Our goal is to develop operator semigroup theory on vector lattices, suitable for the study of evolution equations, that properly generalises the classical theory of strongly continuous operator semigroups on Banach spaces. To this aim we introduce the notion of relatively uniformly continuous operator semigroups on vector lattices. We characterise such semigroups on $L^p$ spaces and compare them with $C_0$-semigroups on Banach lattices. We define appropriate generators and present a Hille-Yosida-type theorem on vector lattices.

This is a joint work with Marko Kandić and Michael Kaplin.

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