1172-55-247   **Rhea Bakshi**, **Dionne Ibarra** and **Gabriel Montoya-Vega***, gmontoyavega@gwmail.gwu.edu, and **J. H. Przytycki** and **Deborah Weeks**. *The Yang-Baxter Operator in knot theory.*

The famous Yang-Baxter equation was extensively studied by Chen N. Yang in 1968 and by Rodney J. Baxter in 1971. The relation to knot theory was first noted by Vaughan F. R. Jones, when he constructed the Yang-Baxter operator yielding his polynomial. Since then, it has become of substantial interest to knot theorists. Here, we will see how the construction of certain knot invariants, motivated by the idea of Fox n-colorings, can lead to the Yang-Baxter equation. Additionally, we will look at the relation between Fox n-colorings and skein modules. (Received August 30, 2021)