WRIGHT STATE UNIVERSITY | DEPARTMENT OF MATHEMATICS AND STATISTICS

COLLOQUIUM

Please note special date and time!

Speaker: **Dr. Stephen Gagola, Miami University**

Title: **Combinatorial proof for multiplicative properties of partitions of integers.**

Date: **Tuesday, March 7, 2017**

Room/Time:

Meet –n-Greet:	**12:00 p.m.**	**Room 222 MM**
Talk:	**12:30 p.m.**	**Room 224 MM**

Host: **Dr. Tony Evans**

ABSTRACT:

Here we give a combinatorial proof of an inequality that was first proven by Christine Bessenrodt and Ken Ono. Bessenrodt and Ono proved that the number of partitions of n, say $p(n)$, satisfies $p(a)p(b) > p(a + b)$ for $a; b > 1$ and $a + b > 9$ by using a result of Lehmer and asked whether a combinatorial proof exists. Here we prove the inequality combinatorially and show that the proof can also be extended to prove the analogous inequality for k-regular partitions with $k > 1$. For $1 < k < 6$, these inequalities were first proven to hold for k-regular partitions by Olivia Beckwith and Christine Bessenrodt using similar methods to the $p(n)$ case.

SPEAKER BIO:

Stephen Gagola studied mathematics at Michigan State University and completed his Ph.D. in 2005 under Dr. Jonathan I Hall. After working as a postdoc at schools including Case Western Reserve University and Bowling Green State University, he chose to take the opportunity to travel abroad and collaborate with professors overseas in Sao Paulo, BR, Prague, CZ and Johannesburg, ZA. Currently, he is a visiting assistant professor at Miami University of Ohio.