Active Matter at the Center for Nanophase Materials Sciences

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Organizers:
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Active Matter is a new and exciting field of Materials Science. In Active Matter, the systems are out of equilibrium, consuming energy that is translated into a variety of emergent phenomena, including collective motion and dynamic self-assembly; shape-changing polymers, granular matter and self-propelled particles are classical examples of active matter. Understanding of the underlying collective properties of active matter, including how to distinguish and classify its different states, is very challenging, yet it may hold the key to grasping the mechanics and statistics of living systems. Indeed, work in active matter is expected to have applications in soft condensed matter, robotics, microbiology, and biotechnology, to mention a few. To enable advancing in those directions, it is necessary to have a comprehensive approach in which theory and experiment work together to design and effectively explore active matter.

This workshop will bring together users and CNMS staff experts in the field of collective motion and dynamic self-assembly with the goal of identifying the major roadblocks that hinder our advance in Active Matter and developing synergies between experiment and theory.

Confirmed Invited Speakers:

- **Alexander Alexeev,** George W. Woodruff School of Mechanical Engineering, Georgia Institute of Technology

- **David Hu,** George W. Woodruff School of Mechanical Engineering, Georgia Institute of Technology)