

## Upcoming Events

### Geophysical and Environmental Fluid Dynamics Seminar Series

#### January 25, 2001

Gary Parker, University of Minnesota

*The dynamics of the hydro-glider: hydroplaning outrunner glide blocks from submarine landslides and debris flows*



#### February 15, 2001

Herbert Huppert, Cambridge

*Gravity Currents: Pyroclastic Flows and Turbidity Currents*

University of Michigan  
College of Engineering

#### March 29, 2001

Tony Maxworthy, USC

*The role of laboratory experiments in physical oceanography*

#### April 12, 2001

Jim Holton, University of Washington

*The role of waves in the transport of trace constituents in the middle atmosphere*

## Chia-Shun Yih Lecture *Spirals on the Sea*

A Lecture by  
**Prof. Walter Munk**  
*Scripps Institution of Oceanography  
University of California, San Diego*

Friday, Dec. 1, 2000

11 a.m.  
1109 FXB

#### Seminar Series Location

1500 EECS, unless otherwise noted

#### Time

3:30 pm, unless otherwise noted  
Refreshments available before the talks.

#### For more information, go to:

[www-personal.umich.edu/~acotel/GEFD.html](http://www-personal.umich.edu/~acotel/GEFD.html)

The Regents of the University of Michigan  
David A. Brandon, Ann Arbor  
Laurence B. Deitch, Bloomfield Hills  
Daniel D. Horning, Grand Haven  
Olivia P. Maynard, Goodrich  
Rebecca McGowan, Ann Arbor  
Andrea Fischer Newman, Ann Arbor  
S. Martin Taylor, Grosse Pointe Farms  
Katherine E. White, Ann Arbor  
Lee C. Bollinger, *ex officio*

*Jointly sponsored by the  
Geophysical and Environmental  
Fluid Dynamics Seminar Series  
and the U-M Department of  
Mechanical Engineering*

## Spirals of the Sea

**S**piral eddies were first seen in the sun glitter on the Apollo Mission 30 years ago; they have since been recorded on SAR images and in the infrared. The spirals are broadly distributed over the world oceans, 10-25 km in size and overwhelmingly cyclonic. We present a small sample of images. To the best of our knowledge, they have not been explained. We propose that frontal formations concentrate the ambient shear and surfactants into linear features. Horizontal shear instabilities ensue when the shear becomes comparable to the coriolis frequency. The resulting vortices wind the linear features into cyclonic spirals.

### About Walter Munk

Walter Munk received his B.S. and M.S. from Caltech in 1939 and 1940



respectively, his Ph.D. from University of California in 1947. He is currently a Professor, recalled to active duty, at Scripps Institution of Oceanography, UCSD. Some of his many honors awards include the National Medal of Science (1985) and the William Bowie Medal from AGU (1989). He is a member of the Royal Society of London, National Academy of Science, and the Russian Academy of Science.

### About Chia-Shun Yih (1918–1997)

Professor Yih was a member of the Department of Mechanical Engineering and Applied Mechanics at the University of Michigan. His numerous honors included a Guggenheim Fellowship (1964), the Alexander von Humboldt Senior Scientist Award (1977), the Theodore von Karman Medal (American Society of Civil Engineers, 1981), the Stephan S. Attwood Award (University of Michigan, 1984), the Fluid Dynamics Prize (American Physical Society, 1985), and the Otto Laporte Award (APS, 1989). He was elected to the American Physical Society (1958), the National Academy of Engineering (1970), and the Academia Sinica (the Chinese National Academy of Science in Taiwan). His published work includes two books, *Stratified Flows* (1980), and *Fluid Mechanics: A Concise Introduction to the Theory* (1969).



### The Chia-Shun Yih Lecture

In a 1977 letter to a friend, Yih wrote, “For me, the criterion of science is truth, but its motivation resides in a sense of beauty — and in that it is like art.” The Chia-Shun Yih symposium series is funded by generous gifts from former students, colleagues, and friends of Professor Yih.

### Geophysical and Environmental Fluid Dynamics Seminar Series

The goal of this seminar series is to provide a unique forum for the exchange of ideas and for building a closer community of researchers, both at the faculty and graduate student level, interested in the field of Geophysical and Environmental Fluid Dynamics. The selected speakers are world leaders in their field and from a variety of disciplines related to Geophysical and Environmental Fluid Dynamics, such as Physical Oceanography, Geological Sciences, Atmosphere Dynamics, Environmental Engineering, Coastal Hydraulics, and Space Physics.

Funding provided by the U-M Office of the Vice President for Research Faculty Seminar Program.

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**See seminar schedule on reverse.**