

Memorandum

To: Patrick Wolfe, Provost and Executive Vice President for Academic Affairs and Diversity
From: Arvind Raman, John A. Edwardson Dean of Engineering
Date: June 19, 2024
Subject: **Recommendation for Dr. Juan Wachs for the James H. and Barbara H. Greene Professor in Industrial Engineering**

I am writing to recommend Dr. Juan Wachs for the James H. and Barbara H. Greene Professor in Industrial Engineering. This recommendation is based on Dr. Wachs' significant contributions in discovery, learning, and engagement within the field of Industrial Engineering.

Dr. Wachs is an internationally recognized expert in the field of gesture-based human-machine interaction. He has specifically contributed to the areas of multimodal human-machine interfaces, generating inferences from gesture production, and understanding embodied interaction in tasks involving high-risk time-sensitive scenarios. Dr. Wachs has a strong record of scholarly publications, which include more than 98 journal articles, 120 conference proceedings,

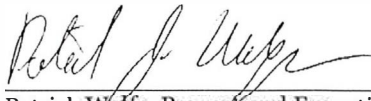
and 7 book chapters. He has secured more than \$8.3M in competitive externally sponsored grants, with over \$6M as his share or as PI. Dr. Wachs' seminal contributions on the development of the hand-gesture-based control for browsing medical images in the operating room (OR) resulted in patents which have been attracting collaborations and interests from the Siemens groups, Microsoft Healthcare (UK), Bay State Medical Center, and GE Healthcare. Dr. Wachs has been an exemplary mentor of students. He has graduated ten PhD students, five MS students, and advised two postdocs. He has mentored several undergraduate students by involving them in research projects. Dr. Wachs is a dedicated and effective teacher. His contributions have been recognized by distinguished Interdisciplinary Research Award ROMAN Best Paper or Outstanding Paper Awards (multiple times), Distinguished Speaker of the ACM, Purdue University Faculty Scholar, Fulbright U.S. Scholar, Helmsley Senior Scientist Fellow, IEEE Appreciation Award, AFOSR Young Investigator Program, NRC Associateship Program Award, Tompkins Rising Star Associate Professor of IE, keynote presentations (multiple times), and many more. Dr. Wachs has been serving as the Program Director at NSF's Division of Information and Intelligent Systems since 2021.

The external references are highly positive on his research record and impact on the field. The Augmented IE Committee on Named Professorships (viz. three distinguished/named professors in IE, and two distinguished/named professors who have courtesy appointment in IE) unanimously recommend Dr. Juan Wachs for James H. and Barbara H. Greene Professor of Industrial Engineering.

Dr. Wachs' contributions have also been recognized by peers and leaders in the field. **Dr. Vittal Prabhu, Professor and Charles and Enid Schneider Faculty Chair in Service Enterprise Engineering at Pennsylvania State University**, stated, "Dr. Wachs' innovative research has significantly influenced the development of distributed control systems in industrial engineering." **Dr. Matthew A. Turk, President of the Toyota Technological Institute at Chicago**, noted, "Their work on human-computer interaction and augmented reality is transforming the way we think about the integration of AI in everyday tasks." **Dr. Thomas Low, Director of Robotics at SRI International**, emphasized, "The novel approaches developed by Dr. Wachs in medical robotics have opened new avenues for research and practical applications in healthcare."

The IE Augmented Named Professorship Committee and the Engineering Named Professorship Committee (ENPC) both voted unanimously in favor of Dr. Wachs' nomination, with votes of **5-0** and **8-0**, respectively. This strong internal support underscores the high regard in which Dr. Wachs is held by their colleagues and the broader academic community. Based on these considerations, I am confident in recommending Dr. Juan Wachs for the James H. and Barbara H. Greene Professor in Industrial Engineering.

Approval Granted:



Patrick Wolfe, Provost and Executive Vice President
for Academic Affairs and Diversity

07/24/2024

Date



Mung Chiang, President

9.4.24

Date

Cc: Luna Lu
Brittany Vestal
Young-Jun Son

AR/amh