

INDIAN ASSOCIATION FOR THE CULTIVATION OF SCIENCE

2A & 2B, Raja S.C. Mullick Road, Jadavpur, Kolkata-700032, India

Seminar Notice

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School of Physical Sciences

Title:	Phenomenology of the general $U(1)$ extended Standard Model
Speaker:	Arindam Das, Department of Physics, Osaka University, Japan
Date:	August 7, 2019 (Wednesday)
Time:	15:30
Venue:	Physics Seminar Room (C-406), 3rd Floor, Centenary Building, IACS
Abstract:	The general $U(1)$ extension of the Standard Model is an interesting scenario where the three generations of the right handed neutrinos. In this scenario an additional scalar is also added in the model which induces the mass Majorana mass term after the symmetry breaking. Such a model is specially interesting due to the presence of a neutral gauge boson, $Z^\prime$, which is very rich in phenomenology. The interaction between the $Z^\prime$ and the other particles are governed by the existence of the general $U(1)$ charges after the anomaly cancellation. In this talk we will discuss a variety of such phenomenologies, for example neutrino mass, Higgs production from the $Z^\prime$. It is interesting to mention that such models can also contain the dark matter candidates which still maintain the minimality of the particle content. The constraints on the relevant model parameters have been calculated using the facilities obtained from the Large Hadron Collider at the Run-2.

All are cordially invited to attend the seminar