

Séminaire

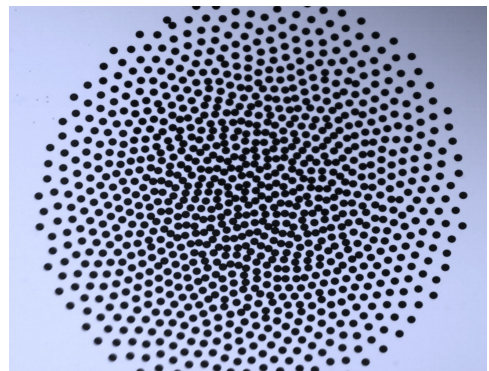
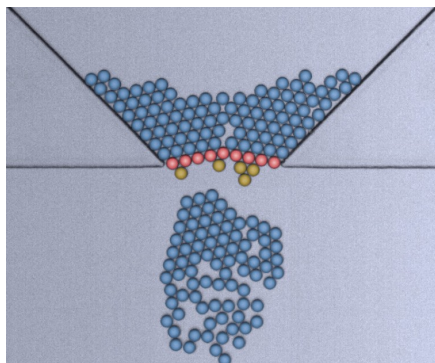
Mardi 5 mai 2026 à 10h30
Amphithéâtre Henri Benoît

Kari Dalnoki-Veress

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Droplets as Cohesive Granular Materials at the Edge of Stability

Granular materials, ranging from rice and sand to fine powders, and their large-scale manifestations such as earthquakes, landslides, and avalanches, are simultaneously commonplace and deceptively complex. These complex systems exist at the boundary between solid-like and fluid-like, and they are often highly nonlinear, dissipative, and at the edge of stability. Additionally, they can offer macroscopic insights into behaviors typically associated with molecular liquids and solids. In recent years we have developed a method to produce cohesive microscopic droplets which can form perfect crystalline or disordered aggregates. These granular aggregates provide model systems for studying various physical phenomena that are not accessible by investigating molecular systems. The experiments enable us to study broad questions which relate to real-world problems like predicting the failure and fracture of materials, flow through a hopper, and the size and time distribution of avalanches.



Les personnes souhaitant rencontrer l'orateur sont priées de prendre contact avec Hendrik Meyer.

Biography:



Kari Dalnoki-Veress is a Faculty of Science Research Chair in Experimental Soft Condensed Matter Physics in the Department of Physics and Astronomy at McMaster University and an adjunct professor at the ESPCI in Paris, France. He is an experimental physicist with a passion for soft condensed matter and teaching. Dalnoki-Veress has received the Canadian Association of Physicists Brockhouse Medal, the Rutherford Memorial Medal in Physics from the Royal Society of Canada, the American Physical Society Division of Polymer Physics Dillon Medal and was elected as a Fellow of the American Physical Society in 2011. Dalnoki-Veress has served as Chair of Physics and Astronomy for NSERCs Discovery Grants, an Editor of the European Physical Journal E, Editorial Advisory Board of Macromolecules and ACS Macro Letters, and currently as a Divisional Associate Editor for Physical Review Letters. His research group at McMaster focuses on fundamental experiments in soft and living matter at surfaces and interfaces. Dalnoki-Veress is also CTO of MesoMat Inc. which exploits the world between molecular and macroscopic – the mesoscale – to enable material innovation.

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