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Carmen L Caprau* (ccaprau@csufresno.edu), Department of Mathematics, 5245 North Backer Avenue, M/S PB 108, Fresno, CA 93740. *The universal $sl(2)$ foam cohomology for links via extended TQFTs*. Preliminary report.

The universal $sl(2)$ foam cohomology is a cohomology theory for tangles (thus also for knots and links) that uses webs and foams (seamed cobordisms) modulo local relations, and which contains as particular cases isomorphic versions of the Khovanov, Lee and Bar-Natan homology theories. One of the main features of this invariant is that it satisfies the functoriality property with no sign ambiguity. In this talk we show how to obtain the universal $sl(2)$ foam theory for links via a certain extended 2-dimensional topological quantum field theory (TQFT) defined on foams. (Received September 06, 2009)