CURRICULUM VITAE

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EXPERIENCE

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REFEREED PUBLICATIONS:

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99. "Scaled Molecular Models and Sculptures" (2004) IEEE Biomed/DART Symposium, London, UK. 1093-954/04, pp. 229-234.

100. "Digital Design of Molecular Sculptures and Abstractions". E.F. Meyer, Leonardo Vol. 44, No. 1 (2011) pp. 22-29

CHAPTERS and REVIEWS:

1. "Structural Studies with the Aid of Interactive Computer Graphics", E.F. Meyer, *Chimia* 30, 495-6 (1976)

2. "Photo Essay of Porphyrin and Related Macrocycles" in "The Porphyrins" Vol IIIA, 513-529, E.F. Meyer, jr. and D.L. Cullen. D. Dolphin, Ed., Academic Press, New York (1978).

3. "Interactive Graphics in Medicinal Chemistry", E.F. Meyer, jr., in "Drug Design", Vol. IX, E.J. Ariens, Ed., Academic Press, New York, 267-289 (1980).

4. "Modelling the Binding of Small Molecules to Proteins", E.F. Meyer, G.M. Cole, L.G. Presta, R.E. Rosenfield, jr., and S.M.Swanson, in "Structure of Complexes between Biopolymers and Low-Molecular-Weight Molecules", W. Bartmann & G. Snatzke, Eds., Wiley-Heyden & Sons, Ltd. (1982), London. pp.77-85.

5. "The Modelling and Verification of Complexes of Elastase and Other Serine Proteases", E. Meyer and L. Presta, in "Topics in Molecular Pharmacology", Vol 3, pp.307-321 (1986), G.C.K. Roberts, A.S.V.Burgen, and M.S. Tute, Eds. Elsevier, Oxford.

6. "The Study and Design of Specific Inhibitors to Elastase", E. Meyer and W. Bode, in "QSAR in Drug Design and Toxicology" (1987) 247-254, D. Hadzi and B. Jerman-Balzic, Eds., Elsevier, Amsterdam.

7. "A Structure: Function Study of Receptor+Substrate Interactions Derived from High-Resolution X-Ray Crystallography", in "Molecular Structure: Chemical Reactivity and Biological Activity", J. Stezowski, J.-L. Huang, and M.-C. Shao, Eds., Oxford University Press (1988) 179-188.

8. "Molecular Modelling: 1) Playing the game when you don't know the rules, 2) how to learn the rules, and 3) some results", E. Meyer, Xth Int. Symp. on Med. Chem., in "Pharmacology Library", Vol. 12, Pallos and Timmerman, Eds., Elsevier, Amsterdam (1989) 121-144.

9. "Irregular Elastase Complexes: Crystallographic and Molecular Dynamic Studies of Small Inhibitors and Water" E. Meyer and M. Geller (1990) *Biol.Chem. Hoppe-Seyler* **371**:59-64.

10. "Synthetic Mechanism-Based and Transition-State Inhibitors for Human Neutrophil Elastase", J.C. Powers, C.-M. Kam, H. Hori, J. Oleksyszyn & E.F. Meyer Jr. (1992) pp. 123-141, in "Biochemistry of Pulmonary Emphysema", C. Crassi, J. Travis, L. Casali & M. Luisetti, eds., Springer Verlag, Berlin.

11. "Internal Water Molecules and H-bonding in Biological Macromolecules: A Review of Structural Features with Functional Implications." E. Meyer (1992). *Protein Science* 1:1543-1562.

12. "Emil Fischer: Then and Now" E.F. Meyer (1995), Pharma. Acta Helv., 69:177-183.

13. "Backwards Binding and Other Structural Surprises", E. F. Meyer, I.Botos, L.Scapozza & D.Zhang (1995), *Perspectives in Drug Discovery and Design*, **3**:168-195.

14. "Snake Venom Metalloproteinases (SVMPs): Functional Modulation of Activity by Non-proteinase Domains and the Structural Relationship of Proteins to Mammalian Homologs"(1997), J.W. Fox, I. Botos, L.-G. Jia, J.B. Bjarnason & E.F. Meyer. 349-361, "The Astacins: Structure and Function of a New Protein Family", R. Zwilling and W. Stöcker, Eds.,Verlag Dr. Kovac.

15. "Molecular Modeling and Rational Drug Design - A Perspective", A.Laczkowsky, E. F. Meyer, S. M. Swanson, and R. K. Worick (1996); *J. Iran Univ. of Med. Sci.* **3**:31-4

Invited lectures:

Computer Representation and Manipulation of Chemical Information, NATO Advanced Study Institute, Noordwijkerhout, Netherlands, 1973

ACS Symposium on Computer Assisted Drug Design (1979 : Honolulu; Ref. no. 36)

Hoechst Workshop Conference, Schloss Reisenburg, Germany 11-15 October, 1981 (cf. Chapters & Reviews, no. 4)

Symposium on the structures of small molecules, Beijing, P.R. China, 12-20, September, 1986 (cf. Chapters & Reviews, no. 11)

6th. European Symposium on Quantitative Structure-Activity Relationships, Portorose, Yugoslavia 22-26 September, 1986 (cf. Chapters & Reviews, no. 6)

Xth International Symposium on Medicinal Chemistry, Budapest, Hungary, August 15-19, 1988 (cf. Chapters & Reviews, no.8)

Molecular Modelling / Theory and Experiment, Schloss Elmau, Garmisch-Partenkirchen, Germany, October 10-14, 1988

Protease Inhibitors and Biological Control, Brdo by Ljubljana, Yugoslavia, June 25-28, 1989 (cf. Chapters & Reviews, no. 9)

Gordon Conference, Proteinases and Proteinase Inhibitors, June, 1990

Am.Chem.Society Southeast/Southwest Regional Meeting, New Orleans. Symposium on Enzymes: Structures, Mechanisms and Inhibitors. Dec. 1990

Gordon Conference, Matrix Metalloproteineases, August, 1993

"Emil Fischer: Then and Now", Introductory Lecture, Centennial "Lock and Key" Symposium, ETH Zürich, April, 1994 - symposium co-organizer. (cf. Chapters & Reviews, no. 12)

International Union of Crystallography, Seattle, Washington; August, 1996

24th Katzir-Katchalsky Conference on Bioinformatics & Structure, Jerusalem; November, 1996; Celebration of the 25th year of the Protein Data Bank and the 10th year of SwissProt

"Molecular Modelling & Drug Design", 7th International Symposium on Molecular Aspects of Chemotherapy, Gdansk, Poland, September, 1999

"Extending our digital and visual perceptions", at The Digital Workbench: Computer Modeling, Data Processing, and Visualization in Science and Technology, Max-Planck Institute for the History of Science, Berlin (2001)

"Scaled Molecular Models and Sculptures, IEEE Biomed/DART Symposium, London, UK. " (2004)

"Get a Grip (Molecules you can handle)", Lemelson Foundation, Smithsonian Institution, Washington D.C. (2005)

2005 Organized the MicroSymposium "**Art in Crystallography**"and art exhibition at the 20th International Union of Crystallography, Florence, Italy and presented the concluding lecture

2006 "Visualizing the Nano-World" Calit2: University of California - SanDiego

Invited seminars:

1991:

Parke Davis, AnnArbor, Michigan
Schering-Plough, New Jersey
Max-Planck-Institut für Biochemie, Martinsried, Germany
Dept. of Pharmacy, E.T.H., Zürich, Switzerland
Rhone-Poulenc-Rohrer, King of Prussia, PA
Ciba-Geigy, Basel, Switzerland
F. Hoffmann-LaRoche, Basel, Switzerland
Sandoz, Basel, Switzerland

1992:

Dept. of Bioinorganic Chemistry, University of Florence, Italy
Dept. of Chemistry, University of Parma, Italy
Dept. of Chemistry, University of Siena, Italy
Dept. of Biochemistry, University of Vienna, Austria
Rhone-Poulanc-Rohrer, West Point, Pennsylvania
Schering-Plough, Bloomfield, New Jersey
Parke-Davis, Ann Arbor, Michigan
Brandeis University, Waltham, Massachusetts

1993:

Schering-Plough Research Institute, Kenilworth, New Jersey
Department of Pharmacy, ETH, Zürich, Switzerland (3 lectures)
Janssen Pharmaceuticals, Beerse, Belgium
NIH National Cancer Institute, Bethesda, MD

1994:

Procter & Gamble Miami Valley Laboratories, Cincinnati, Ohio
Monsanto Research Laboratories, St. Louis, Missouri
Abbott Laboratories, Abbott Park, Illinois
Parke-Davis, Inc., Ann Arbor, Michigan
Merck, Sharpe & Dohme, Rahway, New Jersey
University Louis Pasteur, Strasbourg, France

1995:

Institut für organische Chemie und Biochemie, Freiburg/Breisgau, Germany
Institut de Biologie Structurale - J.P. Ebel, Grenoble, France
M.D. Anderson Cancer Institute, Houston, Texas

1996:

ProScript, Inc., Cambridge, Massachusetts
University of Neuchatel, Switzerland
Biozentrum, University of Basel, Switzerland
Dept. Of Pharmacy, ETH, Zürich, Switzerland
International Union of Crystallography, Seattle, Washington
24th Katzir-Katchalsky Conference on Bioinformatics & Structure, Jerusalem; Celebration of the 25th year of the Protein Data Bank and the10th year of SwissProt databases

1997:

Dept. of Biology, Texas A&M University, Kingsville
Dept. of Computer Science, Texas A&M
Texas A&M Phi Lambda Upsilon seminar, 'Art and Literature in and of Science'

1999:

Novartis AG, Basel, Switzerland
Conference: Molecular Aspects of Chemotherapy, Gdansk, Poland
Karolinska Institutet CSB, NOVUM, Huddinge, Sweden
Division of Matrix Biology, Karolinska Institutet, Stockholm, Sweden
Southern Methodist University, Dallas, Texas
Los Alamos Scientific Laboratory, New Mexico

2000

Fox Chase Institute for Cancer Research, Philadelphia, PA
Dept. of Chemistry, University of Pennsylvania, Philadelphia, PA

2001

Max-Planck-Institute for the History of Science, Berlin
Institut für Kristallographie; Freie Universität Berlin
F. Hoffmann-LaRoche, Basel, Switzerland
Novartis AG, Basel, Switzerland

2002

Johnson& Johnson, San Diego, CA
Structural Genomix, San Diego, CA

2004 IEEE 8th International Conference on Information Visualisation (14-16 July 2004, London, UK).

Professional activities:

Member, NIH Scientific Instrumentation Study Section SSS-7D; October, 1990
Reviews of manuscripts and grant proposals (ca. 10/year)

Major research accomplishments:

1) First to use color raster graphics for molecular modelling (cf. refs. 5-7, 9)

2) Co-founder of the Brookhaven Protein Data Bank (cf. ref. 6, 9, 15, 31; Chapters & Reviews 16)

3) First use of computer networking in the life sciences (cf. ref. 88)

4) Long-term contributions to interactive molecular modelling; (cf. ref. 5, 7, 9, 16, 23, 24, 70;

Chapters & Reviews, 7-11)

5) Crystallographic determination of enzymic reaction intermediates (cf. ref. 64, 68)

6) Established a functional role for bound water and H-bonding in proteins (Chapters & Reviews, 11)

7) Recent PhD graduates:

1997 Dachuan Zhang (National Library of Medicine, Bethesda,MD)
"Structural characterization of a venom metalloproteinase, Atrolysin C (form d), and two inhibitor complexes"

2000 Istvan Botos (National Cancer Institute, Bethesda, MD)
"Inhibitor binding to matrix metalloproteinases"

2002 Shahram Khademi (University of Iowa)
"Structural Analysis of an Insect Cellulase"

_ _ _ _ Additional publications _ _ _ _

8) "CRYSNET: A Network for Crystallographic Computing" T. F. Koetzle, L. C. Andrews, F. C. Bernstein, H. J. Bernstein, ACS Symposium Series 19, 1 (1975).

9) "CRYSNET A Network of Intelligent Remote Graphics Terminals" H. J. Bernstein, L. C. Andrews, H. M. Berman, F. C. Bernstein, G. H. Campbell, H. L. Carrell, H. B. Chiang, W. C. Hamilton, D. D. Jones, D. Klunk, T. F. Koetzle, E. F. Meyer Jr., C. N. Morimoto, S. Sevian, R. K. Stodola, M. M. Strongson, T. V. Willoughby, Second Annual AEC Scientific Computer Information Exchange Meeting, Proceedings of the Technical Program p. 149, Brookhaven National Laboratory Report #18803 (1974).