Abstract
We give a short introduction to Sobolev spaces and PDEs on metric spaces and show how they can be defined without a differentiable structure.
This approach not only unifies earlier theories on Euclidean spaces, manifolds and graphs, but also brings new insights in the subject. In particular, the minimal assumptions require new ideas and proofs, which have turned useful in other situations as well. We shall discuss some advantages of this new approach, including several examples and some new results in classical settings.