



Knotty situations in biological (and other) physics

Prof Kristian Müller-Nedebock (*Stellenbosch University*)

Monday, 7 September 2026 | 16h00–17h00 SAST

HOW TO ATTEND:

In person (main venue):

- Road House Cinema
(Neelsie)
Stellenbosch University

Watch at satellite venues:

- MITP Boardroom P215,
2nd Floor Physics Building
University of the Witwatersrand
- Seminar Room K310
Physics Building G5
North-West University

Online (live stream)

--- Please note, a recording of the lecture will be published on the NITheCS YouTube channel following the event ---

ABSTRACT

Long molecules naturally become entangled, both with themselves and with one another. These entanglements can fundamentally influence the physics of chain-based systems, such as polymer solutions and networks.

This talk will explore why incorporating the physics of knots is often challenging in statistical physics and discuss several mathematical ways in which one can deal with the mathematics of knots in physical systems.

BIOGRAPHY

Prof Kristian Müller-Nedebock is based in the Department of Physics at Stellenbosch University. His research focuses on soft condensed matter physics and the physics of biological systems at the length scale of cells.

Before joining Stellenbosch University, he was a postdoctoral research associate at the Max Planck Institute for Polymer Research in Mainz, Germany. He completed his doctoral studies at the Cavendish Laboratory at the University of Cambridge, UK.



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