



**DEPARTMENT OF PHYSICS  
OF MATERIALS**  
Faculty of Mathematics and Physics  
Charles University

Prague, April 23, 2026

**INVITATION TO THE DEPARTMENTAL SEMINAR  
AND  
SEMINAR ON PHYSICS OF MATERIALS & FERMION PROJECT**

On Wednesday, **April 29, 2026**,  
the seminar will feature a presentation by

**Rahul Kesarwani, Ph.D.**

Department of Condensed Matter Physics,  
Charles University

**“Can Light Twist? Exploring Structured Light and Its  
Interaction with Matter”**

The seminar will take place in **lecture room F2**, Ke Karlovu 5,  
at **12:30 p.m.**

## Rahul Kesarwani, Ph.D.

Department of Condensed Matter Physics, Charles University

Light is one of the most fundamental entities in physics, traditionally understood as an electromagnetic wave carrying energy and momentum. However, modern optics has shown that light can also be structured in space, giving rise to new physical properties. In this talk, we explore how light can be shaped from simple Gaussian beams to complex twisted light carrying orbital angular momentum (OAM). We then discuss how such structured light interacts with matter, influencing optical responses such as scattering, Raman signals, and photoluminescence. Finally, we highlight recent developments and applications of twisted light across various areas of science.