JIE XIAO, Memorial University
The sharp Sobolev and isoperimetric inequalities split twice

In this talk, we will show that each of the sharp (endpoint) Sobolev inequality and the isoperimetric inequality can be split into two sharp and stronger inequalities through either the 1-variational capacity or the 1-integral affine surface area. Furthermore, some related sharp analytic and geometric inequalities will be explored as well.