



Graz Advanced School of Science
PHYSICS COLLOQUIUM OF THE UNIVERSITY OF GRAZ AND
THE GRAZ UNIVERSITY OF TECHNOLOGY

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Feeling Life with Light

The colour of light scattered from an object can give us information on its chemical consistency. For example, a moldy apple will be a different colour to a fresh one. If we analyze the spectrum of colours even more carefully and under special illumination conditions we can even identify individual chemical constituents and their abundance. Less well known though is that it can also tell us about the objects' mechanical properties - namely, how elastic and viscous it is. To do so however requires more elaborate instruments for measuring the scattered lights' spectrum. I will talk about this, explaining the principles of the scattering processes involved, and what they can and can't tell us. I will then go on to describe some experiments in my lab, and how we have used this to understand how plant cells grow to take on the shapes that they do, as a means for diagnosing the severity of COVID and potentially long-COVID from blood plasma, and to uncover a hidden dynamic structure in the cell nucleus that appears to coordinate genetic transcription.

Date: Tuesday, 16 May, 16:15

Location: Lecture Hall P2, Petersgasse 16, Graz University of Technology

Host: P. Banzer und M. Schultze

For a regularly updated colloquium program see: <https://www.if.tugraz.at/colloquium.html>