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Christopher L. Rogers* (chris@math.ucr.edu), Department of Mathematics, University of California, Riverside, 900 University Ave., Riverside, CA 92521. *L_∞ -algebras from higher symplectic geometry.*

Higher analogues of algebraic and geometric structures studied in symplectic geometry naturally arise on manifolds equipped with a closed non-degenerate form of degree > 2 . Traditionally, these “multisymplectic” manifolds have been used to describe classical field theories. In this talk, I will first explain how a multisymplectic manifold gives an L_∞ -algebra of “Hamiltonian” differential forms, just as a symplectic manifold gives a Poisson algebra of functions. I will then describe how to prequantize these manifolds and, within this context, sketch the relationship between the L_∞ -algebra of Hamiltonian forms and the Roytenberg-Weinstein L_∞ -structure on Courant algebroids. (See [arXiv:1005.2230](https://arxiv.org/abs/1005.2230) and [arXiv:1009.2975](https://arxiv.org/abs/1009.2975) for more details.) (Received February 14, 2011)