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## **Ricci flow through singularities**

We construct and describe smooth forward Ricci flow evolutions of singular initial metrics resulting from rotationally symmetric neckpinches, without performing an intervening surgery. In the restrictive context of rotational symmetry, our construction gives evidence in favor of Perelman's hope for a "canonically defined Ricci flow through singularities." This is joint work with Sigurd Angenent and Cristina Caputo.