



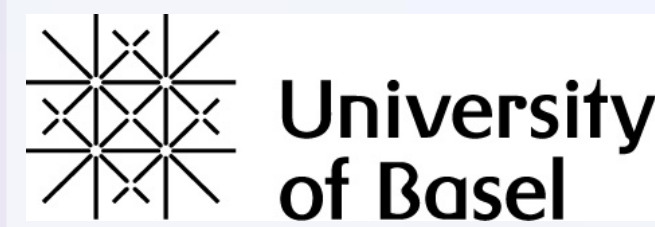
Department of Biosciences and Biomedical Engineering  
**INDIAN INSTITUTE OF TECHNOLOGY INDORE**

organizes

## 5 days INDO-SWISS workshop and hands-on training

on

### “Understanding the viral infections in brain cells through transcriptomics and Ribo-seq approach”



**BIOZENTRUM**

The Center for  
Molecular Life Sciences

Dates: 12<sup>th</sup> March – 16<sup>th</sup> March 2024

Sponsored by

**Scheme for Promotion of Academic and Research Collaborations (SPARC)**

#### ABOUT IIT INDORE

Indian Institute of Technology Indore, located in Madhya Pradesh, known as IIT Indore, is an institute of national importance established by the Government of India in 2009.

Department of Biosciences and Biomedical Engineering was established in the year 2012 with an aim to apply the principles of science and engineering application in biology.

#### COURSE DETAILS

Date	10 am – 1 pm	2 pm – 5 pm
12/03/2024	Inauguration and programme overview. Pre-requisites helpful information for all hands-on training experiments.	RNA isolation from DNA/RNA virus-infected cells (Trizol method). Visualization, quantitation and followed by analysis of RNA quality (RNA gel electrophoresis, nanodrop, spectroscopy),
13/03/2024	RNA to cDNA conversion and quantitative real-time PCR (qRT-PCR) discussion	Performing the qRT-PCR for virus genes followed by evaluated the EBV infection into different brain cells
14/03/2024	An introduction to high-throughput sequencing (HTS) technologies; RNA-Seq, Ribo-Seq, ChIP-Seq and in their applications viral infections	Computational analysis of RNA-Seq data to characterize pathogen interactions
15/03/2024	The Ribo-Seq Technique: an important tool to unravel the EBV association with Multiple Sclerosis	Application of translome data obtained through Ribo-Seq technique to study host-pathogen interactions
16/03/2024	Biochemical and molecular approaches to unravel EBV internalization and infection to brain cells	Visualising the EBV using Immunofluorescence <b>Valedictory and Certificate distribution</b>

#### COURSE FACULTY

- **Dr. Hem Chandra Jha**, Associate Professor, Department of BSBE, IIT Indore, M.P., India
- **Prof. Mihaela Zavolan**, Professor, Biozentrum, University of Basel, Switzerland
- **Dr. Nitish Mittal**, Senior Scientist and Entrepreneur, Biozentrum, University of Basel, Switzerland
- **Dr. Arka Banerjee**, Research Associate and Entrepreneur, Biozentrum, University of Basel, Switzerland
- **Dr. Niels Schlusser**, Research Associate and Bioinformatician, Biozentrum, University of Basel, Switzerland
- **Dr. Meric Ataman**, Research Associate and Bioinformatician, Biozentrum, University of Basel, Switzerland
- **Dr. Hamendra Singh Parmar**, Associate Professor, Devi Ahilya Vishwavidyalaya, Indore, India

#### COURSE MODULE and CERTIFICATES

This is an active learning based course comprised of lectures, tutorials, and hands-on training/ demonstrations. Participants who successfully complete the course will be awarded with a certificate.

#### TARGET PARTICIPANTS and REGISTRATION PROCESS

This course is tailor made for undergraduate/ postgraduate/ Doctorate/ researchers and industry employee. Interested participants need to submit an online form. Number of participants are limited to 20.

Online Registration Link: <https://forms.gle/6F8tpeqj5hY9iZHp6>

Registration Deadline: **20<sup>th</sup> February 2024**

Course Coordinator And Organizer: **Dr. Hem Chandra Jha**

Contact number: +91 9971653189

Email: [hemcjh@iiti.ac.in](mailto:hemcjh@iiti.ac.in)

Website: <https://sites.google.com/view/infectionbioengineering>

**COURSE FEES: ₹ 5000/-**

Selected candidates will be informed by 28<sup>th</sup> February 2024

**Accommodation will be provided in a chargeable manner**