

**BOARD OF TRUSTEES
UNIVERSITY OF THE DISTRICT OF COLUMBIA
UDC RESOLUTION NO. 2025 - 34**

SUBJECT: APPOINTMENT OF DR. PAUL COTAE AS DISTINGUISHED PROFESSOR, SCHOOL OF ENGINEERING AND APPLIED SCIENCES (SEAS)

WHEREAS, pursuant to D.C. Official Code § 38-1202.06(3), the Board of Trustees is authorized to establish or approve policies and procedures governing admissions, curricula, programs, graduation, the awarding of degrees, and general policy for the components of the University; and

WHEREAS, pursuant to 8B DCMR § 1412, faculty who are qualified to hold the rank of Professor and who have achieved outstanding professional distinction in research, creative accomplishments, teaching, service to higher education or public service may be nominated for appointment to the rank of Distinguished Professor; and

WHEREAS, the Board of Trustees must approve all appointments to the rank of Distinguished Professor; and

WHEREAS, the Board has received the attached recommendation from the President of the University of the District of Columbia and recommendation from the Chief Academic Officer of UDC, both of whom have approved the appointment of Paul Cotae, Ph.D., to the rank of Distinguished Professor, in the School of Engineering and Applied Sciences, Department of Electrical and Computer Engineering, (SEAS) due to his outstanding record of service to the University over the past 17 years, during which time he has set a high benchmark for his teaching, scholarship, leadership, and service to UDC, the District of Columbia, and the international professional engineering community. Included among his many accomplishments are service as the Chair of the Department of Electrical and Computer Engineering, securing of \$3M in extramural funding for UDC, being named a Fellow of the Washington Academy of Sciences, receiving a Lifetime Achievement Award from the District of Columbia Council of Engineering and Architectural Societies, and receiving the 2024 Founder’s Day Honorable Ronald H. Brown Distinguished Path Maker Leadership Award for his outstanding leadership in establishing both the first-ever graduate program within SEAS and UDC’s first-ever doctoral (Ph.D.) program; and

WHEREAS, the Board agrees with the recommendation of Dr. Cotae for the reasons described in the Chief Academic Officer’s and President’s attached recommendations, and commends Dr. Cotae for his distinguished service and professional excellence;

NOW, THEREFORE, BE IT RESOLVED that the Board of Trustees hereby authorizes and approves the appointment of Professor Paul Cotae to the rank of Distinguished Professor effective October 1, 2025.

Submitted by the Executive Committee:

June 17, 2025

Ratified by the Board of Trustees:

June 24, 2025



Warner H. Session
Chairperson of the Board

UNIVERSITY OF THE
DISTRICT OF COLUMBIA
OFFICE OF THE CHIEF ACADEMIC OFFICER

APRIL MASSEY, PH.D.
CHIEF ACADEMIC OFFICER

May 12, 2025

Dr. Paul Cotae
School of Engineering and Applied Sciences
University of the District of Columbia

Dear Dr. Cotae,

This letter is to inform you that I have reviewed and am recommending approval of your application for promotion to Distinguished Professor.

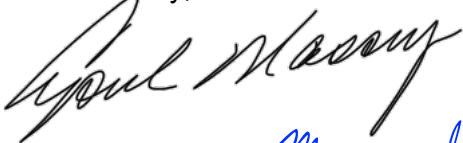
Having thoroughly evaluated your record of accomplishments in the domains of teaching, scholarship, and service, and having concurred with the recommendation of your Dean and the strong endorsements of your external reviewers, my recommendation will now go to President Edington for his approval and then to the Board of Trustees for a final decision.

Your application will be reviewed and voted on at the next meeting of the Board's Academic and Student Affairs Committee, scheduled for June 12, 2025. If approved in Committee, your packet will be voted on during the subsequent full Board meeting, scheduled for June 24, 2025. Board approval of the Distinguished Professor rank would become effective on October 1, 2025.

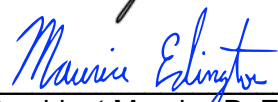
Any associated salary increase will be effective on October 1, 2025, subject to final budget approval by the government of the District of Columbia.

Congratulations on reaching this notable milestone in your distinguished career and thank you for your sustained commitment to student success, innovative research, and professional excellence. You are to be commended for your stellar achievements as a faculty member at the University of the District of Columbia.

Sincerely,



Approved:



President Maurice D. Edington

Date: 6/13/25

Devdas Shetty, Ph.D., PE, Dean/Professor
Office of the Dean
School of Engineering and Applied Sciences
Email: devdas.shetty@udc.edu

February 26, 2025

Dr. April Massey
Chief Academic Officer
University of the District of Columbia
Washington, DC 20008

Ref: Dr. Paul Cotae - Recommendation for elevation to the level of Distinguished Professor at the University of the District of Columbia

Dear Dr. Massey,

It is with my greatest enthusiasm that I nominate Dr. Paul Cotae, Professor of Electrical and Computer Engineering for the position of Distinguished Professor at the University of The District of Columbia.

Dr. Cotae joined the UDC in the Fall of 2008 as an Associate Professor coming from the University of Texas at San Antonio (UTSA). Prior to UTSA, until 2004, he was a full professor at the Technical University of Iassy, Romania, in the Department of Electrical and Computer Engineering. While at UDC, he has demonstrated outstanding performance. Based on his accomplishments in teaching, research, and service, Dr. Cotae was promoted to the rank of Full Professor of Electrical and Computer Engineering in 2013.

Dr. Cotae's scientific and technological journey was influenced by his fellowships at Office of Naval Research under the ASEE Summer Faculty Research Program. This training and exposure to the needs of industry and national defense made him a teacher-scholar-researcher, who would bring his knowledge to the classroom. With this foundation in Electrical and Computer Engineering, Dr. Cotae progressed at UDC and acquired both a national and international reputation as a world-class researcher.

Dr. Cotae is known for his research contributions to general areas of communication theory, information theory, and signal processing. His research interests can be summarized as being in the following areas.

- Wireless communications
- Cybersecurity
- Machine Learning and Artificial Intelligence (AI)
- Signal Processing for communications.
- Network Theory and its applications.

Dr. Cotae's major contribution is in the area of digital information theory, underwater communications, and wireless sensor networks. Dr. Cotae was the first one to apply the majorization theory to optimize the Multicellular Synchronous CDMA Systems. He developed an algorithm to optimize spreading sequence in wireless communication with multipath for the help of users located in orthogonal subspaces of extended signal space. This algorithm contributed to improving pilot contamination, which is considered as one of the most severe performance degrading factors in the wireless networks. His work has led to significant improvements and contributions to explain how these networks have emerged as one of the disruptive technologies for 6G cellular networks. He invented the Hybrid (i.e., centralized and distributed) coordination of the Max-Plus algorithm where each agent computes and sends updated messages after receiving new and distinct messages from a neighbor. Messages are sent in parallel, which provides some computational advantages over the sequential execution of previous centralized coordination algorithms. His individual contribution was the development of a theoretical framework for integrating Monte Carlo Tree Search technique (MCTS) with the Cost Hybrid Max-Plus algorithm for decision making and execution. His work in this area was cited extensively.

In the last ten years, Dr Cotae have published 39 papers (10 journals and 29 conferences) out of 164 papers (34 journals and 130 conference papers) individually and also coauthored with his students and colleagues. He collaboratively co-authored and published 24 papers with his professional colleagues from the Naval Research Laboratory in Washington DC. Most of these publications are in the highly reputed transactions of IEEE journals and contribute to fundamental research results related to externally funded grants. In addition, his contributions are also found in prestigious International Conferences ICC, GLOBECOM, WCNC, VTS.

Honors

The most notable honors received by Dr, Cotae include (i) 2023 Election as Fellow of the Washington Academy of Sciences with citation of "Recognition of Outstanding Achievements and Contributions in the field of Engineering Sciences" (ii) Lifetime Achievement Award from the District of Columbia Council of Engineering and Architectural Societies, for recognition of his achievement as a distinguished educator at the University of the District of Columbia and extensive contributions to Digital Communications, by publications in conferences and books (iii) Founder's Day Honorable Ronald H. Brown Distinguished Path Maker Leadership Award for his outstanding leadership towards the creation, and support of the first-ever graduate program within the School of Engineering and Applied Sciences, SEAS: Master of Science in Electrical Engineering, and towards UDC's first-ever doctoral (Ph.D.) program.

Contribution to Curricular Development:

As an Electrical and Computer Engineering Department Chair, he was also an instrumental part of ABET accreditation process by leading the programs that received full accreditation until 2027. When Dr. Cotae first joined UDC, there was a major need for courses in the area of Communications. Dr. Coate filled that gap in the Electrical and Computer Engineering Department, He implemented a sequence of graduate courses in communications that currently include Digital Communications I, Probability and Random Processes Wireless Communications,

Digital Information Theory, Wireless Networks, Multimedia Communications, Digital Communications II, Coding Theory and Applications, Advanced Topics in Digital Communications. As part of his contributions to the graduate program, he created several digital communication courses. Some of these courses were timely, and addressed the student need to get a practical understanding of the Deep Reinforcement Learning and Information theory fields. These courses serve as the backbone of undergraduate and graduate programs in electrical and computer engineering at UDC.

Contribution in the Establishment of PhD Program at UDC

Dr. Cotae had a major role in the creation and running of the master's Program in Electrical Engineering as well as the recent Ph. D program in Engineering and Computer Science. He worked with the SEAS faculty and the Dean of SEAS in developing the proposal through various committees and final approval by the Board of Trustees. Two grants received by Dr. Cotae from the Department of Defense (DoD) set the tone for approval of the program in Computer Science and Engineering in 2017. The establishing of the Ph.D. Program at UDC allowed his colleagues from SEAS and UDC to conduct a higher level of research and educational activities. As a direct consequence, this has impacted on the types of prestigious grants that could be pursued, and awarded, the National Science Foundation (NSF), DoD, Department of Energy (DoE) and others. Dr. Cotae has established a program that is rigorous, competitive, and also encourages underrepresented minority students in the Washington, DC, Maryland and Virginia (or DMV) to pursue their graduate degrees. It was due Dr. Cotae's academic leadership, including program marketing, graduate student recruitment, admission and retention, the SEAS Ph.D. in CSE program had phenomenal growth: in the past few years, the growth trajectory went from nil in Spring of 2018 to 29 students in Fall of 2025, indicating a high student demand for the program.

External Reviews from Experts in the Field:

The external reviewer Zhi Tian, Ph.D., Professor, Department of Electrical and Computer Engineering at George Mason University is very well known in the area of Digital Communications. He wrote some comments on Dr. Cotae. Dr. Tian says" *Dr. Cotae has established himself as an internationally recognized expert in these areas. He has published 34 journal articles, 130 conference papers, two books, and three textbooks. Some of the papers appeared in prestigious IEEE journals such as JSAC and TVT, and leading conferences like ICC, GLOBECOM, and WCNC. His work has gained growing citations in recent years, highlighting its sustained impact and influence. While the above numbers speak volumes, I can further comment on the significance and impact of her research contributions and scholarly pursuit. In the field of wireless communications, Dr. Cotae has consistently made novel and impactful contributions over the years. His research is characterized by a balance between theoretical depth and practical application. As one of the early contributors to modern 3G wireless innovation in the early 2000s, he pioneered the innovative application of majorization theory to optimize multicellular CDMA systems. Today, as massive MIMO technologies are proven critical for high-speed, high-capacity cellular networks, Dr. Cotae has successfully applied the majorization theory to effectively address the performance bottleneck caused by the key pilot contamination issue. His contributions have*

advanced the understanding and optimization of massive MIMO systems, driving forward the development of the next generation 6G networks. Dr. Cotae has also made notable contributions in the field of underwater communications, a highly specialized area due to the limited availability of testing facilities. As a result, while researching this domain may not receive widespread citations; it is both critically important and highly challenging.”

Dr. Tian also points out “Dr. Cotae has made groundbreaking development of hybrid cost-max-plus algorithms for decision making in AI. This research has led to a set of rigorous tools for cost-aware planning and coordination in multi-agent networks, achieving significant savings in both computation and communication costs while ensuring provable network convergence and scalability. The tools have been systematically developed to enable energy-efficient decision-making and action execution in centralized, distributed, and hybrid settings. These advancements have broad applicability across various practical domains, including autonomous robotic control and reinforcement learning, cybersecurity, and cyber-physical systems, among others”

Another reviewer is Dr. Mehdi Shadaram, Ph.D., P.E. is the Briscoe Distinguished Professor, Director of Center for Excellence in Engineering Education Research the University of Texas at San Antonio College of Engineering. Dr. Shadaram says, *“Dr. Paul Cotae is a top-class researcher with international reputation. He has published extensively in a variety of peer-reviewed IEEE conferences and journals. He has done pioneering work in majorization theory applied to the partial ordering of Discrete Memoryless Channels. Since 2013, he has published 39 scholarly articles, where most of these publications are at the IEEE level and contain fundamental research results related to his funded grants at UDC and his work as a Research Fellow at the ONR-ASEE Summer Faculty Research Program (2009-2024). Major contributions to the field include wireless communication, information theory aspects, cybersecurity and artificial intelligence. An interesting aspect of his professional career is his incredible breadth. He has published in underwater communication, wireless communications, sensor networks and security, cybersecurity and artificial intelligence demonstrating that he is a true team player and can collaborate with people from different departments and disciplines. His research is practical and interdisciplinary, two key attributes needed to attract research funding.*

In addition, Dr. Shadaram also makes comments about Dr. Cotae’s contribution to professional society in general and the community. *“Dr. Cotae’s record of community and professional service is overwhelming. He is always among the first to volunteer for both leadership and menial roles. He brings exceptionally high standards. to these efforts, improving the quantity, quality, and value of these activities. More often than not, Paul raises the effort to new levels of achievement. One example comes from the period that he led the DC area Communications Society chapter: during his year as chairperson, it won the Chapter of the Year Award. His numerous roles serving IEEE and other organizations, providing peer review of journal manuscripts, serving as a panelist evaluating grant proposals, and organizing conferences have contributed significantly and broadly to the science and engineering enterprise, especially but not solely in electrical, computer, and communications engineering.”*

Another reviewer is Tarek El-Ghazawi, IEEE Fellow, Professor and Chair of Electrical and Computer Engineering at George Washington University. He says, *“I was particularly impressed*

by how Paul manages to stay current as a researcher and a passionate educator, while he is leading the ECE department. As this letter will detail, Professor Cotae is a well-recognized leader both nationally and internationally and with many important contributions to the fields of Artificial Intelligence/Machine Learning, Cybersecurity, Wireless communications, sensor networks, and computer biomedical applications. These are all timely topics, which shows that Professor Cotae always stays at the top of the most technological and scientific developments and will continue to innovate and contribute to advancing the state of the art in spite of his demanding administrative duties.”

Dr. El-Ghazawi further adds “On the teaching and education side, Professor Cotae is also an innovative, visionary, and resourceful educational leader. As such, he has integrated theoretical courses with specialized courses around practical Communication Systems where students can learn by experimenting with real Digital Advanced Communications Systems and the state-of-the-art Machine Learning and Reinforcement Learning techniques. In addition, he was behind the creation of new graduate degrees and leveraged his prolific grants writing skills to obtain grants that helped funding the first crop of doctoral students.”

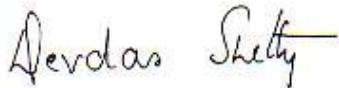
Dr. Beverly Karplus Hartline, Ph.D. Professor Emerita and VP of Research at Montana Tech., who had also been the Dean of the Graduate School and Associate Provost for Research. During 2011 and 2012, she served as Acting Dean of the School of Engineering and Applied Science at UDC. “Dr. Cotae’s contributions and impact are strong internationally, nationally, and locally. His broad research impact is captured in his role as author or co-author of over 160 peer-reviewed journal or conference papers, three research volumes, and two textbooks. These materials are widely read and help others teach, learn, and solve challenging problems requiring innovative solutions. Moreover, Professor Cotae has advanced four extraordinarily important electrical engineering specialties: underwater acoustic communication; wireless communication; cybersecurity and machine learning; and artificial intelligence and decision theory. He played an essential role in establishing UDC’s engineering program, and he has educated hundreds of undergraduate students and dozens of graduate students as an instructor. He has also mentored many of them in research—both graduate students and undergraduates—in many cases, hiring them on his research grants, which helps them financially and reduces their need for outside employment. Students particularly value how much they learn from Paul and his ability to support their efforts while pushing them beyond their comfort zone to accelerate and deepen their learning. Notably, many of these students are U.S.-born. Minority students, a demographic seriously underrepresented in engineering, and whose backgrounds, expertise, and perspectives can diversify electrical engineering while inspiring engineering interest in youngsters like themselves. Prof. Cotae’s achievements in this context are both extraordinary and significant, and they could easily serve as models worth replicating and adapting at other universities.

Dr. Bijan Jabbari is a Professor in the Department of Electrical and Computer Engineering at George Mason University (GMU) and is another reviewer. He is also faculty the current representative to the GMU Board of Visitors. Dr. Jabbari indicates, “Dr. Cotae is an internationally recognized authority in wireless communications, cybersecurity, and artificial intelligence. His groundbreaking contributions in these fields have advanced technology and research while significantly enhancing UDC’s reputation. He further states that “Dr. Cotae’s

innovative work on MIMO wireless communication systems and scientific. community have addressed critical real-world challenges. His pioneering application of majorization theory has paved the way for advancements in 6G communications. These contributions have established him as a thought leader in his field and positioned UDC ripe for becoming a hub of innovation.”

Finally, in summary, I wish to add that I have always been impressed by Dr. Cotae's high standards and his truly humane qualities besides his scientific and technical competence. His contributions have brought credit to UDC. Dr. Cotae has met the scholarly, teaching and service requirements for advancing to the level of Distinguished Professor. Dr. Cotae embodies the qualities and achievements one would expect of a Distinguished Professor, and I strongly recommend him for this position.

Kind regards

A handwritten signature in black ink that reads "Devdas Shetty". The signature is written in a cursive style with a horizontal line extending from the end of the name.

Devdas Shetty, Ph.D., P.E., Dean
School of Engineering and Applied Science
Professor of Mechanical Engineering
University of the District of Columbia.
Washington, DC 20008.
Tel: 202 274 5033(off); 860 810 3575 (Cell)

Dr. Paul Cotae, Fellow WAS

Work: School of Engineering and Applied Science,
Department of Electrical and Computer Engineering

University of the District of Columbia, Washington DC 20008

E-mail pcotae@udc.edu , Ph. (202)-274-6290, Fax (202)-274-6311, Cell (210)-396-0004

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Academic Training

- **Ph.D.** Electronics and Telecommunication, 1992, “Politehnica” University, Bucharest, Romania, GPA: 10.0/10.0 Thesis title: *Contributions to Improvement of the High Data Rate Digital Modulation Techniques in Communication Systems*.
- **M.S.** *Electronics and Telecommunication*, 1980, Technical University “Gh. Asachi” of Iassy, Romania, (Combined with **B.S.**, 1975-1980), GPA: 9.89/10.
- **M.S.** *Applied Mathematics*, 1998, University of Colorado at Boulder, GPA: 3.80/4.0.
- 1986-1989: University “A. I. Cuza” of Iassy, Romania, Mathematics Department.
- 1993-1994: Post-Doctoral specialization in *Trellis Coded Modulation*, Istanbul Technical University, Department of Electrical and Computer Engineering, Turkey.

Employment History

- Jan 2022 – Present: ECE Department Chair, SEAS at UDC
- Oct. 2013 – Present: Tenured Full Professor, School of Engineering and Applied Science (SEAS) Department of Electrical Engineering, University of the District of Columbia.
- Jan. 2015 - Dec. 2015: Sabbatical leave at the Naval Research Laboratory, Center for High Assurance Computer Systems, Washington DC, Code 5540.
- Aug. 2008 – Sept. 2013: Associate Professor, School of Engineering and Applied Science, Department of Electrical Engineering, University of the District of Columbia.
- Nov. 2001 – Aug. 2008: Assistant Professor, Department of Electrical and Computer Engineering, University of Texas at San Antonio.
- Sept. 1998 – Nov. 2004: Full Professor, Department Electrical and Computer Engineering, Technical University “Gh. Asachi” of Iassy, Romania.
- Jan. 1997 – Dec. 1998: Teaching and Graduate Research Assistant, University of Colorado at Boulder, Applied Mathematics, Department (on leave from “Gh. Asachi” of Iassy).
- May 1997 – Sept. 1997: Consultant Engineer, Global Positioning Systems, Navsys Corp., Colorado Springs, Colorado (on leave from University of Colorado at Colorado Springs).
- Aug. 1995 – May 1997: Visiting Associate Professor, University of Colorado at Colorado Springs, Department of ECE (on leave from “Gh. Asachi” University of Iassy).
- Aug. 1994 – May 1995: Fulbright Scholar, University of Colorado at Colorado Springs, Department of Electrical and Computer Engineering (on leave from “Gh. Asachi” of Iassy)
- Sept. 1992 – June 1998: Associate Professor in Communications Department, Electronic and Telecommunications Faculty of Technical University of Iassy, Romania.
- Sept. 1991 – June 1992: Lecturer in Communications Department, Electronic and Telecommunications Faculty of Technical University of Iassy, Romania.
- Sept. 1984 – June 1991: Assistant Professor in Communications Department, Electronic and Telecommunications Faculty of Technical University of Iassy, Romania.
- Sept. 1982 – June 1984: Research engineer at the Research Institute for Communications, Bucharest, Romania.
- June 1980 – Sept. 1982: Design Engineer - Tehnoton Inc., Iassy, Romania.

Honors and Awards

A) IEEE Honors and Awards

- IEEE ICC 2027 Washington DC, Executive Conference Chair
- Fellow of the Washington Academy of Sciences Citation “Recognition of Outstanding Achievements and Contributions in the field of Engineering Sciences” (May 2023).
- 2023 Lifetime Achievement Award from the District of Columbia Council of Engineering and Architectural Societies, Citation “In recognition of his achievement as a distinguished educator at the University of the District of Columbia, extensive contributions to Digital Communications, as an author of several books and publisher at over 200 conferences, and for his contributions as Chairman and Fellow of IEEE”
- 2023 Excellence in Research Award in Engineering Sciences from the Washington Academy of Sciences, Citation “In recognition for research and educational contributions in digital communications, networking, cybersecurity, and design and theory; and advancing Engineering Education”.
- 2023 Board Member of the Washington Academy of Sciences.
- Associate Editor for the IEEE Communication Letters journal (2003-2012).
- 2018-2020 Board Member of the IEEE ComSoc North America Region as IEEE ComSoc Region 2 representative.
- IEEE Washington DC Section, Joint Communication *Chapter Chair* (2019-2020).
- 2017 IEEE ComSoc 5G Summit Certificate of Appreciation in recognition and appreciation of valued services and contributions as a volunteer for the Greater Washington DC Metropolitan Area, Reston Virginia, August 19, 2017.
- IEEE Washington DC Section, Communication *Chapter Chair* (2017-2018).
- 2017 IEEE Certificate of Appreciation in recognition and appreciation of valued services and contributions to IEEE as the Washington DC Communication Society Chapter Chair May 2017.
- *Executive Chair* IEEE Globecom Conference 2016, Washington DC.
- Member of the Governance Committee, Board of Governors, IEEE Communication Society, 2015-2016.
- Chair of Governance Committee, Board of Governors, IEEE Communication Society, 2014-2015.
- 2013 IEEE Washington DC Section: *Director* 2013-2014, *Nomination and Appointments Committee Chair* 2013-2014.
- 2013 IEEE Distinguished Service Award in recognition of “Outstanding Leadership of the Communication Society and receiving the GLOBECOM 2016 Executive Chair Leadership” from the IEEE Washington Section, May 25, 2013.
- 2013 IEEE Washington Section Chair Award in recognition and appreciation for “Distinguished service and outstanding leadership as IEEE Washington Section Chair in 2012” from IEEE Washington Section, May 25, 2013.
- 2012 IEEE Washington Section Distinguished Service Award Citation” in recognition of his outstanding service in providing Leadership as a Vice Chair to the Section”.
- 2012 Board Member of the IEEE ComSoc North America Region (as IEEE ComSoc Region 2 representative and Student Activities Support)
- 2011 IEEE Communication Society: North America Region Chapter Achievement Award (CAA ComSoc), Citation “For achieving excellence in chapter activities and for contributions in furthering the objectives of the society”.
- 2011 IEEE Communication Society: Chapter of the Year Award (CoY ComSoc), Citation “For achieving the highest excellence in chapter activities and for outstanding contributions furthering the objectives of the society”.
- IEEE Washington D.C. Section: *Chair* 2012, *Vice Chair* 2011.
- IEEE Washington D.C. Section: *Administrative Committee Director* (2009-2010).
- IEEE Washington D.C. Chapter: *Chair* of the IEEE Communication Society (2010 and 2011).
Vice chair (2009).
- IEEE Washington DC Section: Awards Committee *Member* (2009-2010).

- IEEE 2012 Certificate of Appreciation in recognition and appreciation of valued services and contributions as the Washington DC Communication Society Chapter chair for 2011 and, Marriott Fair Oaks, Fairfax, VA, May 19, 2012.
- IEEE 2011 Certificate of Appreciation in recognition and appreciation of valued services and contributions as Director of the Washington Section for 2010 and as the Washington DC Communication Society Chapter chair, Marriott Fair Oaks, Fairfax, VA, May 22, 2011.
- IEEE Washington DC Section: Distinguished Service Award in recognition of dedicated service to IEEE Engineering Education activities, Communication Society Contributions, Director Washington Section, and the University of the District of Columbia Section Liaison, Marriott Fair Oaks, Fairfax, VA, May 22, 2011.
- IEEE 2010 Certificate of Appreciation in recognition and appreciation of valued services and contributions as Director of Washington Section for 2009, Crowne Plaza Hotel, Silver Spring MD, May 1st 2010.
- IEEE 2010 Certificate of Appreciation in recognition and appreciation of valued services and contribution as Section Liaison to the Student Brunch, University of the District of Columbia, Crowne Plaza Hotel, Silver Spring MD, May 1st 2010.
- IEEE Certificate of Appreciation in recognition of valued services and contribution as Session Chair, Sarnoff Symposium, Princeton, April 2009.
- IEEE Certificate of Appreciation in recognition and an appreciation of valued services and contribution as Section Liaison to the Student Brunch, University of the District of Columbia, May 2009.
- Election to Board of Directors, *IEEE Central Texas Section*, Joint Communications and Signal Processing Chapter, (August 2007 – August 2008).
- IEEE Senior Member, November 2004.
- 2007 IEEE Central Texas Section Volunteer Recognition Award, November 2007.
- IEEE Central Texas Section, SP01-COM19, *Vice Chair*: Joint Communications and Signal Processing Chapter, CTS ComSoc/SP, November 2007-August 2008.

B) Academic Honors and Awards

- UDC Founder's Day Honorable Ronald H. Brown Distinguished Leadership Award, Feb. 15, 2024
- UDC Graduate Council President, Aug. 2021- Feb 2022.
- Director of the PhD Program, School of Engineering and Applied Sciences, March 2018.
- 2018 Vice Chair of the ASEE Mid-Atlantic Conference at UDC, April 6-7, 2018.
- Chair of the PhD Program Committee Development of SEAS, April 2017.
- Faculty Recognition Award for Research, SEAS, April 27, 2017
- Director of the Research Center at School of Engineering and Applied Sciences, August 2016.
- AY 2014-2015 Sabbatical at Center for High Assurance Computer Systems Code 5540, Naval Research Laboratory, Washington DC, 20375.
- 2009-2023 ONR Senior Research Fellows for the ASEE Summer Faculty Research Program.
- Panelist for the U. S. Department of Energy's 2016 Phase I Release 1 SBIR/STTR.
- 2013 Selected in Top 25 Professors at Affordable Historically Black Colleges by Affordable College Online.
- 2013 Faculty Recognition award for "Outstanding Research and Professional Service" in the School of Engineering and Applied Sciences at the University of the District of Columbia, May 1st , 2013.
- 2013 Chair of the ASEE Mid-Atlantic Conference at UDC, October 11-12, 2013.
- Panelist for the U. S. Department of Energy's 2013 Phase I Release 1 SBIR/STTR.
- Panelist for the 2013 NASA ASP (Aeronautics Scholarship Program) and SMART (Science, Mathematics And Research for Transformation) Scholarship Program of DoD (Department of Defense) at the ASEE (American Society for Engineering Education) February 13-14, 2013.
- UDC School of Engineering and Applied Sciences, Engineering Week 2012: First and second place paper award at the Graduate student section with Roland Kamdem and Suresh Regmi, respectively; First place

- and third place paper award at the Undergraduate section with Nikola Jovic, Dairo Abayomi, John Brandon and Babatunde Taiwo February 27, 2012.
- UDC 4th Edition of the Undergraduate Research Day 2011: second place for oral presentation with the “Submersed Wireless Sensor Data Retrieving Network” presented by Prakash Regmi.
 - UDC School of Engineering and Applied Sciences, Engineering Week 2011: First and second place paper award with Prakash Regmi and Roland Kamdem, respectively, February 22, 2011.
 - UDC School of Engineering and Applied Sciences: Award for Outstanding Contributions to Research and Professional Service, April 20, 2010.
 - Nominated for outstanding faculty in the School of Engineering and Applied Sciences at UDC, September 28, 2010.
 - Certificate of Appreciation for Exceptional Contribution to the quality of Elsevier Computers and Electrical Engineering Journal as top Associate Editor in 2010.
 - Fulbright Scholar, University of Colorado at Colorado Springs 1994-1995.
 - Honorary Member of Eta Kappa Nu (HKN), University of Colorado at Boulder Section, 1998-present.
 - Nominated for the Teaching Excellence Award, Electrical and Computer Engineering Department, College of Engineering at UTSA, 2006 and 2007.
 - Honorable mention paper at 2007 UTSA Engineering, Science and Business Conference, paper entitled “On the Performance of Temperature Sensors in Mobile Health Care Service” with Shilpa C. Chasalani
 - NSF panelist
 - Information Technology Research for National Priorities (ITR)
 - Scholarships in Science, Technology, Engineering, and Mathematics (S-STEM)
 - Major Research Instrumentation Program (MRI),
 - Broadening Participation in Computing (BPC),
 - Presidential Awards for Excellence in Mathematics and Science (PAEMST NSC),
 - Innovative Technology Experiences for Student and Teachers (ITEST)
 - The Transforming Undergraduate Education in Science Technology (TUES)
 - National Selection Committee (NSC) review panel for Presidential Awards Excellence in Mathematics and Science Teaching (PAEMST), J
 - U.S. Department of Commerce (NTIA) “Broadband Technology Opportunity Program”, Reviewer, Oct. 2009.
 - U.S. Department of Energy, Nuclear Energy University Programs, Reviewer, April 2010, March 2011, November 2011, March 2012.
 - Air Force Summer Faculty Fellowship Program Review Panel, Friday, January 8, 2010 and, Jan. 2012.
 - Nominated as an Expert on Electronics and Telecommunication for the Romanian National Research Council, September 2010 and September 2011.
 - “Traian Lalescu”, Award for Best Student in Mathematics, student mathematical contest 1977 and 1978.
 - Professional listings in:
 - Who’s Who in American Education (2006)
 - Who’s who in America (2005, 2011)
 - Who’s who in the World (2005)
 - Department of Energy Office of Science reviewer PAMS, April 27, 2017, April 2018.

Research Interests:

- Artificial Intelligence and Machine Learning
- Cybersecurity: Anomaly detection, Detection of Low-Rate Denial of Service Attacks, Intrusion Detection, Information Visualization.
- Information Theory, Digital Communications, Wireless Sensor Networks, Wireless Communications.
- Game theory,
- Numerical Analysis, Statistics and Applied Mathematics, Biomedical Applications.

Affiliations

- Institute of Electrical and Electronics Engineers (IEEE):
 - IEEE Information Theory Society, Communication Society, Computer Society
 - IEEE 802 Standard Committee
 - IEEE Systems, Man, and Cybernetics Society
 - IEEE Washington DC, Joint Communications, and Signal Processing Chapter.
 - IEEE Transmission, Access and Optical System Technical Committee.
- American Society for Engineering Education (ASEE), since 2010
- Sigma Xi, The Alamo chapter (2008)
- Society for Industrial and Applied Mathematics (SIAM, 1998).
- Eta Kappa Nu (HKN) Electrical and Computer Engineering Honor Society (since 1998)
- National Society of Professional Engineers (2010).
- International Consortium on System of Systems (ICSoS), (since 2006).
- Order of the Engineers (since 2006).
- American Association for the Advancement of Science (since 2018)
- Washington Academy of Sciences (since 2018)
- Philosophical Society of Washington 9PSW (since 2024).

Research Funding and Grants

A. External Research Grants Awarded (chronological order)

- [1] **Co-PI: Paul Cotae**-*National Scientific Foundation* - NSF 23-598 Historically Black Colleges and Universities - Excellence in Research, (HBCU EiR) Award #2401880 “*Machine Learning and Deep Learning Algorithms for Standoff Detection of Threat Chemicals by Active Infrared Backscatter Hyperspectral Imaging*”
 Period: September 1st 2024 – August 31st, 2027
 PI: Dr. Nian Zhang, The University of the District of Columbia (**\$720,000.00**).
- [2] **PI: Paul Cotae** -*ARLIS*- Pilot Projects for the Intelligence & Security University Research Enterprise (INSURE) Academic Consortia Award No. #95111-Z9634203 “*Machine Learning Experimentation*”
 Period: August 21, 2021 - July 22, 2022 (**\$300,000.00**)
- [3] **PI: Paul Cotae** (sole) –*Army Research Office (ARO)*- Department of Defense (DoD) Research and Educational Program for Historically Black Colleges, Universities, and Minority Serving Institutions (MBCU/MSI) –Award No. W911NF-15-1-0481: “*Performance Data-Driven Methods and Tools for Computer Network Defense through Network Science*”,
 Period: August 21, 2015- August 21, 2019 (**\$594,755.00**).
- [4] **PI: Paul Cotae** (sole) –*Office of Naval Research* - Department of Defense (DoD) Research and Educational Program for Historically Black Colleges, Universities, and Minority Serving Institutions (MBCU/MSI) -Award no. W911NF-11-1-0144 “*Information-Driven Blind Doppler Shift Estimation and Compensations Methods for Underwater Wireless Sensor Networks*”
 Period: April 6, 2011- April 14, 2015 (**\$424,631.00**).
- [5] **PI: Paul Cotae** (sole) – *NASA* - “*Structured Query Language (SQL) Database Development for Anomaly Detection Applications*”
 Period: May 1st - August 18, 2017 (**\$14,783.38**).

- [6] **Co-PI: Paul Cotae** -National Scientific Foundation- Award No. HRD-1036293: Targeted Infusion Grant: *Development of Courses in Renewable Energy in Support of a Renewable Energy Engineering Curriculum*
 Period: September 1, 2010 - August 31, 2013.
 PI: Dr. Esther Ososanya, University of the District of Columbia (**\$299,772.00**).
- [7] **Co-PI: Paul Cotae** -National Scientific Foundation- Award No. CMMI-0940393: EARly-concept Grants for Exploratory Research (EAGER) “*Environmental Urban Runoff Monitoring*”
 Period: July 1, 2009 - December 31, 2011.
 PI: Dr. Byunggu Yu, University of the District of Columbia (**\$100,000.00**).
- [8] **Co-PI: Paul Cotae** -Department of Defense (DOD): Infrastructure Support for Historically Black Colleges and Universities and Minority Institutions (HBCU/MI) - Award No. 54484-RT-ISP “*Uninterruptible Military, Network-Centric Communications Employing Power Generation from Engineered Military Fabrics*”
 Period: September 1, 2008 - August 31, 2011.
 PI: Dr. Arturo Ayon, University of Texas at San Antonio (**\$700,000.00**).
- [9] **PI: Paul Cotae** – National Scientific Foundation – Award No. IIP-073885, Industry/University Cooperative Research Centers Program (I/UCRC): *Embedded Wireless Sensor Network Site Center E-WiSNET*. The proposed UTSA site center is led by Embedded System Center at Arizona State University, Center Director at ASU: Prof. Sarma Vrushali.
 Period: September 1, 2007 - August 31, 2008 (**\$10,000.00**).
- [10] **Co-PI: Paul Cotae** – Texas Higher Education Coordinating Board – Engineering Core Curriculum *Redesign for Increasing Preparedness and Retention*.
 Period: September 1, 2007 – August 31, 2008.
 PI: Dr. Mauli Agrawal, the Dean of College of Engineering, UTSA. (**\$264,900.00**)
- [11] **Co-PI: Paul Cotae** – Air Force Office of Scientific Research – Project FA 9550-04-1-0254: *Innovative Methods for Engine Health Monitoring*.
 Period: June 1, 2004 – November 30, 2006.
 PI: Dr. Philip Chen, (**\$973,000.00**).
- [12] **PI: Paul Cotae** – United States Air Force – Project USAF 97–095: *High Gain Portable GPS Antenna Array for Ionospheric Monitoring*. Navsys Corp., Colorado Springs, CO.
 Period: May 15, 1997-May 15, 1998. (**\$70,000.00**).

B. Internal Research Grants Awarded

- [1] **PI: Paul Cotae**, “*Acoustic Multichannel Underwater Data Acquisition System*” University of the District of Columbia, Seed Grant.
 Period: January 2010-August 2010. (**\$3,500.00**)
- [2] **PI: Paul Cotae**, “*Membership Development Support Grant*” at the University of the District of Columbia, IEEE ComSoc Society.
 Period: May, 2009 – December 31, 2009. (**\$1,000.00**).
- [3] **PI: Paul Cotae**, – University of Texas at San Antonio – Research Start-up Grant.
 Period: November 1, 2001 - May 15, 2003. (**\$15,000.00**).
- [4] **PI: Paul Cotae**, – University of Texas at San Antonio – *New Technology for High Speed Wireless Communications over Internet*. Period: October 15, 2004 - May 15, 2005.
 2004 UTSA Faculty Research Award. (**\$5,000.00**).
- [5] **\$1500** – University of Texas at San Antonio – Louis Stokes Alliances for Minority Participation Program (LSAMP), NSF Grant (**participant**): *Methods for Minimizing the Total Square Correlation for Code Division Multiple Access Systems*, UTSA May 2002.

Books and Contributions

- B1. Paul Cotae, *The Theory of Digital Communication Systems*, (ISBN 973-9178-60-X.) “Gh. Asachi” Publishing, Iasi, 1998, ISBN 973-9178-60-X.
- B2. Paul Cotae, *Digital Communication (Part I: Digital Modulation)*, Technical University “Gh. Asachi”, Publishing House, Iassy, 1992.
- B3. Nicolae Dumitru Alexandru, Paul Cotae, *Data Transmission*, Technical University “Gh. Asachi” Publishing House, Iassy, 1987.
- B4. Nicolae Dumitru Alexandru, Paul Cotae, *Modern Communication Systems* Technical University “Gh. Asachi” Publishing House, Iassy, 1989.
- B5. Nicolae Dumitru Alexandru, Paul Cotae, *Modern Communication Systems* (laboratory guide) Technical University “Gh Asachi” Publishing House, Iassy, 1989.

LIST OF PUBLICATIONS

Refereed Journals Papers

- J1. Qorib, Miftahul, Timothy Oladunni, Max Denis, Esther Ososanya, and Paul Cotae. "COVID-19 Vaccine Hesitancy: A Global Public Health and Risk Modelling Framework Using an Environmental Deep Neural Network, Sentiment Classification with Text Mining and Emotional Reactions from COVID-19 Vaccination Tweets." *International Journal of Environmental Research and Public Health* 20, no. 10 (2023): 5803. <https://doi.org/10.3390/ijerph20105803>
- J2. Alexander-Reindorf, N.E. and Paul Cotae, 2023. Collaborative Cost Multi-Agent Decision-Making Algorithm with Factored-Value Monte Carlo Tree Search and Max-Plus. *Games* 2023, 14(6), 75; <https://doi.org/10.3390/g14060075>
- J3. Qorib, Miftahul, Timothy Oladunni, Max Denis, Esther Ososanya, and Paul Cotae. "Covid-19 vaccine hesitancy: Text mining, sentiment analysis and machine learning on COVID-19 vaccination Twitter dataset." *Expert Systems with Applications* 212 (2023): 118715. <https://doi.org/10.1016/j.eswa.2022.118715>
- J4. Temechu Girma Zewdie, Anteneh Tadesse, Paul Cotae, “Malware detection framework in cyber-physical systems using Artificial Intelligence - Machine Learning” *Issues in Information Systems* Volume 23, Issue 1, pp. 316-332, 2022, DOI: https://doi.org/10.48009/1_iis_2022_126
- J5. Zewdie, T.G., Girma, A., Cotae, P. (2022). Ransomware Attack Detection on the Internet of Things Using Machine Learning Algorithm. In: Chen, J.Y.C., Fragomeni, G., Degen, H., Ntoa, S. (eds) HCI International 2022 – Late Breaking Papers: Interacting with eXtended Reality and Artificial Intelligence. HCII 2022. Lecture Notes in Computer Science, vol 13518. Springer, Cham. https://doi.org/10.1007/978-3-031-21707-4_43
- J6. Nii-Emil Alexander Reindorf and Paul Cotae, “Using Counterfactual Regret Minimization and Monte Carlo Tree Search for Cybersecurity Threats”, *Journal of Computer Science and Information Technology*, June 2021, Vol.9, No.1, pp 13-22, DOI: 10.15640/jcsit.v9n1a2 URL: <https://doi.org/10.15640/jcsit.v9n1a2>
- J7. Paul Cotae, Mahmoud Elsayed "On the Performance and Modulation Techniques of Underwater Acoustic Sensors Network". *Transaction on Techniques in STEM Education*, Vol. 3, pp. 11-20, ISSN: 2381-649X January -September, 2018.

- J8. Rashed Rabie and Paul Cotaе, “Network Congestion Control and Low Rate Denial of Service Attacks” *Transaction on Techniques in STEM Education*, Vol.2, No.3, pp.91-99, ISSN: 2381-649X April - June 2017.
- J9. Paul Cotaе, Myong Kang, Alexander Velasquez, “Detection of the Distributed New Shrew Attacks” *MTA REVIEW*, Vol. XXVI, No. 3, pp 191-210 Sept 2016.
- J10. Mehdi Shadaram, Paul Cotaе, Catalin Lacatus,” Introduction to the Special Issue on “Wireless systems: Modeling, monitoring, transmission, performance evaluation and optimization”, (Guest Editorial), *International Journal on Computers and Electrical Engineering*, Vol.39, issue 6, pp.1585-1586, Aug. 2013.
- J11. Ira S. Moskowitz, Paul Cotaе, Myong H. Kang, Pedro N. Safier, ”Capacity Approximations for a Deterministic MIMO Channel”, *Advances in Electrical and Computer Engineering*, Vol. 11, no. 1, pp. 3-10. Sept. 2011, (1 citation).
- J12. Paul Cotaе, “Stackelberg Strategies for Transmitter and Jammer in Multipath Multicellular Synchronous DS-CDMA Systems”, *Military Technical Academy Review*, no.1/2009, vol. XIX, ISSN 1443-3391, pp. 77- 86, March 2009.
- J13. Paul Cotaе, Sireesha Yalamanchili, C.L. Philip Chen, Arturo Ayon, “Optimization of sensor locations and sensitivity analysis for engine health monitoring using minimum interference algorithms”, *EURASIP Journal on Advances in Signal Processing*, vol. 2008, Article ID 280346, 9 pages, doi:10.1155/2008/280346, Jan. 2008, (5 citations).
- J14. E. Serpedin, H. Li, A. Dogandzic, H. Dai and Paul Cotaе, “Distributed Signal Processing Techniques for Wireless Sensor Networks”(editorial), *EURASIP Journal on Advances in Signal Processing*, vol. 2008, Article ID 540176, 2 pages, doi:10.1155/2008/540176, Jan. 2008.
- J15. Paul Cotaе, “On the Optimal Sequences and Total Weighted Square Correlation of Synchronous CDMA Systems in Multipath Channels” *IEEE Transactions on Vehicular Technology*, vol. 56, no.4, pp. 2063-2072, July 2007, (11 citations).
- J16. Paul Cotaе, “A Joint Design of Complex Signatures Sets for Multicellular Synchronous CDMA Network” *Journal of Communication and Information Systems (Joint IEEE ComSoc Special Issue and JBTS)*, vol. 21, no.3, pp.146-155, Dec. 2006, (1 citation).
- J17. Paul Cotaе, “Transmitter Adaptation Algorithm for Multicellular Synchronous CDMA Systems with Multipath” *IEEE Journal of Selected Areas in Communications (Special Issue on Next Generation CDMA Technologies)*, vol.24, no.1, pp.94-103, Jan.2006, (20 citations).
- J18. Paul Cotaе, Matthew Aguirre, “On the Construction of the Unit Tight Frames in Code Division Multiple Access Systems under Total Squared Correlation Criterion”, *International Journal of Electronics an Communication (AEU)*, vol.60, no.10, pp. 724-734, Nov. 2006.
- J19. Paul Cotaе, Matthew Aguirre, ”Method for Minimizing Total Generalized Squared Correlation of Synchronous DS-CDMA Signature Sequence Sets in Multipath Channels” *Journal of Communications Software and Systems, JCOMSS, (Special Issue on Future Wireless Systems, endorsed by IEEE ComSoc)*, vol.2, no.1, pp.20-29, March 2006.
- J20. Paul Cotaе, Matthew Aguirre, Mehdi Shadaram “Characterization of Sum Capacity of Overloaded S-CDMA” *Military Technical Academy Review, (Best Paper Selected at the 6th IEEE International Conference Communications 2006)* no.1/2006, pp.29-38, ISSN 1453-259X, Dec. 2006.

- J21. Paul Cotae, “Multicell Spreading Sequence Design Algorithm for Overloaded S-CDMA” *IEEE Communication Letters*, Vol.9, No.12, pp.1038-1030. Dec.2005. (15 citations).
- J22. Paul Cotae, “Spreading Sequence Design for Multiple-Cell Synchronous DS-CDMA Systems under Total Weighted Squared Correlation Criterion”, *EURASIP Journal on Wireless Communications and Networking (Special Issue on Innovative Signal Transmission and Detection Techniques for Next Generation Cellular CDMA Systems)* vol. 2004, no.1, pp. 4-11, Aug. 2004. (10 citations).
- J23. Paul Cotae, “An Algorithm for Obtaining Welch Bound Equality Sequences for S-CDMA Channels”, *International Journal of Electronics and Communication (AEU)*, vol. 55, no.1, pp. 1-5, March 2001.(25 citations).
- J24. Paul Cotae, Diaconu Felix, “On Generalized Welch Multisets Sequences for Synchronous-CDMA Channels” *Acta Tehnica Napocensis (Electronics and Telecommunications)*, vol. 40, no.2, pp.13-16, 2000.
- J25. Paul Cotae, ”Power Spectral Density of M-ary PSK with Various Shaping Functions” *Bulletin of Technical University ” Gh. Asachi” of Iassy*, vol. XLII (XLVI), Fasc. 1-2, pp. 43-51, 1996.
- J26. Paul Cotae, Daniela Tarniceriu, “Comparison of Performances of Digital Modulation Techniques Using Causal Band limiting Filters”, *Bulletin of Technical University ” Gh. Asachi” of Iassy*, Vol. XLI (XLV), Fasc. 3-4, pp. 53-58, 1995.
- J27. Paul Cotae, ”Method to Calculate Power Spectral Density of Digital Frequency Modulation with Correlated Data Symbols”, *Bulletin of Technical University ” Gh. Asachi” of Iassy*, 1994, Vol. XLI (XLIV), Fasc. 1-4, pp. 31-37. 1994.
- J28. Paul Cotae, Nicolae Dumitru Alexandru, ”Some General Remarks on Smoothed Shaping Functions” *Bulletin of Technical University ” Gh. Asachi” of Iassy*, 1993, Vol. XXXIX (XLIII), Fasc 1-4, pp.39-44, 1993.
- J29. Paul Cotae, Nicolae Dumitru Alexandru, ”Performances Evaluation of Spectral Bandwidth of Some Typical Constant Envelope Signaling waveforms Used in Digital FM” *Bulletin of Technical University ”Gh. Asachi” of Iassy*, Vol., XXXIX (XLIII), Fasc 1-4, pp. 17-25. 1992.
- J30. Paul Cotae, Nicolae Dumitru Alexandru, “Spectral Width of MSK Type Signaling Waveforms”, *Bulletin of Technical University” Gh. Asachi” of Iassy*, Vol. XXXIX (XLIII), Fasc 1-4, pp. 58-61, 1991.
- J31. Paul Cotae, Nicolae Dumitru Alexandru, “A Class of Generalized Constant Envelope Shaping Functions ”, *International Journal of Electronics and Communication (AEU)*, vol. 46, no.2, pp. 102-106, 1991. (3 citations).
- J32. Valeriu Munteanu, Paul Cotae,” The Entropy with Preference” *International Journal of Electronics and Communication (AEU)*, vol. 46, no.6, pp. 429-431, 1991.
- J33. Nicolae Dumitru Alexandru, Paul Cotae, “A simplified Decoder for Miller Coded Data“ *Bulletin of Technical University ” Gh. Asachi” of Iassy*, 1994, Vol. XL (XLIV), Fasc 1-4, pp. 87-90, 1991.
- J34. Nicolae Dumitru Alexandru, Liliana Alexandru, Paul Cotae, “About Biphasic Decoding” *Bulletin of Technical University” Gh. Asachi” of Iassy*, Vol. XXXIV (XXXVII), Fasc 1-4, pp. 43-46, 1991.

Papers in Refereed Conference Proceedings

- C1. Paul Cotae, N. E. A. Reindorf, M. Kang and A. Velazquez, "Work-in-Progress: A Hybrid Collaborative Multi Agent Decision Making Algorithm with Factored-Value Max-Plus," *2023 IEEE International Black Sea Conference on Communications and Networking (BlackSeaCom)*, Istanbul, Turkiye, 2023, pp. 438-443, doi: 10.1109/BlackSeaCom58138.2023.10299698.
- C2. Paul Cotae, Myong Kang and Alexander Velazquez, "A Scalable Real-Time Distributed Multiagent Decision Making Algorithm with Cost," *2022 IEEE 19th Annual Consumer Communications & Networking Conference (CCNC)*, 2022, pp. 745-746, doi: 10.1109/CCNC49033.2022.9700566.
- C3. Paul Cotae, Myong Kang and Alexander Velazquez, "A Scalable Real-Time Multiagent Decision Making Algorithm with Cost," *2021 IEEE Symposium on Computers and Communications (ISCC)*, 2021, pp. 1-6, doi: 10.1109/ISCC53001.2021.9631510.
- C4. Paul Cotae and N. E. A. Reindorf, "Using Counterfactual Regret Minimization and Monte Carlo Tree Search for Cybersecurity Threats," *2021 IEEE International Black Sea Conference on Communications and Networking (BlackSeaCom)*, 2021, pp. 1-6, doi: 10.1109/BlackSeaCom52164.2021.9527857.
- C5. Paul Cotae, Myong Kang and Alexander Velazquez, "A Cybersecurity Model for Decision-Making Problems Under Uncertainty Using Game Theory," *2020 13th International Conference on Communications (COMM)*, Bucharest, Romania, 2020, pp. 15-22, doi: 10.1109/COMM48946.2020.9141991.
- C6. Osman Ali, Paul Cotae, "Towards DoS/DDoS Attack Detection Using Artificial Neural Networks" *Proceedings of the IEEE UEMCON - 2018*, Columbia University 8th -10th November 2018, pp. 227 – 232, Nov. 2018, 10.1109/UEMCON.2018.8796637
- C7. Paul Cotae, Rashed Rabie "On a Game Theoretic Approach to Detect the Low-Rate Denial of Service Attacks", *IEEE COMM2018, the 12th International Conference on Communication (COMM)*, Bucharest Romania, 14-16 June, pp. 19-26, 2018. DOI: 10.1109/ICComm.2018.8429980
- C8. Yasser Salem, Paul Cotae, "Analysis of Distributed Denial Service Attacks Detection Using Fisher Statistical Methods" 2018 ASEE Mid-Atlantic Fall Conference, BTHS, New York, Brooklyn October 26-27, 2018.
- C9. Mohamed Alshaer, Paul Cotae, "On Identifying the Critical Nodes and Vulnerable Edges for Increasing Network Security", *ASEE St. Lawrence Conference at Cornell University*, 20-21 April 2018.
- C10. Luis Aguinaga, Paul Cotae "Node Centrality and Ranking Tool" *2018 ASEE Mid-Atlantic Spring Conference*, University of the District of Columbia, April 6-7, 2018.
- C11. Yasser Salem, Paul Cotae "Analysis of Low Rate of Denial of Service Attacks Detection by Using Fisher Methods", *2018 ASEE Mid-Atlantic Spring Conference*, University of the District of Columbia, April 6-7, 2018.

- C12. Dilnesa Nukuro, Nguyen Quoc, and Paul Cotae, “The importance of protecting vulnerability to improve the robustness of network”, *2018 ASEE Mid-Atlantic Spring Conference*, University of the District of Columbia, April 6-7, 2018.
- C13. Rashed Rabie, Paul Cotae “Network Congestion Protocol and Low Rate Denial of Service Attacks”, *Proceedings ASEE 2017 Gulf Southwest Annual Conference* at Erik Jonsson School of Engineering and Computer Science at UT Dallas, March 12-14, 2017.
- C14. Paul Cotae, Myong Kang and Alexander Velazquez “Spectral Analysis of Low Rate of Denial of Service Attacks Detection based on Fisher and Siegel Tests” *IEEE ICC International Conference of Communications, Communication and Information Security Symposium*, Kuala Lumpur, Malaysia, DOI: [10.1109/ICC.2016.7510884](https://doi.org/10.1109/ICC.2016.7510884), pp. 1-6, May 2016.
- C15. Paul Cotae, Myong Kang and Alexander Velazquez “Multiple Time Series Fisher Periodicity Test for the Detection of the Distributed New Shrew Attacks” *IEEE COMM2016, the 11th International Conference on Communication (COMM)*, Bucharest Romania, [10.1109/ICComm.2016.7528307](https://doi.org/10.1109/ICComm.2016.7528307) , pp. 9-14, June 2016.
- C16. Paul Cotae, Mahmoud Elsayed, and Ira S. Moskowitz “On the Performance of Underwater Acoustic Sensor Networks: An Experimental Approach” *ASEE 2016 St. Lawrence Section* at Cornell University, April 6-8, 2016.
- C17. Mahmoud Elsayed and Paul Cotae, “On The Performance and Modulation Techniques of Underwater Acoustic Sensors Network: Work in Progress”, *Proceedings of the ASEE Gulf-Southwest Annual Conference*, the University of Texas at San Antonio, San Antonio, Texas, USA, pp.1-10.March 25-27, 2015.
- C18. Mahmoud Elsayed, Paul Cotae and Ira S. Moskowitz “On the Performance of the Underwater Wireless Sensor Networks: An Experimental Approach” *ASEE 2015 North-East Section Regional Conference, April 30 - May 2, 2015*, Northeastern University, Boston, Massachusetts, USA, April 30 - May 2, pp.1-6, 2015
- C19. Paul Cotae, Suresh Regmi and Ira S. Moskowitz, “Non-Data Aided Doppler Shift Estimation for Underwater Acoustic Communication” (invited paper), *IEEE 10th International Conference on Communication (COMM)*, May 29-31, Bucharest Romania, pp.1-6, 2014.
- C20. Mahmoud Elsayed and Paul Cotae, “On the Performance of the Underwater Wireless Communication Sensor Networks: Work in Progress” *ASEE Mid-Atlantic Fall 2014 Conference, Swarthmore College*, Swarthmore, PA, USA, November 14- 15, 2014.
- C21. Hadis Dashtestani , Paul Cotae, Ira S. Moskowitz, ”Joint Optimal Placement and Energy Allocation of Underwater Sensors in a Tree Topology “, *Proceedings of the IEEE 48th Annual Conference on Information Sciences and Systems - CISS 2014*, Princeton University, March 19 – 21,pp. 1-6, March 2014.
- C22. Raju Shrestha and Paul Cotae, On the Mutual Information of Sensor Networks in Underwater Wireless Communication: An Experimental Approach”, *ASEE 2014 Zone I Conference*, April 3-5, 2014, University of Bridgeport, Bridgeport, CT, USA.
- C23. Daniel Gebremicheal, Paul Cotae, “On the probability of Error of Threshold Devices” *ASEE 2014 Zone I Conference*, April 3-5, 2014, University of Bridgeport, Bridgeport, CT, USA.

- C24. Raju Shrestha and Paul Cotae, “On the Mutual Information of the Moving Targets in Underwater Wireless Communication” *Proceedings of the Fall 2013 Mid-Atlantic Section Conference of the American Society of Engineering Education (ASEE)*, (online), The University of the District of Columbia, Washington DC, Oct 11-12, 2013.
- C25. Daniel Gebremicheal and Paul Cotae” On the Probability of Error for Threshold Binary - Input Ternary – Output Discrete Memoryless Channels ” *Proceedings of the Fall 2013 Mid-Atlantic Section Conference of the American Society of Engineering Education (ASEE)*, (online), The University of the District of Columbia, Washington DC, Oct 11-12, 2013.
- C26. Birajan Singh Bista and Paul Cotae, “On the Filter Design for Underwater Communication Channel”, *Proceedings of the Fall 2013 Mid-Atlantic Section Conference of the American Society of Engineering Education (ASEE)*, (online), The University of the District of Columbia, Washington DC, Oct 11-12, 2013.
- C27. Ira S. Moskowitz, Pedro N. Safier Paul Cotae, “Algebraic Information Theory and Kosko’s Forbidden Interval Theorem”, *Proceedings of the IASTED International Conference Advances in Computer Science (ACS)*, April 10-12, 2013 Phuket Thailand, DOI: 10.2316/P.2013.801-053, pp.337-343, April 2013.
- C28. Abayomi Dairo, Nikola Jovic and Paul Cotae,” Low Cost Frequency Shift Keying Acoustic Modem for Underwater Wireless Sensor Networks ”, *Proceedings of the Spring 2013 Mid-Atlantic Section Conference of the American Society of Engineering Education (ASEE)*, New York City College of Technology, April 26-27, pp.36-46, April 2013.
- C29. Hadis Dashtestani, Paul Cotae and Ira S. Moskowitz, “On the Optimal Placement of Underwater Sensors in a Tree Shaped Multi-hop Hierarchical Network” *Proceedings of the IEEE 47th Annual Conference on Information Sciences and Systems - CISS 2013*, John Hopkins University, March 21-22, pp.1-6, March 2013.
- C30. Roland Kamdem, Ira S. Moskowitz, Paul Cotae,” Threshold Based Stochastic Resonance for the Binary-Input Ternary-Output Discrete Memoryless Channels”, *Proceedings of Seventh IASTED International Conference, Communication, Internet, and Information Technology (CIIT 2012)*, Baltimore 14-16 May, DOI: 10.2316/P.2012.773-041, pp. 398-404, May 2012.
- C31. Ira S. Moskowitz, Paul Cotae, Pedro Safier ”Algebraic information theory and stochastic resonance for binary-input binary-output channels “, *Proceedings of the IEEE 46th Annual Conference on Information Sciences and Systems - CISS 2012*, Princeton University, March 21 – 23, pp. 1-6, March 2012.
- C32. Ira S Moskowitz, Paul Cotae, Pedro Safier and Daniel Kang ”Capacity Bounds and Stochastic Resonance for Binary Input Binary Output Channels”, *Proceedings of the IEEE ComCompAp 2012*, Hong Kong, China, January 11-13, pp. 61-66, Jan. 2012, (1 citation).
- C33. Nikola Jovic, Abayomi Dairo, Ashenafi Tesfaye, Aime Valere, Yannick Roland Kamdem, Sasan Haghani and Paul Cotae “Detecting Falls Among Elderly Patients in Nursing Homes by Using Wireless Sensor Networks”, *Proceedings of the ASEE MidAtlantic Section Fall Conference 2011* (Hosted by College of Engineering, Temple University, Philadelphia), pp. 422 -431, Oct. 2011.
- C34. Pedro N. Safier, Ira S. Moskowitz, and Paul Cotae “On the Baseband Communication Performance of Physical Layer Steganography”, *Proceedings IEEE 45th Annual Conference on Information Sciences and Systems–CISS 2011*, John Hopkins University, March 23 – 25, pp.1-6, March 2011.

- C35. Paul Cotae and Ira S. Moskowitz, “On the Partial Ordering of the Discrete Memoryless Channels Arising in Cooperative Sensor Networks”, *Proceedings of 4th International Conference on New Technologies, Mobility and Security*, NTMS’2011, Paris, France, February 7-10, pp.1-6, 2011, (1 citation).
- C36. Paul Cotae, T.C. Yang,” A Cyclostationary Blind Doppler Estimation Method for Underwater Acoustic Communications using Direct-Sequence Spread Spectrum Signals”, *Proceedings of the 8th International Conference COMMUNICATION 2010* , Bucharest, Romania, June 10-12, pp. 323-326, Jun. 2010.
- C37. Byunggu Yu, Pradeep K. Behera, Seon Ho Kim, Paul Cotae, Juan F. Ramirez Rochac, Travis Branham. “Environmental urban runoff monitoring” *SPIE Conference on Sensors and Smart Structures Technologies for Civil, Mechanical, and Aerospace Systems*, Proc. SPIE, Vol. 7647, 764748, March 2010; doi:10.1117/12.847308.
- C38. Paul Cotae, Ira S. Moskowitz and Myong H. Kang, ”Eigenvalue Characterization of the Capacity of Discrete Memoryless Channels with Invertible Channel Matrices,” *Proceedings IEEE 44th Annual Conference on Information Sciences and Systems-CISS 2010*, Princeton University, March 17 – 19, pp.1-6, March 2010, (2 citations).
- C39. Ira S. Moskowitz, Paul Cotae and Daniel D. Kang,” Channel Capacity Behavior for Simple Models of Optical Fiber Communications” *Proceedings of the 8th International Conference COMMUNICATION 2010* , Bucharest, Romania, June 10-12, pp.199-202, Jun. 2010.
- C40. Paul Cotae, Esther Ososanya, Lily Kemathe, Suresh Regmi and Kamden Patrice Kouam “AC 2010-2417 Work in Progress: Teaching Wireless Sensor Network Communication through Laboratory Experiments”, *ASEE/Annual Conference 2010*, Louisville, Kentucky, June 2010.
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Conference paper under review

1. “Imbalanced Data Classification Using Transfer Learning and Oversampling”, N. Zhang, Sougre-Nonma (Stephanie) Rouamba ans Paul Cotae submitted to ICICIP2025

Invited Talks

1. “Game Theoretic Minimization of the Total Weighted Squared Correlation in Multipath Multicell Synchronous DS-CDMA Systems”
The University of Texas at Austin, *The General Motors Wireless Networking and Communication Seminar*, March 23, 2007.
Host: Prof. Sriram Viswanath.
2. “Total Weighted Squared Correlation Criterion of DS-CDMA Systems in Multipath Environment”
Rice University, Center for Multimedia Communications, *The Electrical and Computer Engineering Colloquium Series*, Oct, 14, 2004,
Host: Prof. Behnaam Aazhang.
3. “Total Weighted Squared Correlation Criterion of DS-CDMA Systems in Multipath”
The University of Texas at Austin, *The General Motors Wireless Networking and Communication Seminar*, April 23, 2004.
Host: Prof. R.W. Heath, Jr.
4. “Real Valued Signal Multisets Design of Multibase DS-CDMA Systems under Total Weighted Squared Correlation Criterion”
Texas A&M University, *Telecommunications & Signal Processing Seminar*, April 15, 2004
Host: Prof. Costas Georghiades.
5. “Metric for Transmitter Adaptation in Wireless Mobile CDMA Systems Beyond 3rd Generation”
University of Houston, *Texas System Day*, Nov 13, 2004,

- Host: Prof. Richard Barton.
6. “Embedded Site Center at University of Texas at San Antonio”
Arizona State University, *I/UCRC Planning Meeting for Embedded Systems*, Tempe Courtyard Marriott, June 11, 2007.
Host: Prof. Sarma Vrudhula
 7. “Medical Embedded Systems”
Southern Illinois University- Carbondale, Marriott St. Louis Airport, *NSF I/UCRC on Embedded Systems*, December 4, 2007.
Host: Prof. Spyros Tragoudas
 8. “Continuous health monitoring using wearable finger ring biosensors”
The University of North Texas, *I/UCRC NSF Meeting*, February 20, 2008.
Host: Prof. Krishna M. Kavi
 9. “Total Weighted Squared Correlation of Multipath Multicellular Synchronous DS-CDMA Systems”
The University of the District of Columbia, Washington DC, April 14, 2008.
Host: Prof. Samuel Lakeou
 10. “Total Weighted Squared Correlation of Multicellular CDMA Systems in Multipath Environment”
The University of Akron, May 1, 2008.
Host: Prof. Joan Carletta
 11. “Optimal Sequence Design for Multicellular CDMA Systems in Multipath Environment”
Naval Research Laboratory, Acoustic Division, Washington DC, October 9, 2008.
Host: Dr. T.C. Yang.
 12. “Total Weighted Squared Correlation of Multicellular CDMA Systems in Multipath Environment”
Technical University of Iassy, November 28, 2008.
Host: Prof. Ion Bogdan
 13. “Communication and Networking a Biological Approach”
Technical University of Iassy, May 20, 2009.
Host: Prof. Ion Bogdan
 14. “Design and Applications of a Distributed and Scalable Underwater Wireless Sensor Acoustic Networks”
Military Technical Academy, Oct 14, 2009.
Host: Prof. Alexandru Serbanescu
 15. “Design of the Underwater Wireless Sensor Acoustic Networks”
IEEE Washington DC Communications Society, Nov. 7, 2009.
Host: Debbie Siering, Chair of the IEEE Washington DC Communication Society, Auditorium A03, Building 41 at the University of the District of Columbia.
 16. “Eigenvalue Characterization of the Sum Capacity of Multi-user MIMO Multiple Access Channels”
Technical University of Iassy, June 7, 2010.
Host: Prof. Ion Bogdan
 17. “Non Data Aided Time Phase Recovery Methods for Underwater Communications”
University of Macao, Faculty of Science and Technology, Department of Electrical and Computer Engineering, January 12, 2012.
Host: Prof. Kam Weng Tam
 18. “Partial Ordering and Stochastic Resonance for Discrete Memoryless Channels”
Technical University of Iassy, May 24, 2012.
Host: Prof. Ioan Bogdan
Universitatea Stefan Cel Mare, Suceava, May 28, 2012.
Host: Prof. Valentin Popa
 19. “Non-Data Aided Doppler Shift Estimation and Detection for Underwater Moving Targets -A Practical Approach”
Technical University of Iassy, May 29, 2013.
Host: Prof. Ioan Bogdan

20. “Information theoretic and statistical methods to detect the Low and Slow Rate of Denial of Service Attacks”
IEEE DC Section, Information Theory Chapter, Oct 2017
Host: James A. Christian
21. “Artificial Intelligence (AI) and Machine Learning (ML) challenges and integration to ECE Curricula”
ECEDHA Conference, Tucson Arizona, March 18
Host: Dr. Michael Devesikiotis

Plenary Speaker

1. “Non Data Aided Time Phase Recovery Methods for Underwater Communications”
Shri Ramdeobaba College of Engineering&Management, Nagpur, India 09-11 January, 2014
Host: Prof. A.A. Khurshid, Conference Chair (ICESC-2-14)
2. “Non-Data Aided Doppler Shift Estimation for Underwater Acoustic Communication”
IEEE 10th International Conference on Communication , (plenary speaker) May 29-31, Bucharest Romania, Politechnica Universty, 2014.
Host: Prof. Victor Croitoru, Conference Chair (COMM 2014)
3. “Multiple Time Series Fisher Periodicity Test for the Detection of the Distributed New Shrew Attacks” *IEEE 11th International Conference on Communication*, (plenary speaker) June 9-11, Palace of the National Military Circle, Bucharest, Romania, June 10, 2016
Host: Prof Ioan Nicolaescu , Military Technical Academy and Prof. Victor Croitoru, Conference Chairs (IEEE COMM 2016).
4. “On a Game Theoretic Approach to Detect the Low-Rate Denial of Service Attacks”
IEEE COMM2018, the 12th International Conference on Communication (COMM), Bucharest , (plenary speaker) June 14-16, Bucharest Romania, Politechnica Universty, 2018.

Undergraduate Students

- **Research Supervising**

1. Matthew Potter: "Methods for Minimizing the Total Square Correlation For Code Division Multiple Access Systems" *Louis Stokes Alliances for Minority Participation (LSAMP) Program, NSF Grant, Spring 2003.*
2. Eric A. Campos: “Enabling High Speed Internet Wireless Access at Home and Small Offices”, *Louis Stokes Alliances for Minority Participation (LSAMP) Program, NSF Grant, Spring 2004.*
3. Daniel Perez: “Solving Community Issues using Engineering Knowledge through Classroom Experiences”, *Louis Stokes Alliances for Minority Participation (LSAMP) Program, NSF Grant, Spring 2006.*
4. Ionel Toplan: “Capacity of Multibase Code Division Multiple Access Systems”. *Research for Undergraduate (REU) program funded by NSF through the University of Texas at Austin, Wireless Networking and Communication Group, May 15, 2007- July 31, 2007.*
5. Suresh Regni “High-Penetration Grid-Connected Photovoltaic System” *Xerox Fellow Presentation, SEAS, May 2010.*
6. Aziakonou Ewonou “Performances of the Modulated Signals used in Underwater Acoustic Communications”, *Xerox Fellow Presentation, SEAS, May 2010*
7. Abayomi Dairo “Tracking the Speed of Moving Source by Utilizing Acoustic Wireless Sensor Networks”, AY11-12, *Xerox Fellowship, ECE UDC, Fall 2011.*
8. Nikola Jovic “Wireless Sensor Networks”, AY11-12, *Xerox Fellowship, ECE UDC Fall 2011.*

- **Independent Study Students**

1. Garcia Christopher: *MIMO applications with multi-user detection*. Fall 2006. UTSA ECE Dept.
2. Ricardo Nieto: *The BlueStar Coexistence Method*. Summer 2007. UTSA ECE Dept.
3. Luis Rigal: *Challenges of Wireless Sensors Communications Systems*, Summer 2007. UTSA ECE Dept.
4. Robert Deaver: *Aspects of Security Involved with Networking Wireless Sensor Networks* Fall 2007 UTSA ECE Dept.,
5. Jennifer M. Wright Factor: *Denial of Service at the Physical Layer of a Wireless Sensor Network* Fall 2007 UTSA ECE Dept.

- **Senior Design Projects**

1. Pablo Carranza, Stephen Escobedo, Ghazanfer Hussain, Brad Gawlik: “*Wireless fencing scoring machine*”, UTSA ECE Dept., Spring 2004.
2. Gabriela Lira, Albert Pena, Khalil Naghdali, Noel Balderaz:” *Freescall Home Activation System*”, UTSA ECE Dept., Spring 2005.
3. Carlos Vasquez, Jose Gomez, Eduardo Zavala, Christopher Canales:” *No key left behind*”, UTSA ECE Dept., Spring 2006.
4. John Hicks, Anthony Valdillez, Jonathan Garcia, Edward Cardona, “*Development of a Deployable Vehicle Controlled by WI-FI using a Game Pad (Spycar)*”, UTSA ECE Dept., Spring 2006.
5. Nirmal Chapagai, Lavita Witterspoon, Damaine Sweeney Alvin Quarva, “*Smart Parking System*” UDC ECE Spring 2009.
6. Ewonou Aziakonou, Lily Kemathe, Patrice Kuam Kamdem, Suresh Regni, “*Wireless Medical Data Acquisition*”, UDC ECE Spring 2010.
7. Julie X. Dang, Almoustapha Riba-Tankari, “*Measurement temperature using Crossbow Devices*” UDC ECE Spring 2011.

- **Undergraduate students**

- 1) Ayele Woldemarian “*Tracking the Speed of Moving Source Underwater by Using the Acoustic Wireless Sensor Networks*” AY12-13 (supported by the DoD grant), Spring 2013.
- 2) Missi Sogbohossou “*Modulation Schemes for Underwater Acoustic Communications*” AY12-13 (supported by the DoD grant). Spring 2013.
- 3) Saroj_Tiwari and Silva Andradige “*Underwater Performances of a Wireless Sensor Network*” AY12-13 (supported by the DoD grant). Spring 2013.
- 4) Sewnet Temesgen ”*Design a Wireless Sensor Network based on Received Strength Signal Indicator*” AY12-13 (supported by the DoD grant). Spring 2012.
- 5) Nikola Jovic, Abayomi Dairo, Ashenafi Tesfaye, “*Detecting Falls among Elderly Patients in Nursing Homes by Using Wireless Sensor Networks (WSN)*”, Fall 2011, (supported by the DoD grant).
- 6) Lily Kemathe, “*Work in Progress: Teaching Wireless Sensor Network Communication through Laboratory Experiments*”. ECE Department, UDC Summer 2010.
- 7) Suresh Regni “*Underwater Communications*” ECE Department, UDC Summer 2010. (supported by the DoD grant).
- 8) Babatunde Taiwo, John Brandon and “*Data Acquisition of an Underwater Communication Network*” Spring 2012 (supported by the DoD grant).
- 9) Mahmoud El-Sayed “*Wireless GPS Tracking system with Graphical User Interface*” Spring 2012.

Graduate Students

- **Completed Doctoral Students**

1. Madhusudhan Reddy Musku: *Game Theoretic Approach to Quality of Service and Resource Management in Wireless Systems*, Ph.D Thesis, UTSA ECE Dept. Defended Aug. 2007.
2. Nii-Emil Alexander Reindorf : *Enhancing Decision Making with Counterfactual Regret Minimization Based Multi Agent Decision Planning with Monte Carlo Tree Search*. PhD Thesis, UDC SEAS, Defended Dec. 18, 2023.

- **Doctoral Thesis Committee Memberships**

1. Andres Alarcon Ramirez: *An Integrated Methodology for Object Tracking Applications under Illumination Changes* Ph.D. Thesis, Howard University, ECE Dept., Dissertation Advisor: Dr. Mohamed Chouikha, Defended November 30, 2012.
2. Miguel A. Rodriguez-Otero “*Optimal Configuration for a Grid-Tie Microgrid in Puerto Rico*” . Ph.D. Thesis, Howard University, ECE Dept., Dissertation Advisor: Dr. Charles Kim, Defended April 8, 2014.
3. Tibebe Hailemariam “*A Load Signature Blocking Algorithm against Non-Intrusive Load Profiling for Privacy Protection*”, Howard University, ECE Dept., Dissertation Advisor: Dr. Charles Kim, Defended April 23, 2014.
4. Derssie D. Mebratu “*Combination of Clustering Algorithms and Using a Bayesian Statistical Model to Maximize the Lifespan of Distributed Wireless Sensors*”, Howard University, ECE Dept., Dissertation Advisor: Dr. Charles Kim, Defended May 1, 2015.
5. Juan F. Ramirez Rochac “*Convolutional Neural Networks and Long Short-Term Memory for Hyperspectral Classification and Time Series Prediction*” SEAS, Dissertation advisor Dr. Nian Zhang, Defended UDC December 2022
6. Temechu Girma Zewdie “*The Detection of a Ransomware attack on IoT devices Deployed on Cloud Computing Environment Using Artificial Intelligence and Machine Learning*” SEAS, Dissertation advisor Dr. Anteneh Girma, Defended UDC December 2022
7. Vincent Tanoe” *The Bayesian and Non-Bayesian Models for Multi-Site Dependent Wind Farms*” SEAS, Dissertation advisor Dr. Amir Shahirinia, Defended UDC December 2022
8. Marzieh Savadkoochi,” *Pursuing Unprecedented Magnetoresistance with Magnetic tunnel Junction and SMM Monolayer based Molecular Spintronics Devices*, SEAS, Dissertation advisor Dr. Pawan Tyagi Girma, Defended UDC May 2023.

- **Completed Master Students**

1. Rashed Rabie “*A Game Theory Approach for Detection of the Low Rate Denial of Service Attacks*”, UDC ECE Department, Defended February 23rd , 2018.

2. Daniel T. Gebremichael “*On the Probability of Error and Stochastic Resonance in Discrete Memoryless Channels*”, UDC ECE Department, Defended December 20th, 2013.
3. Hadis Dashtestani *Location and Energy Optimization of Underwater Sensors in a Tree Shaped Multi-hop Hierarchical Network* UDC ECE Department, Defended May 2st, 2013.
4. Suresh Regmi *Non-Data Aided Doppler Shift Estimation and Detection for Underwater Moving Targets -A Practical Approach*, UDC ECE Department, Defended May 2st, 2013.
5. Roland Yannick Kamdem Kenmogne “*Partial Ordering and Stochastic Resonance in Discrete Memoryless Channels*”, UDC ECE Department, Defended May 1st, 2012.
6. Sireesha Yalamanchili: *Optimal Placement of Sensors in Wireless Sensor Networks*. MS Thesis, UTSA ECE Dept. Defended July 30, 2007.
7. Madhavi Adusumilli: *Wireless Sensor Networks for Continuous Health Monitoring*. MS Thesis, UTSA ECE Dept. Defended July 2007.
8. Mark Glover: *Optimal placement of nodes in wireless sensor networks with sensitivity constraints*. MS Thesis, UTSA ECE Dept. Defended Nov 2006.
9. Matthew D. Aguirre: *Optimizing the Performance of Code Division Multiple Access (CDMA) systems using total weighted squared correlation (TWSC) metric*. MS Thesis, UTSA ECE Dept. Defended Aug. 2005.
10. Hu Zhangji: *MIMO and Space Time Coding Systems: System Analysis and Simulations*. MS Thesis, UTSA ECE Dept. Defended August 2004.
11. Changgang Liu: *Research on Performance of Bluetooth Communication*. MS Thesis, UTSA ECE Dept. Defended Nov., 2003.

- **Graduate Projects**

1. Birajan Singh Bista, “*Design of FIR filter and Simulation of time varying multipath channel in Underwater Communication*” Fall 2013, ECE Department.
2. Abayomi Dairo and Nikola Jovic “*Low Cost Frequency Shift Keying Acoustic Modem for Underwater Wireless Sensor Networks*” Fall 2012, ECE Department.
3. Birajan Singh Bista” *Design of FIR filter and Simulation of time varying multipath channel in Underwater Communication*” Fall 2013, ECE Department.
4. Srujan Kumar Ayreddy: *Applications and Performance Evaluation of Wireless Sensor Network Developed by Crossbow Technology*”, Fall 2007. ECE Dept.
5. Hasitha Kotamraju “*Environmental Monitoring Using Wireless Sensor Networks*”, Fall 2007. ECE Dept.
6. Shilpa Chaithnya Chasalami ”*Performance of Temperature Sensors in Mobile Health Care Services*” Fall 2007. ECE Dept.
7. Maddineni, Sai Durga P. “*System Architecture of Wireless Sensor Networks and its Implementation for Continuous Health Monitoring*” Fall 2007. ECE Dept.

- **Independent Study Students**

1. Ravindra Akella: *Total Weighted Squared Correlation Algorithms and Interference Avoidance Methods in Multiple Base CDMA Systems*, Fall 2003.

2. Erik Henderson: *Evolution from Current Heterogeneous Wireless Networks Towards the Future Integrated-Services Multimedia Networks*, Spring 2005.
3. Jinping Tang: *Bluetooth for Engine Health Monitoring*, Spring 2005.
4. Erik Henderson: *On the Global System for Mobile Security*, (in collaboration with SBC, San Antonio), Summer 2005.
5. Madhavi Adusumilli: *Continuous health monitoring using wearable finger ring biosensors*, Summer 2006.
6. Rajana Lavanya: *Wireless sensors with applications in medical fields*, Summer 2006.
7. Sharath Triputaneni: *Technology trends in wireless communications*, Summer 2006.
8. Sireesha Yalamanchili: *Sensor placement for effective diagnosis of multiple faults*, Summer 2006.
9. Srujan Kumar Ayreddy: *Wireless sensor networks for personal health monitoring*, Fall 2006.
10. Akash Mohanty: *Wireless sensor network architectures for environment and seismic detection*, Fall 2006.
11. Lakshmana Talatam: *Energy complexity of routing protocols and techniques in wireless sensor networks*, Fall 2006.
12. Sarath Triputaneni: *Wireless sensor networks for military applications*, Fall 2006.
13. Shawgi Albess: *Network architectures for wireless sensor technologies*, Spring 2007.
14. Hasitha Kotamraju: *Applications of Wireless Sensor Networks*, Spring 2007.
15. Sai Durga P. Maddineni: *Physiological Information Acquisition Through Wireless Biomedical Sensor Networks*, Spring 2007.
16. Sowjanya Arekapudy: *Improving the Performances of Digital Receiver for 4G Wireless communication System by using Advanced Algorithms*, Summer, 2007.
17. Shilpa Chaithny Chalasani: *The Performance of Wireless Sensors Networks for Medical Applications*, Summer 2007.
18. Mythreyee Doma: *Reliability and Power Management of Wireless Networks in Medical Field*, Summer 2007.
19. Rakesh Reddy Kasarla: *Synchronization of Wireless Sensor Networks for Longer Periods* Summer 2007.
20. Sukanya Pakala: *Mobile Robots Used for Localization of Wireless Sensor Networks*, Summer 2007.
21. Lavanya Rajana: *Bluetooth technology for wireless sensor networks*, Summer, 2007.
22. Haritha Avula: *Power Efficient Design of Finger-Ring Plethysmographic Sensors*, Summer 2007.
23. Katari, Udaya Kumar: *Overview of Wireless Sensors for Real Time Health Monitoring*, Fall 2007. ECE Dept.
24. Shawgi Albess: *Wireless Sensor Networks*, Fall 2007. ECE Dept.
25. Gauthami Tamannagari: *Applications of Wireless Sensor Networks in Medical Field* Fall 2007. ECE Dept.
26. Roopchand Yanamadala: *A Study on Wireless Sensor Networks*, Fall 2007. ECE Dept.
27. Sharmila Garapati: *Security Requirements and Protocols for Wireless Sensor Networks*, Fall 2007. ECE Dept.
28. Sireesha Yalamanchili *Performance of Multicellular Synchronous DS-CDMA Systems for WSN with Multipath* Fall 2007. ECE Dept.
29. Laksami Chaitanya Chintala *Environmental Monitoring Using Wireless Sensor Networks*, Fall 2007. ECE Dept.

- **Master's Thesis Committee Memberships**

1. Ross Hackworths “*Synthesis, Characterization, and Electroanalytical Applications of Gold Nanorods*” MS Thesis, UTSA ECE Dept.,
Defended: July 31, 2008.
Principal advisor: Dr. Arturo A. Ayon

2. Maheedhar Gunturu “*Integrity Monitoring of a WI-FI Based Indoor Positioning System*” MS Thesis, UTSA ECE Dept., Defended July 30, 2008.
Principal advisor: Dr. David Akopian
3. Justin Holmes Ficklen “*High Power Frequency-Microelectromechanical Systems (RF-MEMS) Utilizing High Permittivity Ferroelectric Thin Films*” MS Thesis, UTSA ECE Dept., Defended: July 25, 2008.
Principal advisor: Dr. Arturo A. Ayon
4. Wasif Ali Fazar Mir “*Performance Evaluation and Establishment of BER Model for Equal and Unequal Spaced Channels in High bit rate WDM Systems*”, MS Thesis, UTSA ECE Dept., Defended Dec. 10, 2007.
Principal advisor: Dr. Mehdi Shadaram
5. Vikraman Raghavan: *Autonomous Navigation for Field Rovers with Sensor Fusion*. MS Thesis, UTSA ECE Dept., Defended April 25, 2007.
Principal advisor: Dr. Mo Jamshidi.
6. Rajesh Vallepalli: *Low power RF Front using reflex Concept*. MS Thesis, UTSA ECE Dept., Defended Aug. 1, 2007.
Principal advisor: Dr. Eugen John.
7. Aranda Edward: *Model Development, State Estimation & Controller Design of a Nonlinear Utility Boiler System*. MS Thesis, UTSA ECE Dept., Defended July 25, 2007.
Principal advisor: Dr. Chunjian Qian.
8. Johanna M. Susmilch: *Fractal Steganography*. MS Thesis, UTSA ECE Dept. April 2006. Principal advisor: Dr. Sos Agaian.
9. Jennifer James: *Effect of ASE Noise on M-QAM fiber optic link performance*. MS Thesis, UTSA ECE Dept. Defended July 2006. Principal advisor: Dr. Mehdi Shadaram
10. Hani Saleh : *Digital forensic solution for electronic design theft: Efficient digital image processing solution for automatic recognition and comparison of printed boards (PCBS) schematic and layout images*. MS Thesis, UTSA ECE Dept. Defended July 2006.
Principal advisor: Dr. Sos Agaian.
11. Jinping Tang: *An Application Performance of Bluetooth on multimodal biometric Specialize in Fingerprints*. MS Thesis, UTSA ECE Dept., Defended Dec 2005. Principal advisor: Dr. Fred Hudson.
12. Swati Goyal: *Software receiver algorithms for Assisted GPS*. MS Thesis, UTSA ECE Dept. Defended Dec 2005. Principal advisor: Dr. David Akopian
13. Juan Pablo Perez: *Palette-based image data hiding for secure communications*. MS Thesis, UTSA EC Dept., Defended Aug. 2005. Principal advisor: Dr. Sos Agaian.
14. Ravindranath Chowdary Cherukuri: *Secured and high capacity stenographic algorithms for color and binary images*. MS Thesis, UTSA ECE Dept. Defended August 2004. Principal advisor: Dr. Sos Agaian.

15. Chia-Ping Wei: *Multi-user Detection by Probabilistic data Association*. MS Thesis, UTSA ECE Dept. Defended May 2004. Principal advisor: Dr. Yufei Huang.
16. Veerabhadra S.Bhamidipati: *Parameterized reversible integer discrete cosine transforms*. MS Thesis, UTSA ECE Dept. Defended Dec., 2004. Principal advisor: Dr. Artyom Grygorian.
17. Madhusudhan R. Musku: *Power control and utility optimization in wireless communications systems*. MS Thesis, UTSA EE Dept. Defended July., 2004. Principal advisor: Dr. D.C. Popescu.
18. Juan Pablo Perez: *Palette-based image data hiding for secure communications*. MS Thesis, UTSA ECE Dept. Defended August 2004. Principal advisor: Dr. Sos Agaian.
19. Siraj Sassim Ali: *A Class of Loop Self Scheduling for distributed Systems*. MS Thesis, UTSA CS Dept. Defended May 2003. Principal advisor: Dr. A. T. Chronopoulos.
20. Federico Balbi: *Parallel Iterative Methods implemented on the IBM Supercomputer*. MS Thesis, UTSA CS Dept. Defended May 2003. Principal advisor: Dr. A. T. Chronopoulos.
21. Jack Charoensakwiroj: *Study of multicode CDMA using different orthogonal codes and error correction methods*. MS Thesis, UTSA EE Dept. Defended, Aug. 2002, Principal advisor: Dr. GVS Raju.
22. Satish Ponipirredy: *Distributed Power Control in Wireless Communication Systems*. MS Thesis, UTSA CS Dept. Defended May 2002. Principal advisor: Dr. A. T. Chronopoulos.
23. Keyin Tu: *Distributed Algorithms in Digital Signature Standard (DSS)*. MS Thesis, UTSA CS Dept. Defended May 2002. Principal advisor: Dr. A. T. Chronopoulos.
24. Sasan Nekouian: *Distributed Key Generation for Secure Communication*. MS Thesis, UTSA CS Dept. Defended May 2002. Principal advisor: Dr. A. T. Chronopoulos.
25. Jingyu Liu: *Block Iterative Methods for non-symmetric indefinite linear Systems*. MS Thesis, UTSA CS Dept. Defended May 2002. Principal advisor: Dr. A. T. Chronopoulos.

Professional Activities

- **Associate Editor**

- IEEE *Communication Letters* (2003-2012)
- ELSEVIER *International Journal of Computers & Electrical Engineering* (2007-present)
- EURASIP *Journal on Advances in Signal Processing*: Special Issue on Distributed Signal Processing Techniques for Wireless Sensor Networks (2007)

- ELSEVIER *International Journal of Computers & Electrical Engineering* guest co-editor of special issue on Wireless Systems: Modeling, Monitoring, Transmission, Performance Evaluation and Optimization, Vol.39, Issue 6, August 2013.
- HINDAWI Guest Editor for Hindawi Journal Special issue on 5G Networks in the Age of the Internet of Everything (IoE) June 2017

- **Editorial Board**

- The OPEN TRANSPORTATION JOURNAL (August 2008 – 2013)
- ACTA TEHNICA Napocensis - Electronics and Telecommunications. (2003-2007)
- MTA JOURNAL Military Technical Academy Review, (June 2017)
- Technical Sciences Academy of Romania Journal: JOURNAL OF ENGINEERING SCIENCES AND INNOVATION (December 2018)

- **Conference organizer**

- 2023 IEEE ICC Washington DC June, 2027
- 2017 IEEE 5G Summit, Reston, Virginia, August 19, 2017
- 2016 IEEE Globecom Conference in Washington DC, Executive Chair, Dec 4-8 2016.
- 2014 The 10th International Conference on Communications COMM-2014, Bucharest, Romania, May 29-31, 2014 (*International Committee*).
- 2013 ASEE Mid-Atlantic Fall Conference at UDC, Conference Chair.
- 2010 The 8th International Conference on Communications “COMM 2010”, 10-12 June 2010, Bucharest Romania, (Special Session on “Underwater Communications”).
- 2009 IEEE SMC Annual Conference, San Antonio, October 2009 (*Finance Chair*)
- 2008 IEEE International Conference on System of Systems Engineering (SoSE) and 1st ICSOS Workshop, April 28-29, Monterey, CA (*Finance Chair*)
- 2007 IEEE International Conference on System of Systems Engineering, April 16-18, San Antonio, Texas (*Exhibition Chair*)
- 2004 IEEE Information Theory Workshop, San Antonio, Texas, October 24-29, 2004 (*Local Arrangements*)
- The International Conference on Wireless and Mobile Communications, ICWMC 2006 (*Advisory Committee*)
- The Third International Conference on Wireless and Mobile Communications, ICWMC 2007 (*Advisory Committee*)
- The 9th International Conference on Communications COMM-2012, Bucharest, Romania, June 21-23 (*International Committee*).

- **IEEE meetings organizer**

- IEEE Central Texas Section, SP01-COM19, Joint Communications and Signal Processing Chapter, CTS ComSoc/SP, February 20, 2008, ECE Meeting Room, UTSA, invited speaker Prof. Sos Again, UTSA.
- IEEE Washington DC Comsoc Event, February 17, 2009, 41/A03, UDC, invited speaker Dr. John, Waclawski, Motorola.
- IEEE Washington DC UDC Event, September 3, 2009, 42/212M, UDC, invited speaker Joseph Vaitkus, Academic Account Manager Eastern Region.
- IEEE Washington DC UDC Event, September 17, 2009, 42/212M, UDC, invited speaker

- Tim Weil, Chair of the IEEE Washington Section.
- IEEE Washington Comsoc Chapter, October 5, 2009, 41/A/03, UDC, invited speaker Dr. Frederica Darema, NSF Director.
 - IEEE USA Student Professional Awareness Workshop, Saturday, October 9, 2010, UDC, Auditorium A03, Building 41.
 - IEEE Washington ComSoc Chapter Event, October 9, 2010, 32/209, UDC, invited speaker Dr. Ian C. Wong.
 - IEEE Washington ComSoc Chapter Event, Distinguished Lecture Presentation, “Resource Allocation in Cooperative Networks: The Role of Games, October 15, 2011, Building 44, A03, UDC, invited speaker Dr. Guoliang (Larry) Xue.
 - IEEE Washington ComSoc Chapter Event, Distinguished Lecture Presentation, “Cognitive Networks/Dynamic Spectrum Access in Wireless Networks Overview” November 10, 2011, Building 44, A03, UDC, invited speaker Dr. Zhensheng Zhang of ARGONST Inc.
 - IEEE Washington ComSoc Chapter Event, Distinguished Lecture Presentation, “Cloud and fog computing overview” November 29, 2018, Building: Student Center Ballroom B, UDC, invited speaker Dr. Zhensheng Zhang.

- **Technical Program Committee Member**

- 2016 IEEE COMM2016 the 11th International Conference on Communications, Bucharest Romania, 9-11 June, 2016.
- 2016 IEEE BlackSeaCom the 4th International Black Sea Conference on Communication and Networking, Varna, Bulgaria, 6-9 June, 2016.
- 2013 IEEE WCNC 2013 – PHY, Shanghai China 7-10 April, 2013.
- 2013 Fifth Annual IEEE Green Technologies Conference “Rethink, Reimagining and Recreate Energy Technologies, will be held at the Hyat Regency at the Denver Tech Center (DTC), from April 4- 5, 2013.
- 2012 IEEE INFOCOM Workshop on Smart Grids and Green Networks, Orlando Florida, March 25-30, 2012.
- 2012 9th International Conference on Communications COMM-2012, Bucharest, Romania, June 21-23, 2012.
- 2011 IEEE INFOCOM Workshop on Green Communications and Networking, April 10-15, Shanghai China, 2011.
- 2011 IEEE International Conference on Communications – ICC - 2011, Wireless Communication Symposium (WCS), Kyoto, Japan, June 6-9, 2011.
- 2010 The 8th International Conference on Communications “COMM 2010”, 10-12 June 2010, Bucharest Romania,
- 2009 IEEE International Conference on Communications – ICC - 2009, Wireless Communication Symposium (WCS), Dresden, Germany, June 14-18, 2009
- 2008 IEEE Global Telecommunications Conference (GLOBECOM), Wireless Communication
- 2008 IEEE International Conference on Systems of Systems Engineering, SoSE -2008, Monterey, CA, June 2-5, 2008.
- 2008 IEEE International Conference on Communications – ICC - 2008, Communication Theory Symposium (CTS), Beijing, China, May 19-23, 2008
- 2008 IEEE International Conference on System, Man, and Cybernetics, – SMC 2008 Singapore, October 12-15, 2008
- 2008 The Third International Multi-Conference on Computing in the Global Information Technology ICCI 2008 (July 27 – August 1), Athens, Greece.
- 2008 7th Conference, COMMUNICATIONS 2008, Bucharest, Romania, June 5-7, 2008.
- 2008 The Fourth International Conference on Wireless and Mobile Communications ICWMC 2008 (July 27 – August 1), Athens, Greece.
- 2007 IEEE International Conference on Systems of Systems Engineering, SoSE -2007,

- San Antonio, April 16-18.
- 2007 IEEE International Conference on Systems, Man and Cybernetics SMC - 2007, Montreal Canada, Oct. 7-10.
- 2007 The Third International Conference on Wireless and Mobile Communications, ICWMC 2007
- 2007 International Conference on Networking and Services, ICNS 2007 and Workshop Committees
- 2006 IEEE Global Telecommunications Conference (GLOBECOM), Communication Theory Symposium
- 2006 IEEE Wireless Communications and Networking Conference (WCNC), PhY/MAC track.
- 2006 CHINACOM, Communication Theory, and Signal Processing for Communications.
- 2006 The International Conference on Wireless and Mobile Communications, ICWMC 2006.
- 2006 6th Conference, COMMUNICATIONS 2008, Bucharest, Romania, June 5-7.
- 2005 62nd IEEE Vehicular Technologies Conference (VTC 2005 Fall), Wireless Access and General Conference, Dallas.
- 2005 International Conference on Networking and Services, ICNS 2005, Silicon Valley, Sept. 25-30.
- 2003 IEEE Global Telecommunications Conference (GLOBECOM), Wireless Communication.

- **Session Chair**

- 2003 International Signal Processing Conference, Dallas, TX, March 31- April 3, 2003.
- 2003 Asilomar Conference on Signal, Systems, and Computers, Nov. 9-12: Session CDMA II
- 2003 IEEE Global Telecommunications Conference (GLOBECOM).
- 2006 IEEE 40th Annual Conference on Information Sciences and Systems-CISS '06, Session: CDMA and Spread Spectrum, Princeton University, March 22 – 24, 2006.
- 2006 IEEE International Conference on Communications - ICC '06, 11-15 June, Istanbul Turkey.
- 2007 IEEE International Conference on System of System Engineering, San Antonio, TX, April 16-18, 2007.
- 2007 IEEE 9th International Conference on System of Mobile and Wireless Communications Networks, IFIP/IEEE MWCN, 19th -21st September 2007, Cork, Ireland, Session: Mobile Adhoc Networks.
- 2008 7th Conference, COMMUNICATIONS 2008, Bucharest, Romania, June 5-7, 2008.
- 2009 43rd Annual Conference on Information Sciences and Systems CISS 2009, The Johns Hopkins University, Sessions: TA1 Wireless Communications and TP3 Cooperative Communication
- 2009 IEEE Sarnoff Symposium, Princeton, March 31, New Jersey, Session Communication Theory I.
- 2010 8th Conference, COMMUNICATIONS 2010, Bucharest, Romania, June 10-12, 2010.
- 2011 The Fourth IFIP International Conference on New Technology, Mobility and Security Program (NTMS 2011), 7-10 February 2011, Paris France, Section NT VI: Algorithms, Protocols and Applications.
- 2012 Computing, Communication & Application Conference (ComComAp 2012) Session Title: "Broadband Wireless Networks (CNIT)", Hong Kong University of Science&Technology, January 11-13, 2012.
- 2012 46rd Annual Conference on Information Sciences and Systems CISS 2012, Princeton University, Session: WP-06 Shared Resources and Cognitive Radio II.
- 2012 The Seventh IASTED International Conference on Communication, Internet, and Information Technology (CIIT 2012) May 14 – 16, 2012 Baltimore Sessions: CITT Session 1: Applications.

- 2013 47th Annual Conference on Information Sciences and Systems CISS 2013,
Johns Hopkins University,
Session: WP3 Sensor Networks.
- 2013 The Eighth IASTED International Conference on Advances in Computer Science (ACS)
April 10 – 12, 2013 Phuket, Thailand.
Session: Computer Networks.
- 2014 The International Conference on Electronic Systems, Signal Processing and Computing
Technologies (ICESC-2014)
January 09-11, 2014, Nagpur , India
Session: Multimedia Systems & Signal Processing.
- 2016 Big Data in Computational Intelligence: From Fundamental Principles to Complex System
Applications
February 19-21, 2016, Washington, D.C.
Session: Data Mining to Support Human Intelligence
- 2016 The 11th International Conference on Communications, Palace of the National Military
Circle, Bucharest, Romania, June 10, 2016
Session: Communication Security

- **Reviewer for the following journals**

- IEEE Communications Letters
- IEEE Information Theory
- IEEE Journal on Selected Areas in Communications
- IEEE Signal Processing Letters
- IEEE Transactions on Signal Processing
- IEEE Transactions on Communications
- IEEE Transactions on Wireless Communications
- IEEE Transactions on Vehicular Technologies
- IEEE Sensors
- EURASIP Journal on Wireless Communications and Networking
- EURASIP Journal on Advances in Signal Processing
- AEU International Journal of Electronics and Communication
- CEE International Journal of Computers & Electrical Engineering
- DSP Elsevier Digital Signal Processing
- ETRI Journal (Electronics and Telecommunications Research Institute)

- **Reviewer for the following conferences**

- IEEE International Conference on Communications (ICC)
- IEEE Global Telecommunications Conference (GLOBECOM)
- IEEE International Symposium on Information Theory (ISIT)
- IEEE Vehicular Technologies Conference (VTC)
- IEEE Wireless Communications and Networking Conference (WCNC)
- IEEE Military Communication Conference (MILCOM)
- IEEE International Conference on Systems of Systems Engineering, SoSE
- IEEE International Symposium on Signals, Circuit and Systems - ISSCS
- IEEE Information Theory Workshop - ITW
- CISS Conference on Information Sciences and Systems
- Asilomar Conference on Signal, Systems, and Computers
- International Conference on Automatic and Autonomous Systems, ICAS
- International Signal Processing Conference, ISPC
- 2008 IEEE Radio and Wireless Symposium, RWS-2008, Jan. 22 -24, 2008, Orlando, FL.
- 2008 The fourth International Conference on Networking and Services,

- ICNS 2008 (March16-21), Gosier Guadeloupe.
- 2008 7th IEEE Conference, COMMUNICATIONS 2008, Bucharest, Romania, June 5-7.
- 2008 13th IEEE Symposium on Computers and Communications.
- 2010 8th IEEE Conference, COMMUNICATIONS 2010, Bucharest, Romania, June 10-12.
- 2010 American Society for Engineering Education (ASEE) Northeast Section Conference
May 7-8, Boston, MA
- 2010 ASEE Annual Conference and Exposition, Louisville, Kentucky, June 20-23.
- 2014 10th IEEE Conference, COMMUNICATIONS 2014, Bucharest, Romania, May 29-31.
- 2016 11th IEEE Conference, COMMUNICATIONS 2016, Bucharest, Romania, June 9-11.

University Activities

School of Engineering and Applied Sciences at UDC (2008-2023)

- Chair of the Task Force on the Review/Revision of the Introduction to Engineering course (CCEN-101), December 5, 2013, SEAS.
- Chair -ASEE Mid-Atlantic Conference, October 10-12, 2013.
- Chair - Engineers Week at UDC, February 2009 – February 2012.
- Research Group Coordinator SEAS AY 2009- AY 2012.
- Member – Graduate Committee MSEE, Fall 2010, AY 2011 - AY 2012.
- Member – MSEE graduate program curriculum (since 2009).
- Member – UDC Electrical Engineering Department Curricular Committee (since 2008).

AY 2008-2009

- Member UDC Strategic Planning Committee, June-Dec 2009
- Member – UDC Electrical Engineering Department Curricular Committee (since 2008).
- Member - CSIT Chair Committee Search, Spring 2009.
- Member EE Faculty Search Committee, Spring 2009.
- UDC Hooding, faculty greeting on graduation ceremonies (2008 – 2010, Spring and Fall).
- Attended National Scientific Foundation NeTSE Workshop Meeting (The Future of Data Carriage), Friday Sept 5th, 2008 at the Westin Arlington Gateway Hotel.
- Attended Region 2 and IEEE Baltimore Section under the IEEE-USA PACE Professional Development Seminar Program at the Historical Electronics Museum , Linthicum Maryland, 2008, November 1st.
- Attended 2008 National Instruments Technical Symposium Workshop Meeting, Thursday Nov 6, 2008 at the Hilton Columbia, MD.
- Attended IEEE Washington Section Administrative Committee Meeting, at AAAS 1200 New York Avenue NW, Washington, Wednesday November 5, 2008.
- Attended IEEE Washington meeting: “Focusing on the Member: Bringing the Message to the Sections” MITRE Corp., Building 2, 7515 Colshire Drive, Mclean, VA.
- Attended Learning Communities for STEM Academic Achievement: “Sharing Our Success,” January 30-31, 2009, Howard University Graduate School, Washington, D.C.
- Attended the National HBCU/MI Conference February 2-4, 2009, Atlanta, GA.
- Attended IEEE Washington Group Leadership Workshop, February 7, 2009, MITRE Corp., Building 2, 7515 Colshire Drive, Mclean, VA.
- Attended IEEE 125th Anniversary Celebration, May 13, 2009, Virginia Tech Advanced Research Institute, 4300 Wilson Blvd, Suite 750. Arlington VA (moderator).
- Attended “DC Society of Professional Engineers”, September 11, 2009, at UDC. Moderator: Dr. Ososanya, UDC.

AY 2009-2010

- Attended “Challenges and Drivers for Future Radio Access” a talk by Dr. Matti Latva-aho Thursday, October 1, 2009 , 10:00 A.M., 2460 AV Williams Bldg at UMD, Host Prof A. Ephremides
- Attended “Developing Thinking Skills in a Global Context” a Workshop presented by Dr. Yu Ling Cheng and Dr. Lisa Romkey University of Toronto Canada, Monday, October 12, 2009, 2:00 PM-5:00 PM, Intercontinental Hotel, Budapest, Hungary.
- Attended Research Seminar Series at University of Maryland”Research Priorities and Future Directions for the AFOSR.” Speaker: Dr. Brendan Godfrey, Director, AFSOR, host Dr. Mel Bernstein, Vice President for Research at Maryland University. Friday, October 30, 2009, Pepco Room, Kim Engineering Building.
- Attended 2009 National Research Conference HBCU-UP “Sustaining Progress and Forging New Pathways: 10th Anniversary of the HBCU-UP Research Conference” (Judge for Computer Sciences&Information, Poster Session) October 29-November 1, 2009, Renaissance Hotel, Washington DC.
- Attended 2009 National Instruments Technical Symposium Workshop Meeting, Thursday Nov 5, 2009 at the Hilton Columbia, MD.
- Attended Booz Allen Hamilton Distinguished Colloquium in Electrical and Computer Engineering: “Maximal Transmission Rate for finite Block length” presented by Sergio Verdu, Princeton University on Friday, Nov.13, 2009, Jing H. Kim Engineering Building., room 1110, University of Maryland
- Attended National Engineers Week, “Future City Competition”, Judge, UDC January 23, 2010.
- Attended NSF Workshop to Enhance Proposal Development Skills and Promote Research Collaborations, February 22-23, 2010, Holiday Inn Arlington Ballston.
- Member – Assistant Dean Committee Search, Spring 2010.
- Attended IEEE Washington Group Leadership Workshop, February 27, 2010, UDC, Building 41, Auditorium A03.
- Attended the Washington Academy of Science and its Affiliated: Capital Science, March 27-28, 2010 held at National Scientific Foundation, Arlington VA.
- Attended the IEEE W/NV Chairs&Directors Meetings, Bethesda, April 17, 2010.
- Attended the HPCMP Joint Educational Opportunities for Minorities (JEOM) Research Workshop hosted by the U.S. Army Research Laboratory Defense Supercomputing Resource Center (ARL-DCRC), Aberdeen Proving Ground, Maryland, June 2010.
- Attended ASEE Annual Conference&Exposition, Louisville Kentucky, June 20-22, 2010.

AY 2010-2011

- Attended IEEE Distinguish Lecture Series “Getting Smart on Smart Grid” Speaker Dr. Saifur Rahman, Virginia Tech Advanced Research Institute, 4300 Wilson Blvd, Suite 750, Arlington VA, Sept. 2,2010.
- Attended “Grant writers’ seminars and workshops”, LLC, Speaker: Dr. S.W. Russell, organizer Dr. Beverly Hartline, UDC, Building 44, Room A-03, September 24, 2010.
- Attended IEEE SmartGridCom Conference, Gaithersburg, Maryland, October 4-6, 2010.
- Attended Green Communication Workshop, University of Maryland College Park, Oct.14-15, 2010.
- Attended the Cyber Security Symposium, The University of the District of Columbia, Auditorium, Bilging 46, Monday December 6, 2010.
- Attended Chesapeake Crescent Initiative, Regional Innovation Clusters: Energy, Life Sciences and Security, The Cannon House Office Building Caucus Room, Washington DC, December 16, 2010.
- Attended Workshop for Historically Black Colleges and Universities, NSF, Xavier University, January 24, 2011, New Orleans, LA.
- The Fourth IFIP International Conference on New Technology, Mobility, and Security Program (NTMS 2011), 7-10 February 2011, Paris, France.
- Attended Council on Undergraduate Research: Learning through Research, CUR Dialogues 2011, Hamilton Crowne Plaza, Washington DC, February 24-26, 2011.
- Attended 25th (BEYA) Black Engineers of the Years Awards STEM Global Competitiveness February 17-19, Washington DC (Seminar Renewable Energy and Green Communications, Panelist).

- Attended 2011 Emerging Researchers National (ERN) Conference in STEM, Washington DC, Washington Hilton Hotel, (Judge), February 24-26, 2011.
- Attended Second Annual UDC Research Mini symposium, Building 41, A-03, March 10, 2011
- Attended IEEE Section/Chapter/Affinity Group Leadership Workshop 2011, UDC Building 41, Auditorium A03, March 12, 2011.
- Attended PKAL Learning Spaces Collaboratory Regional Workshop at Dickinson College, Carlisle, Pennsylvania, March 19, 2011.
- Attended National Area Awards Banquet, Marriott Fair Oaks, Fairfax, VA, May 22, 2011.

AY 2011-2012

- Attended ASEE MidAtlantic Section Fall 2011 Conference, College of Engineering, Temple University, Philadelphia, PA 19122, October 28-29, 2011.
- Attended LSC National Colloquium (Assessing the Impact of Spaces on Undergraduate learners: Building a Community of Practice), Westfields Marriott Chantilly, VA, November 4-6, 2011.
- Attended Workshop on STEM Teaching and the Development of reasoning and being certified Piagetian, UDC, Building 44, Room 105, November 17-18, 2011.
- Attended the IEEE Global Communication Conference, Exhibition&Industry Forum (receiving CAA and CoY Awards) Houston Texas, 5-9 December 2011.
- Attended “Dynamics Days 2012”, The Sheraton Inner Harbor Hotel, Baltimore, MD, January 4-7, 2012.
- Attended the IEEE Computing, Communication and Application Conference, the Hong Kong University of Science and Technology, January 11-13, 2012.
- Attended the IEEE Region 2 Conference, 890 Elkridge Landing Road, Linthicum, Maryland, February 25-26, 2012.
- Attended IEEE 46th Annual Conference on Information Sciences and Systems-CISS 2012, Princeton University, March 21 – 23, 2012.
- Attended Third Annual Faculty and Graduate Student Research Symposium, March 19, 2012, Building 41, A-03, UDC.
- Attended Quantitative Methods in Defense and National Security, QMDNS 2012, April 30-May 1, 2012, George Mason University.
- Attended the 2012 IEEE-USA Annual Meeting, Hilton Hotel Cincinnati Netherland Plaza, May 3-6, Cincinnati, OH, 2012.
- Attended the Seventh IASTED International Conference on Communication, Internet, and Information Technology (CIIT 2012) May 14 – 16, 2012 Baltimore, USA.
- Attended the IEEE National Capital Area Awards Banquet, Marriott Fair Oaks, Virginia, May 19, 2012.
- Attended the IEEE International Conference on Communications, ICC 2012, Ottawa Canada , June 10-15, 2012.

AY 2012-2013

- Attended the IEEE Region 2 South area Section Chairs Meeting, National Electronics Museum, 1745 West Nursery Road, Linthicum, Maryland, October 20th, 2012.
- Attended the 2012 ARTIC-IAW (Assurance Research Center for Trusted Information Computing) Information Workshop, October 26, 2012, Washington DC.
- Attended the Info-Metrics Institute Seminar Series, Presenter Prof. Amos Golan, American University, Kreeger Hall, Room 100, Wednesday October 31, 2012.
- Attended the NSF Advanced Grant Writing Workshop , Hollyday Inn@Balston, Arlington Virginia, November 19-20 , 2012.
- Attended the IEEE Globecom Conference 3-7 December, Anaheim CA, 2012.
- Attended the Dynamics Days US 2013 Conference, Marriott City Center Denver, Colorado, January 3-6, 2013.
- Attended the IEEE Scanner Meeting (Joint Executive meeting between Washington Section and NoVa Section), Clarion Inn – Skipjack Meeting Room, College Park, MD, January 19, 2013.

- Attended the CISS 2013 (Forty-Seventh Annual Conference on Information Sciences and Systems, 100 Years, John Hopkins Engineering) The John Hopkins University, Hodson Hall, March 20-22, 2013.
- Attended The Eighth IASTED International Conference on Advances in Computer Science (ACS) Phuket, Thailand, April 10 – 12, 2013.
- Attended the ASEE Mid-Atlantic Spring Conference, New York City College of Technology, April 26-27, April 2013.
- Attended the IEEE Region 2 Spring Meeting, Morgantown, Waterfront Place Hotel, West Virginia, 20-21 April 2013.
- Attended the IEEE International Conference on Communication, ICC, 9-13 June, Budapest, Hungary.
- Attended ASEE Mid-Atlantic Conference at UDC, October 11-12, 2013 (Conference Chair).
- Attended ABET Workshop, Embassy Suites Baltimore at BWI Airport, Saturday October 19, 2013.
- Attended NSF Major Research Instrumentation (MRI) Proposal Development and Evaluation Workshop conducted by Quality Education for Minorities (QEM) Network, Four Points By Sheraton BWI Airport Hotel, Baltimore, October 25-26, 2013.
- Attended the MATLAB seminar “Creating and Analyzing Communications and Navigation Systems using MATLAB” Hilton Washington DC North, Gaithersburg, MD, November 12, 2013.
- Attended the IEEE Globecom 2013 Conference, Atlanta Hilton&Towers, 9-13 December, 2013.

AY 2014-2015

- Attended the 2014 International Conference on Electronic Systems, Signal Processing and Computing Technologies, (ICESC-2014), Shri Ramdeobaba College of Engineering&Management, Nagpur, India 9-11 January, 2014.

AY 2015-2016

- **Sabbatical leave at the Naval Research Laboratory, Center for High Assurance Computer Systems, Washington DC, Code 5540.**

AY 2016-2017

- Attended the IEEE Computational Intelligence Society, Winter School, Big Data in Computational Intelligence: From Fundamental Principles to Complex System Applications, Conference in Washington D.C. February 19-21, 2016.
- Attended the ASEE St. Lawrence Section Conference Spring 2016, April 8-9, 2016 at Cornell University, Ithaca, NY.
- Attended IEEE ICC Conference, Kuala Lumpur, Malaysia, 23-27 May, 2016.
- Attended IEEE COMM2016 Conference, Bucharest, Romania, June 9-11, 2016
- Attended MathWorks Training Services, Image Processing with Matlab, July 13-14, 2016.
- Attended Angelbeat IT Seminar on July 27, Arlington at the Hyatt Arlington, 1325 Wilson Boulevard, Arlington, VA 22209.
- Attended DC Technology Transfer and Research Commercialization meeting, Sept 23, 2016, Edison Electric Institute, Washington DC 20004.
- Attended IEEE Globecom Conference Washington DC Dec. 2016.
- Attended ASEE Gulf 2017 Annual Conference, UT Dallas March 12-14 2017.
- Attended ICC Conference, Paris, France, 21-25 May 2017.

AY 2017-2018

- Attended IEEE 5G Summit, Reston, Virginia, August 19, 2017.
- Attended Angelbeat IT Seminar at the Hyatt Capitol Hill in Washington DC on September 12, 2017
- Attended AMIE (Advancing Minorities’ Interest in Engineering) Conference “Investing in Partnership, Washington DC, September 5-8, 2017.

- Attended DoD Conference “Taking the Pentagon to the People” organized by the Office of Diversity Management and Equal Opportunity at UDC, Student Center Ballroom, Washington DC, September 12, 2017.
- Attended the Cybersecurity Conference at New York Institute of Technology on September 28, 2017.
- Attended IEEE Globecom Conference Singapore, 4-8 Dec. 2017.
- Attended the GEM -ASEE Doctoral Engineering Research Showcase organized by the National GEM Consortium and ASEE at Mayflower Hotel, Washington DC, January 22-23, 2018.

AY 2018-2019

- Attended the GEM -ASEE Doctoral Engineering Research Showcase organized by the National GEM Consortium and ASEE at Mayflower Hotel, Washington October 5, 2018.
- Attended Angelbeat IT Seminar at the Hyatt Centric Hotel Arlington, VA on October 22, 2018.
- Attended IEEE Workshop on 5G Technologies for Tactical and First Responder Networks, The John Hopkins University Applied Physics Laboratory, on October 23, 2018.
- Attended the 9th IEEE annual Ubiquitous Computing, Electronics and Mobile Communication Conference, IEEE UEMCON -2018, Columbia University, New York, 8th – 10th November 2018

UTSA University Services (2001-2008)

- UTSA Graduate Council: Special Member (Spring 2002 – Fall 2004).
- UTSA Standing Committee on Probation and Reinstatement: Member (Fall 2004 – Spring 2006).
- UTSA Office of the Vice President for Research: Agenda Visit for Dr. Dev Palmer, Program Manager Army Research Office, (Fall 2007).
- UTSA Hooding, faculty greeting on graduation ceremonies (2002 – 2007, Spring and Fall).
- The Greater San Antonio Chamber of Commerce: Information Technology Summit (Information Technology Roundtable Discussion Oct. 30, 2007, Crowne Plaza San Antonio Airport Hotel).
- Supporting the UTSA State Employee Charitable Campaign (SECC).

College of Engineering Services at UTSA

- UTSA College Academic Policy and Curriculum Committee Member (Sept. 2007 –Aug. 2008)

Departmental Services

- Member – UTSA Electrical and Computer Engineering Department Curricular Committee for Communications Area (2003-2008).
- Member – UTSA Electrical and Computer Engineering Department: Information Technology Group (2003 –2006)
- Member – UTSA Electrical and Computer Engineering Department Communication Research Group (since 2002)
- Member – UTSA Electrical and Computer Engineering Department ABET Committee (Fall 2003)
- Member – UTSA Electrical and Computer Engineering Department DSC Course Evaluation (2004 – 2006)
- Member – UTSA Electrical and Computer Engineering Department Student Travel Request Committee (2003-2006).
- Member – UTSA Electrical and Computer Engineering Department Space Committee (2003- 2005)
- Member – UTSA Electrical and Computer Engineering Department PhD application/admission committee (2006-2008)
- Member – UTSA Electrical and Computer Engineering Department Student Teaching Assistant Assignment Committee (2005 - present).
- Undergraduate Student Advising in Electrical and Computer Engineering (2002 - present).
- Member – UTSA Electrical and Computer Engineering Commencement Committee (2002-2008)

- Member of PhD Qualifying Committee (2003-2008).
- Member of Comprehensive MS Exam Committee (2004-2008).
- Attended working session at Partnering Meeting for The Engineering Building Phase II Project at UTSA (San Augustin Meeting Room, The Westin Las Cantera Resort, November 1, 2007).

Teaching

- Extensive academic teaching experience both in the US (instructor at UTSA, UDC, honorary instructor at University of Colorado at Colorado Springs, 10 communication classes taught between 1995-1998, University of Colorado at Boulder, instructor and graduate research assistant, 4 mathematical classes taught between 1997-1998) and abroad (full professor at Electrical and Computer Engineering Department, Technical University “Gh. Asachi” of Iassy, Romania, 1984-2001, lecturer at Istanbul Technical University 1993-1994).
- Qualified to teach courses for typical electrical and engineering programs, including information theory, stochastic processes, statistical and basic mathematics and calculus courses.
- Areas of particular teaching includes all the aspects of digital and wireless communications systems, digital signal processing, reinforcement learning, information theory, electronic circuits and applied mathematical courses.
- At UTSA: 1 Ph.D. student and 6 M.S. students successfully defended, 22 MS Independent Study completed, 4 undergraduate students supervised, 2 undergraduate independent study completed, 1 undergraduate independent study ongoing, I supervised the senior design projects of more than 20 teams of undergraduate students, 4 teams directly under my supervision.
- At UTSA: I have been nominated two times in 2006 and 2007 for the Teaching Excellence Award in ECE Department, College of Engineering.
- At UTSA: I developed three new courses: EE 4683 Wireless Communications, EE 4653 Digital Communications, and EE 5383 Digital Information Theory.
- At UTSA: I proposed a Site Center in Wireless Sensor Networks (WiSNET) that was funded by National Science Foundation. The proposed Site Center at UTSA is led by Embedded System Center at Arizona State University.

Feedback from students

Dear Professor Cotae,

I know this memo should catch you in surprise, but I would like to take this opportunity to express my sincere gratitude and heartfelt appreciation to you for a great service that you have provided to all your students. I am completely touched by your teaching method, especially, the most difficult subject in engineering called “Introduction to Communications” - without you, none of us in the class would learn anything just like before and everyone feels the same.

This is the second time I was taking the course. Last time I took this course was in 1996, and I vividly remember that our professor did not really care about teaching, and we learnt whatever we could learn on our own. By the way, the professor left right after that as he landed a better job with lots more money in the industry and I was happy for him.

I returned to school after such a long break and was extremely scared about Intro to Communications because of its complexity and just did not know how to make it. But then with all your help and support, today I finished my semester with a B with was beyond my expectations and all the credit go to you.

Yours ever welcoming smiling face, step by step explanation even the simplest mathematics, such as, $\cos \text{Alpha}$ times $\cos \text{Beta}$; and all the simple techniques to remember how to solve problems, your on time postings of all your lectures, homework, homework cover pages and any sort of communications—only establishes the fact that you're a true teacher.

I will never forget your famous saying, "I am available all the time including weekend if you have questions" - also you provided us with your cell phone number for that matter – simply amazed. No professor ever said this in the colleges at anywhere in the globe to my knowledge.

Also thank you from the bottom of heart for reviewing all those basic trigs and calculus' formulas because I had completely flushed them down through the toilet in 14 years.

Finally, I do not have one appropriate term for your commitment, obligation, persistency and dedication towards the well-being of your students. You are undoubtedly the best professor here at UDC, and you are the best thing that has ever happened to UDC in terms of sharing knowledge and teaching students.

You are not only knowledgeable but also a good human being and please do not loose these qualities at any cost.

Merry Christmas to you and to your family! I shall always keep in touch with you!

Clifford Gonsalves
 Electronics Engineer
Federal Communications Commission
 T: 202-418-2488
 F: 202-418-2816
 E: clifford.gonsalves@fcc.gov

Tuesday, May 12th, 2009

Fatou D. Mbengue
 14417 Deep Bottom Rd
 Darnestown, MD 20874

To Whom It May Concern:

This is to give a review on Dr. Paul Cotae's teaching performance. He has been a great asset to our university. Over the past year, I have gotten to know Dr. Cotae, both as a teacher in my Introduction to Communications course and as Research mentor for a paper on Code Division Multiple Access Cells. In both capacities, I have been most impressed with Dr. Cotae's talents.

In the Communications class, Dr. Cotae made a subject that wasn't particularly easy or appealing to most students an exciting subject. Repeatedly, he raised current and challenging issues in the Communications field that triggered in students the desire to learn more about that field. The use of various softwares, particularly Matlab was very beneficial as it prepared students for its use in other courses such as Senior Project.

Dr. Cotae's great teaching skills, however, do not end there. As my Research mentor, Dr. Cotae guided through the various steps of research and the writing of a technical paper. He introduced me to the IEEE standard of writing. Even if his main goal was to produce a paper of high quality at a given deadline, Dr. Cotae was also very aware and understanding of my school schedule.

In short, Dr. Cotae is an excellent teacher and mentor. He has great projects for the department and I believe that he has been a wonderful addition to the UDC School of Engineering faculty.

Sincerely,

Fatou D. Mbengue
Alumni of the University of the District of Columbia Department of Electrical of Engineering

Dear Dr. Cotae,

I am writing this e-mail to inform you the pleasure had the past fall and spring semester being your student in Analog and Digital Communications Systems. I would like to first start off by saying thank you for sharing the plethora of knowledge in these two subject matters.

You presented the material in a way that was easily understandable for someone who didn't have a strong background in communications. Not only was your presentation exceptional on numerous class lectures, it was highly informative. I definitely like your teaching methods and would like to encourage you to keep the same routine.

Unfortunately you came at a time when I am completing my undergraduate degree career so I will not be able to have the pleasure of registering for more classes under your guidance.

I wish you continued success at the University of the District of Columbia and in all of your future endeavors. If I decided to pursue a graduate degree, hopefully I will have the pleasure of being one of your graduate students.

Sincerely,
Damaine E. Sweeney
Applicant of the Degree of Bachelors of Science in Electrical Engineering

Almoustapha Tankary
9418 Peshurst Ct
Gaithersburg, Md 20886
April 9, 2011

Dr. Paul Cotae
Professor of
University of the District of Columbia
4200 Connecticut Ave
Washington, DC 20008

Dear Dr Cotae,

I wanted to extend my heartfelt appreciation for the knowledge and assistance you afforded me as a student in both your Digital Communications and Senior Projects classes at the University of the District of Columbia. Not only were your teaching tactics informative and enjoyable, but it permitted me to analyze my career goals and strategies for achieving them. Your advice was very helpful and gave me a new perspective on available opportunities. I especially appreciate your offer to connect me to others in your network. I will also use the online networking resources you recommended to further my job search.

Any additional suggestions you may have would be welcome. I'll update you as my search progresses. Again, thank you so much for your help. I greatly appreciate the assistance you have provided me.
Best Regards,

Almoustapha Tankary

Dear Sir,

I would like to take this opportunity to thank you for all the suport that you provided to us during our final year. The support you gave us in our senior project I and II was outstanding. Your special advising for the completion of

project was vital. We are very happy to achieve our goal under your supervision. I personally would also like to show my gratitude to you for your help, support and dedication during my Intro to Communication class. We got a chance to learn a lot from you which I believe will be vital in our career. Once again thank you very much for all your efforts and dedication.

Sincerely,
 Nirmal Sharma Chapagai
 Graduating Senior
 Electrical Engineering (Option Computer Engineering)

Dear. Dr. Cotae

I am so grateful be in your communication, digital communication and senior project class. I have learned so much in each of your every class.

I wanted to take this opportunity to thank you for a great class I found the class very interesting, well paced and full of relevant information. It was truly impressive to see how well prepared you were for each and every topic and how organized and time respectful you were during our assigned time slots.

It's a pretty hefty job to say the least, and you've done an exemplary job out of it. It is clear that years of teaching experience shine right through each of your sessions. Rest assured that your efforts are noticed and most appreciated.

One again thank so very much Dr. Cotae
 Julie. Dang

Papers and Posters Presentations

- P.1) Mohamed Alshaer, Paul Cotae “On Identifying the Critical Nodes and Vulnerable Edges for Increasing Computer Network Security” Cybersecurity Conference at New York Institute of Technology on September 28, 2017.
- P.2) Nii-Emil Alexander Reindorf. Paul Cotae :
- P.3) Rashed Rabie, Paul Cotae, “Game Theory approach for Detecting the Low-Rate Denial of Service Attacks”, Cybersecurity Conference at New York Institute of Technology on September 28, 2017.
- P.4) Wayne Matabar and Paul Cotae “On the NS3 Sampling Models for the Detection of Low Rate Distributed Denial of Service Attacks” 2017 Discover Innovation Day, SEAS, UDC Student Center Ballroom February 21, 2017.
- P.5) Rashed Rabie and Paul Cotae “Transmission Control Protocol Network Congestion Simulation NS-3” 2017 Discover Innovation Day, SEAS, UDC Student Center Ballroom February 21, 2017.
- P.6) Raju Shrestha and Paul Cotae, “On the Mutual Information of the Moving Targets in Underwater Wireless Communication” 2013 ASEE Mid-Atlantic Conference at UDC, Oct 11-12, 2013.
- P.7) Daniel Gebremicheal and Paul Cotae” On the Probability of Error for Threshold Binary - Input Ternary – Output Discrete Memoryless Channels” 2013 ASEE Mid-Atlantic Conference at UDC, Oct 11-12, 2013.
- P.8) Birajan Singh Bista and Paul Cotae, “On the Filter Design for Underwater Communication Channel”, 2013 ASEE Mid-Atlantic Conference at UDC, Oct 11-12, 2013.

- P.9) Ayele Woldemariam and Paul Cotae “Tracking the Speed of Moving Source Underwater by Using the Acoustic Wireless Sensor Networks” Xerox fellowship project presentation, School of Engineering and Applied Sciences, May 10, 2013.
- P.10) Missi Sogbohossou and Paul Cotae “ Modulation Schemes for Underwater Acoustic Communications”, Xerox fellowship project presentation, School of Engineering and Applied Sciences, May 10, 2013.
- P.11) Hadis Dashtestani and Paul Cotae, ”On the Optimal Placement of Underwater Sensors in a Tree Shaped Multi-hop Hierarchical Network” UDC Engineering week 2013, Feb.26, 2013.
- P.12) Daniel Gebremichael and Paul Cotae, “Stochastic Resonance” UDC Engineering week 2013, Feb.26, 2013.
- P.13) Suresh Regmi and Paul Cotae “Performance Analysis of Non Data Aided Doppler Shift Estimation and Detection for Underwater Moving Targets- a Practical Approach”, UDC Engineering week 2013, Feb.26, 2013.
- P.14) Paul Cotae, “On the Inverse Eigenvalue Problem by using the Kolmogorov-Sinai Entropy”, Dynamics Days US 2013, Marriot City Center, Denver, Colorado, January 3-6, 2013.
- P.15) Paul Cotae “Research on Underwater Sensor Networks” Quantitative Methods in Defense and National Security, QMDNS 2012, April 30-May 1, 2012, George Mason University.
- P.16) Roland Kamdem and Paul Cotae “Threshold Based Stochastic Resonance for the Binary-Input Ternary –Output Discrete Memoryless Channels” Research Group Meeting SEAS, Jan. 31, 2012, UDC Engineering week 2012, Feb.27, 2012.
- P.17) Abayomi Dairo, Nikola Jovic and Paul Cotae “Designing a Low Cost Acoustic Modem with Data Transmission Based on FSK Modulation”, Undergraduate Research Day, UDC Windows Lounge April 26, 2012
- P.18) Suresh Regmi and Paul Cotae “Analysis of Advance Method for Decisions-Making on Target Detection with Underwater Sensor Network in the Context of Blind Doppler Shift Estimation and Detection”, UDC Engineering week 2012, Feb.27, 2012.
- P.19) Hadis Dashtestani and Paul Cotae “Sensor Planning and Optimum Sensor Locations Based on Information Functions for Underwater Acoustic Communications”, UDC Engineering week 2012, Feb.27, 2012.
- P.20) Birajan Bista and Paul Cotae “Minimization of false alarm in wireless sensor networks using various techniques to reduce the false alarm and increase the target detection” UDC Engineering week 2012, Feb.27, 2012.
- P.21) Abayomi Dairo, Nikola Jovic and Paul Cotae “Acoustic Communication Modem”, UDC Engineering week 2012, Feb.27, 2012.
- P.22) Babatunde Taiwo, John Brandon and Paul Cotae “Data Acquisition of an Underwater Communication Network”, UDC Engineering week 2012, Feb.27, 2012, Undergraduate Research Day, April 26, Windows Lounge, UDC.
- P.23) Mahmoud El-Sayed and Paul Cotae “Wireless GPS Tracking system with Graphical User Interface” UDC Engineering week 2012, Feb.27, 2012.

- P.24) Paul Cotae “On the Inverse Eigenvalue Problem and the Mutual Kolmogorov-Sinai Entropy” Dynamics Days 2012 Conference organized by the University of Maryland, The Sheraton Inner Harbor Hotel, Baltimore, MD, January 4-7, 2012.
- P.25) Prakash Regmi, Paul Cotae “Submersed Wireless Sensor Data Retrieving Network” Xerox Fellowship Presentations, SEAS, April 14, 2011 and Undergraduate Research Day Edition, April 12, 2011.
- P.26) Paul Cotae, “Underwater Wireless Sensor Data Acquisition System,” Second Annual UDC Research Mini-Symposium, Building 41, A-03, March 10, 2011.
- P.27) Roland Kamdem and Paul Cotae “Partial ordering of the Discrete Memoryless Channels,” Second Annual UDC Research Mini-Symposium, Building 41, A-03, March 10, 2011.
- P.28) Julie Dang, Raju Shrestha, Awet Kidane, Almoustapha Riba-Tankari, Paul Cotae “Developing a Wireless Sensor Network Virtual Lab using Crossbow Devices and Lab-View” , UDC Engineering Day, February 22, 2011.
- P.29) Roland Kamdem, Paul Cotae “On the partial ordering of Discrete Memoryless Channels” UDC Engineering Day, February 22, 2011 (Second place student contest)
- P.30) Ewonou M. Aziakonou, Paul Cotae, “Autonomous Data Collecting Vehicle” UDC Engineering Day, February 22, 2011.
- P.31) Prakash Regmi, Paul Cotae “An underwater wireless communication network” UDC Engineering Day, February 22, 2011. (First place student contest).
- P.32) Paul Cotae “Green Communication” at the 25th (BEYA) Black Engineers of the Years Awards STEM Global Competitiveness, Washington DC, February 17-19, Feb. 2011.
- P.33) Paul Cotae “Eigenvalue Characterization of the Sum Capacity of Multi-user MIMO Multiple Access Channels” Development and Applications Systems, DAS, May 27-29, 2010, Suceava, Romania.
- P.34) Suresh Regni and Paul Cotae “High-Penetration Grid-Connected Photovoltaic System ” Xerox Fellow Presentation, SEAS, May 2010.
- P.35) Aziakonou Ewonou and Paul Cotae “Performances of the Modulated Signals used in Underwater Acoustic Communications”, Xerox Fellow Presentation, SEAS, May 2010.
- P.36) Lily Kemathe and Paul Cotae “Acoustic Multichannel Underwater Data Acquisition System ” 67th Joint Annual NIS/BKK Conference, New Orleans Louisiana March 24-28, 2010.
- P.37) Lavita Witherspoon and Paul Cotae “Research and Evaluation of Emona Communication Systems” Xerox Fellow Presentation, SEAS, May 2009.
- P.38) Paul Cotae and Fatou Diop Mbengue, “On the Water-Filling Principle and the Inverse Eigenvalue Problem for Overloaded Multipath Multicellular CDMA Systems” *43rd Annual Conference on Information Sciences and Systems CISS 2009*, The Johns Hopkins University, March 2009.
- P.39) Nirmal Chapagai, Lavita Witherspoon, Damaine Sweeney Alvin Quarva, Paul Cotae “Smart Parking System” presented at the *Engineers Week at UDC, February 2009*, Washington DC.

- P.40) Fatou Diop Mbengue, Paul Cotae,” On the Power Efficient Resource Allocation for the Overloaded Multipath CDMA Systems,” presented at the *Engineering Week at UDC, February 2009*, Washington DC.
- P.41) Hasitha Kotamraju, Paul Cotae,” Environmental Monitoring Systems Using Wireless Sensor Networks” *UTSA 2007 ESB Student Conference, November 9, 2007, San Antonio, TX*
- P.42) Bhargavaram Pachala, Paul Cotae, “An Advanced Telemonitoring Method for Transmission of ECG Signal through Mobile Phone” *UTSA 2007 ESB Student Conference, November 9, 2007, San Antonio, TX.*
- P.43) Shilpa C. Chalasani, Paul Cotae,”On the Performances of Temperature Sensors in Mobile Health Care Service”, *UTSA 2007 ESB Student Conference, November 9, 2007, San Antonio, TX.*
- P.44) Srujan Ayreddy, Paul Cotae “, On the Requirements of the Wireless Sensor Networks for Medical Care” *UTSA 2007 ESB Student Conference, November 9, 2007, San Antonio, TX.*
- P.45) Sireesha Yalamanchili, Paul Cotae, “A New Algorithm for Generating the Signature Sets for Multicellular Synchronous DS-CDMA System” *UTSA 2007 ESB Student Conference, November 9, 2007, San Antonio, TX.*
- P.46) Sireesha Yalamanchili, Paul Cotae, C.L. Philip Chen, “On the Optimal Placement of Sensor Locations and Sensitivity Analysis for Engine Health Monitoring Using Minimum Interference Algorithms”, *2007 IEEE Wireless Hive Networks Symposium*, sponsored by the *IEEE Central Texas Section Signal Processing/Communications Chapter*, August 8th, 2007 at the Hilton Austin, collocated with National Instruments: NIWeek 2007.
- P.47) Madhavi Adusumilli, Paul Cotae, Arturo Ayon, “Wireless Sensor Networks for Health Monitoring”, *2007 IEEE Wireless Hive Networks Symposium*, sponsored by the *IEEE Central Texas Section Signal Processing/Communications Chapter*, August 8th, 2007 at the Hilton Austin, collocated with National Instruments: NIWeek 2007.
- P.48) Madhavi Adusumilli, Paul Cotae, Arturo Ayon “Continuous health monitoring using wearable biosensors”, *2007 IEEE Galveston Section Symposium for Space Applications of Wireless & RFID* , May 8-9, 2007, Houston, TX.
- P.49) Mark Glover and Paul Cotae “On the node placement in wireless sensor networks” *2006 UTSA Engineering, Science and Biotechnology Conference*, October 20, 2006, San Antonio.
- P.50) Sireesha Yalamanchili and Paul Cotae “Sensor placement for effective diagnosis in multiple faults”, *2006 UTSA Engineering, Science and Biotechnology Conference*, October 20, 2006, San Antonio.
- P.51) Madhavi Adusumilli and Paul Cotae “On the patients’ health monitoring using wearable biosensors”, *2006 UTSA Engineering, Science and Biotechnology Conference*, October 20, 2006, San Antonio.
- P.52) Lacatus, C. and Paul Cotae, “Transmitter precoding scheme for overloaded synchronous CDMA Systems” *2005 Texas Wireless Symposium*, Oct.26-28, 2005, Austin, TX, Department of ECE, University of Texas at Austin.

- P.53) Lacatus, C. and Paul Cotae, “Performances of Multicarrier Synchronous DS-CDMA Systems with Decorrelator” *2005 Texas Wireless Symposium*, Oct.26-28, 2005, Austin, TX, Department of ECE, University of Texas at Austin.
- P.54) Paul Cotae and M. Aguirre, “Metric for Transmitter Adaptation in Wireless Mobile CDMA Systems Beyond 3rd Generation, *Texas System Day 2004*, University of Houston, Nov 13, 2004.
- P.55) Paul Cotae and Matthew Potter “Methods to reduce interferences in wireless communication systems“ at the 2002 Annual LSAMP Conference in El Paso from October 3rd – 5th, 2003.
- P.56) Paul Cotae, “Sampling and Quantization Effects on a Coherent Correlator C/A Code GPS Signal” *University of Colorado at Colorado Springs*, CO, December 11, 1996.
- P.57) Paul Cotae, “Ring Convolutional Encoded CPM Modulation Schemes”, *University of Colorado at Colorado Springs*, CO, March, 13, 1996.
- P.58) Paul Cotae, ”The Performance of binary QPRS Modulation Schemes”, *University of Colorado at Colorado Springs*, CO, October 4, 1995.
- P.59) Paul Cotae, ”Efficient Trellis Coded CPM Schemes” *University of Colorado at Colorado Springs*, CO, April 5, 1995.
- P.60) Paul Cotae, “Pulse and Spectrum Shaping in Constant Envelope Modulations”, *University of Colorado at Colorado Springs*, CO, March 1, 1995.

Patents

- 1) Nicole Dumitru Alexandru, Paul Cotae, *Complex Pulse Generator*, Patent no. 102595, issued on 25.04.1994.
- 2) Nemescu, D, Alexandru N.D., Cretu, M., Paul Cotae, Zamfir M., Alexandu, D., *Device for Controlling the Position of Weaving* , Patent no. 98678, issued on 24.08.1987.

Technical Reports

- TR.1) Paul Cotae” On the Partial Ordering of the Binary Discrete Memoryless Channels Under Trace Constraint and on the Capacity of the MIMO Channels”, Naval Research Laboratories, ONR-ASEE Faculty Research Program, Jun-Sept 2010, Washington DC.
- TR.2) Paul Cotae “Blind Doppler Estimation and Compensation in the Underwater Communications” Naval Research Laboratories, ONR-ASEE Faculty Research Program, Jun-Sept 2009, Washington DC.
- TR.3) Paul Cotae (Progress 3rd Quarter Report) “Analytical Evaluation of Throughput for a Bluetooth Piconet with MAC Level Link Adaptation”, Air Force Office of Scientific Research – Project FA 9550-04-1-0254, UTSA, 2004.
- TR.4) Paul Cotae (Progress 4th Quarter Report), “Analytical Investigation on the Communication Performance of Bluetooth Piconets in the Presence of Mutual Interference”, Air Force Office of Scientific Research – Project FA 9550-04-1-0254, UTSA, 2005.
- TR.5) Paul Cotae (Progress 5th Quarter Report),”Throughput of Bluetooth Piconets in the Presence of the Mutual Interference”, Air Force Office of Scientific Research – Project FA 9550-04-1-0254, UTSA, 2005.

TR.6) Paul Cotae, “Digital Beamforming in Wireless Communications,” *Navsys Corp*, Colorado Springs, CO, April 7, 1997.

Non refereed Publications

NR.1) Paul Cotae “Fast transforms and error correcting codes; A digital processing for system implementation”.

Grants not funded

1. (PI) “*Strategic Initiative: Workshop on Science, Technology, and Innovation at UDC*”. Solicited Amount \$10,000.00 (period Jan.2011-Aug.2011). Submitted on November 6, 2010.
2. (PI) “*Research and Education on Global Safeguards at the School of Engineering and Applied Sciences at the University of the District of Columbia (UDC)*” Solicited Amount \$830,000.00. Submitted on November 18, 2010 to Purdue University (joint proposal for NNSA consortium).
3. (PI) “*Integrated Teaching Technology and Laboratory Experiments for Wireless Sensor Networks*,” Solicited Amount \$200,000.00, submitted to NSF, DUE division on May 13, 2009.
4. (Co-PI) “*Scalable Sensor System for Urban Monitoring*, Solicited Amount \$304,823.00 (PI: Dr. Byunggu Yu), submitted to NSF, CMMI division on February 12, 2009.
5. (PI) “*Integrated Cyberlearning Infrastructure for Home Network Applications*” Solicited Amount \$1,392,041.00, submitted to NSF, DRL division on June 26, 2009.
6. (Co-PI) “*An Integrated Approach to Solar Energy Research and Applications*” Solicited Amount \$300K (PI: Dr. Ester Ososanya), submitted to DOE, on July 12, 2009.
7. (Co-PI) “*The Design and Development of an Experimental anaerobic digester for organic wastes*” Solicited Amount \$100K (PI: Dr. Ester Ososanya), submitted to Department of Agriculture, on July 12, 2009.
8. (Co-PI) “*Agnostic Wireless Communication Waveform Gateway*” Solicited Amount \$100,000.00 (PI: David Pokrajac, VIPMobile, Inc.) Submitted to Navy STTR FY2009A- Topic N09-T037, March 25, 2009.
9. (Co-PI) “*CT-M: Integrative Location and Imaging Sensing for Cyber security in Computing Network*”, Solicited Amount \$598,470.00 (PI: Dr. Philip Chen), period 11/01/2008-10/31/2011, submitted to NSF, CCF Cyber Trust on March 24, 2008.
- 10.(Co-PI) “*Power-Generation from Engineered Military Fabrics Employing Atomic Layer Deposition*”, Solicited Amount \$700,818.00 (PI: Dr. Arturo Ayon), submitted to AFSOR on Dec. 17, 2007.
- 11.(PI) “*Micro and Nanotechnology Science, Technology, Engineering and Mathematics Talent Expansion Programs at UTSA*”, submitted on September 18, 2007 to National Science Foundation NSF 07-570 STEP Program, Solicited amount: \$1,992,168.00.

- 12.(Co-PI) “Power-Generation from Military Fabrics Engineered Employing Atomic Layer Deposition”, Solicited Amount \$170,835.00 (PI: Dr. Arturo Ayon), submitted to MIT Institute for Soldier Nanotechnologies on Nov. 30, 2007.
- 13.(PI) “New Wireless Sensor Technology for Home Health Monitoring” UTSA Faculty Research Award, submitted Oct. 2007, Solicited amount \$5K.
- 14.(PI) “An Innovative Wireless Communication Instruction and Laboratory Experiments for Wireless Sensor Networks”, submitted Aug. 2007 to National Science Foundation, Course, Curriculum and Laboratory Improvement Program, (CCLI), Solicited amount: \$200K.
- 15.(Co-PI) “A Secure Hybrid Distributed Underwater Acoustic Network for Naval Tactical Applications”, ONR 07-007, HBCU/MI, Research and Education Program (REP), (PI: Mehdi Shadaram), Solicited amount: \$600K, submitted Spring 2007. (PI: Dr. Mehdi Shadaram).
- 16.(Co-PI) NSF, MRI: “Development of System of Systems Test-Bed for Control, Communication, Sensing, Vision, Intelligence, and Integration”, Requested amount \$1,035,844.00; Submitted Jan. 2007. (PI: Dr. Mo Jamshidi).
- 17.(Co-PI) NSF “Center of Micro and Nanotechnology Development (COMAND) Center”, Requested amount \$4,800,000, Submitted April 2007, (PI: Dr. Arturo Ayon).
- 18.(PI), submitted to Texas ARP: “New Wireless Technology for Advanced Research and Education in Sensors Networks”. Requested amount \$100K, submitted February 2006.
- 19.(PI), Submitted to NSF REU Sites: “Advanced RF MEMS actuators for secure optical and wireless distributed communication systems”, Requested amount \$ 381,001.00, submitted Aug. 2006
- 20.(PI), Submitted to NSF “Integrated Training in Computing for Minority Students in Electrical Engineering and Computer Science”, Requested amount: \$582,211.00, submitted May 2006.
- 21.(Co-PI), Submitted to NSF, NeTS-NOSS: “Game Theory Applied to Sensor Systems”, Requested amount \$298,271, submitted March 2006, (PI: Dr. Anthony Chronopoulos)
- 22.(Co-PI) Submitted to DOE, “Feasibility of Process Control of Fossil Fuel above Ground Storage Tanks Using a Fiber Optic Network Suite”, Requested amount \$192,385.00, submitted June 2006, (PI: Dr. Mehdi Shadaram).
- 23.(PI), San Antonio Area, “Wireless Sensor Networks Technology for Home Health Monitoring”, submitted on Nov.5/2005. Requested amount \$20,000.00.
- 24.(PI) NSF, “Linear Algebra and Game Theory Algorithms Applied to Wireless Communications and Distributed Systems”, submitted on 09/07/2005. Requested amount: \$346,556.00
- 25.(PI), (AFSOR) “Advanced Image Processing and Robust Video Transmission over Multipath Communication Channels” submitted on 04/11/2005. Requested amount \$193,034.00.
- 26.(PI) CAREER, NSF “New Technology for Transmitter Adaptation in High Speed Wireless Links” submitted on 07/20/2005. Requested amount \$400,000.00.
- 27.(PI) BPC-DP, NSF: “Integrated Research and Education for Minority Students in Wireless Channel Access and Mobile Computing”, submitted on 06/14/2005. Requested amount \$498,118.00.

- 28.(PI) NSF: RUI: NeTS-NBD: “Research Training for Minority Students in Wireless Network Communications”, submitted on 01/20/2005. Requested amount: \$363,912.00
- 29.(PI), (CAREER), NSF, Mathematical Algorithms and Metric for Transmitter adaptation in Wireless Mobile CDMA Systems beyond 3rd generation, submitted to NSF on July 20, 2004, Requested amount \$483,464.00.
- 30.(PI), NSF, Research training for Minority Students in Wireless Communication Networks, submitted to NSF on January 20, 2005, Requested amount \$363,912.
- 31.(PI) (SBIR), NSF, Design and implementation of a robust high performance multiband OFDM UWB transceiver for the IEEE 802.15.3a Proposal, submitted to NSF on Aug 12, 2004, Requested amount \$93,000.
- 32.(PI) Iterative methods for minimizing total weighted squared correlation interference in wireless communications, Faculty Research Award submitted Oct. 2002.
- 33.(PI) Enabling High Speed Wireless Internet Access at Home and small offices, Faculty Research Award, submitted Oct. 2003
- 34.(Co-PI) ITR-(NHS)-(dmc): Efficient Low Power Systems for Wireless Positioning, submitted to NSF in Feb. 2004, (PI: Dr. Eugen John)
- 35.(Co-PI) ITR small: Information Technology Research in Design and Control of Reconfigurable Wireless Networks, submitted to NSF December 2002. (PI: Dr. Philip Chen).
- 36.(Co-PI) Control and optimization of Satellite Systems, Submitted to NASA Sept.2002, (PI: Dr. Philip Chen).
- 37.(participant) NSF Graduate Teaching Fellows in K-12 Education (GK-12) submitted to NSF, June 2003. (PI: Dr. Amir Karimi).

White Papers

- WP.1) On the Security of the Wireless Communication Technology (ONR, February 28, 2011)
- WP.2) Inverse Eigenvalue Problem Applied to the Vector Channel Capacity Maximization, (ONR August 19, 2009).
- WP.3) Modeling of the Optimal Deployment of Sensor Arrays for Military Applications (AFSOR, March 26, 2008).
- WP.4) Robust Algorithm for Networked Multi-Target/Jammers (AFSOR, March 14, 2008).
- WP.5) Texas Higher Education Board: Advanced Research Program, ARP-2007:” MIMO Capacity and Wideband Design Algorithms” (Collaboration with UT Austin), Oct. 23, 2007.
- WP.6) Texas Higher Education Board: Advanced Research Program, ARP-2007: ”Air Quality Compliance for Texas Coal-Fired Power Generation Based on Wireless Sensor Networks”, Oct. 23, 2007.

WP.7) TWD - TETC: Recruitment and Retention of Freshmen and Transfer Students from Community Colleges for High Technology Workforce.

WP.8) Broadband Anti Jamming Technology for Mobile Wireless CDMA Networks Protection. Reference-number-BAA-04-04-IFKA.

WP.9) Design of space-time codes for mitigating multi-user and intentional interference in wireless communication applications (Assisted GPS).

WP.10) Robust Interference Mitigation for Next CDMA Systems (ONR Summer Internship).

WP.11) Design of space-time codes for wireless optical communications with military applications (DOD).

WP.12) Metrics and Efficient Algorithms for Robust Flight Control of UAVs. (AFSOR)

WP.13) Wireless sensor networks application for medical care (Texas ATP).

WP.14) Metrics and Algorithms for urban target recognition based on multiple inputs multiple output radar sensors networks (Army Research Office, FYO6 MURI Topic #26).

WP.15) Metrics for Security Evaluation of Encryption Algorithms for Interoperating GSM/UMTS Networks (SBC).

WP.16) Feasibility of Process Control of Fossil Fuel above Ground Storage Tanks Using a Fiber Optic Network Suite (DOE).

Memorandum

To: The Board of Trustees

From: Managing Director of Finance *David A. Franklin*

Date: June 17, 2025

Subject: Appointment as Distinguished Professor for Paul Cotae, Ph.D., School of Engineering and Applied Sciences

Conclusion

It is concluded that there are sufficient unrestricted funds in the University's Academic Affairs budget to cover the cost of salary and benefits associated with the appointment of Dr. Paul Cotae to the rank of Distinguished Professor of Electrical and Computer Engineering in the School of Engineering and Applied Sciences (SEAS).

Background

The proposed resolution recommends the appointment of Paul Cotae, Ph.D., to the position of Distinguished Professor in the Department of Electrical and Computer Engineering, SEAS. Dr. Cotae's appointment is supported by letters of recommendation from the Dean of SEAS, Dr. Devdas Shetty, five distinguished academic external reviewers, the Chief Academic Officer, and President. All cite his 40+ years as an engineer and professor with 17 years at UDC, and point to an outstanding record of teaching, scholarship, leadership, and service to UDC, the engineering profession, the District, and beyond.

Financial Impact

The proposed resolution includes a salary increase, adjusting Dr. Cotae's salary from \$116,133.53 to \$127,746.88 within the Professor Pay Band B, as defined under the 8th Master Agreement. With the addition of \$35,769.13 in anticipated fringe benefits, the adjusted compensation rate equals \$163,516.01. The fiscal impact of the increase is projected at \$13,355.35.

There are no anticipated risks at this time.