

Seminar über Biomedizinische Photonik

Referent/in: Dr. Martin Schneiter, Institute of Applied Physics, University of Bern

Titel: Towards computational high-speed video reflection microscopy as a new diagnostic tool to quantitatively identify impaired mucociliary activity: mastered and yet to be mastered challenges

The inner surface of our airways is lined by a mucous fluid film, which is permanently propelled in the direction of the throat. The propulsion of this airway surface liquid is provided by the collectively coordinated oscillatory motion of a myriad of subjacent slender organelles called cilia. Inhaled harmful particles get entrapped by the mucus layer and subsequently transported in the direction of the throat, where they finally get swallowed. Thereby, mucociliary clearance constitutes our airway's primary defense mechanism by protecting our airways from inhaled toxic and infectious agents. In our seminar, I will provide an introductory overview on this highly fascinating biophysical transport system and present mastered and yet to be mastered challenges in our ongoing interdisciplinary research project, which is aimed at the elaboration of computational high-speed video reflection microscopy as a new diagnostic tool to quantitatively identify impaired mucociliary activity.

Zeit: Mittwoch, 07.12.2022, 10:15 Uhr

Ort: **Hörsaal A97**, Gebäude Exakte Wissenschaften, Sidlerstrasse 5, Bern, Schweiz