

THE UNIVERSITY



OF HONG KONG

*Institute of Mathematical Research  
Department of Mathematics*

# COLLOQUIUM

## Ideas from Theoretical Physics and the Torelli Problem

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### **Abstract**

Compact Riemann surfaces are spheres with handles. The number of handles is called the genus of the Riemann surfaces. It is known that on Riemann surface of genus  $g > 0$  there exist  $g$  holomorphic forms. We can integrate these  $g$  holomorphic forms along  $2g$  circles and get a matrix with  $2g$  columns and  $g$  rows. This matrix is called the period matrix. In 1914 Torelli posed the following problem: Suppose that two Riemann surfaces have the same period. Is it true that there is one to holomorphic map between them? In this talk we will show how one can generalize it to higher dimensions.

<b>Date:</b>	<b>April 3, 2009 (Friday)</b>
<b>Time:</b>	<b>4:00 - 5:00pm</b>
<b>Place:</b>	<b>Room 517, Meng Wah Complex, HKU</b>

*All are welcome*