



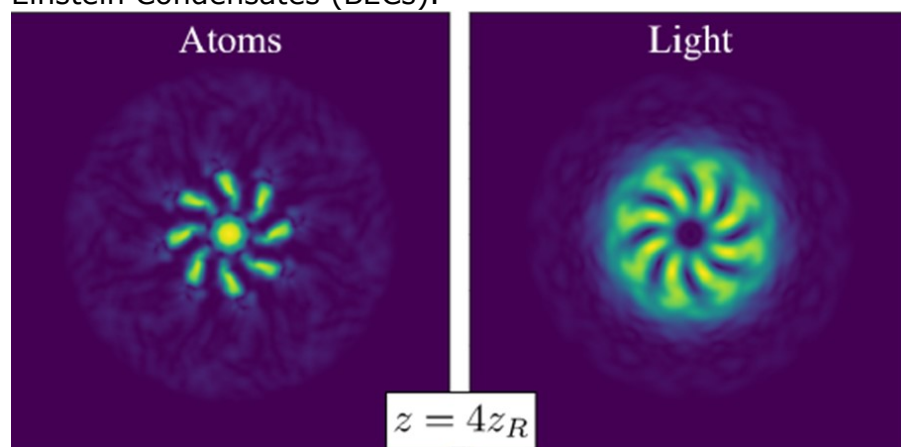
Graz Advanced School of Science
PHYSICS COLLOQUIUM OF THE UNIVERSITY OF GRAZ AND
THE GRAZ UNIVERSITY OF TECHNOLOGY

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University of Strahclyde

Structuring light for controlled propagation and manipulation

Designing non-trivial light distributions, and controlling them during propagation, is of interest for modern optical technologies and particle/atom trapping. In this presentation I will show how light carrying orbital angular momentum (OAM) can be used to generate optical solitons carrying angular momentum as they propagate, or rotating Turing patterns inside an optical cavity. I will show how the intensity and phase structure of the light can control the number of solitons produced and the rotation speed of the patterns, and how adding polarization structure can lead to even better control. Finally I will show what happens when we move from hot gases to ultracold atomic gases by considering the propagation of far-detuned structured optical fields through Bose Einstein Condensates (BECs).



This episode of the NAWI colloquium will be held online (only): [Click here to open Zoom session](#)

Date:

Location:

Online: <https://us02web.zoom.us/j/83616069325>

Host: Peter Banzer, KFU

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