**Schedule of National Workshop on Fundamentals of Fermentation Process Development**

**Day 1: 13th January 2020**

|  |  |  |  |
| --- | --- | --- | --- |
| 8:45-9:15 | Registration |  | Main Building Seminar Hall |
| 9:30 – 10:15 | Inaugural ceremony* Lighting of lamps
* Bouquet to guests
* Introduction to workshop
* Welcome address
* Inaugural remarks
 | Dr. Anirban Roy ChoudhurySenior Principal Scientist, CSIR-IMTECHDr. Manoj RajeDirector, CSIR-IMTECHDr. Sanjay KumarDirector,CSIR-IHBT, Palampur | Main Building Seminar hall |
| 10:15 – 11:15 | Inaugural LectureMass transfer in bioreactors | Dr. U. C. BanerjeeProfessor & Head, Pharmaceutical Technology,NIPER, Mohali |  |
| 11:15 – 11:30 | Group photograph |  | Imtech DNA garden |
| 11:30 – 12:00 | Tea Break |  |  |
| 12:00 – 13:00 | Fermentation technology shaping the global bioeconomy landscape | Dr. Sanjay KumarDirector,CSIR-IHBT, Palampur | Main Building Seminar hall |
| 13:00 – 14:00 | Lunch | Cafeteria |
| 14:00 - 15:00 | Modelling simulation and optimization of fermentation processes | Dr.A. K. SrivastavaProfessor,Department of Biochemical Engineering and Biotechnology, IIT-Delhi | MTCC Seminar Hall |
| 15:00 – 15:30 | Tea Break |  |  |
| 15:30 – 17:30 | Lab demonstration: Bioreactor design and optimization | Dr.Anirban Roy Choudhury, Mr. Dinesh, Mr.Jaideep Mehta | BERPDC Fermentation Laboratory |

**Day 2: 14th January 2020**

|  |  |  |  |
| --- | --- | --- | --- |
| 9:00 – 10:00 | Critical developments in modern bioprocessing | Dr.SanjayNeneChief Executive Officer,Innovation Biologicals Pvt.Ltd.Adjunct Professor,Biochemical Engineering, AICTE | MTCC Seminar hall |
| 10:00 – 10:30 | Tea Break |  |  |
| 10:30 – 11:15 | Bio-prospectingof prokaryotic microbial diversity | Dr. Suresh KorpolePrincipal Scientist,CSIR-IMTECH | MTCC Seminar hall |
| 11:15 – 12:00 | Strain improvement strategies for large scale cultivation of microbial products | Dr. G. RajamohanSenior Principal Scientist, CSIR-IMTECH | MTCC Seminar hall |
|  |  |
| 12:15 – 13:00 | Process development for production of microbial exopolysaccharides: Petri plate to pilot scale | Dr. Anirban Roy ChoudhurySenior Principal Scientist, CSIR-IMTECH | MTCC Seminar hall |
| 13:00 – 14:00 | Lunch | Cafeteria |
| 14:00 – 15:30 | Laboratory Demonstration (Session I): Fermenter sterilization (Lab scale and 15/150L fermenter) | Dr.Anirban Roy Choudhury, Dr. Mani Shankar Bhattacharya, Mr. Dinesh, Mr. Sandeep, Mr. Prem, Mr. Jaideep Mehta | BERPDC Fermentation Laboratory |
| 15:30 – 16:00 | Tea break |  |  |
| 16:00 – 17:30 | Laboratory Demonstration (Session II): Fermenter sterilization (Lab scale and 15/150L fermenter) | Dr.Anirban Roy Choudhury, Dr. Mani Shankar Bhattacharya, Mr. Dinesh, Mr. Sandeep, Mr. Prem, Mr. Jaideep Mehta | BERPDC Fermentation Laboratory |

**Day 3: 15th January 2020**

|  |  |  |  |
| --- | --- | --- | --- |
|  |  |  |  |
|  9:00 – 10:00 | Bioconversion & fermentation from the perspective of India’s ambition for sustainable development in the biofuel sector | Dr.SibabrataMukharjeeIndustry Technology Specialist, Novozymes, Bangalore | MTCC Seminar hall |
| 10:00 – 10:45 | Laccase: Potential and limitations | Dr. V. C. SonawaneSenior Principal ScientistCSIR-IMTECH | MTCC Seminar hall |
| 10:45 – 11:15 | Tea Break |  |  |
| 11:15 – 12:00 | Downstream processing aspects of industrial fermentation | Dr. Mani S. BhattacharyyaSenior Scientist,CSIR-IMTECH | MTCC Seminar hall |
| 12:00 – 13:00 | Nanofiltration coupled fermentation for biofuel production | Dr. G. P. AgarwalEmeritus Professor,Department of Biochemical Engineering and Biotechnology,IIT-Delhi | MTCC Seminar hall |
|  |
| 13:00 – 14:00 | Lunch | Cafeteria |
| 14:00 – 15:30 | Laboratory Demonstration (Session I): TFF (Microfiltration/Ultrafiltration) | Dr. Mani S. Bhattacharya, Mr. E. Senthil Prasad, Mr. Jaideep Mehta and Mr. Karan (GE) | BERPDC Fermentation Laboratory |
| 15:30 – 16:00 | Tea Break |  |  |
| 16:00 – 17:30 | Laboratory Demonstration (Session II): TFF (Microfiltration/Ultrafiltration) | Dr. Mani S. Bhattacharya, Mr. E. Senthil Prasad, Mr. Jaideep Mehta,Mr.Kanojia and Mr. Karan (GE) | BERPDC Fermentation Laboratory |

**Day 4: 16th January 2020**

|  |  |  |  |
| --- | --- | --- | --- |
| 9:00 – 10:00 | Photobioreactor technology and cultivation strategies of microalgae for biolipid production | Dr.SanjoyGhoshProfessor,Department of Biotechnology, IIT-Roorkee | MTCC Seminar hall |
| 10:00 – 11:00 | Challenges in biotherapeutic manufacturing: Bridging gaps between R&D and commercial production | Mr. RamitRikhiLead-Bioengineering,Dr. Reddy’s Laboratories | MTCC Seminar hall |
| 11:00 – 11:30 | Tea Break |  |  |
| 11:30 – 12:15 | Post-fermentation processing, chromatographic separation and preliminary identification of secondary metabolites/bioactives | Dr. Hemraj S. NandanwarSenior Principal Scientist,CSIR-IMTECH | MTCC Seminar hall |
| 12:15 – 13:00 | In vitro glycosylation of peptides using bacterial enzymes | Dr. Alka RaoPrincipal Scientist,CSIR-IMTECH | MTCC Seminar hall |
| 13:00 – 14:00 | Lunch | Cafeteria |
| 14:00 – 15:30 | Laboratory Demonstration (Session I): TLC, HPLC and GC-MS | Dr. Hemraj S. Nandanwarand Mr. Vineet | BERPDC  |
| 15:30 – 16:00 | Tea Break |  |  |
| 16:00 – 17:30 | Laboratory Demonstration (Session II): TLC, HPLC and GC-MS | Dr. Hemraj S. Nandanwarand Mr. Vineet | BERPDC  |

**Day 5: 17th January 2020**

|  |  |  |  |
| --- | --- | --- | --- |
| 9:00 – 10:00 | Process development for production of *Escherichia coli* based recombinant proteins | Dr. D. K. SahooEx-Chief ScientistCSIR-IMTECH | MTCC Seminar hall |
| 10:00 – 11:00 | Biofuel production from Lignocellulosic biomass: Pre-treatment strategy | Dr.Gunjan MukherjeeProfessor & Head,University Institute of Biotechnology, Chandigarh University | MTCC Seminar hall |
|  |  |  |  |
| 11:00 – 11:30 | Tea Break |  |  |
| 11:30 – 12:30 | Solid-state fermentation of Apple Pomace for Biotechnological Applications | Dr. R. S. SinghProfessor & Head, Department of Biotechnology, Punjabi University, Patiala | MTCC Seminar hall |
| 12:30 – 13:00 | Valedictory Session | Dr. Manoj RajeDirector,CSIR-IMTECH |  |
| 13:00 – 14:00 | Lunch | Cafeteria |
| 14:00 – 17:00 | Institute tour | Dr. Mani S. Bhattacharya and Mr. E. Senthil Prasad |  |