

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. Alina Alexeenko for the Reilly Professor in Aeronautics and Astronautics and Chemical Engineering**

I am pleased to recommend Dr. Alina Alexeenko for the Reilly Professorship in Aeronautics and Astronautics and Chemical Engineering. This recommendation is based on her outstanding contributions in discovery, learning, and engagement. After thorough deliberation, both the AAE Named Professorship Committee and the Engineering Named Professorship Committee (ENPC) voted unanimously in favor of this nomination, with votes of **5-0** and **8-0**, respectively.

Professor Alexeenko's research excellence is evident in her work advancing fundamental knowledge of heat and mass transfer phenomena under strong non-equilibrium conditions and applying this knowledge to practical challenges in spaceflight and manufacturing technologies. She has developed new computational algorithms and solvers for rarefied flow problems, addressing critical issues such as freeze drying, aerodynamic damping, thermal transport, and shock propagation in MEMS. She has published 107 journal papers, 129 conference presentations, 4356 citations, with an H-index of 36, and 10 patents. She has secured over \$32 million in external funding.

The evidence of her impact extends to her teaching and mentoring activities, having graduated 20 PhD students and 23 MS students. Her internal recognitions include being named a University Faculty Scholar from 2015 to 2020 and receiving the Outstanding Engineering Teachers award from the Purdue College of Engineering in 2018 and 2022. Externally, she has been honored with the National Science Foundation CAREER Award in 2011 and the Dean Henry T. Yang Leadership in Service Award in 2023. She holds memberships and leadership positions in prominent organizations, including being an Associate Fellow of the American Institute of Aeronautics and Astronautics (AIAA) and Chair of the AIAA Thermophysics Technical Committee from 2016 to 2018.

The letters of recommendation for Professor Alexeenko further highlight her exceptional contributions. **Dr. Kelvin Lee, Director of the National Institute for Innovation in Manufacturing Biopharmaceuticals, University of Delaware** stated, "Alina was among the first to develop a rarefied gas dynamics framework to address issues related to pharmaceutical lyophilization. The LyoHub consortium has made significant advances in understanding the underlying technology and sharing best practices under her leadership." **Dr. Philip L. Varghese, Ernest Cockrell Jr. Centennial Chair in Engineering, University of Texas Distinguished Teaching Professor, and Director of the Center for Aeromechanics Research in the Department of Aerospace Engineering and Engineering Mechanics at the University of Texas at Austin** endorsed her nomination, noting, "Her contributions to the field of non-continuum gas flows and her unique and innovative application of this work to freeze-drying and pharmaceutical manufacturing show that she richly deserves this recognition." Additionally, **Dr. Igor V. Adamovich, John B. Nordholt Professor of Mechanical and Aerospace Engineering, The Ohio State University** commented, "Dr. Alexeenko is one of the most creative, productive, and visible researchers in the fields of rarefied gas dynamics, aerothermodynamics, and microscale flows in the US."

The unanimous votes from both the AAE Named Professorship Committee and the ENPC highlight the strong support for Professor Alexeenko's nomination.

In summary, Professor Alexeenko's innovative research, leadership, and sustained impact across diverse fields make her a highly deserving candidate for the Reilly Professorship. I am confident that she will continue to elevate the standards of excellence at Purdue University.

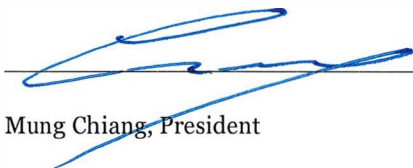
Approval Granted:



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

07/24/2024

Date



Mung Chiang, President

9.5.24

Date

Cc:

Luna Lu
Brittany Vestal
William Crossley

AR/amh