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Prof. Jonathan L. Sessler was born in Urbana, Illinois, USA on May 20, 1956. He received a B.S. degree (with Highest Honors) in chemistry in 1977 from the University of California, Berkeley. He obtained a Ph.D. in organic chemistry from Stanford University in 1982 (supervisor: Professor James P. Collman). He was a NSF-CNRS and NSF-NATO Postdoctoral Fellow with Professor Jean-Marie Lehn at L'Université Louis Pasteur de Strasbourg, France. He was then a JSPS Visiting Scientist in Professor Tabushi's group in Kyoto, Japan. In September 1984 he accepted a position as Assistant Professor of Chemistry at the University of Texas at Austin, where he is currently the Doherty-Welch Chair. Dr. Sessler has authored or coauthored over 650 research publications, of which over 120 are in the *J. Am. Chem. Soc.* (plus >30 in *Angew. Chem.*). Dr. Sessler has co-authored two books (with Dr. Steve Weghorn and Drs. Philip Gale and Won-Seob Cho, respectively), edited two others (one with Drs. Susan Doctrow, Tom McMurry, and Stephen J. Lippard, the other with Placido Neri and Mei-Xiang Wang) and been an inventor of record on 76 issued U.S. Patents. Dr. Sessler's work has been featured on more than 40 journal covers or frontpieces. His current Web of Science H-index is 91. His work has been cited >27,000 times not counting self-citations. Dr. Sessler was a co-founder (with Dr. Richard A. Miller) of Pharmacyclics, Inc., a publicly traded company (pcyc; NASDAQ) dedicated to developing new cancer therapies. (Note: PCYC was acquired by AbbVie for \$21B in 2015.) Dr. Sessler has recently launched Cible Theranostics, Inc., a new company focused on combined cancer diagnosis and therapy. Dr. Sessler has served as the co-organizer of several international conferences in porphyrin, supramolecular, and macrocyclic chemistry and numerous ACS symposia. In addition to English, he speaks French, Spanish, German, Hebrew, some Japanese and a bit of Korean. Dr. Sessler is an Associate Editor for *ChemComm*, and has been or is a member of the editorial advisory boards of *Inorg. Chem.*, *J. Porphyr. Phthaloc.*, *J. Organic Chemistry*, and *J. Incl. Phenom.* Dr. Sessler is the US National Representative for the *Society of Porphyrins and Phthalocyanines* and a member of the Organizing Committee for the International Symposium on Macrocyclic and Supramolecular Chemistry. He serves on the American Chemical Society Committee on Patents and Related Matters.

Positions Held:

1. *Undergraduate*, University of California at Berkeley, 1973-1977.
2. *Summer Student Fellow*, Weizmann Institute of Science, 1976.
3. *Graduate*, Stanford University, 1977-1982; research adviser, Professor James P. Collman.
4. *Postdoctoral*, Université Louis Pasteur de Strasbourg, 1982-1984; NSF-NATO and CNRS-NSF Postdoctoral Fellow; research with Prof. Jean-Marie Lehn on supramolecular chemistry.
5. *Postdoctoral*, Kyoto University, 1984; JSPS Visiting Professor with Professor Iwao Tabushi.
6. *Assistant Professor of Chemistry*, University of Texas at Austin, 9/84-8/89.
7. *Associate Professor of Chemistry*, University of Texas at Austin, 9/89-9/92.
8. *Professor of Chemistry and Biochemistry*, University of Texas at Austin, 9/92-8/01.
9. *Reviewer*, Metallobiochem. Study Section (BMT), National Institutes of Health, 9/92-6/96.
10. *Head, Organic Division*, University of Texas at Austin, 9/93-8/03.
11. *Fellow*, IC² Institute, University of Texas at Austin, 9/99-present.
12. *Fellow*, Institute for Cellular and Molecular Biology, Univ. of Texas at Austin, 9/00-present.

13. *Roland K. Pettit Professor*, University of Texas at Austin, 9/01-12/08.
14. *Reviewer*, Synthetic Biological Chemistry A (SBCA) NIH Study Section, 7/1/05-6/30-09.
15. *Roland K. Pettit Chair in Chemistry*, The University of Texas at Austin, 1/09-1/16.
16. *WCU Visiting Professor*, Yonsei University, 9/09-8/13.
17. *Member, International Affairs Committee, American Chemical Society*, 2011-2103.
18. *Member, Patents and Related Matters Committee, American Chemical Society*, 2014-present.
19. *Foreign Faculty Associate*, Shanghai University, 9/05-present.
20. *Doherty-Welch Chair in Chemistry*, The University of Texas at Austin, 1/16-present.

Honors and Fellowships:

- 1977 Phi Beta Kappa
- 1979 DFG Visiting Studentship, Max Planck Institute für Medizinische Chemie, Heidelberg
- 1982 NSF-CNRS Exchange of Scientists Postdoctoral Fellowship
- 1983 NATO-NSF Postdoctoral Fellow
- 1984 Japanese Society for the Promotion of Science, Visiting Scientist
- 1984 Camille and Henry Dreyfus Foundation Award for Newly Appointed Faculty
- 1985 University of Texas at Austin, College of Natural Science Teaching Excellence Award
- 1986 National Science Foundation Presidential Young Investigator
- 1988 University of Texas at Austin, President's Associates Teaching Excellence Award
- 1988 Camille and Henry Dreyfus Foundation Teacher-Scholar Award
- 1989 Sloan Fellow, 1989-1991
- 1989 Fellow, Institute for Advanced Studies, Hebrew University of Jerusalem
- 1990 University of Texas at Austin, College of Natural Science Teaching Excellence Award
- 1991 Arthur C. Cope Scholar Award
- 1992 Outstanding Professor, College of Natural Sciences, University of Texas at Austin
- 1992 Japanese Society for the Promotion of Science, Visiting Senior Scientist
- 1992 Alexander von Humboldt Stiftung, Senior Visiting Scientist
- 1994 Watkins Distinguished Visiting Professorship, Wichita State University
- 1999 Fellow of the American Association for the Advancement of Science.
- 2000 University of Texas at Austin, College of Natural Sciences Teaching Excellence Award
- 2001 Visiting Professor, Université de Paris IV
- 2001 Izatt-Christensen Award in Macrocyclic Chemistry
- 2002 Fishel Memorial Lecturer, Vanderbilt University
- 2002 Visiting Professor, University of Southampton, 2002-2008
- 2003 Leermakers Symposium, Distinguished Lecturer
- 2003 Sidney Pollack Award, Technion University
- 2003 Spanish National Visiting Professorship, Universidad Autonoma de Madrid, 2003-2004
- 2004 Japanese Society for the Promotion of Science, Visiting Senior Scientist
- 2005 Visiting Professor, Université Louis Pasteur de Strasbourg
- 2005 Adjunct Professor, The University of Texas Medical Branch at Galveston, 2005-present
- 2005 40th Anniversary *Chem. Commun.* Award Lecturer
- 2006 Adjunct Professor, The University of California, Santa Barbara, 2006-present
- 2007 Listed in *Who's Who*
- 2007 Grollman Lecturer, Univ. of Maryland School of Pharmacy
- 2009 Evans Fellow, University of Otago, New Zealand
- 2009 Prof. Invité, Université de Grenoble
- 2009 Fulbright Specialist

- 2009 University Distinguished Visiting Professor, University of Auckland, New Zealand
- 2010 Landsdowne Lecturer, University of Victoria, British Columbia
- 2010 Fellow, Royal Chemical Society
- 2011 Royal Society of Chemistry, Centenary Prize
- 2011 Rhoads/Raulins Distinguished Lecture, University of Wyoming
- 2012 Honorary Professor, Jiangsu University, Zhenjiang, China.
- 2013 Honorary Member, Israel Chemical Society
- 2013 Southwest Regional ACS Award
- 2014 Molecular Sensors and Molecular Logic Gates Award (joint with Prof. Seiji Shinkai)
- 2015 Garland Lecturer, Texas A&M, Kingsville
- 2015 Ken Raymond Lecturer, University of California, Berkeley
- 2015 Elected, National Academy of Inventors
- 2016 Hans A. Fischer Award, Society of Porphyrins and Phthalocyanines
- 2016 Inventor of the Year, The University of Texas at Austin
- 2016 Emanuel Vogel Memorial Lecture, Universität zu Köln, Germany
- 2017 Klemmer Lecture, University of Oregon

Expert Witness Testimony Within the Last 10 Years

Nutrasep vs. Thumb Oil Cooperative (hired by attorneys for Nutrasep); deposition and trial
United States vs. Procter & Gamble (hired by attorneys for P & G); deposition and hearing
Sanofi-Aventis vs. Teva (hired by attorneys for Teva); trial
Sanofi-Aventis vs. Dr. Reddy's (hired by attorneys for Dr. Reddy's); deposition and trial
Sanofi-Aventis vs. Impax, Mylan, and Amino D'Pharma (joint action; hired by attorneys for Mylan);
deposition
Genentech-Roche vs. Sandoz (hired by attorneys for Sandoz); deposition
Novartis vs. Watson (hired by attorneys for Watson); deposition and trial
Johnson-Matthey vs. Shire (hired by attorneys for Johnson-Matthey)
Mylan Pharmaceuticals vs. Novartis (hired by attorneys for Mylan)
Teva vs. Gilead (hired by attorneys for Teva); two separate patentability evaluations
Kowa vs. Apotex, *et al.* (hired by attorneys for Apotex, *et al.*); deposition and trial
Sandoz A/S vs. F. Hoffmann-La Roche AG Swedish proceedings (hired by attorneys for Sandoz);
trial
Mylan and Apicore vs. Aurobindo (hired by attorneys for Mylan and Apicore); deposition and
preliminary injunction hearing

Current Expert Witness Work

Teva vs. Sakyo (hired by attorneys for Teva)
Mylan and Apicore vs. Aurobindo (hired by attorneys for Mylan and Apicore)
Sandoz A/S vs. F. Hoffmann-La Roche AG Polish proceedings (hired by attorneys for Sandoz)

Current Support

1. National Institutes of Health, "Biomedical Applications of 'Expanded Porphyrins'," \$830,000 (total direct costs), March 1, 2017-February 28, 2021; P.I. effort: 5%.
2. National Science Foundation, "Studies in Chemical Communication," \$450,000 (total costs), August 1, 2014-July 31, 2017; P.I. effort: 2%.
3. Department of Energy, "Ion Pair Receptors: Fundamental Studies and Tests Involving Sulfate Anion and Thorium Cation Extraction," \$495,000 (total costs), March 1, 2017-March 30, 2020; P.I. effort: 2%.
4. Texas Cancer Prevention and Research Institute, "Pre-IND Development of OxaliTex," \$1,000,000 (total costs minus subcontracts to Dr. Zahid Siddik of MD Anderson Cancer Center and Dr. Rick Fink of MD Anderson, Smithville), December 1, 2014-November 30, 2017.
6. National Institutes of Health, "Receptors and Carriers for Coupled Ion Transport," \$800,000 (total direct costs), December 1, 2015-November 30, 2019; P.I. effort: 5%.

Publications:

(A * indicates work performed at UT Austin)

(A ¶ indicates work performed as joint appointee at Yonsei University)

(A § indicates work performed as joint appointee at Shanghai University)

1981

1. Collman, J. P.; Brauman, J. I.; Collins, T. J.; Iverson, B.; Sessler, J. L. "The 'Pocket' Porphyrin: A Hemoprotein Model with Lowered CO Affinity," *J. Am. Chem. Soc.* **1981**, *103*, 2450-2452. DOI: 10.1021/ja00399a070.
2. Collman, J. P.; Basolo, F.; Bunnenberg, E.; Collins, T. J.; Dawson, J. H.; Ellis, P. E., Jr.; Marrocco, M. L.; Moscovitz, A.; Sessler, J. L.; Syzmanski, T. "Use of Magnetic Circular Dichroism to Determine Axial Ligation for Some Sterically Encumbered Iron(II) Porphyrins," *J. Am. Chem. Soc.* **1981**, *103*, 5636-5648. DOI: 10.1021/ja00409a003
3. Collman, J. P.; Anson, F. C.; Bencosme, S.; Chong, A.; Collins, T.; Denisevich, P.; Evitt, E.; Geiger, T.; Ibers, J. A.; Jameson, G.; Konai, Y.; Koval, C.; Meier, K.; Oakley, R.; Pettman, R.; Schmittou, E.; Sessler, J. "Molecular Engineering: The Design and Synthesis of Catalysts for the Rapid 4-Electron Reduction of Molecular Oxygen to Water," *Organic Synthesis Today and Tomorrow*; Trost, B. M.; Hutchinson, C. R., Eds.; Pergamon: Oxford, 1981; pp 29-45.

1982

4. Perutz, M. F.; Hasnain, S. S.; Duke, P. J.; Sessler, J. L.; Hahn, J. E. "Stereochemistry of Iron in Deoxhaemoglobin," *Nature* **1982**, *295*, 535-538.

1983

5. Collman, J. P.; Brauman, J. I.; Collins, T. J.; Iverson, B. I.; Sessler, J. L.; Morris, R.; Gibson, Q. H. "The 'Pocket' Porphyrins: Hemoprotein Models with Lowered CO Affinities," *Inorg. Chim. Acta* **1983**, *79*, 101-102.
6. Collman, J. P.; Brauman, J. I.; Doxsee, K. M.; Sessler, J. L.; Morris, R.; Gibson, Q. H. "Effect of Axial Base on Dioxygen and Carbon Monoxide Affinities of Iron(II) Porphyrins. Imidazole vs. Pyridine," *Inorg. Chem.* **1983**, *22*, 1427-1432.
7. Collman, J. P.; Brauman, J. I.; Collins, T. J.; Iverson, B. L.; Lang, G.; Pettman, R. B.; Sessler, J. L.; Walters, M. A. "Synthesis and Characterization of the 'Pocket' Porphyrins," *J. Am. Chem. Soc.* **1983**, *105*, 3038-3052. DOI: 10.1021/ja00348a018

8. Collman, J. P.; Brauman, J. I.; Iverson, B. L.; Sessler, J. L.; Morris, R.; Gibson, Q. H. "Dioxygen and Carbonyl Binding to Iron(II) Porphyrins: A Comparison of the 'Picket Fence' and 'Pocket' Porphyrins," *J. Am. Chem. Soc.* **1983**, *105*, 3052-3064. DOI: 10.1021/ja00348a019
9. Collman, J. P.; Brauman, J. I.; Iverson, B. L.; Sessler, J. L.; Morris, R.; Gibson, Q. H. "Comparison of O₂ and CO Binding to Iron(II) 'Picket Fence' and 'Pocket' Porphyrins," *Biomimetic Chemistry*; Yoshida, Z.-I.; Ise, N., Eds.; Kodansha: Tokyo, 1983; pp 37-49.

1984

10. Gückel, F.; Schweitzer, D.; Collman, J. P.; Bencosme, S.; Evitt, E.; Sessler, J. L. "ODMR of Triplet States of Cofacial Dimeric Zinc Porphyrins," *Chem. Phys.* **1984**, *86*, 161-179.
11. Hamilton, A. D.; Lehn, J.-M.; Sessler, J. L. "Mixed Substrate Supermolecules: Binding of Organic Substrates and of Metal Ions to Heterotopic Coreceptors Containing Porphyrin Subunits," *J. Chem. Soc., Chem. Commun.* **1984**, 311-313. DOI: 10.1039/C39840000311.
12. Powers, L.; Sessler, J. L.; Woolery, G. L.; Chance, B. "CO Bond Angle Changes in Photolysis of Carboxymyoglobin," *Biochemistry* **1984**, *23*, 5519-5523. Funding: National Institutes of Health Grant No. GM17880-14
13. Sessler, J. L.; Collman, J. P. "The 'Pocket' Porphyrins: Hemoprotein Models with Lowered CO Affinities," *Kagaku* **1984**, *39*, 805-806.

1986

- 14.* Sessler, J. L.; Johnson, M. R.; Hugdahl, J. "A Convenient Synthesis of a 'Gable'-Type Porphyrin," *J. Org. Chem.* **1986**, *51*, 2838-2840. Funding: Robert A. Welch Foundation Grant No. AP-868
15. Hamilton, A.; Lehn, J.-M.; Sessler, J. L. "Coreceptor Molecules. Synthesis of Metalloreceptors Containing Porphyrin Subunits and Formation of Mixed Substrate Supermolecules by Binding of Organic Substrates and of Metal Ions," *J. Am. Chem. Soc.* **1986**, *108*, 5158-5167. DOI: 10.1021/ja00277a021. This work was subsequently featured on the cover of Prof. Lehn's Nobel Award lecture writeup in *Angew. Chem.*

1987

- 16.* Sessler, J. L.; Johnson, M. R. "New Photosynthetic Model Systems: Quinone Substituted Porphyrin Dimers," *Recueil des Travaux Chimiques des Pays-Bas* **1987**, *106*, 222.
- 17.* Sessler, J. L.; Johnson, M. R. "The Synthesis of 1,3- and 1,4-Phenylene-Linked Bisquinone Substituted Porphyrin Dimers," *Angew. Chem.* **1987**, *99*, 679-680; *Angew. Chem. Int. Ed. Engl.* **1987**, *26*, 678-680.
- 17a.* "Progress Made in Synthesizing Enzyme Mimics," *C & E News* **October 19, 1987**, 30-34.

- 18.* Sessler, J. L.; Piering, S. "The Synthesis and Optical Properties of the First Quinone-linked Porphyrin Dimer," *Tetrahedron Lett.* **1987**, 28, 6569-6572.
- 19.* Sessler, J. L.; Lynch, V.; Johnson, M. R. "Synthesis and Crystal Structure of a Novel Tripyrrane-Containing Porphyrinogen-like Macrocycle," *J. Org. Chem.* **1987**, 52, 4394-4397. DOI: 10.1021/jo00228a048
- 20.* Sessler, J. L. "How to Avoid Getting into Medical School," *The Scapel*, **1987**, 56, 16-17.

1988

21. Gubelmann, M.; Harriman, A.; Lehn, J.-M.; Sessler, J. L. "Photoinduced Charge Separation Within a Polymetallic Supramolecular System," *J. Chem. Soc., Chem. Commun.* **1988**, 77-79. DOI: 10.1039/C39880000077.
- 22.* Sessler, J. L.; Johnson, M. R.; Lin, T.-Y., Creager, S. E. "Quinone Substituted Monometallated Porphyrin Dimers: Models for Photoinduced Charge Separation at Fixed Orientation and Energy," *J. Am. Chem. Soc.* **1988**, 110, 3659-3661.
- 23.* Sessler, J. L.; Murai, T.; Lynch, V.; Cyr, M. "An 'Expanded Porphyrin': The Synthesis and Structure of a New Aromatic Pentadentate Ligand," *J. Am. Chem. Soc.* **1988**, 110, 5586-5588. DOI: 10.1021/ja00224a062
- 23a.* "Unusual Porphyrin Analog Promises Many Applications," *C & E News* **August 8, 1988**, 26-27.
- 23b.* "How Big Can Aromatic Compounds Grow?" *New Scientist*, **1989**, 32.
- 23c.* "Texaphyrin," *Kagaku to Kogyo*, **1989**, 42, 116-118.
- 24.* Sessler, J. L.; Hugdahl, J. D.; Kurosaki, H.; Sasaki, Y. "Synthesis and Binding Properties of a Triazamacrocyclic Ligand Bearing Pendant Pyridyl Groups," *J. Coord. Chem.* **1988**, 18, 93-98.
- 25.* Sessler, J. L.; Johnson, M. R.; Lynch, V.; Murai, T. "Expanded Porphyrins: The Synthesis and Metal Binding Properties of Novel Tripyrrane-Containing Macrocycles," *J. Coord. Chem.* **1988**, 18, 99-104.
- 26.* Sessler, J. L.; Cyr, M.; Murai, T. "The Coordination Chemistry of Planar Pentadentate Porphyrin-like Ligands," *Comm. Inorg. Chem.*, **1988**, 7, 333-350.

1989

- 27.* Sessler, J. L.; Magda, D. M.; Hugdahl, J. "The Preparation of Ribose-free 'Artificial Dinucleotides': A New Approach to Molecular Recognition?" *J. Incl. Phenomen.* **1989**, 7, 19-26.

- 28.* Kim, K.; Fettinger, J.; Sessler, J.; Cyr, M.; Hugdahl, J.; Collman, J. P.; Ibers, J. "Structural Characterization of a Sterically Encumbered Iron(II) Porphyrin CO Complex," *J. Am. Chem. Soc.* **1989**, *111*, 403-405. Funding: National Science Foundation Presidential Young Investigator Award 1986 and Robert A. Welch Foundation Grant No. F-1018
- 29.* Harriman, A.; Maiya, B. G.; Murai, T.; Hemmi, G.; Sessler, J. L.; Mallouk, T. E. "Metallotexaphyrins: A New Family of Photosensitizers for Efficient Generation of Singlet Oxygen," *J. Chem. Soc., Chem. Commun.* **1989**, 314-316. DOI: 10.1039/C39890000314.
- 30.* Sessler, J. L.; Magda, D. J.; Lynch, V.; Schiff, G. M.; Bernstein, D. "The Synthesis of 2-Amino 7-Substituted Purines," *Nucleotides and Nucleosides* **1989**, *8*, 431-448. DOI: 10.1080/07328318908054186
- 31.* Regev, A.; Berman, A.; Levanon, H.; Murai, T.; Sessler, J. L. "Principal ZFS Tensor Axes Versus Optical Transition Moments of Novel Expanded Porphyrins (Texaphyrins). Time-Resolved Triplet EPR Spectroscopy," *Chem. Phys. Lett.* **1989**, *160*, 401-409.
- 32.* Sessler, J. L.; Murai, T.; Lynch, V. "Binding of Pyridine and Benzimidazole to a Cadmium 'Expanded Porphyrin': Solution and X-ray Structural Studies," *Inorg. Chem.* **1989**, *28*(7), 1333-1341. DOI: 10.1021/ic00306a025. Funding: Texas Advanced Research Program, Camille and Henry Dreyfus Foundation New Faculty Award 1984 and the National Science Foundation Presidential Young Investigator Award 1986
- 33.* Sessler, J. L.; Sibert, J. W.; Hugdahl, J.D.; Lynch, V. "Synthesis and Characterization of a New Potentially Ditopic Receptor, 1,4,7,10-Tetraoxa-13,16,19,22-tetraazacyclotetracosane, and the X-ray Crystal Structure of Its Mononuclear Copper(II) Complex," *Inorg. Chem.* **1989**, *28*(7), 1417-1419. DOI: 10.1021/ic00306a042
- 34.* Sessler, J. L.; Johnson, M. R.; Lin, T.-Y. "Absorption and Static Emission Properties of Monometalated Quinone-substituted Porphyrin Dimers: Evidence for 'Superexchange' Mediated Electron Transfer in Multicomponent Photosynthetic Model Systems," *Tetrahedron*, **1989**, *45*, 4767-4784.
- 35.* Sessler, J. L.; Murai, T.; Hemmi, G. "A Water-Stable Gadolinium(III) Complex Derived from a New Pentadentate 'Expanded Porphyrin' Ligand," *Inorg. Chem.* **1989**, *28*, 3390-3393. DOI: 10.1021/ic00316a030. Funding: Texas Advanced Research Program, Camille and Henry Dreyfus Foundation New Faculty Award 1984 and the National Science Foundation Presidential Young Investigator Award 1986
- 36.* Maiya, B. G.; Harriman, A.; Sessler, J. L.; Hemmi, G.; Murai, T.; Mallouk, T. E. "Ground- and Excited-State Spectral and Redox Properties of Cadmium(II) Texaphyrin," *J. Phys. Chem.* **1989**, *93*, 8111-8115. Funding: Texas Advanced Research Program

- 37.* Won, Y.; Friesner, R. A.; Johnson, M. R.; Sessler, J. L., "Exciton Interactions in Synthetic Porphyrin Dimers," *Photosynthesis Research* **1989**, *22*, 201-210. Funding: Robert A. Welch Foundation Grant No. F-1018

1990

- 38.* Sessler, J. L.; Magda, D. "Artificial Oligonucleotides: Molecular Recognition by Base-Pairing," *Inclusion Phenomena and Molecular Recognition*; Atwood, J., Ed.; Plenum Press: New York, 1990; pp 17-26.
39. Gubelmann, M.; Harriman, A.; Lehn, J.-M.; Sessler, J. L. "Quenching of Porphyrin Excited States by Silver(I) Ions and Charge Separation in Bimolecular Systems and in Macropolycyclic Coreceptors," *J. Phys. Chem.* **1990**, *94*, 308-315. DOI: 10.1021/j100364a052.
- 40.* Levanon, H.; Regev, A.; Michaeli, S.; Galili, T.; Cyr, M.; Sessler, J. L. "The Photoexcited State of Sapphyrin Dication. Unusual Spin Alignment in Monomers and Spin Delocalization in Dimers," *Chem. Phys. Lett.* **1990**, *174*, 235-240.
- 40a.* "ACS Award Winners," *C & E News* **November 19, 1990**, 31-35.
- 41.* Sessler, J. L.; Cyr, M.; Maiya, B. G.; Judy, M. L.; Newman, J. T.; Skiles, H.; Boriack, R.; Matthews, J. L.; Chanh, T. C. "Photodynamic Inactivation of Enveloped Viruses Using Sapphyrin, a 22 pi-Electron 'Expanded Porphyrin': Possible Approaches to Prophylactic Blood Purification Protocols," *Proc. SPIE Int. Opt. Eng.* **1990**, *1203 (Photodynamic Therapy: Mechanisms II)*, 233-245. DOI: 10.1117/12.17669. Funding: Texas Advanced Research Program Grant No. 1581, National Science Foundation Presidential Young Investigator Award (1986), Alfred P. Sloan Foundation Research Fellowship and Camille and Henry Dreyfus Foundation Teacher-Scholar Award
- 42.* Kennedy, M. A.; Sessler, J. L.; Murai, T.; Ellis, P. D. "Cadmium-113 Shielding Tensors of the Cadmium Complex of Texaphyrin, a Novel Expanded Porphyrin, and Its Pyridine and Benzimidazole Adducts," *Inorg. Chem.* **1990**, *29*(5), 1050-1054. DOI: 10.1021/ic00330a027. Funding: Texas Advanced Research Program Grant No. 1581 and National Science Foundation Presidential Young Investigator Award (1986)
- 43.* Maiya, B. G.; Cyr, M.; Harriman, A.; Sessler, J. L. "In Vitro Photodynamic Activity of Diprotonated Sapphyrin: A 22- π -Electron Pentapyrrolic Porphyrin-like Macrocyclic," *J. Phys. Chem.* **1990**, *94*, 3597-3601. DOI: 10.1021/j100372a043. Texas Advanced Research Program Grant No. 1581
- 44.* Sessler, J. L.; Cyr, M. J.; Lynch, V.; McGhee, E.; Ibers, J. A. "Synthetic and Structural Studies of Sapphyrin, a 22 π -Electron Pentapyrrolic 'Expanded Porphyrin'," *J. Am. Chem. Soc.* **1990**, *112*, 2810-2813. DOI: 10.1021/ja00163a059. Funding: Texas Advanced Research Program Grant No. 1581, National Science Foundation Presidential Young

Investigator Award (1986), Alfred P. Sloan Foundation Research Fellowship and Camille and Henry Dreyfus Foundation Teacher-Scholar Award

- 45.* Sessler, J. L.; Capuano, V. L. "Phenyl-linked Quinone-Substituted Porphyrin Trimers," *Angew. Chemie* **1990**, *102*, 1162-1164; *Angew. Chemie, Int. Ed. Engl.* **1990**, *29*, 1134-1137.
- 46.* Maiya, B. G.; Mallouk, T. E.; Hemmi, G.; Sessler, J. L. "Effect of Substituents on the Spectral and Redox Properties of Cadmium(II) Texaphyrins," *Inorg. Chem.* **1990**, *29*, 3738-3745. DOI: 10.1021/ic00344a021. Funding: Texas Advanced Research Program Grant No. 1581, National Science Foundation Presidential Young Investigator Award (1986), Alfred P. Sloan Foundation Research Fellowship and Camille and Henry Dreyfus Foundation Teacher-Scholar Award
- 47.* Regev, A.; Levanon, H.; Murai, T.; Sessler, J. L. "Triplet Electron Paramagnetic Resonance Detection of Porphyrinoids in Fluid Liquid Crystals at Elevated Temperatures," *J. Chem. Phys.* **1990**, *92*, 4718-4723.
- 48.* Sessler, J. L.; Sibert, J. W.; Lynch, V. "Model Studies Related to Hemerythrin: Synthesis and Characterization of a Bridged Tetranuclear Iron(III) Complex," *Inorg. Chem.* **1990**, *29*, 4143-4146. Funding: National Science Foundation Presidential Young Investigator Award (1986), Alfred P. Sloan Foundation Research Fellowship and Camille and Henry Dreyfus Foundation Teacher-Scholar Award
- 49.* Sessler, J. L.; Johnson, M. R.; Creager, S. F.; Fetting, J. C.; Ibers, J. A. "Synthesis and Characterization of Quinone-Substituted Octaalkyl Porphyrin Monomers and Dimers," *J. Am. Chem. Soc.* **1990**, *112*, 9310-9329. Funding: Robert A. Welch Foundation Grant No. F-1018, National Science Foundation Presidential Young Investigator Award (1986), National Institutes of Health Grant No. GM41657

1991

- 50.* Burrell, A. K.; Sessler, J. L.; Cyr, M.; McGhee, E.; Ibers, J. A. "Metal Carbonyl Complexes of Sapphyrins," *Angew. Chem.* **1991**, *103*, 83-85; *Angew. Chem., Int. Ed. Engl.* **1991**, *30*, 91-93.
- 51.* Judy, M. M.; Matthews, J. L.; Newman, J. T.; Skiles, H. L.; Boriack, R.; Sessler, J. L.; Cyr, M.; Maiya, B. G.; Nichol, S.T. "In vitro Photodynamic Inactivation of *Herpes simplex* Virus with Sapphyrins: 22 π -Electron Porphyrin-like Macrocycles," *Photochem. Photobiol.* **1991**, *53*, 101-107.
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Invited Lectures, 1985 - Present

1. "Organized Organic Chemistry: A 'Twin Template' Approach to Chemical Catalysis," Procter and Gamble Co., Cincinnati, Ohio; March, 1985.
2. "Recent Advances in Macrocyclic Chemistry," General Electric Co., Schenectady, New York; November, 1986.
3. "The Synthesis of Novel Porphyrin and Porphyrin-like Macrocycles," University of Houston, Houston, Texas; January, 1987.
4. "The Synthesis of Novel Porphyrin and Porphyrin-like Macrocycles," University of Texas, San Antonio, Texas; February, 1987.
5. "Bioorganic Chemistry in The Sessler Group," Celanese Co., Corpus Christi, Texas; February, 1987.
6. "The Synthesis of Novel Porphyrin and Porphyrin-like Macrocycles," University of Texas, Dallas, Texas; February, 1987.
7. "Quinone Substituted Porphyrin Dimers: New Photosynthetic Model Systems," Max Planck Institut für Medizinische Forschung, Heidelberg, West Germany; March, 1987.
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12. "Synthetic Models for The Reaction Center of *Rhodospseudomonas viridis*," Tabushi Memorial Symposium on Bioorganic and Bioinorganic Chemistry, Kyoto, Japan; July, 1987. (This was an invited main session lecture.)
13. "The Synthesis of Novel Porphyrin and Porphyrin-like Macrocycles," 12th Kansai Symposium on Bioinorganic Chemistry, Kanazawa, Japan; July, 1987.
14. "Quinone Substituted Porphyrin Dimers: New Photosynthetic Model Systems," Osaka University, Osaka, Japan; July, 1987.
15. "Molecular Engineering: The Design of Specifically Tailored Molecular Systems," Southern Methodist University, Dallas, Texas, September, 1987.

16. "Approaches to Molecular Recognition: Selective Ligand Design and 'Artificial Oligonucleotides'," U.S.-Japan Joint Seminar on Molecular Recognition of Neutral and Cationic Substrates, Miami, FL; November 1987. (This was an invited main session lecture.)
17. "Quinone Substituted Porphyrin Dimers: New Photosynthetic Model Systems," 53rd Israeli Chemical Society Meeting, Ber Sheva, Israel; February 1988. (This was an invited Main Lecture.)
18. "The Synthesis of New Porphyrin and Porphyrin-like Macrocycles," Hebrew University of Jerusalem, Israel; February 1988.
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25. "Synthesis of New Porphyrin and Porphyrin-like Systems," Brigham Young University, Provo, Utah; March 1988.
26. "An 'Expanded Porphyrin': The Synthesis of a Novel Pentadentate Porphyrin-like Ligand," Los Alamos National Laboratory, Los Alamos, New Mexico; April 1988.
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43. "Quinone Substituted Porphyrin Dimers: Evidence for 'Superexchange' Mediated Electron Transfer Reactions in New Photosynthetic Model Systems," University of California at San Diego, La Jolla, California, April, 1989.
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45. "Quinone Substituted Porphyrin Dimers: Evidence for Superexchange in New, Multichromophore Photosynthetic Model Systems," California Institute of Technology, Pasadena, CA, April, 1989.

46. "'Texaphyrin': A Novel 22 π -Electron Pentadentate Porphyrin-like Ligand," University of California at Irvine, Irvine, California, April, 1989.
47. "'Texaphyrin': A Novel 22 π -Electron Pentadentate Porphyrin-like Ligand," Texas A & M University, College Station, Texas, April, 1989.
48. "'Texaphyrin': A Novel 22 π -Electron Pentadentate Porphyrin-like Ligand," University of Texas at Arlington, Fort Worth, Texas, May, 1989.
49. "Quinone Substituted Porphyrin Dimers: Evidence for Superexchange in New, Multichromophore Photosynthetic Model Systems," University of Auckland, Auckland, New Zealand, June, 1989.
50. "'Texaphyrin': A Novel 22 π -Electron Pentadentate Porphyrin-like Ligand," XIV International Symposium on Macrocyclic Chemistry, Townsville, Australia, June, 1989.
51. "Evidence for Superexchange in New, Multichromophore Photosynthetic Model Systems," 4th International Conference on Bioinorganic Chemistry, Boston, Massachusetts, July, 1989.
52. "'Texaphyrin': A Novel 22 π -Electron Pentadentate Porphyrin-like Ligand," Mitsubishi Petrochemical Co., Tsukuba, Japan, August, 1989.
53. "'Texaphyrin': A Novel 22 π -Electron Pentadentate Porphyrin-like Ligand," Mitsubishi Kasei Co., Yokohama, Japan, August, 1989.
54. "'Texaphyrin': A Novel 22 π -Electron Pentadentate Porphyrin-like Ligand," Tokyo Institute of Technology, Tokyo, Japan, August, 1989.
55. "'Texaphyrin': A Novel 22 π -Electron Pentadentate Porphyrin-like Ligand," Institute for Molecular Science, Okazaki, Japan, August, 1989.
56. "'Texaphyrin': A Novel 22 π -Electron Pentadentate Porphyrin-like Ligand," Osaka University, Osaka, Japan, August, 1989.
57. "Quinone Substituted Porphyrin Dimers: Evidence for Superexchange in New, Multichromophore Photosynthetic Model Systems," Kyoto University, Kyoto, Japan, August, 1989.
58. "'Texaphyrin': A Novel 22 π -Electron Pentadentate Porphyrin-like Ligand," Gifu University, Gifu, Japan, August, 1989.
59. "'Texaphyrin': A Novel 22 π -Electron Pentadentate Porphyrin-like Ligand," Kyoto University, Kyoto, Japan, August, 1989.
60. "Quinone Substituted Porphyrin Dimers: Evidence for Superexchange in New, Multichromophore Photosynthetic Model Systems," Hiroshima University, Hiroshima, Japan, August, 1989.

61. "Texaphyrin': A Novel 22 π -Electron Pentadentate Porphyrin-like Ligand," XIV Post-ISNA Symposium on Macrocyclic Chemistry, Fukuoka, Japan, August, 1989. (This was a plenary lecture.)
62. "Texaphyrin': A Novel 22 π -Electron Pentadentate Porphyrin-like Ligand," 10th Annual UERP Bioorganic Symposium, Procter & Gamble Co., Cincinnati, Ohio, November, 1989. (This was a plenary lecture.)
63. "Quinone Substituted Porphyrin Dimers: Evidence for Superexchange in New, Multichromophore Photosynthetic Model Systems," Texas Christian University, December, 1989.
64. "Synthesis and Biomedical Properties of 'Expanded Porphyrins'," 2nd International Meeting of the Pacific Basin Chemical Societies, Honolulu, Hawaii, December, 1989.
65. "Photodynamic Inactivation of Enveloped Viruses with 'Expanded Porphyrins'," 1990 Meeting of the Society for Optical Engineering, Los Angeles, California, January, 1990.
66. "Photodynamic Inactivation of Enveloped Viruses with 'Expanded Porphyrins'," Department of Medicinal Chemistry, University of Texas at Austin, February, 1990.
67. "Artificial Oligonucleotides: Molecular Recognition *via* Base-Pairing," 5th Annual Symposium on Biofunctional Chemistry, Hiroshima, Japan, June 1990. (This was an invited plenary lecture.)
68. "Synthesis and Biomedical Properties of 'Expanded Porphyrins'," Shionogi Research Center, Osaka, Japan, June 1990.
69. "Artificial Oligonucleotides: Molecular Recognition *via* Base-Pairing," Kyoto University, Kyoto, Japan, June, 1990.
70. "Artificial Oligonucleotides: Molecular Recognition *via* Base-Pairing," Teijin Research Center, Tokyo, Japan, June 1990.
71. "Texaphyrins and Sapphyrins: Novel 'Expanded Porphyrins'," University of Tokyo, Tokyo, Japan, June 1990.
72. "Photodynamic Inactivation of Enveloped Viruses with 'Sapphyrins'," American Society for Photobiology, Annual Meeting, Vancouver, Canada, June 1990. (This was an invited Main Lecture.)
73. "Artificial Oligonucleotides: Molecular Recognition *via* Base-Pairing," Annual NSF Synthesis Workshop, Boulder, Colorado, July 1990.
74. "Texaphyrins and Sapphyrins: Novel 'Expanded Porphyrins'," Gordon Conference on Pyrroles, Brewster Academy, New Hampshire, July 1990. (This was an invited main-session lecture.)
75. "Synthesis and Spectroscopic Properties of 'Expanded Porphyrins'" Hebrew University, Jerusalem, September 1990.

76. "Texaphyrins et Sapphyrins: Des Nouvelles Porphyrines Expandées au Style Texan," Institute Curie, Orsay, France, October 1990. This lecture was delivered in French.
77. "Texaphyrins et Sapphyrins: Des Nouvelles Porphyrines Expandées au Style Texan," Université de Paris VII, Paris, France, October 1990. This lecture was delivered in French.
78. "Texaphyrins and Sapphyrins: Novel Texas-sized 'Expanded Porphyrins'," Cologne University, Cologne, Germany, November, 1990.
79. "Texaphyrins and Sapphyrins: Novel Texas-sized 'Expanded Porphyrins'," University of Paderborn, Paderborn, Germany, November 1990.
80. "Texaphyrins and Sapphyrins: Novel Texas-sized 'Expanded Porphyrins'," Bayer AG, Leverkusen, Germany, November 1990.
81. "Texaphyrins and Sapphyrins: Novel Texas-sized 'Expanded Porphyrins'," Bonn University, Bonn, Germany, November 1990.
82. "Texaphyrins and Sapphyrins: Novel Texas-sized 'Expanded Porphyrins'," Ruhr University, Bochum, Germany, November 1990.
81. "Texaphyrins and Sapphyrins: Novel Texas-sized 'Expanded Porphyrins'," Max Planck Institut für Medizinische Forschung, Heidelberg, Germany, November 1990.
82. "Texaphyrins et Sapphyrins: Des Nouvelles Porphyrines Expandées au Style Texan," Institute Louis Pasteur de Strasbourg, Strasbourg, France, November 1990. This lecture was delivered in French.
83. "Texaphyrins and Sapphyrins: Novel Texas-sized 'Expanded Porphyrins'," University of Twente, Hengelo, Holland, November 1990.
84. "Texaphyrins and Sapphyrins: Novel Texas-sized 'Expanded Porphyrins'," University of Basel, Basel, Switzerland, November 1990.
85. "Texaphyrins and Sapphyrins: Novel Texas-sized 'Expanded Porphyrins'," Weizmann Institute of Science, Rehovot, Israel, December 1990.
86. "Texaphyrins and Sapphyrins: Novel Texas-sized 'Expanded Porphyrins'," Ben Gurion University of the Negev, Ber Sheva, Israel, December 1990. This lecture was delivered in Hebrew.
87. "Porphyrin-mediated Superexchange in Quinone Substituted Porphyrin Dimers and Trimers," Southwest Regional Meeting on Photosynthesis, Tempe, Arizona, January 1991.
88. "'Expanded Porphyrins': Potential New Photosensitizers for Use in Photodynamic Therapy," 1991 Meeting of the Society for Optical Engineering, Los Angeles, California, January, 1991.
89. "Preparation and Properties of 'Expanded Porphyrins'," Purdue University, West Lafayette, IN, February, 1991.

90. "Expanded Porphyrins: Macrocyclic Ligands for the Lanthanides and Actinides," Symposium on Metal Selective Ligands, 201st Meeting of the American Chemical Society, Atlanta, GA, April, 1991.
91. "Preparation and Properties of 'Expanded Porphyrins'," Northwestern, Evanston, IL, April, 1991.
92. "Non-covalent Approaches to Photosynthetic Model Systems," Annual Meeting, American Society for Photobiology, San Antonio, TX, July, 1991.
93. "Synthesis and Properties of Expanded Porphyrins," 13th International Symposium on Heterocyclic Chemistry, Corvallis Oregon, August, 1991.
94. "Synthesis and Properties of Expanded Porphyrins," Cope Award Symposium, 202nd Meeting of the American Chemical Society, New York, NY, August, 1991. (This was a plenary lecture.)
95. "Synthesis and Properties of Expanded Porphyrins," 13th International Symposium on Macrocyclic Chemistry, Sheffield, UK, September, 1991. (This was a plenary lecture.)
96. "New Approaches to Photosynthetic Model Systems," NATO ASI Summer School, September, 1991, Assois, France. (This was a plenary lecture.)
97. "Synthesis and Properties of Expanded Porphyrins," Johnson-Matthey Co., Westchester, PA, November, 1991.
98. "Molecular Recognition via Base-pairing," Department of Chemistry, Texas A & M University, College Station, TX, March, 1992.
99. "Synthesis and Properties of Expanded Porphyrins," 49th Industrial Affiliates Symposium, Department of Chemistry, Stanford University, April, 1992. (This was a plenary lecture.)
100. "Synthesis and Properties of Expanded Porphyrins," University of Basel, Switzerland, April, 1992.
101. "The Development of New Photosensitizers for Photodynamic Therapy," Ciba Geigy Inc., Basel, Switzerland, April, 1992.
102. "Synthesis and Properties of Expanded Porphyrins," University of Heidelberg, Germany, April, 1992.
103. "Synthesis and Properties of Expanded Porphyrins," Rohm & Haas Co., Spring House, PA, April, 1992.
104. "Molecular Recognition via Base-pairing," Department of Chemistry, University of Victoria, Victoria, Canada, May, 1992.
105. "Synthesis and Properties of Expanded Porphyrins," Department of Chemistry, University of British Columbia, Vancouver, Canada, May, 1992.

106. "Molecular Recognition via Base-pairing," Department of Chemistry, University of Washington, Seattle, WA, May, 1992.
107. "Photo-inactivation of Enveloped Viruses using Expanded Porphyrin Photosensitizers," 43rd Midwestern Regional ACS Meeting, Cincinnati, OH, May, 1992. (This was a plenary lecture.)
108. "Molecular Recognition via Base-pairing," Kochi University, Kochi, Japan, July, 1992.
109. "Synthesis and Properties of Expanded Porphyrins," Gifu University, Gifu, Japan, July, 1992.
110. "Synthesis and Properties of Expanded Porphyrins," Doshisha University, Kyoto, Japan, July, 1992.
111. "Synthesis and Properties of Expanded Porphyrins," Industrial Products Research Institute, Tskuba, Japan, July, 1992.
112. "Molecular Recognition via Base-pairing," Mitsubishi Kasei Ltd., Tokyo, Japan, July, 1992.
113. "Synthesis and Properties of Expanded Porphyrins," Kyoritsu College of Pharmacy, Tokyo, Japan, July, 1992.
114. "Synthesis and Properties of Expanded Porphyrins," Nagaoka Technical University, Nagaoka, Japan, July, 1992.
115. "Non-covalent Approaches to Photosynthetic Model Systems," Kyoto University, Kyoto, Japan, July, 1992.
116. "Synthesis and Properties of Expanded Porphyrins," Hiroshima University of Medicine, Hiroshima, Japan, July, 1992.
117. "Molecular Recognition via Base-pairing," Oita University, Oita, Japan, July, 1992.
118. "Molecular Recognition via Base-pairing," 7th International Symposium on Molecular Recognition and Inclusion, Kyoto, Japan, July, 1992. (This was a plenary lecture.)
119. "Anion Binding: A New Chapter in Porphyrin-related Research" 14th International Symposium on Macrocyclic Chemistry, Provo, UT, August, 1992. (This was a plenary lecture.)
120. "Molecular Recognition via Base-pairing," University of Michigan, Ann Arbor, MI, October, 1992.
121. "Synthesis and Properties of Expanded Porphyrins," Michigan State University, East Lansing, MI, October, 1992.
122. "Synthesis and Properties of Expanded Porphyrins," New York Academy of Sciences, New York, NY, October, 1992.
123. "Molecular Recognition via Base-pairing," New York University, New York, October, 1992.

124. "Synthesis and Properties of Expanded Porphyrins," Univ. of Texas at Dallas, Dallas, TX, November, 1992.
125. "Molecular Recognition via Base-pairing," Univ. of Houston, Houston, TX, November, 1992.
126. "Diamagnetic Texaphyrins as Potential New Photosensitizers for Photodynamic Therapy," Univ. of Texas Medical Branch at Galveston, Galveston, TX, November, 1992.
127. "Biomedical Applications of Expanded Porphyrins," Tetrapyrrole Study Symposium, Cambridge, UK, January, 1993. This was an invited, plenary lecture.
128. "Synthesis and Properties of Expanded Porphyrins," RSC Macrocycles Meeting, Oxford, UK, January, 1993. This was an invited, plenary lecture.
129. "Molecular Recognition via Base-pairing," University of Birmingham, Birmingham, UK, January, 1993.
130. "Non-covalent Approaches to Photosynthetic Modeling," CFKR Conference on Spectroscopy, University of Texas at Austin, Austin, TX, January 1993.
131. "Synthesis and Properties of Expanded Porphyrins," Asahi Chemical Co., Ltd., Okayama, Japan, February 1993.
132. "Synthesis and Properties of Expanded Porphyrins," Special Honorary Symposium on Bioinorganic and Bioorganic Chemistry, Hiroshima University, Hiroshima, Japan, February 1993. This was an invited, plenary lecture.
133. "Synthesis and Properties of Expanded Porphyrins," University of Illinois, Urbana, IL, February 1993.
134. "Non-covalent Approaches to Photosynthetic Modeling," BSF Conference on New Developments in Primary Photosynthesis, Jerusalem, Israel, March, 1993. This was an invited, plenary lecture.
135. "Synthesis and Properties of Expanded Porphyrins," University of Pennsylvania, Philadelphia, PA, March, 1993.
136. "Synthesis and Properties of Expanded Porphyrins," Arco Chemical Company, Philadelphia, PA, March, 1993.
137. "Molecular Recognition via Base-pairing," Symposium on Molecular Recognition, 204th ACS Meeting, Denver, CO, March, 1993. This was an invited lecture.
138. "Synthesis and Applications of Expanded Porphyrins," Universität Köln, Cologne, Germany, April, 1993.
139. "Anion Binding by Expanded Porphyrins. A New Direction in Porphyrin-related Research," Universität Köln, Cologne, Germany, April, 1993.

140. "Non-covalent Approaches to Photosynthetic Modeling," Frei Universität, Berlin, Germany, April, 1993.
141. "Synthesis and Applications of Expanded Porphyrins," Universität Bremen, Bremen, Germany, April, 1993.
142. "Non-covalent Approaches to Photosynthetic Modeling," Universität Köln, Cologne, Germany, May, 1993.
143. "Synthesis and Applications of Expanded Porphyrins," Ruhr Universität, Bochum, Germany, May, 1993.
144. "Synthesis and Applications of Expanded Porphyrins," Universität Münster, Münster, Germany, May, 1993.
145. "Anion Binding by Expanded Porphyrins. A New Direction in Porphyrin-related Research," Université Ludois Pasteur de Strasbourg, Strasbourg, France, May, 1993. This lecture was delivered in French.
146. "Anion Binding by Expanded Porphyrins. A New Direction in Porphyrin-related Research," Universität Heidelberg, Heidelberg, Germany, May, 1993.
147. "Molecular Recognition via Base-pairing: A New Approach to Photosynthetic Modeling," Forum for Young Chemists in Biofunctional Chemistry: Frontiers and Futures in Bioorganic Chemistry, Fukuoka, Japan, June 1993. This was a Plenary Lecture.
148. "Interactions of Expanded Porphyrins with DNA," 2nd International Symposium on Bioorganic Chemistry, Fukuoka, Japan, June 1993. This was an Invited Lecture.
149. "Synthesis and Properties of Expanded Porphyrins," Okayama University, Okayama, Japan, June, 1993.
150. "Synthesis and Properties of Expanded Porphyrins," Shizuoka University, Shizuoka, Japan, June, 1993.
151. "Synthesis and Properties of Expanded Porphyrins," Idemitsu Petrochemical Co., Chiba, Japan, June, 1993.
152. "Non-covalent Approaches to Photosynthetic Model Systems," Industrial Products Research Institute, Tsukuba, Japan, June, 1993.
153. "Synthesis and Applications of Expanded Porphyrins," Yale University, New Haven, CT, October, 1993.
154. "Synthesis and Applications of Expanded Porphyrins," University of Nevada, Reno, November, 1993.

155. "Synthesis and Applications of Expanded Porphyrins," University of Texas, San Antonio, TX, November, 1993.
156. "Synthesis and Applications of Expanded Porphyrins," George Washington University, Washington, D.C., February, 1994.
157. "Synthesis and Applications of Expanded Porphyrins," Southwest Texas University, San Marcos, TX, March, 1994.
158. "Molecular Recognition of Nucleotides and Oligonucleotides *via* Expanded Porphyrins," NATO Advanced Workshop on Transition Metal Complexes, Genoa, Italy, April, 1994. The was an Invited Lecture.
159. "Expanded Porphyrins. Big Ligands for Big Metals," Seaborg Institute, Lawrence Livermore Laboratory, Livermore, CA, May, 1994.
160. "Phosphate Chelation by Sapphyrin: A New Mode of Small Molecule-DNA Interaction," XIX International Symposium on Macrocyclic Chemistry, Lawrence, KS, June 1994.
161. "Synthesis and Applications of Expanded Porphyrins," Universität Bonn, Germany, July, 1994.
162. "Synthesis and Applications of Expanded Porphyrins," Technische Universität, Darmstadt, Germany, July, 1994.
163. "Biomedical Applications of Expanded Porphyrins," Bracco s. p. a., Milan, Italy, July, 1994.
164. "Expanded Porphyrins: New Reagents for the Recognition and Manipulation of Oligonucleotides," Muséum d'Histoire Naturelle, Paris, France, July, 1994. This lecture was delivered in French.
165. "Molecular Recognition *via* Base-pairing," RSC Perkin Division Symposium on Recognition Processes Marking the Centenary of Emil Fischer's Lock-and-Key Metaphor, Birmingham, England, July, 1994. The was an invited Plenary Lecture.
166. "Molecular Recognition *via* Base-pairing," Universität Bonn, Germany, August, 1994.
167. "Synthesis and Applications of Expanded Porphyrins," Max-Planck-Institut für Strahlenchemie, Germany, August, 1994.
168. "Non-covalent Approaches to Photosynthetic Model Systems," Université Louis Pasteur, Strasbourg, France, August, 1994. This lecture was delivered in French.
169. "Synthesis and Applications of Expanded Porphyrins," European Symposium on Molecular Recognition, Mainz, Germany, August, 1994. The was an Invited Lecture.
170. "Biomedical Applications of Expanded Porphyrins," Bayer Ag, Leverkusen, Germany, August, 1994.

171. "Non-covalent Approaches to Photosynthetic Model Systems," Gordon Conference on Electron Donor-Acceptor Interactions, Newport, RI, August, 1994. The was an Invited Lecture.
172. "Texaphyrins: Large Texas-sized Molecules," "Synthesis and Applications of Expanded Porphyrins," and "Non-covalent Approaches to Photosynthetic Model Systems," Watkins Memorial Lectures, Wichita State University, October, 1994.
173. "Expanded Porphyrins as Molecular Recognition Units," International Conference on Bioorganic Chemistry, Fukuoka, Japan, October, 1994. The was an invited Plenary Lecture.
174. "Molecular Recognition via Base-Pairing," Université de Genève, November, 1994.
175. "Biomedical Applications of Expanded Porphyrins," Seventh Inter-American Photochemical Society Winter Conference, Clearwater Beach, Florida, January, 1995.
176. "Non-covalent Electron Transfer Model Systems," 14th Enzyme Mechanism Conference, Scottsdale, Arizona, January, 1995. The was an Invited Lecture.
177. "Receptors and Carriers for Antiviral Agents, National Institutes of Health (NIAID), Bethesda, Maryland, June, 1995.
178. "New Applications of Expanded Porphyrins," XXth Symposium on Macrocyclic Chemistry, Jerusalem, Israel, July, 1995. The was an invited Plenary Lecture.
179. "Synthesis and Applications of Expanded Porphyrins," 210th American Chemical Society National Meeting, Inorganic Division, Chicago, Illinois, August, 1995.
180. "Biomedical Applications of Expanded Porphyrins," 7th International Bioinorganic Conference (IBIC 7), Lübeck, Germany, September, 1995. The was an Invited Lecture.
181. "Non-covalent Electron Transfer Model Systems," Max Planck Institute für Strahlenchemie, Mülheim, Germany, September, 1995.
182. "Synthesis and Properties of New Expanded Porphyrins," Universität zu Köln, Cologne, Germany, October, 1995.
183. "Biomedical Applications of Texaphyrins," Max Planck Institute für Strahlenchemie, Mülheim, Germany, October, 1995.
184. "Texaphyrins: A New Class of Radiation Sensitizer?," Institute Gustave Roussy, Paris, France, October, 1995. This lecture was delivered in French.
185. "Synthesis and Properties of Expanded Porphyrins," Kyoto University, Kyoto, Japan, November, 1995.
186. "New Approaches to Antisense Reagent Development," Osaka University, Osaka, Japan, November, 1995.

187. "Recent Developments in Texaphyrin Chemistry," Gifu University, Gifu, Japan, November, 1995.
188. "Synthesis and Properties of Expanded Porphyrins," Okazaki National Research Institute, Okazaki, Japan, November, 1995.
189. "Biomedical Applications of Texaphyrins," Mitsubishi Chemical Company, Yokohama, Japan, November, 1995.
190. "Synthesis and Applications of Expanded Porphyrins," Tokyo University, Tokyo, Japan, November, 1995.
191. "Synthesis and Applications of Expanded Porphyrins," National Institutes for Materials and Research, Tsukuba, Japan, November, 1995.
192. "Synthesis and Applications of Expanded Porphyrins," National Electronics Corporation, Tsukuba, Japan, November, 1995.
193. "Biomedical Applications of Texaphyrins," Stanford University, Stanford, California, April, 1996
194. "Synthesis and Properties of Expanded Porphyrins," University of California, Davis, California, April, 1996.
195. "Synthesis and Applications of Expanded Porphyrins," Andy Derome Memorial Lecture, Oxford University, UK, June, 1996.
196. "Non-covalent Electron Transfer Model Systems, Andy Derome Memorial Lecture, Oxford University, UK, June, 1996.
197. "Biomedical Applications of Expanded Porphyrins," Cambridge University, UK, June, 1996.
198. "Anion Binding with Expanded Porphyrins: From Simple Phosphates to DNA," Ciba Geigy Inc., Basel, Switzerland, June, 1996.
199. "New Developments in the Chemistry of Expanded Porphyrins," Polish Academy of Sciences, Warsaw, Poland, June, 1996.
200. "Synthesis and Applications of Expanded Porphyrins," Wroclaw University, Poland, June, 1996.
201. "Biomedical Applications of Texaphyrins," Technical University of Munich, Germany, June, 1996.
202. "Biomedical Applications of Lanthanide(III) Texaphyrins," 21st Rare Earth Research Conference, Duluth, Minnesota, July, 1996. This was an Invited Lecture.
203. "Biomedical Applications of Lanthanide(III) Texaphyrins," 2nd European COST D1 Workshop on MRI, Utrecht, Holland, October, 1996. This was an invited Plenary Lecture.

204. "Anion Binding with Expanded Porphyrins: From Simple Phosphates to DNA," Italian Chemical Society Meeting (Lombardi Section), Milan, Italy, November, 1996. This was an invited Plenary Lecture.
205. "Texaphyrin-based Anticancer Agents," Washington University School of Medicine, St. Louis, March, 1997.
206. "Advances in Expanded Porphyrin Chemistry," University of Missouri, Columbia, Missouri, March, 1997.
207. "Expanded Porphyrin and Calixpyrrole Based Anion Separations," 213th American Chemical Society Meeting, San Francisco, California, April, 1997. This was an Invited Lecture.
208. "A Coordination Chemist's View of Anion Binding," 1997 Canadian Chemistry Society Meeting, Windsor, Canada, June, 1997. This was an Invited Lecture.
209. "Calixpyrroles: An Old But New Class of Anion Binding Agents," XXII International Symposium on Macrocyclic Chemistry, Seoul, Korea, August, 1997. This was an invited Plenary Lecture.
210. "Advances in Expanded Porphyrin Chemistry," 16th International Congress of Heterocyclic Chemistry, Bozeman, Montana, August, 1997.
211. "Calixpyrroles: An Old But New Class of Anion Binding Agents," 4th International Meeting on Calixarenes, Parma, Italy, September, 1997. This was an invited Plenary Lecture.
212. "Texaphyrin. A New Approach to Anticancer Drug Development," Parents Day, University of Texas, Austin, Texas, October, 1997.
213. "Polypyrrrole-based Anion Binding Agents," Workshop on Supramolecular Chemistry, Tel Aviv, Israel, January, 1998. This was an invited Plenary Lecture.
214. "Texaphyrin. A New Approach to Anticancer Drug Development," Bar Ilan University, Ramat Aviv, Israel, January, 1988.
215. "Texaphyrin. A New Approach to Anticancer Drug Development," 150th Annual Meeting of the American Academy of Arts and Sciences (AAAS), Philadelphia, February, 1998. This was an Invited Lecture.
216. "Texaphyrin. A New Approach to Anticancer Drug Development," University of California at Berkeley, February, 1998.
217. "Non-covalent Electron Transfer Model Systems," American Chemical Society Meeting, Dallas, Texas, April, 1998. This was an Invited Lecture.
218. "Calixpyrroles. Old but New Anion Binding Agents," University of New South Wales, July, 1998.
219. "Molecular Recognition via Base-pairing," University of Adelaide, Australia, July, 1998.

220. "Polypyrrole-based Anion Binding Agents," University of Perth, Australia, July, 1998.
221. Biannual Australian National Organic Chemistry Meeting, New South Wales, Australia, July, 1998. This was an invited Plenary Lecture.
222. "Polypyrrole-based Anion Binding Agents," Australian National University, Canberra, Australia, July, 1998.
223. "Expanded Porphyrins" 8th International Symposium on Novel Aromatics, Hong Kong, China, August, 1998. This was an Invited Lecture.
224. "Calixpyrroles. Old but New Anion Binding Agents," Hong Kong University of Science and Technology, August, 1998.
225. ""Polypyrrole-based Anion Binding Agents," International Meeting of the Global Supramolecular Chemistry Network, Zapkone, Poland, October, 1998. This was an Invited Lecture.
226. "Polypyrrole-based Anion Binding Agents," Oregon State University, October, 1998.
227. "Texaphyrin. A New Approach to Anticancer Drug Development," University of Oregon, October, 1998.
228. "Texaphyrin. A New Approach to Anticancer Drug Development," University of Texas, San Angelo, November, 1998.
229. "Texaphyrin. A New Approach to Anticancer Drug Development," University of California, San Diego, November, 1998.
230. "Polypyrrole-based Anion Binding Agents," University of California, Riverside, November 1998.
231. "Texaphyrins. A New Approach to Anticancer Drug Development," Caltech, Pasadena, CA, November, 1998.
232. "Polypyrrole-based Anion Binding Agents, University of California, Los Angeles, November, 1998.
233. "Texaphyrins. A New Approach to Anticancer Drug Development," Special Meeting on Photodynamic Therapy, University of Frankfurt, Frankfurt, Germany, December, 1998. This was an invited Plenary Lecture.
233. "Texaphyrins. New Cancer Specific MRI Contrast Agents," COST D1 Meeting on MRI, Torino, Frankfurt, Italy, December, 1998. This was an Invited Lecture.
234. "Texaphyrins. A New Approach to Anticancer Drug Development," IC'99 Wellington, New Zealand, February, 1999. This was an invited Plenary Lecture.

235. "Biomedical Applications of Expanded Porphyrins," American Chemical Society Meeting, Inorganic Division, Porphyrin Symposium, Anaheim, California, March, 1999. This was an Invited Lecture.
236. "Calix[4]pyrrole-Functionalized Silica Gels. Novel Supports for the HPLC-Based Separation of Anions," Industrial Chemistry & Engineering Division, Calixarene-Based Separations Symposium, Anaheim, California, March, 1999. This was an Invited Lecture.
237. "Biomedical Applications of Expanded Porphyrins," Notre Dame University, April, 1999.
238. "Texaphyrins. A New Approach to Anticancer Drug Development," University of New Orleans, May, 1998.
239. "Biomedical Applications of Expanded Porphyrins," International Symposium on Functional Dyes, Osaka, Japan, June, 1999. This was an invited plenary lecture.
240. "Polypyrrole-based Anion Binding Agents," Kansai University, Osaka, Japan, June, 1999.
241. "Polypyrrole-based Anion Binding Agents," University of Kyoto, Kyoto, Japan, June, 1999.
242. "Polypyrrole-based Anion Binding Agents," University of Tokyo, Tokyo, Japan, June, 1999.
243. "Polypyrrole-based Anion Binding Agents," University of Texas at Dallas, Dallas, Texas, July, 1999.
244. "Expanded Porphyrins in Three Dimensions," XXIV International Symposium on Macrocyclic Chemistry, Barcelona, Spain, July, 1999. This was an Invited Lecture.
245. "Biomedical Applications of Expanded Porphyrins," IUPAC '99, Berlin, Germany, August, 1999. This was an Invited Lecture.
246. "Lanthanide Texaphyrins. A New Approach to Drug Development," Schering, AG, Berlin, Germany, August, 1999.
247. "Functionalized Calixpyrroles," Calix[99], Perth, Western Australia, September, 1999. This was an Invited Lecture.
248. "Texaphyrins. A New Approach to Anticancer Drug Development," Western Regional American Chemical Society Meeting, Ontario, California, October, 1999. This was an Invited Lecture.
249. "Biomedical Applications of Expanded Porphyrins," University of Texas Southwestern Medical Center, Dallas, Texas, October, 1999.
250. "Texaphyrins. A New Approach to Anticancer Drug Development," Princeton University, Princeton, New Jersey, December, 1999.
251. "Biomedical Applications of Expanded Porphyrins," Abbott Laboratories, Chicago, Illinois, January, 2000.

252. "Expanded Porphyrins: Synthesis and Applications," Wake Forest University, Winston-Salem, North Carolina, February, 2000.
253. "Non-covalent Electron Transfer Model Systems," National Institute of Materials Research, Tsukuba, Japan, February, 2000.
254. "Polypyrrole-based Anion Binding Agents," Saitama University, Saitama, Japan, March, 2000.
255. "Calixpyrrole-based Separations," National Meeting of the American Chemical Society, San Francisco, March, 2000. This was an Invited Lecture.
256. "Lanthanide Texaphyrins. A New Approach to Drug Development," Argonne National Laboratories, Argonne, Illinois, April, 2000.
257. "Polypyrrole-based Anion Binding Agents," Kraft Foods, Glenview, Illinois, April, 2000.
258. "Lanthanide Texaphyrins. A New Approach to Drug Development," Université de Dijon, Dijon, France, April, 2000. This lecture was delivered in French.
259. "Template-based Syntheses of Polypyrrole Macrocycles," Central Regional ACS Meeting, Cincinnati, Ohio, May, 2000. This was an Invited Lecture.
260. "Texaphyrins. A New Approach to Anticancer Drug Development," University of Leiden, Leiden, Holland, June, 2000.
261. "Porphyrin Analogue Chemistry," International Congress on Porphyrins and Phthalocyanines, Dijon, France, June, 2000.
262. "Base-Pairing Motifs in Porphyrin-based Supramolecular Systems," International Congress on Porphyrins and Phthalocyanines, Dijon, France, June, 2000. This was an Invited Lecture.
263. "New Developments in Expanded Porphyrin Chemistry," International Congress on Coordination Chemistry, St Andrews, Scotland, July 2000. This was an invited Golden Jubilee Lecture.
264. "Polypyrrole Receptors. Versatile Cation and Anion Chelating Agents," Pall, Inc., Port Washington, NY, October, 2000.
265. "Polypyrrole-based Anion Binding Agents," Regional Am. Chem. Soc. Meeting, St. Louis, MO, October, 2000. This was an invited lecture.
266. "Polypyrrole-based Anion Binding Agents," Regional Am. Chem. Soc. Meeting, New Orleans, LA, December, 2000.
267. "Polypyrrole Receptors. Versatile Cation and Anion Chelating Agents," Meeting of the Pacific Basins Chemical Societies, December, 2000.

268. "Synthesis and Applications of Polypyrrole Macrocycles," UK Macrocycles Meeting, Southampton, UK, January 2001.
269. "Polypyrrole-based Anion Binding Agents," Stanford University, Stanford, California, January, 2001.
270. "Heavy Element Coordination Using Expanded Porphyrins," Oak Ridge National Laboratory, February, 2001.
271. "Polypyrrole Based Macrocycles," University of Tennessee, Knoxville, February, 2001.
272. "Polypyrrole-based Anion Binding Agents," University of Michigan, April, 2001.
273. "Synthesis and Applications of Polypyrrole Macrocycles," University of Bern, Bern, Switzerland, April, 2001.
274. "Non-covalent Electron Transfer Model Systems," Université de Neuchâtel, Neuchâtel, Switzerland, April, 2001.
275. "Texaphyrins. A New Approach to Drug Development," Ecole Polytechnique de Lausanne, Lausanne, Switzerland, April, 2001. This lecture was delivered in French.
276. "New Expanded Porphyrins," Université de Fribourg, Fribourg, Switzerland, April, 2001. This lecture was delivered in French.
277. "Polypyrrole-based Anion Binding Agents," Basel Universität, Basel, Switzerland, April, 2001.
278. "Lanthanide Texaphyrins: A New Approach to Drug Development," Lonzo AG, Visp, Switzerland, May, 2001. This lecture was delivered in German.
279. "Biomedical Applications of Expanded Porphyrins," University of Toronto, ON, Canada, May, 2001.
280. "Polypyrrole-based Anion Binding Agents," University of York, ON, Canada, May, 2001.
281. "Synthesis and Applications of Expanded Porphyrins," Massey University, Palmerston North, New Zealand, June, 2001.
282. "Expanded Porphyrins: Novel Ligands for Large Cations," University of Auckland, Auckland, New Zealand, June, 2001.
283. "Synthesis and Applications of Expanded Porphyrins," James Cook University, Townsville, Australia, June, 2001.
284. "Polypyrrole-based Anion Binding Agents," 38th World Congress of the IUPAC, Brisbane, Australia, July, 2001. This was an Invited Keynote Lecture.
285. "Non-covalent Photosynthetic Model Systems," Symposium on Supramolecular Chemistry for the New Millennium, Hiroshima, Japan, July, 2001. This was an Invited Plenary Lecture.

286. "Biomedical Applications of Expanded Porphyrins," XXV International Symposium on Macrocyclic Chemistry, Fukuoka, Japan, July 2001. This was the Izatt-Christensen Award Lecture.
287. "Synthesis and Applications of Expanded Porphyrins," Wright Patterson Air Force Base, Dayton, OH, August, 2001.
288. "Expanded Porphyrins: Novel Ligands for the Complexation of Large Cations," American Chemical Society Meeting, Inorganic Session, Chicago, IL, August, 2001. This was an invited lecture.
289. "Polypyrrole-based Anion Binding Agents," American Chemical Society Meeting, Industrial and Chemical Engineering Section, Chicago, IL, August, 2001. This was an invited one-hour Tutorial Lecture.
290. "Polypyrrole-based Anion Binding Agents," US-Czech Conference on Chemical Sensors, Prague, Czech Republic, October, 2001. This was an invited Plenary Lecture.
291. "Synthesis and Applications of Expanded Porphyrins," University of Seattle, Seattle, WA, October, 2001.
292. "Synthesis and Applications of Expanded Porphyrins," University of Texas, Arlington, February, 2002.
293. "Synthesis and Applications of Expanded Porphyrins," Universidad Autonoma de Madrid, February, 2002.
294. "Synthesis and Applications of Expanded Porphyrins," Louisiana State University, February, 2002.
295. "Lanthanide and Actinide Complexes of Expanded Porphyrins," Los Alamos National Laboratory, New Mexico, February, 2002.
296. "Molecular Recognition via Base Pairing," Boston Univeristy, Boston, MA, February, 2002.
297. "Polypyrrole-based Anion Binding Agents," Boston College, Boston, MA, March, 2002.
298. "Synthesis and Applications of Expanded Porphyrins," MIT, Cambridge, MA, February, 2002.
299. "Biomedical Applications of Expanded Porphyrins," Johns Hopkins University, Baltimore, MD, March, 2002.
300. "Pyrrole-based Self-assembly Systems," American Chemical Society meeting, Orlando, FL, March, 2002. This was an Invited Lecture.
301. "Synthesis and Applications of Expanded Porphyrins," Carruthers Memorial Symposium, Exeter, UK, April, 2002. This was an Invited Lecture.

302. "Polypyrrole-based Anion Binding Agents," Royal Society Workshop, Southampton University, Southampton, UK, April, 2002. This was an Invited Lecture.
303. "Polypyrrole-based Anion Binding Agents," Université Paris Sud, Orsay, France, May, 2002. This lecture was delivered in French.
304. "Synthesis and Applications of Expanded Porphyrins," Université Marie Curie, Paris VI, Paris, France, May, 2002. This lecture was delivered in French.
305. "Lanthanide Texaphyrins: A New Approach to Drug Development," 2002 GECOM Conference, Paris, France, May, 2002. This was a Plenary Lecture. This lecture was delivered in French.
306. "Cyclo[8]pyrrole," International Conference on Function Pi Systems, Ulm, Germany, June, 2002. This was an Invited Lecture.
307. "Polypyrrole-based Macrocycles: Novel Cation and Anion Receptors," Gordon Conference on Bioorganic Chemistry, New Hampshire, June, 2002. This was an invited Plenary Lecture.
308. "Pyrrole-based Self-assembly Systems," International Symposium on Macrocyclic Chemistry, Park City, UT, June, 2002. This was a Plenary Lecture.
309. "Calixphyrins: Hybrid Macrocycles at the Crossroads of Porphyrins and Calixpyrroles," 2nd International Conference on Porphyrins and Phthalocyanines, Kyoto, Japan, July, 2002. This was an invited Keynote Lecture.
310. "Synthesis and Applications of Expanded Porphyrins," Kangwon National University, Chun-Chon, South Korea, July, 2002.
311. "Synthesis and Applications of Expanded Porphyrins," Gordon Conference on Tetrapyrroles, Rhode Island, July, 2002. This was an invited Keynote Lecture.
312. "Biomedical Applications of Expanded Porphyrins," Metals in Medicine Gordon Conference, New Hampshire, July, 2002. This was an invited Plenary Lecture.
313. "Synthesis and Applications of Expanded Porphyrins," International Conference on Coordination Chemistry, Heidelberg, Germany, July, 2002. This was an invited Plenary Lecture.
314. "Cyclo[8]pyrrole," International Conference on Function Pi Systems, BASF, Ludwigshafen, Germany, July, 2002.
315. "Synthesis and Applications of Expanded Porphyrins," The University of Texas, Austin, TX, August, 2002.
316. "Polypyrrole-based Macrocycles: Novel Cation and Anion Receptors," XII International Symposium on Supramolecular Chemistry, Eilat, Israel, October, 2002. This was an invited Plenary Lecture.
317. "Synthesis and Applications of Expanded Porphyrins," University of Missouri, St. Louis, MO, November, 2002.

318. "Polypyrrole-based Anion Receptors," Texas Christian University, Ft. Worth, TX, November, 2002.
319. "Synthesis and Applications of Expanded Porphyrins," University of Chicago, Chicago, IL, January 24, 2003. This was the Closs Memorial Lecture.
320. "Expanded Porphyrins. From Cation Coordination to Anion Recognition." Vanderbilt University, Nashville, TN, February, 2003. This was the Fistel Memorial Lecture.
321. "Synthesis and Applications of Expanded Porphyrins," University of California, Irvine, Irvine, CA, February, 2003.
322. "Texaphyrins: A New Approach to Drug Development," Institute for Cellular and Molecular Biology, The University of Texas at Austin, March, 2003.
323. "Texaphyrins: A New Approach to Drug Development," School of Pharmacy, The Hebrew University of Jerusalem, Israel, April, 2003.
324. "Synthetic ensembles based on cytosine, guanine, pyrrole, and biimidazole," Technion, Israel, April, 2003.
325. "Synthesis and Applications of Expanded Porphyrins," Bar Ilan University, Israel, April, 2003.
326. "Texaphyrins: A New Approach to Drug Development," Technion, Israel, April, 2003. This was the Sidney Pollock Award Lectureship.
327. "Synthesis and Applications of Expanded Porphyrins," University of Akron, OH, April, 2003.
328. "Synthetic Receptors for Actinides and Pertechneate," DOE Contractor's Meeting, Sante Fe, NM, April, 2003.
329. "Lanthanide Texaphyrins: A New Approach to Drug Development," Leermakers Symposium, Wesleyan University, Wesleyan, CN, May, 2003. This was a plenary lecture.
330. "Oligopyrroles: New Materials with Potential Practical Utility," Spanish Materials Science Summer School, Cartegena, Spain, June, 2003. This was a plenary lecture.
331. "Lanthanide Texaphyrins: A New Approach to Drug Development," Santa Maria Workshop on Bioinorganic Chemistry, Santa Maria del Mar, Cuba, July, 2003. This was a plenary lecture.
332. "Gadolinium(III) Texaphyrins: From Synthesis to Medical Applications," International Conference on Bioinorganic Chemistry, Cairns, Australia, July 2003. This was an invited, main session lecture.
333. "Calixpyrroles," International Conference on Calixarenes, Vancouver, BC, Canada, August, 2003. This was a plenary lecture.

334. "Synthetic Ensembles Based on Cytosine, Guanine, Pyrrole, and Biimidazole," Fall 2003 American Chemical Society Meeting, New York, NY, September, 2003. This was an invited symposium lecture.
335. "Lanthanide Texaphyrins: A New Approach to Drug Development," Swathmore College, Swathmore, PA, September, 2003.
336. "Pyrrole-based Anion Binding Agents," Lull University, Barcelona, Spain, September, 2003.
337. "Synthetic Ensembles Based on Purine, Pyrimidine, and Pyrrole," Midwestern Regional ACS Meeting, Columbia, MO, November, 2003. This was an invited symposium lecture.
338. "Expanded Porphyrins. A New Approach to Drug Development," Universidad Autonoma de Madrid, Madrid, Spain, December, 2003.
339. "Synthesis of Porphyrins and Porphyrin Precursors," Universidad Autonoma de Madrid, Madrid, Spain, December, 2003.
340. "Synthesis of Expanded Porphyrins," Universidad Autonoma de Madrid, December, 2004.
341. "Synthesis and Applications of Expanded Porphyrins," Universidad de Zaragoza, Zaragoza, Spain, February, 2004.
342. "Synthesis and Applications of Expanded Porphyrins," Pennsylvania State University, February, 2004.
343. "Pyrrole-based Anion Binding Agents," Spring 2004 American Chemical Society Meeting, Anaheim, CA, March, 2004. This was an invited symposium lecture.
344. "Synthesis and Applications of Expanded Porphyrins," University of Cologne, Cologne, Germany, May, 2004.
345. "Biomedical Applications of Expanded Porphyrins," University of Karlsruhe, Karlsruhe, Germany, May, 2004.
346. "Expanded Porphyrins. From Cation Coordination and Anion Recognition to Novel Materials Development," University of Strasbourg, Materials Development Center, Strasbourg, France, May, 2004. This lecture was delivered in French.
347. "Synthesis and Applications of Expanded Porphyrins," University of Grenoble, Grenoble, France, May, 2004. This lecture was delivered in French.
348. "Synthesis and Applications of Expanded Porphyrins," University of Seville, Seville, Spain, June, 2004. This lecture was delivered in Spanish.
349. "Synthesis and Applications of Oligopyrrole Macrocycles," University of Oviedo, Oveido, Spain, June, 2004. This lecture was delivered in Spanish.

350. "Expanded Porphyrins. From Cation Coordination and Anion Recognition to Novel Materials Development," University of Santiago, Santiago de Compostela, Spain, June, 2004.
351. "Biomedical Applications of Expanded Porphyrins," University of Aveila, Aveila, Portugal, June, 2004.
352. "Synthesis and Applications of Oligopyrrole Macrocycles," Gordon Research Conference on Heterocyclic Chemistry, Salve Regina College, Newport, RI, July, 2004. This was an after-banquet humorous lecture.
353. "Synthetic Ensembles Based on Purine, Pyrimidine, and Pyrrole," 3rd International Conference on Porphyrins and Phthalocyanines, New Orleans, LA, July 2004. This was an invited symposium lecture.
354. "Pyrrole-based Receptors and Assemblies," 13th International Symposium on Supramolecular Chemistry, South Bend, IN, July, 2004. This was an invited main-session lecture.
355. "Calixpyrroles and Related Anion Receptors," 4th International Symposium on Supramolecular Science and Technology, Prague, Czech Republic, September, 2004. This was a plenary lecture.
356. "Calixpyrroles," 2004 Southwest Regional ACS Meeting, Fort Worth, TX, September, 2004. This was an invited symposium lecture.
357. "Expanded Porphyrins," MichIFest Symposium, University of Utah, Salt Lake City, UT, October, 2004.
358. "Synthesis and Applications of Expanded Porphyrins," University of California, Santa Barbara, Santa Barbara, CA, October, 2004.
359. "Synthesis and Applications of Expanded Porphyrins," University of Texas at El Paso, El Paso, TX, October, 2004.
360. "Biomedical Applications of Expanded Porphyrins," 2004 Kyushu University Organic Chemistry Symposium, Fukuoka, Japan, November, 2004. This was a plenary lecture.
361. "Texaphyrins. A New Approach to Drug Development," 1st International Conference on Biomimetic Chemistry, Kyoto, Japan, November, 2004. This was a plenary lecture.
362. "Synthesis and Applications of Expanded Porphyrins," Osaka University, Osaka, Japan, November, 2004.
363. "Synthesis and Applications of Expanded Porphyrins," Kansai University, Osaka, Japan, November, 2004.
364. "Synthetic Advances in Expanded Porphyrin Chemistry," Kyoto University, Kyoto, Japan, November, 2004.
365. "Noncovalent Electron Transfer Model Systems," Erlangen-Nürnberg University, Erlangen, Germany, February, 2005.

366. "Expanded Porphyrins: From Cation Coordination and Anion Binding to Designed Drug Development," Erlangen-Nürnberg University, Erlangen, Germany, February, 2005.
367. "Recent Synthetic Advances in the Area of Expanded Porphyrin Chemistry," The Technion, Haifa, Israel, March, 2005.
368. "Synthesis and Applications of Expanded Porphyrins," The Hebrew University of Jerusalem, Jerusalem, Israel, March, 2005.
339. "Synthesis and Applications of Expanded Porphyrins," Tel Aviv University, Tel Aviv, Israel, March, 2005.
340. "Synthesis and Applications of Expanded Porphyrins," The University of Florida, Gainesville, Florida, April, 2005.
341. "Synthesis and Applications of Expanded Porphyrins," Texas A & M University, College Station, Texas, April, 2005.
342. "Synthetic Actinide Receptors," DOE Contractors' Meeting, Washington, D.C., April, 2005.
343. "Calixpyrroles and Related Anion Binding Agents," First INEST Meeting, Richmond, Virginia, May, 2005.
344. "Synthesis and Applications of Expanded Porphyrins," Université Louis Pasteur, Strasbourg, France, June, 2005.
345. "Molecular Recognition via Base-Pairing," Université Louis Pasteur, Strasbourg, France, June, 2005.
346. "Expanded Porphyrins: Novel Ligands for the Lanthanides and Actinides," Rare Earths Research Conference, Keystone, Colorado, June, 2005. This was an invited lecture.
347. "Synthesis and Applications of Expanded Porphyrins," Kekulé Institute, Universität zu Bonn, Germany, July 2005.
348. "Polypyrrole-based Anion Binding Agents," Second International Southampton Symposium on Supramolecular Chemistry, Southampton, UK, July 2005. This was an invited Plenary Lecture.
349. "New Developments in the Area of Oligopyrrole Macrocycles," International Symposium Symposium on Macrocyclic Chemistry, Dresden, Germany, July 2005. This was an invited Plenary Lecture.
350. "Calixpyrroles and Related Macrocycles," Calix-2005 International Calixarene Symposium, Prague, Czech Republic, July 2005. This was a Chem. Commun. 40 Award Lecture.
351. "Synthesis and Applications of Expanded Porphyrins," University of California, Berkeley, Berkeley, California, September, 2005.

352. "Non-covalent Electron Transfer Models," Universidad Autonoma de Madrid, Madrid, Spain, September, 2005.
353. "Synthesis and Applications of Expanded Porphyrins," The Weizmann Institute, Rehovot, Israel, September, 2005.
354. "Calixpyrroles and Related Macrocycles," Hebrew University, Jerusalem, Israel, September, 2005.
355. "Lanthanide Texaphyrins. A New Approach to Anticancer Drug Development," Pacific Basin Chemical Societies Meeting, Honolulu, Hawaii, December, 2005. This was an invited talk.
356. "Molecular Recognition via Base-pairing," Pacific Basin Chemical Societies Meeting, Honolulu, Hawaii, December, 2005. This was an invited talk.
357. "Lanthanide Texaphyrins. A New Approach to Anticancer Drug Development," Metals in Biology Gordon Research Conference, Ventura, California, January 2006. This was an invited talk.
358. "Synthesis and Applications of Expanded Porphyrins," The University of Auburn, Auburn, Alabama, February 2006.
359. "Synthesis and Applications of Expanded Porphyrins," Yonsei University, Seoul South Korea, April 2006.
360. "Synthesis and Applications of Expanded Porphyrins," Kangwon National University, Chun Chun, South Korea, April 2006.
361. "Synthesis and Applications of Expanded Porphyrins," Seoul National University, Seoul, South Korea, April, 2006.
362. "Calixpyrroles and Related Macrocycles," Korean Chemical Society National Meeting, Seoul, South Korea, April 2006. This was an invited keynote lecture.
363. "Synthesis and Applications of Expanded Porphyrins," Electrochemical Society Annual Meeting, Denver, Colorado, May 2006.
364. "Sort Course on Supramolecular Chemistry (4 lectures)," The University of Auckland, Auckland, New Zealand, May 2006.
365. "New Developments in the Chemistry of Expanded Porphyrins," The University of Auckland, Auckland, New Zealand, May 2006.
366. "Oligopyrroles. Novel Prodigiosin Analogues," Canadian Chemical Society Annual Meeting, Nova Scotia, New Foundland, Canada, May 2006.
367. "Calixpyrroles and Related Macrocycles," The University of Oviedo, Oviedo, Spain, June 2006.

368. "New Developments in the Chemistry of Expanded Porphyrins," 4th International Conference on Porphyrins and Phthalocyanines, Rome, Italy, July 2006. This was an invited, plenary lecture.
369. "Synthesis and Applications of Expanded Porphyrins," Clemson University, Clemson, South Carolina, July 2006.
370. "Synthesis and Applications of Expanded Porphyrins," Industrial Affiliates Meeting, Stanford University, Stanford, California, September 2006.
371. "Lanthanide Texaphyrins. A New Approach to Drug Development," Universidad Cuernavaca, Mexico, September 2006.
372. "Oligopyrrole-based Anion Binding Agents," Mexican Chemical Society, National Meeting, Mexico City, Mexico, September 2006. This was an invited symposium lecture.
373. "Synthesis and Applications of Expanded Porphyrins," Universidad Autonoma de Mexico, Mexico City, Mexico, September 2006.
374. "Oligopyrroles. Smart Receptors for Anionic and Neutral Substrates," Kyushu University International Symposium on Supramolecular Chemistry, Kyushu, Japan, November 2006. This was an invited plenary lecture.
375. "Lanthanide Texaphyrins. A New Approach to Drug Development," University of Texas Alumni Lecture, Fredricksburg, Texas, November 2006.
376. "Synthesis and Applications of Expanded Porphyrins," Université de Bordeaux, Bordeaux, France, February 2007.
377. "Synthesis and Applications of Expanded Porphyrins," University of South Florida, Tampa, Florida, March 2007.
378. "Calixpyrroles. Recent Advances and Applications," American Chemical Society Meeting, Chicago, Illinois, March 2007. This was an invited symposium lecture.
379. "Calixpyrroles. Recent Advances and Applications," Second International Romanian Workshop on Supramolecular Chemistry, Cluj, Romania, April 2007. This was an invited plenary lecture.
380. "New Texaphyrin Derivatives. Towards Second Generation Systems," Israeli COST Workshop on Medicinal Inorganic Chemistry, Jerusalem, Israel, April 2007.
381. "New Texaphyrin Derivatives. Towards Second Generation Systems," Canadian Chemical Society Annual Meeting, Winnipeg, Canada, May 2007. This was an invited symposium lecture.
382. "Oligopyrroles as 'Smart' Receptors," International Symposium on Macrocyclic Chemistry, Salice Terme, Italy, June 2007. This was an invited symposium lecture.
383. "Oligopyrrole-based Anion Binding Agents," Chinese Academy of Sciences, Institute of Chemistry, Laboratory of Molecular Recognition and Selective Synthesis, Beijing, China, July 2007. This was a Molecular Science Forum Lecture.

384. "Synthesis and Applications of Expanded Porphyrins," Beijing University, Beijing, China, July, 2007.
385. "Oligopyrroles as 'Smart' Receptors," Tsinghua University, Beijing, China, July 2007.
386. "Texaphyrins. A New Approach to Drug Development," Medipharm, Ltd, Shanghai, China, July 2007.
387. "Synthesis and Applications of Expanded Porphyrins," Shanghai Institute of Organic Chemistry, Shanghai, China, July 2007.
388. "Texaphyrins. A New Approach to Drug Development," Simcere, Inc., Nanning, China, July 2007.
389. "Recent Advances in the Chemistry of Expanded Porphyrins," Kyoto University, Kyoto, Japan, July 2007.
390. "Synthesis and Applications of Expanded Porphyrins," University of Tokyo, Tokyo, Japan, July 2007.
391. "Supramolecular Chemistry I," Osaka University, Osaka, Japan, July 2007. This was a Center of Excellence Invited Short Course Lecture.
392. "Supramolecular Chemistry II," Osaka University, Osaka, Japan, July 2007. This was a Center of Excellence Invited Short Course Lecture.
393. "Calixpyrroles" Calixarenes 2007 – International Symposium on Calixarene Chemistry, College Park Maryland, August 2007. This was an invited lecture.
394. "Oligopyrrole-based Anion Binding Agents," American Chemical Society National Meeting, Boston, Massachusetts, August 2007. This was an invited symposium lecture. It was also featured in C & E News in the "News of the Week" section: C & E News, **2007**, 85(35), 11.
395. "Expanded Porphyrins. Synthesis and Applications," Wichita State University, September, 2007.
396. "Oligopyrrole Macrocycles. Synthesis and Potential Applications, Karolina Institute, Stockholm, Sweden, October, 2007.
397. "Biomedical Applications of Expanded Porphyrins," Uppsala University, Sweden, October 2007.
398. "Oligopyrrole-based Anion Binding Agents," Southwest Regional ACS meeting, Lubbock, Texas, November, 2007. This was an invited symposium lecture.
399. "Oligopyrrole-based Anion Binding Agents," Midwest Regional ACS meeting, Kansas City, Missouri, November, 2007. This was an invited lecture for the Awards Symposium honoring George Gokel.

400. "Oligopyrrole Receptors and Sensors for Potentially Hazardous Materials," Univ. of Illinois, Urbana-Champaign, November, 2007.
401. "Oligopyrroles: Novel Sensors for Neutral and Anionic Analytes," Univ. of Oregon, NSF-IGERT retreat, Salisan Lodge, Oregon, December, 2007.
402. "Oligopyrrole Macrocycles. Receptors for Cationic, Neutral, and Anionic Substrates," BYU University, Logan, Utah, February, 2008.
403. "Oligopyrrole Macrocycles. Receptors for Cationic, Neutral, and Anionic Substrates," The Univ. of Utah, Salt Lake City, Utah, February, 2008.
404. "Hydrogen Bond Receptors for Neutral and Anionic Substrates," University of Puerto Rico, San Juan, Puerto Rico, March, 2008.
405. "Oligopyrrole-based Anion Binding Agents," ACS National Meeting, New Orleans, LA, April, 2008. This was an invited Inorganic Division lecture.
406. "Synthesis and Applications of Expanded Porphyrins," Bowling Green State University, Bowling Green, Ohio, April, 2008.
407. "Pyrrole-based Receptors. Synthesis and Applications," University of Arkansas, Fayetteville, AK, April, 2008.
408. "New Approaches to Anticancer Drug Development," University of Texas Health Sciences Center, Houston, TX, April, 2008.
409. "Medical and Nonmedical Applications of Oligopyrrole Macrocycles," University of Maryland School of Pharmacy, Baltimore, MD, May, 2008. This was the annual Ellis Grollman lecture.
410. "Oligopyrrole Macrocycles. Receptors for Cationic, Neutral, and Anionic Substrates," Johns Hopkins University, Baltimore, MD, May, 2008.
411. "Oligopyrrole-based Anion Receptors," Trinity University, Dublin, Ireland, May, 2008.
412. "Oligopyrrole Macrocycles. Receptors for Potentially Hazardous Substances," Université d'Angers, May, 2008.
413. "Oligopyrrole Macrocycles. Receptors for Potentially Hazardous Substances," Intelligent Optical Systems, Los Angeles, CA, May, 2008.
414. "Oligopyrrole Macrocycles. Receptors for Potentially Hazardous Substances," Los Alamos National Laboratory, New Mexico, May, 2008.
415. "Oligopyrrole Macrocycles. Receptors for Potentially Hazardous Substances," Universidad Autonoma de Madrid, Madrid, Spain, June, 2008.
416. "Oligopyrrole-based Anion Receptors," University of Mallorca, Palma, Spain, June, 2008.

417. "Oligopyrrole Macrocycles. Receptors for Potentially Hazardous Substances," Biannual Meeting of the Spanish Organic Chemistry Group, Taragona, Spain, June, 2008. This was a plenary lecture.
418. "New Sapphyrin Derivatives," 5th International Congress on Porphyrins and Phthalocyanines, Moscow, Russia, July, 2008. This was a keynote lecture.
419. "Oligopyrrole Anion Receptors," 5th International Congress on Porphyrins and Phthalocyanines, Moscow, Russia, July, 2008.
420. "Oligopyrrole-based Sensors for Actinides and Pertechnetate Anion," Am. Chem. Soc. Annual Fall Meeting, Philadelphia, PA, August, 2008. This was an invited lecture in a special symposium on pyrrolic ligands.
421. "Texaphyrin and Related Approaches to Anticancer Drug Development," Schulich Symposium on Drug Development, Technion, Israel, November, 2008.
422. "Oligopyrroles: Novel Anion Receptors," Yonsei University, Korea, November, 2008.
423. "Oligopyrroles: Novel Anion Receptors," KIST, Korea, November, 2008.
424. "Oligopyrroles: Novel Anion Receptors," POSTECH, Korea, November, 2008.
425. "TTF-Calixpyrroles: Receptors for Electron Deficient Substrates," Marquette University, Milwaukee, WI, February, 2009.
426. "Oligopyrroles: Receptors for Potentially Hazardous Materials," Univ. of Massachusetts, Amherst, MA, February, 2009.
427. "Oligopyrroles: Receptors for Potentially Hazardous Materials," Univ. of Colorado, Boulder, CO, February, 2009.
428. "Texaphyrin and Related Approaches to Anticancer Drug Development," University of Otago, Dunedin, New Zealand, April, 2009.
429. "Oligopyrroles: Receptors for Potentially Hazardous Materials," University of Indiana, Bloomington, IA, April, 2009.
430. "Oligopyrroles: Receptors for Potentially Hazardous Materials," PLU Lecture, Kansas State University, Manhattan, KS, April, 2009.
431. "Oligopyrroles: Receptors for Potentially Hazardous Materials," University of Kansas, Lawrence, KS, April, 2009.
432. "Oligopyrroles: Receptors for Potentially Hazardous Materials," Universität Basel, Basel, Switzerland, May, 2009.

433. "Oligopyrroles: Receptors for Potentially Hazardous Materials," Universität Zurich, Zurich, Switzerland, May, 2009.
434. "Oligopyrroles: Receptors for Potentially Hazardous Materials," Université Genève, Geneva, Switzerland, May, 2009.
435. "Oligopyrroles: Receptors for Potentially Hazardous Materials," ETH, Zurich, Switzerland, May, 2009.
436. "Oligopyrroles: Receptors for Potentially Hazardous Materials," University of Grenoble, Grenoble, France, May, 2009. This lecture was delivered in French.
437. "Oligopyrroles: Receptors for Potentially Hazardous Materials," University of Dijon, Dijon, France, May, 2009. This lecture was delivered in French.
438. "Oligopyrroles: Receptors for Potentially Hazardous Materials," International Symposium on Macrocyclic Chemistry, Maastricht, Holland, June, 2009. This was an invited lecture.
439. "Oligopyrroles-based Materials," Gordon Research Conference on Supramolecular Assemblies, Colby College, Maine, June, 2009. This was an invited lecture.
440. "New Advances in the Chemistry of Calixpyrroles," International Symposium on Calixarenes, Seoul, Korea Chemistry, July, 2009. This was a plenary lecture.
441. "Oligopyrroles: Receptors for Potentially Hazardous Materials," Kyushu University, July, 2009.
442. "Chelation-based Approaches to Anticancer Drug Development," 14th International Meeting on Bioinorganic Chemistry, Nagoya, Japan, July, 2009. This was an invited lecture.
443. "Oligopyrroles: Receptors for Potentially Hazardous Materials," Gifu University, Gifu, Japan, July, 2009.
444. "Oligopyrroles: Receptors for Potentially Hazardous Materials," University of Auckland, Auckland, New Zealand, August, 2009.
445. "Oligopyrroles: Receptors for Potentially Hazardous Materials," Waikato University, Hamilton, New Zealand, August, 2009.
446. "Oligopyrroles: Receptors for Potentially Hazardous Materials," Victoria University, Wellington, New Zealand, August, 2009.
447. "Oligopyrroles: Receptors for Potentially Hazardous Materials," Massey University, Palmerston North, New Zealand, August, 2009.
448. "Chelation-based Approaches to Anticancer Drug Development," University of Auckland, Auckland, New Zealand, August, 2009.
449. "Pyrrole-based Anion Receptors," Yonsei University, Korea, September, 2009.

450. "Oligopyrroles: Receptors for Potentially Hazardous Materials," Suwon University, Korea, September, 2009.
451. "Oligopyrroles: Receptors for Potentially Hazardous Materials," Pusan University, Korea, October, 2009.
452. "Oligopyrroles: Receptors for Potentially Hazardous Materials," Ewha University, Korea, November, 2009.
453. University of Singapore, Singapore, December 2009
454. "Receptors for Potentially Hazardous Materials", Singapore International Chemistry Conference, December, 2009. This was a plenary lecture.
455. "Receptors for Potentially Hazardous Materials," Rutgers University, New Jersey, February, 2010.
456. "Receptors for Potentially Hazardous Materials," University of Pittsburg, Pittsburg, PA, February, 2010.
457. "Synthesis and Applications of Expanded Porphyrins," University of Victoria, Victoria, British Columbia, Canada, March, 2010. This was one of two Landsowne Lectures presented at U. Vic.
458. "Receptors for Potentially Hazardous Materials," University of Victoria, Victoria, British Columbia, Canada, March, 2010. This was one of two Landsowne Lectures presented at U. Vic.
459. "Pyrrole-based Receptors for Lanthanide and Actinide Cations," Am. Chem. Soc. National Meeting, San Francisco, March, 2010. This was an invited lecture.
460. "Donor-acceptor Assemblies," International Symposium on Macrocyclic and Supramolecular Chemistry, Nara, Japan, June, 2010. This was an invited lecture.
461. "Functionalized Oligopyrroles: Receptors for Potentially Hazardous Materials," Kansai University, Osaka, Japan, June, 2010.
462. "Chelation-based Approaches to Anticancer Drug Development," Kyoto University, Kyoto, Japan, June, 2010.
463. "Fun With Calixpyrroles: New Tricks for Old Molecules," Osaka University, Osaka, Japan, June, 2010.
464. "Functionalized Oligopyrroles: Receptors for Potentially Hazardous Materials," Global COE Conference, Kyushu University, Kyushu, Japan, June, 2010. This was an invited plenary lecture.
465. "Chelation-based Approaches to Anticancer Drug Development," WCU International Conference on Biofunctional Materials, Yonsei University, Seoul, Korea, June, 2010.
466. "Functionalized Oligopyrroles: Receptors for Potentially Hazardous Materials," Heterocycles Gordon Conference, Salve Regina, RI, June, 2010.

467. "Self-assembly and Electron Transfer Properties of Oligopyrroles," 6th International Conference on Porphyrins and Phthalocyanines, Tamaya, New Mexico, July, 2010. This was an invited lecture.
468. "Globalization and Human Rights: What the American Chemical Society Could Do," Am. Chem. Soc. National Meeting, Boston, MA, August, 2010. This was an invited presidential-level presentation.
469. "Anion-based Self-Assembly: A Texas-sized Approach," Am. Chem. Soc. National Meeting, Boston, MA, August, 2010. This was an invited lecture.
470. "Donor-Acceptor Receptors: From Sensors to Self-Assembly," Kangwon National University, Chun-Cheon, Korea, September, 2010.
471. "Non-covalent Electron Transfer Model Systems," 60th Japanese Coordination Chemical Society Meeting, Osaka, Japan, October, 2010. This was an invited lecture.
472. "Expanded Porphyrin-based Drug Development," ChemComm Symposium, Ewha University, Seoul, Korea, October, 2010. This was an invited lecture.
473. "Anion-based Self-Assembly: A Texas-sized Approach," Korean Chemical Society Meeting, Daegu, Korea, October, 2010.
474. "Donor-Acceptor Receptors: From Sensors to Self-Assembly," Symposium on Functional Supramolecular Materials, Yonsei University, Seoul, Korea, October 2010. This was an invited lecture.
475. "Functionalized Calixpyrroles," Inha University, Incheon, Korea, November, 2010.
476. "Donor-Acceptor Receptors: From Sensors to Self-Assembly," Symposium on pi-Functional Materials, Kyoto University, Kyoto, Japan, November, 2010. This was a plenary lecture.
477. "Polypyrrole-based Schiff Base Macrocycles," Pacifichem, Honolulu, HI, December, 2010. This was an invited lecture.
478. "Polypyrroles: Sensors for Potentially Hazardous Materials," Pacifichem, Honolulu, HI, December, 2010. This was an invited lecture.
479. "Polypyrrole-based Anion Binding Agents," Pacifichem, Honolulu, HI, December, 2010. This was an invited lecture.
480. "Functionalized Calixpyrroles," University of Toronto, Main Campus, Toronto, Canada, January, 2011.
481. "Functionalized Calixpyrroles," University of Toronto, Mississauga Campus, Toronto, Canada, January, 2011.

482. "Pyrrole-based Receptors and Carriers," CASH 2011 Symposium, University of Bath, UK, February, 2011. This was an invited plenary lecture.
483. "Pyrrole-based Anion Binding Agents: From Receptors and Carriers to Self-assembled Materials," Univ. of Houston, Houston, TX. February, 2011.
484. "Pyrrole-based Anion Binding Agents: From Receptors and Carriers to Self-assembled Materials," National University of Singapore, March, 2011.
485. "Receptors for Early Actinides and Ion Pairs," DOE Contractors Meeting, Baltimore, MD, April, 2011. This was an invited lecture.
486. "Texaphyrins: Death and Possible Resurrection," Univ. of Texas, Southwestern Medical School, May, 2011.
487. "Pyrrole-based Anion Binding Agents: From Receptors and Carriers to Self-assembled Materials," Northwestern University, Evanston, IL May, 2011.
488. "Pyrrole-based Receptors and Carriers," National Chiao Tung University, Taiwan, May, 2011.
489. "Pyrrole-based Anion Binding Agents: From Receptors and Carriers to Self-assembled Materials," Academia Sinica, Taiwan, May, 2011.
490. "Pyrrole-based Anion Binding Agents: From Receptors and Carriers to Self-assembled Materials," National Taiwan University, May 2011.
491. "Pyrrole-based Self-Assembled Materials," Canadian Society of Chemistry Annual Meeting, Montreal, Canada, June, 2011. This was an invited lecture.
492. "Pyrrole-based Self-Assembled Materials," Gordon Conference on Polymers, Mount Holyoke College, MA, June, 2011. This was an invited lecture.
493. "Pyrrole-based Receptors and Carriers: A New Approach to Drug Development?" 6th International Symposium on Macrocyclic and Supramolecular Chemistry, Brighton, UK., July, 2011. This was an invited lecture.
494. "Pyrrole-based Anion Binding Agents: From Receptors and Carriers to Self-assembled Materials," Saitama University, Saitama, Japan, September 9, 2011.
495. "Pyrrole-based Anion Binding Agents: From Receptors and Carriers to Self-assembled Materials," National Institute for Material Science, Tsukuba, Japan, September 12, 2011.
496. "Pyrrole-based Anion Binding Agents: From Receptors and Carriers to Self-assembled Materials," Tokyo Metropolitan University, Saitama, Japan, September 13, 2011.
497. "Pyrrolic Receptors: From Sensors and Recognition to Self-Assembly," DOES Distinguished Lecture Series SKKU, Korea, September 23, 2011.

498. "Pyrrole-based Anion Receptors," Joint Korean-Japanese Inorganic Symposium, Gyeongju, South Korea, October 1, 2011. This was an invited lecture.
499. "Pyrrole-based Anion Binding Agents: From Receptors and Carriers to Self-assembled Materials," NanoUT 2011, Salt Lake City, Utah, October 13, 2011. This was an invited plenary lecture.
500. "Functionalized Calixpyrroles: From Simple Anion Receptors to Molecular Switches," POSTECH, Korea, October 26, 2012 .
501. "Functionalized Calixpyrroles: From Simple Anion Receptors to Molecular Switches," GNU, Korea November 4, 2012.
502. "Pyrrole-based Anion Binding Agents: From Receptors and Carriers to Self-assembled Materials," Southwest Regional ACS Meeting, Austin, Texas, November 10, 2011. This was an invited lecture.
503. "Pyrrole-based Anion Binding Agents: From Receptors and Carriers to Self-assembled Materials," University of Durham, United Kingdom, November 14, 2011. This was a Centenary Award Lecture.
504. "Pyrrole-based Anion Binding Agents: From Receptors and Carriers to Self-assembled Materials," University of Sheffield, United Kingdom, November 15, 2011. This was a Centenary Award Lecture.
505. "Pyrrole-based Anion Binding Agents: From Receptors and Carriers to Self-assembled Materials," University of York, United Kingdom, November 16, 2011. This was a Centenary Award Lecture.
506. "Pyrrole-based Anion Binding Agents: From Receptors and Carriers to Self-assembled Materials," University of Wyoming, Laramie, Wyoming, November 18, 2011. This was the Rhoads/Raulins Distinguished Lecture.
507. "Oligo Pyrroles and Related Macrocycles: From Receptors and Sensors to Self-assembly," Modern Trends in Inorganic Chemistry-14, Hyderabad, India, December 13, 2011. This was a plenary lecture.
508. "Pyrrole-based Anion Binding Agents: From Receptors and Carriers to Self-assembled Materials," IIT-Bombay, December 14, 2011.
509. "Pyrrole-based Anion Recognition," The 11th Global COE International Symposium: Bio-Environmental Chemistry Osaka University, December 21, 2011.
510. "Supramolecular Chemistry as Applied to Anion Recognition," 22nd Special Global COE Lecture Kyushu University, Fukuoka, Japan, January 11, 2012.
511. "Pyrrole-based Anion Binding Agents: From Receptors and Carriers to Self-assembled Materials," 16th International Workshop, Kyushu University, Fukuoka, Japan, January 12, 2012.

512. "Calixpyrroles as Chemical Switches," International Symposium on Macrocyclic and Supramolecular Chemistry, Dunedin, New Zealand, February 2, 2012.
513. "Pyrrole-based Anion Binding Agents: From Receptors and Carriers to Self-assembled Materials," University of Auckland, Auckland, New Zealand, February 3, 2012.
514. "Pyrrole-based Anion Binding Agents: From Receptors and Carriers to Self-assembled Materials," University of Texas, El Paso, El Paso, Texas, February 9, 2012.
515. "Calixpyrroles: From Sensors to Switches and Responsive Materials," University of Reno, Reno, Nevada, March 9th, 2012.
516. "Calixpyrroles: From Sensors to Switches and Responsive Materials," American Chemical Society Meeting, San Diego, March 26, 2012. This was an invited lecture in a session honoring Julius Rebek.
517. "Texaphyrins. Death and Attempts at Resurrection," American Chemical Society Meeting, San Diego, March 27, 2012. This was an invited lecture in a symposium on bioinorganic chemistry.
518. "Calixpyrroles: From Sensors to Switches and Responsive Materials," Wageningen Symposium, Wageningen, Holland, April 12, 2012. This was a plenary lecture.
519. "Texaphyrins. Death and Attempts at Resurrection," Gordon Stone Memorial Symposium, Baylor University, Waco, Texas, May 17, 2012. This was an invited lecture.
520. "Metal Complex-based Approaches to Cancer Drug Development," 3rd International Symposium on Synthesis and Drug Development (ISOSDD), Changzhou, May 21, 2012. This was an invited lecture.
521. "Calixpyrroles: From Sensors to Switches and Responsive Materials," Jiangsu University, Zhenjiang, China, May 24, 2012. This lecture was associated with the awarding of an honorary professorship.
522. "Calixpyrroles: From Sensors to Switches and Responsive Materials," Nanjing University, Nanjing, China, May 25, 2012.
523. "Calixpyrroles: From Sensors to Switches and Responsive Materials," East China Normal University, Shanghai, China, May 30, 2012.
534. "Calixpyrroles: From Sensors to Switches and Responsive Materials," Fudan University, Shanghai, China, May 31, 2012.
535. "Calixpyrroles: From Sensors to Switches and Responsive Materials," Shanghai University, Shanghai, China, June 1, 2012.
536. "Calixpyrroles: From Sensors to Switches and Responsive Materials," East China Institute of Science and Technology, Shanghai, China, June 4, 2012.

537. "Calixpyrroles: From Sensors to Switches and Responsive Materials," Osaka University, Osaka, Japan, June 27, 2012.
538. "New Studies of Texaphyrins and Other Expanded Porphyrins," ICPP Satellite Meeting, Kyoto University, Kyoto, Japan, June 29, 2012. This was an invited lecture.
539. "Calixpyrroles: Anion Switchable Building Blocks for Self-Assembly," 7th International Conference on Porphyrins and Phthalocyanines, Jeju Island, Korea, July 4, 2012. This was an invited lecture.
540. "Calixpyrroles: From Sensors to Analyte-responsive Materials," 3rd Molecular Sensor and Molecular Logic Gate symposium, Korea University, Seoul, Korea, July 9, 2012. This was an invited keynote lecture.
541. "Texaphyrins as Carriers for Platinum-based Anticancer Drugs," Seoul National University, Seoul, Korea, July 12, 2012.
542. "Texaphyrins as Carriers for Platinum-based Anticancer Drugs," Kangwon National University, ChunCheon, South Korea, July 13, 2012.
543. "Calixpyrroles: From Sensors to Switches and Responsive Materials," Universidad Autonoma de Madrid, Madrid, Spain, July 19, 2012.
544. "Calixpyrroles: From Sensors to Supramolecular Assembly," PacifiKen II, Timberline Lodge, Oregon, August 2, 2012. This was an invited lecture.
545. "Calixpyrroles: From Sensors to Supramolecular Assembly," 1st International Conference on Supramolecular Technologies, Tsinghua University, Beijing, China, December, 2012. This was an invited plenary lecture.
546. "Calixpyrroles: From Sensors to Supramolecular Assembly," Israel Chemical Society Annual Meeting, Tel Aviv, Israel, February, 2013. This was an invited plenary lecture.
547. "Calixpyrroles: From Sensors to Supramolecular Assembly," Scripps Research Institute, La Jolla, California, May, 2013.
548. "Calixpyrroles: From Sensors to Supramolecular Assembly," The Hebrew University of Jerusalem, Jerusalem, Israel, June 2013.
549. "Calixpyrroles as Functional Ion Pair Receptors," Calix-2013, St. Johns, Canada, July 2013. This was an invited plenary lecture.
550. "Texaphyrins: Towards the Development of Redox Active Drugs," 1st International Meeting on Redox-based Drug Development, Erlangen, Germany, July, 2013. This was an invited plenary lecture.
551. "Calixpyrroles: From Sensors to Supramolecular Assembly," The University of Sao Carlos, Sao Carlos, Brazil, August, 2013.

552. "Oligopyrrole-based Anion Receptors," ACS Central Texas Section Meeting, Austin, TX, November, 2013.
553. "Coordination Chemistry-based Drug Development," ACS Regional Meeting, Waco, TX, November, 2013 (this was an invited award lecture).
554. "Calixpyrroles: From Sensors to Supramolecular Assembly," Polish Academy of Sciences, Warsaw, Poland, December, 2013.
556. "Calixpyrroles: From Sensors to Supramolecular Assembly," Centre Nationale de Recherches, Lyon, France, February, 2014.
557. "New Advances in the Chemistry of Expanded Porphyrins," University de Lyon I, Lyon, France, February, 2014.
558. "Calixpyrroles: From Sensors to Supramolecular Assembly," Université Louis Pasteur de Strasbourg, Strasbourg, France, February, 2014.
559. "Calixpyrroles: From Sensors to Supramolecular Assembly," Karlsruhe Institute of Technology, Karlsruhe, Germany, February, 2014.
560. "Non-covalent Electron Transfer Model Systems," University of North Texas, Denton, TX, March, 2014.
561. "New Advances in the Chemistry of Expanded Porphyrins," Korean Chemical Society Meeting, Seoul, Korea, April, 2014 (this was an invited keynote lecture).
562. "Calixpyrroles: From Sensors to Supramolecular Assembly," Yonsei University Satellite Symposium on Biofunctional Materials, Seoul, Korea, April, 2014 (this was an invited plenary lecture).
563. "Pyrrole-based Anion Recognition and Transport," Canadian Chemical Society Meeting, Vancouver, Canada, June, 2014.
564. "Expanded Porphyrins—An Update," International Symposium on Macrocyclics and Supramolecular Chemistry, Shanghai, China, June, 2014 (this was an invited lecture).
565. "Calixpyrroles: From Sensors to Supramolecular Assembly," 1st Purple Mountain Research Conference, Nanjing, China, June 2014 (this was an invited plenary lecture).
566. "Non-covalent Electron Transfer Model Systems," International Conference on Porphyrins and Phthalocyanines, Istanbul, Turkey, June, 2014 (this was an invited lecture).
567. "Texaphyrin-based Drug Development," Technion Shulich Summer School, Haifa, Israel, July, 2014 (this was an invited lecture).
568. "Texaphyrin-based Drug Development," International Conference on Coordination Chemistry, Singapore, July, 2014 (this was an invited lecture).
569. "Sensors for Biological Thiols," National University of Singapore, Singapore, July, 2014.

570. "Calixpyrroles: From Sensors to Supramolecular Assembly," University of Tokyo, Tokyo, Japan, July, 2014.
571. "Calixpyrroles: Easy-to-Prepare Anion Binding Agents," Kanazawa University, Kanazawa, Japan, July, 2014.
572. "Expanded Porphyrins: Macrocycles Based on Pyrrole, Pyridine, and Furan," Michinoku International Symposium on Porphyrins, Phthalocyanines, and Functional π Molecules, Sendai, Japan, October, 2014. This was an invited lecture.
573. "Calixpyrroles: From Sensors to Supramolecular Assembly," International Symposium on Molecular Sensor and Molecular Logic Gates 2014, East China University of Science and Technology, Shanghai, China, November, 2014. This was an award lecture.
574. "Texaphyrins: Adventures in Academic Entrepreneurship," Shanghai University, Shanghai, China, November, 2014.
575. "Calixpyrroles: From Sensors to Supramolecular Assembly," Shanghai University, Shanghai, China, November, 2014.
576. "Expanded Porphyrins: Macrocycles Based on Pyrrole, Pyridine, and Furan," Henan University, Kaifeng, China, November, 2014.
577. "Platinum Texaphyrin Conjugates," University of Arizona, Tucson, AZ, November, 2014.
578. "Calixpyrroles: From Anion Receptors to Self-Assembled Materials," Technion, Haifa, Israel, December, 2014.
579. "Calixpyrroles: From Anion Receptors to Self-Assembled Materials," University of Alabama, Tusculoosa, Alabama, February, 2015.
580. "Calixpyrroles: From Anion Receptors to Self-Assembled Materials," Texas State, San Marcos, Texas, March, 2015.
581. "Expanded Porphyrins: A Personal Journey," University of California, Berkeley, California, March, 2015. This was the inaugural Ken Raymond Lecture.
582. "Calixpyrroles: From Anion Receptors to Self-Assembled Materials," Oxford University, Oxford, UK, March, 2015.
583. "Calixpyrroles: From Anion Receptors to Self-Assembled Materials," Texas A&M, Kingsville, April, 2015. Note: This was the Garland Lecture.
584. "Calixpyrrole-based Ion Pair Receptors," DOE Contractors' Meeting, Gaithesberg, VA, April, 2015.
585. "Platinum Texaphyrin Conjugates," International Conference on Cutting Edge Molecules for Biology and Material Application, Hong Kong, April, 2015. This was a Plenary Lecture.

586. "Expanded Porphyrins: A Personal Journey," Prof. Shunichi Fukuzumi Retirement Symposium, Osaka, Japan, April, 2015. This was a Plenary Lecture.
587. "Calixpyrroles: From Anion Receptors to Self-Assembled Materials," Kyushu University, May, 2015.
588. "Advances in Expanded Porphyrin Chemistry," Electrochemical Society Annual Meeting, Chicago, IL, May, 2015. This was an invited lecture.
589. "Ion Pair Receptors—A Tutorial," National Science Foundation Workshop on Water, Garden City, MD, June, 2015.
590. "Calixpyrroles: From Anion Receptors to Self-Assembled Materials," Zhejiang University, Hanzhou, China, June, 2015
591. "Platinum Texaphyrin Conjugates," 7th Chinese-American Chemists Symposium, Suzhou, China, June 2015.
592. "Pyrrole Macrocyclic-based Self-Assembly," International Symposium on Macrocyclic and Supramolecular Chemistry, Strasbourg, France, June, 2015. This was an invited lecture.
593. "Pyrrole Macrocyclic-based Self-Assembly," Wais Hosseini 60th Birthday Symposium, Strasbourg, France, 2015. This was an invited lecture.
594. "Calixpyrrole-based Ion Pair Receptors," International Conference on Calixarenes 2015, Sicily, Italy, July, 2015. This was an invited lecture.
595. "Calixpyrroles: From Anion Receptors to Self-Assembled Materials," Hiroshima University, July 2015.
596. "Platinum Texaphyrin Conjugates," Kyoto University, Kyoto, Japan, July, 2015.
597. "Platinum Texaphyrin Conjugates," Medicinal Inorganic Chemistry Symposium, Hebrew University of Jerusalem, September, 2015.
597. "Platinum Texaphyrin Conjugates," Universidad Autonoma de Madrid, Madrid, Spain, July, 2015
598. "Calixpyrroles: From Anion Receptors to Self-Assembled Materials," Institute Catalonia di Qimica, Tarragona, Spain, July, 2015.
599. "New Advances in the Chemistry of Expanded Porphyrins," Institute Qimica de Serona, Universidad Ramon Llul, Barcelona, Spain, July, 2015.
600. "Platinum Texaphyrin Conjugates," Medicinal Inorganic Chemistry Symposium, Hebrew University of Jerusalem, September, 2015.

601. "Calixpyrroles: From Anion Receptors to Self-Assembled Materials," Brigham Young University, September, 2015.
602. "Calixpyrroles: From Anion Receptors to Self-Assembled Materials," Schulich Winter School in Honor Harry Gray's 80th Birthday, Technion, Israel, December, 2015.
603. "Calixpyrrole-based Anion Receptors," Pacificchem, Honolulu, HI, December, 2015.
604. "Pyrrole-based Self-Assembled Materials," Pacificchem, Honolulu, HI, December, 2015.
605. "Calixpyrroles: From Anion Receptors to Self-Assembled Materials," Gyeongsang National University, Jinju, South Korea, January, 2016.
606. "Expanded Porphyrins: A Personal Journey," Symposium on Phthalocyanines and Close Friends Honoring Prof. Tomas Torres' 65th Birthday, Elche, Spain, January, 2016.
607. "Expanded Porphyrins: A Personal Journey," Am. Chem. Society, Spring 2016 Meeting, San Diego, CA. This was an invited symposium lecture.
608. "Calixpyrroles: From Anion Receptors to Self-Assembled Materials," University of Minnesota, MN, April, 2016
609. "Texaphyrins: Life, Death, and Attempts at Resurrection," MIT, Cambridge, MA, May, 2016.
610. "Expanded Porphyrins: A Personal Journey," Dombay Organic Chemistry Conference, Dombay, Russia, May, 2016. This was a plenary lecture.
611. "Expanded Porphyrins: A Personal Journey," Shinshu University, Ueda, Japan, June, 2016.
612. "Expanded Porphyrins: A Personal Journey," Hunan Normal University, Changsha, China, June, 2016.
613. "Non-Porphyrin Macrocycles Based on Pyridine, Furan, and Pyrrole," International Conference on Porphyrins and Phthalocyanines, Nanjing, China, July, 2016. This was an award lecture.
614. "Calixpyrroles: From Anion Receptors to Self-Assembled Materials," East China University of Science and Technology, Shanghai, China, July 2016.
615. "Medicinal Macrocyclic Chemistry," International Symposium on Supramolecular and Macrocyclic Chemistry, Seoul, Korea, July, 2016.
614. "Calixpyrroles: From Anion Receptors to Self-Assembled Materials," East China Normal University, Shanghai, China, July, 2016.
615. "Adventures in Self-Assembly: Is There Logic Here?" Molecular Sensors and Molecular Logic Gates symposium, Bath, UK, July, 2016. This was a plenary lecture.
616. "Calixpyrroles: From Anion Receptors to Self-assembled Materials," University of Texas at Dallas, September 2016.

617. "Calixpyrroles and Self-Assembly," ICREA Conference on Functional Nanocontainers, Taragona, Spain, October, 2016. This was an invited plenary lecture.
618. "Expanded Porphyrins: A Personal Journey," 2nd Kanazawa University Symposium on Supramolecular Chemistry and Materials, October, 2016. This was an invited plenary lecture.
619. "Expanded Porphyrins: A Personal Journey," Shinju University, Japan, October, 2016.
620. "Expanded Porphyrins: A Personal Journey," Emanuel Vogel Memorial Lecture, Universität zu Köln, December, 2016.
621. "Calixpyrroles: From Anion Receptors to Self-Assembly and Logic Devices," Universität Bonn, December, 2016.
622. "Calixpyrroles: From Anion Receptors to Self-Assembly and Logic Devices," 1st Shanghai University Symposium on Supramolecular Chemistry, Shanghai, December, 2016. This was an invited plenary lecture.
623. "Texaphyrin-based Photodynamic Therapy and Drug Development" 2017 Conference on the Physics of Quantum Electronics, Snowbird, UT, January 2017. This was an invited lecture.
624. "Expanded Porphyrins: A Personal Journey," Klemmer Lecture, University of Oregon, Eugene, OR, February, 2017.
625. "Calixpyrroles: From Anion Receptors to Self-Assembly and Logic Devices," University of Oregon Skiposium, Sun River, OR, February, 2017.
626. "Expanded Porphyrins: A Personal Journey," Kangwon National University, Chuncheon, S. Korea, February, 2017.
627. "Expanded Porphyrins: A Personal Journey," Gyeongsang National University, Jinju, S. Korea, February, 2017.
628. "Expanded Porphyrins: A Personal Journey," Postech, Pohang, Korea, February, 2017.