1148-13-106 **Kyungyong Lee** and **Ralf Schiffler*** (schiffler@math.uconn.edu), Department of Mathematics, University of Connecticut, 345 Mansfield Road, Storrs, CT 06269. *Cluster algebras and Jones polynomials.*

We present a new and very concrete connection between cluster algebras and knot theory. This connection is being made via continued fractions and snake graphs. It is known that the class of 2-bridge knots and links is parametrized by continued fractions, and it has recently been shown that one can associate to each continued fraction a snake graph, and hence a cluster variable in a cluster algebra. We show that up to normalization by the leading term the Jones polynomial of the 2-bridge link is equal to the specialization of this cluster variable obtained by setting all initial cluster variables to 1 and specializing the initial principal coefficients of the cluster algebra as follows $y_1 = t^{-2}$ and $y_i = -t^{-1}$, for all $i > 1$. As a consequence we obtain a direct formula for the Jones polynomial of a 2-bridge link as the numerator of a continued fraction of Laurent polynomials in $q = -t^{-1}$. (Received January 27, 2019)