



January 16, 2020

Dr. Ben Givens, Secretary
University Senate
119 Independence Hall
1923 Neil Avenue
Columbus, OH 43210

Dear Dr. Givens,

The Honorary Degrees Committee of the University Senate has carefully reviewed the dossier of Professor Dr. Grace Wahba for an honorary degree from The Ohio State University. Professor Yoonkyung Lee brought forward the nomination.

Professor Wahba is a pioneer in statistical methods for modeling with observational data. A common question in modeling with noisy complex observations is how to come up with a plausible mathematical description that has simple interpretable forms and characteristics to enhance our understanding of the world and the phenomenon we study, while at the same time maintains fidelity to the data. Professor Wahba developed a powerful and mathematically elegant method called smoothing splines that provides such a description. It combines the richness of flexible, high-dimensional models that can capture patterns in the data with simple, interpretable summaries that place focus on the central features of interest. The method has become part of the standard modeling toolkit for researchers and practitioners, finding numerous applications in a broad range of fields including science, engineering, and medicine.

Professor Wahba's extensive contributions to statistical modeling with splines in both theory and computation have made her name synonymous with the methodology. She is regarded as the mother of smoothing splines. Her book, *Spline Models for Observational Data*, is an authoritative reference on the subject. The book is based on a series of ten lectures that she delivered at Ohio State in March, 1987 at a conference organized by the Department of Statistics and sponsored by the Conference Board of the Mathematical Sciences and the National Science Foundation. At the conference, the statistics community saw an impressively consistent and unified treatment on a wide array of data modeling problems using smoothing splines. The conference and book led to a massive increase in the visibility and use of smoothing splines for data analysis.

The impact of Professor Wahba's work is significant and far-reaching. Her methods have been used in many practical applications including bioinformatics, demography, and machine learning. As importantly, she has been actively involved in collaborations with domain scientists throughout her career.

By an overwhelming vote, the Committee recommends that Dr. Wahba's dossier be forwarded to the University Senate for their consideration, and recommends the title of Doctorate of Science *honoris causa*.

Respectfully submitted,

Jennifer Crocker
Ohio Eminent Scholar in Social Psychology
Professor of Psychology
Chair, Senate Honorary Degrees Committee