RESUME

Name: **WILFRED T. TYSOE**

Citizenship: U.S. Citizen
Marital Status: Married

PRESENT POSITION:

Professor of Chemistry, University of Wisconsin, Milwaukee.

EDUCATION:

B.Sc. (Hons.) Chemical Physics (First Class)
University of Manchester, England (1972)

M.Sc. Physical Chemistry
University of Sydney, Australia (1975)

Ph.D. Physical Chemistry
University of Cambridge, England (1982)
Supervisor: Richard M. Lambert

EXPERIENCE:

2007	Distinguished Professor of Chemistry
2000-2003	Director, Laboratory for Surface Studies
1997	Deputy Director, Laboratory for Surface Studies
1994-	Editor, *Tribology Letters.*
1994-	Professor of Chemistry, University of Wisconsin-Milwaukee.
1993	Visiting Professor, Universidad Nacional de San Luis, Argentina.
1991	Visiting Professor, Universidad Nacional de La Plata, Argentina.
1990-1994	Associate Professor of Chemistry, University of Wisconsin, Milwaukee.
1984-1990	Assistant Professor of Chemistry, University of Wisconsin, Milwaukee.
1982-1984	Post-doctoral Researcher, University of California, Berkeley, California. Supervisor: Gabor A. Somorjai
1977-1979	Senior Scientist, The Plessey Company, England
1975-1977	Research Assistant, Department of Physical Chemistry, Sydney, Australia.
1972-1973	High School Teacher, Voluntary Service Overseas, Ghana, West Africa

SCHOLARSHIPS:

Henry Bertie and Florence Mabel Gritton Postgraduate Research Fellowship, University of Sydney (1973 - 1975)

SCIENTIFIC ORGANIZATIONS:

American Chemical Society
Fellow of the Cambridge Philosophical Society
American Vacuum Society
Society of Tribologists and Lubrication Engineers

TALKS PRESENTED:

Gordon Conference on Coal Science (1983)
International Conference on Coal Science, Pittsburgh, PA (1983)
California Catalysis Society, San Francisco, CA (1984)
American Chemical Society Conference, St. Louis, MO (1984)
University of Wisconsin-River Falls, River Falls, WI (1984)
University of Wisconsin-Oshkosh, Oshkosh, WI (1984)
Milwaukee Spectroscopy Society Meeting, Milwaukee, WI (1985)
Ripon College, Ripon, WI (1985)
Mid-west Catalysis Society, Chicago, IL (1985)
University of Wisconsin Chemistry Faculties Meeting, River Falls, WI (1985)
Synchrotron Radiation Center, University of Wisconsin-Madison, WI (1985) Mid-West ACS Meeting, Milwaukee, WI (1986)
University of Western Illinois, Macomb, IL (1986)
University of Western Kentucky, KY (1987)
ACS Meeting, Cleveland, OH (1987)
ACS Regional Meeting, Chicago, IL (1987)
University of Sydney, Australia (1987)
ACS National Meeting, Los Angeles, CA (1988)
STC Workshop, Milwaukee, WI (1989)
Synchrotron Radiation Center, Users Meeting, Madison, WI (1989)
University of California, Riverside, CA (1990)
University of California, Berkeley, CA (1990)
University of Minnesota, Duluth, MN (1990)
ACS National Meeting, Atlanta, GA (1991)
Laboratory for Surface Studies, Milwaukee, WI (1991)
3M Corporation, Minneapolis, MN (1991)
Catalysis Society Meeting, Lexington, KY (1991)
Jordanas Argentinas de Catalisis, Mar del Plata, Argentina (1991)
Universidad de Santa Fe, Santa Fe, Argentina (1991)
Universidad de San Luis, San Luis, Argentina (1991)
Universidad de Salta, Salta, Argentina (1992)
Universidad de La Plata, La Plata, Argentina (1992)
Argentine Atomic Energy Commission, Buenos Aires, Argentina (1992)
University of Cambridge, England (1992)
University of Wisconsin, Eau Claire, WI (1992)

University of Wisconsin-Parkside, Kenosha, WI (1992)
American Vacuum Society Meeting, Chicago, IL (1992)
Catalysis Society Meeting, Pittsburgh, PA (1993)
University of California, Berkeley, CA (1993)
ACS Meeting, Toronto, Canada (1993)
ACS Meeting, Chicago, IL (1993)
Catalysis Society Meeting, Cancun, Mexico (1993)
University of California, Riverside, CA (1993)
Aerospace Corporation, Los Angeles, CA (1993)
Universidad de San Luis, San Luis, Argentina (1993)
Chilean Physical Society Meeting, Santiago, Chile (1994)
Science Bag Public Lecture Series, Milwaukee, WI (1994)
DOE Meeting, Oconomowoc, WI (1994)
ETH Zürich, Zürich, Switzerland (1994)
Surface Science Conference, San Luis, Argentina, (1994)
University of Wisconsin-Milwaukee, Milwaukee, WI (1994)
University of Northern Michigan, Marquette, MI (1995)
ACS Meeting, Anaheim, CA (1995)
Adriatico Research Conference on the Physics of Sliding Friction, Trieste, Italy (1995)
Technical University of Vienna, Vienna, Austria (1995)
University of Milan, Milan, Italy (1995)
ETH Zürich, Zürich, Switzerland (1995)
ACS Meeting, Chicago, IL (1995)
STLE Meeting, Orlando, FL (1995)
ACS Meeting, Minnesota, MN (1995)
Pacific Rim Research Conference, Hawaii (1995)
University of Illinois-Chicago, Chicago, IL (1996)
University of New South Wales, Sydney, Australia (1996)
University of Queensland, Brisbane, Australia (1996)
ACS Meeting, Chicago, IL (1996)
Limits of Lubrication Conference, Williamsburg, VA (1996)
University of Texas, Austin, TX (1996)
Texas A&M University, College Station, TX (1996)
ACS Meeting, Normal, IL (1996)
Iowa State University, Ames, IA (1996)
Purdue University, Calumet, IN (1997)
ACS Meeting, San Francisco, CA (1977)
ACS Regional Meeting, Chicago, IL (1997)
Catalysis Society Meeting, Chicago, IL (1997)
World Tribology Congress, London, UK (1997)
Cambridge University, Cambridge, UK (19797)
Tribochemical Congress, Janowice, Poland (1997)
Technical University of Krakov, Krakov, Poland (1997)
University of Keele, Keele, UK (1997)

University of Wisconsin-Milwaukee, Milwaukee, WI (1997)
American Vacuum Society Meeting, San Jose, CA (1997)
University of Liverpool, Liverpool, UK (1997)
University of Southern California, CA (1998)
University of California, San Diego, CA (1998)
University of California, Riverside, CA (1998)
University of California, Berkeley, CA (1998)
University of Louisville, Louisville, KY (1998)
University of Sheffield, Sheffield, UK (1998)
University College Cork, Cork, Ireland (1998)
ACS Regional Meeting, Milwaukee, WI (1998)
ACS Regional Meeting, Penn State University, PA (1998)
Gordon Conference on Tribology, (1998)
University of Hull, Hull, UK (1998)
Universidad Nacional Autonoma de Mexico, Mexico City, MX (1998)
Instituto Politecnico Nacional, Mexico City, MX (1998)
Instituto de Investigaciones Metalurgicas (IIM), Morelia, MX (1998)
International Conference on XAFS, Chicago, IL (1998)
ACS National Meeting, Boston, MA (1998)
University of Wisconsin-Oshkosh, Oshkosh, WI (1998)
AVS Meeting, Baltimore, MD (1998)
Austrib '98, Brisbane, Australia (1998)
University of Queensland, Brisbane, Australia (1998)
ACS Meeting, Anaheim, CA (1999)
University of California, Berkeley, CA (1999)
AVS ICMCTF Meeting, San Diego, CA (1999)
Heriot-Watt University, Edinburgh, UK (1999)
North American Catalysis Society Meeting, Boston, MA (1999)
Surface Analysis '99, Waukesha, WI (1999)
Leeds-Lyon Conference, Leeds, UK (1999)
ECOSS, Vienna, Austria (1999)
ACS Meeting, San Francisco, CA (2000)
San Luis Conference, San Luis, Argentina (2000)
University of Wisconsin-Platteville, Platteville, WI (2000)
Eastman Chemicals, Kingsport, TN (2000)
NALCO Chemicals, Chicago, IL (2000)
Gordon Conference on Tribology, NH (2000)
Polish Academy of Sciences, Warsaw, Poland (2000)
DOE Contractors Meeting, Washington, DC (2000)
ACS Meeting, Washington, DC (2000)
AVS Meeting, Boston, MA (2000)
DOE Catalyst Futures Meeting, Berkeley, CA (2001)
ACS Meeting, San Diego, CA (2001)
STLE Meeting, Miami, FL (2001)

Universidad Nacional de San Luis, Argentina (2001)
Argonne National Laboratory, Chicago, IL (2001)
Limits of Lubrication Conference, London, UK (2001)
ACS Meeting, Chicago, IL (2001)
World Tribology Congress, Vienna, Austria (2001)
International Symposium on Tribochemistry, Krakov, Poland (2001)
Daresbury Laboratory, Daresbury, UK (2001)
Marquette University, Milwaukee, WI (2001)
Brookhaven National Laboratories, Upton, NY (2002)
Universidad Nacional de Cordoba, Cordoba, Argentina (2002)
Universidad Nacional de Mar del Plata, Mar del Plata, Argentina (2002)
Universidad Nacional de La Plata, La Plata, Argentina (2002)
Universidad Nacional de San Luis, San Luis, Argentina (2002)
Surface Canada 2002, Ottawa, Canada (2002)
University of Southampton, Southampton, UK (2002)
Mexican Materials Research Society Meeting, Cancun, Mexico (2002)
Ibero-American Conference on Catalysis, Isla Margarita, Venezuela, (2002)
ASME/STLE Meeting, Cancun, Mexico (2002)
Universidad Michoacana, Morelia, Mexico (2002)
Austrib '02, Perth, Australia (2002)
ACS Meeting, New Orleans, LA (2003)
ACS Meeting, Chicago, IL (2003)
Laboratory for Surface Studies Symposium, Milwaukee, WI (2003)
Cardiff University, Cardiff, Wales (2003)
State Key Laboratory for Solid Lubrication, Lanzhou, China (2003)
University of Science and Technology, Hefei, China (2003)
Tianjin University, Tianjin, China (2003)
Peking University, Beijing, China (2003)
National University of Bahia, Salvador, Brazil (2003)
FACSS, Fort Lauderdale, FL (2003)
2º Congreso de Catálisis, Córdoba, Argentina (2003)
University of California, Berkeley, CA (2003)
Pacific Northwest Laboratory, WA (2003)
Midwest ACS Regional Meeting, MO (2003)
University of Western Ontario, London, ON (2003)
San Luis II Conference, Merida, Venezuela (2004)
Gordon Conference on Tribology, NH (2004)
STLE Meeting, Toronto, Canada (2004)
American Chemical Society Meeting, Anaheim, CA (2004)
American Chemical Society Meeting, Philadelphia, PA (2004)
Synchrotron Users Meeting, Madison, WI (2004)
Laboratory for Surface Studies Symposium, Milwaukee, WI (2004)
Chinese Symposium on Tribology, Xi'an, China (2004)
Workshop on Molecular and Particle Processes at Solid Surfaces, San Luis, Argentina

(2004)
Northwestern University, Chicago, IL (2005)
STLE Meeting, Las Vegas, NV (2005)
DOE Contractors Meeting, Washington, DC (2005)
Tribochemistry Nara, Nara, Japan (2005)
BP Chemicals, Hull, UK (2005)
St. Andrews University, St. Andrews, UK (2005)
Leeds-Lyon Conference, Lyon, France (2005)
World Tribology Conference, Washington, DC (2005)
McGill University, Montreal, Canada (2005)
Polish Tribochemistry Conference, Krakow, Poland (2005)
American Vacuum Society Meeting, Boston, MA (2005)
ACS Meeting, Atlanta, GA (2006)
Frontiers in Boundary Lubricating Films, Lyon, France (2006)
ONR Meeting, San Diego, CA (2006)
Great Lakes ACS Regional Meeting, Milwaukee, WI (2006)
Gordon Conference on Tribology, Waterville, ME (2006)
Gordon Conference on Chemistry at Interfaces, Biddeford, ME (2006)
ACS Meeting, San Francisco, CA (2006)
University of Reading, Reading, UK (2006)
ACS Meeting, Chicago, IL (2007)
San Luis IV, Cuernavaca, Mexico (2007)
ETH Zürich, Switzerland (2007)
Celanese Corporation, Pasadena, TX (2007)
Vibrations at Surfaces 12, Erice, Sicily, Italy (2007)
ONR Meeting, Washington, DC (2007)
ACS National Meeting, Boston, MA (2007)
Europacat VIII, Turku, Finland (2007)
ONR Meeting, Gainesville, FL (2007)

PUBLICATIONS:

1. A Raman Study of the Oxidation of Zinc Sulfide. W.T. Tysoe, M.Sc. Thesis (University of Sydney, 1975)

2. Aspects of the Surface Chemistry of Hydrocarbons Over Palladium. W.T. Tysoe, Ph.D. Thesis (University of Cambridge, 1982)

3. Electro-optic Switching Device Using the Pyroelectric Effect. W.T. Tysoe and A.J. Bell, *British Patent,* GB 2086072 (1984)

4. S_2 as a Point Defect in Monosulfide Oxidation. W.T. Tysoe, E.F. McFarland and J.C. Ward. *J. Phys. Chem.,* **82,** 1597 (1978)

5. Surface Chemistry of the Metal-Halogen Interface: Bromine Chemisorption and Dihalide Formation on Pd(111). W.T. Tysoe and R.M. Lambert. *Surface Science,* **115,** 37 (1982)

6. Molecular Beam Reactive Scattering of Br_2 from Pd(111) Using an Electrochemical Effusive Source. W.T. Tysoe, N.D. Spencer and R.M. Lambert. *Surface Science,* **120,** 413 (1982)

7. Low Temperature Catalytic Chemistry of the Pd(111) Surface: Benzene and Ethylene from Acetylene. W.T. Tysoe, G.L. Nyberg and R.M. Lambert. *J. Chem. Soc., Chem. Commun.,* 623 (1983)

8. Photoelectron Spectroscopy and Heterogeneous Catalysis: Benzene and Ethylene from Acetylene on Pd(111). W.T. Tysoe, G.L. Nyberg and R.M. Lambert. *Surface Science,* **135,** 128 (1983)

9. Low Temperature Methane Production by the Catalyzed Reaction of Graphite and Water Vapor. F. Delannay, W.T. Tysoe, G. Yee, R. Casanova, H. Heinemann and G.A. Somorjai. *Proceedings of the Symposium on the Fundamentals of Gas-Carbon Reactions,* Seattle, Washington (1983)

10. Catalyzed Low-temperature Formation of Methane from Water and Graphite. W.T. Tysoe, F. Delannay, H. Heinemann and G.A. Somorjai. *Proceedings of the 1983 International Conference on Coal Science,* Pittsburgh, Pennsylvania (1983)

11. The Role of KOH in the Low Temperature Gasification of Graphite: Identification of the Reaction Steps. F. Delannay, W.T. Tysoe, H. Heinemann and G.A. Somorjai. *Carbon,* **22,** 401 (1984)

12. Distribution of Reaction Products in the KOH Initiated Low Temperature Steam Gasification of Graphite. W.T. Tysoe, F. Delannay, H. Heinemann and G.A. Somorjai. *Applied Catalysis,* **10,** 111 (1984)

13. Structural, Kinetic and Reactive Properties of the Pd(111)-Ethylene System. W.T. Tysoe, G.L. Nyberg and R.M. Lambert. *J. Phys. Chem.,* **88,** 1960 (1984)

14. The Adsorption and Catalyzed Reactions of CO and CO_2 on Graphite Surfaces. W.T. Tysoe, J. Carrazza and G.A. Somorjai. *Proceedings of the ACS Division of Fuel Chemistry, Symposium on the Gasification of Chars and Carbonaceous Materials.* St. Louis, Missouri (1984)

15. Potassium Coadsorption Induced Dissociation of CO on the Rh(111) Crystal Surface: An Isotope Mixing Study. J. Crowell, W.T. Tysoe and G.A. Somorjai. *J. Phys. Chem.,* **89,** 1598 (1985)

16. Gasification of Graphite with Steam Catalyzed by a Mixture of Potassium Hydroxide and Transition Metal Oxide. W.T. Tysoe, J. Carrazza, H. Heinemann and G.A. Somorjai. *J. Catalysis,* **96,** 234 (1985)

17. Selective Hydrogenation of Acetylene over Palladium in Ultra High Vacuum. W.T. Tysoe, G.L. Nyberg and R.M. Lambert. *J. Phys. Chem.,* **90,** 3188 (1986)

18. A UPS and XPS Investigation of the Adsorption of Sulfur on Mo(100): Adsorpion Site and Lateral Interactions. A.J. Gellman, W.T. Tysoe, F. Zaera and G.A. Somorjai. *Surface Science,* **191,** 271 (1987)

19. The Orientation and Bonding of CO on Mo(100) Using Angle-Resolved Photoelectron Spectroscopy and Near-Edge X-ray Absorption Fine Structure. J.P. Fulmer, W.T. Tysoe and F. Zaera. *J. Chem. Phys.,* **87,** 7265 (1987)

20. Structure and Reactivity at the Halogen/Metal Interface: Chemisorption, Corrosion and Reaction Pathways in the Pd(111)-Cl_2 System. W.T. Tysoe and R.M. Lambert. *Surface Science,* **199,** 1 (1988)

21. An XPS Study of the Oxidation and Reduction of the Rhenium-Platinum System under Atmospheric Conditions. W.T. Tysoe, F. Zaera and G.A. Somorjai. *Surface Science,* **200,** 1 (1988)

22. The Reactive and Kinetic Properties of Carbon Monoxide and Carbon Dioxide on a Graphite Surface. B. Marchon, W.T. Tysoe, J. Carrazza, H.Heinemann and G. A. Somorjai, *J. Phys. Chem.,* **92,** 5744 (1988)

23. The Orientation and Bonding of Thiophene on Clean Mo(100) using Angle-Resolved Ultraviolet Photoelectron Spectroscopy. J.P. Fulmer, F. Zaera and W.T. Tysoe. *J. Phys. Chem.,* **92,** 4147 (1988)

24. The Hydrogenation of CO over Molybdenum/Alumina in the Presence of Ethylene; Coupling of Olefin Metathesis and CO Hydrogenation. L.P. Wang, W.S. Millman and W.T. Tysoe, *Catalysis Letts.,* **1,** 159 (1988)

25. Determination of the Bond Orientation for CO on Mo(100) by using Angle-resolved Photoelectron Spectroscopy and Near-Edge X-ray Absorption Fine Structure. F. Zaera, J.P. Fulmer and W.T. Tysoe, *J. Vac. Sci. Technol.,* **A6,** 875 (1988)

26. Adsorption of Butadiene on Mo(100) below Room Temperature. G. Bredael, F. Zaera and W.T. Tysoe, *Langmuir,* **5,** 899 (1989)

27. The Surface Chemistry of Chlorinated Hydrocarbon Lubrication Additives. P.V. Kotvis and W.T. Tysoe. *Applied Surface Science,* **40,** 213 (1989)

28. Discovery of a Tilted Form of Benzene Chemisorbed on Pd(111): A NEXAFS and Photoemission Investigation. H. Hoffmann, F. Zaera, R.M. Ormerod, R.M. Lambert, L.P. Wang and W.T. Tysoe, *Surface Science,* **232,** 259 (1990)

29. A Determination of the Bonding and Orientation of Ethylene on Pd(111) by NEXAFS and Photoelectron Spectroscopy. L.P. Wang, W.T. Tysoe, H. Hoffmann, F. Zaera, R.M. Ormerod and R.M. Lambert, *Surface Science,* **94,** 4236 (1990)

30. The Structural, Reactive and Kinetic Properties of Acetylene on Clean Mo(100). Luping Wang and W.T. Tysoe, *Surface Science,* **230,** 74 (1990)

31. An Angle-resolved Photoelectron Spectroscopy and NEXAFS Study of the Bonding and Orientation of NO on a Mo(100) Surface. J.P. Fulmer, F. Zaera and W.T. Tysoe. *Langmuir,* **6,** 1229 (1990)

32. The Structural and Kinetic Properties of Nitric Oxide Adsorbed on Clean Mo(100) Using Auger and Thermal Desorption Spectroscopy. J.P. Fulmer and W.T. Tysoe. *Surface Science,* **233,** 35 (1990)

33. The Structural Properties and Thermal Decomposition Pathways for Ethylene Adsorbed on Clean Mo(100). Luping Wang and W.T. Tysoe. *Surface Science,* **236,** 325 (1990)

34. Propylene Conversion Reactions; Metathesis, Cyclization and Hydrogenolysis Catalyzed by Mo(100) and Oxygen-covered Mo(100). Luping Wang and W.T. Tysoe. *Catalysis Letts.,* **6,** 111 (1990)

35. An Investigation of Ethylene Hydrogenation Catalyzed by Molybdenum Using an Isolatable High Pressure Reactor: Identification of the Reaction Site and the Role of Carbonaceous Deposits. Luping Wang and W.T. Tysoe. *J. Catalysis,* **128,** 320 (1991)

36. The Adsorption, Reaction and Decomposition of Propylene on a Clean Mo(100) Surface. Luping Wang and W.T. Tysoe. *Surface Science,* **245,** 41 (1991)

37. The Use of 2s-derived Photoemission Peaks in Identifying Hydrocarbons Adsorbed on Transition Metal Surfaces. Luping Wang, Richard Hinkelman and W.T. Tysoe. *J. Electron Spec. and Rel. Phenom.,* **56,** 341 (1991).

38. The Reaction Pathway for the Growth of Alumina on High Surface Area Alumina and in Ultra-High Vacuum by a Reaction between Trimethyl Aluminum and Water. C. Soto and W.T. Tysoe. *J. Vac. Sci. Technol.,* **A9,** 2686 (1991)

39. The Surface Decomposition and Extreme Pressure Tribological Properties of Highly Chlorinated Methanes and Ethanes on Ferrous Surfaces. P.V. Kotvis, W.S. Millman, L. Huezo and W.T. Tysoe. *Wear,* **147,** 401 (1991)

40. A Reflection-Absorption Infrared Spectroscopy Study of the Adsorption of Atomic Oxygen on Silver. X.-D. Wang, W.T. Tysoe, R.G. Greenler and L. Truszckowska, *Surface Science,* **257,** 335 (1991)

41. A Reflection-Absorption Infrared Study of the Adsorption of Molecular Oxygen Species on a Silver Foil. X.-D. Wang, R.G. Greenler, L. Truszckowska and W.T. Tysoe. *Surface Science,* **258,** 335 (1991)

42. An Investigation of Film Removal in Extreme Pressure Lubrication Using Chlorinated Hydrocarbon Additives. P.V. Kotvis, M.N. James and W.T. Tysoe. *Wear,* **153,** 305 (1992)

43. Surface Decomposition and Extreme Pressure Tribological Properties of Highly Chlorinated Methanes and Ethanes on Ferrous Surfaces. P.V. Kotvis, L. Huezo, W.S. Millman and W.T. Tysoe. *Applications of Surface Science and Advances in Tribology: Experimental Approaches,* ACS Symposium Series No. 485, 1992

44. A Near Edge X-ray Absorption Fine Structure and Photoelectron Spectroscopic Study of the Structure of Acetylene on Pd(111) at Low Temperature. H. Hoffmann, F. Zaera, R.M. Ormerod, R.M. Lambert, J.M. Yao, L.P. Wang, D.W. Bennett and W.T. Tysoe. *Surface Science,* **268,** 1 (1992)

45. Communication Between Metal Centers in W(0)-W(II) Complexes Bridged by 1,4 Diisocyanobenzene: Is the Ligand Pi System Involved? D.S. Grubisha, J.S. Rommel, T.M. Lane, W.T. Tysoe and D.W. Bennett. *Inorganic Chemistry,* **31,** 5022 (1992)

46. The Surface Chemistry of Methylene Chloride on Iron: A Model for Chlorinated Hydrocarbon Lubricant Additives. P.V. Kotvis, L.A. Huezo and W.T. Tysoe. *Langmuir,* **9,** 467 (1993)

47. Overlayer Structure and Kinetic Behavior of Benzene on Palladium. W.T. Tysoe, R.M. Ormerod, R.M. Lambert, G. Zgrablich and A. Ramirez-Cuesta, *J. Phys. Chem.,* **97,** 3365 (1993)

48. The Kinetics of Propylene Metathesis Catalyzed by a Mo(100) Single Crystal. L. Wang, C.Soto and W.T. Tysoe, *Journal of Catalysis*, **143,** 92 (1993)

49. NEXAFS Identification of a Catalytic Reaction Intermediate: C_4H_4 on Pd(111). R.M. Ormerod, R.M. Lambert, H. Hoffmann, F. Zaera, J.M. Yao, D.K. Saldin, L.P. Wang, D.W. Bennett and W.T. Tysoe. *Surface Science,* **295,** 277 (1993)

50. Surface Reconstruction Effects on H and D Adsorption and Desorption Kinetics; A Monte Carlo Simulation. V. Bustos, W.T. Tysoe and G. Zgrablich, *J. Phys. C: Condensed Matter,* **5,** A239 (1993)

51. Desorption of Benzene from Pd(111): A Simulation Study. A. Ramirez-Cuesta, D. Valladares, A. Velasco, G. Zgrablich, W.T. Tysoe, R.M. Ormerod and R.M. Lambert, *J. Phys. C: Condensed Matter,* **5,** A137 (1993)

52. The Activity of Molybdenum and Molybdenum Oxide Model Catalysts for Olefin Metathesis. B. Bartlett, C. Soto, R. Wu and W.T. Tysoe, *Catalysis Letters*, **21,** 1 (1993)

53. Room Temperature Chemistry of Acetylene on Pd(111): Formation of Vinylidene. R.M. Ormerod, R.M. Lambert, H. Hoffmann, F. Zaera, L.P. Wang, D.W. Bennett and W.T. Tysoe, *J. Phys. Chem.,* **98,** 2134 (1994)

54. The Thermal Decomposition of Ethylene Oxide on Pd(111): Comparison of the Reaction Pathways for the Selective Oxidation of Ethylene and Olefin Metathesis. R.M. Lambert, R.M. Ormerod and W.T. Tysoe, *Langmuir,* **10,** 730 (1994)

55. Surface Chemistry and Extreme Pressure Lubricant Properties of Chloroform on Iron. L. Huezo, P.V. Kotvis, C. Crumer, C. Soto and W.T. Tysoe, *Applied Surface Science,* **78,** 113 (1994)

56. Infrared Spectroscopy of Trimethyl Aluminum and Dimethyl Aluminum Chloride Adsorbed on Alumina, C. Soto, R. Wu, D.W. Bennett and W.T. Tysoe, *Chemistry of Materials,* **6,** 1705 (1994)

57. Growth Kinetics and Structure of Film Formation by the Thermal Decomposition of Methylene Chloride on Iron. L.A. Huezo, C. Soto, C. Crumer and W.T. Tysoe, *Langmuir,* **10,** 3571 (1994)

58. Evidence for Olefin Metathesis Catalyzed by Metallic Molybdenum Proceeding via an Associative Mechanism at High Temperature, B. Bartlett, V.L. Schneerson and W.T. Tysoe, *Catal. Letts.,* **32,** 1 (1995)

59. The Surface Chemistry of Chloroform as an Extreme Pressure Lubricant Additive at High Concentrations. W.T. Tysoe, K. Surerus, J. Lara, T.J. Blunt and P.V. Kotvis., *Tribol. Letts.*, **1,** 39 (1995)

60. Ensuring the Constancy of the Chemical Potential within the Local Density Approximation for Exchange and Correlation: Implications for Near-Edge X-ray Absorption Fine Structure, V.L. Schneerson, W.T. Tysoe and D.K. Saldin, *Phys. Rev. B.* **51,** 13015 (1995)

61. Temperature Programmed Desorption of Co-adsorbed Hydrogen and Acetylene on Pd(111). R.M. Ormerod, R.M. Lambert, D.W. Bennett and W.T. Tysoe, *Surface Science,* **330,** 1, (1995)

62. Simulation of Benzene Formation from Acetylene on Palladium and Oxygen-covered Palladium Surfaces. A.J. Ramirez-Cuesta, G. Zgrablich and W.T. Tysoe., *Surface Sci.,* **340,** 109 (1995)

63. Advances in the Measuring and Modeling of Surface Phenomena, G. Zgrablich, E. Albano and W.T. Tysoe, *Langmuir,* **12,** 1 (1996)

64. Metal-Catalyzed Hydrocarbon Conversion Reactions, W.T. Tysoe, *Langmuir,* **12,** 78 (1996)

65. Calculation of Resonances in Near-edge X-ray Absorption Fine Structure Spectra Using the Constant Chemical Potential Local Density Approximation Method, V. Shneerson, D.K. Saldin and W.T. Tysoe, *Surface Science,* **345,** 155 (1996)

66. The Surface Chemistry of Chlorinated Hydrocarbon Lubricant Additives, W.T. Tysoe, *Proceedings of the Adriatico Research Conference on the Physics of Sliding Friction*, Eds, B.N.J. Persson and E. Tosatti, Kluwer Academic Publishers, Dordrecht, 1996) 265

67. Analytical Theory of NEXAFS of Diatomic Molecules, V.L. Shneerson, D.K. Saldin and W.T. Tysoe, *Phys. Rev. B.*, **53,** 10177 (1996)

68. Statistics of Reactive Ensembles on Regular Surfaces: Application to Benzene from Acetylene on Pd(111), A. Ramirez-Cuesta, W.T. Tysoe, G. Zgrablich and J.L. Riccardo, *Journal of Physics - Condensed Matter*, **8,** 1359 (1996)

69. Structure and Growth Kinetics of Films Formed by the Thermal Decomposition of CCl_4 on Iron Surfaces, J. Lara, H. Molero, A. Ramirez-Cuesta and W.T. Tysoe, *Langmuir*, **12,** 2488 (1996)

70. Spectroscopic Study of AlN Film Formation by Sequential Reaction of Ammonia and Trimethylaluminum on Alumina. C. Soto, V. Boiadjiev and W.T. Tysoe, *Chem. Mater.*, **8,** 2359 (1996)

71. Determination of Interfacial Temperatures Under Extreme Pressure Conditions. T.J. Blunt, P.V. Kotvis and W.T. Tysoe, *Tribology Letters* **2,** 221 (1996)

72. The Nature of the Lubricating Film Formed by Carbon Tetrachloride Under Conditions of Extreme Pressure. P.V. Kotvis, J. Lara, K. Surerus and W. T. Tysoe, *Wear,* **201,** 10 (1996)

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