1135-35-182 **Erhan Bayraktar** and **Christian Keller*** (ckell@umich.edu), Department of Mathematics, University of Michigan, 2074 East Hall, 530 Church Street, Ann Arbor, MI 48109. *Path-dependent Hamilton-Jacobi equations in infinite dimensions.*

We propose notions of minimax and viscosity solutions for a class of fully nonlinear path-dependent PDEs with nonlinear, monotone, and coercive operators on Hilbert space. Our main result is well-posedness (existence, uniqueness, and stability) for minimax solutions. A particular novelty is a suitable combination of minimax and viscosity solution techniques. Thereby, we establish a comparison principle for path-dependent PDEs under conditions that are weaker even in the finite-dimensional case. In contrast to most of the related works on PDEs in infinite dimensions, perturbed optimization is entirely avoided. The path-dependent setting itself enables us to circumvent the lack of compactness in infinite-dimensional Hilbert spaces. As an application, our theory makes it possible to employ the dynamic programming approach to study optimal control problems for a fairly general class of (delay) evolution equations in the variational framework. Furthermore, differential games associated to such evolution equations can be investigated following the Krasovskii-Subbotin approach similarly as in finite dimensions. (Received August 07, 2017)