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In this talk, I will provide an overview of recent work pertaining to Hopf algebra actions on (noncommutative) regular algebras. Many examples of such actions will be presented. I will also list several open questions for future work. The results discussed here are from joint works with Kenneth Chan, Pavel Etingof, Ellen Kirkman, Yanhua Wang, and James Zhang: see papers [arXiv:math/1210.6432](https://arxiv.org/abs/math/1210.6432), [1211.6513](https://arxiv.org/abs/math/1211.6513), [1301.4161](https://arxiv.org/abs/math/1301.4161), [1303.7203](https://arxiv.org/abs/math/1303.7203). (Received August 01, 2013)