Colloquium

[Online] Predictive simulation for films, fashion, and physics

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Host: Chris Wojtan

In the last decades, physics-based simulation in Computer Graphics has become instrumental in capturing fascinating mechanical phenomena such as cloth folding, ribbon coiling, plant growth, granular flowing, or hair entangling. Complex simulations not only enrich the visual appearance of animations in feature films, but also give the hope in the near future to quickly prototype challenging systems involving post-buckling or collective behaviors, such as virtual garment and hairstyle try-on systems. In soft matter physics, simulation is also on its ways to becoming a fundamental tool for improving our understanding of physical phenomena unexplored so far, and for designing new materials with controlled properties.In this talk I will show that although building a simulator that is both predictive and scalable remains an open challenge, advances towards this goal can be made possible thanks to a pluridisciplinary modeling approach combining skills across Mechanics and Physics, Applied Mathematics, and Computer Science. I will illustrate my talk with recent results on the direct and inverse modeling of rods, cloth and ribbons, as well as on on the prediction of granular flows.How to attend: Registration is required to join this online talk. Registered participants will receive an email with details on how to join the talk within 24 hours before it begins.

Monday, October 19, 2020 04:00pm - 05:00pm
Online

This invitation is valid as a ticket for the ISTA Shuttle from and to Heiligenstadt Station. Please find a schedule of the ISTA Shuttle on our webpage: https://ista.ac.at/en/campus/how-to-get-here/ The ISTA Shuttle bus is marked ISTA Shuttle (#142) and has the Institute Logo printed on the side.