

Hausdorff School
“Perverse Sheaves in Enumerative Geometry”

10 to 14 February 2020

organized by
Georg Oberdieck and Johannes Schmitt

• Monday, February 10

08:30 - 09:30	Self Registration
09:30 - 10:30	Luca Migliorini (University of Bologna) <i>Introduction to perverse sheaves I</i>
10:30 - 11:00	<i>Coffee break</i>
11:00 - 12:00	Sven Meinhardt (University of Sheffield) <i>The vanishing cycle sheaf</i>
12:00 - 14:00	<i>Lunch break</i>
14:00 - 15:00	Yukinobu Toda (IPMU, Tokyo) <i>Gopakumar-Vafa invariants via vanishing cycles I</i>
15:00 - 15:30	<i>Coffee break (with cake)</i>
15:30 - 16:30	Pierrick Bousseau (ETH Zürich) <i>Quasimodular forms from Betti numbers</i>
16:45 - 17:45	Albrecht Klemm (University of Bonn) <i>Topological String on genus one fibred CY 3-folds with N-sections and Jacobi forms</i>

• Tuesday, February 11

09:30 - 10:30	Luca Migliorini <i>Introduction to perverse sheaves II</i>
10:30 - 11:00	<i>Group photo and coffee break</i>
11:00 - 12:00	Junliang Shen (MIT) <i>An example of the Gopakumar-Vafa theory: the KKV formula revisited.</i>
12:00 - 14:00	<i>Lunch break</i>
14:00 - 15:00	Sven Meinhardt <i>The vanishing cycle functor</i>
15:00 - 15:30	<i>Coffee break</i>

15:30 - 16:30	Yukinobu Toda <i>Gopakumar-Vafa invariants via vanishing cycles II</i>
16:45 - 17:45	<i>Short presentations by participants</i>
19:00	<i>Conference dinner</i>

• **Wednesday, February 12**

09:30 - 10:30	Luca Migliorini <i>Introduction to perverse sheaves III</i>
10:30 - 11:00	<i>Coffee break</i>
11:00 - 12:00	Sven Meinhardt <i>Vanishing cycle sheaves and Cohomological Hall algebras</i>
<i>afterwards</i>	<i>Lunch break and free afternoon</i>

• **Thursday, February 13**

09:30 - 10:30	Yukinobu Toda <i>Gopakumar-Vafa invariants via vanishing cycles III</i>
10:30 - 11:00	<i>Coffee break</i>
11:00 - 12:00	Junliang Shen <i>Hitchin systems, hyper-Kaehler geometry, and the $P=W$ conjecture</i>
12:00 - 14:00	<i>Lunch break</i>
14:00 - 15:00	Ben Davison (University of Edinburgh) <i>An introduction to BPS Lie algebras</i>
15:00 - 15:30	<i>Coffee break with cake</i>
15:30 - 16:30	Luca Migliorini <i>Supports of a map and higher discriminant</i>
16:45 - 17:45	Sven Meinhardt <i>Orientation data and Cohomological Hall algebras</i>

• **Friday, February 14**

09:30 - 10:30	Yukinobu Toda <i>Hall-type algebras for categorical Donaldson-Thomas theories on local surfaces</i>
10:30 - 11:00	<i>Coffee break</i>
11:00 - 12:00	Ben Davison <i>Positivity for DT invariants of finite-dimensional Jacobi algebras</i>
12:00 - 15:00	<i>Lunch break</i>
15:00 - 15:30	<i>Farewell with coffee</i>

All talks take place at the Lipschitz-Saal (room 1.016), Endenicher Allee 60, Bonn.