

## Sharp stability for Sobolev and log-Sobolev inequalities, with optimal dimensional dependence

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We present a sharp, quantitative version of the Sobolev inequality with explicit constants. These constants have the optimal behavior in the limit of large dimensions, which allows us to deduce an optimal quantitative stability estimate for the Gaussian log-Sobolev inequality with an explicit dimension-free constant. Our proofs rely on several ingredients:

- competing symmetries;
- a flow, based on the continuous Steiner symmetrization, that interpolates continuously between a function and its symmetric decreasing rearrangement;
- refined estimates in the neighborhood of the optimal Aubin-Talenti functions.

The talk is based on joint work with Dolbeault, Esteban, Figalli and Loss.