Marvin L. Hackert

William Shive Centennial Professor of Biochemistry
Department of Molecular Biosciences
Associate Dean of the Graduate School
University of Texas at Austin
Austin, TX 78712.

Hackert received his B.A. in Chemistry with honors from Central College (1966), his Ph.D. in Physical Chemistry / Crystallography from Iowa State University (1970), and was an NIH Postdoctoral Fellow with Prof. Michael Rossmann at Purdue University before joining the faculty in the Department of Chemistry at The University of Texas at Austin in 1974. He currently holds the William Shive Centennial Professorship in Biochemistry and serves as Associate Dean of the Graduate School where he is the Director of Graduate Fellowship and Faculty Development Programs.

His research interests are in the area of structural biology of macromolecules using X-ray crystallography with particular interests in PLP- and pyruvoyl-dependent enzymes in polyamine metabolism, and the structures, function and evolutionary relationships among members of the 4-OT super-family of proteins. He has authored or co-authored about 90 scientific publications and supervised about 30 graduate students. In addition to his research and teaching in biochemistry and structural molecular biology, he authored a popular study guide, been chair of the Department of Chemistry and Biochemistry (1995-2000) and Director of the Biochemical Institute (1997-). Hackert also is a past graduate adviser (1990-1995), past chair of the Graduate Assembly (1991) and past chair of the Faculty Council (2003-2004).

Other professional activities include serving as current President of the International Union of Crystallography, and a member of the Executive Committee of the IUCr from 2010-2021; President-Elect, President & Past-Presidentr of the American Crystallographic Association (2007-2009); Chair-Elect & Chair of the US National Committee for Crystallography (1996-2002); IUCr – Commission on Marcromolecules (2002-2005); Chair of the ACA Publications Comm. (1991); and Chair of the BioMac SIG of the ACA (1991-92). Dr. Hackert is the recipient of an ACA Service Award (1992) and a Distinguished Alumni Award from Central College (2006), Central's Honors Colloquium Speaker (2008), elected Fellow of the American Crystallographic Association (2020).

EDUCATION

1966	Central College, B.A. (Honors) Chemistry
1970	Iowa State University, Ph.D. Physical Chemistry, Crystallography - Robert A. Jacobson
1970-'74	NIH Postdoctoral Fellow, Purdue University, Protein Crystallography - Michael G. Rossmann

ACADEMIC CAREER

University of Texas at Austin

1974-1980	Assistant Professor of Chemistry
1980-1986	Associate Professor of Chemistry
1986-1992	Professor of Chemistry and Biochemistry
1993-present	William Shive Centennial Professor of Biochemistry
1995-2000	Chairman, Department of Chemistry and Biochemistry
2005-present	Associate Dean of the Graduate School
2015-2017	Interim Dean of the Graduate School

AWARDS / HONORS

Fellow of American Crystallographic Association (ACA) 2020
Central College Honors Colloquium Speaker (2008)
Central College Distinguished Alumni Award (2006)
William Shive Centennial Professor of Biochemistry (1993)
ACA Service Award (1992)

PROFESSIONAL POSITIONS HELD

International Union for Crytallography (IUCr) - Exec Comm – 2010-2021
IUCr President 2014-2017; IUCr Past President 2017-2021
Am Cryst Assn – Vice-President (2007), President (2008), Past-President (2009)
US Nat Comm Cr (1993-2002), Chair Elect / Chair (1996-2002);
ACA rep (2007-2009); IUCr rep (2010-2021)
Nat. Acad. Sci. – Board Intl. Scientific Organizations (BISO) 2010-2021
IUCr – Commission on Marcromolecules (2002-2005);
American Crystallographic Association (ACA) – Co-Chair (with Ray Davis) of Local Committee for ACA meeting in San Antonio (2002);
BioMac SIG of the ACA (Sec-Treas. 1986-89, Chair 1991-92);
ACA Publications Comm. (1988-91, Chair 1991);
Member Local Committee, ACA meeting in Austin (1987);
Advisory Council UCSD Multiwire Area Detector Facility (1986-1995).
Director – Biochemical Institute (1995 -);
NIH Reviewers Reserve (1994-98)
Journal Reviews: Acta Cryst., JBC, JMB, Sci., Nature, Biochem., etc.
Editorial Board: Macromolecular Structures pre-90 (1995-1998)
Central College - National Advisory Council - 1996 - 2019

UNIVERSITY SERVICE

Provost's Task Force on the Future of UT Libraries (2020-2021)
Intl Oversight Comm (IOC)–Restricted Regions subcommittee (2020-)
Faculty Council Committee B-1 Financial Aid for Students (2005-present)
Faculty Council Committee C-6 Intl Prgms and Studies Comm. (2020-)
Faculty Council Committee C-11 Research Policy Committee (2017-present)
Chair – Programming and Building Comm. – Dell Pediatric Research Inst (2006-2009)
Board of Directors – University Coop (2005-2009)
University Faculty Council (2000-2005; Chair 2003-2004)
Univ. Texas System Faculty Advisory Group – 1992-92; 2002-2005
Chair – *Ad hoc* Comm. of Faculty Council to Study Student Course-Instructor Surveys (2005-2006) / electronic Course-Instructor Surveys (2006-2007)
Regional Vice-Pres and Treas – Tx Council of Faculty Senates (2003-2005)
University Tuition Policy Committee (2002-2003)
Faculty Advisory Committee on Budgets (2000-2003; Chair 2002-2003)
Graduate Assembly (1989-1995; Chair 1991-92);

GRADUATE SCHOOL SERVICE

Interim Dean of the Graduate School (2015-2017)
Associate Dean of the Graduate School (2005 – present)
Dir. of Faculty Development Programs (Faculty Travel Grants / FRAs / SRAs)
Dir of Graduate Fellowship Programs
Graduate Assembly - Ad hoc member – liaison with Academic Affairs Comm.
Graduate Education Task Force – UT Data Team & member of Working Group
UT Institutional Coordinator for NRC Assessment of Research Doctoral Programs
Assisted with SACS accreditation – representing Graduate School issues
Member – PIMAC (Provost's Information Management Advisory Council)
Digital Measures - Work group to develop on-line Faculty Activity Reports.

DEPARTMENTAL SERVICE

Associate Chair; Dept. of Chemistry and Biochemistry (2004-2005)
Chair; Dept. of Chemistry and Biochemistry (1995-2000)
Editor – *Chem. Compositions* (1995-2006)
Graduate Adviser and GSC Chair; Ph.D. in Biochemistry (1986-90)
Graduate Adviser and GSC Chair; Dept. Chem. & Biochem. (1991-95)
Assistant to Chairman Dr. Robert Wyatt (1984-87)
Biochemistry Division Coordinator: 1984-89
Departmental Computer Accounts Representative: 1984-present
College of Natural Sciences - Course and Curr. Comm: 1989-92
UIL State Science Contest Director (Chemistry): 1983-1996
Executive Comm. - Molecular Biophysics Training Grant

TEACHING EXPERIENCE (UT)

CH387D – Physical Method in Biochemistry and Molecular Biology

CH392G –Biochemistry (Graduate)
CH192G – Biochemistry Student Seminar
CH391L – Advanced Topics in Biochemistry – Protein Structure and Function
CH391L – Advanced Topics in Biochemistry – Protein Crystallography
CH190 – Seminar in Biochemistry
CH370 – Physical Method in Biochemistry
CH369 – Fundamentals of Biochemistry
CH369L – Biochemistry Laboratory
CH339K – Biochemistry I
CH313N/113P – General and Organic Chemistry / Lab
CH314N/114P – Organic and Biological Chemistry / Lab
CH302 – Principles of Chemistry II

GRANT SUPPORT

Title:	AGEP Research Universities Alliance Model: Advancing Minority Math, Physical Science, Environmental Science, and Engineering PhD Candidates and Postdoctoral Scholars to Faculty
Sponsor:	NSF
Role:	**P.I.**
Period:	10/01/2020 – 03/31/2024
Total Award Amount:	$89,900 UT direct support (part of ~ $2,200,000 Total grant in alliance funding for retreats / web portals / etc.

Title:	Understanding PhD Career Pathways for Program Improvement
Sponsor:	Council of Graduate Schools
Role:	**P.I.**
Period:	07/01/2017 – 09/30/2020
Total Award Amount:	$39,999

Title:	NSF GRFP
Sponsor:	NSF
Role:	**P.I.**
Period:	12/01/2015 – 11/30/2020 (5 awards)
Total Award Amount:	$26,115,618

Title:	**2019** Fulbright Hays
Sponsor:	Department of Education
Role:	**P.I.**
Period:	09/30/2019 – 03/31/2021
Total Award Amount:	$36,905

Title:	**2018** Fulbright Hays
Sponsor:	Department of Education
Role:	**P.I.**
Period:	09/30/2018 – 03/31/2021
Total Award Amount:	$66,677

Diversity Synergistic Activities

Support for advancing URM at UT with McNair, South Texas and West Texas Graduate Fellowship.

Coordinate UT Austin's participation in ConTex – a program jointly created by Conacyt in Mexico and UT System to support students from Mexico to study and UT Austin and to encourage collaborative research projects between faculty in Mexico and at UT Austin

PI on CGS award to study Career Pathways of PhD students

PI – NSF AGEP Award – support increasing numbers of URM in STEM professoriate

PUBLICATIONS Marvin L. Hackert

Youzhong Guo, Weihua Qiu, Thomas E Roche , **Marvin L Hackert Crystal structure of the catalytic subunit of bovine pyruvate dehydrogenase phosphatase** Acta Crystallogr F Struct Biol Commun . 2020 Jul 1;76(Pt 7):292-301. doi: 10.1107/S2053230X20007943. Epub 2020 Jul 1. PMID: 32627744

Hackert, Marvin L., McMahon, Brian, Van Meervelt, Luc, and Helliwell, John - Workshop on "Research Management" - **The Science International Accord on Open Data in a Big Data World and IUCr's Response**. American Crystallographic Association meeting in New Orleans, May 26, 2017.

Hackert, Marvin L., McMahon, Brian, van Meervelt, Luc, and Helliwell, John – "**Open Data in a Big Data World: A position paper for crystallography**", in IUCr Data, August 2016.

Marvin L Hackert, Dean R Appling, Alan M Lambowitz. **Lester Reed: A "complex" man who loved science** Proc Natl Acad Sci U S A 2015 May 19;112(20):6247. doi: 10.1073/pnas.1505119112. Epub 2015 Apr 21.

Youzhong Guo [1], Hector Serrano, Gerrit J Poelarends, William H Johnson Jr, **Marvin L Hackert**, Christian P Whitman. **Kinetic, mutational, and structural analysis of malonate semialdehyde decarboxylase from *Coryneform bacterium* strain FG41: mechanistic implications for the decarboxylase and hydratase activities** Biochemistry . 2013 Jul 16;52(28):4830-41. doi: 10.1021/bi400567a. Epub 2013 Jul 2.

Youzhong Guo, Hector Serrano, William H Johnson Jr, Stephen Ernst, **Marvin L Hackert**, Christian P Whitman. **Crystal structures of native and inactivated cis-3-chloroacrylic acid dehalogenase: Implications for the catalytic and inactivation mechanisms** Bioorg Chem. 2011 Feb;39(1):1-9. doi: 10.1016/j.bioorg.2010.10.001. Epub 2010 Oct 20.

Guo Y, Serrano H, Johnson WH Jr, Ernst S, **Hackert ML**, Whitman CP. **Crystal structures of native and inactivated cis-3-chloroacrylic acid dehalogenase: Implications for the catalytic and inactivation mechanisms.** Bioorg Chem. 2011 Feb;39(1):1-9. doi: 10.1016/j.bioorg.2010.10.001. Epub 2010 Oct 20.PMID: 21074239

Almrud JJ, Dasgupta R, Czerwinski RM, Kern AD, **Hackert ML**, Whitman CP. **Kinetic and structural characterization of DmpI from *Helicobacter pylori* and *Archaeoglobus fulgidus*, two 4-oxalocrotonate tautomerase family members.** Bio-organic Chemistry (2010) Jul 18, PMID: 20709352.

Golubkov, P.A., Johnson, Jr. W.H., Czerwinski, R.M., Person, M.D., Wang, S.C., Whitman, C.P., and **Hackert, M.L.,** "**Inactivation of the Phenylpyruvate Tautomerase Activity of Macrophage Migration Inhibitory Factor by 2-Oxo-4-phenyl-3-butynoate**." *Bioorganic Chemistry*, **34**(4):183-99 (2006).

Hackert, M.L. and Riggs, A.F. "**When Size Matters**", *Structure*, **14**:1094-96 (2006).

Poelarends, G.J., Almrud, J.J.,Serrano, H., Darty, J.E., Johnson, Jr. W.H., **Hackert, M.L.,** and Whitman, C.P., "**Evolution Consequences of Enzymatic Activity in the Tautomerase Superfamily: Mechanistic and of the L8R Mutation in 4-Oxalocrotonate Tautomerase**" *Biochemistry*, **45**: 7700-08 (2006).

Hoffman, D.W., Carroll, D., Martinez, N., **Hackert, M.L.,** "**Solution Structure of a Conserved Domain of Antizyme: A Protein Regulator of Polyamines**", *Biochemistry*, **44**(35):11777-85 (2005).

Almrud, J.J., Poelarends, G.J., Johnson, Jr. W.H,, Serrano, H., **Hackert, M.L.**, and Whitman, C.P., "**Crystal Structures of the Wild-type, P1A Mutant, and Inactivated Malonate Semialdehyde Decarboxylase: A Structural Basis for the Decarboxylase and Hydratase Activities**" *Biochemistry*, **44**(45): 14818-27 (2005).

Dasgupta, R., Almrud, J.J., Johnson, W.H., Whitman, C.P., and **Hackert M.L.,** "**Crystal structures of two 4-OT homologues from *Helicobacter pylori* and *Archaeoglobus Fulgidus.*"** *Am. Cryst. Assn. Abst*., **31**: (2004)

Almrud, JJ, Kern, AD. Wang, SC, Czerwinski, RM, Johnson, WH Jr., Murzin, AG Hackert, ML, Whitman, CP, " **The Crystal Structure of YdcE, a 4-Oxalocrotonate Tautomerase Homologue from *Escherichia coli*, Confirms the Structural Basis for Oligomer Diversity**" *Biochemistry,* **41**:12010-24 (2002).

Knapp, J.E., Carroll, D., Lawson, J.E., Ernst, S.R., Reed, L.J., and **Hackert, M.L.**, "**Expression, Purification, and Structural Analysis of the Trimeric Form of the Catalytic Domain of the *Escherichia coli* Dihydrolipoamide Succinyltransferase** " *Protein Science*, **9,** 37-48 (2000).

Almrud, J.J., Oliveira, M.A., Kern, A.D., Grishin, N.V., Phillips, M.A. and **Hackert, M.L., " Crystal Structure of Human Ornithine Decarboxylase at 2.1Å Resolution: Structural Insights to Antizyme Binding**" *J. Molec. Biol.,* **295**, 7-16 (2000).

Hackert, M.L., Kern, A.D., Oliveira, M.A., Almrud, J.J., Carroll, D.W., and Ernst, S.R. "**Mouse Ornithine Decarboxylase: Structural Comparisons to Other PLP-Dependent Enzymes**" in Biochemistry and Molecular Biology of Vitamin B6 and PQQ-dependent Proteins, ed. A. Iriarte, H.M. Kagen, and M. Martinez-Carrion, Birkhauser Verlag, Basel, 321-326 (2000).

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Knapp JE, Oliveira MA, Xie Q, Ernst SR, Riggs AF, **Hackert ML. The structural and functional analysis of the hemoglobin D component from chicken**. J Biol Chem. 1999 Mar 5;274(10):6411-20. doi: 10.1074/jbc.274.10.6411.PMID: 10037733**.**

Taylor AB, Johnson WH Jr, Czerwinski RM, Li HS, **Hackert ML**, Whitman CP. **Crystal structure of macrophage migration inhibitory factor complexed with (E)-2-fluoro-p-hydroxycinnamate at 1.8 A resolution: implications for enzymatic catalysis and inhibition**. Biochemistry. 1999 Jun 8;38(23):7444-52. doi: 10.1021/bi9904048.PMID: 10360941

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Kern AD, Oliveira MA, Coffino P, **Hackert ML. Structure of mammalian ornithine decarboxylase at 1.6 A resolution: stereochemical implications of PLP-dependent amino acid decarboxylases**. Structure. 1999 May;7(5):567-81. doi: 10.1016/s0969-2126(99)80073-2.PMID: 10378276**.**

Knapp JE, Mitchell DT, Yazdi MA, Ernst SR, Reed LJ, **Hackert ML. Crystal structure of the truncated cubic core component of the *Escherichia coli* 2-oxoglutarate dehydrogenase multienzyme complex**. J Mol Biol. 1998 Jul 24;280(4):655-68. doi: 10.1006/jmbi.1998.1924.PMID: 9677295

Kitto GB, Thomas PW, **Hackert ML. Evolution of cooperativity in hemoglobins: what can invertebrate hemoglobins tell us?** J Exp Zool. 1998 Sep-Oct 1;282(1-2):120-6.PMID: 9723169

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M A Oliveira[1], D Carroll, L Davidson, C Momany, **M L Hackert. The GTP effector site of ornithine decarboxylase from Lactobacillus 30a: kinetic and structural characterization**. Biochemistry . 1997 Dec 23;36(51):16147-54. doi: 10.1021/bi970605g.

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M.L. Hackert and R. Sandwick, a Study Guide to "**Chemistry and Life**", 5th edition. Macmillan Publishing Company, 1996.

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Mitchell DT, Kitto GB, **Hackert ML.** S**tructural analysis of monomeric hemichrome and dimeric cyanomet hemoglobins from *Caudina arenicola***. J Mol Biol. 1995 Aug 18;251(3):421-31. doi: 10.1006/jmbi.1995.0445.PMID: 7650740

Momany, C., Ghosh, R., **Hackert, M.L.,** "**Two Structural Motifs For Pyridoxal-5'-Phosphate Binding In Decarboxylases: An Analysis Based on the Crystal Structure of the *Lactobacillus* 30A Ornithine Decarboxylase**" Protein Science, 4, 849-854 (1995).

Mitchell, D., Ernst, S.R., Wu, Wei-Xin and **Hackert, M.L.**, "**Three-Dimensional Structure of a Hemichrome Hemoglobin from *Caudina arenicola***" Acta Cryst., D51, 647-653 (1995).

Momany C, Ernst S, Ghosh R, Chang NL, **Hackert ML. Crystallographic structure of a PLP-dependent ornithine decarboxylase from Lactobacillus 30a to 3.0 A resolution**. J Mol Biol. 1995 Oct 6;252(5):643-55. doi: 10.1006/jmbi.1995.0526.PMID: 7563080

Mitchell, DT., Ernst, SR. and **Hackert, ML**., "**X-ray Structure Determination of a Dimeric Hemoglobin from *Caudina arenicola***" Acta Cryst., D51, 760-766 (1995).

Mitchell, D., Kitto, G.B. and **Hackert, M.L.,** "**Structural Analysis of Monomeric Hemichrome and Dimeric Cyanomet Hemoglobin from *Caudina arenicola***" J. Molec. Biol., 251, 421-431 (1995).

Momany, C., Ernst, S.R., Ghosh, R., **Hackert, M.L.,** "**Crystallographic Structure of a PLP-Dependent Ornithine Decarboxylase from Lactobacillus 30A to 3.1Å**" J. Molec. Biol., 252, 643-655 (1995).

Rodriquez, B.R., Carroll, D.W., Mitchell, D., Momany, C. and Hackert, M.L., "**Crystallization of biosynthetic Arginine Decarboxylase from *Escherichia coli***," Acta Cryst. D50, 175-177 (1994).

Kolatkar, P.R., **Hackert, M.L**., and Riggs, A.F., "**The Structural Analysis of *Urechis caupo* Hemoglobin**" J. Molec. Biol., 237, 87-97 (1994).

Hackert, M.L., Carroll, D.W., Davidson, L. Kim,S.-O., Momany, C. Vaaler, G.L. and Zhang, L., "**Sequence of Ornithine Decarboxylase from *Lactobacillus* sp. Strain 30a**," J. Bact., 174, 7391-94 (1994).

Gallagher, T., Rozwarski, D.A., Ernst, S.R., and **Hackert, M.L**., "**The Refined Structure of the Pyruvoyl-Dependent Histidine Decarboxylase from *Lactobacillus* 30a**," J. Molec. Biol. 230, 516-28 (1993).

M.L. Hackert and R. Sandwick, a Study Guide to "**Chemistry and Life**", 4th edition. Macmillan Publishing Company, 390 pages, 1993.

Kolatkar, P.R., Ernst, S.R., **Hackert, M.L**., Ogata, C.M., Hendrickson, W.A., Merritt, E.A., and Phizackerly, R.P., "**The Structure Determination and Refinement of Homotetrameric Hemoglobin from Urechis caupo at 2.5 Å Resolution**" Acta Cryst., B48, 191-199 (1992).

Stoops, J.K., Momany, C. Ernst, S.R., Oliver, R.M., Schroeter, J., Bretaudiere, J.-P., and **Hackert, M.L**., "**Comparisons of Low Resolution Structures of Ornithine Decarboxylase by Electron Microscopy and X-ray Crystallography: The Utility of Methylamine Tungstate Stain and Butvar Support Film in the Study of Macromolecules by Transmission Electron Microscopy**," J. Electron Microscopy Tech, 18, 157-66 (1991).

M.L. Hackert, S.R. Ernst, D.T. Gallagher, C. Momany, P. Kolatkar, and C-K.C. Wong, "**Structures of Histidine and Ornithine Decarboxylases form Lactobacillus 30a," in Proceeding, "International Symposium on B6 and Carbonyl Catalysis**" Osaka, Japan, 1991.

L.J. Reed and **M.L. Hackert**, Mini-Review: "**Structure-Function Relationships in Dihydrolipoamide Acyltransferases**," J. Biol. Chem., 265, 8971-74, (1990).

M.L. Hackert, W.-X. Xu, R.M. Oliver, J.S. Wall, J.F. Hainfeld, T.R. Mullinax and L.J. Reed, "**Branched-Chain a-Keto Acid Dehydrogenase Complex From Bovine Kidney: Radial Distributions of Mass Determined from Dark-field Electron Micrographs,**" Biochemistry, 28, 6816-21, (1989).

C. Momany and **M.L.Hackert**, "**Crystallization and Molecular Symmetry of Ornithine Decarboxylase from *Lactobacillus* 30a**," J. Biol. Chem., 264, 4722-24, (1989).

T. Gallagher, S.R. Ernst, E.E. Snell and **M.L. Hackert**, "**Pyruvoyl-Dependent Histidine Decarboxylase: Active Site Structure and Mechanistic Analysis,**" J. Biol. Chem., 264, 12737-43, (1989).

P.R. Koltakar, W.A. Meador, R.L. Stanfield, and **M.L. Hackert**, "**Novel Subunit Structure Observed for Non-Cooperative Hemoglobin from *Urechis caupo***" J. Biol. Chem., 263, 3462-5 (1988).

M.L. Hackert, K. Clinger, S.R. Ernst, E.H. Parks and E.E. Snell, "**Structures of Pyruvoyl Dependent Histidine Decarboxylase and Mutant-3 Prohistidine Decarboxylase from Lactobacillus 30a**," in "Crystallography in Molecular Biology," ed. D. Moras, J. Drenth, B. Strandlberg, D. Suck and K. Wilson, Plenum Publishing Corporation (1987

M.L. Hackert, C. Momany and H.Sheth "**IMAGE - Interactive MoleculAr Graphics for Education**," (1987) Proc. IBM ACIS University Conference, Boston, MA, pp.389-94.

T. Schirmer, R. Huber, M. Schneider, W. Bode, M. Miller and **M.L. Hackert**, "**Crystal Structure Analysis and Refinement at 2.5 Å of Hexameric C-phycocyanin from the Cynanobacterium *Agmenellum quadruplicatum*: The Molecular Model and its Implications for Light-Harvesting**," J. Mol. Biol. 188, 651-676 (1986).

C. Momany, K. Clinger, **ML.Hackert** and NS Poonia. **Coordination chemistry of alkali and alkaline earth cations: Crystal structure of rubidium (benzo-15-crown-5)$_2$NO$_3$·H$_2$O**. *Journal of inclusion phenomena* volume 4, pages61–67(1986).

E.H. Parks, S.R. Ernst, R. Hamlin, Ng. H. Xuong and **M.L. Hackert,** "**The Structure Determination of Histidine Decarboxylase from *Lactobacillus* 30a at 3.0 Å Resolution,"** J. Mol. Biol. 182, 455 (1985).

Hackert ML, Oliver RM, Reed LJ. **A computer model analysis of the active-site coupling mechanism in the pyruvate dehydrogenase multienzyme complex of Escherichia coli**. Proc Natl Acad Sci U S A. 1983 May;80(10):2907-11. doi:10.1073/pnas.80.10.2907. PMID: 6344073; PMCID: PMC393942.

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M.L. Hackert, K. Clinger, S.R. Ernst, E.H. Parks and E.E. Snell, "**Structures of Pyruvoyl Dependent Histidine Decarboxylase and Mutant-3 Prohistidine Decarboxylase from *Lactobacillus 30*a**," in "Crystallography in

Bleile DM, **Hackert ML,** Pettit FH, Reed LJ. **Subunit structure of dihydrolipoyl transacetylase component of pyruvate dehydrogenase complex from bovine heart**. J Biol Chem. 1981 Jan 10;256(1):514-9. PMID: 6778866.

Hackert ML, Meador WE, Oliver RM, Salmon JB, Recsei PA, Snell EE. **Crystallization and subunit structure of histidine decarboxylase from *Lactobacillus* 30a**. J Biol Chem. 1981 Jan 25;256(2):687-90. PMID: 7451468.

Carson WM, Bowers TR, Kitto GB, **Hackert ML**. **Preliminary crystallographic data on monomeric and dimeric hemoglobins from the sea cucumber*, Molpadia arenicola***. J Biol Chem. 1979 Aug 0;254(15):7400-2. PMID: 457687.

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W. M. Carson and **M. L. Hackert Crystal structure of L-tyrosyl-glycyl-glycine monohydrate, the *N*-terminal tripeptide of the enkephalins.** *Acta Cryst.* (1978). B34, 1275-1280.

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Hackert ML, Abad-Zapatero C, Stevens SE Jr, Fox JL. **Crystallization of C-phycocyanin from the marine blue-green alga *Agmenellum quadruplicatum*.** J Mol Biol. 1977 Apr 15;111(3):365-9. doi: 10.1016/s0022-2836(77)80058-2. PMID: 405499.

Abad-Zapatero C, Fox JL, **Hackert ML. The quaternary structure of a unique phycobiliprotein: B-phycoerythrin from *Porphyridium cruentum***. Biochem Biophys Res Commun. 1977 Sep 9;78(1):266-72. doi: 10.1016/0006-291x(77)91249-9. PMID: 907675.

White JL., **Hackert ML**., Steindel, SJ., Buehner M, and Rossmann, MG., **A Comparison of the Structure of Dogfish M4 Lactate Dehydrogenase and its Ternary Complexes.** J Mol. Biol. 102:759 (1975).

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Hackert, Marvin L, "*Preparing PhD Students for Diverse Careers*" / Discovery and Innovation in Graduate Education at Council of Southern Graduate Schools (CSGS) meeting in Fayetteville, Arkansas, Feb, 2018.

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