

A Two-Day Centenary Celebration of Jule Charney and Ed Lorenz

Thursday, February 1 & Friday, February 2, 2018
Massachusetts Institute of Technology

Day 1:

Celebrating the Lives of Jule Charney and Ed Lorenz

- 11:00am **Welcome and Mingle**
9th Floor of the Green Building (54-915)
Coffee, refreshments and light lunch
- 1:00pm **Numerical Weather Prediction and Predictability**
MIT (54-100) with Introduction by John Marshall
Short presentations include:
Charney, Lorenz, and the concept of predictability amidst chaos—Jagadish Shukla
Charney and Lorenz: Two “wet” dynamicists—David Randall
Ed Lorenz was no Tarzan, but he loved the outdoors and he had Jane—Kevin Trenberth
My colleagues Jule Charney and Ed Lorenz—Carl Wunsch
Ellen Gille and the discovery of chaos—Dan Rothman
.....etc.
- 2:55pm ***The Science of Jule Charney and Ed Lorenz***
Sneak peek at a short documentary in-progress
Meg Rosenburg ('07 XII), Editor/Producer MIT Video Productions
- 3:05pm **Coffee and Conversation**
- 3:30pm ***Atmospheric Dynamics***
Short presentations include:
Tropical meteorology in the field: Jule as Chief Scientist of BOMEX—Ray Bates
Charney, my advisor—Eugenia Kalnay
Meeting Jule in Venice in 1973, Ed in Cambridge in 1980—Paola Rizzoli
Why Charney would have loved exoplanets—Ray Pierrehumbert
Charney’s Zonally Symmetric Coupled Model Project—Ed Schneider
The Charney Number—Mankin Mak
.....etc.
- 5:30pm **Adjourn**
- 6:00pm **Reception and Dinner**
Samberg Conference Center (E52-6th Floor)
Open Mic for testimonials, vignettes and reminiscences

Day 2:

**MIT on Chaos and Climate:
Celebrating the Science of Jule Charney and Ed Lorenz**

**A Public Symposium Presented by
Department of Earth, Atmospheric & Planetary Sciences
Co-sponsored by the Lorenz Center and the Houghton Fund
MIT Wong Auditorium (E51-115)**

8:30 am **Registration & Coffee**

9:00 am **Welcome**

Robert van der Hilst
Schlumberger Professor of Earth and Planetary Sciences, MIT, Head of EAPS

9:10 am **Basic research: the Lifeblood of a Successful Society**

Ernest Moniz
Cecil & Ida Green Professor Emeritus of Physics and Engineering Systems, MIT
Special Advisor to the MIT President, CEO and Co-Chair of the Nuclear Threat Initiative

Lives and Science of Charney & Lorenz

9:30 am **Jule Charney as Role Model**

Joseph Pedlosky, Emeritus Senior Scientist, Woods Hole Oceanographic Institution

10:00 am **Edward N. Lorenz and the End of the Cartesian Universe**

Kerry Emanuel
Cecil & Ida Green Professor of Atmospheric Science, MIT
Co-Director of the Lorenz Center

10:30 am ***Coffee Break***

Weather & Climate

11:00 am **From Determinism to Probability in Numerical Weather Prediction**

Tim Palmer, Royal Society Research Professor, University of Oxford

11:20 am **Atmospheric Dynamics**

Richard Lindzen, Professor Emeritus, MIT

11:40 am **Convective Aggregation, Clouds, and Climate**

Allison Wing, Assistant Professor, Florida State University

12:00 pm **From Charney's Hypothesis to Multiple Climate Equilibria in the Sahel**

Elfatih Eltahir, Breene M. Kerr Professor of Hydrology and Climate, MIT

12:20 pm **From Weather to Climate Prediction (by Numerical Process)**

Mark Cane
G. Unger Vetlesen Professor Emeritus of Earth & Climate Sciences, Columbia University

12:40 pm **Carbon and Climate**

Inez Fung, Professor of Atmospheric Science, University of California, Berkeley

1:00 pm ***Lunch Buffet***

Beyond Earth Science

- 2:00 pm **Experimental Fluid Dynamics**
Harry Swinney
Sid W. Richardson Foundation Regents Chair and Professor of Physics, UT Austin
- 2:20 pm **Non-linear Dynamics & Turbulence**
Michael Brenner
Michael F. Cronin Professor of Applied Mathematics and Applied Physics
Professor of Physics, Harvard University
- 2:40 pm **Chaos and the Solar System**
Jack Wisdom, Professor of Planetary Science, MIT
- 3:00 pm **Hydrodynamic Quantum Analogs**
John Bush, Associate Department Head and Professor of Applied Mathematics, MIT
- 3:20 pm *Coffee Break*
- 4:00 pm **Fluid Dynamics and Health**
Lydia Bourouiba
Esther and Harold E. Edgerton Career Development Assistant Professor, MIT
- 4:20 pm **Biological Population Dynamics**
Jeff Gore, Associate Professor of Physics, MIT

Perspectives

- 4:40 pm **The Legacy of Jule Charney and Ed Lorenz**
Sir Brian Hoskins, Professor of Meteorology, University of Reading
Chair, Grantham Institute, Imperial College London
- 5:00 pm **Predictably Unpredictable: Charney, Lorenz and the High Value of Basic Research**
Panel Discussion moderated by Robert van der Hilst
- 5:45 pm **Adjourn**