



Department of Mathematics  
The Chinese University of Hong Kong

Phone: (852) 3943 7988-9 • Fax: (852) 2603 5154 • Email: dept@math.cuhk.edu.hk  
Rm. 220, Lady Shaw Building, The Chinese University of Hong Kong, Shatin, N.T., Hong Kong

*For Favour of Posting*

數學系  
香港中文大學

# Kinetic Lecture Series

## World of Molecular Gas Dynamics

by

**Professor Shigeru TAKATA**

*Kyoto University*

### Abstract:

In the present short course, I am going to introduce the kinetic theory of gases, starting with some physical motivations. Then, real basics of the theory are introduced, followed by a couple of simple calculations by hands that demonstrates peculiar phenomena in low pressure circumstances. Finally, typical asymptotic analyses in the field of the kinetic theory are explained.

#### **Lecture 1: Physical motivations and experiments in low pressure circumstances**

Date & Time : October 22, 2020; 10:30-11:30 (Hong Kong SAR)

Zoom link:

<https://cuhk.zoom.us/j/97902914811?pwd=SnRkcW9qZE0xdyswL21pYWVhRiR0UT09>

Meeting ID: 979 0291 4811, Passcode: 591825

#### **Lecture 2: Kinetic theory ABC**

Date & Time: October 23, 2020; 15:30-16:30 (Hong Kong SAR)

Zoom link:

<https://cuhk.zoom.us/j/91339242643?pwd=Sm9DL3Y2QnZ2UFFORjkzdEoxRXJjQT09>

Meeting ID: 913 3924 2643, Passcode: 635696

#### **Lecture 3: Simple calculations of gas rarefaction effect: collisionless gas limit**

Date & Time: October 29, 2020 ; 10:30-11:30 (Hong Kong SAR)

Zoom link:

<https://cuhk.zoom.us/j/91345881211?pwd=OGkvc01ITzRmUWZpR3lWQmtXazRuUT09>

Meeting ID: 913 4588 1211, Passcode: 412191

#### **Lecture 4: Asymptotic analyses**

Date & Time: October 30, 2020; 15:30-16:30 (Hong Kong SAR)

Zoom link:

<https://cuhk.zoom.us/j/98552887096?pwd=RlFjcmtiMnBBaEZIMHpuM0lyUEpnZz09>

Meeting ID: 985 5288 7096, Passcode: 074541

*All are Welcome*