



# “Novel Ideas for Dark Matter”

## January 14-16, 2019

**Jadwin Hall, Fourth Floor, Room 407, PCTS Seminar Room**

**Outline of the workshop:**

Dark matter research is undergoing a paradigm shift. Over the last few years, many novel theories have been proposed that challenge the standard assumptions made about dark matter. At the same time, new observations and simulation results are providing valuable clues regarding the most fruitful directions moving forward.

The “**Novel Ideas for Dark Matter 2019**” workshop at Princeton University attempts to bridge the gap between communities working on *non-standard solutions to the dark matter problem*. Plenary talks on theory, observations and simulations will be structured into a three day schedule that will provide a broad overview of research avenues of this type. The workshop aims to promote conversations between research communities with ample time for open discussion.

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**Preliminary Schedule:**

	<u>Day 1</u>	<u>Day 2</u>	<u>Day 3</u>
<b>Morning Session</b>	How small scale structure relates to DM models	Non $\Lambda$ CDM simulations	What is the viable DM model space?
<b>Noon Session</b>	Clues for DM theories from the MW and its satellites	Observations that may point to non-particle solutions	Various DM models: constraints, production and phenomenology
<b>Afternoon Session</b>	Formation and evolution of DM halos	Novel solutions to the missing mass problem	Conclusions and outlook
<b>Additional Activities</b>	Reception	<u>Informal Discussion:</u> The missing mass problem within the MW	

**Organizing committee:**

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