

**Webinar on "Techniques in Light microscopy and its applications" by Department of Biotechnology, KLEF – Reg.**

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Tue 01-06-2021 07:58

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1 attachments (2 MB)

Techniques in Light microscopy and its applications-BT Webinar poster.jpg;

Ref: KLEF/RO/HOD-BT/2020-21

Date: 01-06-2021

**Orders of the Pro Vice Chancellor dt.01.06.2021****CIRCULAR**

Sub: Webinar on "**Techniques in Light microscopy and its applications**" by Department of Biotechnology, KLEF – Reg.

Ref: E-mail dated 31.05.2021 from K. Giridhar, HoD-BT.

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This is to inform that Department of Biotechnology, KLEF, is organizing webinar entitled "**Techniques in Light microscopy and its applications**" by Mr. Sujoy Dey, Product and Application Manager, Leica Microsystems. The webinar is focused to enhance the knowledge on high-end light microscopy such as confocal, super-resolution, and other related microscopes for all the students and faculty members of KLEF as per the details given below.

Date and Time: 2<sup>nd</sup> June 2021, 3 PM to 5 PM

Link for the Webinar:

<https://kluniversity.webex.com/kluniversity/j.php?>[MTID=mcc59eec255804f910a92fb9af69a78e8](https://kluniversity.webex.com/kluniversity/j.php?MTID=mcc59eec255804f910a92fb9af69a78e8)

Poster of the webinar is enclosed herewith.

For any queries on webinar Dr. Sarada Prasana Mallick, Asst. Professor, Department of Biotechnology, KLEF, can be contacted.

**REGISTRAR****Encl: Webinar Poster**

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4/2/24, 10:43 PM

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Thanks & Regards



**Prof. Y. V. S. S. S. V. Prasada Rao**  
Ph.D(Mech. Engg.), DPM., MBA (Fin & HR), FICWA  
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### TECHNIQUE IN LIGHT MICROSCOPY AND ITS APPLICATION

#### OBJECTIVES

The objective of the topic "Techniques in Light Microscopy and Its Application" is to explore the various methods and advancements in light microscopy and how they are applied in different scientific and technological domains. This topic aims to delve into the following aspects:

1. **Understanding Microscopy Techniques:** The objective includes providing a comprehensive understanding of the different techniques used in light microscopy, such as bright-field microscopy, phase-contrast microscopy, fluorescence microscopy, confocal microscopy, and super-resolution microscopy. It aims to explain the principles behind these techniques, their advantages, and limitations.
2. **Exploring Applications:** The topic seeks to showcase the wide range of applications of light microscopy across various fields. This includes but is not limited to biology (cellular imaging, tissue analysis, live-cell imaging), material science (nanomaterial characterization, surface analysis), medical diagnostics (histopathology, cytology), and environmental science (microbial ecology, pollutant analysis).
3. **Highlighting Advancements:** The objective also involves discussing recent advancements and innovations in light microscopy technology. This may include developments in resolution enhancement, label-free imaging techniques, 3D imaging capabilities, multi-modal imaging, and integration with other analytical tools like spectroscopy or atomic force microscopy.
4. **Educational Purpose:** Another objective is to serve as an educational resource for students, researchers, and professionals interested in microscopy. It aims to explain complex concepts in an accessible manner, provide practical insights into microscopy techniques, and showcase real-world examples of their applications.
5. **Promoting Collaboration:** By highlighting the versatility and utility of light microscopy techniques, the topic aims to foster collaboration among scientists, engineers, and practitioners from different disciplines. It emphasizes the interdisciplinary nature of microscopy and encourages knowledge exchange and innovation.

## **DESCRIPTION**

In summary, the objective of "Techniques in Light Microscopy and Its Application" is to provide a comprehensive overview of microscopy techniques, their applications across diverse fields, recent technological advancements, educational value, and the potential for collaboration and innovation within the scientific community.

## **OUTCOMES**

The outcomes of studying the topic "Techniques in Light Microscopy and Its Application" can be wide-ranging and impactful across various fields. Here are some potential outcomes that could arise from exploring this topic:

1. **Enhanced Understanding of Microscopy Techniques:** One of the primary outcomes is a deeper understanding of the different techniques used in light microscopy, including their principles, advantages, and limitations. This knowledge empowers researchers and professionals to choose the most appropriate microscopy technique for their specific applications.
2. **Improved Research and Development:** Understanding microscopy techniques can lead to improved research outcomes and developments in various fields. For example, in biology and medicine, advanced microscopy techniques like confocal microscopy or super-resolution microscopy can enable researchers to study cellular structures with higher resolution and clarity, leading to new discoveries in cell biology, disease mechanisms, and drug development.
3. **Technological Advancements:** Studying microscopy techniques can also drive technological advancements in microscopy equipment and software. This includes improvements in imaging resolution, speed, automation, and the development of new imaging modalities. These advancements contribute to the continuous evolution of microscopy tools, making them more powerful and versatile.
4. **Innovative Applications:** Learning about microscopy techniques opens up innovative applications across disciplines. For instance, in materials science, advanced microscopy techniques can be used for characterizing nanomaterials, studying material properties at the microscale, and investigating surface structures. In environmental science, microscopy can aid in studying microorganisms, analyzing pollutants, and understanding ecosystem dynamics.
5. **Educational and Training Opportunities:** The topic provides educational value by serving as a resource for students, researchers, and professionals interested in microscopy. It can be used in academic settings to teach microscopy principles, techniques, and applications, as well as in training programs for microscopy operators and technicians.
6. **Interdisciplinary Collaboration:** Understanding microscopy techniques fosters interdisciplinary collaboration among scientists, engineers, and practitioners. By bringing together expertise from different fields, collaborations can lead to novel approaches, cross-disciplinary research projects, and synergistic advancements in technology and knowledge.
7. **Contribution to Scientific Knowledge:** Ultimately, the outcomes of studying microscopy techniques contribute to the advancement of scientific knowledge and understanding. This includes fundamental insights into biological processes, material properties, environmental interactions, and other areas of study that rely on microscopy for observation and analysis.



Department of  
**Biotechnology**



**webinar**

**Wed 02<sup>nd</sup> | June 2021**  
3 PM to 5 PM

# TECHNIQUES IN LIGHT MICROSCOPY AND ITS APPLICATIONS



**Organizer(s):**

**Dr. Giridhar Kanuri**  
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Department of Biotechnology  
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**Moderator**

**Dr. Sarada Prasanna Mallick**  
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**Speaker**

**Sujoy Dey**  
Product and Application Manager  
Leica Microsystems, India

Link for the Presentation:

<https://kluniversity.webex.com/kluniversity/j.php?M-TID=mcc59eec255804f910a92fb9af69a78e8>





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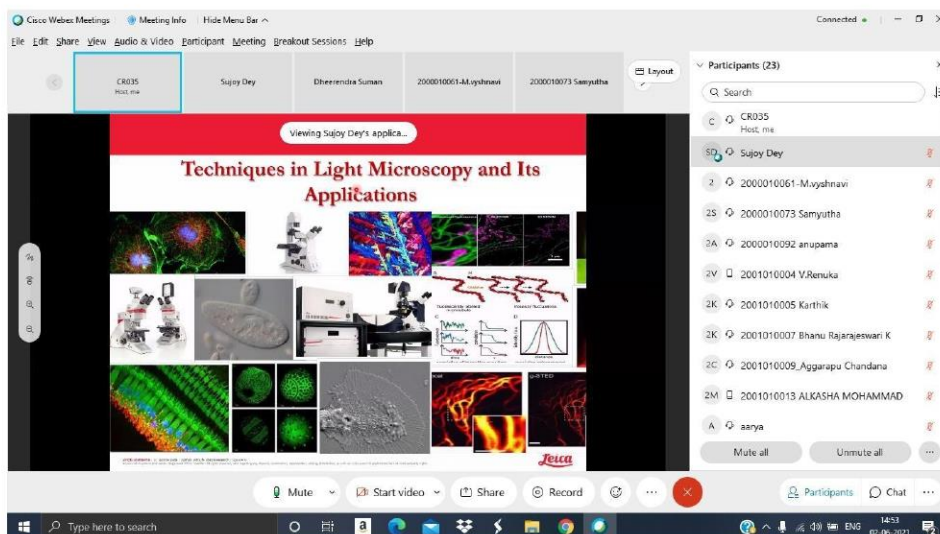
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**Participation List/ Session Photos:**

DATE	F.O.L/webinar/any other	Topic	Resource person	Number of faculty attended	Number of faculty absent	Cumulative number of FOL/webinar/any other conducted from 7-5-21
02-06-2021	Webinar	Techniques in Light microscopy and its applications	<b>Mr.Sujoy Dey</b>	18	NIL	22



*T. Uma*  
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