

# **Department of Statistics,**

### Assam University, Silchar-788011

#### Report of the Three Day Workshop on Data Analysis for Biological Sciences

#### March 28-30, 2016

As a part of the ongoing training programmes, with focus on the needs of the people of North-Eastern states of India, the Applied Statistics Unit of the Indian Statistical Institute, Kolkata organized a *Workshop on Data Analysis for Biological Sciences* during *March 28-30, 2016* at Assam University, Silchar in collaboration with the Department of Statistics.

The target participants for the workshop was faculty members and research scholars working in any field of Biological/Environmental science in several academic institutions and employees in Govt. offices of North-Eastern states of India.

The course content covered in the workshop comprised of the Nature of Data, Descriptive Statistics, Data Representation (Tables and Graphs), Distribution Theory, One Sample Test and Two Sample Test of Hypothesis (Parametric, Nonparametric), Regression Analysis, ANOVA, Tests for Proportions and Tests for Independence in Contingency Table.

There was no registration fee for the workshop attendees rather the participants were provided with working lunch and snacks free of cost on all the three days of the workshop. The outstation participants were reimbursed of their travelling and staying expenses, partially.

The fund for conducting the event was provided by the Indian Statistical Institute. The Coordinators of the Workshop were Prof. Tapas Samanta from Indian Statistical Institute, Kolkata and Prof. Dibyojyoti Bhattacharjee, from the Department of Statistics, Assam University.

The workshop was planned to showcase the participants the different statistical tools that can be applied for the analysis of data coming out of experiments conducted in biological sciences.

There were a total of 38 participants in the workshop the details of which can be seen in the table below.

| Sl_No | Name             | Subject      | Designation      | Institute        |
|-------|------------------|--------------|------------------|------------------|
|       | MONISHA NATH     | BIO-         |                  |                  |
| 1     | CHOUDHURY        | TECHNOLGY    | Research Scholar | ASSAM UNIVERSITY |
|       |                  | ECOLOGY &    |                  |                  |
| 2     | NAMI PRASAD      | ENVIR. SCI.  | PH.D SCHOLAR     | ASSAM UNIVERSITY |
|       |                  | ECOLOGY &    |                  |                  |
| 3     | POPPY RAJBONGSHI | ENVIR. SCI.  | PH.D SCHOLAR     | ASSAM UNIVERSITY |
| 4     | PANKAJ PHUKAN    | LIFE SCIENCE | PH.D SCHOLAR     | ASSAM UNIVERSITY |
|       |                  | ECOLOGY &    |                  |                  |
| 5     | PRIYANKA SARKAR  | ENVIR. SCI.  | PH.D SCHOLAR     | ASSAM UNIVERSITY |

| Sl_No | Name                                    | Subject                     | Designation      | Institute                |
|-------|---|-----------------------------|------------------|--------------------------|
|       |   | Zoology & LIFE              |                  |                          |
| 6     | H. ASHALATA SINGHA                      | SCIENCE                     | PH.D SCHOLAR     | ASSAM UNIVERSITY         |
|       | MOHOMMAD MIRAJ                          | ECOLOGY &                   |                  |                          |
| 7     | HUSSAIN                                 | ENVIR. SCI.                 | PH.D SCHOLAR     | ASSAM UNIVERSITY         |
| 8     | SANJIT NAMASUDRA                        | LIFE SCIENCE                | Research Scholar | ASSAM UNIVERSITY         |
|       |   | BIO-                        |                  |                          |
| 9     | ROJINI ATHOKPAM                         | TECHNOLGY                   | Research Scholar | ASSAM UNIVERSITY         |
|       |   | ECOLOGY &                   |                  |                          |
| 10    | RINKU MONI KALITA                       | ENVIR. SCI.                 | SRF (CSIR)       | ASSAM UNIVERSITY         |
|       | BIRKHUNGUR                              | ECOLOGY &                   |                  |                          |
| 11    | BOROGAYARY                              | ENVIR. SCI.                 | PH.D SCHOLAR     | ASSAM UNIVERSITY         |
|       |   | ECOLOGY &                   |                  |                          |
| 12    | PAMMI SINGH                             | ENVIR. SCI.                 | Research Scholar | ASSAM UNIVERSITY         |
|       |   | MICROBIOLOG                 |                  |                          |
| 13    | RAJKUMARI JINA DEVI                     | Y                           | Research Scholar | ASSAM UNIVERSITY         |
|       | CHONGTHAM                               |                             |                  |                          |
| 14    | MEMTOMBI CHANU                          | ENVIR. SCIENCE              | PH.D SCHOLAR     | ASSAM UNIVERSITY         |
|       |   | MICROBIOLOG                 |                  |                          |
| 15    | L. PAIKHOMBA SINGHA                     | У                           | PH.D SCHOLAR     | ASSAM UNIVERSITY         |
| 1.0   | ANGOM BOMEA BENE                        | BIOTECHNOLO                 | D 1011           | A GG A M A D WATER GATTA |
| 16    | ANGOM ROMITA DEVI                       | GY                          | Research Scholar | ASSAM UNIVERSITY         |
|       |   | LIFE SCIENCE & BIOINFORMATI |                  |                          |
| 17    | ANUPAMA SAHA                            | CS                          | PH.D SCHOLAR     | ASSAM UNIVERSITY         |
| 1 /   | ANOFAMA SAHA                            | BIOTECHNOLO                 | FILD SCHOLAR     | ASSAM UNIVERSITI         |
| 18    | PROSENJIT PAUL                          | GY                          | Research Scholar | ASSAM UNIVERSITY         |
| 10    | RAJEEB CHETLA                           | ECOLOGY &                   | Research Scholar | 71557111 CTVI VERSTI I   |
| 19    | PATOR                                   | ENVIR. SCI.                 | Research Scholar | ASSAM UNIVERSITY         |
|       | -                                       | ECOLOGY &                   |                  |                          |
| 20    | KHURAIJAM ELLORA                        | ENVIR. SCI.                 | Research Scholar | ASSAM UNIVERSITY         |
|       | BISWAJYOTI                              | ECOLOGY &                   |                  |                          |
| 21    | BIKOMIYA DEORI                          | ENVIR. SCI.                 | PH.D SCHOLAR     | ASSAM UNIVERSITY         |
|       |   | LIFE SCIENCE                |                  |                          |
| 22    | THOUNAOJAM NEVITA                       | (Botany)                    | Research Scholar | ASSAM UNIVERSITY         |
|       | NGANGOM NGANBI                          | ECOLOGY &                   |                  |                          |
| 23    | DEVI                                    | ENVIR. SCI.                 | Research Scholar | ASSAM UNIVERSITY         |
| 2.4   | AMP (1) YOUNG THE PER A                 | BIOTECHNOLO                 | D 1011           | A GG A M A D WATER GATTA |
| 24    | HIMANGSHU DEKA                          | GY                          | Research Scholar | ASSAM UNIVERSITY         |
| 25    | SAMBUDDHA DAS                           | BIOTECHNOLO<br>GY           | PH.D SCHOLAR     | ASSAM UNIVERSITY         |
| 23    | AAHEN CHANU                             | ECOLOGY &                   | DOCTORAL         | ASSAIVI UIVI VEKSII I    |
| 26    | WAIKHOM                                 | ENVIR. SCI.                 | FELLOW           | ASSAM UNIVERSITY         |
| 20    | PRIYADARSHANI                           | BIOTECHNOLO                 | I DELO II        | ANDIANI CINI VERNII I    |
| 27    | YENGKOKPAM                              | GY                          | Research Scholar | ASSAM UNIVERSITY         |
|       | - · · · · · · · · · · · · · · · · · · · | BIOTECHNOLO                 |                  |                          |
| 28    | BINATA HALDER                           | GY                          | Research Scholar | ASSAM UNIVERSITY         |
|       | ARUP KUMAR                              | BIOTECHNOLO                 |                  |                          |
| 29    | MALAKAR                                 | GY                          | PH.D SCHOLAR     | ASSAM UNIVERSITY         |
|       |   | BIOTECHNOLO                 |                  |                          |
| 30    | SAYANTAN NATH                           | GY                          | PH.D SCHOLAR     | ASSAM UNIVERSITY         |
|       | LAITONJAM BEDABATI                      | ECOLOGY &                   |                  |                          |
| 31    | CHANU                                   | ENVIR. SCI.                 | PH.D SCHOLAR     | ASSAM UNIVERSITY         |

| Sl_No | Name            | Subject     | Designation      | Institute           |
|-------|-----------------|-------------|------------------|---------------------|
|       | SANCHITA        | BIOTECHNOLO |                  |                     |
| 32    | BHATTACHARJEE   | GY          | PH.D SCHOLAR     | ASSAM UNIVERSITY    |
|       |                 | ECOLOGY &   |                  |                     |
| 33    | BISWAJIT SINGH  | ENVIR. SCI. | Research Scholar | ASSAM UNIVERSITY    |
|       |                 | BIOTECHNOLO |                  |                     |
| 34    | BISWAJIT SINGHA | GY          | Research Scholar | ASSAM UNIVERSITY    |
|       |                 | ECOLOGY &   |                  |                     |
| 35    | PATOR SINGNAR   | ENVIR. SCI. | Research Scholar | ASSAM UNIVERSITY    |
|       |                 |             |                  | RAJIV GANDHI        |
|       |                 |             |                  | UNIVERSITY,         |
| 36    | GAURAB BORAH    | ZOOLOGY     | PH.D SCHOLAR     | ITANAGAR            |
|       | DEBASISH        |             | GUEST            | COCHER COLLEGE,     |
| 37    | BHATTACHARJEE   | ZOOLOGY     | LECTURER         | SILCHAR             |
|       |                 |             |                  | M H CHOUDHURY       |
|       | ABUL FAZAL      | ECOLOGY &   | ASSISTANT        | MEMO. SCI. COLLEGE, |
| 38    | MAZUMDER        | ENVIR. SCI. | PROF.            | HAILAKANDI          |

The inaugural session of the workshop started at 10 AM on 28<sup>th</sup> of March, 2016 with welcome address by the Dean, School of Physical Sciences, Assam University Prof. Bipul Shayam Purkayastha. After his welcome address all the external resource persons form ISI were felicitated. Prof. Anup Deewanji of ISI, Kolkata expressed the purpose of organizing the event in his speech that followed next. Next Vice Chancellor i/c of Assam University, Prof. R R Dhamala, and Prof. Anup Deewanji and Prof. Debasis Sen Gupta planted sapling in the tubs to commemorate the event. Then it was the turn of Honourable, Vice Chancellor i/c of Assam University to deliver her speech where she appreciated the Department of Statistics for organizing such an wonderful event and thanked the Indian Statistical Institute to collaborate and sponsor the workshop with resourse persons as well as financially. The inaugural program ended with Vote of thanks by Prof. Dibyojyoti Bhattacharjee, Head of the Department of Statistics.

The schedule of the academic sessions of the workshop was as follows:

| Time<br>Date<br>Day   | 9:30-11:00                                 | 11:15-12:45                             | 13:30-15:00                                | 15:15-16:45         |
|-----------------------|--|---|--|---------------------|
| 28.03.2016<br>Monday  | Registration<br>&<br>Inauguration          | Nature of Data & Descriptive Statistics | Data<br>Representation<br>(Tables & Graph) | Distribution Theory |
| 29.03.2016<br>Tuesday | Testing of Hypothesis & Two Sample Problem | Nonparametric<br>Tests                  | Contingency Tables & Test for Proportion   | ANOVA               |

The speakers of the workshop were all from Indian Statistical Institute, Kolkata and they were Prof. Anup Dewanji, Prof. Debasis Sengupta, Prof. Tapas Samanta, Prof. Sumitra Purkayastha, Prof. Mausumi Bose and Dr. Arnab Chakraborty

The Valedictory & Certificate Distribution Session of the Workshop started at 3:30 PM on the 30<sup>th</sup> of March, 2016. Resource persons from the Indian Statistical Institute, Prof. Mausumi Bose and Dr. Arnab Chakraborty and the faculty members from Department of Statistics, Assam University, Silchar and the participants were present in the valedictory session. The session started with the distribution of certificates to the participants following which the participants also expressed their opinions in the valedictory session. They expressed that they could gain knowledge from the lectures of the speakers who delivered their lectures in the workshop. Prof. Dibyojyoti Bhattacharjee, Head, Department of Statistics, Assam University, Silchar thanked everyone for participating and contributing towards the success of the event.

## Some Snapshots of the Workshop



Anchor of the Inaugural Program Dr. Tanusree Deb Roy inviting Dignitaries to the Dias



Prof. Tapas Samanta of Indian Statistical Institute, Kolkata inaugurating the Wall Magazine "Stat Planet" of the Department during the Workshop



Group Photo Following the Valedictory Program of the Workshop

\*\*\*\*