

Curriculum Vitae

Terry M. Gray

Employment

6/98 to present

Computer Support Scientist

Department of Chemistry
Colorado State University
Fort Collins, CO 80523

- Plans and administers \$40,000+ annual departmental computer budget
- Functions as departmental network and UNIX system administrator
- Advises and assists faculty on instructional computer use
- Consults with faculty, post-docs and graduate students on research-related molecular modeling and other scientific computing
- Provides general computer assistance for departmental administrative assistants
- Develops and maintains department web pages and web-served databases

7/94 to present

Webmaster

American Scientific Affiliation
P.O. Box 668
Ipswich, MA 01938

9/86 to 6/97

Assistant/Associate Professor

Department of Chemistry and Biochemistry
Calvin College
Grand Rapids, MI 49546

9/93 to 6/94

Visiting Research Scientist (sabbatical leave)

Department of Medical Biochemistry and Genetics
Texas A&M University
College Station, TX 77843

C. Nick Pace, Principal Investigator

9/85 to 9/86

Post-doctoral Research Associate

Institute of Molecular Biology
University of Oregon
Eugene, OR 97403

Brian W. Matthews, Principal Investigator

Education

1976-1980

Purdue University, B.S. with Honors in Molecular Biology

1980-1985

University of Oregon, Ph.D. in Molecular Biology

Dissertation: "Crystallographic Studies of Temperature Sensitive Mutants of the Lysozyme from Bacteriophage T4"

Grants and Awards

1980-1983	NSF Graduate Fellowship
1987-1989	Research Corporation Cottrell College Science Grants Program "Structural Studies of Stability Mutants of the Lysozyme from Bacteriophage T4" (\$19,500)
1989-1992	NIH Academic Research Enhancement Award "Stability Mutants of Phage T4 Lysozyme" (\$75,000)
1990-1992	Calvin Research Fellowship
1992, 1995, 1996	Calvin College—HHMI Faculty Research Opportunities Award "Mutating T4 Lysozyme into Myoglobin" (\$4400, \$4800, \$4300)
1992-1995	NSF Instrumentation and Laboratory Improvement "Computer Interfacing and Computer Modeling in the Chemistry Curriculum" (\$43,035)
1994	NSF Undergraduate Curriculum and Course Development "Computational Chemistry at the Introductory Level" (Roger DeKock, Principal Investigator) (\$6750)
1997-1998	CSU Program for Research and Scholarly Excellence "Computational Chemistry and Molecular Visualization Laboratory" (\$94,000)

Research Interests

Protein folding and stability; macromolecular structure; protein crystallography; T4 lysozyme; molecular evidences for evolution; applications of complexity theory to biological systems; pedagogical uses of computers and the internet in chemistry, biochemistry, and molecular biology; relating science to Christian belief especially in the area of origins

Publications

1. Grütter, M.G., Weaver, L.H., Gray, T.M. and Matthews, B.W., "Structure, Function, and Evolution of the Lysozyme from Bacteriophage T4", In *Bacteriophage T4* (Mathews, C.K., Kutter, E.M., Mosig, G. and Berget, P.M., eds.), American Society for Microbiology, Washington, D.C., 356-360 (1983).
2. Gray, T.M. and Matthews, B.W., "Intrahelical Hydrogen Bonding of Serine, Threonine and Cysteine Residues Within α -Helices and its Relevance to Membrane-bound Proteins", *J. Mol. Biol.* **175**, 75-81 (1984).
3. Weaver, L.H., Grütter, M.G., Remington, S.J., Gray, T.M., Isaacs, N.W. and Matthews, B.W., "Comparison of Goose-Type, Chicken-Type, and Phage-Type Lysozymes Illustrates the Changes that Occur in Both Amino Acid Sequence and Three-Dimensional Structure during Evolution", *J. Mol. Evol.* **21**, 97-111 (1985).
4. Alber, T., Gray, T.M., Weaver, L.H., Bell, J.A., Wozniak, J.A., Doapin, S., Wilson, K., Cook, S.P., Baker, E.N. and Matthews, B.W., "Selected and Directed Mutants of T4 Phage Lysozyme", In *Crystallography in Molecular Biology: Bischenberg, September 1985*, (Moras, D., ed.) Plenum Publishing Corp., New York (1985).
5. Alber, T., Grütter, M.G., Gray, T.M., Wozniak, J.A., Weaver, L.H., Chen, B.-L., Baker, E.N. and Matthews, B.W., "Structure and Stability of Mutant Lysozymes from Bacteriophage T4", In *UCLA Symposia on Molecular and Cellular Biology, New Series, Vol. 39. "Protein Structure, Folding and Design"* (Oxender, D.L., ed.), Alan R. Liss, Inc., New York (1986).

6. Grütter, M.G., Gray, T.M., Weaver, L.H., Alber, T., Wilson, K. and Matthews, B.W., "Structural Studies of Mutants of the Lysozyme of Bacteriophage T4: The Temperature-Sensitive Mutant Protein Thr 157->Ile", *J. Mol. Biol.* **197**, 315-329 (1987).
7. Gray, T.M. and Matthews, B.W., "Structural Analysis of the Temperature-Sensitive Mutant of Bacteriophage T4, Glycine 156->Aspartic Acid", *J. Biol. Chem.* **262**, 16858-16864 (1987).
8. Weaver, L.H., Gray, T.M., Grütter, M.G., Anderson, D.E., Wozniak, J.A., Dahlquist, F.W., and Matthews, B.W., "High Resolution Structure of the Temperature-Sensitive Mutant of Phage Lysozyme, Arg 96->His", *Biochem.* **28**, 3793-3797 (1989).
9. Gray, T.M., "The Mistrial of Evolution", *The Banner*, April 13, 1992, 12-13. {Book review}
10. Gray, T.M., Arnoys, E.J., Blankespoor, S., Born, T., Jager, R., Everman, R., Plowman, D., Stair, A., and Zhang, D., "Destabilizing Effect of Proline Substitutions in Two Helical Regions of T4 Lysozyme: Leucine 66 to Proline and Leucine 91 to Proline", *Protein Science* **5**, 742-751 (1996).
11. Muyskens, M.A., Glass, S.V., Wietsma, T.W., and Gray, T.M., "Data Acquisition in the Chemistry Laboratory Using LabVIEW® Software", *J. Chem. Ed.* **73**, 1112-1114 (1996).
12. Gray, T.M. "Biochemistry and Evolution" In *Perspectives on an Evolving Creation*, (Miller, K.B., ed.) William B. Eerdmans Publishing Co., Grand Rapids (2003).
13. Haarsma, L. and Gray, T.M. "Complexity and Self-organization" In *Perspectives on an Evolving Creation*, (Miller, K.B., ed.) William B. Eerdmans Publishing Co., Grand Rapids (2003).
14. LaCour, A., Crans, D., Gray, T.M., Schoenburg, E., Anderson, O.P., "Crystal Structures of Dimeric and Polymeric Hexokinase b from Yeast, (manuscript in preparation).

Internet Publications

1. Web Site for the *American Scientific Affiliation* (with John W. Haas)
<http://www.asa3.org/>
2. *Evolution Controversy in the Orthodox Presbyterian Church*
http://www.asa3.org/gray/evolution_trial/index.html
3. "Complexity—Yes! Irreducible—Maybe! Unexplainable—No! A Creationist Criticism of Irreducible Complexity" (A Review of *Darwin's Black Box* by Michael Behe)
http://www.asa3.org/evolution/irred_compl.html
4. "The Mistrial of Evolution" (Expanded Version) (A Review of *Darwin on Trial* by Phillip Johnson)
http://www.asa3.org/gray/evolution_trial/dotreview.html
5. "Give Me Some of That Old-Time Theology: A Reflection on Charles Hodge's Discussion of *Concursus* in Light of Recent Discussions of Divine Action in Nature"
<http://www.asa3.org/gray/GrayASA2003OnHodge.html>

College Courses Taught

Calvin College

- Chemistry 101 Environmental and Consumer Chemistry (with laboratory; for non-majors)
 Chemistry 103 General Chemistry I (with laboratory)
 Chemistry 104H Honors General Chemistry II (with laboratory)

Chemistry 114 Introduction to Organic and Biochemistry (with laboratory; for allied health majors)
Chemistry 253 Organo-biochemistry II (with laboratory)
Chemistry 323 Biochemistry I
Chemistry 324 Biochemistry II
Chemistry 383 Biochemistry Laboratory
Chemistry 396 Perspectives in Chemistry
Chemistry W10 Hemoglobin: Structure, Function, Evolution, and Pathology
(January term course; for non-majors)
Chemistry W51 Computer Modeling in Chemistry and Biochemistry (January term course)
IDIS W10 Christian Perspectives in Learning (January term course; for non-majors)
IDIS W21 At the Edge of Chaos: Complexity, Self-Organization, and Artificial Life
(January term course; for non-majors)
IDIS 650 Does Faith Matter? (A graduate distance learning course)
IDIS 653 Science & Religion in the Classroom: Controversies in Creation, Cosmology & Ethics
(a graduate distance learning course)

Colorado State University

Chemistry 111 General Chemistry I (experimental web-based section)
Chemistry 651DV Structural Bioinformatics and Cheminformatics

References

Professor Anthony K. Rappe
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Professor Arie Leegwater
Department of Chemistry and Biochemistry
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Grand Rapids, Michigan 49546
Phone: (616) 957-6373
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Professor Brian W. Matthews
Institute of Molecular Biology
University of Oregon
Eugene, Oregon
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Contact Information

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