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**David L Duncan\*** ([duncan42@math.msu.edu](mailto:duncan42@math.msu.edu)). *The quilted Atiyah-Floer conjecture and the Yang-Mills heat flow.*

We will begin by discussing a variant of the Atiyah-Floer conjecture that is well-posed for 3-manifolds with positive first Betti number. Then we will mention some recent progress towards a proof that involves the Yang-Mills heat flow in a crucial way. (Received January 18, 2015)