

# Physics

## Induction Workshop

Envision your journey,  
from a **Physics major** to a **Physicist**.

Wednesday  
12<sup>th</sup> August 2015  
2 - 5 pm  
LT 31

\***Refreshments** will be provided



Department of Physics



# Physics

## Induction Workshop

Schedule	Talks
14.10 - 14.20	Registration
14.20 - 14.30	Opening Address NUS Physics Society
14.30 - 14.55	The Nature of Natural Laws A/P Kuldip Singh
15.00 - 15.25	Physics from a Theoretician's Perspective Prof. Berthold-Georg Englert
15.30 - 15.55	Physics from an Experimentalist's Perspective Prof. Sow Chorng Haur
16.00 - 16.20	Quiz NUS Physics Society
16.20 - 16.35	Break Refreshments will be provided
16.40 - 17.05	Opportunities for NUS Physics Majors A/P Thomas Osipowicz

Note: Schedule may change on the actual day

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### Abstracts

#### The Nature of Natural Laws (A/P Kuldip Singh)

A wiki entry on Physics, lists the field as “... the general analysis of nature, conducted in order to understand how the universe behaves”. Implicit in this statement is the supposition that that nature displays characteristics that lend themselves to human inquiry. But, what is the basis for such a believe? Or for that matter, what are the philosophical arguments that undergirds this statement? In this short talk, I will endeavour to address questions such as:

- What is the aim of Physics?
- What is the nature of Reality and how we (if at all possible), can access it?
- What are the philosophical traditions that underpin Reality?
- How do represent a physical theory and what constitutes a good theory?
- What role have symmetries played in our quest to understand Nature?

#### Physics from a Theoretician’s Perspective (Prof. Berthold-Georg Englert)

I’ll talk about the theoretical physics component in the BSc curriculum, will say a few words about the roles of theory and experiment in physics, and will try to offer advice on matters such as: How to get ready for the theory modules that start in year 2, and how to cope with theory modules?

#### Physics from an Experimentalist’s Perspective (Prof. Sow Chorng Haur)

In Physics, experiments and theories go hand-in-hand to provide us with reasonable models that give good account of the physical phenomena we observed in nature.

The role of experiments is thus critical to the development and generation of knowledge. Experiments can be utilized to verify theoretical models. Experiments can be used to discover phenomena not predicted by theoretical model.

And sometimes with the advance in the development of experiments, we can venture into a totally new area and that opens up new research directions! In this presentation, I hope to share with the audience some of the interesting experience we have had as a group working in the laboratory trying to probe a small piece of nature.

#### Opportunities for NUS Physics Majors (A/P Thomas Osipowicz)

The talk will introduce the various opportunities available for physics students, give an overview of what they offer, and how students can enrol. Specifically, programmes/modules within NUS:

- UROPS (Undergraduate Research Opportunities Programme in Science)
- Research-internships
- Special Programme in Science (SPS)

and outside NUS:

- Student Exchange Programme
- International Research-internships
- NUS oversees colleges

will be discussed.