# A Report
OF
# HANDS-ON WORKSHOP By HiMEDIA Labs Pvt. Ltd.

**Conducted on : 30th October 2015, Friday & 31st October 2015, Saturday**
**Venue : Seminar hall, Biotechnology Department Building.**

## INTRODUCTION

In order to provide students with commercial and industrial exposures of global standards, our institutes especially Institutes where Science is taught as a subject, industrial personals are invited very often to interact with students and provide them with some practical stuffs by organizing workshops and training sessions. In Biotechnology there are immense scope for exploration and research and to develop reasoning of that kind requires not only bookish knowledge but also practical tastes of higher order. This Workshop was also a similar effort in improving the compatibility of students in laboratory by handling instruments with greater accuracy and to get a real experience of sophisticated Molecular Techniques.
This workshop was organised by Department of Biotechnology, Pt. RSU, Raipur in collaboration with HiMedia Laboratories Pvt Ltd. Mumbai, which is a very reputed and popular life-sciences company. It was founded by Dr. R.M. Virke. For this two days workshop, we'd two trainers Dr. Amit Gade and Mr. Abhishek Wanjare. It was attended by students of M.Sc (1st and 3rd semester), Research Scholars, and Faculty members.

## PROCEEDINGS OF THE EVENT:

The whole workshop was aimed to follow a two day sessions, encompassing three experiments ( using Himedia teaching kits.)

1. Multiplex PCR
2. Restriction mapping
3. RNA Extraction

### [A] Day- 1 (Friday, 30th Oct.)

Now after the event started at around 12 am, the gathering was introduced to Dr. Gade by Dr. Sahu. At the very beginning he started the session by a PowerPoint presentation prior to that we were briefly introduced to the history and emergence of the Company. Then in his presentation we were informed about the basic principles of the techniques that we are going to learn. Like basic principles of multiplex PCR, Restriction mapping, and RNA Extraction processes.
Firstly, the whole M.Sc students ( 1st and 3rd semester) were grouped into 5 groups so that each group can perform their own experiment separately and interpret the results. Then, Dr. Gade demonstrated handling of micropipette to make master mix for Multiplex PCR. We used two primers GAPDH RNA primer duo and 18S RNA primer duo, as this was a

multiplex PCR. Now each group performed master mix preparation separately and then observed the samples being loaded in PCR Machine ( Prima-96 by HiMedia). We learnt to compute the machine and how to set and save an amplification. The machine took 1.50 hours to accomplish its job, after which the samples were stored at 4 degrees Celsius in fridge.
Next, For restriction digestion mapping all groups prepared there separate master mix in this way:

1.Sample DNA + EcoR1
2. Sample DNA + HindIII
3. Sample DNA + EcoR1+ HindIII

All these tubes where digestion was taking place needed 2 hours incubation at Room Temperature so after that incubation time those tubes were carefully stored in refrigerator. This ended the first day of workshop with HiMedia.

**[B] Day-2 (Saturday, 31st Oct)**

Today it started bit earlier. By participations of students Dr. Gade and Abhishek sir guided to make agarose gel, TAE buffer, MOPS buffer etc which were to be needed to run the samples that where incubated and amplified yesterday. Now today we started the third experiment to isolate RNA. First animal liver tissue was crushed then according to prescribed protocol reagents were added and after series of centrifugation and precipitation strategies RNA was obtained in pellet.
Now, all the samples of Multiplex PCR, Restriction digestion, and RNA Extraction were loaded on to their assigned gels for electrophoresis and in short interval of time we got the results of performed techniques. All the gels were viewed and imaged under Gel-documentation system. Results were interpreted and discussed in presence of faculty members and Research scholars.

## CONCLUSION:

Among all the three experiments performed satisfactory results were obtained. Some groups performed well some couldn't but all in one everyone was excited and enthralled to perform such molecular techniques. As the results of RNA isolation was unsatisfactory. Because RNA being very unstable and degradable by RNAse it's to be performed in sophisticated laboratory with high degree of precautionary facilities. But anyway we could successfully performed it whatever be the results its certainly a very good and encouraging event to celebrate Science. It is never boring. Science has never been boring, students like science but not in the way in which it is currently served. So, to reach heights of development and innovation learning in interactive way with practical knowledge is very necessary for students. And also it's a challenge in front of our policy makers to make this happen.

Date; Monday 2nd November 2015

Report Submitted by:
M.Sc 1st semester
Department of Biotechnology
Pt. RSU, Raipur