

# Prof. A.W. Mailvaganam Memorial Oration – 2016

Title: **PHYSICS OF LOCOMOTION OF SELECTED ANIMALS**

Speaker: **Professor S. R. D. Rosa**

**Department of Physics, University of Colombo**

Venue: **New Physics Lecture Theatre (NPLT), 3<sup>rd</sup> Floor, Department of Physics, University of Colombo, Colombo – 03.**

Date & Time: **05 November 2016 (Saturday) at 5.30 p.m.**

(Refreshments will be served before the oration at 5.00 p.m.)

## All are Welcome

### Summary of the Oration:

#### **PHYSICS OF LOCOMOTION OF SELECTED ANIMALS**

With few exceptions locomotion of animals is brought about by the contraction of muscles against some kind of skeleton. The muscular-skeletal system is therefore the basis of locomotion and to understand the mechanisms one must look at its arrangement in different animals.

In considering the locomotion of any animal three things must be taken into account:

- (1) **Propulsion:** the animal must be propelled in the appropriate direction.
- (2) **Support:** the animal must be supported by its body acting against the particular medium in which it lives.
- (3) **Stability:** the animal may become temporarily unstable while moving but eventually stability must be restored.

How these three problems have been solved depends on whether the animal moves in water, on land or in the air. I will therefore illustrate the basic Physics principles by considering the locomotion in fishes, land-living vertebrates and birds.