

BOSTON UNIVERSITY GEOMETRY AND PHYSICS SEMINAR

## MIRROR SYMMETRY AND AUTOMORPHISM

Elana Kalashnikov  
Harvard University

November 20, 2019, 4:00 – 5:00pm  
Math/Computer Science, Room B39  
111 Cummington Street, Boston

Tea: 3:45pm in Room B24

**Abstract:** I will discuss joint work with Chiodo investigating the mirror symmetry of Calabi-Yau hypersurfaces in weighted projective spaces. I will show how given such a hypersurface endowed with a finite order automorphism of a specific type, the traditional cohomological mirror statement can be both specialised and broadened to take into account the weights of the action of the automorphism and the cohomology of its fixed locus. The main tool is Berglund-Hubsch-Krawitz duality. When the automorphism is an involution, this allows us to construct generalisations of Borcea-Voisin orbifolds in any dimension and with any number of factors (joint work with Chiodo and Veniani). For odd prime order automorphisms and dimension 2 orbifolds, this implies mirror symmetry for the associated lattice polarised K3 surfaces.

See <http://math.bu.edu/research/geom/seminar.html> or contact Yu-Shen Lin ([yslin@bu.edu](mailto:yslin@bu.edu)) or Siu-Cheong Lau ([lau@math.bu.edu](mailto:lau@math.bu.edu)) for more information.