Summary & Final Talks

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Summary

In Class:

- Fractal Growth (DLA)
- Numerical Integration (and analysis for Chaos)
- Molecular Dynamics Simulation (and analysis)
- Your Main Project

Extensive Numerical Work At Bucknell:

- J. Tanquillo: neural networks & heart
- Ph. Perrone: networks (wireless network et al.)
- B. Vollmayr-Lee: phase seperation & active matter (Sean)
- KVL: glasses and granular media
- J. Gallimore: Active Galactic Nuclei
- B. King: Bio Informatics
- L. Smolka: Fluid Flow
- KB Boomer: Geophysics and more
- ...

Summary

Simulations in Academia :

- Modeling
  - Experiment $\Leftrightarrow$ Simulation $\Leftrightarrow$ Theory
  - testing (wide range of parameters possible, clean, inexpensive)
  - understanding
  - design of new materials
- Data Analysis
  - e.g. fractal dimension etc.
  - Monte Carlo Error Analysis
  - Bioinformatics
  - extensive fitting ...

Applications out of Academia :

- oil refinery, soil testing
- finance (stock, insurance, ...)
- material science (glasses, polymers, computer technology, ...)
- defense
- energy sector
- flight simulator ...

Symposium Talks

Talks 12 min /person (+ 3 min questions)

April 21: Akim, Joe, Sarah, Ian, Pete
April 23: Sean, Chris, Gus, Andy, Narayan
April 28 Damon, Jonathan, Andrew

Please feel free to ask for help!!

Content: Background / Introduction, Model, Results & Interpretation, Outlook / Summary

- update & revise background,intro and model and results
- advertise yourself
- dresscode (& be on time)
- for further information see our webpage
- practice (aloud, alone & for friend, time yourself)
- start not with reading title & end with thank you
- practice, check in ACWS 204