1139-37-81   **Vitaly Bergelson*** (`vitaly@math.ohio-state.edu`), Department of Mathematics, Ohio State University, 231 West 18th Avenue, Columbus, OH 43210. *Ergodic Ramsey Theory: Some Classical Problems and Recent Advancements.*

We will start with formulating some classical results of Ramsey theory and analyzing their dynamical underpinning. We will move then to the discussion of the main principles of Ergodic Ramsey theory and survey some of the developments which were triggered by Furstenberg's ergodic proof of Szemeredi's theorem on arithmetic progressions. We will conclude with formulating and discussing some of the natural open problems which link dynamics, combinatorics and number theory. (Received January 31, 2018)