



Department of Mathematics  
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# Colloquium

## *Computing highly oscillatory integrals*

*Professor Arieh Iserles*  
*University of Cambridge*

### Abstract

The quadrature of highly oscillatory integrals came out of age in the last decade. Alfredo Deano, Daan Huybrechs and I have just completed a monograph, and this is a great opportunity to turn a large volume of often disconnected results into a bespoke theory and, indeed, to add to these results. Having briefly introduced asymptotic theory, I will state the Filon paradigm and describe various Filon-type methods: plain-vanilla, Filon–Jacobi, Filon–Clenshaw–Curtis and adaptive Filon. I will also sketch the beautiful subject of numerical steepest descent and conclude with complex-valued Gaussian quadrature.

Date: June 16, 2017 (Friday)  
Time: 11:00am ~ 12:00noon  
Venue: Room 222, Lady Shaw Building,  
The Chinese University of Hong Kong, Shatin

*All are Welcome*