

# Hands-on Workshop on “Basic Techniques in Molecular Biology and Animal Tissue Culture”

**21-27 December, 2023**

**BKL Walawalkar Rural Medical College, Ratnagiri.**

| Day 1 Thursday 21 December 2023 |   |
|---------------------------------|---|
| 09.00-09.30                     | Breakfast   |
| 09.30 – 10.00                   | About the workshop – Dr. Rita Mulherkar, Convener, Workshop - <b>Pre-test</b>   |
| 10.00 - 10.30                   | Good Laboratory Practice (GLP) – Neelam Shirsat - <b>Lecture 1</b>  |
| 10.30 – 11.00                   | Introduction to Nucleic Acids – Neelam Shirsat - <b>Lecture 2</b>   |
| 11.00-11.15                     | Tea   |
| 11.15-13.00                     | Lab exercise – Preparing Molar solutions and use of micropipettes   |
| 13.00 – 13.30                   | Lunch   |
| 13.30- 17.00                    | Lab exercise - DNA isolation from blood buffy coat  |
| 17.00-17.30                     | Nobel Prize for Physiology and Medicine – Surendra Ghaskadbi – <b>Lecture 3</b>   |
| Day 2 Friday 22 December 2023   |   |
| 08.30 – 09.30                   | Breakfast   |
| 09.30 – 10.00                   | Polymerase Chain Reaction – Neelam Shirsat - <b>Lecture 4</b>   |
| 10.00 – 11.30                   | Practical on setting up PCR, RE digestion and Agarose gel electrophoresis   |
| 11.30 – 11.45                   | Tea   |
| 11.45 - 13.00                   | Lecture on RNA and practical on RNA isolation – Neelam Shirsat - <b>Lecture 5</b>   |
| 13.00 – 13.30                   | Lunch   |
| 13.30 – 17.30                   | Practical - RNA isolation from cells in culture or tissue   |
| 17.30-18.00                     | Recombinant DNA Technology – Saroj Ghaskadbi Part I - <b>Lecture 6</b>  |
| Day 3 Saturday 23 December 2023 |   |
| 08.30 – 09.15                   | Breakfast   |
| 09.30 – 10.15                   | Inauguration<br>Welcome – Dr. Suvarna Patil, Medical Director, BKL Walawalkar Hospital<br>Felicitation of Dignitaries and invited faculty<br>Welcome - Dr. V. Chauhan, Chairman, Sun Pharma Science Foundation<br>Vote of thanks – Dr. Amit Nasa, Secretary, SPSF |
| 10.15 – 10.30                   | Tea   |
| 10.30 – 11.00                   | Application of qPCR – Shelke/Nakhate - <b>Lecture 8</b>   |
| 11.00-11.30                     | Sequencing and Microarray – TBA - <b>Lecture 7</b>  |
| 11.30 - 14.00                   | Practical - cDNA synthesis and qPCR   |
| 14.00 – 14.30                   | Lunch   |
| 14.30 – 17.30                   | Practical - qPCR continued  |
| 17.30-18.00                     | Recombinant DNA Technology – Saroj Ghaskadbi Part II - <b>Lecture 9</b>   |

| Day 4 Sunday 24 December 2023    |   |
|----------------------------------|---|
| 08.30 – 09.15                    | Breakfast   |
| 09.30 – 10.00                    | Proteins and protein purification methods – Rohit Bhat - <b>Lecture 10</b>                |
| 10.00 – 10.30                    | Flow Cytometry and its application – Nishigandha Naik - <b>Lecture 11</b>                 |
| 10:30 – 11.00                    | Tea   |
| 11.00 – 14.00                    | Practical – Protein estimation and SDS-PAGE   |
| 14.00 - 14.30                    | Lunch   |
| 14.30 – 17.30                    | Practical – Silver staining, Western blotting and ELISA                                   |
| 17.30 – 18.00                    | Recombinant DNA Technology – Saroj Ghaskadbi Part III - <b>Lecture 12</b>                 |
|                                  |   |
| Day 6 Tuesday 26 December 2023   |   |
| 08.30 – 09.15                    | Breakfast   |
| 09.30 – 10.30                    | Practical - Western blotting and staining of blot (continued)                             |
| 10.30 – 11.00                    | Introduction to Animal Tissue Culture – Rita Mulherkar - <b>Lecture 13</b>                |
| 11.00-11.30                      | Cancer Stem Cells – Sharmila Bapat - <b>Lecture 14</b>                                    |
| 11.30 – 11.45                    | Tea   |
| 11.45 - 14.00                    | Practical - Tissue culture and cell lines maintenance<br>(Split participants in 3 groups) |
| 14.00 – 14.30                    | Lunch   |
| 14.30 – 17.30                    | Video on setting up primary disc culture and demonstration of lymphocyte culture          |
| 17.30-18.00                      | Karyotyping and its applications – Mrinalini Moghe - <b>Lecture 15</b>                    |
|                                  |   |
| Day 7 Wednesday 27 December 2023 |   |
| 08.30 – 09.15                    | Breakfast   |
| 09.30 – 10.30                    | Post-test and discussion  |
| 10.30 – 11.30                    | Valedictory function  |
| 11.30 – 11.45                    | Tea   |

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