-Claude Tounkara‡, Legand Burge, Chunmei Liu, A rapid 3D protein Structural Classification using Pseudo 2D HMMs, in GRC '12 Proceedings of the 2012 IEEE International Conference on Granular Computing (GrC-2012), p. 742-745.

30. Kyung Dae Ko, Chunmei Liu, Amen Ra Mashariki, Legand Burge: SMISB: A system for Managing Minimum Information from omics' studies in systems biology. CIBCB 2012: 164-168.

31. Hui Li, Chunmei Liu, Mugizi Robert Rwebangira, Legand Burge, William M. Southerland: Rapid identification of multi-PTMs peptide sequence tags with a graph search approach. BIBM Workshops 2011: 247-250

32. Kyung Dae Ko, Chunmei Liu, Mugizi Robert Rwebangira, Legand Burge, William M. Southerland: The development of a proteomic analyzing pipeline to identify proteins with multiple RRMs and predict their domain boundaries. BIBM Workshops 2011: 374-381

33. Hui Li, Lauren Scott‡ , Chunmei Liu, Mugizi Rwebangira, Legand Burge, William M. Southerland: Rapid and Accurate Generation of Peptide Sequence Tags with a Graph Search Approach. ISBRA 2011: 251-254

34. Howard Sueing†, Jahmahrae Jackson†, Alicia Nicki Washington, Robert Rwebangira, Legand Burge: The Modeling and Analysis of the Washington Metropolitan Area Bus Network. MSV 2010: 131-133

35. Wardell Samotshozo†, Mugizi Robert Rwebangira, Chunmei Liu, Legand Burge, Rhonda Davis†, Ronald Doku†, William Southerland. "Pairing Algorithm for De Novo Sequencing of Tandem Mass Spectra". National Technical Association Conference, Howard University, 2011

36. Washington, A., Anderson, K., Warner, G., and Burge, L. "Graduating Engineers in the U.S.: Bridging Engineering and Entrepreneurship for African-American High School Students", 2010 Frontiers in Education: Computer Science and Computer Engineering Conference Proceedings (FECS), 156-162, 2010.

37. Hui Li, Chunmei Liu, Xumin Liu, Macire Diakite‡, Legand Burge, Abdul-Aziz Yakubu, and William Southerland. Peptide Sequence Tag-Based Blind Identification-based SVM model. Proceedings of the Ninth International Conference on Machine Learning and Applications ICMLA, 2010, IEEE, 979-984.

38. Chunmei Liu, Hui Li, Alison Leonce‡, Legand Burge, John Trimble, Peter Keiller, and Abdul-Aziz Yakubu. A Heuristic Algorithm for Finding the Longest Pathways in a Biochemical Network.

Proceedings of the Ninth International Conference on Machine Learning and Applications, ICMLA, 2010, IEEE, 515-522.

39. Legand L. Burge , Ronald J. Leach, "An Advanced Assessment Tool and Process" SIGCSE Technical Symposium, Milwaukee, Wisconsin, March 10-13, 2010.

40. Jiazhen Zhou, Jiang Li, Legand Burge, "Dynamic Scheduling of Pigeons for Delay Constrained Applications", the 4th International Conference on Wireless Algorithms, Systems and Applications (WASA 2009), Boston, MA, USA, August 16-18, 2009.

41. Pierrot Chery‡ , Jiang Li, Legand Burge, "Characterizing the Association between Mobile Users Using Wireless Network Traces", to appear in Richard Tapia Celebration of Diversity in Computing Conference 2009.

42. P. Chen, C. Liu, L. Burge, M. Mohamad, B. Southerland, and C. Gloster, "Prediction of Interresidue Contact Clusters from Hydrophobic Cores", In Proceeding of The Seventh International Conference on Machine Learning and Applications (ICMLA 2008), IEEE, Dec. 2008, p 703-708.

43. Martin, J. ‡, Burge, L., Washington, A.N., and Alfred, M. "Modeling the Spread of Mobile Malware," in Proceeding of International Conference on Modeling, Simulation, and Visualization Methods, 2008, p 3-9.

44. Ronald J. Leach, Legand L. Burge III, Harry Keeling, "Can students reengineer?" ACM SIGCSE, 2008, p 102-106.

45. J. Li, M. Garuba and L. Burge III, "Multicast Using Static Trees", 5th International Conference on Information Technology : New Generations (ITNG 2008), IEEE Press, April 7-9, 2008, p 1046- 1052.

46. Guo, Hui; Li, Jiang; Washington, A. Nicki; Liu, Chunmei; Alfred, Marcus; Goel, Rajni; Burge, Legand; Keiller, Peter, "Performance Analysis of Homing Pigeon Based Delay Tolerant Networks", the 2007 Military Communications Conference (MILCOM 2007), IEEE Press, October 2007.p 1-7

47. G. Lingani, L. Burge, Z. Hu, and W. Southerland, "Enhancing Biomedical Knowledge through Computational Methods: Howard University Center for Computational Biology and Bioinformatics", In Proceedings of International Conference on Bioinformatics and Computational Biology (BIOCOMP '07), 2007, p 745-747.

48. M. Garuba, J. Li, L. Burge. Comparative Analysis of Email Filtering Technologies. International Conference on Information Technology: Next Generations (ITNG), IEEE Press, 2007, Page(s): 785- 789.

49. Ndimubanzi, I. ‡, Washington, A., and Burge, L. "Event Reliability in Wireless Sensor Networks," In Proceedings of International Conference on Wireless Networking, 2007, p 439-443.

50. J. Gill, L. Burge, J. Hu, and W. Southerland, "WebDock: A Structure-Based Drug Discovery Web Service". In Proceedings of International Conference on Bioinformatics and Computational Biology (BIOCOMP '06), 2006, p 547-548.

51. J. Gill, C. Torso‡ , L. Burge, and J. Li., "IEEE 1394: Another Low Cost Viable Alternative Interconnect for High Performance Computing", In Proceedings, International Conference on Parallel and Distributed Processing Techniques and Applications (PDPTA '05), June 2005, p 1350- 1354.

52. J. Li and L. Burge, K. Kaplan, M. Alfred, "A Low-Cost Probabilistic Routing Algorithm for DTNs of Randomly Moving Nodes", In Proceedings, International Conference on Wireless Networks (ICWN '05), June 2005, p 196-202.

53. J. McAdams, L. Burge, and J. Gill‡ , "An Internet-based Trajectory Database for the MESSENGER Mission to Mercury", In Proceedings, Space Flight Mechanics Conference, AAS/AIAA, January 23- 27, 2005, vol 20, 1219-1233.

54. L. Burge, J. Gill‡ , and J. McAdams, "The MESSENGER Spacecraft Navigation & Ancillary Information Web Service", In Proceedings, IEEE Aerospace Conference, IEEE Aerospace and Electronics Systems Society, 2005.

55. J. Gill‡ , L. Burge, J. Li.,"Floating Parasitic Data Storage", In Proceedings, International Conference on Internet Computing (IC '04), Computer Science Research, Education, and Applications Technology (CSREA) Press, 2004, page 960-965.

56. L. Burge, J. Gill‡ , M. Garuba,"The Design and Implementation of the Spacecraft Navigation & Ancillary Information Web Service", In Proceedings, International Symposium on Web Services and

Applications (ISWSA '04), Computer Science Research, Education, and Applications Technology (CSREA) Press, 2004, page 988-992.

57. K. Kaplan, L. Burge, M. Garuba, and J. Kaplan, "Mathematical Induction: The Basis Step of Verification and Validation in a Modeling and Simulation Course", In Proceedings, American Society for Engineering Education Annual Conference, CDROM, ASEE, 2004.

58. M. Garuba, R. Langrin‡ , and L. Burge III,"A Constraint-Based Query Modification Engine for Retrofitting COTS DBMS's", In Proceedings, International Conference on Information Technology: Coding and Computing (ITCC 2004), IEEE Computer Society, 2004, pp 551-556.

59. M. Garuba, E. Appiah‡ , and L. Burge III,"Performance Study of a MLS/DBMS Implemented as a Kernelized Architecture", In Proceedings, International Conference on Information Technology: Coding and Computing (ITCC 2004), IEEE Computer Society, 2004, pp 566-571.

60. J. Gill‡ , L. Burge III, and M. Garuba,"The Design and Implementation of the MESSENGER Trajectory Database", In Proceedings, International Conference on Information Technology: Coding and Computing (ITCC 2004), IEEE Computer Society, 2004, pp 557-561.

61. L. Burge III, M. Garuba and C. Brent‡ ,"Improving Retention of Minority Freshmen in Engineering by Applying the Six Sigma Methodology", In Proceedings, International Conference on Information Technology: Coding and Computing (ITCC 2004), IEEE Computer Society, 2004, pp 723-728.

62. D. Charity Jr.‡ , S. Smith and L. Burge III,"Virtual Tool Development for Exploring the Virtual Wind Tunnel (VWT)", In Proceedings, International Conference on Imaging Science, Systems, and Technology (CISST '03), Computer Science Research, Education, and Applications Technology (CSREA) Press, 2003, pp 352-357.

63. B. Turgott, L. Burge, K. Loney, "A Reliable Protocol For Multicast Data in Mobile Environments", In Proceedings, International Conference on Parallel and Distributed Processing Techniques and Applications (PDPTA '03), Computer Science Research, Education, and Applications Technology (CSREA) Press, 2003, pp 779-785.

64. L. Burge, K. Kaplan, M. Garuba, "A Parallel Algorithm for Approximate String Matching", In Proceedings, International Conference on Parallel and Distributed Processing Techniques and Applications (PDPTA '03), Computer Science Research, Education, and Applications Technology (CSREA) Press, 2003, pp 1844-1848.

65. L. Burge, C. Palmer† , and S. Baajun‡ , "Jini Security: A Novel Approach", In Proceedings, International Conference on Internet Computing (IC '03), Computer Science Research, Education, and Applications Technology (CSREA) Press, 2003. pp 321-324.

66. L. Burge, S. Baajun‡ , D. Charity‡ , M. Garuba, "PSTORE: A Pervasive Storage Architecture To Support Disaster Recovery of Mobile Data", In Proceedings, International Conference on Internet Computing (IC '03), Computer Science Research, Education, and Applications Technology (CSREA) Press, 2003, pp 838-842.

67. L. Burge, S. Baajun‡ , M. Garuba, "A Ubiquitous Stable Storage for Mobile Computing Devices", In Proceedings, 16th Annual Symposium on Applied Computing (SAC '01), ACM Press, 2001, pp 401-404.

68. L. Burge, K. M. George, "JMAS: A Java-Based Mobile Actor System For Distributed Parallel Computing", In Proceedings, 5th Conference on Object-Oriented Technologies and Systems (COOTS '99), USENIX, 1999, pp 115-130.

Abstracts/Extended Abstracts/Poster Presentations (Non-refereed)

1. Wardell Samotshozo1‡, Abiye Mekonnen‡, Patrick Ymele-Leki, and Legand Burge, "A Fast and Non-Intrusive Substitution for Optical Density Measurements", to appear in Howard University's Research Symposium, Blackburn Center, Howard University, Washington, DC, 2015.

2. Knox, Q†. and Washington, A.N. "A Survey of Dedicated Short Range Communication in Crash Avoidance Technologies," Proceedings of the 2011 National Technical Association Conference, August, 2011, USA

3. Wardell Samotshozo†, Mugizi Robert Rwebangira, Chunmei Liu, Legand Burge, Rhonda Davis†, Ronald Doku†, William Southerland. "Pairing Algorithm for De Novo Sequencing of Tandem Mass Spectra". National Technical Association Conference, Howard University, 2011

4. Howard, M. †, Washington, A., Shurn, T., Warner, G., Burge, L. "The Tricked-Out Virtual Body Shop: Recruiting African-American High-School Students to STEM through Virtual Automotive Design," 2011 International Conference on Frontiers in Education: Computer Science and Computer Engineering (FECS'11), July, 2011, USA.

5. C. Liu and L. Burge, "A Graph-based Approach for Protein Identification", in the 4th Annual US HUPO Conference (US HUPO), March 16-19, 2008, Bethesda, MD.

6. E. Joseph, S. Chiao, R. Ramachandran, D. Fitzgerald, L. Burge, P. Msikela‡ , D. Bond, R. Clark, "Studying QPF Across the Mid-Atlantic with EarlyLEAD", 21st Conference on Weather Analysis and Forecasting/17th Conference on Numerical Weather Prediction, Washington, DC, August, 2005.

7. G. Harriott‡ and L. Burge, "Towards a Fault Tolerant Jini Environment", In Proceedings, National Technical Association Conference. Oct. 18-21, 2000, Hampton, VA.

8. R. Hemmings‡ and L. Burge, "Wireless Remote Mirroring?", In Proceedings, National Technical Association Conference. Oct. 18-21, 2000, Hampton, VA.

9. B. Turgott‡ and L. Burge, "A Hybrid Solution for Providing Wireless Access and Terminal Mobility in CORBA", In Proceedings, National Technical Association Conference. Oct. 18-21, 2000, Hampton, VA.

10. S. Baajun‡ and L. Burge, "A Ubiquitous Stable Storage for Mobile Devices", In Proceedings, National Technical Association Conference. Oct. 18-21, 2000, Hampton, VA.

11. L. Burge, R. Rwebengira† , "Constructing Reliable Software Across the ORB", In Proceedings, Symposium on Computing at Minorities Institutions (ADMI). Hampton, VA, June 2000.

Technical Reports

1. N. Mavana‡ , L. Burge, "Using Robotics to Attract Students to Computer Science", technical report, Department of Systems and Computer Science, Howard University, 2008.

2. L. Burge, "GFBroker: A Game Theoretic Approach to Distributed Collaboration", technical report, Distributed Systems Research Group, Dept. of Systems and Computer Science, Howard University, 2007.

3. L. Burge, "The Genius Federation: Using the Power of Human Intelligence for the Creation of an Intellectual Property Pipeline", technical report, Distributed Systems Research Group, Dept. of Systems and Computer Science, Howard University, 2007.

4. L. Burge, J. Gill, "PICALO: Pervasive Interactive Computing Architecture for aggregation of Location-based services and content", technical report, Distributed Systems Research Group, Dept. of Systems and Computer Science, Howard University, 2006.

5. L. Burge, J. Gill‡ , and J. McAdams, "The MESSENGER Spacecraft Navigation & Ancillary Information Web Service", In Proceedings, IEEE Aerospace Conference, IEEE Aerospace and Electronics Systems Society, 2005. (accepted but not published – JHU/APL could not clear publication in time for deadline).

6. Ahmed Rubaai, Abdul R. Ofoli‡ , Legand Burge III, and Moses Garuba, "DESIGN AND IMPLEMENTATION OF REAL-TIME CONTROLLERS USING MATLAB/SIMULINK AND DSPACE DSP FOR UNDERGRADUATE ENGINEERING STUDENTS", accepted to the 113th Annual American Society for Engineering Education Conference and Exposition (ASEE 2006), ASEE Press, Chicago, Illinois, USA, June 18-21, 2006. (Not Published, did not attend conference).

7. J. Li, L. Burge, "Data Backup For Non-connected Devices Over Intermittent Transitive Connections", technical report, Distributed Systems Research Group, Dept. of Systems and Computer Science, Howard University, 2004.

8. L. Burge, R. Rwebengira† , "An NVP Design Pattern for Constructing Reliable CORBA Components", technical report, Distributed Systems Research Group, Dept. of Systems and Computer Science, Howard University, 2000.

Reports

1. L. Burge, ABET CAC Self Study Report, submitted to Accreditation Board for Engineering and Technology, Computing Accreditation Commission, June 2015.
2. L. Burge, Department of Systems and Computer Science (Undergraduate Program) Annual Report, submitted to L. Fleming, Dean CEACS, July 2015.
3. L. Burge, Department of Systems and Computer Science (Graduate Program) Annual Report, submitted to G. Harris, Dean Graduate School, July 2015
4. L. Burge, Department of Systems and Computer Science (Undergraduate Program) Annual Report, submitted to L. Fleming, Dean CEACS, July 2014.
5. L. Burge, Department of Systems and Computer Science (Graduate Program) Annual Report, submitted to G. Harris, Dean Graduate School, July 2014
6. L. Burge, Department of Systems and Computer Science (Undergraduate Program) Annual Report, submitted to J. Mitchell, Dean CEACS, July 2013.
7. L. Burge, Department of Systems and Computer Science (Graduate Program) Annual Report, submitted to G. Harris, Dean Graduate School, July 2013
8. L. Burge, Department of Systems and Computer Science (Undergraduate Program) Annual Report, submitted to J. Mitchell, Dean CEACS, July 2012.
9. L. Burge, Department of Systems and Computer Science (Graduate Program) Annual Report, submitted to C. Betsey, Dean Graduate School, July 2012.
10. L. Burge and J. Trimble, Ph.D. Program in Computer Science Proposal), submitted to Office of Provost, J. Wytche, April 2011.
11. L. Burge, Department of Systems and Computer Science (Undergraduate Program) Annual Report, submitted to J. Mitchell, Dean CEACS, June 2011.
12. L. Burge, Department of Systems and Computer Science (Graduate Program) Annual Report, submitted to C. Betsey, Dean Graduate School, June 2011.
13. L. Burge, Department of Systems and Computer Science (Undergraduate Program) Annual Report, submitted to B. Grant, Dean CEACS, June 2010.
14. L. Burge, Department of Systems and Computer Science (Graduate Program) Annual Report, submitted to C. Betsey, Dean Graduate School, June 2010.
15. L. Burge, Department of Systems and Computer Science (Undergraduate Program) Annual Report, submitted to J. Johnson, Dean CEACS, June 2009.
16. L. Burge, Department of Systems and Computer Science (Graduate Program) Annual Report, submitted to O. Taylor, Dean Graduate School, June 2009.
17. L. Burge, PCAR Undergraduate Program Report, submitted to Office of Provost, June 2009.
18. L. Burge, PCAR Graduate Program Report, submitted to Office of Provost, June 2009.
19. L. Burge, ABET CAC Self Study Report, submitted to Accreditation Board for Engineering and Technology, Computing Accreditation Commission, June 2008.
20. L. Burge, Department of Systems and Computer Science (Undergraduate Program) Annual Report, submitted to J. Johnson, Dean CEACS, June 2008.
21. L. Burge, Department of Systems and Computer Science (Graduate Program) Annual Report, submitted to O. Taylor, Dean Graduate School, June 2008.
22. L. Burge, Department of Systems and Computer Science Academic Excellence Program Assessment Report, submitted to J. Johnson, Dean CEACS, Feb. 2008.
23. L. Burge, Department of Systems and Computer Science (Undergraduate Program) Annual Report, submitted to J. Johnson, Dean CEACS, June 2007.
24. L. Burge, Department of Systems and Computer Science (Graduate Program) Annual Report, submitted to O. Taylor, Dean Graduate School, June 2007.
25. L. Burge, Department of Systems and Computer Science (Undergraduate Program) Annual Report, submitted to J. Johnson, Dean CEACS, June 2006.
26. L. Burge, Department of Systems and Computer Science (Graduate Program) Annual Report, submitted to O. Taylor, Dean Graduate School, June 2006.

27. L. Burge, Department of Systems and Computer Science Strategic Plan, 2006.
28. L. Burge and R. Leach, Department of Systems and Computer Science Assessment Plan, 2007.
29. Contributing author along with L. Schapiro and W. Eckberg, Final Report, NSF RISE: Computational Biology At Howard University, April 2007.
30. Contributing author along with L. Schapiro and W. Eckberg, Final Report, NSF RISE: Computational Biology At Howard University, April 2006.
31. Contributing author along with W. Southerland et. al., Final Report, NIH Research Centers in Minority Institutions (RCMI), March 2008.
32. Contributing author along with W. Southerland et. al., Final Report, NIH Research Centers in Minority Institutions (RCMI), March 2007.
33. Contributing author along with W. Southerland et. al., Final Report, NIH Research Centers in Minority Institutions (RCMI), March 2006.
34. Contributing author along with W. Southerland et. al., Final Report, NIH Research Centers in Minority Institutions (RCMI), March 2004.
35. D. So, L. Burge, G. Middendorf III, R. Bayne, T. Broome, M. Garuba, T. Lawson, and P. Sola. "Are the university computer services helping HU faculty? A Summary of Faculty Senate's Survey of Customer Satisfaction for ISAS", The Senate Communicator, Fall Issue, Nov. 2005.
36. D. So, L. Burge, G. Middendorf III, R. Bayne, T. Broome, M. Garuba, T. Lawson, and P. Sola. "Are the university computer services helping HU faculty? A Summary of Faculty Senate's Survey of Customer Satisfaction for ISAS", The Senate Communicator, Fall Issue, Nov. 2005.
37. L. Burge, "Report on Workshop: Collegiality, Cronyism, and Mentoring Junior Faculty", The Senate Communicator, Spring/Summer 2004, vol 11, issue 2,page 19-20.
38. L. Burge, "Messenger Project Final Report", JHU/APL, Baltimore, MD, 7/2004.
39. Contributor to RCMI – Laboratory for Molecular Dynamic and Computations Year 1 Report, March 19, 2004. NIH, Bethesda, MD.
40. Contributor to Patient Retained Emergency Medical Information System (PREMI) Report, July 30, 2004, Howard University, Office of Research Administration, Mordecai Wyatt Johnson Award.
41. M. Garuba and L. Burge, "Transitioning A BioWarfare and Chemical Warfare Defense Systems to DCEMA Final Report",DARPA, Arlington, VA, 8/2003.
42. L. Burge and M. Garuba, "SLBM Graphics Application Project Final Report", JHU/APL, Baltimore, MD, 8/2002.
43. H. Keeling and L. Burge, "Howard University Future Aerospace Science and Technology - HUFAST Center Final Report", AFOSR, Arlington, VA, 12/13/2001.
44. New Faculty Research Award Final Report, Nov. 3, 2001, University, Office of Research Administration.

Patents and Disclosures:

1. Invention Disclosure: Context-Aware Mobile Computing Architecture and Software Platform, submitted to Dave Stirsman of the National Center for Manufacturing Sciences/Howard U tech transfer project. Oct. 2006.
2. APPARATUS AND METHOD FOR CONTEXT-AWARE MOBILE DATA MANAGEMENT, United States of America, US 8751743, 13/047,992, 2014/6/10, Howard University
3. APPARATUS AND METHOD FOR CONTEXT-AWARE MOBILE DATA MANAGEMENT, United States of America, US20160308996 , 5/189,160, 2016, Howard University

(H)*CREATIVE WORKS*:

Software

1. Voice-FAQ: Artificial Intelligence for Triaging Cognitive Decline through Modeling Vocal Prosody and Facial Expressions. 2020 - present
2. HowU Innovate FOUNDRY-- Workshop Series, Office Hours for Student/Faculty/Alumni lead Tech Startups 2016
3. BIOEye – A Fast and Non-Intrusive Substitution for Optical Density Measurements, Dec. 2014.
4. Ajira – A mobile microwork platform for a Accelerating Entrepreneurship and Increasing Jobs Through Technology in the Informal Labor Market of South Africa
5. ClickMan – A Context Aware Tour Guide, May 2007.
6. ABET Assessment Tool, May 2007.
7. LeadPortal – http://portal.leadproject.org.
8. MESSWEB - MESSENGER Trajectory Database/Web Service, June 2004.
9. PREMI -- Patient Retained Emergency Medical Information System, June 2004.
10. PARASTORE -- Floating Parasitic Storage, May 2004.
11. A Prototype Trusted Font-End for COTS Database Management Systems, July 2004.
12. PSTORE – Pervasive Storage for Mobile Devices, May 2003.
13. SLBM -- Submarine-Launched Ballistic Missle Systems Graphics Software, Aug. 2002.

Hardware

1. Mobile Studio – 15 Tablets and Phones to support mobile app course, Intel, 2014
2. Mobile Lab – 75 Android phones to support mobile app course, Google, 2009
3. 12 seat Robotics Studio, May 2008.
4. 42 seat Lab, Intel Multi-Core Lab for Operating Systems, 2007.
5. 14 node Linux Cluster running CHARMM – configuration/deployment (NIH –RCMI Laboratory for Molecular Computations and Bioinformatics). (2003-present)
6. PlanetLab configuration/deployment of 2 nodes (Dept. of Systems and Computer Science Howard University) (2003-present)

(I) TEACHING EXPERIENCE

Courses taught (brief description of the course content).
- **Howard West/Google Tech Exchange Courses – Major contributor to the design and development of several courses taught through this Presidential Initiative. All courses, were duplicated for all CS Majors:**
    o **CSCI 410 – Applied Data Structures (3 cr)**
    o **CSCI 471 – Software Developer Studio (3 cr)**
    o **CSCI 171 – Careers in Tech (1 cr)**
- **CSCI/EGPP-493 Bison Startup: Technology Entrepreneurship and Lean Startups** – This course provides real world, hands-on learning on what it's like to actually start a high-tech company. This class is not about how to write a business plan. It's not an exercise on how smart you are in a classroom, or how well you use the research library to size markets. And the end result is not a Power Point slide deck for a VC presentation. And it is most definitely not an incubator where you come to build the―hot-idea that you have in mind. This is a practical class–essentially a lab, not a theory or―book class. Our goal, within the constraints of a classroom and a limited amount of time, is to create an entrepreneurial experience for you with all of the pressures and demands of the real world in an early-stage startup. You will be getting your hands dirty talking to customers, partners, competitors, as you encounter the chaos and uncertainty of how a startup actually works. You'll work in teams learning how to turn a great idea into a great company. You'll learn how to use a business model to brainstorm each part of a company and customer development to get out of the classroom to see whether any one other than you would want/use your product. Finally, based on the customer and market feedback you gathered, you would use agile development to rapidly iterate your product to build something customers would actually use and

buy. Each day will be new adventure outside the classroom as you test each part of your business model and then share the hard-earned knowledge with the rest of the class.

- **CSCI/EGPP-494 Bison Accelerate: Launch and Iterate** - This course is an immersive experience for students serious about launching a technology startup. Students will execute a series of sprints to build and develop a Minimal Viable Product (MVP) as soon as possible. Students will measure the impact of their product/service into the marketplace using actionable metrics to analyze customer behavior. Student teams will learn whether their original assumptions about the product/service, process, and customer needs were correct, or whether they need to change strategies and iterate their MVP.

- **SYSCS-306-401 Operating Systems (undergraduate)** -Topics covered include system calls and system programs, interrupt handling, device and memory management, process scheduling and the trade-offs in the design of large-scale multitasking operating systems. Several case studies will be used, with special emphasis on the UNIX operating System. The objective of this course is to introduce the student to some of the basic features of modern operating systems. The course is intended for students majoring in the department of Systems and Computer Science. Students program extensively in order to understand the difficulties involved with writing operating systems. An operating system design must balance several factors such as speed of throughput, ease of use, security, size of code, and ease of modification; therefore, students must be able to make design decisions based on balancing several different factors.

- **SYSCS-306-680 Advanced Operating Systems (graduate)** - Presents advanced topics in operating systems with particular emphasis on Distributed systems, layered protocols, the client-server model, remote procedure call, group communication, clock synchronization, mutual exclusion, distributed shared memory, election algorithms, atomic transactions, threads, distributed file systems, and global systems. Students program extensively in C/Java/C++ language. The objective of this course is to investigate current research on distributed systems. The course is designed to be an engaging research course. Students will be required to write an original research paper during the course of the semester, and give an oral presentation of their research. The course covers contemporary distributed systems concepts in the areas of distributed algorithms, distributed file systems, and distributed operating systems.

- **SYSCS-306-363 Large Scale Programming** - Introduces some of the basic principles of software engineering in the context of a moderate-sized programming project. Students will program extensively in Java. The objective of this course is to introduce the student to applications and systems in the large scale. Students are introduced to the object-oriented method to software design using UML. Students apply the object-oriented design/analysis techniques of UML to a realistic Java application.

- **SYSCS-306-350 Structure of Programming Languages** - Introduces finite automata and formal languages; regular languages; context-free languages; top-down, bottom-up parsing; elements of the design of languages; survey of procedural languages; functional languages; introduction to LISP; programming in logic, object-oriented languages. The course objective is to provide an overview of the key paradigms used in developing modern programming languages. To highlight several languages (i.e. C/Java/Lisp/Prolog), to permit programs to be written in each language. To explore the implementation of each language in sufficient detail to provide the programmer an understanding of the relationship between a source program and its execution behavior. To provide sufficient formal theory to show where programming language design fits within the general computer science research agenda.

- **SYCS-306-402 Mobile Application Development** - This course will introduce students to developing applications which target mobile devices. Students will be introduced to many issues unique to mobile applications, including synchronization, remote data access, security and sometimes-connected networks. They will research topics in these areas and develop a significant project that demonstrates their knowledge and understanding of these issues.

- **SYSCS-306-510 Computer Architecture (graduate)** - Overviews the concepts underlying the design of high-performance computer architectures, with an emphasis on quantitative evaluation and the interplay between computer architecture and the design of compilers and operating systems. Topics include: pipelined, superscalar, vector, and parallel processors; hard-wired scheduling and branch

prediction; cache and virtual memory-hierarchy design; shared-memory and message-passing scalable multiprocessors. Case studies including RISC/CISC and SIMD/MIMD architectures.

- **SYCS-306-652 Special Topics**- Presents special projects for students who wish to independently pursue reading and study in a topic mutually agreed upon by a member of the faculty and the student.
- **SYCS-306-500 Masters Project** – Course for project option designed for students interested in a terminal master's degree.
- **SYSCS-306-600 Masters Thesis** – Course for thesis option designed for students who are interested in eventually obtaining a Ph.D. in computer science or for well-qualified students who wish to complete a master's degree in the shortest time possible.

Titles of dissertations or theses (directed). Doctoral dissertation by "D" and master's thesis by "M."

- Marlon Mejias**, "**A SOCIO-TECHNICAL APPROACH TO UNDERGRADUATE COMPUTER SCIENCE STUDENT DEVELOPMENT", (D)
- Mark Howard, "HUVLE: The Howard University Second Life Learning Environment", Dec 2009 (M).
- Marcus Atkinson, "Real-Time Military Mobility Models Using Continuum Dynamics", Dec 2009 (M).
- Oluwafemi O. Oladosu: "Implementation of Lazy-Gang Scheduling for Interactive High Performance Computing", May 2006. (M)
- Joseph Gill: "A Parasitic Floating Data Storage", August 2004. (M)
- Swagata Pramanik: "Application of Ordinary Differential Equations for Modeling Delay Tolerant Networks", August 2004. (M)
- Suleiman Baajun: "A Personal Area Network Storage Architecture to Support Disaster Recovery for Mobile Devices", December 2003. (M)
- Jhaldir Wilson: "A High Performance JVM Cluster To Support Safety Critical Enterprise Applications", May 2003. (M)
- Nathaniel Woodard: "Using User Defined Validation to Increase Accuracy of Internet Search Engines", May 2002. (M)
- Barrington Turgott: "A Reliable Hierarchical Multicast Protocol Over Mobile IP", May 2001. (M)
- Moses Garuba: "Delegation and Trust in Computer Systems", May 2000. (M)

Titles of dissertations or theses (read as member of committee). Doctoral dissertation by "D" and master's thesis by "M."

- Ronald Langrin, "Design and Feasibility of a Middleware for Hybrid DTN and NDN Networks ", (D)
- Johnny Carter, "A Machine Learning Approach To Detecting Cognitive Decline in Elderly Patients", (D)
- Ackland Murray, "A Bayesian Approach to Predict Regime Threats", May 2023 (D)
- Saurav Keshari Aryal, "Biometric Authentication using 2D Ear Images", 2023 (D)
- Ismail Yesir, "THE BISON HACKS THE YARD:UNDERSTANDING LEARNING OBSTACLES FOR DATA STRUCTURE AND FEELING A PART OF COMPUTER SCIENCE COMMUNITY", 2020 (M)
- Katrina Rosemond, A Hardware-Based Controller Area Network Intrusion Detection System Research Platform 2021 (M)
- Ketly Jean-Pierre, "Structured Adaptive Individualized Learning System (SAILS)", May 2017 (D)
- Tacuma Solomon, "Identifying Subgroups of Minority Diabetes Type II Data UsingCluster Analysis", May 2017 (M)
- Anietie Andy, Exploring Entity-Based approaches to answering questions in Community Question Answering Systems, Dec. 2016 (D)
- Jean-Claude Tounkara, "Protein Interactions", May 2012 (M).
- Robert Person, "Improving the Learning Process with Online Learning Management Systems and Machine Learning", May 2012 (M).
- Britney Hadley, "Characterizing Computer Security Threats in VCL", May 2011 (M).

- Nana Ofoso, "Implementation of VCL at Howard University", May 2010 (M).
- Temitayo Oladije, M.S., "Epidemic Routing Protocols in Delay Tolerant Networks with Group Mobility," May, 2008. (M)
- Amen Ra Mashariki, "Model Driven Architecture Based Distributed System Development of Medical Device Middleware", May, 2008, (D) – Morgan State University
- James Tolbert: "Motion Correctness Determined by Motion Capture Data Analysis". May 2006. (M)
- Abdul Rohaman Ofoli, "Development and Implementation of Real-Time Intelligent Controllers for Automation and Power Industry", March 2006. (D) – HU EECE department.
- Peter Cherry,"Characterizing the Inter-Connectivity of Mobile Users Based on "Friendship" Using Wireless Network Traces", Aug. 2006. (M)
- Innocent Ndimubanzi, "Achieving Event Reliability in Wireless Sensor Networks Using Distributed Data Redundancy", Dec. 2006. (M)
- Ngizambote Mavana. "Secure Smart Card Log Files Transmission". May 2007.
- Edward Appiah: "Performance Analysis of Multi-level Fragmentation Schemes ", August 2004. (M)

Titles of Masters Projects, Senior Projects, and Undergraduate Research Advised.

Masters Project Advisor:

- Jamika Baltrop, "Self Cleaning Architecture for VCL", May 2012 (M).
- Britney Hadley, "Computer Security Threats in VCL", May 2012 (M).
- Indumathi Gnanaprakasam: "Context-Aware Anti-Entropy", (perspective Dec. 2008)
- Headley Murray: "Design and Development of a P2P Mobile File Sharing System", 2008
- Fredrick Jenkins: "Security and Trust in a P2P Mobile File Sharing System", 2008
- Juil Martin: "Modeling and Simulation of the Spread of Mobile Malware" , 2008
- Suganthi Gunasekaran: "Design and Development of an ABET Assessment Tool", 2007
- Robin Williams: "DoReMe: A Digital Music Information Retrieval System Using String Alignment Algorithms", 2007
- Jia Hong: "Performance Evaluation of Jini 1.0 Security". 2003
- Sheri Joyner. "Database Design to Support the Question Bank for the VirtualTA Project". 2002
- Katrina Godwin. "A Grade Profiling Engine for the VirtualTA Project". 2002.
- Jon Adams. "A Distributed Peer-to-Peer Web Search Engine using JXTA". 2002
- Zhuan-Hong Qiao. "Service Discovery in P2P networks using JXTA". 2002.
- Richard Spencer: "Data Mining Techniques for the MESSENGER Trajectory Database". 2002
- Darryl Frontin: "A Voice Automated Implementation of the DC Metro Ride Guide using VoiceML". 2002.
- Tamsir Cham: "A Technical Analysis API in Java". 2002
- R. Hemmings, "Wireless Remote Mirroring?", 2001
- Gail Harriot. "Towards Jini Fault Tolerance". 2001

Senior Project Mentor:

- Boluwatife Aiki-Raji, Errol Grannum, Barry Harris, Tarik Massac, Rev: A low-cost decentralized code review tool aimed at the classroom and small projects, May 2017
- Sydney Caldwell, Brandi Nicolls, Noah Heath, Travon Speller, Jesse Nwankwo, GoDJ: A SaaS solution for connecting DJs and clients, May 2017
- Nischal Baral, Oreoluwa Onatemowo, Ram Hari Dahal, Roshan Thapaliya, SqwkMob: A mobile billboard advertising system and exchange for personal and ride-share service drivers, May 2017.
- Hannah M. Clark, Portia Herndon, Sidney Hall, Shola Abimbola, Selina Jones, Justin Austin, Elyon Olaniran, Swype Shark: Leveraging the sharing economy for Howard University, May 2017

- Rhonda Davis, Modeling the spread of malaria using new RIDL abatement technology, Dec, 2014.
- David Harris, Design and Development of a Mobile Gateway for Mpesa Transactions, 2013
- Antonio McMichael, Ajira: Mobile Microwork to support the Informal Labor Market in South Africa, 2013
- Qi'anne Knox, "Mobile Math – A Mobile App for Middle School Math", 2012
- O. Okelola, L. Yusef, K. Pacific, "ClickMan: A Context Aware Tour Guide",2007
- P. Jackson and T. Bell, "Genius Federation: A Social Network for the Creation of Ideas", 2008.
- Joel Branch, Joseph Gill, Lorna Silbea, Kerry Ann White. "A Pervasive Storage Architecture to Support Multimedia On-demand",2000-2001
- Robert Rwebengira, Obinna Nwokolo, Tychus Adetayo." Development of the Virtual TA using J2EE", 2001-2002
- Collin Palmer, Omolara Laiyemo, Kehinde Onaadepo. "Implementing SSL Security into Jini 1.0",2002-2003
- Sean Meikle, Charles Gunn, James Keys, "Simulation of a Reliable Hierarchical Multicast Protocol over Mobile IP using OPNET", 2000-2001

Research Involving Undergraduate Student without funding.

- Howard Sueing†, Jahmahrae Jackson†, Alicia Nicki Washington, Robert Rwebangira, Legand Burge: The Modeling and Analysis of the Washington Metropolitan Area Bus Network. Publication in MSV 2010
- A.N. Washington, R. Iziduh, J. Jackson, H. Sueing, L. Burge, R. Rwebangira, The Design of a Simulation for the Modeling and Analysis of Public Transportation Systems as Opportunistic Networks, Publication in IJCN 2010.
- Rhonda Davis†, Ronald Doku†, Wardell Samotshozo†, Mugizi Rwebangira, Chunmei Liu, Legand Burge, "De Novo Peptide Sequencing from Mass Spectrometry Data", Publication in ADMI 2011.
- R. Rwebengira and L. Burge, "Constructing Reliable Software Across the ORB". Spring 2000, Publication in NTA 2000.

(J) PROFESSIONAL SERVICE CONTRIBUTIONS

Panel Presentations/Testimonies:

- Organized UNCF Faculty in Residence, June 3 – July 30, 2022
- Presentation, "Increasing Student Persistence in CS and Preparedness to Careers in Tech", Understanding Interventions ", UI Understanding Interventions, 2021
- Organized UNCF Silicon Valley CS Academy, June 3 – July 30, 2020
- Codepath Panelist – Bridging Equity and Engagement Gaps in the Virtual Classroom, July 13, 2020
- Panelist – UNCF Silicon Valley CS Academy, June 4 – July 30, 2020
- Panelist – Burge, L. Warner, G, Black Tech Ventures – Startup Saturdays, Fall 2020
- Howard – Hampton – Jackson State Mini i-Corp Workshops Feb 11th ,12th, 17th, 19th, 26th, March 5th,6th 2021
- QEM, NSF Convergence Accelerator facilitator for "Mitigating Institutional Racism in Education at the Human-Technology Frontier", Thursday-Friday, October 1 and 2, 2020
- Presentation, Effecting Retention Strategies, Tapia Conference on Diversity in Computing, Sept 8th.
- Panelist, Bridging Equity and Engagement Gaps in the Virtual Classroom, Inside Higher

Education, July 22, 2020.

- HBCU Tech-Transfer/Commercialization Strategies Interview, APLU, July 31, 2020
- Presentation, Problems faced with Diversity and Inclusion in Tech, Diversity in STREAM Summit, July 21, 2020
- Google Tech Exchange – Academic Committee Meeting, Austin, TX July 17-19, 2020
- Presentation, Jean Griffin, Legand Burge, Gloria Washington, et. al. Engaging HBCU faculty in project-based learning in silicon valley, Conference on Computing Sciences in Colleges
- Panelist, UNCF Silicon Valley CS Academy, June 4 – July 30, 2020, Sunnyvale, CA
- Panelist, Burge, L. Warner, G, DCCH – Startup Saturdays, Fall 2019
- Panelist, Holistic Development of Underrepresented Students through Academic: Industry Partnerships, ACM SIGCSE, March 8, 2017, Seattle, Washington
- Panelist, A model CS Curriculum, Google CSe Summit, October 26, 2016, Washington, DC
- Panelist, "National Townhall Meeting on Minority Underrepresentation in Cybersecurity.", October 7th ,2015 at 1:00-4:30p, Rayburn House Office Building, Captiol Hill..
- Panelist, "Chair's Role in Junior Faculty Mentorship", Faculty Development Workshop, Howard University, School of Social Work, DC, May, 2012.
- Panelist, "Junior Faculty Mentorship Workshop", Dean's and Chair's Retreat, Howard University, Kellogg Center, Washington, DC, Feb. 18, 2011.
- Panelist, "Junior Faculty Mentorship Workshop", Faculty Development Workshop, Howard University, CETLA, DC, Dec. 3, 2010.
- Panelist, "Junior Faculty Mentorship Workshop", Faculty Senate Retreat, School of Law, Howard University, March 25, 2006.
- Panelist, "Emerging Leaders Empowerment Series", Congressional Black Cacus Foundation (CBCF) 36th Annual Legislative Conference, Sept. 2006, Washington Convention Center, Washington, DC.
- Guest Panelist, "Icons of Non-Conventional Paths From College to Career",(w/ T. Broome and M. Garuba), 20th National Science, Technology and Society Conference for IASTS, Baltimore, MD, Feb. 10, 2005.
- Panelist, "Evaluation of Administrative Functions (ISAS)', Faculty Senate Retreat, School of Law, Howard University, Feb. 21, 2005.
- Panelist, "Junior Faculty Mentorship, Cronyism, and Collegiality", Faculty Senate Retreat, School of Law, Howard University, Feb. 21, 2004.
- Co-Presentation on Linked Environments for Atmospheric Discovery (LEAD) Project (w/ Jiang Li), Minority Serving Institution Consortium (MSIC), NCSA- PACI, Arlington, VA., April 15, 2004.
- Co-Presentation (w/ Jiang Li) on Cyber Infrastructure Research at Howard University, MSIC Access Grid Session, May 12, 2004.
- Panelist on High Performance Computing Research, Access Grid Session Co-Chair, May 26, 2004.
- Invited Guest (by Dr. Gary Harris) - The Future of Electronic Voting. WOL 1540 AM; Dr. Gary Harris Commentator. Oct. 26th 2003.
- Panelist, "Graduate Opportunities in Computer Science", The Symposium on Computing at Minority Institutions, Washington, DC, May 30-Jun. 1 2003.
- Invited Panelist for Curriculum design for Computer Science I (by Dr. John Trimble), Association of Computing at Minority Institutions Regional Workshop, Howard University, Washington, DC, Jan 2001.

Review Panels/Committees/Judge/Advising:

- Panel Reviewer – Venture Well March 3, 2021
- Executive Editorial Board, Journal of Computer Science Integration. 2018-present
- NSF COV IIP (June 9-10, 2020)

- Program Committee of the 3rd Annual Conference on Research in Equity and Sustained Participation in Engineering, Computing, and Technology (RESPECT) to be held in Baltimore, MD on February 21, 2018
- NSF review panel, CISE- SFS Capacity, February 20, 2015.
- Minority Faculty Council, NSF: Xsede – Education and Outreach, July 15-17, 2012 – present
- Program Committee, IBM Cloud Academy, April 2012 – present
- Academic Advisory Board, ACM DC Chapter, (10/2008 – 2011)
- Editorial board, International Journal on Cloud Computing: Services and Architecture (IJCCSA) (April 2011 – present)
- Committee Member: Computer Science Outside the Box, NSF-CISE, Nov. 11, 2008, Arlington, VA.
- Editorial board, Journal of Advanced Researches on Computer Science, (August 2008-2010)
- Editor-in-Chief, Journal of Scientific and Practical Computing (March 2007 – 2010)
- Member Technical Committee SC (Super Computing) 2006, May 2005 – Oct. 2006.
- Program Committee, Chair and Reviewer: Track on Grid Computing, International Conference on Information Technology: Next Generation (ITNG), 2005-2015.
- Editorial Board, Journal of Technology Studies (JOTS), 2/2005- 9/2008.
- Program Committee, Co-Chair and Reviewer: Special Session on Disruption Tolerant Networking, International Conference on Wireless Networks (ICWN), Scheduled for April 2005.
- Judge, Howard University Graduate Research Symposium, April 13, 2005
- Judge, Howard University Graduate Research Symposium, April 13, 2004
- Question Writer – ETS/GRE Computer Science Special Test. 2004 and 2003.
- National Technical Association (NTA) - member of National Conference Committee 2003, Publication Committee 2004-2005.
- Faculty co-advisor, founder: Upsilon Pi Epsilon (UPE) Honor Society, May 2003 – present
- NSF review panel, CISE- Research Experience for Undergraduates, Nov 12-14, 2003.
- Co-Chair and Reviewer: Session on Parallel/Distributed Computing; Strategies, Models and Algorithms, International Conference on Parallel Distributed Techniques and Applications (PDPTA), 2003.
- Program Committee, Chair and Reviewer: Special Session on Social Computing, International Conference on Information Technology, Coding, and Computing (ITCC), 2003.
- Associate Editor, International Conference on Information Technology, Coding, and Computing (ITCC), IEEE Computer Society Press, 2003.
- Co-Chair and Reviewer: Special Session on Database Technology, International Conference on Information Technology, Coding, and Computing (ITCC), 2003.
- Journal Reviewer: International Journal of Parallel and Distributed Systems and Networks (PDSN), Oct. 2001.
- Member of the Goddard Space Flight Center (GSFC) Semantic Web Special Interest Group (Oct. 2001 – present).
- NSF review panel: NATO Postdoctoral Fellowship, July 2, 2001.
- Conference reviewer: ACM Symposium on Applied Computing (SIGAPP). October 13, 2000.
- Program Reviewer/Evaluator: DEPSCoR proposal entitled "Reliable Software Components for RealTime Target Systems", Kansas State University. ARPA, ARO, BMDO, ONR, AFOSR,1999.

Talks and Conference Presentations:

- Instructor – Global Innovation through Science and Technology (GIST) – Microsoft Image Cup, Amsterdam, Jan 10-13, 2020
- Presentation, "Startups as a way to Recovery", TedX, Howard University, Washington, DC, September 15, 2016. https://www.youtube.com/watch?v=M-FN55IF_5Y
- Presentation, "Chair's Role in Junior Faculty Mentorship", Faculty Development Workshop, Howard University, School of Social Work, DC, May, 2012.

- Presentation, "Junior Faculty Mentorship Workshop", Dean's and Chair's Retreat, Howard University, Kellogg Center, Washington, DC, Feb. 18, 2011.
- Presentation, "Junior Faculty Mentorship Workshop", Faculty Development Workshop, Howard University, CETLA, DC, Dec. 3, 2010.
- Presentation, "Junior Faculty Mentorship Workshop", Faculty Senate Retreat, School of Law, Howard University, March 25, 2006.
- Presentation, Genius Federation: Innovation, Knowledge Discovery, and Entrepreneurship, Chicago, IL, October 8th, 2011, NSF Center for Science of Information
- Presentation, Modeling the Spread of Mobile Malware," International Conference on Modeling, Simulation, and Visualization Methods, July 14-17, 2008, Las Vegas, NV.
- Presentation, "Can students reengineer?", ACM SIGCSE, March 12-15, 2008, Portland, OR.
- Presentation, "Research Capabilities in SCS", NRAO Site Visit, Oct. 2, 2008, Charlottesville, Va.
- Presentation, "Research Capabilities in SCS", Symantec + Deloitte & Touche Site Visit, April 14, 2008, School of Business, Howard University, Washington, DC.
- Presentation, "PICALO: A Context Aware Computer Architecture and Software Platform.", David Stirsman, Ph.D., ARL, May 11, 2007, Howard University, Washington, DC.
- Presentation, "Research Capabilities in SCS", JHU-APL Site Visit, Dec. 6, 2006, Howard University, Washington, DC.
- Presentation, "WebDock: A Structure-Based Drug Discovery Web Service", International Conference on Bioinformatics and Computational Biology (BIOCOMP '06), June 26-29, 2006, Las Vegas, NV.
- Presentation, "A Low-Cost Probabilistic Routing Algorithm for DTNs of Randomly Moving Nodes"", International Conference on Wireless Networks (ICWN '05), June 27-30, 2005, Las Vegas, NV.
- Presentation, "IEEE 1394: Another Low Cost Viable Alternative Interconnect for High Performance Computing", International Conference on Parallel and Distributed Processing Techniques and Applications (PDPTA '05), June 27-30, 2005, Las Vegas, NV.
- Presentation, "A Low-Cost Probabilistic Routing Algorithm for DTNs of Randomly Moving Nodes", International Conference on Wireless Networks (ICWN '05), Computer Science Research, Education, and Applications Technology (CSREA) Press, June 27-30, 2004.
- Presentation, "Application of Disruption Tolerant Networking for Network Centric Warfare", The Second Annual Colloquium on FMS and IMT in HPC, Orlando, Florida, March 3-4,2005.
- Presentation, "Computers: Inside and Out", Science and Technology Program, National Congress of Black Women, Inc. , Nov. 20, 2004.
- Presentation, "ISAS Evaluation", Faculty Senate Retreat, School of Law, Howard University, Feb. 21, 2004.
- Presentation, "The Design and Implementation of the Spacecraft Navigation & Ancillary Information Web Service", ISWS'04 - The 2004 International Symposium on Web Services and Applications, Las Vegas, NV, July 21-24 2004.
- Presentation, "The Design and Implementation of the MESSENGER Trajectory Database", The International Conference on Information Technology: Coding and Computing (ITCC 2004), Las Vegas, NV,(April 6, 2004).
- Presentation, "Improving Retention of Minority Freshmen in Engineering by Applying the Six Sigma Methodology", The International Conference on Information Technology: Coding and Computing (ITCC 2004), Las Vegas, NV,(April 5, 2004).
- Presentation, "A Reliable Protocol For Multicast Data in Mobile Environments", PDPTA '2003 - The 2003 International Conference on Parallel and Distributed Processing Techniques and Applications, Las Vegas, NV, (June 23-26, 2003).
- Presentation, "A Parallel Algorithm for Approximate String Matching", PDPTA '03 - The 2003 International Conference on Parallel and Distributed Processing Techniques and Applications, Las Vegas, NV,(June 23-26, 2003).
- Presentation, "Jini Security: A Novel Approach", IC'03 - The 2003 International Conference on Internet Computing, Las Vegas, NV,(June 23-26, 2003)

- Presentation, "PSTORE: A Pervasive Storage Architecture To Support Disaster Recovery of Mobile Data", IC '03 - The 2003 International Conference on Internet Computing, Las Vegas, NV, (June 23-26, 2003).
- Presenter of Ph.D. Research in Distributed Systems: MII Infrastructure Grant for Ph.D. Program in Computer Science at Howard University, NSF, May 20, 2003, Co-Contributors: M. Garuba, K. Kaplan. Co-PI J. Trimble, Co-PI H. Keeling, PI: R. Leach.
- Exhibit – MESSWEB, Microsoft Technology Fair, Union Station, Washington, DC, May 21, 2003. http://pluto.scs.howard.edu/~blegand/digital_edge.wmv
- Presentation – The technology transfer of ENCOMPASS to DCEMA, IEEE Working Group on BioTerrorism Ad-hoc Committee meeting on Bio-terrorism and the evaluation of existing Biosurveillance Applications. Sponsored by DARPA, DCEMA, and Howard University Systems and Computer Science, March 4, 2002.
- Presentation: "Design and Implementation of the MESSENGER Trajectory Database", JHU/APL MESSENGER Mission Design Review, June 2002.
- Exhibit – Campus Wide Grid Computing, Museum of Science and Industry, Chicago, IL, 1/2002- 3/2002
- Presentation: Howard University Future Aerospace Science and Technology - HUFAST Center Report, AFOSR, Arlington, VA, July 23, 2001. (Co-Presenter: H. Keeling)
- Presentation, "A Ubiquitous Stable Storage for Mobile Computing Devices", ACM SIGAPP, 16th Annual Symposium on Applied Computing (SAC '01), Las Vegas, NV, March 11-14, 2001.
- Presentation and Demonstration: HU PREMI Group and Oracle Corp, The LEADERS Project and its Impact on Bio-terrorism. Health Science Library Dedication Ceremony. Nov. 16, 2001.
- Presentation: Howard University Future Aerospace Science and Technology - HUFAST Center Report, AFOSR, Howard University, Washington, DC, December 13, 2000. (Co-Presenter: H. Keeling, R. Leach, P. Keiler)
- JHU/APL, Presentation on Howard University Systems and Computer Science, Research Capabilities, July 2000. (Co-Presenters: G. Harris, C. Bates, J. Nicholson)
- Presentation, "JMAS: A Java-Based Mobile Actor System for Distributed Parallel Computing", (COOTS) '99 - 5th Conference on Object-Oriented Technologies and Systems, San Diego, CA, May 1999.
- Invited Talk: Technology in the New Millennium: The Post-PC Era, Tuskegee University, College of Engineering, Architecture and Physical Sciences, Nov. 23, 1999

(K) RESEARCH (Grantsmanship)

External Grants:

My Role	Team	Title	Source	Amount	Period
PI		ML, AI, Data Science, Teaching, Education and Research (MASTER) on Health Disparities Training Core – AIHEC Partnership Programs	NIH	$1,278,835	4/24–3/25
PI		ML, AI, Data Science, Teaching, Education and Research (MASTER) on Health Disparities Training Core – All of Us / NCATS Traineeship Programs	NIH	$1,914,725	9/24–7/25
PI		ML, AI, Data Science, Teaching, Education and Research (MASTER) on Health Disparities	NIH	$12,008,060	9/21–7/25

		Training Core			
PI		Mid-Atlantic HUB – HU I-Corps	NSF	$516,000	1/21–1/26
Co-PI	PI: Jeremy Blackstone	Research Institute for Tactical Autonomy (RITA): Task Order 2 – Design and Feasibility of a Middleware for Hybrid DTN and NDN Networks	DoD/U ARC	$276,890	11/23 -- 11/25
Co-PI	PI: Grant Warner	iCorp: HU/Hampton i-Corp Supplement (PENDING)	NSF	$300,000	6/20–7/22
Co-PI	PI: Ivory Toldson	An HBCU Community of Practice to Prepare and Support Teachers to Teach Rigorous Computer Science Courses in Culturally Diverse School Districts	NSF	$1998488	11/20-11/25
Co-PI	PI: Kenneth Anderson	Teacher Quality Partnership Grant	DoEd	$984,794	10/19-9/24
PI	Co-PI: Jamika Burge	Black Women in Computing Workshop II	NSF	$49,850	1/16-6/17
PI	Co-PI: Jamika Burge	GIRLS ROCK TECH: Integrating Computer Science Education into a National Girls Empowerment Program	NSF	$249,715	8/16-7/18
Co-PI	PI: Grant Warner	iCorp: HU/Hampton i-Corp Site	NSF	$300,000	8/15–10/20
Co-PI	PI: Tori Rhoulac	BPE: Collaborative Proposal: Using Lean LaunchPad to Promote Transfer Students Persistence in Engineering	NSF	$351,000	11/14–10/17
PI	Co-PI: Kenneth Anderson	HBCU-UP - Targeted Infusion: Transforming Undergraduate Computer Science Education at Howard University	NSF	$375,000	9/15–9/16
PI	Co-PI: Kenneth Anderson	CS10K: Partnership for Early Engagement in Computer Science High School (PEECS-HS) Program: Exposing Students to Computer Science in Washington, DC Public Schools	NSF	$996,239	9/15–9/16
Co-PI	PI: A. N. Washington	HBCU-UP - Targeted Infusion: Transforming Undergraduate Computer Science Education at Howard University	NSF	$375,000	9/13–9/15
Co-PI	PI: A. N. Washington	CS10K: Partnership for Early Engagement in Computer Science High School (PEECS-	NSF	$996,239	9/12–9/15

		HS) Program: Exposing Students to Computer Science in Washington, DC Public Schools			
Co-PI	PI: C. Liu	STC: Science of Information	NSF – Subcontract from Purdue	Howard: $600K	8/10–8/15
Co-PI	PI: W. Southerland	Research Centers in Minority Institutions (RCMI) - New Faculty Support	NIH	$150K	8/10-7/11
Co-PI	PI: G. Warner Co-PI: N. Washington	Exploratory Project: Graduating ENgineers In the U.S. (GENIUS) Summer Program.	NSF	$76524	8/08–8/09
Co-PI	PI: G. Warner Co-PI: N. Washington Co-PI: J. Ganley	Graduating ENgineers in the U.S.: GENIUS Scholarship Program	NSF-SSTEM	Total: $600K **Me:** $50K/yr for Student Support	8/08–8/11
Co-PI	PI: L. Shapiro (Math), W. Eckberg (Biology)	RISE: Computational Biology (NSF-0401697)	NSF-RISE	Total: $999K **Me:** $60K/yr For Student Support, Travel	8/04-8/07
Co-PI	PI: Everett Joseph (Physics), Co-PI(s) J. Li, Vernon Morris (Chemistry), University of Oklahoma, NCSA, University of Alabama	Linked Environments for Atmospheric Discovery (LEAD) (NSF-0331594, FRS#634149)	NSF-ITR	Total: $11M **Me:** $390K for Student Support, Travel	8/03-9/08
Co-I	PI: W. Southerland, et.al (College of Medicine)	Research Centers in Minority Institutions (RCMI) Parallelization of Molecular Dynamics Code on Loosely Couple Distributed Systems (NIH-G12-RR003048, FRS#632097)	NIH-RCMI	Total: $6.2M **Me:** $331.5K For Research Assoc, and Systems Engineer, Travel	6/03-5/08
PI		Messenger Space Mission Web Service Design and	Applied Physics	$85435.61	1/1/02-4/30/04

My Role	Team	Title	Source	Amount	Period
		Development Expansion, APL Grant #-848967	Laboratory/NASA		
Co-PI	PI: W. Southerland, et.al (College of Medicine)	Internet 2 Infrastructure grant supplement, NIH-G12-RR003048	NIH (RCMI)	$156K	6/1/03 – 5/31/04
Co-PI	PI: Moses Garuba	Transitioning A BioWarfare and Chemical Warfare Defense Systems to DCEMA, MDA 172-01-C-0092	DARPA	$112K	7/1/01 – 7/31/02
PI		Requirements Scenario Evaluation, APL Grant #833107	Applied Physics Laboratory	$91798	1/1/01-12/31/02
PI		SLBM Accuracy Evaluation Program Display and Report Software, APL Grant #833298	Applied Physics Laboratory	$98778	1/1/01-9/31/02
Co-PI	PI: Harry Keeling	Howard University Future Aerospace Science and Technology (HUFAST) Center	AFOSR	$800K	7/1999-7/2001

Internal Grants:

My Role	Team	Title	Source	Amount	Period
Co-PI	PI: G. Warner	Howard University Second Life Learning Environment	FFAE	$6K	7/08–6/09
PI	Co-PI: W. Southerland (CoM), C. Gloster, M. Mahmood (Math).	Genome-based Protein Structure Prediction (FRS#217511)	MWJ	$100K	8/07–8/09
Co-I	PI: L. Leak (College of Medicine)	Vascular Endothelial Growth Factor (VEGF) Regulation of Lymphangiogenesis: Proteomic Analysis (FRS#217511)	MWJ	Total: $100K For Post Doc. **Me:** $0	8/04-8/07
Co-PI	PI: Harry. Keeling Co-PI: John Trimble.	Advanced Knowledge Acquisition and Dissemination System (AKADS) (FRS#252275)	MWJ	Total: $450K **Me:** $100K For Student Support, Travel)	8/03-9/06
Co-PI	PI: Todd Shurn	Patient Retained Emergency Medical Information System (PREMI)	MWJ	$375K	6/1/01-5/1/03

Other Grants:

My Role	Type	Title	Source	Amount	Period

Co-PI	Industry Research PI: T. Adams-Fuller, S. Aryal	Developing a Personal-Ownership-based Open-Source Data Platform for Indoor Air Quality in Baltimore-DC	BlockPower	$250K	FY24
Co-PI	PI: S. Aryal	Bilingual Detection and Evaluation of Alzheimer's Disease from Audio and Text Data	Amazon	$80,000	2023
Co-PI	Industry Research PI: J. Blackstone	Gang Scheduling for AWS Trainium	Amazon Research	$80K	FY23
Co-PI	Industry Research PI: S. Aryal	Bilingual Detection and Evaluation of Alzheimer's Disease from Audio and Text Data	Amazon Research	$110K	FY22
Co-PI	Industry Research PI: S. Aryal	Developing a Personal-Ownership-based Open-Source Data Platform for Indoor Air Quality in Baltimore-DC	BlockPower	$250K	FY21
PI	Industry Research	Understanding How Peer and Near Peer Mentors co-Facilitating the Active Learning Process of Introductory Data Structures Within an Immersive Summer Experience Effected Rising Sophomore Computer Science Student Persistence and Preparedness for Careers in Silicon Valley	Google Research	40K	FY20
PI	Industry Research	Voice-FAQ: Artificial Intelligence for Triaging Cognitive Decline through Modeling Vocal Prosody and Facial Expressions",	Amazon Research	$110K	FY21
PI	Innovation & Entrepreneurship	HowU Innovate	SaraVentures	$50K	FY16
PI	Industry Grant	Holistic Dev of CS Students	Xerox Foundation	$50K	FY16

PI	Industry Grant - Student Support / PREFICS	CS Industry Affiliates Program	Lockheed Martin	$40K	FY15
PI	Industry Grant - Student Support	CS Industry Affiliates Program	CapitalOne	$10K	FY15
PI	Industry Grant - Hackathon	CS Industry Affiliates Program	GM	$5K	FY15
PI	Industry Grant - Student Support	CS Industry Affiliates Program	EMC	$10K	FY15
PI	Industry Grant - Student + Faculty Support / Hackathon	CS Industry Affiliates Program	Leidos	$17K	FY15
PI	Industry Grant - Student Support / Hackathon	CS Industry Affiliates Program	Northrop Gruman	$35,500	FY15
PI	Industry Grant - Student Support	CS Industry Affiliates Program	Xerox Foundation	$50K	FY15
PI	Industry Grant - Student Support	CS Industry Affiliates Program	EMC	$10K	FY14
PI	Industry Grant - Student Support	CS Industry Affiliates Program	Yahoo	$8K	FY14
PI	Industry Grant - Student Support	CS Industry Affiliates Program	Yahoo	$10K	FY14
PI	Industry Grant - Student Support	CS Industry Affiliates Program	Xerox Foundation	$50K	FY14
PI	Industry Grant - Student Support	CS Industry Affiliates Program	Capitol One	$10K	FY14
PI	Industry Grant - Student Support	SCS Industry Affiliates Program	Xerox Foundation	$50K	FY13
PI	Industry Grant - Student Support	SCS Industry Affiliates Program	EMC	$10K	FY13
PI	Industry Grant - Student Support	SCS Industry Affiliates Program	Yahoo	$10K	FY13
PI	Industry Grant - Student Support	SCS Industry Affiliates Program	Xerox Foundation	$50K	FY12

PI	Industry Grant - Student Support	SCS Industry Affiliates Program	EMC	$10K	FY12
PI	Industry Grant - Student Support	SCS Industry Affiliates Program	Conoco-Philllips	$6K	FY12
PI	Industry Grant - Student Support	SCS Industry Affiliates Program	Xerox Foundation	$50K	FY11
PI	Industry Grant - Student Support	SCS Industry Affiliates Program	Lockheed	$10K	FY11
PI	Industry Grant - Student Support	SCS Industry Affiliates Program	Xerox Foundation	$50K	FY10
PI	Industry Grant - Student Support	SCS Industry Affiliates Program	Compuware	$10K	FY10
PI	Industry Grant - Student Support	SCS Industry Affiliates Program	Conoco-Philllips	$4.5K	FY10
PI	Industry Grant - Student Support	SCS Industry Affiliates Program	Lockheed Martin	$10K	FY10
PI	Industry Grant - Student Support	SCS Industry Affiliates Program	Xerox Foundation	$50K	FY09
PI	Industry Grant - Student Support	SCS Industry Affiliates Program	State Farm	$49K	FY09
PI	Industry Grant - Student Support	SCS Industry Affiliates Program	Avanade	$10K	FY08
PI	Industry Grant - Student Support	SCS Industry Affiliates Program	Lockheed Martin	$10K	FY08
PI	Industry Grant – Research Support	Intel Multi-Core Curriculum Development	Intel	$50K	FY08
PI	Industry Grant - Student Support	SCS Industry Affiliates Program	Goldman Sachs	$10K	FY08
PI	Industry Grant - Student Support	SCS Industry Affiliates Program	Cisco	$10K	FY08
PI	Industry Grant - Student Support	SCS Industry Affiliates Program	Google	$10K	FY08
PI	Industry Grant - Student Support	SCS Industry Affiliates Program	State Farm	$10K	FY08

PI	Industry Grant - Student Support	SCS Industry Affiliates Program	Xerox Foundation	$50K	FY08
PI	Industry Grant - Student Support	SCS Industry Affiliates Program	Xerox Foundation	$50K	FY07
PI	Industry Grant - Research	Intel Multi-Core Curriculum Development, SCSIAP	Intel	$42K	FY07
PI	Industry Grant - Student Support	SCS Industry Affiliates Program	Xerox Foundation	$50K	FY06
PI	Travel Grant	Travel Grant to attend SC Global 2005	SC Global (MSIC)	$1.2K	11/8/05
PI	Travel Grant	"Travel Grant to attend SC Global 2004	SC Global (MSIC)	$1.5K	10/7/04

(L) PROFESSIONAL DEVELOPMENT

Seminars, Courses, Meetings, and Workshops Attended

- CUE.NEXT Workshop in Washington, DC, December 5-6, 2019.
- NSF CS4All meeting, Spelman College, Atlanta GA, January 2017
- National Innovation Network Meeting, National Harbor, MD, May 2017
- NSF PI meeting, Denver, CO, March 2017
- UNCF HBCU ICE Summit, November 17 – 20th, 2016, San Jose, CA
- Google CSe Summit, October 26, 2016, Washington, DC.
- Envisioning the Future of Undergraduate STEM Education (EnFUSE*):* Research and Practice on April 27-29, 2016 in Washington, DC
- NSF PI meeting, National Harbor, MD, February 2016
- Future of Darknet, Arlington, VA, February 2016
- ABET PEV Training, June 28-29, 2015, Baltimore, MD.
- Google GIR meeting, New York, NY, December 2015
- Lean LaunchPad Instructor Certification, Stanford University, Palo Alto, CA, April 2014
- Google GIR meeting, Atlanta, GA, August 2014
- NSF CE21 Community Meeting, Orlando, FL, Jan 3-8, 2014
- Howard University Visit to Yahoo Headquarters, May 2014
- Google Faculty Summit, July 25 -27, 2012, Mountain View, CA.
- Google HBCU Faculty Summit, August 7-10, 2012, Mountain View, CA.
- Google HBCU Faculty Summit, August 10-12, 2011, NYC, NY.
- GET Curriculum Workshop at Syracuse University, Syracuse, NY, 6/2011.
- Google HBCU Faculty Summit, August 3-6, 2010, Mountain View, CA.
- ABET Preparation Workshop, Feb. 9th, 2008 Tampa, Florida
- XSEDE Conference, July 15-17, 2012, Chicago, IL
- Roundtable for Department Chairs, ACM SIGCSE, Portland, OR, March 12, 2008
- QPR Suicide Prevention Gatekeeper Program, Donna Barnes, Nov. 7th 2007.
- QEM workshop on NSF MRI Proposal Development and Evaluation, Albuquerque, NW, September 28-29, 2007
- National Black Data Processors Convention, August, 2007.

- Joint NSF-NASA Research and Education Opportunities Conference for PI, Faculty, and Partners, Chantily, VA, Feb. 22-24, 2007
- CMU Fusion Forum, Carnegie Mellon University, Pittsburg, PA, Nov 16 – 18, 2007.
- Google Faculty Summit, July 25 -27, 2007, Mountain View, CA.
- Google Faculty Summit, July 26 -28, 2006, Mountain View, CA.
- Roundtable for Department Chairs, ACM SIGCSE, Houston, TX, March 1, 2006
- ABET Commission Summit, Oct. 25, 2006, Tampa, FL.
- Minority Serving Institution High Performance Computing Consortium (MSIC) Weekly Meetings over the Access Grid, Wednesdays at 3:30-5pm., 2004-2006.
- NSF Workshop on High Performance Computation, Data Storage, and Large Databases, December 5-6, 2006, Arlington, VA 22203
- Mid-Atlantic One Day Workshop on Windows Academic Program: on Teaching and Research with Windows OS Source Code, University of Maryland College Park. Dec. 1, 2006.
- HU Research Administration and Compliance Retreat, Aug, 17 and Aug. 24, 2006
- Project Kaleidoscope: "Translating How People Learn into a Roadmap for Institutional Transformation", Kansas City, KS, Sept 30, Oct 2, 2005.
- HU Faculty Senate Retreat, 2005. 2006, 2007.
- Rigorous Research in Engineering Education Workshop, Golden, Colorado, July 31, 2005 – August 5, 2005.
- The Second Annual Colloquium on FMS and IMT in HPC, Orlando, Florida, March 3-4,2005.
- Junior Faculty Mentorship and Professional Development, Taft H. Broome Jr., Ph.D., Howard University, LKD 3007, Every Friday, Spring 2004 Semester, 4pm-6pm.
- Black Engineer of the Year Conference/Awards Ceremony, Baltimore, MD, Feb. 2003 and 2004.
- Minority Serving Institution High Performance Computing Consortium (MSIC) Weekly Meetings over the Access Grid, Wednesdays at 3:30-5pm.
- Howard University Faculty Senate Retreat, Howard Law School, Washington, DC, Feb. 21, 2004.
- Parallel and Distributed Heterogeneous Computing Systems, Speaker: Prof. H. J. Siegel, CSU, June 24, 2004, 6pm-9:30pm, International Multi-conference in Computer Science and Engineering, Las Vegas, NV.
- IP-Oriented QOS in the Next Generation Networks: Application to Wireless Networks, Speaker: Prof. P. Lorenz, Universite de Haute Alsace, France, June 25, 2004, 6pm-9pm, International Multiconference in Computer Science and Engineering, Las Vegas, NV.
- Overview of Linux Cluster to support RCMI – Laboratory for Molecular Dynamic and Computations Year 1 Review, April 15, 2004, 500 Sealey G. Mudd Bldg. Howard University, Washington, DC
- IEEE Working Group on Bio-Terrorism Ad-hoc Committee meeting on Bio-terrorism and the evaluation of existing Bio-surveillance Applications. Howard University, LKD 1020, Washington, DC, March 4, 2002.
- Attended Oracle Certification Courses in Support for the Oracle Academic Initiative Program:
  - Java Programming March 19 – 23, 2001, Bethesda, MD
  - Intro. To Oracle SQL Feb 19-23, 2001,Bethesda, MD
  - Developing Database Applications with Java – Part 1 – April 23 -24, 2001 Bethesda, MD
  - Developing Database Applications with Java – Part 2 – May 14 -15,2001 Bethesda, MD
  - UML May 15 – 16, 2001 Bethesda, MD
- Member of the Goddard Space Flight Center (GSFC) Semantic Web Special Interest Group – meetings held once a month (Oct. 2001 – present)
- MESSENGER Project Meetings at The Johns Hopkins Applied Physics Lab 2001-2003
- Howard University Workshop on Grant Writing. 2000
- Howard University Workshop on Sexual Harassment in the Workplace. 2000

Conferences Attended:

- 3rd Annual Conference on Research in Equity and Sustained Participation in Engineering, Computing, and Technology (RESPECT) to be held in Baltimore, MD on February 21, 2018
- Open 2016: VentureWell Conference, Washington, DC, March 20-22, 2017
- NSF RP CSforAll Workshop, Jan. 9 -10, 2017, Atlanta, GA
- HBCU Innovation Summit, San Jose, CA, Nov. 17-20th, 2016
- HBCU CSe Summit, Washington, DC, October 26, 2016
- Open 2015: VentureWell Conference, Washington, DC, March 20-22, 2015
- Open 2014: NCIIA Annual Conference, San Jose, CA. March 21-22, 2014
- XSEDE Conference, July 3-17, 2014, Atlanta, GA
- EPICENTER: Pathways to Innovation Conference, Phoenix, AZ, Feb. 26-29, 2014
- HBCU Innovation Summit, San Jose, CA, Oct 29-Nov.1, 2013
- SIGCSE Conference, Denver, CO, March 6-9, 2013
- 20th European Conference on Information Systems, ESADE, Barcelona, Spain, June 10-13, 2012
- Frontiers in Education: Computer Science and Computer Engineering, July 16-19, 2012, Las Vegas, NV
- Xsede Conference, Chicago, IL. July 15-17, 2012
- International IBM Cloud Academy Conference, April 19-20, 2012, RTP, NC
- Frontiers in Education: Computer Science and Computer Engineering, July, 2011, Las Vegas, NV
- 4th Annual US HUPO Conference (US HUPO), March 16-19, 2008, Bethesda, MD.
- International Conference on Bioinformatics and Computational Biology (BIOCOMP '07), June 25- 28, 2007.
- ITNG '2007 - The 2007 International Conference on Information Technology: Next Generations, Las Vegas, NV, April 2-7, 2007.
- ACM SIGCSE, March 1-5, 2006, Houston, TX.
- PDPTA '2006 - The 2006 International Conference on Parallel and Distributed Processing Techniques and Applications, Las Vegas, NV, July 26-29 2006.
- BIOCOMP '2006 - The 2006 International Conference on Bioinformatics and Computational Biology, Las Vegas, NV, July 26-29 2006.
- 21st Conference on Weather Analysis and Forecasting/17th Conference on Numerical Weather Prediction, Washington, DC, August, 2005.
- PDPTA '2005 - The 2005 International Conference on Parallel and Distributed Processing Techniques and Applications, Las Vegas, NV, July 27-30 2005.
- ICWN'05 - The 2005 International Conference on Wireless Networks, Las Vegas, NV, July 27-30 2005.
- International Conference on Information Technology: Coding and Computing (ITCC 2005), Las Vegas, NV.(April 4-6, 2005).
- IC'04 - The 2004 International Conference on Internet Computing, Las Vegas, NV, July 21-24 2004.
- ISWS'04 - The 2004 International Symposium on Web Services and Applications, Las Vegas, NV, July 21-24 2004.
- International Conference on Information Technology: Coding and Computing (ITCC 2004), Las Vegas, NV.(April 5-8, 2004).
- CISST'03 - The 2003 International Conference on Imaging Science, Systems, and Technology, Las Vegas, NV, (June 23-26 2003).
- PDPTA '2003 - The 2003 International Conference on Parallel and Distributed Processing Techniques and Applications, Las Vegas, NV, (June 23-26 2003).
- IC'03 - The 2003 International Conference on Internet Computing, Las Vegas, NV, June 23-26, 2003
- Microsoft Faculty Summit, Redmond, WA, July 26-28, 2003.
- The Symposium on Computing at Minority Institutions, Washington, DC, May 30-Jun. 1 2003.
- National Technical Association Conference. Sept. 9-13, 2003, Orlando, FL
- Microsoft Faculty Summit, Redmond, WA, July 22-24 2002.
- National Technical Association Conference, Las Vegas, Oct, 2002

- ACM SIGAPP, 16th Annual Symposium on Applied Computing (SAC '01), Las Vegas, NV, March 11-14, 2001.
- National Technical Association Conference. Oct. 18-21, 2000, Hampton, VA
- International Conference of Minorities in Computing (ADMI), June 2000, Hampton, VA
- ACM Java Grande Forum, Sir Francis Drake Hotel, San Francisco, California, June 3-4, 1999.
- JaveOne Developer Conference, Moscone Center, San Francisco, California, June 4-6, 1999.
- (COOTS) 5th Conference on Object-Oriented Technologies and Systems, San Diego, CA, May 3-7, 1999.

(M) DEPARTMENTAL, SCHOOL or UNIVERSITY COMMITTEES

Department:
- Student Advisor for last names beginning with letters A – F, (8/2016-Present)
- APT Committee (2015 – present), Chair (2020-present)
- Undergraduate Curriculum Committee (2015 – present)
- Department Chair, (2006 – 2015)
- Assoc Department Chair (2005-2006)
- Graduate Program Coordinator (8/1/2005 – 5/1/2006)
- Student Advisor for last names beginning with letters S–W, all transfers (8/2006 – 8/2008)
- Student Advisor for last names beginning with letters N – R, (8/2000 – 8/1/2006)
- Undergraduate Curriculum Committee: member (8/2000 – 2002), Chair (8/2003 – 8/2005)
- Graduate Curriculum Committee: member (8/2002 – 8/2005)
- Senior Project Advisor (2001, 2002, 2007 and 2008)

School/College:
- Member, CEA Executive Committee (2020-present)
- Member, Google – Howard West Initiative 2016 - Present
- Member of HowU Innovate: Entrepreneurship and Innovation Faculty Team (2013 – present)
- Member of Advisory on Computer Utilization committee. Chair (8/2003 – 8/2006)
- Member of Sabbatical committee. (8/2001- present), Chair (8/2003 –8/2005)
- Member of Educational Policies committee (2000-2002).
- Member of Computer Engineering Degree Proposal and Curriculum Committee (Fall 2000)

University:
- Member: HowU Innovate Team, Director of the FOUNDRY 2016-present
- Member: ISE Computational Science and Research Center Working Group – Office of Senior Vice President, (April 2008 – May 2008).
- Judge: Faculty Senate - Emerging Scholar Award, March 15, 2007
- Participant: HUTEP – Graduate School Visitation Program, Feb. 22. 2007
- Member: CCEIC, Institute for Entrepreneurship, Leadership, & Innovation (ELI) (8/2007 – present)
- Divisional Coordinator for Engineering and Physical Science, The Graduate School (8/2006-2009)
- Member: Teaching, Learning, and Technology (TLT) Committee, CETLA, 2005-2006.
- Member of Committee on Entrepreneurship (Jan. 1, 2005 – 2006).
- Judge: Faculty Senate - Emerging Scholars Program, March 28, 2005.
- Member: Faculty Senate – Standing Committee on Library Systems Research/Resources, (Fall 2004 – 2008).
- Judge, Howard University Graduate Research Symposium and Research Day, April 13, 2005
- Member: Faculty Retreat Planning Committee, (2005, 2006).
- Member: Howard University Graduate Faculty, (2000 – present).

(N) PUBLIC AND COMMUNITY SERVICE

- Instructor – Global Innovation through Science and Technology (GIST) – Microsoft Image Cup, Amsterdam, Jan 10-13, 2020
- Mentor for the Benjamin Banneker High School Community Laboratory Project, August 2015 – present. Students: Joan Sandoval-Flores, Mark Dante Miranda, Julian Urbina, Samuel Debrow, Jed Paolo De La Torre, Jaleel Martin, José Castellón
- Featured Article on HU CS – "Why Doesn't Silicon Valley Hire Black Coders?", Bloomberg BusinessWeek, January 2016.
- Instructor, PEECS – MS2/HU Computer Science Curriculum design and instruction for 6th, 7th, and 8th graders. August 2011-June2012.
- Involved in shaping policy in regards to providing input to Congressman Elijah Cumming's office on House Bill H.R. 1 Broadband Stimulus under the American Recovery and Reinvestment Act. In 2008, 2009.
- Involved in shaping policy in regards to providing input to Senator Barbara Milkulski's office on Senate Bill S. 1 Broadband Stimulus under the American Recovery and Reinvestment Act. In 2009
- Involved in shaping policy in regards to providing input to Office of Rural Utility Service (RUS), Jonathan Adelstein, US Department of Agriculture regarding the inclusion of community anchor institutions and more efficient wireless broadband technology in the Broadband Stimulus awards under the American Recovery and Reinvestment Act. In 2009
- Mentor for the Science and Technology Internship Program of the Prince George's County Public Schools. Mentored two students from Charles Flowers High School every Wednesday at 3-5pm, August, 2007 – May 2008: Students: Tyra White and Jonovan Sanders.
- Mentor for the Benjamin Banneker High School Community Laboratory Project, August 2007 – present. Student: Jabari Jordan.
- Mentor Program along with Mu Lambda Chapter Alpha Phi Alpha Washington DC. "Go to High School, Go to College" – Banneker High School and Dunbar High School - Washing ton, DC. (Oct. 2001 – April 2002). Gave presentation on opportunities in Engineering and Computer Science.
- Mentored two students of the Benjamin Banneker Academic High School, Community Laboratory Program: Diane Bryce and Gregg Miller. 2002-2004
- TRIO, Workshop on Microcomputer Applications, Summer 2003
- TRIO Mentor for Math and Science Institute. Mentored 5 High School students in Computer Science. Summer 2000.
- Internet/Computer Seminar for Aiton Elementary and Scott Montgomery Elementary. Saturdays in the CLDC Howard University Lab 1pm – 4pm: Nov. 20, 1999, Dec. 11, 1999, Jan. 22, 2000.