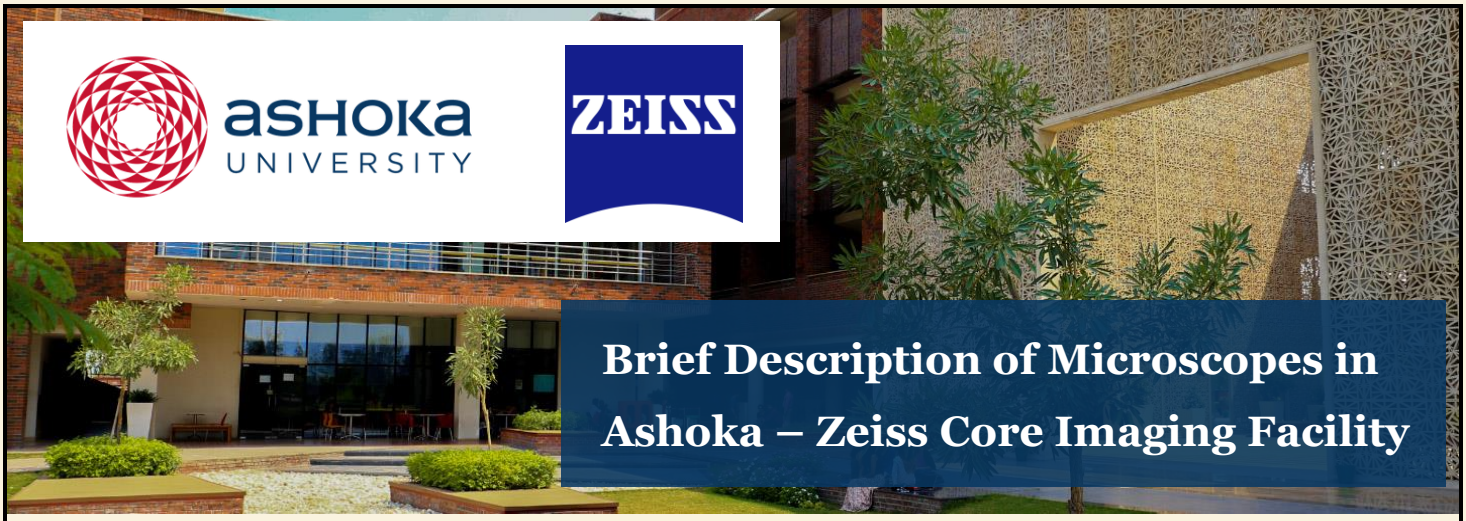


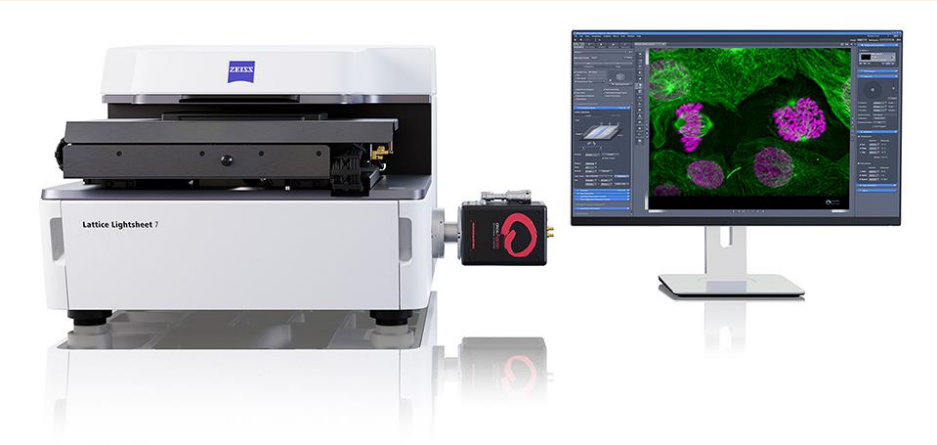
# Brief Description of Microscopes in Ashoka – Zeiss Core Imaging Facility

## Ashoka – Zeiss Core Imaging Facility

Ashoka – Zeiss Core Imaging Facility is a collaborative effort between Ashoka University and Zeiss Research Microscopy Solutions (Carl Zeiss India (Bangalore) Pvt. Ltd) to establish a facility that offers the latest and cutting-edge microscopy technology for students and researchers of Ashoka University and its research collaborators. This facility is intended to provide students and researchers with physical access to the highly sophisticated microscopes from Zeiss, which are proposed to be installed on the Ashoka University campus for their research works. The facility is planned to start operating with four different microscopes from Zeiss, namely Lattice Lightsheet 7, Elyra 7 LS (Lattice SIM2) with Dual Camera sCMOS camera, LSM 980 NLO, and Cell Discoverer 7 with LSM 900 Airyscan. These microscopes can offer spectacular research support in fields such as cell biology, biophysics, soft condensed matter studies, and structural biology.

## Brief description of the Microscopes

### 1. Zeiss Lattice Lightsheet 7

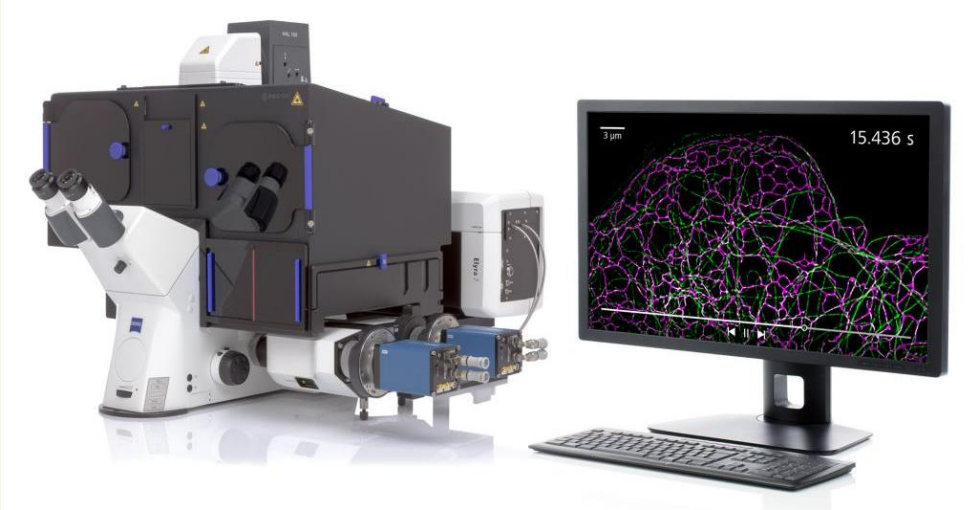



Zeiss Lattice Lightsheet 7 is a game-changer in terms of imaging live cells at subcellular resolution. This microscope allows the researcher to perform light sheet fluorescence microscopy using standard sample carriers for live cells. This offers long-term volumetric imaging (over hours and days) of live cell samples without the risks of photodamage to the cells. The automated, easy-to-use

system in this microscope helps to conduct 3D cell imaging with true size proportions, which is ideal for research involving live cell imaging, 3D cell culture, and small evolving organisms.

**Click Here** to know more about the technical and application details of Zeiss Lattice Lightsheet 7.

**2. Zeiss Elyra 7 LS (Lattice SIM²) with Dual Camera sCMOS camera**




Zeiss Elyra 7 is a super-resolution microscope that can be used to observe beyond the diffraction limit of conventional microscopes. With Lattice SIM², the resulting resolution will be twice that of conventional structured illumination microscopy (SIM) resolution. This microscope enables researchers to combine super-resolution and high-dynamic imaging without the need for special sample preparation or expert knowledge of complex microscopy techniques. Elyra 7 LS can resolve structures down to 60 nm and observe cell dynamics at up to 255 fps (frames per second).

**Click Here** to know more about the technical and application details of Zeiss Elyra 7 Lattice SIM².

**3. Zeiss LSM 980 NLO**


Zeiss LSM 980 NLO is a laser scanning microscope that provides a unique confocal experience for fast and gentle multiplex imaging. The LSM 980 is optimized for simultaneous spectral detection of

multiple weak labels with the highest light efficiency. This is a great advantage in observing biological samples with low labeling density since lower the labeling density, lower will be the disturbance to the biological system or life that we observe in our sample. This microscope can accommodate a wide range of fluorescent labels from 380 nm to 900 nm and the addition of nonlinear optical microscopic features enables this microscope to extend its capacities in research.

**Click Here** to know more about the technical and application details of Zeiss LSM 980.

### 4. Zeiss Cell Discoverer 7 with LSM 900 Airyscan

Zeiss Cell Discoverer 7 Combine the ease of use of an automated microscope with the image quality and flexibility of a research microscope. This automated live cell imaging platform will provide better data in shorter times and it is very versatile for working with 2D or 3D cell cultures, tissue, or small model organisms. Adding LSM 900 with Airyscan 2 to this microscope helps to gently image dynamic processes with the highest framerates in super-resolution. During the imaging process, its automatic calibration routines take over to ensure reproducible results.

**Click Here** to know more about the technical and application details of Zeiss Cell Discoverer 7.