

Ann Dowling Makes a Caltech–Cambridge Connection

THE GORDON AND BETTY MOORE DISTINGUISHED SCHOLAR PROGRAM,

begun in 2000, brings to campus technologists, scholars, and artists of great distinction, or in the case of younger people, of great promise, for visits lasting two to nine months. This year, the Division of Engineering and Applied Science is pleased to host Professor Ann Dowling as a Moore Distinguished Scholar.

Professor Dowling comes to Caltech from the University of Cambridge, where she is Professor of Mechanical Engineering, Director of the University Gas Turbine Partnership, Head of the Division of Aeronautics, Fluids, Energy, and Turbomachinery, and a Fellow of Sidney Sussex College.



Dowling has traveled to Caltech with a small entourage of research associates—Aimee Morgans, a graduate student, Simon Stow, a post-doctoral associate, and Dr. Tom Hynes, an engineer and recent scientific collaborator, who also happens to be her husband.

Her colleagues at Caltech are principally Richard Murray, Professor of Mechanical Engineering (also her host); Fred Culick, the Richard L. and Dorothy M. Hayman Professor of Mechanical Engineering and Professor of Jet Propulsion; and Tim Colonius, Associate Professor of Mechanical Engineering. “Extracting the physics from flow modeling and simulation, a theoretical endeavor,” is one of the main areas she will be concentrating on while at Caltech; she also hopes to spend a good deal of time in the library (a luxury not possible when facing myriad day-to-day tasks back at Cambridge). On her agenda as well is the task of developing ideas and strategy for future areas of research in her lab.

Professor Dowling’s research interests are in the areas of acoustics and vibration, unsteady fluid mechanics, and flow instability. Current applications of this research include the modeling and control of instabilities in gas turbine combustors, road-tire interaction noise, helicopter noise, sound/vortex interaction, and the vibration of towed underwater structures. She is a consultant to both the aerospace and underwater industries. Professor Dowling has been a faculty member of the Department of Engineering at Cambridge since 1979. She has published extensively in scientific journals and is the co-author of two books. She is currently Vice President of the Royal Academy of Engineering and a Council member of the Engineering and Physical Sciences Research Council, which funds academic research in the U.K.