



# COLLOQUIUM

DR. ALEXIS KALERGIS

PONTIFICIA UNIVERSIDAD CATÓLICA DE CHILE

## **CRUSADES IN A MICROSCOPIC WORLD: IMMUNE SHIELDS FOR VIRULENT MICROBES**

CONFERENCE ROOM, MARTHA MUSE BUILDING  
THURSDAY 14<sup>th</sup> OF APRIL, 2011 - 18:00 HRS.

## INVITATION

The Colloquia Committee of the Centro de Estudios Científicos has the pleasure of inviting you to a colloquium to be held on Thursday April 14<sup>th</sup> 2011, at 6:00 p.m. in the Conference Room at the Martha Muse Building (former Hotel Schuster). CECS' colloquia are lectures by highly noted specialists on each of the three main research areas at CECS, biology, physics, and glaciology, presented in an accessible language for the scientific community.

**SPEAKER: DR. ALEXIS KALERGIS**

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(<http://www.bio.puc.cl/profs/kalergis/>)

## **CRUSADES IN A MICROSCOPIC WORLD: IMMUNE SHIELDS FOR VIRULENT MICROBES.**

### ABSTRACT

The immunological synapse is a transient physical interaction between a cell presenting an antigen and a lymphocyte with a receptor for that antigen. The synapse is a tightly regulated supramolecular structure, critical for the onset of the immune response that fights infections and

Tumors. Whereas a deficiency on the function of the immunological synapse can lead to unrestrained infection by pathogens or uncontrolled tumor growth, an excessive activation of lymphocytes can cause “horror autotoxicus” due to auto-immune diseases. Examples of autoimmune destructive responses are multiple sclerosis and lupus. Thus, a dynamic balance between activating and inhibitory signaling at the immunological synapse determines the remarkable ability of the body to kill foes while sparing friends. These observations can be applied to the design of new vaccines against infectious agents or new therapies directed to treat autoimmune disorders.

CECS Colloquia Committee

Felipe Barros – Cristián Martínez – Andrés Rivera