

Preface

Stochastic Processes in Atmospheric & Oceanic Dynamics was the theme at the 2015 GFD Program. Professors Charlie Doering (University of Michigan) and Henk Dijkstra (University of Utrecht) were the principal lecturers. Their lectures were collectively two-pronged. The first prong was launched by Charlie, who laid down the mathematical foundations of random variables, stochastic processes and the nature and analysis of stochastic differential equations. In the second, Henk took us through the many places in the Atmosphere, Ocean and Climate system where the infrastructure from the first prong plays out.

John Wettlaufer and Oliver Bühler were the stochastic co-directors. In keeping with the theme, the Cottage was in constant motion with many visitors and long-term staff members. Following the thematic principal lectures, the seminar room was busy all summer, with talks spanning an impressive range of topics that we are typically fortunate to experience in Walsh Cottage. Importantly, some of the newer staff ably jumped into the supervision of fellows projects—directly or indirectly. The fellows pursued a rich range of projects and have produced a fine set of reports. As usual they came from far and wide:

- Yana Bebieva, Yale University
- Tom Beucler, Massachusetts Institute of Technology
- Tom Eaves, University of Cambridge
- Giovanni Fantuzzi, Imperial College London
- Anna FitzMaurice, Princeton University
- Florence Marcotte, Inst. Physique du Globe de Paris
- Gunnar Peng, University of Cambridge
- Cesar Rocha, University of California, San Diego
- Andre Souza, University of Michigan
- Chris Spalding, California Institute of Technology

As the second week wound down, the 2015 GFD Sears Public Lecture was given by Susan Solomon (*MIT*) in Redfield Auditorium. She took us through a fascinating success story of how science impacted policy and eventually the global economy in her talk “Ozone Depletion: A Science and Policy Success Story”. As a key player in the *Ozone Hole Saga*, Susan’s talk drew a large and engaged audience, who asked many questions.

Some important acknowledgements: Support from Anders Jensen in the laboratory was appreciated, particularly as the going with some sensors got tough. Annie Doucette, Janet Fields and Julie Hildebrandt formed the administrative team that ensured the program ran with admirable efficiency. Srikanth Toppaladoddi, a 2012 fellow, was of great help in

corralling the disparate piece of the proceedings. We are indebted to *WHOI*-Academic Programs Office, who continue to provide an ideal atmosphere.

Finally, we note that the passing of Louis Howard, who impacted the program in countless ways, marked the summer in a different manner. On 13 August, 2015 a memorial for Louis at Carriage House was organized by George Veronis. Those of us who were fortunate to attend were emboldened by the many and varied stories shared by the participants. His smile, encouragement and scientific sage will be deeply missed. A detailed obituary is found at the following link: <https://math.mit.edu/about/history/obituaries/howard.php>