

❖ Name & Designation	: Dr. Nagasamy Venkatesh, Assistant Professor.
❖ Address	: Dept. of Pharmaceutics, JSS College of Pharmacy, Rocklands, Ooty-643001.
❖ Name of the International Conference/ Seminar/Symposium/ Workshop	: 2 <sup>nd</sup> Annual International Conference on Pharmacology and Pharmaceutical Sciences 2014.
❖ Title of the abstract accepted	: Design, development and evaluation of ranolazine loaded chitosan nanoparticles for better anti-anginal therapy.
❖ Date & Venue	: 27-28 <sup>th</sup> October 2014, Singapore.
❖ Money sanctioned	: Rs 23,953/-
❖ Money reimbursed	: Rs 24,342/- (Due to hike the fare of air travel an additional Rs.389/- were sanctioned)

### Participation Report

#### ➤ Organization of Conference:

The 2<sup>nd</sup> Annual International Conference on Pharmaceutical Sciences and Pharmacology (PHARMA 2014) was organized by Global Science & Technology Forum (GSTF) and it was held at M Hotel, Singapore during October 27-28, 2014. The conference was contributed from 25 different countries. There were 2 keynote lectures, 10 poster presentations and 20 oral sessions. The sessions are given by leading scientists from all over the world. The sessions include Biopharmaceutics and Pharmacokinetics, Pharmaceutics, Pharmacy Practice, and Clinical Pharmacology. A total of approximately 10 contributed papers for poster session were presented in the different areas of Pharmaceutical Sciences. The conference started with seminars related to the above fields by the invited speakers.

**Academic Highlights of the Training/Workshops, including major recommendation and the following:**

**New Development presented at the Training/Workshops**

The presented work was titled **“Design, Development and Evaluation of Ranolazine Loaded Chitosan Nanoparticles for Better Anti- Anginal Therapy”** based on the formulation development of nanotechnology using a natural polymer for ranolazine to improve the anginal therapy. The ranolazine loaded nanoparticles were prepared by ionic gelation of chitosan with tripolyphosphate anions. Nanoparticles of different polymer concentration to drug ratio were formulated and evaluated for particle size, zeta potential, drug content, drug loading, entrapment efficiency, *in vitro* drug release, kinetic studies and *in vivo* oral bioavailability studies. The chitosan nanoparticles of optimized batch exhibited a mean particle diameter of 374.6 nm and a zeta potential of 6.95 mV, highest drug content of 4.81mg, drug loading of 48.1%, and entrapment efficiency of 19.53%. The *in vitro* release behavior from the chitosan nanoparticles found to follow first order and provided sustained release over period of 24h. *In vivo* oral bioavailability studies indicated that, there was more than 1.81 times fold increase in oral bioavailability in case of nanoparticles as compared to ranolazine solution. These results indicated that bioavailability is enhanced significantly by employing nanoparticles formulations of ranolazine using chitosan offer a new approach to improve the oral bioavailability of poorly soluble drugs. It was a pleasure

to know that, many people who attended the conference are working on same area with different approaches. It was a rare opportunity for me to interact with them to discuss about my research. The Program Chair Dr.Robert Vandenberg from Australia highly appreciated my research work and given the some valuable suggestions for further continuation of my research work.

**(i) New Development resulting from the Training/Workshops (200 words)**

The 2<sup>nd</sup> Annual International Conference on Pharmaceutical Sciences and Pharmacology (PHARMA 2014) was based on the recent and current developments in the field of Pharmaceutical Sciences. The event has provided me a great opportunity to participate and present my research work finding in area on development of novel drug delivery systems using nanotechnology. The conference provided an opportunity to interact with different research scientists from more than 25 countries, which itself was the rare opportunity to represent myself on behalf of the research fraternity from India. During the conference I have interacted with experts from **Non-Destructive Biomedical and Pharmaceutical Research Centre, Universiti Teknologi Mara, Malaysia** for collaborative research work in the field of nanosciences. This facility was highly useful for me especially in my research. Also, I had an opportunity to interact the people from **University of Athens Medical School, Greece** which brings pharmacists and biologists together, which was also useful for me in my research. I interacted and discussed with some research scientists about development of my research work those are working on this field mainly like,

1. **Dr. Robert Vandenberg**, The University of Sydney, Australia,
2. **Dr. Wong Tin Wui**, Universiti Teknologi Mara, Malaysia,
3. **Dr. Crispin Dass**, School of Pharmacy, Curtin University, Australia and
4. **Dr. Anton Ravindran**, University of Bedfordshire, UK.

(ii) Name of the Publication in case your work is recommended for publications -  
NA

8. **Participant's contribution to the Training/Workshops (100 words)**

I have participated and presented a paper orally in the conference entitled **“Design, Development and Evaluation of Ranolazine Loaded Chitosan Nanoparticles for Better Anti- Anginal Therapy”**. The work was based on the formulation and development of chitosan nanoparticles of ranolazine using ionic gelation of chitosan with tripolyphosphate anions. Further, nanoparticles of different polymer concentration to drug ratio were formulated and evaluated for particle size, zeta potential, drug content, drug loading, entrapment efficiency, *in vitro* drug release, kinetic studies and *in vivo* oral bioavailability studies. I have successfully delivered the talk and during the interactive session the audience raised the questions which were all answered by me and the panel was satisfied with my answers. The work was really appreciated much with certain inputs. I also exploited the best opportunity and gathered more new techniques in this area which might be implemented in my future research. The interactions with other scientific groups are expected to collaborative research work in near future.