

Introduction

Lewis & Clark Workshops



Oct-09

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Crystallography: substantial part of the Biomolecular Research Endeavor

- Traditionally – Coat hanger:
 - Frame mechanistic hypotheses
 - Targets with established importance
- Rational design – hypothesis-directed
 - Ligands, mutants...
- Structural genomics
 - Discovery research
 - Induce function through homology
 - Structure more conserved than sequence

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Workshop goals

- Not professional crystallographer
- Preparation for the 1st plunge
- Intelligent collaborator
- Critical user

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Agenda

Week	Topics	Practicals
1	Crystallization	Lysozyme
2	Diffraction theory & Data collection	
3	The Phase Problem	
4	Modeling, Refinement, Accuracy & Validation	Building with computer graphics

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Introductory Texts

- McPherson, A. (2003) (solid introduction)
 - Introduction to Macromolecular Crystallography, Wiley-Liss, Hoboken, NJ; 1st Ed., ISBN 0-471-25122-4 (\$77.50)
- Drenth, J. (1999) (more technical)
 - Principles of protein x-ray crystallography. New York, Springer, 2nd Ed., ISBN 0-387-98587-5 (\$84.95)
- Rhodes, G. (1993) (less technical)
 - Crystallography made Crystal Clear, Academic Press, ISBN 0-12-587075-2

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Next level

- ***Biomolecular Crystallography***
 - By Bernhard Rupp
 - ISBN 978-0-8153-4081-2
 - Garland, *in press* October 2009; \$145
- <http://www.sb.fsu.edu/~chapman/Courses/Crystallography>

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Contact information

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