

# PREFACE

I started my research work in February 2011 which has been documented in this dissertation entitled, “IMMUNOPHARMACOLOGICAL INVESTIGATIONS OF THE HERB *NERIUM INDICUM* MILLER (APOCYNACEAE)” under the supervision of Professor Tapas Kumar Chaudhuri, Cellular Immunology Laboratory, Department of Zoology, University of North Bengal.

Since the last few decades, with the increasing rate of publications in medical and pharmacological journals, it was quite apparent that evidence based pharmacognostic studies on complementary and herbal medicine were booming. Synergistic activities of known phytochemicals, plant extracts or novel bioactive leads were constantly being identified by biophysical screening of medicinal plants. Furthermore, traditionally known therapeutic uses of different medicinal plants were being established through *in vivo* trails.

At that juncture, I decided to evaluate certain immunopharmacological properties of *Nerium indicum*, which is commonly known as Oleander. *N. indicum* is an ethnopharmacological plant. Various parts of *N. indicum* is extensively used in the treatment of diverse ailments. Moreover, it is well known for its therapeutic efficacies in Indian and Chinese traditional medicinal systems.

Therefore, in the present study, 5 different bioactivities of *N. indicum* leaf, stem and root namely antioxidant and free radical scavenging, immunomodulatory, anti-inflammatory, anti-diabetic and hepatoprotective activities were evaluated using both *in vivo* and *in vitro* techniques. In addition, detail phytochemical investigations were performed using various techniques.

The findings of the study are published in various research journals and are presented and discussed in details in the Results and Discussion part of this dissertation.