

## Visit to TCGLife Sciences, Chembiotek on 9<sup>th</sup> January, 2017

A team from NIPER Kolkata headed by Director, NIPER Kolkata reached at 11:00 am and was welcomed by Dr. Subho Roy, Associate Vice President – Chemistry, **TCG Life Sciences Chembiotek**. The team members from Chembiotek who participated in the discussion with NIPER team were:

- a) Swapan Bhattacharya, Managing Director – the leader of the team
- b) Dr. Shantanu Dutta, Associate Vice President – Chemistry
- c) Dr. Mrinalkanti Kundu, Scientific Fellow – Chemistry
- d) Dr. Manish Banerjee, Associate Director – Biology, In Vivo Pharmacology
- e) Dr. Purnendu Roy Chowdhury, Associate Vice President – Analytical
- f) Subhankar Ghosh, Director-HR
- g) Dr. Subho Roy, Associate Vice President – Chemistry

Faculty and Scientists of NIPER who accompanied the Director of NIPER Kolkata were:

- a) Dr. K.K. Datta
- b) Dr. Kuldeep K. Roy
- c) Dr. Ranjan Jana
- d) Dr. Yogesh Bharitkar

MD while introducing himself and his team said that he was the co-founder of the Chembiotek and over a period of time has established a state of art laboratory of international standard to match the international requirements of various countries and the pharma industry for whom they undertake requisite chemical and biological experiments covering primarily the work in the field of Drug Development and Discovery. Some of the highlights:

- a) The company does not per se initiate drug discovery process from the very beginning. They work on the molecules as given to them by the engaging party or synthesise them if asked to, undertake work related to the chemical and biological properties as per the requirements of the engaging party and towards that end they have all the requisite facilities through high-end instruments and also undertake biological experiments in vitro, in cell lines and in small animal models. They have a good small animal facility which meets the international standard.
- b) In the very beginning of discussion, the MD reiterated that they intend to have long-term collaboration with NIPER-Kolkata, and can accept few students for their project work in Chembiotek lab. However, the students should meet the minimal standard of expertise through a selection process.
- c) They also pointed out that they will be keen to work on Rare Diseases in collaboration with NIPER-Kolkata.

Thereafter Director, NIPER-Kolkata introduced himself and gave a brief account of NIPER Kolkata.

National Institute of Pharmaceutical Education and Research, Kolkata (NIPER-Kolkata) was created in 2007 under the aegis of Ministry of Chemicals & Fertilizer as a centre of excellence for higher education, research and development in pharmaceutical sciences. This followed establishment of NIPER Mohali, which is the first national level institute in pharmaceutical sciences with a proclaimed objective of becoming a centre of excellence for advanced studies and research in pharmaceutical sciences. NIPERs are conceived to provide leadership in pharmaceutical sciences and related areas not only within the country, but also to the countries in South East Asia, South Asia and Africa. NIPER is a member of Association of Indian Universities and Association of Commonwealth Universities to become a globally recognized brand.

The institute was declared as an Institute of National importance by Government of India through Act of Parliament (NIPER Act 1998 & NIPER amendment Act 2007). At present the Institute is housed at Indian Institute of Chemical Biology (CSIR-IICB), a premier Institute of the Council of Scientific & Industrial Research, India.

Dr. K.K. Datta while introducing himself indicated that NIPER-Kolkata in pursuit of its mission has created a history in introducing a course curriculum on rare diseases leading to 2 credits (36 hours of teaching) for the first time in the global context at the master's level at NIPER. Course curriculum has been designed on the initiative of the Department of Pharmaceuticals (DoP) in collaboration of Minnesota University, USA. He also stated the importance of establishing Genome lab facility to establish biotechnology expertise at NIPER Kolkata. He sought that long-term association with Chembiotek will strengthen pharmaceutical education and research in India. Close collaboration with NIPER in establishing IODA Act in India may put India on the world map in orphan drug manufacture. It was also suggested that before a formal MoU is signed, it will be better that discussions continue with Chembiotek and NIPER faculties on few more occasions to understand each other's strength and interest so that a MoU could be signed before the end of this year. Thereafter other team members from both Chembiotek and NIPER-Kolkata gave a brief self-introduction.

The NIPER-Kolkata team visited through the biological and chemical laboratory facilities of Chembiotek.

#### Major observations from the Chembiotek laboratories

- Good organic chemistry synthesis set up: small scale R&D lab, process chemistry lab and kilo scale lab with all major and minor equipment, multi-kilo columns for purification.
- Nearly 12 numbers of LCMS system in their analytical division and many HPLC system, both analytical and preparative, flash chromatography systems
- GenVac system: capable of quickly drying nearly 400 samples overnight for final submission, capable of evaporating all kind of solvents in various boiling range.
- Two 400 MHz NMR with three different probe (C/H,F,P)
- Biological setup; primary evaluation of molecules, detailed pharmacology (both in vitro and in vivo), DMPK study, Animal house, pathways study facility, microbiological facility, etc.

### Highlights of the discussions and deliberations:

1. TCG Life Sciences has shown interest for the trainee program for master students.
2. They may hire PG students in their company for job. They will participate in the campus interview.
3. NIPER-Kolkata may sign up a MoU with TCG Life Sciences for PhD program where NIPER Kolkata may act as academic institutions to provide the degree and TCG Life Sciences Chembiotek research team may act as co-guide.
4. TCG Life Sciences may sign up a MoU and act promptly in collaboration with NIPER-Kolkata and other institutions for orphan drug discovery program where NIPER-Kolkata may bring their expertise on computational chemistry into the program.
5. Whether NIPER-Kolkata can use some of the research facilities from TCG Life Sciences could be explored
6. Follow up meetings to fix the target for orphan drug discovery program is essential.
7. Repurposing of the existing drugs for rare diseases could be a pathway to proceed.
8. The targets where several MNCs are attempting should not be focused due to the obvious competition and acceleration in Indian setup.

The visit ended with a vote of thanks to Swapan Bhattacharya, MD, and his worthy colleagues and a few photographs were taken before departure.

