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(a) Education

Institution (Preceptor)	Degree	Year	Field
U.C.L.A.	B.S.	1963	Chemistry
Stanford Univ. (McConnell)	Ph.D.	1967	Physical Chem.
Oxford Univ. (D.C. Phillips)	Post.Doc.	1968	Biophysics
Stanford Univ. (McConnell)	Post.Doc.	1969	Physical Biochem.

(b) Appointments

The Ohio State University, Assistant Professor of Chemistry, 1969-1975.
The Ohio State University, Associate Professor of Chemistry, 1975-1982.
The Ohio State University, Professor of Chemistry, 1982-2001.
The Ohio State University, Adjunct Professor of Medical Biochemistry, 1992-2001
University of Denver, Chair, Department of Chemistry & Biochemistry 2001 – 2008
University of Denver, Professor 2001 – 2021
Univ. Colorado, Toxicology Grad. Program, Dept. Pharm.Sci., 2004– 2014

(c) Honors

Fellow, American Association Advancement of Science
Fellow, American Chemical Society
Fellow, International EPR(ESR) Society
Established Investigatorship, American Heart Association, 1975-1980
NSF U.S.-Industrialized Countries Visiting Scientist, Univ. Groningen, Holland, 1977-78.
Lady Davis Visiting Professor, Technion (Israel Institute Technology, Haifa), 1981
National Academy of Sciences Eastern European Exchange Visitor, 1979, 1982.
UNESCO-OAS Multinational Biochem. Program Postgrad. Course, Universidad Austral, Chile, 1979.
N.S.F.-N.C.S.T. U.S.-Romania Workshop, 1981, 1982.
SON Visiting Professor, Univ. Groningen, Holland, 1986.
Ministry of Education Visiting Professor, Kyushu Univ., Fukuoka, Japan, 1989
Fogarty Center NIH Senior International Fellowship, 1992 - 1992
Silver Medal for Biology/Medicine of the International EPR Society, 2000.
Lifetime Achievement Award in Biological EPR Spectroscopy, 2005.
Distinguished Visiting Professor, Kyushu Univ., Japan, 2009
Max Planck Visiting Professor, Inst. Bioinorganic Chemistry, Muelheim, Germany 2010
Wenner-Gren Research Scholarship, Umea Univ., Sweden, 2010

(d) Scientific Activities

Founding Editor, Biological Magnetic Resonance, 1978-
Associate Editor, Journal of Protein Chemistry, 1990 -
Councilor, Chair and Alternate Councilor: American Chemical Society Colorado Section
Committee on Chemistry and Public Affairs, American Chemical Society National, 2011-2014
Editorial Advisory Committee, Begell House Scientific Publishers
Vice President, Americas, the International EPR Society. 2012-2015

(e) Society Memberships

American Chemical Society
American Society of Biological Chemists Mol. Biol.
American Association of Advancement of Science
International EPR(ESR) Society
The Oxygen Society

(f) Summary Data

Publications: >200

Funding: \$4.41M + \$970K (core group equipment)

Edited books to date: 41

Invited talks: > 300

Selected publications:

- Lawrence J. Berliner and Hirotada Fujii, "Magnetic resonance imaging of biological specimens by electron paramagnetic resonance of nitroxide spin labels," *Science* 227, 517 - 519 (1985).
- Hiroyasu Nishikawa, Hirotada Fujii and Lawrence J. Berliner, "Helices and surface coils for low field in-vivo ESR and EPR imaging applications," *J. Magn. Reson.* 62, 79 - 86 (1985).
- Hirotada Fujii and Lawrence J. Berliner, "One- and two-dimensional EPR imaging studies on phantoms and plant specimens," *Magn. Reson. Med.* 4, 275 - 282 (1985).
- Hirotada Fujii and Lawrence J. Berliner, "Application of the convolution difference method in reconstruction techniques in EPR imaging," *J. Magn. Reson.*, 68, 377 - 382 (1986).
- Lawrence J. Berliner and Hirotada Fujii, "EPR imaging of diffusional processes in biologically relevant polymers," *J. Magn. Reson.*, 69, 68 - 72 (1986).
- Lawrence J. Berliner, Xiaoming Wan and Hirotada Fujii, "Non-invasive visualization of solvent swelling and diffusion into solid polymers by electron spin resonance imaging," *J. Polymer Sci. Polym. Lett. Ed.* 24, 587 - 595 (1986).
- Lawrence J. Berliner, Hirotada Fujii, Xiaoming Wan, and S. J. Lukiewicz, "Feasibility study of imaging a living murine tumour by electron paramagnetic resonance," *Magn. Reson. Med.* 4, 380-384 (1987).
- Lawrence J. Berliner and Xiaoming Wan, "In-vivo pharmacokinetics by electron magnetic resonance spectroscopy," Mingli Liang, Xiaoming Wan and Lawrence J. Berliner, "ESR imaging of dynamic oxidation processes in solid coal," *Fuel* 62, 1340-1342 (1989)
- Lawrence J. Berliner and Hirotada Fujii, "ESR imaging of polymers and solid materials," *Die Makromolekular Chemie, Macromolecular Symposia*, 34, 263-276 (1990).
- Lawrence J. Berliner, "The development and future of ESR imaging and related techniques," *Physica Medica* 5, 63 - 75 (1989).
- Lawrence J. Berliner, "The scope of in-vivo ESR," *EPR Imaging and In-Vivo ESR*, G. Eaton, S. Eaton and K. Ohno, Eds., CRC Press, Boca Raton, FL, pp. 9 - 12 (1991).
- Lawrence J. Berliner and Janusz Koscielniak, "Low field EPR spectrometers: L-band," *EPR Imaging and In-Vivo ESR*, G. Eaton, S. Eaton and K. Ohno, Eds., CRC Press, Boca Raton, FL, pp. 65 - 72 (1991).
- Lawrence J. Berliner, "Applications of in-vivo ESR," *EPR Imaging and In-Vivo ESR*, G. Eaton, S. Eaton and K. Ohno, Eds., CRC Press, Boca Raton, FL, pp. 291 - 305 (1991).
- Tateaki Ogata, Yuzo Ishikawa, Mitsuhiro Ono and Lawrence J. Berliner, "Visualization of eddy current losses in L-band ESR imaging," *J. Magn. Reson.* 97, 616-622 (1992). Hirotada Fujii, Janusz Koscielniak, and Lawrence J. Berliner, "In-vivo ESR observation of bioradical metabolites in living animals," in Bioradicals Detected by ESR Spectroscopy (eds., Hiroaki Ohya-Nishiguchi and Lester Packer) Birkhauser Verlag Publ., Basel, Switzerland (1995) pp. 155-162.
- Kenneth A. Rubinson, Janusz Koscielniak and Lawrence J. Berliner, "Modified, short-circuited coaxial resonators for CW-EPR," *J. Magn. Reson.* **A117**, 91-93 (1995).
- Lawrence J. Berliner and Tateaki Ogata, "Riboflavin-sensitized singlet oxygen formation in milk," in Food and Free Radicals (eds., M. Hiramatsu, T. Yoshikawa and M. Inoue) Plenum Publ. Corp., NY, 119-122 (1996).
- Sornampillai Sankarapandi, Daniel A. Walz, Rasheeda S. Zafar and Lawrence J. Berliner, "Electron spin resonance and fluorescence studies of the conformational environment of the thiol groups of thrombospondin: interactions with thrombin," *Biochemistry* **34**, 10491-10496 (1995).
- Sornampillai Sankarapandi and Lawrence J. Berliner, "Spin labeled thrombin interactions with a platelet receptor peptide analog," in Supramolecular Structure and Function (ed., G. Pifat) Balaban Publ., Rehovot, Israel, 267-272 (1997).
- Shunsuke Kazama, Janusz Koscielniak and Lawrence J. Berliner, "Magnetic field distribution in single turn flatloop surface coils for L-band ESR," in Supramolecular Structure and Function (ed., G. Pifat) Balaban Publ., Rehovot, Israel, 223-228 (1997).
- Harold M. Swartz and Lawrence Berliner, "In vivo EPR," in Foundations of Modern EPR, (eds., G R Eaton, S. Eaton) World Scientific Publ. 362-380 (1997).
- Paul D. Boxrud and Lawrence J. Berliner, "A comparison of the active site conformations of bovine α -thrombin and meizothrombin(desf1) by electron spin resonance," *J. Protein Chem.* **15** 231-242 (1996).
- Hirotada Fujii, Hiyoku Nishino, Janusz Koscielniak and Lawrence J. Berliner, "In-vivo ESR observation of nitrosobenzene-based bioradicals in living animals: free radical scavenging activities of natural carotenoids," *Bulletin Magnetic Resonance* **18**, 55-59 (1996).
- Paul D. Boxrud and Lawrence J. Berliner, "The active site structure of bovine meizothrombin(desf1) as probed by ESR spin labels," *Bulletin Magnetic Resonance* **18**, 60-61 (1996).

- V. M. Grishchenko, L. P. Kalinichenko, G. Y. Deikus, D. B. Veprintsev, K. M. Cawthorn., L. J. Berliner and E. A. Permyakov, "Interactions of α -lactalbumins with lipid vesicles studied by tryptophan fluorescence," *Biochemistry and Molecular Biology International* **38**, 453-466 (1996).
- Kevin M. Cawthorn, Eugene Permyakov and Lawrence J. Berliner, "Membrane-bound states of α -lactalbumin: implications for the protein stability and conformation," *Protein Sci.* **5**, 1394-1405 (1996).
- Shunsuke Kazama, Gou Takashige, Hisashi Yoshioka, Hisayuki Tanizawa, Tateaki Ogata, Janusz Koscielniak, and Lawrence J. Berliner, "Dynamic ESR imaging of the distribution of spin labeled dextran in a mouse," *Magnetic Resonance in Medicine* **36**, 547-550 (1996).
- Stephen A. Monks, Raymond S. Norton, Cyril C. Curtain and Lawrence J. Berliner, "Preparation and characterization of a biologically active spin-labeled sea anemone toxin," *J. Prot. Chem.* **15** 427-434 (1996).
- Dmitry B. Veprintsev, Eugene A. Permyakov, Lina. P. Kalinichenko and Lawrence J. Berliner, Δ Pb²⁺ and Hg²⁺ binding to α -lactalbumin,@ *Biochemistry and Molecular Biology International* **39**, 1255-1265 (1996).
- Mahesh Narayan and Lawrence J. Berliner, "Fatty acids and retinoids bind independently and simultaneously to β -lactoglobulin," *Biochemistry* **36**, 1906 -1911 (1997).
- Hirotsada Fujii, Janusz Koscielniak and Lawrence J. Berliner, "Determination and characterization of nitric oxide generation in mice by in-vivo L-band EPR spectroscopy," *Magnetic Reson. Medicine*, **38**, 565-568 (1997).
- Mahesh Narayan, Lawrence J. Berliner, A. John Merola, Philip T. Diaz and Thomas L. Clanton, "Biological reactions of peroxyntirite: evidence for an alternative pathway of salicylate hydroxylation," *Free Radical Research* **27**, 63-72 (1997).
- Dmitry B. Veprintsev, Serge E. Permyakov, Eugene A. Permyakov, Vladimir V. Rogov, Kevin M. Cawthorn and Lawrence J. Berliner, Δ Cooperative thermal transitions of bovine and human apo- α -lactalbumins: Evidence for a new intermediate state,@ *FEBS Letters* **412**, 625-628 (1997).
- Patricia Anderson, Charles Brooks and Lawrence J. Berliner, "Functional identification of calcium binding residues in bovine α -lactalbumin," *Biochemistry* **36**, 11648 -11654 (1997).
- Mahesh Narayan and Lawrence J. Berliner, Δ Mapping fatty acid binding to β -lactoglobulin: ligand binding is restricted by modification of Cys 121". *Protein Science* **7**, 150-157(1997).
- Kevin A. Cawthorn, Mahesh Narayan, Dipankar Chaudhuri, Eugene A. Permyakov and Lawrence J. Berliner, Δ Interactions of α -lactalbumin with fatty acids and spin-label analogs,@ *J. Biol. Chem.* **272**, 30812-30816(1997).
- Spin Labeling: Theory and Applications**, Lawrence J. Berliner, editor, Academic Press, New York (1976).
- Spin Labeling II: Theory and Applications**, Lawrence J. Berliner, editor, Academic Press, New York (1979).
- Spin Labeling: Theory and Applications*, **Biological Magnetic Resonance**, Volume 8, Lawrence J. Berliner and Jacques Reuben, editors, Plenum Publishing Corp., New York, (1989).
- Spin Labeling: The Next Millenium*, **Biological Magnetic Resonance**, Volume 14, Lawrence J. Berliner, editor, Plenum Publishing Corp., New York (1998).
- In Vivo Carbon-13 NMR, **Biological Magnetic Resonance**, Vol. 15 (1998)), (Pierre-Marie Robitaille and Lawrence J. Berliner, Editors)
- In Vivo EPR(ESR): Theory and Applications*, **Biological Magnetic Resonance**, Volume 20, Lawrence J. Berliner, editor, Plenum Publishing Corp., New York (1999).
- Lawrence J. Berliner and Hirotsada Fujii, "Magnetic resonance imaging of biological specimens by electron paramagnetic resonance of nitroxide spin labels," *Science* **227**, 517 - 519 (1985).
- Hiroyasu Nishikawa, Hirotsada Fujii and Lawrence J. Berliner, "Helices and surface coils for low field in-vivo ESR and EPR imaging applications," *J. Magn. Reson.* **62**, 79 - 86 (1985).
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- Lawrence J. Berliner, "The development and future of ESR imaging and related techniques," *Physica Medica* **5**, 63 - 75 (1989).
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