



Combinatorics Analysis 2008

Partitions, q -series, and Applications

**A Conference in Honor of
George Andrews' 70th Birthday**

December 5-7, 2008

PENN STATE UNIVERSITY PARK CAMPUS

Combinatorics Analysis 2008 will serve as an avenue for mathematicians, graduate students, and others interested in partitions to explore new achievements, research trends, and problems in this area. It will also provide an opportunity to celebrate the 70th birthday of George Andrews, one of the world's leading experts in partitions and q -series for the last several decades.

Confirmed plenary speakers include:

- Krishna Alladi, *Florida*
- George Andrews, *Penn State*
- Richard Askey, *Wisconsin*
- Bruce Berndt, *Illinois*
- Kimmo Eriksson, *Malardalen University (Sweden)*
- Jim Lepowsky, *Rutgers*
- Jeremy Lovejoy, *CNRS, LIAFA (France)*
- Ken Ono, *Wisconsin*
- Peter Paule, *Johannes Kepler University Linz (Austria)*
- Richard Stanley, *MIT*
- Ae Ja Yee, *Penn State*

FOR MORE INFORMATION:

<http://www.math.psu.edu/sellersj/ca2008/>

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$$p(n) = \frac{1}{\pi\sqrt{2}} \sum_{k=1}^{\infty} A_k(n) \sqrt{k} \frac{d}{dn} \left(\frac{\sinh\left(\frac{\pi}{k} \sqrt{\frac{2}{3} \left(n^2 - \frac{1}{24}\right)}\right)}{\sqrt{n - \frac{1}{24}}}\right)$$

of $p(n)$ and $\tau(n)$
by the equations
 $x^n = \frac{1}{(1-x)(1-x^2)(1-x^3)\dots}$
 $x^n = x \{(1-x)(1-x^2)(1-x^3)\dots\}$

Modulus 5
 $P = 1 - 24\left(\frac{x}{1-x} + \frac{x^2}{1-x^2} + \dots\right)$
 $Q = 1 + 240\left(\frac{x^3}{1-x^3} + \frac{x^6}{1-x^6} + \dots\right)$
 $R = 1 - 504\left(\frac{x^5}{1-x^5} + \frac{x^{10}}{1-x^{10}} + \dots\right)$
 $P^3 - R^2 = Q^2$

other words