# INTEGRAL VERSIONS OF MENGER CURVATURE FOR CURVES AND SURFACES

*PAWEL STRZELECKI*
(University of Warsaw, Poland)

I shall speak about regularizing and self-avoidance effects caused by the finiteness of certain integral energies. Roughly speaking, the integrand is a power of $1/R$, where $R$ is the radius of circumcircle (resp., circumsphere) of three points on a curve (resp., four points on a surface), and the integration is performed w.r.t. all triples of points on that curve (resp., w.r.t. to quadruples of points on the surface). We obtain regularity results analogous to Sobolev-Morrey imbedding theorems with optimal exponents, and compactness results for families of curves (surfaces). This is joint work with Heiko von der Mosel from RTWH Aachen (Germany) and partially also with Marta Szumanska from IMPAN (Poland).