
Report of Expert Lecture on "Liquid Crystal Based Optical Sensor for Selective Detection" organized by Department of Physics

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**Report of Expert Lecture
on
Liquid Crystal Based Optical Sensor for Selective Detection
Date: 23rd January, 2025**

The Departmental Quality Assurance Cell (DQAC) of the Physics Department organized an Expert Lecture on "Liquid Crystal Based Optical Sensor for Selective Detection" The lecture was held on January 23, 2025, in Hall – 2, Central Auditorium Building, in offline (face to face) mode. The resource person for the expert lecture was Dr. Dharmendra Pratap Singh, who is working as the Associate Professor at the University of the Littoral Opale Coast (Université du Littoral Côte d'Opale (ULCO)), France.

The event commenced with a warm welcome extended by Ms. Rida Fatima, an M.Sc. Physics student, who invited Ms. Afreen Bano to present a bouquet to Dr. Dharmendra Pratap Singh as a gesture of appreciation and warm hospitality. Following a brief introduction of Dr. Dharmendra Pratap Singh, Ms. Rida Fatima invited him to begin his insightful talk.

Key Points Covered in the Guest Lecture:

Foundations of Liquid Crystals: Dr. Singh initiated the lecture by providing a comprehensive overview of liquid crystals, elucidating their unique properties and structures. He delved into the classification of liquid crystals, emphasizing their significance in modern Optical Sensor applications.

Research Applications: The speaker discussed various research applications of liquid crystals, including their utilization in discotic, ferroelectric, and nematic phases. He highlighted the importance of understanding charge transport mechanisms and explored their potential applications in the development of various types of Optical Sensors.

The lecture was followed by an interactive session, during which the audience had the opportunity to engage with the speaker, asking questions and seeking clarifications. This interactive element enriched the learning experience and allowed for a deeper exploration of specific topics. During the interactive session, Dr. Dharmendra Pratap Singh generously shared insights and guidance regarding higher studies opportunities in France for interested students. Drawing from his own experiences, he provided valuable advice on navigating the application process and highlighted various fellowship opportunities available to aspiring researchers. Dr. Singh's career counselling session proved to be immensely beneficial for students seeking to pursue further studies abroad especially in France, inspiring them to explore and pursue their academic aspirations with confidence.

Dr. Dharmendra Pratap Singh concluded with a summary of key takeaways and actionable insights for the audience. He encouraged attendees to explore further research opportunities in the field of liquid crystals and to contribute to the advancement of sensor technologies.

To conclude the event, Prof. Shamooun Ahmad Siddiqui, Head of the Department of Physics, delivered the Vote of Thanks. He extended heartfelt appreciation on behalf of the attendees to Dr. Dharmendra Pratap Singh for sharing his expertise and insights. Dr. Siddiqui also expressed gratitude to the Departmental Quality Assurance Cell (DQAC) for organizing such an informative lecture. In his closing remarks, he encouraged all students to continue exploring and innovating in their academic pursuits, fostering a spirit of curiosity and excellence.

The event was attended by 74 undergraduate and postgraduate students, along with 8 faculty members, showcasing the widespread interest and engagement in the topic of liquid crystals and optoelectronics.

Glimpses from the Expert Lecture:



Dr. Dharmendra Pratap Singh explaining the behaviour of molecular orientation with incidence of light



Dr. Dharmendra Pratap Singh answering the questions of the participants



Prof. Shamooun Ahmad Siddiqui presenting the memento to Dr. Dharmendra Pratap Singh



Dr. Dharmendra Pratap Singh with faculty members and participants outside the central auditorium

With warm regards

Prof. Shamoon Ahmad Siddiqui
Professor and Head
Department of Physics, Faculty of Science
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