BOARD OF TRUSTEES
UNIVERSITY OF THE DISTRICT OF COLUMBIA
UDC RESOLUTION NO. 2023 - 14

SUBJECT: TENURE APPROVAL FOR AMIR SHAHIRINIA, PH.D., SCHOOL OF ENGINEERING AND APPLIED SCIENCES (SEAS)

WHEREAS, pursuant to D.C. 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 making for the components of the University; and

WHEREAS, Dr. Amir Shahirinia is a continuing and recently promoted Associate Professor in the Department of Electrical and Computer Engineering, of the School of Engineering & Applied Sciences (SEAS), who has petitioned the University of the District of Columbia to be granted tenure in the department in which he is qualified; and

WHEREAS, Dr. Devas Shetty, Dean of SEAS, in conjunction with the SEAS faculty, have conducted a thorough review of Dr. Shahirinia's background and record of achievements in teaching, scholarship and university and community service; and

WHEREAS, Dr. Shahirinia is judged to be an excellent professor with distinguished skills and expertise who meets the criteria by which University of the District of Columbia faculty are evaluated, based on the 8th Master Agreement; and

WHEREAS, the Chief Academic Officer and the President have affirmed the recommendation of tenure for Dr. Shahirinia, which is also supported by the Dean and Faculty of SEAS, and the President has forwarded the recommendation for tenure to the Board of Trustees.

NOW THEREFORE BE IT RESOLVED, that the Board of Trustees of the University of the District of Columbia approves the award of tenure to Dr. Amir Shahirinia at the rank of Associate Professor in the School of Engineering and Applied Sciences (SEAS).

Submitted by the Academic & Student Affairs Committee: May 31, 2023

Approved by the Board of Trustees: June 8, 2023

Christopher D. Bell
Chairperson of the Board

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

LAWRENCE T. POTTER, JR., Ph.D.
CHIEF ACADEMIC OFFICER

CONFIDENTIAL MEMORANDUM

TO: Ronald Mason, Jr., J.D.
President

FROM: Lawrence T. Potter, Jr. Ph.D.
Chief Academic Officer

DATE: April 30, 2023

RE: Recommendation: Professor Amir Shahirinia for tenure and promotion to the rank of Associate Professor

President Mason:

Guided by the *Eight Master Agreement* and criteria established by the School of Engineering & Applied Sciences (SEAS) for promotion and tenure, I have reviewed the portfolio and supporting documentation submitted by **Dr. Amir Shahirinia for tenure and promotion to the rank of Associate Professor**.

As Chief Academic Officer, my review aims to evaluate evidence of significant and relevant achievements in scholarship/creative work, teaching, and service. In addition, I review the self-narrative to ensure alignment between established standards and evidence provided within the portfolio. I conduct my review of each applicant after the files have been reviewed by the Chair, DEPC, CPC, Dean, and URC (in cases where an appeal is filed). Based on a holistic review of recommendations and the file, I make an independent recommendation to you for consideration.

Professor Shahirinia arrived at UDC in January of 2017 as a tenure-track assistant professor. He had spent two years at Alfred University prior to his arrival. He applied for promotion two years ago, but the URC ruled that he was ineligible based on the timeline and a portfolio review. He applied again last year (5th year) and was not approved. The Office of the Chief Academic Officer recommended that he reapply this year and focus on improvement in these areas: published scholarship, co-authorships with grad students (based on one external reviewer's comments), closing the loop in teaching and service, and the overall organization of the dossier. **He is now in his 6th year with UDC and seeks promotion to Associate Professor with Tenure**. **He meets eligibility requirements, having received evaluation scores of 4, 4, and 3 for the past three years** (with 4 being the most recent).

Chair: **Strongly Recommended (1 of 1)**
DEPC: **Strongly Recommended (none offered)**
CPC: **Recommended (2 of 2)**
Dean: **Recommended (1 of 2)**

TEACHING: The **Dean** commends Professor Shahirinia for receiving a "perfect teaching evaluation score of 4.0 for the last 5 years at UDC. He considers the opportunity to teach and work with students as one of the primary reasons for pursuing an academic career." In terms of evidence of teaching success, the Dean highlights that Dr. Shahirinia employs an "effective dynamic teaching method that also meets engineering accreditation (ABET) criteria." Unlike last year, Professor Shahirinia attends with great thoroughness to the teaching domain in this year's application, providing a six-page review of his teaching approaches and outcomes for students. He has taught a total of 11 different courses in ECE since his arrival. He has met the standard in this domain.

RESEARCH: One external reviewer who did not submit a review last year, **Dr. Mohammad Hajiaghayi**, offers important perspective on the recent trajectory of Professor Shahirinia's scholarship. A Professor of Computer Science with the Brendan Iribe Center for Computer Science and Engineering, University of Maryland, Dr. Hajiaghayi, writes: *"It can be seen there is a promising upward trend in his publications as is expected from a successful Assistant Professor. Also, the quality of the journals that Amir has published in recent years has increased from good to excellent. Compared to R1 Assistant Professors at the time they apply for tenure and promotion, Amir's research outcomes, publication quality, and numbers fall within the top 20%, which is an outstanding research record for an Assistant Professor at a predominantly teaching university."* And indeed, Professor Shahirinia provides evidence of four (4) new co-authored journal articles in 2022 alone, which substantiates one of his responses last year, that he was expecting publications to come out soon. These newest publications appear in the following journals: *IET Generation, Transmission & Distribution* (1); *IET Power Electronics* (1), and *IEEE Transaction on Industrial Electronics* (2). Another external reviewer, **Dr. Ross Baldick,** Professor Emeritus, Leland Barclay Fellow in Engineering, Department of Electrical and Computer Engineering, UT Austin, states, "*[Dr. Shahirinia's] publication record puts him in the upper echelon of researchers at predominantly teaching universities. His recently published output and successful research grants are strong evidence of a growing research program. I believe that he has made and will continue to make contributions to power systems. He is independent and capable, and extremely dedicated. I highly recommend Dr. Shahirinia for promotion to Associate Professor with tenure."* Although Dr. Baldick did write a letter for last year's application, I note that this was a new letter, revised for this year's application**.** Criticism last year by external reviewer Dr. Hobbs, that Dr. Shahirinia should be co-authoring research publications with his graduate students, has been answered as well. Two publications appeared in 2021 but were too late for inclusion in the portfolio last year, and four others, from 2020 or earlier, were mistakenly not identified last year as having been co-authored with graduate students. Thus, six publications in quality journals have been co-authored with graduate students, one of which, appearing in *IET Renewable Power Generation* (2021), received praise from Dr. Baldick, who writes, *"The paper addresses the timely issue of correlation between wind installations. This is a solid contribution to empirical analysis of wind speeds."* Furthermore, Professor Shahirinia has *three* publications under review, one co-authored with one of his graduate students. Finally, he has applied for nearly $7M in research grant funding since last year's application (decisions pending from NASA and NSF). Based on the quality of the publication outlets, the co-authorships with graduate students, and the upward trend in total scholarly output, Professor Shahirinia now meets the standard in this domain.

SERVICE: At the Departmental level, Professor Shahirinia has served as the new Program Director of the Electrical Engineering program since 2022; he now serves as the chair of the ECE Undergraduate Curriculum Committee and the UDC-IEEE Student Club coordinator. Professor Shahirinia also serves as the Director, the Smart Grids & Artificial Intelligence Lab (SGAI) and the Director, of the Center of Excellence for Renewable Energy (CERE). The **Dean** comments especially on Dr. Shahirinia's *"success in establishing the "Smart Grid and Artificial Intelligence Laboratory (SGAI) . . . for teaching and research purposes. This laboratory is specifically funded by the Department of Defense (DoD). The laboratory he created has modern control equipment, Unmanned Aerial Vehicles (UAVs), Unmanned Ground Vehicles (UGVs), fully autonomous Self-Deriving Vehicles, and Robot manipulators."* What is key here is the closing of the loop that Professor Shahirinia provides in terms of the student learning from this lab, which informs senior projects, poster presentations, and capstone showcasing of work by students (such as during Research Week). In addition, as seen during one high-profile visit from a NASA official, these state-of-the-art facilities have brought distinction to SEAS and UDC. The SGAI laboratory has been at the center of attention, welcoming many industry, government, and academia visitors. Although too late for inclusion in this year's portfolio, Professor Shahirinia also volunteered to serve on a Working Group for the Self-Study process and wrote a report of some length in response to the Self-Study Design and Lines of Inquiry for that Working Group. In this year's application, his volunteerism and service to the institution are more visible—and more visibly connected to outcomes. He has met the standard in this domain.

Summary Evaluation

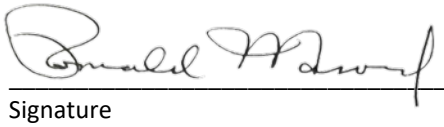
Professor Shahirinia responded very well to the feedback from last year. One additional external reviewer this year (Alireza Khaligh, Ph.D., Director of the Maryland Power Electronics Lab at UMD) also reviewed the application last year. I have quoted from the other two reviewers above. The evidence is clear this time around, as is the organization and presentation of the portfolio. In fact, the presentation is 100% improved. **Therefore, I concur with all recommendations and external reviewers in supporting Professor Shahirinia to be tenured and promoted to Associate Professor. He should be commended for his excellent attitude and persistence in progressing and improving his application significantly.**

The electronic dossier is available for review. Send an email request to the Office of the Chief Academic Officer at CAO@udc.edu.

I, Ronald Mason, Jr., President of the University of the District of Columbia, APPROVE X DENY _____

the recommendation to promote Professor Shahirinia to the rank of Associate Professor with tenure, and

recommend him for approval to the Board of Trustees.



Signature

5/11/23

Date

cc: Professor Amir Shahirinia
Albert Pearsall, President, UDCFA
Lorinnsa Bridges-Kee, Vice President of Human Resources

September 12, 2022

Amir Shahirinia

CONTACT INFORMATION

Electrical and Computer Engineering
University of the District of Columbia
[redacted]

[redacted]
e-mail: amir.shahirinia@udc.edu
[redacted]

EDUCATION

- Ph.D. Electrical & Computer Engineering , University of Wisconsin–Milwaukee, Milwaukee, WI, USA, January 2010–May 2015.
- M.Sc., Electrical Engineering, K.N. Toosi University of Technology, Tehran, Iran, August 2003–July 2005.
- B.Sc., Electrical Engineering, K.N. Toosi University of Technology, Tehran, Iran, August 1998–July 2003.

RESEARCH INTERESTS

- Power Electronics & Motor Drives
- Power Systems Control, Optimal Planning & Operation
- Artificial Intelligence Applications in Smart Grids
- Renewable Energy & Smart Grids
- Bayesian Statistics; Data Analysis; Algorithm Development

RESEARCH FUNDING

- ***Amir Shahirinia (Sole-PI)***, ***"Predictive Models for Wind-Penetrated Power Systems Using the Bayesian Approach"***, National Science Foundation (NSF–RIA), Award: **$275,420**, Jun. 2019–May 2023.
- ***Amir Shahirinia (PI)***, Esther Ososanya (Co-PI), Jiajun Xu (Co-PI), Wagdy Mahmoud (Co-PI), ***"Acquisition of Advanced Robotics and Autonomous Vehicle Technology (AR-AVT) for Research in Smart Grid Systems, Teaching, and K-12 Outreach at the University of the District of Columbia"***, Department of Defense (DoD), Award: **$391,796**, Mar. 2020–Mar. 2021.
- Wagdy Mahmoud (PI), ***Amir Shahirinia (Co-PI)***, Nian Zhang (Co-PI), ***"Workforce Development for New Generation of Cybersecurity Systems"***, National Science Foundation (NSF–TIP), Award: **$374,126**, Jul. 2020–May. 2023.
- Kate Klein (PI), ***Amir Shahirinia (Co-PI)***, Pradeep Behera (Co-PI), Lara Thompson (Co-PI), Zeinab Farahmandfar (Co-PI), Pawan Tyagi (Co-PI), Lei Wang (Co-PI), Sasan Haghani (Co-PI), Esther Ososanya (Co-PI), Jiajun Xu (Co-PI), ***"Professional Research Experience Program at the University of the District of Columbia"***, National Institute of Standards and Technology (NIST–PREP), Award: **$6,800,000**, Aug. 2018–Jul. 2023.
- ***Amir Shahirinia (PI)***, Zeinab Farahmandfar (Co-PI), Peradeep Behera (Co-PI), ***"Development of Streamflow Prediction Model and Software Package for Anacostia River at Non-Gauged Locations based on Bayesian Approach"***, DC Water Resources Research

Institute (DCWRRI), Award: **$29,965**, Jun. 2019–Dec. 2020.

- Zeinab Farahmandfar (PI), ***Amir Shahirinia (Co-PI)***, Peradeep Behera (Co-PI), ***"Resilience-Based Water Infrastructure Rehabilitation Planning in the District of Columbia"***, DC Water Resources Research Institute (DCWRRI), Award: **$29,965**, Sep. 2019–Dec. 2020.

Pending Research Funding

- ***Amir Shahirinia (Sole-PI)***, ***"Novel Non-Isolated High-Gain DC-DC Converter for Photovoltaic Applications"***, National Science Foundation (NSF–CAREER), Award: **$500,000**, May 2023–May 2028.
- Saeid Haghbin (PI), ***Amir Shahirinia (Co-PI)***, Alireza Khaligh (Co-PI), ***"Modular and Reconfigurable Energy Storage System with Integrated Charging for eVTOL Applications"***, National Aeronautics and Space Administration (NASA–SNPIRES), Award: **$6,000,000**, May 2023–May 2026.
- ***Amir Shahirinia (Sole-PI)***, ***"Center of Excellency for Investigating State of Health and Remaining Lifetime of Power Systems"***, National Science Foundation (NSF–SBIR/STTR), Award: **$255,051**. Jun. 2023–Apr. 2024.
- ***Amir Shahirinia (PI)***, Mohammad Hajiaghayi, ***"Advance Health Monitoring of Renewable-Penetrated Energy Systems Using Artificial Intelligence and Multi-Agent Robotics System"***, Department of Energy (DoE–WETO), Award: **$3,000,000**, (To be submitted).

Professional Experience

- ***Chair, ECE Curriculum Development Committee***, University of the District of Columbia, Washington D.C., May. 2022–Present.
- ***Director, ECE Undergraduate Program***, University of the District of Columbia, Washington D.C., Dec. 2021–Present.
- ***Director, Smart Grid & Artificial Intelligence (SGAI)***, University of the District of Columbia, Washington D.C., Nov. 2020–Present.
- ***Director, Center of Excellence for Renewable Energy (CERE)***, University of the District of Columbia, Washington D.C., May 2017–Present.
- ***Assistant Professor***, University of the District of Columbia, Washington D.C., January 2017–Present.
- ***Post-Doctoral Fellow***, Power Electronics Group, Rockwell Automation (Allen Bradly), Milwaukee, WI. USA, May 2014–August 2015.

Book Chapter

- A.Hajizadeh, ***Amir Shahirinia***, D.C.Yu, Chapter 13, "Power Control of Plug-in Electric Vehicles in Smart Grids", Autonomous Hybrid Vehicles: Intelligent Transport Systems and Automotive Technologies, *NOVA Science Publishers, INC.*, ISBN: 978-606-560-327-1, 2014.

Refereed Journal Publications

- H. Jalat, S.G. Liasi, M. Tavakoli Bina, ***Amir Shahirinia***, "Optimal Placement of STATCOM Using a Reduced Computational Burden by Minimum Number of Monitoring Units Based on Area of Vulnerability", To appear in *IET Generation, Transmission & Distribution.*

- S. Abbasian, M. Farsijani, M. Tavakoli Bina, ***Amir Shahirinia***, A. Abrishamifar, A. Hosseini, "An Interleaved Non-isolated High Gain Soft Switching DC-DC Converter with Small Input Current Ripple", To appear in *IET Power Electronics*.

- S. Rezazade, ***Amir Shahirinia***, R. Naghash, N. Rasekh, E. Afjei, "A Novel Efficient Hybrid Compensator for Wireless Power Transfer", *IEEE Transaction on Industrial Electronics*, 10.1109/TIE. 2022.3169840, 2022.

- S. Abbasian, M. Farsijani, M. Tavakoli Bina, ***Amir Shahirinia***, "A Nonisolated Common-Ground High Step-Up Soft-Switching DC–DC Converter With Single Active Switch", *IEEE Transaction on Industrial Electronic*, 10.1109/TIE.2022.3198262, 2022.

- A. Saleki, M. Tavakoli Bina, ***Amir Shahirinia***, "Suggesting Hybrid HB and Three-Quarter-Bridge MMC-Based HVDC Systems: Protection and Synchronous Stability Under DC Faults", *IEEE Transaction on Power Delivery*, 10.1109/TPWRD.2021.3114297, 2021.

- S. B. Henderson, ***Amir Shahirinia***, M. Tavakoli Bina, "Bayesian Estimation of Copula Parameters for Wind Speed Models of Dependence", *IET Renewable Power Generation*, 10.1049/rpg2.12297, 2021. (With UDC Students)

- V. Tanoe, ***Amir Shahirinia***, M. Tavakoli Bina, "Bayesian and Non-Bayesian Regression Analysis Applied on Wind Speed Data", *Journal of Renewable and Sustainable Energy (JRSE)*, 10.1063/5.0056237, 2021. (With UDC Students)

- A. Naderi, K. Abbaszadeh, M. Moradzadeh, ***Amir Shahirinia***, "High Gain Bidirectional Quadratic DC-DC Converter Based on Coupled Inductor with Current Ripple Reduction Capability", *IEEE Transaction on Industrial Electronics*, TIE.2020.3013551, 2020.

- M.A. Ehsan, ***Amir Shahirinia***, N. Zhang, "Investigation of Data Size Variability in Wind Speed Prediction Using AI Algorithms", *Journal of Cybernetics and Systems*, 01969722.2020.1827796, 2020. (With UDC Students)

- M.M. Rana, ***Amir Shahirinia***, "Distributed Dynamic State Estimation Considering Packet Losses in Interconnected Smart Grid Subsystems: Linear Matrix Inequality Approach", *IEEE Access*, 10.1109 ACCESS.2019.2949995, 2019.

- M.R. Kikhavandi, A. Hajizadeh, ***Amir Shahirinia***, "Charging Coordination and Load Balancing of Plug-in Electric Vehicles in Unbalanced Lowvoltage Distribution Systems", *IET Generation, Transmission & Distribution*, 10.1049/iet-gtd.2019.0397, 2019.

- M.R. Baghayipour, A. Hajizadeh, ***Amir Shahirinia***, Z.Chen, "Dynamic Placement Analysis of Wind Power Generation Units in Distribution Power Systems", *International Journal of Energies*, 11(9), 2326, 2018.

- ***Amir Shahirinia***, E. Soofi, D.C. Yu, "Probability Distributions of Outputs of Stochastic Economic Dispatch", *International Journal of Electrical Power and Energy Systems (ELSEVIER)*, 81 (2016) 308–316, 2016.

- A. Hajizadeh, ***Amir Shahirinia***, D.C. Yu,"Self-Tuning Indirect Adaptive Control of Non Inverting Buck-Boost Converter", *IET Power Electronics*, pp. 1–8, ISSN 1755-4535, Jul. 2015.

- A. Hajizadeh, ***Amir Shahirinia***, D.C. Yu,"Fuzzy Control of Hybrid Diesel Generator/ Fuel Cell/ Energy Storage Power Sources for Marine Power System", *Journal of Fuel Cell Science and Technology (ASME)*, Vol. 12. N. 2, No. FC-13-1070, Jan. 2015.

- ***Amir Shahirinia***, A. Hajizadeh, D.C. Yu, A. Feliachi, "Control of a Hybrid Wind Turbine/ Battery Energy Storage Power Generation System Considering Statistical Wind Characteristics", *Journal of Renewable and Sustainable Energy (JRSE)*, Vol. 4, 2012.

- P. Naderi, ***Amir Shahirinia***, O.P. Malik,"Power System Stabilization Using Optimal Placement of Stabilizers and Design of Local Robust Controllers", *International Review of Automatic Control (IREACO)*, Vol. 2. n. 2, pp. 163-169- Mar. 2009.

- ***Amir Shahirinia***, A. Radan, "Novel Carrier-Based PWM Methods for Multi-Level Inverters", *Taylor & Francis, European Power Electronics & Drives (EPE)*, Vol. 18, No. 2, 2008.

- ***Amir Shahirinia***, S.M.M. Tafreshi, A. Hajizadeh, A.R. Moghaddmjoo, "Genetic-Based Size Optimization of Wind Energy", *International Journal of Power and Energy Systems (ACTA Press)*, Vol. 28, No. 1, 2008.

- ***Amir Shahirinia***, S.M.M. Tafreshi, A. Hajizadeh, A.R. Moghaddmjoo, "Optimal Design of Wind/PV Stand-Alone Hybrid Power System Using Genetic Algorithm", *Journal of Iranian Association of Electrical and Electronics Engineers (IAEEE)*, Vol.3, No.2, Fall and winter 2006.

Under Review Journal Publications

- S.G. Liasi, M. Tavakoli Bina, ***Amir Shahirinia***, "Optimal Placement of Electric Vehicles Charging Station Using Comprehensive Accurate Model of Electric Vehicles' Behavior in Cities", *IEEE Transaction on Power Systems.*

- S.Rezazade, ***Amir Shahirinia***, R. Naghash, S. E. Afjei, M. Tavakoli Bina, "A Novel Wireless Power Transfer Systems Efficiency Calculation Using Real-Time Parameter Estimation", *IEEE Transaction on Transportation Electrification.*

- ***Amir Shahirinia***, V. Tanoe, M. Tavakoli Bina, M. Ashtary, "Multi-Site Wind Farms Dependence Structure Using Vine Copulas: Impact of Dataset sizes and Employed Copulas", *IEEE Systems Journal.* (With UDC Students)

Conference Proceedings

- H. Jalalat, M. Tavakoli Bina, ***Amir Shahirinia***, "Optimal Location of Voltage Sags Monitors by Determining the Vulnerable Area of Network Buses", *IEEE International Conference on Smart Grid (SGC2021)*, Tabriz, Iran, 16-18 Dec. 2021.

- M.A. Ehsan, ***Amir Shahirinia***, N. Zhang, J. Gill, "Dependent Wind Speed Models: Copula Approach", *IEEE International Conference on Electric Power & Energy Conference (EPEC)*, Edmonton, Canada, 9-15 Nov. 2020. (With UDC Students)

- M.A. Ehsan, ***Amir Shahirinia***, N. Zhang, T. Oladunni, "Wind Speed Prediction and Visualization Using Long Short-Term Memory Networks (LSTM)", *IEEE International Conference on Information Science and Technology (ICIST)*, Bath, London, 9-15 Sep. 2020. (With UDC Students)

- M.M. Rana, ***Amir Shahirinia***, B.J. Choi, "Compute Process and Measurement Noise Covariances for Human Motion Estimation: A Kalman Filter Approach with IoT Sensors", *IEEE International Conference on Cyber Technology in Automation (CTACI)*, Suzhou, China, Jul. 29-Aug. 2, 2019.

- B. Azimian, A. Helmzadeh, ***Amir Shahirinia***, "Minimization of Ohmic Losses in Power Networks by Utilization of Interphase Power Controllers", *IEEE International Conference on North*

American Power Symposium (NAPS), North Dakota, USA, 9-11 Sep. 2018.

- P. Mohammadi, B. Azimian, ***Amir Shahirinia***, "A Novel Double-Loop Control Structure Based on Fuzzy-PI and Fuzzy-PR Strategies for Single-Phase Inverter in Photovoltaic Application", *IEEE International Conference on North American Power Symposium (NAPS)*, North Dakota, USA, 9-11 Sep. 2018.

- ***Amir Shahirinia***, A. Hajizadeh, D.C. Yu, "Bayesian Predictive Models for Rayleigh Wind Speed", *IEEE International Conference on Ubiquitous Wireless Broadband (ICUWB)*, Salamanca, Spain, 12-15 Sep. 2017.

- ***Amir Shahirinia***, A. Hajizadeh, D.C. Yu, "Bayesian Predictive Models of Economic Dispatching for Wind-Penetrated Power Systems", *IEEE International Conference on Ubiquitous Wireless Broadband (ICUWB)*, Salamanca, Spain, 12-15 Sep. 2017.

- ***Amir Shahirinia***, A. Hajizadeh, "Model Predictive Control of Grid Connected Modular Multilevel Converter for Integration of Photovoltaic Power Systems", *IEEE International Conference on Photovoltaic Specialists (PVSC)*, Washington, DC., USA, 25-30 Jun. 2017.

- ***Amir Shahirinia***, R. Tallam, "Simulation Model for Multi-Winding Transformers for Switched Mode Power Supply", *IEEE International Conference on Energy Conversion Congress and Exposition (ECCE)*, Milwaukee, Wisconsin, USA, 18-22 Sep. 2016.

- ***Amir Shahirinia***, A. Hajizadeh, S. Arabameri, D.C. Yu, "State of Charge Estimation of Battery Energy Storage for Solar Power Systems ", *IEEE International Conference on Renewable Energy Research and Applications (ICRERA)*, Milwaukee, USA, 19-22 Oct. 2014.

- ***Amir Shahirinia***, A. Hajizadeh, D.C. Yu, "Robust Control of Hybrid Wind / Energy Storage Power Generation System Considering Statistical Wind Characteristics", *IEEE International Conference on Power and Energy (PECON)*, Kota Kinabalu, Sabah, Malaysia, 2-6 Dec. 2012.

- ***Amir Shahirinia***, A. Hajizadeh, D.C. Yu, "Power Control of Autonomous Hybrid Diesel Generator/ Fuel Cell Marine Power System Combined with Energy Storage", *IEEE International Conference on Power and Energy (PECON)*, Kota Kinabalu, Sabah, Malaysia, 2-6 Dec. 2012.

- ***Amir Shahirinia***, A. Radan, M. Falahi, "Evaluation of carrier-Based PWM Methods for Multilevel Inverters", *IEEE International Symposium on Industrial Electronics (ISIE)*, Vigo, Spain, 4-7 Jun. 2007.

- ***Amir Shahirinia***, A. Hajizadeh, P. Naderi, A.R. Moghaddmjoo, "The Best Size Planning of a PV/Wind, Local Remote Hybrid Power System", *IEEE International Conference on Electrical Engineering (ICEE)*, Tehran, Iran, 16-18 May 2006.

- P.Naderi, ***Amir Shahirinia***, S.M.T. Bathaee, B. Labibi, "A New Approach in Decentralized Control of Multi-Machines Large Scale Power System", *IEEE International Conference on Electrical Engineering (ICEE)*, Tehran, Iran, 16-18 May 2006.

- ***Amir Shahirinia***, S.M.M. Tafreshi, A. Hajizadeh, A.R. Moghaddmjoo, "Optimal Sizing of Wind, PV Hybrid Power System Using Genetic Algorithm", *IEEE International Conference on Future Power Systems (FPS)*, Amsterdam, Netherlands, 16-18 Nov., 2005.

Online Certificates

- ***Cybersecurity:*** *Managing Risk in the Information Age*, **Harvard University**, Sep. 2020 - Dec. 2020.

- ***Artificial Intelligence:*** *Implications for Business Strategy*, **Massachusetts Institute of Technology (MIT)**, Oct. 2019 - Jan. 2020.

Supervising Graduate Students

- ***Vincent Tanoe***, Ph.D., Fall 2019–Fall 2022.
- ***Tewodros Mamo***, Ph.D., Spring 2021–Present.
- ***Luis Hernandez***, M.Sc., Fall 2022–Present.
- ***Gavin Robinson***, M.Sc., Fall 2022–Present.
- ***Saul B. Henderson***, M.Sc., Fall 2018–Fall 2020.
- ***Amimul Ehsan***, Spring 2018–Spring 2020.

Professional Memberships

- ***IEEE Senior Member***, Jan. 2022–Present.
- ***IEEE Industrial Electronics Society***, Jan. 2014–Present.
- ***IEEE Power & Energy Society***, Jan. 2010–Present.

Honors and Awards

- ***Outstanding Professor***, Rating 4 out of 4.00 (Teaching 4 out of 4 with %50 weight, Research 4 out of 4 with %40 weight, administrative 4 out of 4 with %10 weight), University of the District of Columbia, Academic Year 2020-2021.
- ***Chancellor award***, Academic Excellence, University of Wisconsin-Milwaukee, Fall 2014, Spring 2014, Fall 2013, Spring 2013, Fall 2012, Spring 2012, Fall 2011, Spring 2011, Fall 2010, Spring 2010.
- ***Outstanding Teaching Assistant***, University of Wisconsin Milwaukee, Spring 2011.
- ***Best Paper Award***, 7th Annual Green Energy Summit, Milwaukee, WI, USA March 24-26, 2010.
- ***Outstanding Research Assistant***, K. N. Toosi Univ. of Tech., Fall 2005.
- ***Outstanding Research Assistant***, K. N. Toosi Univ. of Tech., Fall 2004.

Teaching Experience

- ***Control Systems***, Lecture/Lab, Undergraduate Level, University of the District of Columbia.
- ***Funamentals of Power Electronics for Energy Systems***, Graduate Level, University of Maryland College Park.
- ***Power System Analysis***, Lecture, Undergraduate Level, University of the District of Columbia.
- ***Power Electronics***, Lecture/Lab, Undergraduate/Graduate Level, University of the District of Columbia.
- ***Electric Machinery***, Lecture/Lab, Undergraduate/Graduate Level, University of the District of Columbia, University of Wisconsin-Milwaukee.

- ***Electric Circuit I***, Lecture/Lab, Undergraduate Level, University of the District of Columbia, University of Wisconsin-Milwaukee.
- ***Electric Circuit II***, Lecture/Lab, Undergraduate Level, University of the District of Columbia.
- ***Renewable Energy Fundamentals***, Lecture, Undergraduate Level, K.N.Toosi University of Technology.
- ***Signals and Systems***, Lecture/Lab, Undergraduate Level, K.N.Toosi University of Technology.
- ***Digital Circuits***, Lecture/Lab, Undergraduate Level, K.N.Toosi University of Technology.
- ***Analytical Methods of Engineering***, Lecture, Undergraduate Level, University of Wisconsin-Milwaukee.

Offered Extra Courses

- ***Control of Power Electronics***, Lecture, Graduate Level.
- ***Control of Distributed Generation***, Lecture/Lab, Undergraduate/Graduate Level.
- ***Inactive Power Harmonics Control***, Lecture, Graduate Level.
- ***Robotics & Smart Grid***, Lecture, Undergraduate/Graduate Level.
- ***AI Applications in Smart Grids***, Lecture, Undergraduate/Graduate Level.
- ***Smart Grid Optimal Planning and Operation***, Lecture, Undergraduate/Graduate Level.
- ***Advanced Power Electronics***, Lecture/Lab, Graduate Level.
- ***Power Systems Integration of Renewable Energy***, Lecture, Undergraduate/Graduate Level.
- ***Electric Power Generation***, Lecture, Undergraduate/Graduate Level.
- ***Power System Dispatch***, Lecture, Graduate Level.

Synergistic Activities

- ***Lab Development***, Smart Grids & Artificial Intelligence (SGAI), University of the District of Columbia, Fall 2020.
- ***Graduate Course Development***, Fundamentals of Power Electronics for Energy Systems, University of Maryland, Fall 2018.
- ***Algorithm & Software Package Development***, Hybrid Power Systems Designer (HPSD), UDC SGAI lab, Dec. 2020.
- ***Science of Learning Contribution***, Effective Teaching Workshop, May 2020.
- ***Short Course Development***, Renewable Energy & Smart Grids, Alfred University, 2016.
- ***Broadening the Participation of Groups of Underrepresented in STEM***, Renewable Energy Engineering Society (REES), Alfred University, 2016.

UNIVERSITY OF THE DISTRICT OF COLUMBIA 1851

FISCAL IMPACT STATEMENT

TO: The Board of Trustees

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

DATE: June 8, 2023

SUBJECT: Tenure Approval for Amir Shahirinia, Ph.D., School of Engineering and Applied Sciences (SEAS)

Conclusion

It is concluded that there is no fiscal impact associated with the granting of tenure to Dr. Amir Shahirinia, Assistant Professor in the Department of Electrical & Computer Engineering, in the School of Engineering & Applied Sciences (SEAS) of the University of the District of Columbia (UDC). The proposed resolution is for the approval of tenure for Professor Shahirinia at the rank of Associate Professor.

The Chair, DEPC, and CPC of SEAS have conducted thorough, independent reviews and prepared independent reports to the dean regarding tenure for Professor Shahirinia. It was then considered at the Dean's, CAO's and President's levels. It has been recommended in the Board Resolution that Professor Dang be approved for tenure.

Background

Dr. Shahirinia joined the SEAS in January of 2017. Vetting of all dossier content was completed at the levels of the program, Department, and School. The CAO reviewed all recommendations and Dr. Shahirinia's portfolio (which includes external reviews of his qualifications). All reviews validate the strengths of Professor Shahirinia's tenure and promotion dossier and conclude that he is an excellent teacher, emerging researcher and scholar who has begun to receive recognition for her work, making him a very competitive tenure candidate. Additionally, he has demonstrated a strong record of service to the University community.

The recommendation of tenure for Professor Shahirinia has been affirmed by the Dean, Chief Academic Officer, and President. The President has forwarded the recommendation and background information along with a resolution for the award of tenure to the Board of Trustees.

Financial Impact

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