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**Ben Webster\*** ([bwebster@virginia.edu](mailto:bwebster@virginia.edu)), Department of Mathematics, University of Virginia, Charlottesville, VA 22903. *The discreet charm of the Coulomb branch.*

Braverman, Finkelberg and Nakajima have recently given a mathematical definition of the Coulomb branch of an  $N=4$  3-dimensional gauge theory. Even if you don't recognize any of the words in the previous sentence, I'd like to show you that Coulomb branches are a very friendly collection of symplectic singularities with a beautiful associated representation theory. They give a fresh perspective on Cherednik algebras and the categorification of representations of simple Lie algebras, and duality of symplectic singularities. (Received September 16, 2016)