1135-VS-2076 **Catherine L McAdoo*** (mcadoocl@jay.washjeff.edu), 50 S Lincoln, Washington & Jefferson College, Washington, PA 15301, and **Greg Lu** (lub@jay.washjeff.edu). *Partition of Integers Through Euler and Beyond.*

Our study is inspired by Euler's generating function for integer partitions:

$$\mathcal{E}\left(x\right)=\prod_{k=1}^{\infty}\frac{1}{1-x^k}=\sum_{m=0}^{\infty}p(n)x^n.$$

With the Ferrers Diagram as a graphical representation of partitions, we investigate some variations of the original Euler's generating function and their corresponding effects on the several types of partitions and their counts $p(n)$. Further on, we outline and explain a few identities of integer partitions. In some of these identities we observe that the graphical representations provide clearer visualization of the partition process and thus offer insights on the proofs, which are backed by algebraic proofs through bijection. (Received September 25, 2017)