

Jerry Y. S. Lin

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EMPLOYMENT

Academic Appointment

2011-Pres **Regents' Professor**, Arizona State University
2009-Pres Professor of Chemical Engineering, and Affiliated Professor of Materials Science and Engineering, School for Engineering of Matter, Transport and Energy, Arizona State University, Tempe, Arizona
2006-2009 Professor and Department Chair, Department of Chemical Engineering, Arizona State University, Tempe, Arizona
2005-2006 Professor, Department of Chemical and Materials Engineering, Arizona State University, Tempe, Arizona
1991-2004 Assistant Professor (1991-1995), Associate Professor (1996-1997), Professor (1998-2004), Dept. of Chemical Engineering, University of Cincinnati, Ohio
1988-1991 Post-Doctoral Staff Member, Materials Science Group, Chemical Technology Dept., University of Twente, The Netherlands

Other Appointments

2008-Pres. **Editor**, Journal of Membrane Science (Elsevier)
2012-Pres. Visiting Senior Scientist, State Grid Cooperation of China
2006-2011 Director of Board (06-09) and Chairman, Technology Committee, ECotality Inc.
2005-2010 Adjunct Professor, Dept. of Chemical and Materials Eng., University of Cincinnati, Ohio
2003-2004 Co-Director, NSF IU/CRC Center for Membrane Applied Science and Technology, University of Cincinnati
2003-2004 Director, Chemical Engineering Program, University of Cincinnati
Associate Head, Dept. of Chemical and Materials Engineering, University of Cincinnati
1998-2003 Director of Graduate Studies, Dept. of Chemical Engineering, University of Cincinnati

Visiting Professorships

2012-Pres **George T. Piercy Distinguished Visiting Professor**, Dept. of Chem. Eng. & Mater. Sci., University of Minnesota
2001-Pres. Cheung Kong Scholar Distinguished Guest Professor, Tianjin University
2007-2001 Visiting Professor, National University of Singapore
1998-2011 Guangbiao Distinguished Guest Professor, Hengyi Professor, Zhejiang University, Hangzhou, China
2006-2009 Bairen Distinguished Guest Professor, South China University of Technology, Guangzhou, China
2003-2006 Distinguished Visiting Professor, Dalian Institute of Chemical Physics, Dalian, China
1999-2001 JSPS Fellow, Dept. Chemical Systems Engineering, University of Tokyo

EDUCATION

1992 **Sc.D.** Materials Science, University of Twente, Enschede, The Netherlands
1988 **Ph.D.** Chemical Engineering, Worcester Polytechnic Inst., Massachusetts
1985 **M.S.** Chemical Engineering, Worcester Polytechnic Inst., Massachusetts
1982 **B.S.** Chemical Engineering (Petroleum Eng), Zhejiang University, Hangzhou, China

HONORS/RECOGNITION

- **Regents' Professor, Arizona State University** (2011)
- **Fellow, American Association for the Advancement of Science (AAAS)** (2009)
- **AIChE Institute Award for Excellence in Industrial Gases Technology** (2009)
- Chinese National Science Foundation Researcher Collaboration Award (2003)
- BP Faculty Excellence Award (2002)
- University of Cincinnati College of Engineering Research Award (2002)
- Cheung Kong Scholar (2001)
- Plenary lecturer, International Conference on Inorganic Membranes (2000)
- Sigma Xi Young Investigator Award (1998)
- Exxon Education Foundation Award (1997)
- University of Cincinnati Faculty Achievement Award (1995)
- **National Science Foundation CAREER Award** (1995)
- University of Cincinnati Outstanding Chemical Engineering Professor (1993)
- National Science Foundation Research Initiation Award (1992)

EDITORIAL BOARD MEMBER

Journal of Membrane Science (2006-2008); Science Bulletin (2002-2009); Natural Science Progress (2005-2009); Journal of Chemical Engineering of Chinese Universities (1999-2008); Chinese Journal of Applied Chemistry (2001-); Frontiers of Chemical Engineering (Springer) (2006-)

TEACHING INTEREST

Transport Phenomena (Mass, Heat and Moment Transfer)
Chemical Engineering Thermodynamics
Chemical Reaction Engineering
Novel Material Processing Techniques (Sol-Gel Science, CVD Processing, Membrane Science)

RESEARCH AREAS/INTEREST

- **Inorganic Membrane Science**
(Mesoporous membranes, Microporous membranes, Zeolite membranes, Metal membranes, Dense ceramic membranes)
- **Membrane Catalysis**
(Membrane reactors for controlling selectivity, Membrane reactor for hydrogen production, Nanostructured membrane reactors)
- **Adsorption**
(New high temperatures Sorbents, Self-assembled synthesis of nanoporous materials, Transport in nanoporous and microporous materials)
- **Ionic Conducting Ceramics and Solid Oxide Fuel Cells**
(Proton-conducting ceramics, Oxygen ionic conducting ceramics, Proton-conducting solid oxide fuel cells)
- **Energy storage**
(Adsorption enhanced energy storage, Batteries)

SUMMARY OF SCIENTIFIC PUBLICATIONS AND RESEARCH ACTIVITIES:

- Lin has published
 - 214 referred papers in chemical engineering and materials science journals
 - 10 referred book chapter
 - 4 US patents
 - 54 conference proceeding papers
- Lin's journal papers have been cited over 5300 times, with H-index of 42 according to ISI Web of Science (Jan. 2012)
- Lin has given 169 invited talk (over 20 conference plenary and keynote lectures)
- Lin's fundamental research has been supported by over 70 research grants and contracts totaling over \$10,000,000. Since 1991, his work has been continuously supported, often multiple grants at a time, by the National Science Foundation.
- Lin has supervised 28 Ph.D. dissertations and 23 post-doctoral/visiting scholars; 9 of his Ph.D. students and 3 of his post-doctoral students became academics (2 in the U.S., 2 in Japan, 1 in Australia, and 7 in the rest of the world).
- Lin is Editor of the Journal of Membrane Science; has organized 9 international conferences or symposiums on membranes; he is a reviewer for 50 journals and 20 research funding agencies.

SELECTED PUBLICATIONS

Refereed Journal Articles (215)

1. Y.S. Lin and Y.H. Ma, "A comparative chromatographic study of liquid adsorption and diffusion in microporous and macroporous adsorbents," *Ind. Eng. Chem. Res.*, 28(5), 622-630 (1989)
2. Y.S. Lin and Y.H. Ma, "Analysis of liquid chromatography with nonuniform crystallite particles," *AIChE J.*, 36, 1569-1576 (1990)
3. Y.S. Lin, L.G.J. de Haart, K.J. de Vries and A.J. Burggraaf, "A kinetic study on the electrochemical vapor deposition of solid oxide electrolyte films on porous substrates," *J. Electrochem. Soc.*, 137, 3960-3966 (1990)
4. Y.S. Lin, K.J. de Vries and A.J. Burggraaf, "Thermal stability and its improvement of alumina membranes prepared by sol-gel method," *J. Materials Sci.*, 26, 715-720 (1991)
5. Y.S. Lin, and A.J. Burggraaf, "Preparation and characterization of high-temperature thermally stable alumina membrane composites," *J. Am. Ceram. Soc.*, 74, 219-224 (1991)
6. L.G.J. de Haart, Y.S. Lin, K.J. de Vries and A.J. Burggraaf, "Modified-CVD of nanoscale structure in and EVD of thin layers on porous ceramic membranes," *J. European Ceram. Soc.*, 8, 59-70 (1991)
7. L.G.J. de Haart, Y.S. Lin, K.J. de Vries and A.J. Burggraaf, "On the kinetic study of electrochemical vapour deposition," *Solid State Ionics*, 47, 331-336 (1991)
8. Y.S. Lin and A.J. Burggraaf, "Modelling and analysis of CVD processes in porous media," *Chemical Engineering Sci.*, 46, 3067-3080 (1991)
9. Y.S. Lin, K.J. de Vries, H.W. Brinkman and A.J. Burggraaf, "Oxygen semipermeable solid oxide membrane composites prepared by electrochemical vapor deposition," *J. Membrane Sci.*, 66, 211-226(1992)
10. Y.S. Lin and A.J. Burggraaf, "CVD of solid oxides in porous substrates for membrane modifications," *AIChE J.*, 38, 445-454 (1992)
11. Y.S. Lin, "A theoretical analysis on pore size change of ceramic membranes after modification", *J. Membrane Sci.*, 79, 55-64 (1993)
12. Y.S. Lin and A.J. Burggraaf, "Experimental studies on pore size change of ceramic membranes after modification", *J. Membrane Sci.*, 79, 65-82 (1993)
13. Y.S. Lin, W. Wang and J. Han, "Oxygen permeation through dense mixed-conducting oxide membranes", *AIChE J.*, 40, 786-798 (1994)
14. Y.S. Lin, C.H. Chang and R. Gopalan, "Improvement of thermal stability of porous nanostructured ceramic membranes", *Ind. Eng. Chem. Res.*, 33, 860-870 (1994)
15. C.H. Chang, R. Gopalan, Y.S. Lin, "A Comparative study on thermal and hydrothermal stability of alumina, titania and zirconia membranes", *J. Membrane Sci.*, 91, 27-45 (1994)
16. G. Xomeritakis and Y.S. Lin, "CVD of solid oxides in porous media for ceramic membrane preparation or modification. Comparison of Experimental Results with Semi-analytical Solutions", *Ind. Eng. Chem. Res.*, 33, 2607-2617 (1994)
17. G. Xomeritakis and Y.S. Lin, "CVD of solid oxides in porous media for ceramic membrane preparation or modification. Explicit solutions for deposition characteristics", *Chemical Engineering Sci.*, 49, 3909-3922 (1994)
18. J. Han and Y.S. Lin, "An improved analysis on kinetics of electrochemical vapor deposition", *Solid State Ionics*, 73, 255-263 (1994)
19. V. Jayaraman, Y.S. Lin, M. Pakala and R.Y. Lin, "Fabrication of ultrathin metallic membranes on ceramic supports by sputter deposition", *J. Membrane Sci.*, 99, 89-100 (1995)
20. S.G. Deng and Y.S. Lin, "Sol-gel preparation and properties of alumina adsorbents for gas separations", *AIChE J.*, 41, 559-570 (1995)

21. R. Gopalan and Y.S. Lin, "Evolution of pore and phase structure of sol-gel derived lanthana doped titania at high temperatures", *Ind. Eng. Chem. Res.*, 34, 1189-1195 (1995)
22. G.P. Fotou, Y.S. Lin and S.E. Pratsinis, "Hydrothermal stability of pure and modified microporous silica membranes", *J. Materials Sci.*, 30, 2803-2808 (1995)
23. R.Gopalan, C.-H. Chang and Y.S. Lin, "Thermal stability improvement on pore and phase structure of sol-gel derived zirconia", *J. Materials Sci.*, 30, 3075-3081 (1995)
24. W. Wang and Y.S. Lin, "Analysis on oxidative coupling of methane in dense ceramic membrane reactor", *J. Membrane Sci.*, 103, 219-234 (1995)
25. V. Jayaraman and Y.S. Lin, "Synthesis and hydrogen permeation properties of ultrathin palladium-silver alloy membranes", *J. Membrane Sci.*, 104, 251-262 (1995)
26. S.G. Deng and Y.S. Lin, "Sulfur dioxide sorption properties and thermal stability of hydrophobic zeolites", *Ind. Eng. Chem. Res.*, 34, 4063-4070 (1995)
27. G. Xomeritakis, S.E. Pratsinis and Y.S. Lin, "Analysis of Ceramic Membrane Modification by CVD", *Journal of Chemical Vapor Deposition*, 4, 173-196 (1996)
28. P. Huang, N. Xu, J. Shi and Y.S. Lin, "Characterization of asymmetric ceramic membranes by permoporometry", *J. Membrane Sci.*, 116, 301-305 (1996)
29. G. Xomeritakis and Y.S. Lin, "Fabrication of thin palladium membranes supported in porous ceramic substrate by chemical vapor deposition", *J. Membrane Sci.*, 120, 261-272 (1996)
30. Y.S. Lin and Y. Zeng, "Catalytic properties of oxygen semipermeable perovskite type ceramic membrane materials for oxidative coupling of methane", *Journal of Catalysis*, 164, 220-231 (1996)
31. S.G. Deng and Y.S. Lin, "Synthesis, stability and sulphation properties of sol-gel derived regenerative sorbents for flue gas desulfurization", *Ind. Eng. Chem. Res.*, 35, 1429-1437 (1996)
32. S.G. Deng and Y.S. Lin "Granulation of sol-gel derived nanostructured alumina", *AIChE J.*, 43, 505-514 (1997)
33. G. Xomeritakis, J. Han and Y.S. Lin, "Evolution of pore size distribution and average pore size of porous ceramic membrane during modification", *J. Membrane Sci.*, 124, 27-42 (1997)
34. Y. Zeng and Y.S. Lin, "Oxidative coupling of methane on oxygen semipermeable yttria doped bismuth oxide ceramics in reducing atmosphere", *Ind. Eng. Chem. Res.*, 36, 277-283 (1997)
35. S.G. Deng and Y.S. Lin "Microwave heating synthesis of supported sorbents", *Chemical Engineering Sci.*, 52, 1563-1575 (1997)
36. J. Han, G. Xomeritakis and Y.S. Lin, "Oxygen permeation through thin zirconia/yttria membranes prepared by EVD", *Solid State Ionics*, 93, 263-272 (1997)
37. J. Han, Y. Zeng, G. Xomeritakis and Y.S. Lin, "EVD synthesis and oxygen permeation properties of dense zirconia-yttria-ceria membranes", *Solid State Ionics*, 98, 63-72 (1997)
38. S.G. Deng and Y.S. Lin, "Microwave synthesis of mesoporous and microporous alumina powders", *J. Materials Sci. Lett.*, 16, 1291-1294 (1997)
39. Y. Zeng and Y.S. Lin, "Catalytic properties of yttria doped bismuth oxide ceramics for oxidative coupling of methane", *Applied Catalysis A*, 159, 101-117 (1997)
40. Y. K. Kao, L. Lei and Y.S. Lin, "A comparative simulation study on oxidative coupling of methane in fixed-bed and membrane reactors", *Ind. Eng. Chem. Res.*, 36, 3583-3593 (1997)
41. P. Huang, N. Xu, and Y.S. Lin, "Recovery of organic solvents from air by ceramic membranes", *Ind. Eng. Chem. Res.*, 36, 3815-3820 (1997)
42. J. Han, Y. Zeng and Y.S. Lin, "Oxygen permeation through fluorite type bismuth-yttrium-copper oxide membranes", *J. Membrane Sci.*, 132, 235-243 (1997)
43. G. Xomeritakis and Y.S. Lin, "Fabrication of thin metallic membranes by MOCVD and sputtering", *J. Membrane Sci.*, 133, 217-230 (1997)
44. M.V. Chandak, Y.S. Lin, W. Ji and R.J. Higgins, "Sorption and diffusion of VOCs in DAY zeolite and silicalite-filled PDMS membranes", *J. Membrane Sci.*, 133, 231-243(1997)

45. G. Xomeritakis and Y.S. Lin, "CVD synthesis and gas permeation properties of nanostructured palladium-alumina membranes", *AIChE J.*, 44, 174-183 (1998)
46. J. Kim and Y.S. Lin, "Sol-gel synthesis and characterization of yttria stabilized zirconia membranes", *J. Membrane Sci.*, 139, 75-83 (1998)
47. V. Chandak, Y.S. Lin, W. Ji and R.J. Higgins, "Sorption and diffusion of VOCs in poly (dimethylsiloxane) membranes", *J. Appl. Polymer Sci.*, 67, 165-175 (1998)
48. Z-M. Wang and Y.S. Lin, "Sol-gel synthesis of pure and copper oxide coated mesoporous alumina granular particles", *Journal of Catalysis*, 174, 43-51(1998)
49. Y.S. Lin and S.G. Deng, "Removal of trace sulfur dioxide from gas stream by regenerative sorption processes", *Separation and Purification Technology*, 13, 65-77 (1998)
50. Y. Wang and Y.S. Lin, "Sol-gel synthesis and gas adsorption properties of CuCl modified mesoporous alumina", *J. Sol-Gel Sci. Tech.*, 1, 185-195 (1998)
51. M. Pan, G.Y. Meng, C.S. Chen, D.K. Peng, Y.S. Lin*, "MOCVD synthesis of yttria doped perovskite type SrCeO₃ thin films", *Materials Letters*, 36, 44-47, (1998)
52. J. Dong and Y.S. Lin, "In-situ synthesis of P-type zeolite membrane on porous α -alumina supports", *Ind. Eng. Chem. Res.*, 37, 2404-2409 (1998)
53. M. Pan, G.Y. Meng, H.W. Xin, C.S. Chen, D.K. Peng, Y.S. Lin, "Pure and doped CeO₂ thin films prepared by MOCVD process", *Thin Solid Films*, 324, 89-93, (1998)
54. Y. Zeng and Y.S. Lin, "A transient TGA study on oxygen permeation properties of perovskite type ceramic membrane", *Solid State Ionics*, 110, 209-221 (1998)
55. M.V. Chandak and Y.S. Lin, "Hydrophobic zeolites as adsorbents for VOC removal", *Environmental Technology*, 19, 941-948 (1998)
56. J. Dong, K. Wegner and Y. S. Lin, "Synthesis of Submicron Polycrystalline Silicalite Films on Porous Ceramic Supports", *J. Membrane Sci.*, 148, 233-241 (1998)
57. Y. Zeng, Y.S. Lin and S.L. Swartz, "Perovskite type ceramic membranes: synthesis, oxygen permeation and membrane reactor performance for oxidative coupling of methane", *J. Membrane Sci.*, 150, 87-98 (1998)
58. Z-M. Wang and Y.S. Lin, "Sol-gel derived alumina alumina supported copper oxide sorbent for flue gas desulfurization", *Ind. Eng. Chem. Res.*, 37, 4675-4681 (1998)
59. J.H. Dong, P. Wang, N.P. Xu, J. Shi, (J)Y.S. Lin, "Modeling of the relationship between pore size distribution and thickness of ceramic MF membranes", *Chinese J. Chem. Eng. (English)*, 6, 222-232 (1998)
60. Y.S. Lin, X. Qi, M. Pan, G. Meng, "Hydrogen energy and solid state fuel cells", *Ionics*, 4, 444-450 (1998)
61. Y. Zeng and Y.S. Lin, "Stability and surface catalytic properties of fluorite-structured yttria doped bismuth oxide under reducing atmosphere", *Journal of Catalysis*, 182, 30-36 (1999)
62. X. Qi and Y.S. Lin, "Electric conducting properties of terbium doped strontium cerate", *Solid State Ionics*, 120, 85-93 (1999)
63. P. Wang, P. Huang, N.P. Xu, J. Shi, Y.S. Lin, "Effects of sintering on properties of alumina microfiltration membranes", *J. Membrane Sci.*, 155, 309-314 (1999)
64. D. Dionysiou, X. Qi, Y. S. Lin, G.Y. Meng, D.K. Peng, "Preparation and characterization of terbium doped SrCeO₃ membranes for proton conduction", *J. Membrane Sci.*, 154, 143-153 (1999)
65. K. Wegner, J. Dong, Y.S. Lin, "Polycrystalline MFI zeolite membranes: xylene pervaporation and its implication on membrane microstructure", *J. Membrane Sci.*, 158, 17-27 (1999)
66. G. Buelna and Y.S. Lin, "Sol-Gel Derived Nano-porous γ -Alumina Granules", *Mesoporous and Microporous Materials*, 30, 359-369 (1999)
67. Y.S. Lin, W. Ji, Y. Wang, and R.J. Higgins, "Cuprous Chloride Modified Nanoporous Alumina Membranes for Ethylene-Ethane Separation", *Ind. Eng. Chem. Res.*, 38, 2292-2298 (1999)

68. M. Pan, C. Cooper, Y.S. Lin and G. Y. Meng, "CVD Modification and Vapor/Gas Separation Properties of Nanoporous Alumina Membranes", *J. Membrane Sci.*, 158, 235-241 (1999)
69. B. McCool, G. Xomeritakis and Y.S. Lin, "Composition control and permeation properties of sputter deposited palladium silver membranes", *J. Membrane Sci.*, 161, 67-76 (1999)
70. S. Li, W. Jin, P. Huang, N. Xu, J. Shi, Y.S. Lin, "Comparison of oxygen permeability and stability of perovskite type $\text{La}_{0.2}\text{A}_{0.8}\text{Co}_{0.2}\text{Fe}_{0.8}\text{O}_{3-\delta}$ (A= Sr, Ba, Ca) membranes", *Ind. Chem. Eng. Res.*, 38, 2963-2972 (1999)
71. J. Kim and Y.S. Lin, "Synthesis and preparation of suspension derived porous ionic conducting ceramic membranes", *J. Am. Ceram. Soc.*, 82, 2641-2646 (1999)
72. S. Li, W. Jin, P. Huang, N. Xu, J. Shi, Y.S. Lin, "Experimental and modeling study on tubular perovskite type membranes for oxygen permeation", *AIChE J.*, 45, 2519-2526 (1999)
73. J. Kim and Y.S. Lin, "Synthesis and oxygen permeation properties of ceramic-metal dual-phase membranes", *J. Membrane Sci.*, 167, 123-133 (2000)
74. S. Li, W. Jin, P. Huang, N. Xu, J. Shi, Y.S. Lin, "Tubular lanthanum cobaltite perovskite type membranes for oxygen separation", *J. Membrane Sci.*, 166, 51-61 (2000)
75. W. Jin, S. Li, P. Huang, N. Xu, J. Shi, Y.S. Lin, "Tubular lanthanum cobaltite perovskite-type membrane reactors for partial oxidation of methane to syngas", *J. Membrane Sci.*, 166, 13-22 (2000)
76. X. Qi, Y.S. Lin and S.L Swartz, "Electrical transport and oxygen permeation properties of lanthanum cobaltite membranes synthesized by different methods", *Ind. Eng. Chem. Res.*, 39, 646-653 (2000)
77. J. Dong, Y.S. Lin, M.Z. Hu, R.A. Peascoe and E.A. Payzant, "Template removal associated microstructural development of ceramic supported MFI zeolite membranes", *Microporous and Mesoporous Materials*, 34, 241-253 (2000)
78. X. Qi and Y.S. Lin, "Electrical conduction and hydrogen permeation through mixed proton-electron conducting strontium cerate membranes", *Solid State Ionics*, 130 (1-2), 149-156 (2000)
79. J. Kim and Y.S. Lin, "Palladium modified macroporous and mesoporous yttria stabilized zirconia membrane", *Ind. Eng. Chem. Res.*, 39, 2124-2126 (2000)
80. R. Sondhi, Y.S. Lin, W. Zhu, F. Alvarez, " Crossflow Filtration of Synthetic Electroplating Wastewater by Ceramic Membranes Using High Frequency Backpulsing", *Environ. Technol.*, 21, 699-712 (2000)
81. Y.S. Lin, N. Yamamoto, Y. Choi, T. Yamaguchi, T. Okubo, and S.-I. Nakao, "A microscope FTIR mapping study on diffusion of hydrocarbons in single silicalite crystal particles", *Microporous and Mesoporous Materials*, 38, 207-220 (2000)
82. J. Kim and Y.S. Lin, " Synthesis and oxygen permeation properties of thin YSZ/Pd composite membranes", *AIChE J.*, 46, 1521-1539(2000)
83. R. Sondhi, Y.S. Lin and F. Alvarez, "Corssflow filtration of chromium hydroxide suspension by ceramic membranes: fouling and its minimization by backpulsing", *J. Membrane Sci.*, 174, 111-122 (2000)
84. Y. Zeng and Y.S. Lin, "Oxygen permeation and oxidative coupling of methane in yttria doped bismuth oxide membrane reactor", *Journal of Catalysis*, 193, 58-64 (2000)
85. J. Dong, W. Liu and Y.S. Lin, "Multicomponent hydrogen/hydrocarbon separation by MFI- type zeolite membranes", *AIChE J.*, 46, 1957-1966 (2000)
86. Z. Yang and Y.S. Lin, "Sol-gel synthesis of silicalite/ γ -alumina granules", *Ind. Eng. Chem. Res.*, 39, 4944-4948 (2000)
87. G. Buelna and Y.S. Lin, "Preparation of spherical alumina and copper oxide coated alumina sorbents by improved sol-gel granulation process", *Microporous and Mesoporous Materials*, 42, 67-76 (2001)

88. J. Garcia-Martinez, D. Cazorla-Amoros, A. Linares-Solano, Y.S. Lin, "Synthesis and characterization of zeolites type MFI supported on carbon materials", *Microporous and Mesoporous Materials*, 42, 255-268 (2001)
89. Y. Zeng and Y.S. Lin, "Oxidative coupling of methane on improved fluorite-structured bismuth oxide membrane reactors", *AIChE J.*, 47, 436-4444 (2001)
90. Y. Zeng and Y.S. Lin, "Synthesis and properties of copper and samarium doped yttria-bismuth oxide powders and membranes", *J. Materials Sci.*, 36,1271-1276 (2001)
91. M. Pan and Y.S. Lin, "Template-free secondary growth synthesis of MFI type zeolite membranes", *Microporous and Mesoporous Materials*, 43, 319-327 (2001)
92. Y. Zeng, F.T. Akin and Y.S. Lin, "Oxidative coupling of methane on fluorite-structured samarium-yttrium-bismuth oxide", *Appl. Catal. A*, 213, 33-45 (2001)
93. B.A. McCool and Y.S. Lin, "Nanostructured thin palladium-silver membranes: effects of grain size on gas permeation properties", *J. Materials Sci.*, 36, 3221-3227 (2001)
94. X. Qi., F.T. Akin, Y.S. Lin, "Ceramic-Glass Based High Temperature Seals for Dense ionic Conducting Ceramic Membranes", *J. Membrane Sci.*, 193, 185-193 (2001)
95. Y.S. Lin, "Microporous and dense inorganic membranes: Current Status and Prospective", *Separ. Purif. Technol.*, 25, 39-55(2001)
96. F.T. Akin, Y.S. Lin, Y. Zeng, "A Comparative Study on Oxygen Permeation and Oxidative Coupling of Methane in Disk-Shaped and Tubular Dense Membrane Reactors", *Ind. Eng. Chem. Res.*, 40, 5908-5916 (2001)
97. C.A. Cooper and Y.S. Lin, "Microstructural and gas separation properties of CVD modified mesoporous γ -alumina membranes", *J. Membrane Sci.*, 195, 35-50 (2002)
98. J.C. Diniz Da Costa, G.Q. Lu, V. Rudolph and Y.S. Lin, "Novel Molecular Sieve Silica (MSS) Membranes: Characterization and Permeation of Single-Step and Two-Step Sol-Gel Membranes", *J. Membrane Sci.*, 198, 9-21 (2002)
99. F.T. Akin and Y.S. Lin, "Controlled Oxidative Coupling of Methane on Ionic Conducting Ceramic Membrane Reactors", *Catalysis Letters*, 78 (1-4), 239-243 (2002)
100. Z. Yang, Y.S. Lin and Y. Zeng, "High-Temperature Sorption Process for Air Separation and Oxygen Removal", *Ind. Eng. Chem. Res.*, 41, 2775-2784 (2002)
101. L.Y. Piao, Y.D. Li, J.L. Chen, L. Chang, J.Y.S. Lin, "Methane decomposition to carbon nanotubes and hydrogen on an alumina supported nickel aerogel catalyst", *Catalysis Today*, 74(1-2), 145, 155, (2002)
102. F.T. Akin and Y.S. Lin, "Oxidative Coupling of Methane in a Dense Tubular Membrane with High Yields", *AIChE J.*, 48 (10), 2298-2307 (2002)
103. F.T. Akin and Y.S. Lin, "Selective Oxidation of Ethane to Ethylene in a Dense Tubular Membrane Reactor", *J. Membrane Sci.*, 209, 457-467 (2002)
104. Z. Yang and Y. S. Lin, "A Semi-Empirical Equation for Oxygen Nonstoichiometry of Perovskite-Type Ceramics", *Solid State Ionics*, 150, 245-254 (2002)
105. Y.S. Lin, I. Kumakiri, B.N. Nair, H. Alsayouri, "Microporous Inorganic Membranes", *Separation and Purification Methods*, 32(2), 229-379 (2002)
106. Z. Ye, H. Alsayouri, S. Zhu, Y.S. Lin, "Catalyst Impregnation and Ethylene Polymerization with Mesoporous Particle Supported Nickel-Diimine Catalyst", *Polymer*, 44, 969-980, (2003)
107. G. Buelna, Y. S. Lin, L. Liu and J.D. Litster, "Structural and Mechanical Properties of Nanostructured Granular Alumina Catalysts", *Ind. Eng. Chem. Res.*, 42, 442-447 (2003)
108. Z. Yang and Y.S. Lin, "Equilibrium of Oxygen Sorption on Perovskite Type Ceramic Sorbents", *AIChE J.*, 49, 793-798 (2003)
109. X. Qi, Y.S. Lin, C.T. Holt, S.L. Swartz, "Electric Conductivity and Oxygen Permeability of Modified Cerium Oxides", *J. Materials Sci.*, 38, 1073-1079 (2003)

110. J. Dong, E. A. Pyzant, M. Z.C. Hu, D. W. DePaoli, and Y.S. Lin, "Synthesis of MFI-Type Zeolite Membranes on Porous γ -Alumina Supports by Wet Gel Crystallization in Vapor Phase", *J. Materials Sci.*, 38, 979-985 (2003)
111. C. Cooper, Y.S. Lin, M. Gonzalez, "Synthesis and Characterization of LIX-84 Non-Covalently Bound Silica Sorbents for Metal Ion Recovery", *Ind. Eng. Chem. Res.*, 42, 1253-1260 (2003)
112. J.-I. Ida and Y.S. Lin, "Mechanism of high temperature CO₂ sorption on lithium zirconate", *Environmental Science and Technology*, 37, 1999-2004 (2003)
113. H. M. Alsayouri and Y.S. Lin, "Effects of Synthesis Conditions on Macroscopic and Microscopic Properties of Ordered Mesoporous Silica Fibers", *Chemistry of Materials*, 15, 2033-2039 (2003)
114. Y.K. Kao, L. Lei and Y.S. Lin, "Optimum Operation of Oxidative Coupling of Methane in Porous Ceramic Membrane Reactor", *Catal. Today*, 82, 255-273 (2003)
115. Z. Ye, S. Zhu, W. J. Wang, H. M. Alsayouri, Y.S. Lin, "Morphological and Mechanical Properties of Nascent Polyethylene Fibers Produced via Extrusion Polymerization with Metallocene Catalyst Supported on MCM-41 Particles", *Journal of Polymer Science, Polymer Physics*, 41, 2433-2443 (2003)
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SELECTED SCIENTIFIC PRESENTATIONS

Plenary Or Keynote Lectures In Conferences

1. Y.S. Lin, "Microporous and Dense Inorganic Membranes: Current Status and Prospectives", Plenary Lecture, 6th Internl. Conference on Inorganic Membranes, Montpellier, France, June 27, 2000
2. Y.S. Lin "Mesoporous and Microporous inorganic membranes: current status and prospectives", Keynote Lecture, Chemeca 2000, Workshops on Nanomaterials, Perth, Australia, July 9-12, 2000
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4. Y.S. Lin, "High Temperature Adsorption Processes with Perovskite-Type Oxide Sorbents", Keynote Lecture, 4th Pacific Basin Conference on Adsorption Science and Technology, Tianjin, China, May 22-25, 2006
5. Y.S. Lin, "Synthesis of Vertically Oriented Ordered Mesoporous Inorganic Membranes: Progress and Challenges", Invited Lecture, Gordon Research Conference, Membranes: Materials & Processes, New London, NH, August 6-11, 2006
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11. Y.S. Lin, "Zeolite Membranes for Gas Separation - Relationship Between Structure and Gas Permeation Properties", Keynote Lecture, ACS National Meeting, San Francisco, Ca, March 18-24, 2010
12. Y.S. Lin, "Gas and liquid permeation through zeolite membranes", Plenary Lecture, Sino-German Conference on Inorganic Membranes with Nano-Design, Guangzhou, China, March 22-25 (2010)
13. Y.S. Lin (co-authored Z.X. Zhao, T. Rosa, Z. Li), "Secondary Growth Synthesis and Gas Permeation Properties of Metal Organic Framework Membranes", Keynote Lecture, 2010 International Zeolite Membrane Meeting, Loutraki, Greece, May 23-27, 2010
14. Y.S. Lin, "Zeolite membranes for high temperature gas separations", Plenary Lecture, 2010 Chemical Engineering Conference, Amman, Jordan, Oct.10-13, 2010
15. Y.S. Lin, "Inorganic membranes for power generation and carbon dioxide capture", Plenary Lecture, 6th Conference of Aseanian Membrane Society/7th International Membrane Science and Technology Conference, Sydney, Australia, Nov.22-26, 2010
16. Y.S. Lin, "Inorganic membranes for carbon dioxide capture", Keynote lecture, 2011 International Symposium on Inorganic Membranes, Hiroshima, Japan, Jan.7, 2011
17. Y.S. Lin, "Microporous crystalline inorganic membranes for gas separation", Plenary Lecture, 2011 Taiwan International Conference on Membranes, Chungyi, Taiwan, May 26, 2011

18. Y.S. Lin, "High Temperature Proton-Conducting Ceramic Membranes for Process Intensification" Plenary Lecture, International Conference on Process Intensification, Beijing, China, June 26-29, 2011
19. Y.S. Lin, "Ceramic-carbonate dual-phase membrane for high temperature carbon dioxide separation", Keynote lecture, International Conference on Membrane Materials and Processes (ICOM2011), Amsterdam, Netherland, July 24-29, 2011
20. Y.S. Lin, "Zeolite membranes for separation and reaction: from dream to reality", Plenary lecture, 16th National Zeolite Conference, Beijing, China, Oct.9-13, 2011

Other Invited Lectures

21. "Ceramic membranes and their preparation and modification by CVD", *Air Products & Chemicals Co., Research Center, Allentown, Penn., USA, Aug.29, 1990*
22. "Preparation and modification of ceramic membranes by CVD", *Texaco Research Center, Beacon, NY, USA, Aug.31, 1990*
23. "Applications of membranes in gas separation and food industries", *Nestlè Westreco, Inc., Marysville, Ohio, USA, Oct.15, 1990*
24. "Pore size change of ceramic membranes after modification", *1992 Spring Meeting of Materials Research Society, San Francisco, April 27-May 1, 1992*
25. "Ceramic membrane research for methane conversion applications", *Amoco Research Center, Naperville, Illinois, February 9, 1993*
26. "Ceramic membrane for gas separations", *Westinghouse Science and Technology Center, Pittsburgh, Pennsylvania, March 4, 1993*
27. "Preparation of porous and dense ceramic membranes", *Department of Materials Science, University of Cincinnati, April 2, 1993*
28. "Porous and dense ceramic membranes", *Department of Materials Science, University of Science and Technology of China, Hefei, China, September 3, 1993*
29. "Ceramic membranes and their R and D", *Department of Chemical Technology, South China University of Technology, Guangzhou, China, September 13, 1993*
30. "Ceramic membranes for gas separation", *Department of Materials Science, Zhejiang University, Hangzhou, September 15, 1993*
31. "Ceramic membranes: a grain surface coating method for property improvement", *Department of Chemical and Nuclear Engineering, University of New Mexico, Albuquerque, NM, Oct., 26, 1993*
32. "Chemical vapor deposition in porous media for inorganic membrane fabrication", *Department of Chemical Engineering, Purdue University, West Lafayette, Indiana February 24, 1994,*
33. "Ceramic membranes and their uses in environmental processes", *Water and Hazardous Waste Treatment Research Division, US EPA, Cincinnati, Ohio, Sept.20, 1994*
34. "Sol-Gel synthesis and properties of ceramic membranes and adsorbents", *Department of Chemical Engineering, Ohio University, Athens, Ohio, Nov.9, 1994*
35. "Sol-gel synthesis of porous adsorbents for gas separation", *The BOC Technical Center, Murray Hill, NJ, Feb.2, 1995*
36. "Synthesis and properties of ceramic supported ultrathin metallic membranes", *Dept. of Chem. Eng., University of Houston, March 10, 1995*
37. "Oxygen permeable dense ceramic membranes: synthesis, oxygen permeation and surface catalytic properties", *North American Membrane Society Meeting, Portland, Oregon, May 20-24, 1995*
38. "Advanced on ceramic membrane research", *Department of Materials Science, University of Science and Technology of China, Hefei, Sept., 9, 1995*
39. "Synthesis, surface properties and gas permeation of dense inorganic metallic membranes", *Department of Chemical Engineering, Nanjing University of Chemical Technology, Nanjing, Sept. 15, 1995*

40. "Synthesis and hydrogen permeation through ceramic supported ultrathin metallic membranes", *Department of Chemical Engineering, Hong Kong University of Science and Technology*, Hong Kong, Sept. 18, 1995
41. "Tailor-designed inorganic materials for separation", *Air Products and Chemicals Inc.*, Allentown, Penn, June 25, 1996
42. "Fabrication of ultrathin metallic membranes by sputter deposition and chemical vapor deposition", *The BOC Technical Center*, Murray Hill, NJ, July 10, 1996
43. "Ceramic membranes and their applications in food industries", *Nestle Research Center*, Maryville, Ohio, Aug.9, 1996
44. "Fabrication of ceramic supported ultrathin metallic membranes by sputtering and chemical vapor deposition", *1996 International Congress on Membranes* (keynote lecture), Yokohama, Japan, Aug.19, 1996
45. "CVD fabrication of ceramic-supported metallic membranes", *Nanjing University of Chemical Technology*, Nanjing, China, Sept., 1, 1996
46. "Mixed-conducting ceramics: catalytic properties and membrane reactor applications for oxidative coupling of methane", *Exxon Corporate Research*, Annandale, NJ, Oct., 23, 1996
47. "Mixed-conducting perovskite type ceramic membranes: surface catalytic properties for oxidative coupling of methane", *Department of Chemical Engineering, University of Massachusetts*, Amherst, Feb. 6, 1997
48. "High temperature oxygen separation by sorption process", *The BOC Technical Center*, Murray Hill, NJ, April 18, 1997
49. "Mixed-conducting ceramics: oxygen permeation and surface catalytic properties", *Department of Chemical Engineering, The Ohio State University*, Columbus, Ohio, May 1, 1997
50. "Inorganic Membrane Synthesis", *North American Membrane Society Workshop*, Baltimore, MD, June 1, 1997
51. "Ultrathin metallic membranes by chemical vapor deposition", *Chemical Technology Division, Oak Ridge National Laboratory*, Oak Ridge, TENN, Sept., 16, 1997
52. "Nanostructured materials for membrane applications", *Dept. of Materials Science, University of Cincinnati*, Cincinnati, Ohio, Oct. 17, 1997
53. "Inorganic membranes", *United Technologies Co. Research Center*, Hartford, Conn., Oct.27, 1997
54. "Mixed-Conducting Ceramic Membranes", *BCC Membrane Conference on Technology/Planning*, Boston, Mass., Oct.28, 1997
55. "CVD Preparation of ultrathin metallic membranes", *Dept. of Chem. Eng., Hong Kong University of Science and Technology*, Hong Kong, Dec.12, 1997
56. "Inorganic membranes, recent development and future challenges", *Dept. of Materials Science, University of Science and Technology of China*, Hefei, China, Dec.17, 1997
57. "Recent development and future challenges of inorganic membranes", *The BOC Technical Center*, Murray Hill, NJ, Jan.29, 1998
58. "Synthesis of ultrathin metallic membranes for hydrogen separation", *Dept. Chem. Eng., University of Toledo*, OH, March 6, 1998
59. "Nanostructured ceramic adsorbents", *Dept. Chem. Eng., University of Tokyo*, Tokyo, June 22, 1998
60. "Inorganic membrane research", *University of Science and Technology of China*, Hefei, China, July 1, 1998
61. "Metallic membranes for hydrogen separation (I), and Dense ceramic membranes for OCM (II)", *Dalian Institute of Chemical Physics*, Dalian, China, July 3, 1998
62. "Dense inorganic membranes for methane conversion", *CANMET Natural Gas Consortium Workshop on Methane Conversion*, Milan, Italy, Sept. 28, 1998
63. "Tailor-designed nanostructured inorganic membranes for gas separation applications", *Sigma Xi Young Investigator Award Lecture, University of Cincinnati*, Nov.12, 1998
64. "Synthesis of ultrathin metallic membranes for hydrogen separation", *Institute of Membrane Science and Technology, Nanjing Univ. Chemical Technology, Nanjing, China*, Nov.18, 1998

65. "Zeolite membranes", *Dept. of Materials Science, Univ. of Science and Technology of China*, Hefei, Dec.29, 1998
66. "Ceramic supported zeolite membranes", *Nanjing Univ. Chemical Technology*, Nanjing, China, Dec.30, 1998
67. "Nanostructured materials for separation", *Dept. of Chemical Engineering, Tsinghua University*, Beijing, Jan.5, 1999
68. "Recent Development in inorganic membranes", *Dept. of Chemical Engineering, Tianjing University*, Tianjing, China, Jan.6, 1999
69. "Recent development in inorganic membranes: metallic and zeolite membranes", *Dept. of Chemical Engineering, Zhejiang University*, Hangzhou, China, Jan. 14, 1999
70. "Hydrophobic zeolite membranes", *BOC Technical Center*, Murray Hill, New Jersey, Feb.16, 1999
71. "Synthesis and properties of ultrathin metallic membranes", *Department of Industrial Chemistry, Seikei University*, Tokyo, Japan, April 15, 1999
72. "Hydrophobic MFI zeolite membranes: template removal associated microstructure development", *Dept. of Chemical and Environmental Engineering, National University of Singapore*, Singapore, April 29, 1999
73. "Microstructure of zeolite membrane", *Japan Fine Ceramic Center*, Nagoya, Japan, May 11, 1999
74. "Template removal associated microstructural development of MFI membranes", *Dept. of Chemistry, Chiba University*, Chiba, Japan, May 19, 1999
75. "Inorganic membrane synthesis", *Workshops in 1999 International Congress on Membranes*, Toronto, Canada, June 12, 1999
76. "Synthesis and microstructural properties of thin metallic membranes", *Dept. of Chemical Engineering, Hiroshima University*, Hiroshima, Japan, June 28, 1999
77. "Thin dense metallic membranes", *Dept. of Applied Chemistry (Morooka's lab), Kyushu University*, Fukuoka, Japan, June 29, 1999
78. "Hydrophobic zeolites and effects of template removal on their microstructure", *Japan Society of Catalysis, Microporous Materials Synthesis Seminar Series*, Tokyo, Japan, July 6, 1999
79. "Synthesis and oxygen permeation properties of thin dual phase mixed-conducting inorganic membranes", *Dept. of Chemical and System Engineering, University of Tokyo*, Tokyo, Japan, July 23, 1999
80. "Thin dual-phase inorganic membranes for oxygen separation", *Dept. of Chemical Engineering, New Jersey Institute of Technology*, Newark, NJ, Nov.22, 1999
81. "Proton-conducting ceramic membranes", *Dept. of Chemical Engineering, Case Western Reserve University*, Cleveland, Oh, April 25, 2000
82. "Proton-conducting dense ceramic membranes: synthesis and properties", *Department of Chemical Processes Engineering, Swiss Federal Institute of Technology (ETH)*, Zurich, Switzerland, June 30, 2000
83. "Microporous inorganic membranes", *Dept. of Chemical Engineering, University of Queensland*, Brisbane, Australia, July 20, 2000 (two more other lectures in the same universities)
84. "Anisotropic diffusion in zeolite particles by microscope FTIR", *Dept. of Chemical Engineering, South China University of Technology*, Guangzhou, China, Aug.5, 2000
85. "Anisotropic diffusion in zeolite particles", *Dept. of Chemical Engineering, Xiamen University*, Xiamen, China, Aug.6, 2000
86. "Zeolite membrane and diffusion in zeolite particles", *Dept. of Chemical Engineering, Tianjin University*, Tianjing, China, Aug.14, 2000
87. "CVD modification of nanoporous alumina membranes", *Dept. of Chemical Engineering, University of Colorado*, Boulder, Colorado, Nov.30, 2000
88. "Nanoporous ceramic membranes", *Brockhouse Institute for Materials Research, McMaster University*, Hamilton, Ontario, Canada, December 11, 2000
89. "Current Status of Microporous and Dense Inorganic Membranes", *The BOC Gases Research Center*, Murray Hill, NJ, December 21, 2000

90. "Microporous and Dense Inorganic Membranes", *Chemical and Biological Defense Sorbent and Filtration Workshop*, Nashville, TN, April 18, 2001
91. "Inorganic Membrane Synthesis", *North American Membrane Society Workshops*, Lexington, Ky, May 19-20, 2001
92. "Microstructure of Polycrystalline zeolite membranes", *Dalian Institute of Chemical Physics*, Dalian, China, July 27, 2001
93. "Zeolite membranes", *Chemistry Dept., Jilin University*, Changchun, China, July 28, 2001
94. "Zeolite Membrane for Gas Separation", *Chemical Engineering Dept., South China University of Science and Technology*, Guangzhou, China, Aug.6, 2001
95. "Membrane reactor for methane conversion", *Chemical Engineering Dept., Tianjin University*, Tianjin, China, Aug.7, 2001
96. "Polycrystalline Zeolite Membranes: Synthesis, Microstructure and Gas Separation Properties", *Dept. of Chemical Engineering, Georgia Institute of Technology*, Atlanta, GA, Jan.16, (2002)
97. "Proton-Electronic Conducting Ceramic Membranes", *The BOC Research Center*, Murrhill, NJ, Jan.25, (2002)
98. "Membrane Materials and Membrane Formation", *North American Membrane Society Workshop*, Long Beach, CA, May 11-12 (2002)
99. "Modified atomic CVD modification of nanoporous alumina membranes", *Dalian Institute of Chemical Physics*, Dalian, China, August 1, (2002)
100. "Anisotropic diffusion in zeolite" *Dalian Institute of Chemical Physics*, Dalian, China, August 2, (2002)
101. "Zeolite membranes", *Dept. of Chemical Engineering, Tsinghua University*, Beijing, China, Aug. 14, (2002)
102. "Zeolite membranes: microstructure and separation properties", *Dept. of Chemical Engineering, Zhejiang University*, Hangzhou, China, Aug. 15, (2002)
103. "Zeolite membranes: microstructure and separation properties", *Dept. of Chemical Engineering, Nanjing University of Science and Technology*, Nanjing, China, Aug. 20, (2002)
104. "Polycrystalline zeolite membranes for gas and liquid separation", Invited Lectures (AA2.1), *MRS Symposium, Membranes – Preparation, Properties and Applications*, Boston, December 2-5 (2002)
105. "Zeolite membranes", *Dept. of Chemical Engineering, Chang Gung University*, Tao-Yuan, Taiwan, Dec. 12 (2002)
106. "Ionic Transport Membrane Technology for Hydrogen Production and Air Separation", *Taiwan Economic Institute*, Taipei, Taiwan, Dec. 13 (2002)
107. "Proton-Conducting Ceramic Membranes with Enhanced Hydrogen Permeation Flux", *Dept. of Chemical Engineering, Cheng Kung University*, Tainan, Taiwan, Dec. 16 (2002)
108. "Proton-Conducting Ceramic Membranes with Enhanced Hydrogen Permeation Flux", *Dept. of Chemical Engineering, National Tsinghua University*, Hsingchu, Taiwan, Dec. 17 (2002)
109. "CVD Modification of Nanoporous Alumina Membranes", *Dept. of Chemical Engineering, University of Akron*, Akron, Ohio, April 3, 2003
110. "Inorganic Membranes", *North American Membrane Society Workshops*, Jackson Hole, Wyoming, May 18, 2003
111. "Proton-conducting ceramic membranes", *Dalian Institute of Chemical Physics*, Dalian, China, July 18, 2003
112. "Catalysis, Separation and Future Trends in Chemical Engineering", *Henan Academy of Science*, Zhengzhou, Henan, August 1, 2003
113. "Proton-conducting ceramic membranes", *Japan Fine Ceramic Center*, Nagoya, Japan, Oct. 14, 2003
114. "Dense ceramic membranes with enhanced hydrogen permeation flux", *Naritake Research Center*, Nagoya, Japan, Oct.14, 2003
115. "Ionic Transport and Other Membrane Technologies for Hydrogen Production", *Gas Technology Institute*, Chicago, IL, Dec.5, 2003

116. “Zeolite membranes for gas separation”, Dept. of Chem. and Petroleum Eng., University of Wyoming, Laramie, March 9, 2004
117. “Polycrystalline zeolite membranes: microstructure and gas separation properties”, Dept. of Chem. and Materials. Sci., Arizona State Univ., Tempe, AZ, April 29, 2004
118. “Inorganic membranes”, NAMS Workshop, Honolulu, Hawaii, June 26, 2004
119. “Inorganic membranes”, NAMS Workshop, Providence, RI, June 11-15, 2005 2004
120. “Oxidative coupling of methane on catalytically active dense ceramic membranes”, UOP Research Center, Chicago, IL, Sept.22, 2004
121. “Lithium zirconate sorbents for carbon dioxide separation”, Dept. of Chem. Eng., New Mexico State Univ., Las Cruces, April 22, 2005
122. “Inorganic Membranes”, Workshops Organized by 2005 Intern. Conf. On Membranes and Membrane Processes (ICOM2005), Seoul, Korea, Aug.20, 2005
123. “Synthesis of Catalysis and Membranes”, Workshops on Catalysis Design and Reaction Engineering, Tianjin Univ. (sponsored by Chinese Ministry of Education), Tianjin, China, Aug.24-25, 2005
124. “Carbon Dioxide Sorption on Lithium Zirconate”, Dept. of Chemical Engineering, South China University of Technology, Guangzhou, China, Dec. 13, 2005“Novle sorbents for carbon dioxide separation”, Gas Technology Institute, Chicago, IL, Jan. 26, 2006
125. “Fundamentals of carbon dioxide sorption on lithium zirconate”, The BOC Group, Murray Hill, NJ, Jan. 27, 2006
126. “Synthesis and structural properties of ordered mesoporous silica fibers”, Dept. of Chemical Eng., Colorado School of Mines, Golden, Co, Feb.10, 2006
127. “Inorganic Membranes’, Workshop, North Am. Membr. Soc. Annual Meeting, Chicago, IL, May 12-17, 2006
128. “High temperature sorption processes with perovskite ceramic sorbents, College of Chemical and Energy Engineering, South China University of Technology, May 24, 3006
129. “Ordered mesoporous silica fibers and membranes, Dept. of Chemical and Environmental Engineering, University of California, Riverside, Oct., 27, 2006
130. “Zeolite membranes for gas and liquid separation, Institute of Materials Research, University National Autonomous University of Mexico (UNAM), Mexico City, Mexico, May 25, 2007
131. “Inorganic membranes, NAMS Workshop, Orlando, Fl, May 13, 2007
132. “Zeolite membranes: applications and challenges, Corning Inc, Corning, NY, June 19, 2007
133. “Synthesis of inorganic membranes, Corning Inc, Corning, NY, June 19, 2007
134. “Sol-gel synthesis and characterization of nanostructured granular sorbents, Cabot Research Center, Billerica, MA, Oct. 19, 2007
135. “Vertically oriented carbon nanotube membranes, College of Engineering, South China Univ. of Technology, Guangzhou, China, Dec.10 (2007)
136. “Gas diffusion in zeolite membranes, Dept. of Chemical Engineering, Indian Institute of Technology, Kharagpur, India, Dec.18 (2007)
137. “Microporous Inorganic Membranes for Gas Separation”, UOP International Lecture Series, UOP, Chicago, Feb., 28 (2008)
138. “Carbon nanotube membranes”, Dept. of Chemical and Biomolecular Engineering, National University of Singapore, Singapore, March 25 (2008)
139. “Gas permeation through carbon nanotube membranes”, College of Chemical Engineering, Tianjin University, Tianjin, China, March 28 (2008)
140. “Inorganic membranes”, ICOM2008 Workshops, Waikiki, HI, July 12 (2008)
141. “Energy and new separation problems”, Westlake Forum, (Zhejiang University), Hangzhou, China, July 26, 2008.
142. “Carbon nanotube membranes”, Nanomaterials workshop, Zhuhai, China, Jan. 16, 2009

143. “Dual phase membranes for high temperature carbon dioxide separation”, Europe Nanomembrane Workshop, Lillestrom, Norway, March 16, 2009
144. “Nanocarbon tube membranes”, Department of Mechanical Engineering, Ukraine National University-Kharkov Polytechnic Institute, Karkiv, Ukraine, March 20, 2009
145. “High Temperature Inorganic Membranes for Uses in Energy Production and Carbon Dioxide Capture”, Dalian Institute of Chemical Physics, Dalian, China, July 13, 2009
146. “High temperature gas separation characteristics of zeolite membranes”, Dept. of Polymer Science, Zhejiang Univ., Hangzhou, China, July 15, 2009
147. “Mixed-conducting ceramics: from membranes to adsorptions”, College of Chemistry and Chemical Engineering, South China Univ of Tech., Guangzhou, China, July 17, 2009.
148. “Carbon nanotube membranes”, Nanjing University of Technology, Nanjing, China, July 30, 2009
149. “Perovskite materials from membrane and adsorption applications”, School of Chemical Engineering, Tianjin University, Tianjin, China, Sept. 17, 2009
150. “Can high temperature membranes address the energy and environment global challenges”, Zhejiang University, Hangzhou, China, June 9, 2010
151. “Inorganic membranes”, Workshops on Materials, National Autonomous University of Mexico (UNAM), June 28-July 2, 2010
152. “High Temperature Membranes for Uses in Electrical Power Generation and Carbon Dioxide Capture”, School of Electrical and Energy Engineering, Arizona State University, Sept.24, 2010
153. “Zeolite membrane for high temperature gas separation applications: gas diffusion and permeation properties”, Chem. Eng. Dept., Israel Institute of Technology (Tachnion), Haifa, Israel, Oct. 12, 2010
154. “Zeolite membranes for gas and liquid separation”, Inorganic Membrane Workshop, Victoria University, Melbourne, Australia, Nov.26, 2010-12-21
155. “Inorganic membrane based fiber optical sensors for high temperature gas sensing”, National University of Singapore, Singapore. Dec.3, 2010
156. “Fiber optical sensors for high temperature hydrogen sensing”, South China University of Technology, Guangzhou, China, Dec. 10, 2010
157. “Optical sensors for high temperature hydrogen detection”, Hiroshima University, Hiroshima, Japan, Jan.8, 2011
158. “Inorganic membranes, Workshop”, Dept. of Chemical Engineering, Hiroshima University, Hiroshima, Japan, Jan.7-9, 2011
159. “Mixed-conducting metal oxides for air separation: from membranes to adsorption”, Dept. of Chemical and Biological Engineering, University of Houston, Houston, Feb. 11, 2011
160. “Inorganic membranes for carbon dioxide capture”, King Abdulla University of Science and technology, Saudi Arabia, March 19, 2011
161. “Proton-conducting ceramic membranes”, Sichuan University, Chengdu, China, July 4, 2011
162. “Zeolite membranes for separation and reaction”, General Engineering Co., Chengdu, China, July 5, 2011
163. “Proton-conducting ceramic membranes and thin films for chemical reactions and hydrogen sensing”, Tianjin Univ., July 14, 2011
164. “Microporous crystalline inorganic membranes for gas separation”, Dept. of Chemical and Biological Engineering, University of Washington, Seattle, WA, Oct.31, 2011
165. “Microporous Zeolite and Metal-Organic-Framework Membranes for Gas Separation”, Dept. of Chem. Eng., New Mexico State Univ., Las Cruises, NM, Nov.18, 2011
166. “Adsorption of organics Adsorption of Organic Compounds in Vapor, Liquid and Aqueous Solution Phase on Hydrophobic Aerogels”, Dept. of Chem. Mol. Eng., National University of Singapore, Singapore, Dec. 14, 2011

167. “Zeolite Membranes for Gas Separation: from Dream to Reality”, Dept. of Chem. Biomol. Eng., National University of Singapore, Singapore, Dec. 26, 2011
168. “Metal organic framework membranes”, International Workshops on Nanostructured Porous Materials, Zhuhai, China, Jan.19, 2012.
169. “Adsorption of organic compounds on hydrophobic silica aerogel”, Dept. of Chemical and Environ. Eng., University of Arizona, Tucson, AZ, Feb.6, 2012

Conference Chairman/Committee Member

1. **Symposium Organizer**, MRS Symposium on Materials for Separation Technology, April 4-8, 1994, San Francisco, CA
2. International Scientific Committee Member, Third International Conference on Inorganic Membranes, July 10-14, 1994, Worcester, Mass
3. Co-chairman, First Globe Conference of Young Chinese Scientists on Catalysis Science and Technology, Sept., 12-15, 1995, Tianjin, China
4. International Scientific Committee Member, Fourth International Conference on Inorganic Membranes, July 14-18, 1996, Gatlinburg, Tenn
5. Organizing Committee Member, 1997 International Conference on Environmental Engineering and Chemical Engineering, Oct. 8-11, 1997, Guangzhou, China
6. **Conference Co-Chairman**, North American Membrane Society Tenth Annual Meeting, May 16-20, 1988, Cleveland, Ohio
7. International Scientific Committee Member, Fifth International Conference on Inorganic Membranes, June 22-26, 1998, Nagoya, Japan
8. Co-Chairman, 2001 ACS National Meeting, Advanced Membrane Materials Symposium, August 26-30, 2001, Chicago, Illinois,
9. International Scientific Committee Member, 7th International Conference on Inorganic Membranes, June 22-25, 2002, Dalian, China
10. Co-Organizer, International Union of Materials Research Society International Congress on Advanced Materials, Symposium on Materials for Membrane Separations, Oct.12-13, 2002, Yokohama, Japan
11. **Conference Chair**, 8th International Conference on Inorganic Membranes, July 18-24, 2004, Cincinnati, Ohio
12. **Symposium Chair**: Advances in Fuel Cell Research: Inorganic, Polymeric and BioFuel Cells, 230th ACS Annual Meeting, Washington, DC, Aug., 28-Sept.1, 2005 (Co-Chaired with J.G. Darab, P.N. Pintauro, E. Katz, G. P. Huffman)
13. International Scientific Committee Member, The 4th Pacific Basin Conference on Adsorption Science and Technology, May 22-26, 2006, Tianjin, China
14. International Scientific Committee Member, 9th International Conference on Inorganic Membranes, Lillehammer, Norway, June 25-29, 2006
15. International Scientific Committee Member, 2008 International Conference on Membranes and Membrane Processes, July 12-18, 2008. Waikiki, Hi
16. Vice-Chair, Gordon Research Conference on Membrane Materials and Processes, Aug., 11-15, 2008, New London, NH
17. International Scientific Committee Member, 10th International Conference on Inorganic Membranes, Aug.18-21, 2008, Tokyo, Japan
18. International Scientific Committee Member, 9th International Conference on Catalysis and Membrane Reactors, June 29-July 2, 2009, Lyon, France
19. International Scientific Committee Member, 11th International Conference on Inorganic Membranes, July 17 - 22, 2010 in Washington DC, USA

20. **Chair**, Gordon Research Conference on Membrane Materials and Processes, July 25-30, 2010, Colby-Sawyer College, New London, NH
21. International Scientific Committee Member, International Conference on Process Intensification for Sustainable Chemical Industries (ICPI2011), June 26-29, 2011, Beijing, China
22. International Scientific Committee Member, 2011 International Conference on Membranes and Membrane Processes, July 23-29, Amsterdam, Netherlands
23. International Scientific Committee Member, 12th International Conference on Inorganic Membranes, July 9 -13, 2012, Enschede, Netherlands
24. Symposium Co-Chair, 6th Sino-US Joint Conference of Chemical Engineering, Symposium Separation and Environmental Technologies, Nov.7-10, 2011, Beijing, China