

## INTERNATIONAL GLACIOLOGICAL SOCIETY

### INTERNATIONAL SYMPOSIUM ON RADIOGLACIOLOGY AND ITS APPLICATIONS

Madrid, Spain  
9–13 June 2008



CO-SPONSORED BY

SCAR Spanish National Committee  
Ministerio de Educación y Ciencia  
Universidad Politécnica de Madrid  
ETSI de Telecomunicación

FIRST CIRCULAR  
November 2006

Registered Charity

The International Glaciological Society will hold an International Symposium on Radioglaciology and its Applications in 2008. The symposium will be held in Madrid, Spain, from 9–13 June.

#### THEME

Radio echo-sounding of ice reveals the bed topography, the properties of the bed and the internal glacio-stratigraphy. In the 1970s and 80s the bed topography of the Antarctic and Greenland ice sheets were mapped using a relatively restricted range of frequencies, with analogue logging devices. Since then, ice-penetrating radar technology has developed, extending the frequency bands to target different parts and depths of glaciers, relating electromagnetic returns to the physical properties of the ice and bed, and using radar layers in forward and inverse models of ice flow.

The conference will encompass all aspects of radar-sounding of ice and glaciers and its applications to glaciology, earth science and climate studies. We will welcome studies from shallow and deep sounding of ice; how electromagnetic interactions affect satellite returns; satellite deep sounding of Earth and other planets; the physical interpretation of intra-glacial and basal returns; how crystal fabric affects electromagnetic wave propagation; snow and firn studies; estimation of accumulation rates from radar stratigraphy; synergistic coupling of radar sounding with other geophysical techniques; large-scale mapping and imaging of radar layers and basal reflections; electromagnetic modelling of radar sounding; flow modelling, dating and stratigraphic correlations from radar surveying.

#### TOPICS

The suggested topics include:

1. Deep sounding, including:  
Subglacial topography, ice-bed interface, bed structure, subglacial lakes, subglacial water channels, sounding subglacial material.
2. Internal structure, including:  
Internal stratigraphy and correlation of ice cores, detection of structures (buried crevasses, folding, faults, etc.), englacial water channels, polythermal structure, physical properties of ice (density-porosity, water content of temperate ice, etc.), electrical properties of ice, echo-free structure in ice.
3. Shallow sounding, including:  
Internal stratigraphy: snow, firn, superimposed ice, estimation of accumulation rates, sea ice.
4. Planetary/orbital sounding, including:  
Theoretical aspects, sounding ice masses from satellite, ice cover of Mars, Europa and Enceladus
5. Numerical modelling (direct and inverse problems), including:  
Ice flow, dating layers, inversion of flow parameters.
6. Instrumentation and processing techniques, including:  
Radar equipment (coherent radar, synthetic aperture radar, etc.), complementary geophysical techniques, processing of radar data
7. Theoretical and empirical aspects of propagation of electromagnetic waves in ice, including:  
Influence of ice fabric and physical properties, volume and interface scattering.

#### SESSIONS

Oral and poster presentations will be held on four and a half days. There will be ample opportunity for poster displays.

#### PUBLICATION

Selected papers from the symposium will be published by the Society in the *Annals of Glaciology*. All papers (including those based on posters) will be refereed and edited according to the Society's regular standards before being accepted for publication.

#### ACCOMMODATION

Details will be given in the Second Circular.

#### FURTHER INFORMATION

If you wish to attend the symposium please return the attached form as soon as possible. The Second Circular will give further information about accommodation, the general programme, and preparation of abstracts and final papers. Copies of the Second Circular will be sent to those who return the attached reply form. Members of the International Glaciological Society will automatically receive one.

#### SYMPOSIUM ORGANIZATION

Magnús Már Magnússon (International Glaciological Society)

#### SCIENCE STEERING AND EDITORIAL COMMITTEE

Richard Hindmarsh (Chief Scientific Editor), Don Blankenship, Howard Conway, Olaf Eisen, Shuji Fujita, Elisabeth Isaksson, Bob Jacobel, Yury Macheret, Tavi Murray, Francisco Navarro, Frédéric Parrenin, Frank Pattyn, Eric Rignot, Martin Siegert

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INTERNATIONAL SYMPOSIUM ON  
RADIOGLACIOLOGY AND ITS APPLICATIONS  
MADRID, SPAIN, 9–13 JUNE 2008

Family Name: \_\_\_\_\_

First Name(s): \_\_\_\_\_

Address: \_\_\_\_\_

\_\_\_\_\_

Tel: \_\_\_\_\_ Fax: \_\_\_\_\_ E-mail: \_\_\_\_\_

I hope to participate in the Symposium in June 2008

I expect to submit an abstract

My abstract will be most closely related to the following

topic(s): \_\_\_\_\_

I am interested in an accompanying person's programme

I am interested in an extended post/pre-symposium tour

#### PLEASE RETURN AS SOON AS POSSIBLE TO:

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