



**ATS/CIRA Colloquium**

**David J. Raymond**

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**The Formation of Tropical Cyclones**

**Hosted by Sue van den Heever**

**Friday, February 27, 2015**

**ATS room 101; Discussion will begin at 11:15am  
Refreshments will be served at 10:45am in the weather lab**

In this talk I will review the history of thought regarding the formation of tropical cyclones. The conditions required for their formation as presented by William Gray, John McBride, and Raymond Zehr are first discussed, followed by a review of early work by Jule Charney and others. The results of observational programs in the east and west Pacific and theoretical studies in the 1990s are reviewed, including the seminal work of Marja Bister and Kerry Emanuel. These works form the background for the most recent observational and theoretical results, which will be discussed in detail. In particular, the numerical calculations of David Nolan, Eric Rappin, and Kerry Emanuel as well as the theoretical and observational results of Timothy Dunkerton, Michael Montgomery, Roger Smith, Sharon Sessions, Saska Gjorgjievska, David Raymond, and colleagues resulting from recent observational programs in 2008 and 2010 will be presented. In the aggregate, this recent work significantly advances our understanding of the mechanisms of tropical cyclogenesis.

Link to colloquium videos and announcement page: <http://www.atmos.colostate.edu/dept/colloquia.php>