JOEL S. MILLER

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EDUCATION

Postdoctoral Fellowship	Stanford University	Date	1971 - 1972
Degree	Ph.D.	Degree	Bachelor of Science in Chemistry
University	University of California, Los Angeles (UCLA)	University	Wayne State University
Major	Inorganic Chemistry	Major/Minor	Chemistry/Mathematics
Date	June, 1971	Date	March, 1967

PROFESSIONAL EXPERIENCE

Distinguished Professor, Department of Chemistry, University of Utah, Salt Lake City, UT (2001 -)
Adjunct Professor of Materials Science and Engineering, University of Utah, Salt Lake City, UT (July, 1994 -)
Adjunct Professor of Physics and Astronomy, University of Utah, Salt Lake City, UT (July, 2013 -)

Specially Appointed Guest Professor (Full time), Osaka University, Osaka, Japan (Nov - Dec, 2017; July - Aug. 2018)

Visiting Professorship, Shanghai University, Department of Chemistry, Shanghai, China (2016)

Lady Davis Visiting Professor, Institute of Chemistry, Hebrew University, Jerusalem, Israel (Dec, 2014 - Apr, 2015)

Visiting Professor, Organic Chemistry Department, Weizmann Institute of Science, Rehovot, Israel (Oct-Dec, 2012)

Schulich Visiting Professorship, Technion, Haifa, Israel, March-April, 2011.

Visiting Professor, Noyori Materials Science Laboratory at Nagoya University (2011-2012)

Professor of Chemistry, University of Utah, Salt Lake City, UT (March, 1993 - 2001)

Professeur Invité, Institut de Science et d'Ingénierie Supramoléculaires (ISIS), Université Louis Pasteur, Strasbourg, France (March, 2005)

Visiting Professor, University of Barcelona, Barcelona, Spain (Spring, 2004; Spring 2005)

Wilhelm Manchot Research Professor, Technische Universität Munich, Garching, Germany (December, 1996)

Visiting Professor, Johannes-Gutenberg University, Mainz, Germany (October, 1996)

Visiting Professor, Structural Chemistry Department, Weizmann Institute of Science, Rehovot, Israel (April-May, 1996)

Research Supervisor for Solid State (Electronic Materials) Chemistry and Physics, Advanced Materials Sciences Laboratory (1986 - 1993) Research Scientist, Central Research & Development Dept., Du Pont Co. (1983 - 1986)

Visiting Professor of Chemistry, Institut de Chemie Moleculaire, Universite de Paris-Sud, Orsay, France (July, 1991)

Visiting Scientist, Structural Chemistry Department, Weizmann Institute of Science, Rehovot, Israel (June-July, 1985)

Visiting Professor of Chemistry, University of Pennsylvania, Philadelphia, PA (January, 1988 - May 1988)

Manager of Energy Research, Occidental Research Corporation, Irvine, CA (June, 1983 - September, 1983)
Principal Research Scientist and Group Leader of the Organometallic Group (March, 1979 - June, 1983)

Visiting Professor of Chemistry, University of California, Irvine, CA (January, 1981 - March 1981)

Project Manager and Member of Technical Staff, Rockwell International Science Center, Thousand Oaks, CA (March, 1978 - March, 1979)

Scientist, Physical and Chemical Sciences Laboratory, Webster Research Center, Xerox Corporation, Webster, NY (August, 1973 - March, 1978) Associate Scientist, Chemistry Research Laboratory, Rochester Corporate Research Center, Xerox Corporation, Webster, NY (August, 1972 - August, 1973)

AWARDS

International:

Molecular Science Forum Lecturer, Institute of Chemistry, Chinese Academy of Science, Beijing, China (2016)

Visiting Professorship, Shanghai University, Department of Chemistry, Shanghai, China (2016)

Lady Davis Fellowship, Hebrew University, Jerusalem, Israel (2014-5)

Kahn Plenary Lecture, *International Conference on Molecule-based Magnets*, Florence, Italy (2008)

American Physical Society's *James C. McGroddy Prize for New Materials* (2007); cited for: *the discovery and characterization of organic-based magnets and study of predictable and previously unknown magnetic phenomena in these fascinating materials leading to fundamentally new science and the demonstrated potential for new technologies*

American Chemical Society Award for *Chemistry of Materials* (2000); cited for: f*or his outstanding contributions to the synthesis. characterization and understanding of molecule-based magnets a new class of materials which has permanently altered the way we regard the relationship between molecules and magnets*

Center of Excellence (CoE) Visiting Professor, Nagoya University (2004)

Gerhard M. J. Schmidt "Crystal Engineering" Lecturer, Weizmann Institute of Science, Rehovot, Israel (2003)

Japan Society for the Promotion of Science Fellow (2000)

Pinguin Foundation's Wilhelm Manchot Research Professorship, Technische Universität Munich, Garching, Germany (1996)

Elected Fellow of the American Association of the Advancement of Science (2009)

Honorary Lifetime Member of the Israel Chemical Society (2011)

State:

Governor's Medal for Science and Technology, State of Utah (2004)

Utah Award from the Central Utah and Salt Lake City Sections of the American Chemical Society (2003)

University:

University of Utah's Distinguished 2001 Research/Creative Award

Research Identified as being in the "Top 10 Great Research Ideas from the University of Utah" (Fall 2004 issue of *Continuum*).

Wayne State University, The Distinguished Alumni Award (1998)

Phi Lambda Upsilon (PLU) Award for Excellence in Undergraduate Research for developing a computer program to determine the composition of an inorganic coordination complex

National Science Foundation (NSF) Undergraduate Research Fellowship.

Eastman Kodak Travel Grant for presenting graduate research at a national American Chemical Society meeting.

Dean's List (several quarters at Wayne State University)

Employer:

E. I. du Pont de Nemours & Co., Inc. (Central Research and Development Dept.) Research Accomplishment Award (Stipend) For discovering and developing a theoretical foundation for molecule-based magnets.
Occidental Research Corp. Research Award (Stipend) For developing stronger conducting paints for EMI shielding applications.
Xerox Corporation Award for inventing a new, lost cost high copy quality flash fuser.

DISSERTATION

1,2-Dithiolene Complexes of Iron and Ruthenium; Reactions of Coordinated Methyl Isocyanide.
Advisor: Professor Alan L. Balch (UCLA, 1971) *Dissertation Abstracts, 328,* 3835 (1972).

PATENTS (6)

Joel S. Miller has 6 patents that include an optical toner fusing system, ink jet fabrication of printed circuit boards, and glass coating compositions. The latter two have been commercialized. In addition, he has a patent on the deposition of thin film room organic magnets, as well as two on new materials, a strong electron acceptor (cyanil).

Multiple Flash Fuser, Joel S. Miller and Dana G. Marsh, US Patent #4,444,487 (1984) (Assigned to the Xerox Corp.).

Ink Jet Fabrication of Printed Circuit Boards, Joel S. Miller, US Patent #4,668,533 (1987) (Assigned to the Du Pont Co). [Cited >135 times)

Tetracyano-1,4-hydroquinone and tetracyano-1,4-benzoquinone, Carlos Vazquez and Joel S. Miller, US Patent #5,068,367 (1991) (Assigned to the Du Pont Co).

Glass Coating Composition and Method of Applicatio*n*, George Taylor and Joel S. Miller, US Patent #5,738,903 (1998) (assigned to Diamond Seal, Inc.).

Method and Apparatus for Mechanized Application of a Protective Coating on Siliceous Surfaces*,* George Taylor and Joel S. Miller, US Patent #6,103,307 (2000) (assigned to Diamond Seal, Inc.).

Low Temperature Chemical Vapor Deposition of Thin Film Magnets, Joel S. Miller and Konstantin I. Pokhodnya, US Patent #6,660,375 (2003) (assigned to University of Utah Research Foundation).

AUTHOR PROFILE

Joel S. Miller's profile has been published: *Angew. Chem. Int. Ed.* **2013**, *52*, 10688–10689:
https://onlinelibrary.wiley.com/doi/pdf/10.1002/anie.201305568

PUBLICATIONS (>575)

Joel S. Miller has authored >575 publications covering his investigations in solid state materials with magnetic, electrical, and optical, properties as well as synthetic, structural, and the photochemistry of 1,2-dithiolene complexes, reactions of coordinated isocyanides, dinitrogen, and carbon monoxide ligands, and in the development and understanding of catalysts and of 'metal-like' and ferromagnetic valance ambiguzinorganic, organic, and polymeric compounds. His primary current research interests include the development and exploitation of molecule-based magnets as well as the surface modification of materials to impart specific properties, as well as extraordinary long (~2.9 Å) multicenter C-C bonds, and unusual electron transfer reactions such as reduction of a ligand upon an overall oxidation.

HGHLY CITED RESEARCHER

Joel S. Miller has been selected as an ISIHighlyCited Materials Scientist, Thomson Scientific, Access to this:
http://hcr3.isiknowledge.com/author.cgi?&link1=Search&link2=Search%20Results&AuthLastName=miller&AuthFirstName=joel&AuthMiddleName=&AuthMailInstName=&CountryID=-1&DisciplineID=0&id=5963

h-factor: 79 (excluding books edited) [+ one patent (147 citations)]

BOOKS EDITED and AUTHORED (19)

Synthesis and Properties of Low-Dimensional Materials, J. S. Miller and A. J. Epstein, eds., Annals of the New York Academy of Sciences, Vol. 313 (1978), ISBN-0-89072-069-X (939 p).

Extended Linear Chain Compounds, J. S. Miller, ed., Plenum Publishing Corporation, Vol. 1 (April, 1982), ISBN-0-306-40711-6 (481 p).

Extended Linear Chain Compounds, J. S. Miller, ed., Plenum Publishing Corporation, Vol. 2 (March,1982), ISBN-3-306-40712-4 (517 p).

Extended Linear Chain Compounds, J. S. Miller, ed., Plenum Publishing Corporation, Vol. 3 (January,1983), ISBN-0-306-40941-0 (561 p).

Chemically Modified Surfaces in Catalysis and Electrocatalysis, J. S. Miller, ed., *A. C. S. Symposia Series,* Volume 192 (July, 1982), ISBN-0-8412-07 27-5 (301 p).

Ferromagnetic and High Spin Organic Materials, J. S. Miller and D. A. Dougherty, Guest Eds., *Molecular Crystals, Liquid Crystals*, Volume 176 (Nov., 1989), ISBN-2-88124-402-5 (562 p).

Molecular Magnetic Materials, O. Kahn, D. Gatteschi, J. S. Miller, and F. Palacio, Eds. *NATO Advanced Research Workshop,* Vol. E198, Kluwer Academic Publishers (May, 1991), ISBN-0-7923-1243-0 (411 p).

Chemistry and Physics of Molecular-Based Magnetic Materials, H. Iwamura and J. S. Miller, Guest Eds., *Molecular Crystals, Liquid Crystals*, Vol. 232/233 (1993), ISSN-1058-725X (726 p).

Molecule-Based Magnetic Materials, J. S. Miller and Arthur J. Epstein, Guest Eds., *Molecular Crystals, Liquid Crystals*, Volume 271-274 (1995), ISSN-1058-725X (882 p).

Molecular Magnetism: From Molecular Assemblies to the Devices, E. Coronado, P. Delhaès, D. Gatteschi, and J. S. Miller, eds. *NATO Advanced Studies Workshop,* Volume E321, Kluwer Academic Publishers (1996), ISBN-0-7923-4130-9 (590 p).

Molecular-Based Magnets, K. Itoh, J. S. Miller, and T. Takui, Guest Editors, *Molecular Crystals, Liquid Crystals*, Vol. 305-306 (1997), ISSN-1058-725X (1113 pages).

Molecule-based Magnets, *Mat. Res. Soc.* Thematic Issue, J. S. Miller, A. J. Epstein, Guest Editors, Nov. 2000

Magnetism: Molecules to Materials, J. S. Miller, M. Drillon, eds. Wiley-VCH (2001), ISBN 3-527-29772-3 (437 p)

Magnetism: Molecules to Materials II, J. S. Miller, M. Drillon, eds. Wiley-VCH (2001), ISBN 3-527-30301-4 (498 p)

Magnetism: Molecules to Materials III, J. S. Miller, M. Drillon, eds. Wiley-VCH (2001), ISBN 3-527-30302-2 (388 p)

Magnetism: Molecules to Materials IV, J. S. Miller, M. Drillon, eds. Wiley-VCH (2003), ISBN 3-527-30429-0 (485 p)

Magnetism: Molecules to Materials V, J. S. Miller, M. Drillon, eds. Wiley-VCH (2005), ISBN: 3-527-30665-X (400 p)

Frontiers in Crystalline Matter: From Discovery to Technology, Committee for an Assessment of and Outlook for New Materials Synthesis and Crystal Growth Board on Physics and Astronomy Division on Engineering and Physical Sciences, National Research Council, The National Academies Press (2009), ISBN: 13: 978- 0-309-13800-0 (175 p).

Spin in Organics: A World Scientific Reference, J. S. Miller, ed., World Scientific Publishing Co. Pte. Ltd, 2018, ISBN: 978-981-3228-96-2 (352 p)

PRESENTATIONS

Joel S. Miller has presented well over 600 external presentations at either professional society meetings or academic, industrial, or governmental research centers. Invited lectures have been presented throughout the U.S., Europe, Japan, Korea, USSR, Israel, India, and Australia. A summary list of places where invited seminars have been presented is attached.

CONFERENCES AND SYMPOSIA

Chairmanship

Magnetism: Molecules to Functional Materials, PacifiChem, Honolulu, HI, 2005.

Contemporary Aspects of Chemical Bonding (Divisions of Inorganic and Organic Chemistry of the American Chemical Society, National Meeting, New York, NY, 2003

Localized and Itinerant Molecular Magnetism form Molecular Assemblies to Devices (NATO Advanced Research Workshop, Canary Islands, Spain, 1995

4th International Conference on Molecule-based Magnets, Salt Lake City, UT, 1994

Magnetic Molecular Materials (NATO Advanced Studies Institute, Il Ciocco, Italy, 1990

Ferromagnetic and High Spin Molecular Based Materials (Divisions of Inorganic, Organic, and Physical Chemistry of the American Chemical Society, April, National Meeting, Dallas, TX.1989

Synthesis and Properties of Low-Dimensional Materials (New York Academy of Sciences, 1977.

Chemical Modification of Surfaces (Division of Inorganic Chemistry of the American Chemical Society, New York, NY, 1981

Advisory Committee:

Properties of Low-Dimensional Solids (Division of Physical Chemistry of the American Chemical Society and Chemical Society of Japan, Honolulu, Hawaii), 1979,

International Conference on the Physics and Chemistry of Low-Dimensional Synthetic Metals, Albano Terme, Italy.1984

Conference on Electronic Processes in Conducting Polymers, Stockholm, Sweden, 1986

Low-Dimensional Solids, University of Colorado, Boulder, CO, 1981

Chemistry and Physics of Magnetic-Based Molecular Materials (Chemical Society of Japan, Tokyo, Japan,1992

5th International Conference on Molecule-based Magnets, Osaka, Japan,1996

6th International Conference on Molecule-based Magnets, Seigonsse, France, 1998

7th International Conference on Molecule-based Magnets, San Antonio, TX, 2000

8th International Conference on Molecule-based Magnets, Valencia, Spain, 2002
9th International Conference on Molecule-based Magnets, Tsukuba, Japan, 2004
10th International Conference on Molecule-based Magnets, Victoria, BC, Canada, 2006
International Conference on the Science and Technology of Synthetic Metals, Wollongong, Australia, 2004
International Conference on the Science and Technology of Synthetic Metals, Dublin, Ireland, 2006,
International Conference on the Science and Technology of Synthetic Metals, Recife, Brazil, 2008,
11th International Conference on Molecule-based Magnets, Florence, Italy, 2008
57th Fujihara Seminar on New Prospects on *Molecular Magnetism*, Hokkado, Japan, 2008
International Conference on Science and Technology of Synthetic Metals, Kyoto, Japan, 2010
12th International Conference on Molecule-based Magnets, Beijing, China, 2010
13th International Conference on Molecule-based Magnets, Orlando, FL, 2012
2nd International Conference on Magnetic Materials and Applications (MagMA-2013) Guwahata, IN, 2013
3rd International Conference on Magnetic Materials and Applications (MagMA-2014) Pondicherry, IN, 2014
4th International Conference on Magnetic Materials and Applications (MagMA-2015) Hyderabad, IN, 2015
14th International Conference on Molecule-based Magnets, St. Petersburg, Russia, 2014
15th International Conference on Molecule-based Magnets, Sendai, Japan, 2016
25th International Conference on Coordination and Bioinorganic Chemistry (ICCBIC), Smolenice Castle, Slovakia, 2015
VII International Conference "High-Spin Molecular and Molecular Magnets", Novosibirsk, Russia, 2016
X Russian-Japanese Workshop "Open Shell Compounds & Molecular Spin Devices", Novosibirsk, Russia, 2016
Scientific School for Young Scientists "Design of Magnetoactive Compounds", Novosibirsk, Russia, 2016
2nd Scientific School for Young Scientists "Design of Magnetoactive Compounds", Irkutsk, Russia, 2017
16th International Conference on Molecule-based Magnets, Rio de Janiero, Brazil, 2018
7th International Conference on Magnetic Materials and Applications (ICAMagMA-2018) Odisha, IN, 2018
17th International Conference on Molecule-based Magnets, Manchester, UK, 2020

Program Committee:

International Conference on the Physics and Chemistry of Low-Dimensional Synthetic Metals (June 17-22, 1988, Santa Fe, NM).
International Conference on the Science and Technology of Synthetic Metals (August 12-18, 1992, Goteborg, Sweden)
International Conference on the Science and Technology of Synthetic Metals (August, 1994, Seoul, Korea)

Executive Committee:

International Conference on the Science and Technology of Synthetic Metals (September 3-7, 1990, Tübigen, Germany)
Symposium on "Functional Molecule-Based Magnets" PacifiChem, 2010, Honolulu, HI
Symposium on "Frontiers of Molecular Magnetism" PacifiChem, 2015, Honolulu, HI
Symposium on "Organic Electronics and Spintronics Materials and Device" PacifiChem, 2020, Honolulu, HI

PROFESSIONAL ACTIVITIES

American Chemical Society (ACS) Activities
- Division of Inorganic Chemistry
  - Chairman of the Solid State Subdivision (1989) Chairman-Elect of the Solid State Subdivision (1988)
  - Chairman of the Canvassing Committee for the ACS Award in Inorganic Chemistry 1982); member (79--82)
  - Elected Alternate Councilor (1978-1979)
  - Chairman of the 1980 Nominations and 1982 Symposia Planning Committee
  - Member of the 1977 Nominations and 1979 Symposia Planning Committees
  - Member of the 1981 Nominations and 1983 Symposia Planning Committees
  - Member of the 1989 Nominations and 1990 Symposia Planning Committees
  - Member of the Inorganic Division (including the Organometallic and Solid State Subdivisions)
  - Exxon Solid State Fellowship Selection Committee (Administered by the Solid State Subdivision of the American Chemical Society).
  - Elected to Executive Committee - 1993 - 1996
- Southern California Section
  - Chairman, Tolman Award Selection Committee (1982-1983)
  - Chairman (1981); Chairman-Elect (1980)
  - Alternate Councilor (1982)
  - Program Chairman (1980-1981)
  - Chairman, Board of Directors (1982); Member (1981-1982)
  - Chairman, Technical Specialty Group (1979-1980)
  - Member, Executive Committee (1979-1982)
- Rochester Section
  - Member of the 1975 and 1977 Harrison Howe Award Committee
- Student affiliate, member and treasurer of the Wayne State University Chapter (1965-1967)

Undergraduate Activities
- Wayne Engineer - Staff Member
- American Institute of Chemical Engineers - student affiliate

Fellow of the Chemical Society (London)
Member, American Physical Society
Executive Committee NSF/Iowa State University Summer Program in Solid State Chemistry for Undergraduate Students and College Faculty

Chairman *Potential Applications of Conducting Polymers* Study Group E of the Workshop on Conducting Polymers, Brookhaven National Laboratory, Oct. 7-9, 1985
Air Force Office of Scientific Research (AFOSR) Chemical Sciences Review Panel, July 1, 1990 -June 30, 1993
US Civilian Research & Development Foundation Electrical, Materials, and Manufacturing Sciences and Engineering Panel, June 12-13, 1996, Washington, DC, June 30, 1993
Industrial Fellow, Northwestern University Material Research Center - 1991 - 1993
NSF Materials Research Review Panels (5)
NSF Division of Materials Research (DMR) Committee of Visitors (2015)
Gordon Research Conference on Electronic Processes in Organic Materials, July 21-26, 2002 Salve Regina University, Newport, RI – Program Committee
Fulbright National Screening Committee, 2001.
International Scientific Committee for the EMRS-Symposium "Design, characterization and modeling of molecule-based magnetic materials"
DOE Council on Chemical Sciences, 2002-2004; chair in 2004

Journals Involvement

J. Polymer Science, Chemistry Edition ,Advisory Board, 1986 - 1988
Inorganic Syntheses Corporation, 1988 -
Research News Reporter for Molecular Materials, *Advanced Materials*
Chemistry of Materials, Advisory Board, 1990 - 1995
Journal of Materials Chemistry, International Advisory Board and Regional Editor, 1990 - 2003
Advanced Materials, International Advisory Board, 1994 -
Crystal Engineering, International Advisory Board, 1998 -1999
CrystEngComm (Royal Society of Chemistry) Editorial Board, 1999 - 2004; International Advisory Board, 2005-11
Inorganic Chemistry, Editorial Advisory Board, 2001-2003
Chemistry - A European Journal, Editorial Advisory Board, 2000-

Guest Editor:

Interface, The Electrochemical Society, Fall, 2002 (Vol 11 # 3), issue on Molecule-based Magnets
MRS Bulletin, Materials Research Society, Nov. 2000 (Vol. 25, #11) issue on Molecule-based Magnets
Chemical Society Review, *20(#6)* June. 2011 issue on Molecule-based Magnets

McGraw-Hill *Encyclopedia of Science and Technology*, Board of Editors, 2003-
McGraw-Hill *Yearbook of Science and Technology*, Board of Editors, 2003-
North Dakota State University Spintronics Program Review Committee, Fargo, ND May 16, 2006, August 8. 2007.
National Research Council Committee for an *Assessment of and Outlook for New Materials Synthesis and Crystal Growth* (MSAC), 2007-08 (Book published 2009)

Joel S. Miller - Publications

I. Undergraduate

1. **Using Fission**, J. S. Miller, *Wayne Engineer, 37,* 16-18, March, 1966.

II. Computer Programs

2. **The Storage and Retrieval of Chemical Literature References by Computers**, S. Kirschner, J. S. Miller, *J. Japn. Chem. 22,* 342-344 (1968).

3. **Coordination Compound Analysis Program**, J. S. Miller, A. O. Goedde, *J. Chem. Ed. 50,* 431 (1973); *Quant. Chem. Prog. Exch. 10,* 299 (1976). DOI: 10.1021/ed050p431

4. **Mass Spectral Multiplet Program**, J. S. Miller, *J. Chem. Ed. 52,* 94 (1975).

5. **X-Ray Powder Diffraction Program,** J. S. Miller, S. Z. Goldberg, *J. Chem. Ed. 54,* 54 (1977) DOI: 10.1021/ed054p54; *Quant. Chem. Prog. Exch. 10,* 331 *(*1977*).*

6. **The Chemical Analysis Program**, J. S. Miller, S. H Kravitz, S. Kirschner, P. Ostrowski, P. J. Nigrey, *J. Chem. Ed. 55,* 181 (1978). DOI: 10.1021/ed055p181; *Quant. Chem. Prog. Exch. 10,* 341 (1978).

III. Dithiolene Chemistry

7. **1,2-Dithiolene Complexes of Ruthenium and Iron**, J. S. Miller, A. L. Balch, *Inorg. Chem. 10,* 1410-1415 (1971). DOI: 10.1021/ic50101a019

8. **Isomeric Conformations in a Pentacoordinated Ruthenium Compound: Crystal and Molecular Structures of the Orange and Violet Isomers of $(Ph_3P)_2Ru(CO)(S_2C_2(CF_3)_2)$,** I. Bernal, A. Clearfield, E. F. Epstein, J. S. Ricci, Jr., A. L. Balch, J. S. Miller, *J. Chem. Soc. Chem. Commun.* 39-40 (1973). DOI: 10.1039/c39730000039

9. **Synthesis and Characterization of New Iron Dithiolene Complexes**, J. S. Miller, *Inorg. Chem. 14,* 2011-2012 (1975). DOI: 10.1021/ic50150a057

10. **Photoinduced Bimolecular Ligand Migration. A New Type of Photoinduced Chemical Reaction**, J. S. Miller, D. G. Marsh, *Inorg. Chem. 21,* 2891-2893 (1982). DOI: 10.1021/ic00137a075

11. **Observation of a Three-state Picosecond Dynamic Equilibrium by 2D IR Spectroscopy**, T. M. Porter, J. Wang, Y. Li, B. Xiang, C. Salsman, J. S. Miller, W. Xiong, C. P. Kubiak, *Chem. Sci. 10*, 113-117 (2019). EDGE Article 2019 Chemical Science HOT Article Collection DOI: 10.1039/C8SC03258K

IV. Reduction of Coordinated 28 Electron Ligands

A. Isonitriles

12. **Preparation and Reactions of Some Methyl Isocyanide Complexes of Rhodium**, A. L. Balch, J. S. Miller, *J. Organomet. Chem. 32,* 263-268 (1971). DOI: 10.1016/S0022-328X(00)85079-2

13. **The Characterization of the Complexes Obtained from the Addition of Hydrazine to Hexakis(methyl isocyanide)iron(II)**, A. L. Balch, J. S. Miller, *J. Am. Chem. Soc. 94,* 417-420 (1972). DOI: 10.1021/ja00757a019

14. **Addition of Methyl Amine to Hexakis(methyl isocyanide)iron(II). The Formation of an Unusual Chelating Ligand**, J. S. Miller, A. L. Balch, J. H. Enemark, *J. Am. Chem. Soc. 93,* 4613-4614 (1971). DOI: 10.1021/ja00747a058

15. **Preparation and Reaction of Tetrakis(methyl isocyanide) Complexes of Divalent Nickel, Palladium, and Platinum**, J. S. Miller, A. L. Balch, *Inorg. Chem. 11,* 2069-2074 (1972). DOI: 10.1021/ic50115a017

16. **Hexakis(methyl isocyanide)dipalladium(I): Preparation, Structure, and Fluxional Behavior**, D. S. Doonan, A. L. Balch, S. Z. Goldberg, R. Eisenberg, J. S. Miller, *J. Am. Chem. Soc. 97,* 1961-1962 (1975). DOI: 10.1021/ja00840a063

17. **Crystal and Molecular Structure of Tetrakis(bis(methylamino)carbene)platinum(II) hexafluorophosphate, $[Pt(C(NHMe)_2)_4](PF_6)_2$,** S. Z. Goldberg, R. Eisenberg, J. S. Miller, *Inorg. Chem. 16,* 1502-1507 (1977). DOI: 10.1021/ic50172a053

B. Dinitrogen

18. **The Involvement of Titanocene and Related Species in the Reduction of Dinitrogen and Olefins**, E. E. van Tamelen, W. Cretney, K. Klaentshi, J. S. Miller, *J. Chem. Soc. Chem. Comm.* 481-482 (1972). DOI: 10.1039/C39720000481

19. **Non-Enzymic Nitrogen Fixation by an Iron-Molybdenum Model for Nitrogenase**, E. E. van Tamelen, J. S. Miller, J. A. Gladysz, *J. Am. Chem. Soc. 95,* 1347-1348 (1973). DOI: 10.1021/ja00785a063

C. Carbon Monoxide

20. **Photoelectron Spectra of Transition Metal Carbonyl Complexes: Comparison with the Spectra of Adsorbed CO,** E. W. Plummer, W. R. Salaneck, J. S. Miller, *Phys. Rev. B, 18,* 1673-1701 (1978). DOI: 10.1103/PhysRevB.18.1673

21. **Amphoteric Ligands I. Facile Acyl Formation and Crystal Structure of a Novel Complex Containing an η^2(C,O)-Acylphosphonium Ligand**, J. A. Labinger, J. S. Miller, *J. Am. Chem. Soc. 104,* 6856-6858 (1982). DOI:

10.1021/ja00388a098

22. **Amphoteric Ligands 2. Formation and Structure of a Novel C-H Bond Containing Product from $HMn(CO)_5$ and an Amphoteric Ligand**, D. L. Grimmett, J. A. Labinger, J. N. Bonfiglio, S. T. Masuo, E. Shearin, J. S. Miller, *J. Am. Chem. Soc. 104,* 6858-6859 (1982). DOI: 10.1021/ja00388a099

23. **Amphoteric Ligands 3. Reactions of Alkylmetal Carbonyls with Aluminoaminophosphine Ligands. Structure of $(\eta^5\text{-}C_5H_5)(CO)Fe(C(CH_3)Al(Et_2)N(CMe_3)PPh_2)$**, J. A. Labinger, J. N. Bonfiglio, D. L. Grimmett, S. T. Masuo, E. Shearin, J. S. Miller, *Organometallics 2,* 733-740 (1983). DOI: 10.1021/om00078a007

24. **Amphoteric Ligands 4. Reaction of $HMn(CO)_5$ with (Aluminoamino)phosphine Ligands. Structure of $(OC)_3Mn[CHOAlMe_2NBuPPh_2][PPh_2NBuAl(HCH_2)Me]$**, D. L. Grimmett, J. A. Labinger, J. N. Bonfiglio, S. T. Masuo, E. Shearin, J. S. Miller, *Organometallics 2,* 1325-1332 (1983). DOI: 10.1021/om50004a011

25. **Cobalt Catalyzed Formation of *N*-Alkylpiperidines from Synthesis Gas and Pyridine**, S. T. Masuo, J. A. Labinger, J. N. Bonfiglio, E. Shearin, J. S. Miller, *C_1 Mol. Chem. 1,* 57-64 (1984).

V. Molecule-based One-Dimensional Conducting Chains

A. Review Papers

26. **One-Dimensional Inorganic Complexes**, J. S. Miller, A. J. Epstein, *Prog. Inorg. Chem. 20,* 1-151 (1976). DOI: 10.1002/9780470166215.ch1

27. **Unusual Properties Associated with One-Dimensional Inorganic Complexes**, J. S. Miller, A. J. Epstein, *Adv. Chem. Ser. 150*, 18-30 (1976). DOI: 10.1021/ba-1976-0150.ch002

28. **Recent Developments in 1-D Materials**, J. S. Miller, *Southwest Science Forum, 1,* #2 p 2-3 (September, 1977).

29. **Introduction to the Conference on Synthesis and Properties of Low-Dimensional Materials**, J. S. Miller, *Ann. N. Y. Acad. Sci. 313,* 1-8 (1978). DOI: 10.1111/j.1749-6632.1978.tb39406.x

30. **Design and Synthesis of Highly Conducting One-Dimensional Materials**, J. S. Miller, *Ann. N.Y. Acad. Sci. 313,* 25-60 (1978). DOI: 10.1111/j.1749-6632.1978.tb39408.x

31. **Reevaluation and Extensions of Existing Systems**, K. Bechgaard, A. Bloch, P. Delhaes, L. V. Interrante, D. Jerome, S. Kagoshima, D. MacDonald, J. S. Miller, M. Weger (W. E. Hatfield, Ed.), *NATO Conference Series VI, 1,* 493-504 (1979).

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D. Ferromagnetically Coupled Systems

1. Ferrocene-Based Systems

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E. Paramagnetic Complexes

1. Metallocene Complexes

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Joel S. Miller - Presentations

Academica Sinica, Taipei, Republic of China

ACS Award Symposium for the 2000 Chemistry of Material Award, San Francisco, CA

ACS Symposium on the Recent Advances in Physical Organic Chemistry, San Francisco, CA

ACS Symposium on the Organometallic Chemistry in Materials Science, Washington, DC

ACS Symposium on Inorganic-organic Hybrids, New Orleans, LA,

ACS Symposium on Contemporary Aspects of Chemical Bonding, American Chemical Society New York, NY

ACS Symposium on 300th Anniversary of Prussian Blue, American Chemical Society San Diego, CA

ACS Symposium on Multi-electron Redox Reactions: Where Transition Metals Reign, Salt Lake City, UT

ACS Symposium on Magnetism Across Length Scales, Orlando, FL,

APS Award Symposium for the 2007 McGroddy Prize for New Materials, Denver, CO

APS Symposium on Molecular Magnets, Denver, CO

Adaptive Atoms in Physics, Chemistry, Biology, and the Environment, Los Alamos National Laboratory

Aerospace Corporation, El Segundo, CA

Allied Chemical Co., Morristown, NJ

Alvin L. Kwiram Symposium on the Electrical, Optical, and Magnetic Properties of Organic & Hybrid Materials, Seattle, WA

American Crystallographic Association, Chicago, IL

American Crystallographic Association, Salt Lake City, UT

American Crystallographic Association, Knoxville, TN

American Cyanamid, Stamford, CN

Anorganische-chemisches Institut II, Technische Universität München, Garching, Germany

Ariel University, Department of Chemistry, Ariel, IS

Ariel University, Faculity of Natural Sciences, Ariel, IS

Argonne National Laboratory, Argonne, IL, Chemistry Division

Argonne National Laboratory, Argonne, IL, Materials Science and Engineering Division

Atlantic Richfield Company, Los Angeles, CA

Association for the Progress of New Chemistry (ASPRONC), Tokyo, Japan

Assistance League of Salt Lake City, Salt Lake City, UT

Bar Ilan University Department of Chemistry, Ramat Gan, IS

Bar Ilan University, Institute of Nanotechnology and Advanced Materials, Ramat Gan, IS

BASF, Ludwigschafen, Germany

Biennial Inorganic Symposium "Inorganic Compounds with Unusual Properties II," Athens, GA

Biennial Inorganic Symposium "Inorganic Compounds with Unusual Properties III," Athens, GA

Bell Telephone Laboratories, Murray Hill, NJ

Ben Gurion University, Beer-Sheva, Israel

Brandeis University, Waltham, MA

Brigham Young University, Provo, UT

Brigham Young University, Rexburg, ID

Brookhaven National Laboratory, Brookhaven, NY

Butlerov Congress on Organic Chemistry, Kazan, Russia

California Institute of Technology, Pasedena, CA

Cambridge University, Cambridge, UK

Carnegie Mellon University, Pittsburgh, PA

Catholic University, Department of Physics, Seoul, Korea

Centre de Recherche Paul Pascal (CRPP) Matériaux Moléculaires & Magnétisme, Bordeaux, France

Central Michigan University, Mt Plesant, MI

Centre d'Etudes Nucleraires, Grenoble, France

Chalmers Tekniska Högskola, Department of Chemistry, GØteborg, Sweden

Chevron Research Laboratories, Richmond, CA

Chulalongkorn University, Bangkok, Thailand

Cicle de Conferències Magister El CeRQT i el Departament de Química Física Lecturer, University of Barcelona, Barcelona, Spain

CIC nanoGUNE, Donostia - San Sebastian, España

City University of New York, Department of Physics, New York, NY

Clark University, Department of Chemistry, Wochester, MA

COE International Symposium held in Tohoku University, Sendai, Japan

Colorado State University, Fort Collins, CO

Columbia University, New York, NY

Centro de Investigación en Química Biológica y Materiales Moleculares (CIQUS), Universidad de Santiago de Compostela, Santiago de Compostela, España

Consiglio Nationale Delle Ricerche, Institute for Materials Chemistry, Roma, IT

Conference on Electronic Materials: From Solar Cells to sein, Rehovot, IS

Coordination Chemistry Laboratory, CNRS, Toulouse, France

Coordination Chemistry Laboratorium für Anorganische Chemie, ETH, Zürich, Switzerland

Cornell University, Ithaca, NY

Cost D14 Workshop on Molecular Conductors and Magnets, Lisboa, Portugal

Crystal Engineering: From Molecules to Crystals to Materials, NATO Advanced Study Group, Erice, Italy

Current Trends in Nanoscopic and Mesoscopic Magnetism, Santorini, Greece

Dalton Discussion 3 – Inorganic Crystal Engineering, Bologna, Italy

Daresbury Laboratory, Daresbury UK

DARPA Defense Sciences Research Council Meeting on Materials Impossible: What are the Limits of Useful Properties, Arlington, VA

DFG Priority Program on Molecular Magnetism, Bad Dürkheim, Germany

DoD Workshop on Conducting Polymers, Brookhaven, NY

DoE Workshop on Fundamental Research Needs in Organic Electronic Materials, Salt Lake City, UT

DoD Workshop on Electroactive Polymers, Brookhaven, NY

DoE, Chemistry Division, Gaithersberg, MD

DoE Materials Chemistry PIs Meeting, Annapolis, MD

Drexel University, Philadelphia, PA

Ehime University, Department of Chemistry, Matsuyama, Japan

E. I. du Pont de Nemours & Co., Inc, Wilmington, DE

Eight International Conference on Organometallic Chemistry, Kyoto, Japan

European Asia Chemical Society, 18th, Hanoi, Viet Nam

12th European School on Molecular Nanoscience (ESMolNa2019), Elche, España

Evergreen State University, Olympia, WA

Exxon Research and Engineering Laboratory, Annadale, NJ

Favorski Irkutsk Institute of Chemistry Siberian Branch of Russian Academy of Sciences, Irkutsk, Russian

Foster-Miller, Waltham, MA

Fourth International Kyoto Conference, Kyoto, Japan

Frontiers of Bonding Symposium, ACS Western Regions Meeting, Logan, UT

Frontiers in Chemistry Series, Case-Western Reserve, Cleveland, OH

Frontiers in Chemistry Series, Wayne State University, Detroit, MI

Frontiers of Physical Chemistry of Molecular Materials, Nagoya, Japan

Fudan University, Department of Chemistry, Shanghai, China
Fujihara Seminar (57th) nternational Conference on New Prospects on Molecular Magnets, Tomakomaki, Japan
Fukuoka University, Fukuoka, Japan
Georgetown University, Washington, DC
George Washington University, Washington, DC
Georgia Institute of Technology, Atlanta, GA
Gerhardt M. J. Schmidt Lecturer, Weizmann Institute of Science, Rehovot, Israel
Golden Jubilee, DAE Solid State Physics Symposium, Bhabha Atomic, Research Centre, Trombai, India
Gordon Research Conference on Donors and Acceptors
Gordon Research Conference on Inorganic Chemistry (Several)
Gordon Research Conference on Organometallic Chemistry(Several)
Gordon Research Conference on Physical Organic Chemistry
Gordon Research Conference on Supramolecular Organic Chemistry, Fukuoka, Japan
Gunma University, Kiryu-shi, Japan
Guttenberg University, Short Course on Molecule-based Magnets, Mainz. Germany
Harvard University, Cambridge, MA
Hebrew University, Jerusalem, Israel
High-Spin Molecules and Molecule Magnets, Nizhny Novgorod, Russia
VII International conference on High-Spin Molecules and Molecule Magnets, Novosibirist, Russia
VIII International Conference on High Spin Molecules and Molecular Magnets, Astrakhan, Russia
Hiroshima University, Department of Chemistry, Hiroshima, Japan
Hong Kong University, Department of Chemistry, Hong Kong, China
Hughes Aircraft Company, Long Beach, CA
ICI, Runcorn, UK
Idaho State University, Department of Chemistry, Pocatello, ID
Idaho State University, Department of Physics, Pocatello, ID
Immunicon Corporation, Willow Grove, PA
Institute of Chemical Technology, Mumbai, India
Institute of Chemistry, Chinese Academy of Sciences, Molecular Science Forum Lecture, Beijing, China,
India Decennial Nano 2018, Bengaluru, India
Indian Institute of Technology, Mumbai, India
India Institute of Science (IISc), Solid State and Structural Chemistry (SSSC) Unit, Bengaluru, India
Indian Institute of Science Education and Research (IISER), Department of Chemistry, Pune, India
Indian Institute of Science Education and Research (IISER), Department of Physics, Pune, India
Institut de Chemie de la Mateière Condensée de Bordeaux, ICMCD, Bordeaux, France
Institut de Science et d'Ingénierie Supramoléculaires (ISIS), Universite Louis Pasteur, Strasbourg, France
Institute for Materials Chemistry and Engineering, Kyushu University, Fukuoka, Japan
Institute of Molecular Spectroscopy, National Research Council, Bologna, IT
International Congress on Advanced Materials (2nd, AM2013), Zhenjiang, China
International Conference on Crystalline Organic Solids, Mittleberg, Austria
International Conference on Functional Metal Organics & Hybrids, Kolkata, India
International Conference on Low-Dimensional Conductors and Superconductors, Les Arcs, France
International Conference on Low-Dimensional Synthetic Metals, Albano Terme, Italy
International Conference on Low-Dimensional Synthetic Metals, Santa Fe, NM
International Conference on Electronics of Organic Materials, Taskent, USSR
International Conference on Magnetic Materials and Applications (ICMAGMA-2018)

10th International Conference on Materials for Advanced Technologies Symposium on Functional π-Systems Materials and Devices, Singapore, Singapore

10th International Conference on Materials for Advanced Technologies Symposium on Magnetic and Spintronic Materials and Devices, Singapore, SIngapore

National Institute of Science Education and Research (NISER), Bhubaneswar, Odisha, India,

International Conference on Molecular Materials in Electronics and Optoelectronics, Les Arcs, France

International Conference on Novel Magnetic Materials, London, UK

International Conference on Organic Semiconductors - 40 Years, Okazaki, Japan

International Conference of Pure & Applied Chemistry, Tokyo, Japan

International Conference on Quasi 1-D Conductors, Dubrovnik, Yugoslavia

International Conference on the Chemistry of the Organic Solid State IX, Lake Como, Italy

International Conference on the Chemistry of the Organic Solid State XII, Matsuyama, Japan

International Conference on the Chemistry of the Organic Solid State XVI, Sydney, Australia

International Conference on Coordination Chemistry (38th), Jerusalem, Israel

International Conference on Coordination Chemistry (43rd), Sendai, Japan

International Conference on the Electrical Transport & the Optical Properties of Inhomogeneous Media, Salt Lake City, UT

International Conference on Molecule-Based Magnets (1st): Ferromagnetic and High Spin Molecular Based Materials), Dallas, TX

International Conference on Magnetic Materials & Applications (MagMA-2013), Guwahati, India

International Conference on Molecule-Based Magnets (2nd): Magnetic Molecular Materials), Il Ciocco, Italy

International Conference on Molecule-Based Magnets (3rf): Chemistry and Physics of Molecular-Based Magnetic Materials), Tokyo, Japan

International Confrence on Molecule-Based Magnets (4th), Salt Lake City, UT

International Conference on Molecule-Based Magnets (5th) Osaka, Japan

International Conference on Molecule-Based Magnets (6th) Seignoisse, France

International Conference on Molecule-Based Magnets (7th) San Antonio, TX

International Conference on Molecule-Based Magnets (8th) Valencia, Spain

International Conference on Molecule-Based Magnets (9th) Tsukaba, Japan

International Conference on Molecule-Based Magnets (10th) Victoria, Canada

International Conference on Molecule-Based Magnets (11th) Firenze, Italy

International Conference on Molecule-Based Magnets (12th) Beijing, China

International Conference on Molecule-Based Magnets (13th) Orlando, FL

International Conference on Molecule-Based Magnets (14th) St. Petersburg, Russia

International Conference on Molecule-Based Magnets (15th) Sendai, Japan

International Conference on Molecule-Based Magnets (16th) Rio de Janerio, Brazil

International Conference on Porphyrins and Phthalocyanines, Dijon, France

International Conference on the Science and Technology of Synthetic Metals, Seoul, Korea

International Symposium on Synthesis and Function of New Organic Materials, Osaka, Japan

International Conference on Synthetic Metals, Göteborg, Sweden

International Conference on Synthetic Metals, Guangzhou, China

International Conference on Synthetic Metals, Salt Lake City, UT

International Conference on Synthetic Metals, Wollongong, Australia

International School & Symposium on Multifunctional Molecule-based Materials, Argonne National Laboratory, Argonne, IL

International Symposium on Supramolecular Chemistry,12th, Eilat, Israel

International Winter School-2018 on Frontiers in Materials Science, Bengaluru, India

Institute for Molecular Science, Okazaki, Japan

Institute for Molecular Science, Center for Integrative Molecular Systems, Okazaki, Japan

Institute of Chemical Physics, USSR Academy of Sciences, Moscow, USSR
Institut de Chemie Moleculaire, Universite de Paris-Sud, Orsay, France
Institut de Ciencia de Materials de Barcelona (ICMAB), Bellaterrra, Spain
Institut de Physique et Chemie des Materiaux de Strasbourg, Strasbourg, France
Institute for Solid State Physics, University of Tokyo, Tokyo, Japan
Institut Le Bel, Université Louis Pasteur, Strasbourg, France
Institute of Problems of Chemical Physics, Chernogolovka, Russia,
Institute of Scientific and Industrial Research, Osaka University, Osaka, Japan
Institute of Materials Research and Engineering (IMRE), Singapore, Singapore
Internat. Conf. on Optical Properties of Conducting Polymers and Fullerenes, (2nd) Salt Lake City, UT
International Tomography Center, Siberian Branch of the Russian Academy of Sciences, Novosibirsk, RU
International Workshop on Novel Nanomagnetic and Multifunctional Materials, Seoul, KR
International Workshop Commemorating the 10th Anniversary of the Discovery of the Organic Spin Valve, University of Utah, Salt Lake City, UT
International Vanadium Symposium (V8), 8th, Arlington, VA
Israel Materials Science Society (AGIL), Netanyia, Israel
Iowa State University, Ames, IA
Israeli Crystallographic Association, Technion, Haifa, Israel
Jagiellonian University, Inorganic Molecular Materials, Department of Chemistry, Krakow, Poland
Jawaharlal Nehru Centre for Advanced Scientific Research (JNCASR), Chemistry and Physics of Materials Unit, Bangalore, India
Jawaharlal Nehru University, School of Physical Sciences, New Dehli, India
John Hopkins University, Department of Physics, Baltimore, MD,
Kumamoto University of , Department of Chemistry, Kumamoto, Japan
Kahn Lecture, 11th International Conference on Molecule-based Magnets, Florence, Italy
Kongju National University, Department of Chemistry, Kongju, Korea
Korea Advanced Institute of Science and Technology, Department of Chemistry, Taegon, Korea
Korea Research Institute of Chemical Technology, Department of Chemistry, Taegon, Korea
Korean Physical Society, Daegu, Korea
Kyoto University, Kyoto, Japan
Kwansei Gakuin University, School of Science and Technology, Senda, Japan
Laboratoire de Chimie Supramoléculaire, University of Strasbourg, Strasbourg, France
Laboratoire de Magnétisme Louis Néel, Grenoble, France
Laboratorie of Propriétés Optiques Magnétiques Architectures Moléculaires (POMAM), University of Strasbourg, Strasbourg, FR
Laboratory of Coordination Chemistry, Department of Chemistry, Osaka University, Osaka, Japan
Lever Research Corporation, Edgewater, NJ
Linköping Universitet Center For Advanced Materials, Linköping Sweden
Loker Hydrocarbon Institute, University of Southern California, Los Angeles, CA
Los Alamos National Laboratory, Department of Chemistry, Los Alamos, NM
Lucent Technologies, Murray Hill, NJ
McElvain Lecture, University of Wisconsin, Madison, WI
Magical Magnets, Salt Lake City Science Pub, Salt Lake City, UT
Magnetism and Magnetic Material Conference, 32nd, Chicago, IL
Massachusetts Institute of Technology, Cambridge MA
Materiales Multifuncionales de Metales Estratégicos Santiago, Chile
Max Planck Institute for Solid State Chemistry, Stuttgart, Germany
Materials & Interfaces Department, Weizmann Institute of Science, Rehovot, Israel
Materials Research Society Symposia, Boston, MA

Max Planck Institute for Polymer Science, Mainz, Germany

Meijo University, Workshop on the Development of Electronic Multifunction Based on Organic triangular Spin Lattice, Nagoya, Japan,

Mendeleev Congress, 20th, Yekaterinburg, Russia

Mendeleev Congress, 21st, St. Petersburg, Russia

Michigan State University, East Lansing, MI

MIT Industrial Conference on Interface Chemistry, Cambridge, MA

Modern Trends in Molecular Magnetism, Indian Institute of Science Education and Research (IISER), Bhopal, India

Mitsushita Research Institute of Tokyo, Kawasaki, Japan

Nagoya Conference on Perspectives in Organic-inorganic Hybrid Solids, Nagoya, Japan

Nagoya University, Nagoya, Japan

Nanjing University, Department of Chemistry, Nanjing, China

Nanjing University, School of Chemistry & Chemical Engineering, Nanjing, China,

Nanjing University of Science and Technology, Nanjing, China

Nanjing University of Posts & Telecommunications, Nanjing, China

National Institute of Science and Technology, NIST, Gaithersburg, MD

National Science Foundation Workshop on Inorganic Chemistry, Leesburg, VA

National Science Foundation Workshop on Materials Chemistry, Pasadena, CA

National Science Foundation Workshop on Organometallic Chemistry, Asilomar, CA

National Science Foundation US - France Binational Meeting, Austin, TX

National University of Singapore, Department of Chemistry, Singapore, Singapore

National Taiwan University, Taipei, Republic of China

NATO Adv. Res. Workshop on Low-Dimensional Solids, Tomar, Portugal

NATO Adv. Res. Workshop on Molecular Magnetic Materials, Il Ciocco, Italy

NATO Adv. Res. Workshop on Molecular Metals, Les Arcs, France

NATO Adv. Res. Workshop on Supramolecular Engineering of Synthetic Metallic Materials: Conductors and Magnets, Sitges, Spain

NATO Advanced Study Institute. on Low-Dimensional Solids, Menorica, Spain

NATO Advanced Study Institute on Magnetic Materials, Tenerife, Spain

NATO Advanced Study Institute on Crystalline Materials Properties, Erice, Italy

Naval Surface Warfare Center, Carderock Division Headquarters, West Bethesda, MD

NCRS "Demokritos" Institute of Materials Science, Athens, Greece

New Materials for Energy Conversion and Storage, Queenstown, New Zealand

New Mexico Tech, Department of Chemistry, Sacorro, NM,

New Research Crossroads in Molecular Conductors and Magnets Conference, Nagoya University, Nagoya, Japan

New York Academy of Sciences, New York, NY

New York University, Department of Chemistry, New York, NY

New York University, Department of Physics, New York, NY

Nichol's Symposium, White Planes, NY

Nobel Symposium NS-81 on Conjugated Polymers and Related Materials: The Interconnection of Chemical and Electronic Structure, Lulea, Sweden

North Carolina State University, Department of Chemistry, Raleigh, NC

North Carolina State University, Department of Physics, Raleigh, NC

North Dakota State University, Center for Nanoscale Science and Engineering, Fargo, ND

Northeastern University, Boston, MA

Northern Arizona University, Flagstaff, AZ

Northwest University, Department of Chemistry, Xian, China

Northwestern University, Department of Chemistry Evanston, IL

Northwestern University, Department of Materials Science, Evanston, IL
Northwest Regional American Chemical Society Meeting (59th) & Rocky Mountain Regional Meeting, Logan, UT
Novartis Foundation Meeting on Molecular Electronics, London, UK
Novel Functional Molecules with Materials Applications, Chinese University of Hong Kong, Hong Kong
Noyori Material Science Laboratory, Nagoya University, Nagoya, Japan
N. S. Kurnakov Institute of General & Inorganic Chemistry, Russian Academy of Sciences, Moscow, Russia
Oak Ridge National Laboratory, Oak Ridge, TN
Occidental Research Corporation, Irvine, CA
Oesper Symposium, Cincinnati, OH
Ohio State University, Department of Chemistry, Columbus, OH
Ohio State University, Department of Physics, Columbus, OH
Ohio State University, Department of Physics, Exploration of Novel Complex Materials (ENCOMM), Columbus, OH
Okayama Science University, Department of Chemistry, Okayama, Japan
Oki Physical Organic Symposium, Tokyo University, Japan
Open Shell Compounds and Molecular Spin Devices, Kazan, Russia
Organic Reaction Mechanisms Conference, #24, Orono, ME
Osaka City University, Materials Science Department, Osaka, Japan
Osaka City University, Chemistry Department, Osaka, Japan
Osaka Prefecture University, Department of Chemistry, Osaka, Japan,
Osaka Prefecture University, Department of Physics, Osaka, Japan,
Osaka University, Chemistry Department, Osaka, Japan
Osaka University, Research Center for Structural Thermodynamics, Osaka, Japan
Oxford University, Oxford, UK
PacifiChem 2005 Symposium on Magnetism: Molecules to Functional Materials, Honolulu, Hawaii
Peking University, College of Chemistry and Molecular Engineering, Beijing, China
Pennsylvania State University, Materials Science Institute, State College, PA
Polish Chemical Society, Krakow, Poland
Princeton University, Princeton, NJ
Puson National University, Buson, Korea
Queen Mary College, London, UK
Research Center for Spectroscopy, University of Tokyo, Hongo Campus, Tokyo, Japan
Riken Research Institute, Tokyo, Japan
Rising Star Conference, Institute for Materials Research Tohoku University, Sendai, Japan
Royal Society of Chemistry, Dalton Discussion #9, Functional Molecular Assemblies, Manchester, UK
Royal Society Discussion Conference on "Molecular Chemistry in Electronics," London, UK
Rochester Institute of Technology, Rochester, NY
Rockwell International Atomics International, Canoga Park, CA
Rockwell International Science Center, Thousand Oaks, CA
Royal Institute of Technology, Stockholm, Sweden
Russian-Japanese workshop X "Open Shell Compounds and Molecular Spin Devices", Novosibirst, Russia
Russian Cluster of Conferences on Inorganic Chemistry, InorgChem2018, Astrakhan, Russia
Sandia National Laboratories, Albuquerque, NM
San Francisco State University, San Francisco. CA
Sanibel Symposium, St. Augustine, FL
San Jose State University, San Jose, CA
Scientific school for young scientists on "Design of Magnetoactive Compounds", Novosibirst, Russia

2nd Scientific school for young scientists on "Design of Magnetoactive Compounds", Irkust, Russia

Seagate Corp., Bloomington, MN

Seoul National University, Department of Chemistry, Seoul, Korea

Seoul National University, Department of Physics, Seoul, Korea

Shanghai University, Department of Chemistry, Shanghai, China

Shimane University, Department of Chemistry, Matsue, Japan

Simon Fraser University, Vancouver, British Columbia, Canada

Solar Energy Research Institute, Golden, CO

Spins in Organic Semiconductors, Salt Lake City, UT

Spins in Molecular Systems: Experiment, Theory and Applications (SiM-2019), Bengaluru, India

Suzhou University, Department of Chemistry, Suzhou, China

Stanford University, Stanford, CA

State Key Laboratory of Physical Chemistry of Solid Surfaces Xiamen University, Xiamen, China

State University of New York, Department of Chemistry, Buffalo, NY

State University of New York, Department of Chemistry, Stony Brook, NY

State University of New York, Department of Physics, Stony Brook, NY

Stauffer Chemical Company, Dobbs Ferry, NY

St. Olaf College, Northfield, MN

Structural Chemistry Department, Weizmann Institute of Science, Rehovot, Israel

Sun Yat-Sen University, Department of Chemistry, Guangzhou, China

Symposium en L'Honneur De L'Activite et du Parcours Scinetifiques de Marc Drillon, Institut de Physique et Chemie des Materiaux de Strasbourg (IPCMS), Strasbourg, FR

Symposium in Honor of Artthur J. Epstein's Day's 60th Birthday Columbus, OH

Symposium in Honor of Peter Day's 65th Birthday Festscrift, London, UK

Symposium of Research Center for Structural Thermodynamics, Osaka, Japan

Symposium on Contemporary Aspects of Chemical Bonding, American Chemical Society National Meeting, New York, NY

Symposium on Free Radicals: From Molecules to Materials, Pacifichem 2000, Honolulu, HI,

Symposium on Functional Magnetic Materials, PacifiChem 2010, Honolulu, HI

Symposium on the Development of Molecular Conductors and Magnets of New Functionality, Kyoto, Japan

Symposium on Multifunctionality of Inorganic, Organic and Their Hybrid Solids, Part II. Molecular Magnetism and Related Properties, Pacifichem 2000, Honolulu, HI

Symposium on Free Radicals: From Molecules to Materials, Pacifichem 2000, Honolulu, HI

Symposium on "Initiatives for Attractive Education in Graduate School of Physics and Chemistry" and "Application of Advanced Analytical Techniques to Chemical Substances, Tokyo Metropolitan University, Tokyo, Japan

Symposium on From Diradicals & Polyradicals to Functionalized Materials: Theory Meets Experiment, 250th ACS Meeting, Boston, MA

Symposium on Synthetic Chemistry Approaches to Magnetic Materials, 250th ACS Meeting, Boston, MA

Synmetals Workshop on Conducting Polymers, Los Alamos, NM

Technische Hochschule Darmstadt, Institüt fur Physikalische Chemie, Darmstadt, Germany

Technische Universität München, Garching, Germany

Technion, Department of Chemistry, Haifa, Israel

Technion, Schulich Faculty of Chemistry, Haifa, Israel

Technion, Department of Chemistry Colloqium, Haifa, Israel

Technion, Department of Physics, Haifa, Israel

Tel Aviv University, Department of Organic Chemistry, Tel Aviv, Israel

Tel Aviv University, School of Chemistry, Tel Aviv, Israel

Temple University, Philadelphia, PA

Texas A&M University, College Station, TX

Texas Lutheran University, Saguin, TX

Third Osaka City University International Symposium on Molecular Science, Osaka, Japan

TobinStock, Northwestern University, Evanston, IL

Tohoku University, Department of Chemistry, Sendai, Japan

Tokyo Metropolitan University, Tokyo, Japan

Tokyo Institute of Technology, Department of Chemistry, Tokyo, Japan

Tsinghua University, Department of Chemistry, Beijing, China

Universidad Autónoma de Madrid, IMDEA-Nanociencia, Madrid, España

Universidad Autónoma de Malaga, Departamento de Química Fisica, Malaga, España

Universidad de Barcelona, Cicle de Conferències Magister El CeRQT i el Departament de Química Física Lecturer, Barcelona, España

Universidad de Barcelona, Departament de Química Física Lecturer, Barcelona, España

Universidad de Barcelona, Departament de Química Física, Barcelona, España

Universidad de Granada, Departament de Quimica Inorganica, Granada, España

Universidad de Madrid, Departament de Quimica Inorganica, Madrid, España

Universidad de Sevilla, Departament de Química Física, Sevilla, España

Universidad de Valencia, Departament de Quimica Inorganica, Valencia, España

Universidad de Valencia, Instituto de Ciencia Molecular (ICMol), Valencia, España

Universidad de Zaragoza, Instituto de Ciencia de Materials de Aragon, Zaragoza, España

University of Århus, iNano Intstitute, Århus, Denmark

University of Arizona, Tucson, AZ

University of California at Berkeley, Berkeley, CA

University of California at Berkeley, Department of Chemistry, Berkeley, CA

University of California at Davis, Davis, CA

University of California at Irvine, Irvine, CA

University of California at Los Angeles, Los Angeles, CA

University of California at San Diego, La Jolla, CA

University of California at Riverside, Riverside, CA

University of California at Santa Barbara, Golita, CA

University of Cinncinnati, Cinncinnati, OH

University of Colorado, Boulder, CO

University of Copehenagen, Orsted Intstitute, Copehenagen, Denmark

University of Chicago, Chicago, IL

University of Cyprus, Nocosia, Cyprus

University of Delaware, Newark, DE

University of Durham, Durham, UK

University of Florence, Department of Chemistry, Florence, IT

University of Florida, Gainsville, FL

University of Hawaii at Manoa, Honolulu, HI

University of Hokkaido, Sapporo, Japan

University of Idaho, Moscow, ID

University of Illinois, Urbana, IL

University of Kentucky, Lexington, KY

University of Kyoto, Kyoto, Japan

University of Leiden, Department of Inorganic Chemistry, Leiden, The Netherlands

University of Maine, Orono, ME

University of Manchester, Manchester, UK

University of Manchester Institute of Technology, Manchester, UK

University of Massachusetts, Department of Chemistry, Amherst, MA

University of Michigan, Ann Arbor, MI

University of Missouri St. Louis, Department of Chemistry, St. Louis, Mo,

University of Missouri Columbia, International Institute of Nano and Molecular Medicine, Columbia, Mo,

University of Nagoya, Nagoya, Japan

University of Nevada, Reno, NV

University of North Carolina, Chapel Hill, NC

University of Oklahoma, Norman, OK

University of Oregon, Eugene, OR

University of Osaka, Osaka, Japan

University of Pennsylvania, Philadelphia, PA

University of Pittsburgh, Pittsburgh, PA

University of Rochester, Rochester, NY

University of Sheffield, Sheffield, UK

University of South Carolina, Columbia, SC

University of Southern California, Los Angeles, CA

University of Tennessee, Knoxville, TN

University of Texas, Austin, TX

University of Texas, Dalla, TX (Azane Meeting)

University of Tokyo, Department of Applied Chemistry, Tokyo, Hongo Campus, Japan

University of Tokyo, Department of Chemistry, Tokyo, Hongo Campus, Japan

University of Tokyo, Department of Chemistry, , 1745th Zasshikai Seminar, Hongo Campus, Tokyo, Japan

University of Tokyo, Department of Chemistry, Tokyo, Komaba Campus, Japan

University of Tokyo, Department of Applied Chemistry, Tokyo, Komaba Campus, Japan

University of Tokyo, Research Center for Advance Science & Technology, Komaba Campus, Japan

University of Tokyo, Department of Applied Chemistry, Tokyo, Japan

University of Toronto, Toronto, Canada

University of Tsukuba, Department of Chemistry, Tsukuba, Japan

University of Utah, Insider Tour, Salt Lake City, UT

University of Utah, Department of Chemistry, Salt Lake City, UT

University of Utah, Department of Chemistry, REU Program, Salt Lake City, UT

University of Utah, Department of Physics, Salt Lake City, UT

University of Utah, Department of Materials Science, College of Engineering, Salt Lake City, UT

University of Utah, Department of Materials Science, College of Engineering, Department of Metallurgical Engineering, College of Mines Joint Seminar Series, Salt Lake City, UT

University of Utah, Department of Metallurgical Engineering, College of Mines, Salt Lake City, UT

University of Utah, Materials Research & Engineering Center (MRSEC), Monthly Plasmonics & Organic Spintronics Colloquia, Salt Lake City, UT

University of Utah, 'Inside the UofU'

University of Utah, Materials Research Science and Engineering Center (MRSEC) Summer REU Program, Salt Lake City, UT

University of Utah, Department of Chemistry, Summer REU Program, Salt Lake City, UT

University of Utah, Osher Lifelong Learning Institute, Salt Lake City, UT

University of Victoria, Victoria, British Columbia, Canada

University of Washington, Seattle, WA

University of Wisconsin, Department of Chemistry, Madison, WI

University of Wisconsin, McElvan Lecture, Madison, WI

University of Wollongong, Department of Chemistry, Wollongong, Australia

Universität Stuttgart, Stuttgart, Germany

Utah Award, Salt Lake and Central Utah Sections of the American Chemical Society, Salt Lake City, UT

Villanova University, Villanova, PA

Wasada University, Tokyo, Japan

Washington State University, Pullman, WA

Weber State University, Department of Chemistry, Ogden, UT

Weizmann Institute of Science, Department of Organic Chemistry, Rehovot, IS

Weizmann Institute of Science, Materials Science Department, Rehovot, IS

Wayne State University, Detroit, MI

Willamette University, Salem, OR

Workshop on *Correlated Electrons*, Institut für Anorganische und Analytische Chemie, Universität Mainz, Mainz, Germany

1st France-USA-Korea Workshop on Nanostructured Magnetic Materials & Advanced Polymers, Strasbourg, FR

3rd Workshop on Current Trends in Molecular and Nanoscale Magnetism (CTMNM), Orlando, FL

Xerox Corporation, Webster, New York

Yale University, New Haven, CT

Zintl Institute, University of Darmstadt, Darmstadt, Germany