

To: Patrick Wolfe, Provost and Executive VP for Academic Affairs and Diversity

From: Arvind Raman, John A. Edwardson Dean of Engineering *Arvind Raman*

Date: April 16, 2025

Subject: Recommendation of Nicole Key for a Named Professorship,
as the Avrum and Joyce Gray Professor in Entrepreneurship and Innovation

I am pleased to recommend Dr. Nicole Key for a Named Professorship, as the Avrum and Joyce Gray Professor in Entrepreneurship and Innovation. Dr. Key's case has received strong support from the Engineering Named Professorship Committee, largely for the critical role her research, known nationally, has played in dynamic compressors and engines.

Dr. Key's research focuses on understanding the underlying flow physics associated with primary and secondary flow phenomena in dynamic compressors to enable more efficient and robust designs. Her research lab is the premier experimental facility for mid-TRL dynamic compressor research in the United States. Her research funding exceeds \$31.4M, with \$29.1M going directly to her team from a mix of both federal agencies and commercial engine companies such as Rolls-Royce and Pratt & Whitney.

Dr. Key was named the next Director of the GUIde Consortium. The GUIde Consortium is made up of 12 industrial members + NASA. Her reputation in aeromechanics research has also helped secure a Pratt & Whitney Center of Excellence in Aeromechanics at Purdue, currently in the final stages of contract negotiations. She has been recognized by the community with both early career awards (ASME International Gas Turbine Institute Dilip Ballal Early Career Award) and recognition for high-performing mid-career researchers, such as being named an Associate Fellow of AIAA and a Fellow of ASME.

The votes for Dr. Nicole Key receiving the named professorship resulted in a unanimous vote of 6 in favor to 0 opposed, with no abstentions by the Engineering Named Professorship Committee. In summary, this committee has determined that Dr. Key's robust performance in research and education make her an ideal candidate for the Avrum and Joyce Gray Professor in Entrepreneurship and Innovation.

Approval Recommended:

Patrick J. Wolfe 05/09/2025
Patrick J. Wolfe Date
Provost and Executive Vice President
for Academic Affairs and Diversity
Miller Family Professor of Statistics and
Computer Science

Mung Chiang 5.12.25
Mung Chiang Date
President
Roscoe H. George Distinguished
Professor of Electrical and Computer
Engineering

Cc: Dave Bahr
Brittany Vestal