Service Activities Statement

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1 Summary

My service activity workload allocation at NAU is summarized in Table 1. In AY 2022–2023, I have been the Assistant Chair of Electrical and Computer Engineering in SICCS, which accounted for 15% workload in addition to my usual 10% service activity workload. I refer the reader to my CV in Appendix F for the full record of my service efforts.

Table 1: *Service activity workload allocation. In AY 2022–2023, I have been the Assistant Chair of Electrical and Computer Engineering in SICCS, with 15% workload in addition to my usual 10% service activity workload.*

Academic Year	Workload Allocation (%)
2017–2018 (half-year)	10 (half-year)
2018–2019	10
2019–2020	10
2020–2021	10
2021–2022	10
2022–2023	25

1.1 Expectations for Promotion

The School of Informatics, Computing, and Cyber Systems (SICCS) Conditions of Faculty Service (COFS) documentation, found in Appendix E, states that the following criteria are to be met for promotion to Associate Professor with Tenure in relation to service activities (labels and emphases added are my own to aid analysis).

> *"In service activities, faculty must demonstrate a sustained pattern of (I) service to the profession and (II) University community as well as the potential to assume a (III) leadership role in such activities."*

Based on these criteria, in this statement, I discuss my service to the profession in Section 2, my service to the University community in Section 3, and my leadership efforts in Section 4.

1.2 Summary of Accomplishments

Table 2 maps evidence presented in this document to the criteria outlined in the SICCS COFS statement for promotion and tenure (as discussed in Section 1.1).

Table 2: *Summary of service activity accomplishments and supporting evidence mapped to the criteria in the SICCS COFS.*

Criterion	Supporting Evidence
(I) Service to the Profession	I have reviewed papers for many journals and conferences: 8 different journals and 9 different conferences, several times for some of them, several papers each time in some cases. Many of these are top journals and conferences in my field. I have been a technical program committee member for several conferences, and have chaired or co-chaired several technical sessions at conferences. I have led the organization of a well-received tutorial session at the 2023 American Control Conference. I have been a grant proposal panelist for four NSF review panels. See Section 2 for more details.
(II) Service to the University	I have participated in many service activities, increasingly over the years, at the school, college, and university levels. I have been on several high impact committees, including three faculty search committees, the SICCS Annual Review Committee, the University Graduate Committee, the academic integrity committee, and ECE undergraduate and graduate curriculum committees over multiple years. I have been the Assistant Chair of ECE of SICCS in AY 2022–2023 and will continue this role in AY 2023–2024. See Section 3 for more details.
(III) Leadership roles	I performed leadership roles in multiple committees in my service both to the profession and to the university. I chaired or co-chaired several technical sessions at conferences, and led the organization of a tutorial session at the 2023 American Control Conference. At the university level, I chaired ECE curriculum committees and, importantly, I have demonstrated my leadership in the Assistant Chair of ECE position, where I have made significant contributions to SICCS, the PhD program, the ECE programs and discipline, and other initiatives. See Section 4 for more details.

1.3 Annual Evaluations

Table 3 summarizes my service activities ratings by the SICCS Annual Review Committee (ARC) and the SICCS Director's evaluation, where possible ratings are as follows: unsatisfactory, satisfactory (for meeting expectations), meritorious (for *exceeding expectations*), and highly meritorious (for *substantially exceeding expectation*). I have received the highest possible rating, *highly meritorious*, in the service activities category every year except AY 2019–2020, where I received the second-highest *meritorious* rating. The average ratings for my service activities over my pre-tenure years are both *highly meritorious*, showing that I have substantially exceeded expectations in this activities category. The full annual reviews by the ARC and the SICCS director are included in Appendix A.

2 Service to the Profession

In this section, I discuss my service to the profession since I joined NAU in 2018, including publication reviewing activities, grant proposal panelist activities, membership on technical program committees

Table 3: *Annual evaluation ratings for my service activities.*

Academic Year	ARC Evaluation	Director's Evaluation
2017–2018 (half-year)	Highly Meritorious	Highly Meritorious
2018–2019	Highly Meritorious	Highly Meritorious
2019–2020	Meritorious	Meritorious
2020–2021	Highly Meritorious	Highly Meritorious
2021–2022	Highly Meritorious	Highly Meritorious
2022–2023	Highly Meritorious	Highly Meritorious
Average	Highly Meritorious	Highly Meritorious

(TPCs) and technical sessions, and organization of special sessions at conferences. Some of these details are also discussed in my *Scholarly Activities Statement* to demonstrate my national visibility. Also discussed in my *Scholarly Activities Statement* is that conferences are one of the primary forms of scientific dissemination in my field. They adopt rigorous and selective peer-reviewing processes and offer high impact factors. I have contributed to the technical programs and reviewing process of highly prestigious venues, as described below.

2.1 Publication Reviewer

I report the journals and conferences that I have reviewed for, including the academic years and the numbers of papers. Because revisions to journal articles may span multiple academic years, I only report when I reviewed the first (initial) version of a manuscript to avoid double counting.

Journals

- IEEE Transactions on Automatic Control: 2020–2021 (1 paper), 2021–2022 (1 paper)
- IEEE Transactions on Control Systems Technology: 2022–2023 (1 paper)
- IEEE Signal Processing Letters: 2019–2020 (1 paper)
- Robotica (Cambridge): 2020–2021 (1 paper)
- Systems & Control Letters (Elsevier): 2022–2023 (1 paper)
- Applied Energy (Elsevier): 2018–2019 (1 paper), 2019–2020 (1 paper), 2020–2021 (1 paper)
- Energy & Buildings (Elsevier): 2020–2021 (1 paper), 2021–2022 (2 papers), 2022–2023 (1 paper)
- Energy (Elsevier): 2021–2022 (1 paper)

Conferences

- IEEE Conference on Decision and Control (CDC): 2017–2018 (1 paper), 2018–2019 (2 papers), 2019–2020 (1 paper), 2020–2021 (1 paper)
- American Control Conference (ACC): 2018–2019 (3 papers), 2019–2020 (4 papers), 2020–2021 (2 papers), 2022–2023 (1 paper)
- IEEE Conference on Control Technology and Applications (CCTA): 2019–2020 (1 paper), 2020–2021 (1 paper), 2022–2023 (1 paper)
- IFAC World Congress: 2022–2023 (1 paper)
- European Control Conference (ECC): 2017–2018 (1 paper), 2018–2019 (1 paper)
- ACM/IEEE International Conference on Cyber-Physical Systems (ICCPS): 2017–2018 (1 paper), 2023–2024 (4 papers)
- IEEE International Conference on Systems, Man, and Cybernetics (SMC): 2022–2023 (2 papers)

- IEEE International Conference on Distributed Computing Systems (ICDCS): 2018–2019 (6 papers)
- ACM/ESDA/IEEE Design Automation Conference (DAC): 2017–2018 (1 paper)

2.2 Technical Program Committee Membership and Conference Session Organizer and Chair

A technical program committee (TPC) is responsible for reviewing the papers submitted to a peer-reviewed conference. The number of papers assigned to each TPC member varies depending on the number of TPC members and the number of paper submissions. I have been a TPC member of the IEEE International Conference on Distributed Computing Systems (ICDCS) in 2019 and the Vietnamese Control and Robotics Workshop (VNCR) in 2022. I am currently a TPC member and the Publication Chair of the prestigious conference ACM/IEEE International Conference on Cyber-Physical Systems (ICCPS) 2024.

The organizers of a special session at a conference are responsible for proposing the topic of the session, structuring the session with different presentations, finding and inviting speakers, writing and giving talks, advertising the session, and chairing the session, among various other tasks. Organizing a special session at a conference is similar to organizing a small, short workshop. I led the organization of the well-received tutorial session "Physics-Informed Machine Learning for Modeling and Control of Dynamical Systems" at the American Control Conference (ACC) in 2023, together with academic and industrial collaborators from the Pacific Northwest National Laboratory (PNNL), the University of Texas at Austin, EPFL (Switzerland), and Mitsubishi Electric Research Laboratories. ACC is a leading international conference in my field.

Chairing or co-chairing a technical session at a conference involves responsibilities such as introducing the presentations of the session, keeping time, facilitating questions and answers after each presentation, reporting at the end of the session, and voting for best presentation awards (if any). I have chaired or co-chaired several technical sessions at international conferences:

- Technical session "Model Predictive Control" at 2021 IEEE Conference on Control Technology and Applications (CCTA).
- Technical session "Predictive Control for Nonlinear Systems II" at American Control Conference 2019.

2.3 Grant Proposal Panelist

I have been a grant proposal panelist for three US National Science Foundation (NSF) review panels:

- 2024: Pathways to Enable Open-Source Ecosystems (POSE) program.
- 2022: Predictive Intelligence for Pandemic Prevention (PIPP) program.
- 2021: Cyber-physical systems (CPS) program.
- 2019: Dynamics, Control and Systems Diagnostics (DCSD) program.

3 Service to the University

Service to the university is also an important component of my service activities. In this section, I highlight my service activities to NAU, where activities that required substantial effort are highlighted in bold face. I refer the reader to my CV (Appendix F) for more details.

AY2017–2018 (half year, Spring 2018 only)

- **Energy Action Team**: During Spring and Summer 2018, I served on the NAU Energy Action Team (part of the NAU Environmental Caucus), which worked closely with the university to improve the energy efficiency and reduce the emissions of the campus. The team met monthly. I participated in developing a proposal to the NAU President for establishing a revolving fund for sustainability-related projects on the campus, called the Green Fund. I also helped develop several sustainability projects.
- Undergraduate Research and Design Symposium (UGRADS): I served as a referee for UGRADS in April.
- SICCS Graduate Affairs Committee. The committee discussed graduate affairs and met twice in Spring 2018.
- SICCS Graduate Seminar Series: I was part of a team (together with two other faculty members) who planned to organize a biweekly graduate seminar series for graduate students in SICCS.
- EE Capstone Project Reviews: I attended EE Capstone project review sessions to give the students feedback on their projects and to grade their projects.

AY2018–2019

- **Energy Action Team**: I served on the NAU Energy Action Team (part of the NAU Environmental Caucus), which worked closely with the university to improve the energy efficiency and reduce the emissions of the campus. The team met monthly. I participated in developing proposals and recommendations to the university regarding renewable energy, the Green Fund, and improving the energy efficiency of NAU buildings. I co-developed and co-mentored two student projects related to energy monitoring and energy forecasting of the campus.
- Academic Integrity Hearing Board (CEIAS, college level). I heard one academic integrity case on this board.
- **SICCS Annual Review Committee (ARC)**: I served on the ARC for reviewing the annual performance of SICCS faculty members. I led the reviews of 4 faculty members, in addition to spending time reviewing other packages.
- **SICCS Graduate Seminar Series**: I was part of a team (together with two other faculty members) who organized and led a biweekly graduate seminar series for graduate students in SICCS. The organization took considerable time.
- Faculty candidate interviews: I was involved in interviewing three faculty candidates on campus for the EE Professor of Practice position.
- **ABET Committee**: I participated in ABET meetings and the preparation for the ABET review of the Electrical and Computer Engineering programs, and co-authored an ABET assessment report on one outcome.
- EE Capstone Project Reviews: I attended several EE Capstone project review sessions to give the students feedback on their projects and to grade their projects.
- I participated in two daily campus visits of prospective undergraduate students to the college who were interested in Electrical and Computer Engineering.

AY2019–2020

- **Energy Action Team**: I served on the NAU Energy Action Team (part of the NAU Environmental Caucus), which worked closely with the university to improve the energy efficiency and reduce the emissions of the campus. The team met monthly. I participated in developing projects, especially student projects, on campus energy systems and sustainability, including a

project for developing a new energy dashboard for the NAU campus.

- **University Graduate Committee (UGC):** I represented SICCS on the NAU university-wide UGC. The committee met for 2 hours every month. In addition, I represented the UGC in three doctoral dissertation defenses, ensuring the quality and procedure of the defenses and the dissertations and reporting to the Dean of the Graduate College on the rigor and outcome of the defenses.
- **SICCS Graduate Recruitment Weekend:** I co-organized the SICCS Graduate Recruitment Weekend in February 2020, which was a significant event aiming to recruit graduate students in different disciplines for SICCS. We had multiple meetings to plan the event and organize its logistics. I was in charge of the EE discipline and reserving the venue for the event.
- SICCS Connections Committee: I was a member of this committee, which organized social activities for the SICCS community.
- Electrical Engineering Curriculum Committee: Discussed and made changes to the EE curriculum. Performed ABET-related tasks.
- EE Capstone Project Reviews: I attended several EE Capstone project review sessions to give the students feedback on their projects and to grade their projects.
- I participated in a daily campus visit of prospective undergraduate students to the college who were interested in Electrical and Computer Engineering.

AY2020–2021

- **Energy Action Team**: I served on the NAU Energy Action Team (part of the NAU Environmental Caucus), which worked closely with the university to improve the energy efficiency and reduce the emissions of the campus. The team met monthly. I participated in developing several projects and strategies in campus energy systems and sustainability. More significantly, I co-led the development of a $10M grant proposal to the Department of Energy for the NAU campus.
- **University Graduate Committee (UGC):** I represented SICCS on the NAU university-wide UGC. The committee met for 2 hours every month. In addition, I represented the UGC in three doctoral dissertation defenses, ensuring the quality and procedure of the defenses and the dissertations and reporting to the Dean of the Graduate College on the rigor and outcome of the defenses.
- SICCS Connections Committee: I was a member of this committee, which organized social activities for the SICCS community.
- Electrical Engineering Curriculum Committee: Discussed and made changes to the EE curriculum. Performed ABET-related tasks.

AY2021–2022

- Energy Action Team: I served on the NAU Energy Action Team (part of the NAU Environmental Caucus), which worked closely with the university to improve the energy efficiency and reduce the emissions of the campus. The team met monthly. I participated in developing several projects and strategies in campus energy systems and sustainability.
- **University Graduate Committee (UGC):** I represented SICCS on the NAU university-wide UGC. The committee met for 2 hours every month. In addition, I represented the UGC in three doctoral dissertation defenses, ensuring the quality and procedure of the defenses and the dissertations and reporting to the Dean of the Graduate College on the rigor and outcome of the defenses.
- **SICCS Annual Review Committee (ARC)**: I served on the ARC for reviewing the annual performance of SICCS faculty members.

- **Faculty Search Committee for an Assistant Professor of Practice in the CQUPT Program** (position #605772): I reviewed and discussed 23 applications, made recommendations, participated in phone interviews and Zoom interviews.
- **Faculty Search Committee for an Assistant Professor of Teaching in EE** (position #606236): I reviewed and discussed over 40 applications, made recommendations, participated in 9 phone interviews and 4 Zoom interviews.
- **Electrical Engineering Curriculum Committee (co-chair)**: I co-chaired the EE Curriculum Committee to review the EE undergraduate and graduate curricula and develop the strategic emphasis areas for EE.
- SICCS Connections Committee: I was a member of this committee, which organized social activities for the SICCS community.
- EE Graduate Admission Committee: I participated in reviewing PhD applications and discussing admission/funding decisions.

AY2022–2023

- Energy Action Team: I served on the NAU Energy Action Team (part of the NAU Environmental Caucus), which worked closely with the university to improve the energy efficiency and reduce the emissions of the campus.
- **University Graduate Committee (UGC):** I represented SICCS on the NAU university-wide UGC. The committee met for 2 hours every month. In addition, I represented the UGC in five doctoral dissertation defenses, ensuring the quality and procedure of the defenses and the dissertations and reporting to the Dean of the Graduate College on the rigor and outcome of the defenses.
- **Assistant Chair of Electrical and Computer Engineering (ECE)**: I was the inaugural Assistant Chair of ECE of SICCS. Some of my major activities and achievements in this role include: co-developing a proposal for enhancing the PhD Informatics and Computing program of SICCS, developing a new emphasis area for ECE in the PhD Informatics and Computing program, reviewing PhD student applications in ECE and requesting admissions and assistantships, brainstorming and developing/updating courses in the ECE undergraduate and graduate curricula, assisting in developing new initiatives and a certificate program in semiconductors at NAU, assisting in the 100% Career Ready initiative of the university for the ECE programs in SICCS, participating in reviewing and hiring ECE faculty members, advocating for the ECE discipline at the school and college levels, and various administrative tasks related to ECE.
- **Electrical and Computer Engineering Curriculum Committee (chair)**: I chaired the ECE Curriculum Committee to discuss and make decisions on various matters related to all ECE undergraduate and graduate programs.
- **Search Committee for an Assistant Professor of Teaching in EE** (position #606681): This was a renewed faculty search of the failed search in the previous AY. I reviewed and discussed 42 applications, made recommendations, participated in phone interviews and Zoom interviews.
- SICCS Connections Committee: I was a member of this committee, which organized social activities for the SICCS community.

4 Leadership Roles

My leadership in service to the profession has been demonstrated by some of my activities, including chairing several technical sessions at conferences and leading the organization of the special session

"Physics-Informed Machine Learning for Modeling and Control of Dynamical Systems" at the American Control Conference in 2023. More details can be found in Section 2.2 of this statement and in my CV in Appendix F.

My leadership in service to the University has been demonstrated strongly in my Assistant Chair of Electrical and Computer Engineering position in AY 2022–2023 as well as my various chair roles in several committees. In these leadership positions, I have made significant contributions, which are outlined in Section 3 of this statement. In AY 2023–2024, I will continue contributing to NAU and SICCS in my Assistant Chair position and my other leadership roles.

5 Conclusions

I have been active in serving my professional communities. I have reviewed papers for many journals and conferences, have been a TPC member for several conferences, and have chaired or co-chaired several technical sessions at conferences. I have also led the organization of the well-received tutorial session "Physics-Informed Machine Learning for Modeling and Control of Dynamical Systems" at the American Control Conference in 2023. In addition, I have been a grant proposal panelist for three NSF review panels.

I have participated in many service activities at the school (SICCS), college, and university levels. I have increased my efforts on service committees over the years, and have been on several important committees, including three faculty search committees, the SICCS Annual Review Committee, the academic integrity committee, and the University Graduate Committee over multiple years. I have also been very active on the curriculum committees for all ECE programs at both the undergraduate and graduate levels. Importantly, I have demonstrated my leadership in my position as the Assistant Chair of Electrical and Computer Engineering, where I have made significant contributions to SICCS, its PhD Informatics and Computing program, its ECE programs and discipline, and other initiatives at the school and college levels.