

# Computational Molecular Biology

## Biochem 218 – BioMedical Informatics 231

<http://biochem218.stanford.edu/>

---

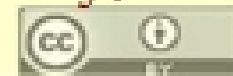
### miRNA Regulatory Networks



Doug Brutlag

Professor Emeritus

Biochemistry & Medicine (by courtesy)



# Gene Regulatory Mechanisms

---

- Transcriptional Mechanisms
  - Type of promoters & RNA polymerase
  - Control of Transcription
    - Constitutive
    - Inducible
    - Repressible
  - Transcription Factors and TFBS
- Translational Mechanisms
  - Micro RNAs (miRNAs and RITS complexes)
    - Translational control
    - mRNA degradation
    - Promoter activation
  - Silencer RNAs (siRNAs & RISC complexes) degrading mRNA
- Epigenetic Mechanisms
  - Chromatin remodeling
  - Histone modifications (acetylation, phosphorylation, methylation ...)
  - DNA methylation

# Gene Expression Regulatory Network

