1135-35-2322 **Jae Min Lee*** (jlee10@gradcenter.cuny.edu), 365 Fifth Avenue, Room 4208, New York, NY 10016, and **Stephen Carl Preston**. *On the global Lagrangian solutions of some Euler-Arnold equations.*

In this paper, we prove that the Lagrangian solutions of two PDEs are global in both space and time: the mu-Hunter-Saxton equation and the Camassa-Holm equation. The method is to express the equations in Lagrangian coordinates and transform them via a change of variable. Consequently, we obtain both the global weak conservative solutions of Bressan-Constantin and global spatial smoothness of Lagrangian trajectories due to McKean in a much simpler way. The method is inspired by the geometric approach of Arnold and Lenells. (Received September 25, 2017)