

# Analyzing Work: One Approach

- **Problem:** What's missing currently? What does the work aim to understand?
- **Approach:** How does the work go about addressing the problem?
- **Contribution:** What new insights, techniques, or systems does this work provide?

# Things To Think About

- Is the writing easy to comprehend? What could have been improved? Did you learn any lessons about what to do/not do?
- Do you think the problem is important? Why?
- What are the merits/drawbacks of the approach?
- What do you think of the contributions? Is there anything that surprised you? Anything you felt was missing?
- What did you learn? Do you feel you have new insights because you read this?
- What did you like? Dislike?

# Affiliation Networks (2008)

- **Problem:** current social network models don't match reality
  - No densification
  - No diameter shrinkage
- **Approach:** analytic, drawing from sociology
- **Contribution:** model (better) matching reality
  - Mathematically tractable
  - Algorithmically useful

# Group Formation in Large Social Networks (2006)

- **Problem:** how do communities form and evolve?
- **Approach:**
  - Measure – examine social network structure
  - Model – features & decision trees, burst analysis
- **Contribution:**
  - Interesting observations: topics move before people
  - Can do better prediction w/ more structure.

# Structure and Evolution of Online Social Networks (2006)

- **Problem:** how do communities form and evolve?
- **Approach:**
  - Measure – migration patterns
  - Model – biased preferential attachment
- **Contribution:**
  - Density of network goes through 3 stages w/ growth
  - Well connected core, with outlying weakly connected components formed around “stars”
  - Model reproduces structures of two very different networks

# Statistical Properties of Community Structure in Large Soc/Info Nets (2008)

- **Problem:** We don't know much about statistical properties of network communities
- **Approach:** Measurement & modeling
  - Five-part story: interaction graph, group interaction hypothesis, objective function to measure “group-ness”, clustering algorithm, **evaluation**.
  - *Conductance -> Network Community Profile Plot*
- **Contribution:**
  - Learned some very surprising things about real networks (although are they that novel given earlier findings?)
  - Another generative model (better than previous?)