4:225 Enzymology Fall 2004

Final assignment: Research Proposal.

Abstract: a brief description of the problem you are going to address and the proposed experimental approach. Length: maximum one, double space, page not including figures and references. To be handed to the class at your oral presentation.

Presentation: 12 min. talk, explaining the problem you which to address, its background and significance, and your experimental approach. When? Nov. 11, Nov. 18, Nov. 25, Dec. 2 and Dec. 9 - three presentations per session.

A sign-up sheet is available on my door (273 CB).

Final assay: a concise research proposal, including: The Abstract; objective and significance; background; experimental approach; and summary. Length: maximum of six, double space, pages including figures and references. Deadline for submission: December 17.

List of topics:

1. Intermediate channeling in enzymatic reaction
2. Mechanism of a therohpile vs. a mesophile
3. Enthalpic and entropic contributions to catalysis
4. RNA catalyst as mechanistic tools in enzymology
5. Biomimetic catalyst design
6. Design of a catalytic antibody
7. Orbital-stirring contribution to enzymatic catalysis
8. Protein dynamics and enzyme activity
9. Enzymes which are faster than the predicted diffusion controlled limit
10. Studying a single enzyme molecule
11. Enzymology by millisecond time-resolved crystallography
12. Hydrogen tunneling in an enzyme catalyzed reaction
13. High pressure as tool in studying an enzyme
14. Altered enzyme activity in organic solvent
15. Uses of enzyme in a biomedical sensor
16. Others:_____ (contact me if you have a suggestion).

Enjoy and good luck,
Amnon Kohen.