



Berlin  
Mathematical  
School

## BMS Friday Colloquium

Friday 8 February 2019 at 14:15

*Tea & Cookies starting at 13:00*

BMS Loft, Urania, An der Urania 17, 10787 Berlin

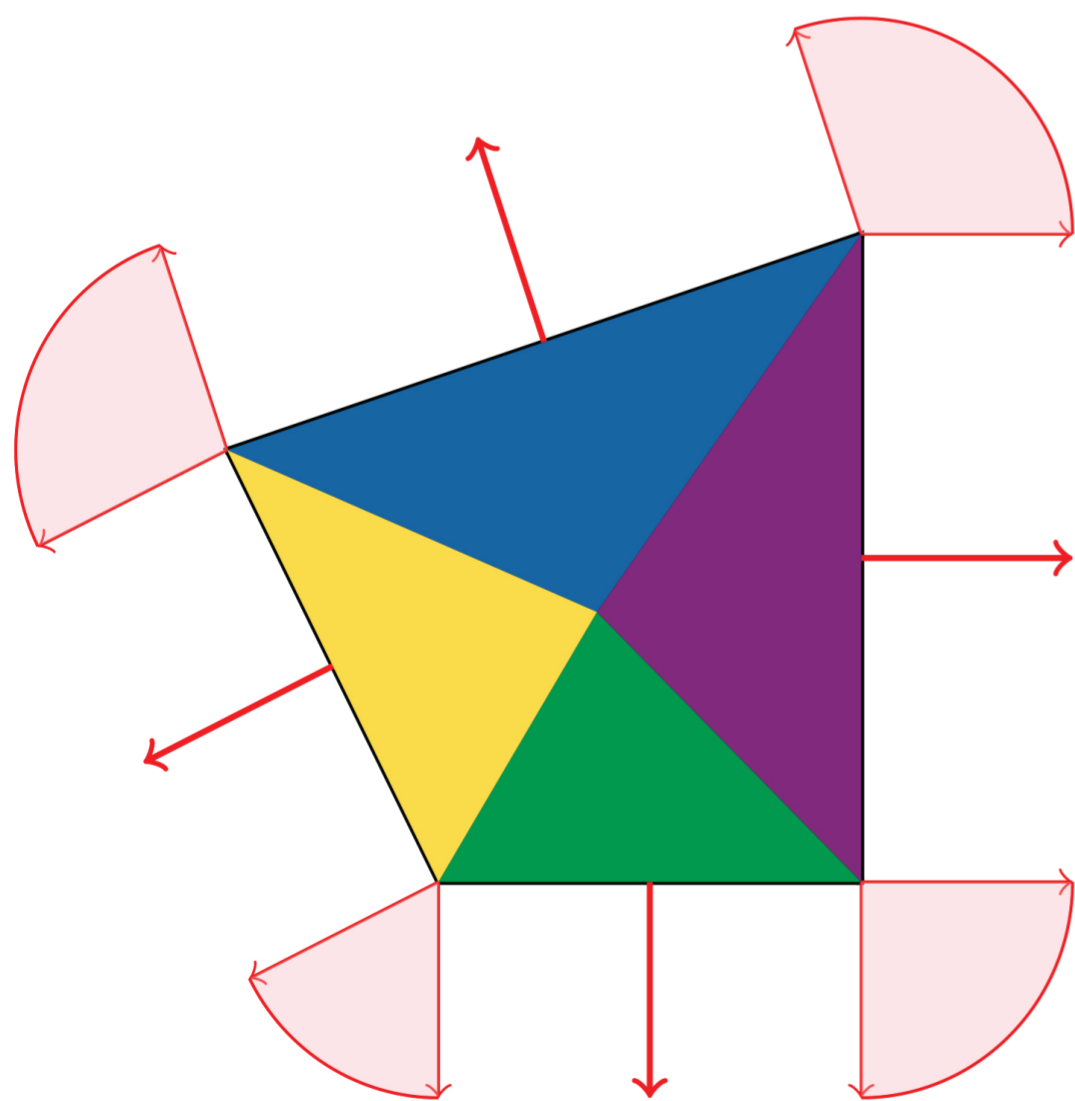
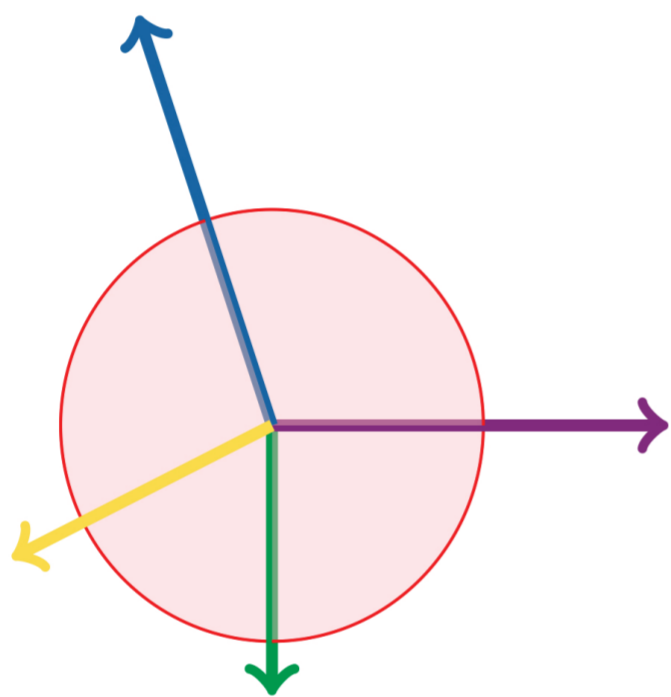
### Deane Yang

*(NYU Courant)*

#### Minkowski problems for convex bodies

Convex geometry is the study of convex bodies in Euclidean space. Despite the apparent simplicity of such objects, they are a source of many deep mathematical discoveries and mysteries. In his talk, Yang will present a survey of Brunn-Minkowski theory, which is the study of affine geometric invariants and inequalities satisfied by convex bodies. Unlike differential geometry, the invariants are usually integral invariants. The inequalities are generalized isoperimetric inequalities and, surprisingly, reverse isoperimetric inequalities. This talk will focus on the Minkowski problem and its generalizations. Such questions involve prescribing the curvature of the convex body's boundary as a function of the outer unit normal.

Deane Yang is a professor at the Courant Institute of Mathematical Sciences, New York University. His research interests include convex geometric analysis, Riemannian geometry and partial differential equations. After getting his PhD from Harvard U in 1983, Yang took up an NSF Postdoctoral Fellowship at NYU Courant (1983-1984). This was followed by positions at Rice U (1985-1990), Columbia U (1989-1991), Polytechnic U and NYU Tandon School of Engineering (1991-2017). Yang has been a professor of mathematics at NYU Courant since 2017, where he works with Erwin Lutwak and Gaoyong Zhang on affine and linearly invariant geometric and analytic inequalities.



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