

CURRICULUM VITAE

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DATE OF BIRTH: November 18, 1946

BIRTHPLACE: Syracuse, Kansas

MARITAL
STATUS: Married, Harriet Jane August 22, 1969

CHILDREN: Todd Travis D.O.B. April 16, 1982
Ross Clifford D.O.B. March 12, 1984

EDUCATION: Diploma, Syracuse High School, Syracuse, Kansas, 1964
B.S., Chemistry and Mathematics, Southwestern State College,
Weatherford, Oklahoma, 1967
Ph.D., Chemistry, Oklahoma State University, Stillwater,
Oklahoma, 1972
P.E. Licensed Professional Engineer, TX, No. 89078

MILITARY
SERVICE: ROTC Graduate, Commissioned 2nd Lt., Chemical Corps, 1969
Captain (Reserve), Chemical Corps, Resigned Commission, 1982.

SCIENTIFIC
SOCIETIES: American Association for the Advancement of Science (AAAS); American
Chemical Society (ACS); American Society of Civil Engineers (ASCE);
American Society for Engineering Education (ASEE); National Association
of Corrosion Engineers (NACE); and Society of Petroleum Engineers (SPE)

PROFESSIONAL
LEADERSHIP:

- Director, Brine Chemistry Consortium, Rice University, 1986-present.

- Co-Director, China-U.S. Center for Environmental Remediation and Sustainable Development, 2005 – present.
- Center for Biological and Environmental Nanotechnology (CBEN), 1999 – present.
- Research Grants Reviewing Panel for NSF Environmental Engineering committee. On December 10 2007 at Washington D.C.
- Research Grants Reviewing Panel for U.S. Department of Energy Nanotechnology on December 19, 2007 at Washington D.C.
- Director, Engineering and Process Chemistry Division of Energy and Environmental Systems Institute, Rice University, 1995-present.
- President, 1986, Southeastern Texas Section, American Chemical Society.
- Editorial Board of the Journal of Environmental Science and Health, 2003 - present.
- Member of Materials Science Committee, 2002-2003
- Member of the Steering Committee of SPE Oilfield Scale Symposium, Aberdeen, Scotland, 2000 - present.
- Member of the Editorial Review Committee for Journal of Production and Facility, the Society of Petroleum Engineers (SPE), 2002 - present.
- EPA Science Advisory Committee (SAC)
- Member of the Integrated Petroleum Environmental Consortium (IPEC), U. of Tulsa, Kerry L. Sublette, Director, 2002-present.
- Chairman of Department Curriculum Committee, 2002/2003.
- Engineering Co-Chairman of Admissions of Rice University Undergraduates, 2002-2003.
- Licensed Professional Engineer (No. 89078 in TX), 2001-present.

PROFESSIONAL EXPERIENCE:

- Professor of Civil and Environmental Engineering, Rice University, Houston, Texas, 1987 – present (formerly Environmental Science and Engineering).
- Associate Professor of Environmental Science and Engineering, Rice University, Houston, Texas, 1981 - 1987.

- Assistant Professor of Environmental Science and Engineering, Rice University, Houston, Texas, 1977 - 1981.
- Research Assistant Professor at Department of Chemistry, State University of N.Y. at Buffalo, 1976-1977.
- Assistant to the Provost of Natural Sciences and Mathematics, at State University of New York at Buffalo, 1973 - 1975.
- Instructor, Department of Chemistry, State University of New York at Buffalo, 1972 - 1973.
- Teaching Assistant, Oklahoma State University, 1967 - 1972.
- Organic Laboratory Assistant, Southwestern State College, 1966 - 1967.

FUNDED RESEARCH (over twenty million dollars):

Grants have been obtained from the following groups or agencies:

- Center for Biological and Environmental Nanotechnology (CBEN),
- National Science Foundation;
- Environmental Protection Agency;
- American Petroleum Institute;
- Department of Energy,
- Gas Research Institute;
- Brine Chemistry Consortium at Rice University: Baker Hughes, BWA, Chevron, ConocoPhillips., DOW, ExxonMobil, EOG, GE, Halliburton, Hess, Italmatch, Kemira, Kinder Morgan, Lubrizol, Marathon, Nalco Champion/An Ecolab Company, Occidental, Petrobras, RSI Chemical, Saudi Aramco, Schlumberger/MI SWACO, Shell, SNF, Statoil, Total and Lubrizol.

PUBLICATIONS:

1. Ruan, G., A.T. Kan, F. Yan; Z. Dai, F. Zhang, N. Bhandari, H. AlSaiari, Y. Liu, Z. Zhang, Y. Lu, G. Deng and M.B. Tomson (2017) "Fast and Accurate Screening and Evaluation of Halite Scale Inhibitors by Two Novel Static Bottle Testing Methods" 17OCC-P-449-SPE (Accepted) SPE International Conference on Oilfield Chemistry Montgomery, Texas April 3-5, 2017
2. Liu, Y., Z. Zhang, N. Bhandari, F. Zhang, F. Yan, G. Ruan, Z. Dai, H.A. AlSaiari, Y. Lu, G. Deng, A.T. Kan and M.B. Tomson. (2017) "Iron Sulfide Precipitation and Deposition under Different Impact Factors" 17OCC-P-203-SPE (Accepted) SPE International Conference on Oilfield Chemistry Montgomery, Texas April 3-5, 2017
3. Bhandari, N., A. T. Kan, F. Zhang, Z. Dai, F. Yan, G. Ruan, Z., Zhang, Y. Liu, E. Rudi and M. B. Tomson "Mineral Precipitation Kinetics: Assessing the Effect of

Hydrostatic Pressure and Its Implication on the Nucleation Mechanism” Crystal Growth & Design -2016-001262.R1

4. Zhang, F., Z. Dai, Z. Zhang, H. Al-Saiari, F. Yan, N. Bhandari, G. Ruan, Y. Liu, Y. T. Lu, G. Deng, A.T. Kan, and M. B. Tomson (2017) “Scaling Risk and Inhibition Prediction of Carbonate Scale at High Temperature” 17OCC-P-192-SPE (Accepted) SPE International Conference on Oilfield Chemistry Montgomery, Texas April 3-5, 2017
5. Kan, A.T., Y. Liu, Y. Lu, N. Bhandari, Z. Dai, F. Zhang, F. Yan, G. Ruan, Z. Zhang, G. Deng, N. Tataavalli-Mittadar, S. Ashtekar, R. French, F. M. Vargas and M. B. Tomson (2017) “Modeling H₂S and sulfide scale in deep water production” 17OCC-P-189-SPE (Accepted) SPE International Conference on Oilfield Chemistry Montgomery, Texas April 3-5, 2017
6. Zhang, P., G. Ruan, D. Shen, A. T. Kan and M. B. Tomson(2016) “Transport and return of scale inhibitor reverse micelle nanofluid: Impact of preflush and overflush” RSC Adv., 2016, 6, 66672-66681
7. Zhang, P., D. Shen, A. T. Kan. and M. B. Tomson(2016) “ Phosphino-polycarboxylic acid modified scale inhibitor nanomaterial for oilfield scale control: Transport and inhibitor return in formation media” RSC Adv., 2016, 6, 59195
8. Zhang, P., D. Shen, A.T. Kan and M. B. Tomson (2016) “Mechanistic understanding of calcium-phosphonate solid dissolution and scale inhibitor return behavior in oilfield reservoir: Formation of middle phase” Phys.Chem.Chem.Phys., 2016, 18, 21458
9. Zhang, P., D. Shen, G. Ruan, A.T. Kan, and M. B. Tomson(2016) “Phosphino-polycarboxylic acid modified scale inhibitor nanomaterial: Synthesis, characterization and migration” J. Ind. Eng. Chem. (submitted in May 2016)
10. Zhang, P., G. Ruan, A.T. Kan and M.B. Tomson (2016) “Functional scale inhibitor nanoparticle capsule delivery vehicles for oilfield mineral scale control) RSC Advances, 2016, 6, 43016 - 43027
11. Zhang, P., D. Shen, A.T. Kan, M.B. Tomson (2016) “Synthesis and laboratory testing of a novel calcium-phosphonate reverse micelle nanofluid for oilfield mineral scale control” RSC Advances 2016, 6: 39883 - 39895
12. Zhang, P., A. T. Kan and M. B. Tomson (2016) “Enhanced transport of novel crystalline calcium-phosphonate scale inhibitor nanomaterials and their long term flow back performance in laboratory squeeze simulation tests” RSC Advances 2016, 6: 5259 – 5269
13. Liu, Y., A.T. Kan, Z. Zhang, C. Yan, F. Yan, Z. Dai, F. Zhang, N. Bhandari, G. Ruan, L. Wang, J. Greenberg and M. B. Tomson (2016) “An Assay Method to Determine

Mineral Scale Inhibitor Efficiency in Produced Water”(Manuscript Accepted)
J.Petrol.2016.02.024

14. Huete-Pérez, J.A., M. Ortega-Hegg, G. R. Urquhart, A. P. Covich, K. Vammen, B. E. Rittmann, J. C. Miranda, S. Espinoza-Corriols, A. Acevedo, M. L. Acosta, J. P. Gómez, M. T. Brett, M. Hanemann, A. Härer, J. Incer-Barquero, F. J. Joyce, J. Lauer, J. M. Maes, M. B. Tomson, A. Meyer, S. Montenegro-Guillén, W. L. Whitlow, J. L. Schnoor and P. J. J. Alvarez (2016) “Critical Uncertainties and Gaps in the Environmental- and Social-Impact Assessment of the Proposed Interoceanic Canal through Nicaragua” *BioScience* (2016) doi: 10.1093/biosci/biw064
15. Acevedo, A., M. L. Acosta, P.J.J. Alvarez, M. T. Brett, A. P. Covich, S. Espinoza-Corriols, J.A. Huete-Pérez, J. P. Gómez, M. Hanemann, J. Incer-Barquero, F. Joyce, J. W. Lauer, J. M. Maes, A. Meyer, J. C. Miranda, S. Montenegro-Guillén, M. Ortega-Hegg, B. E. Rittmann, J. L. Schnoor, M. B. Tomson, G. R. Urquhart, K. Vammen and W. L. Whitlow (2016) “Impact Assessment for Nicaragua Canal Raises Serious Concerns” Submitted Manuscript, Science 2016
16. Zhang, F., C. J. Hinrichsen, A. T. Kan, W. Wang, W. Wei, Z. Dai, F. Yan, Y. Liu, N. Bhandari, Z. Zhang, G. Ruan, and M. B. Tomson (2016) “Calcium Sulfate Scaling Risk and Inhibition for a Steamflood Project” SPE-179875-MS SPE International Oilfield Scale Conference and Exhibition, Aberdeen, Scotland, UK, 11–12 May 2016
17. Dai, Z., A. T. Kan, F. Yan, F. Zhang, G. Ruan, N. Bhandari, Z. Zhang, Y. Liu, H. A. Al-Saiari and M. B. Tomson (2016) “A thermodynamic model for the solution density and mineral solubility predictions up to 250 °C, 1,500 bars for Na-K-Mg-Ca-Ba-Sr-Cl-CO₃-HCO₃-SO₄-CO₂(aq) systems” SPE International Oilfield Scale Conference and Exhibition, Aberdeen, Scotland, UK, 11–12 May 2016
18. Bhandari, N., A. T. Kan, G. G. Ruan, Y. Liu, F. Zhang, F. Yan, H. A. Al-Saiari, Z. Zhang, Z. Dai, Y. Lu, G. Deng and M. B. Tomson (2016) “Iron Sulfide Scale Control: A Novel Chemical for Growth Inhibition and Dispersion” SPE-179872-MS SPE International Oilfield Scale Conference and Exhibition, Aberdeen, Scotland, UK, 11–12 May 2016
19. Narayan Bhandari et al, (2016) The poster SPE 179872 “Iron Sulfide Scale Control: A Novel Chemical for Growth Inhibition and Dispersion” is the winner of the poster presentation at SPE International Oilfield Scale Conference and Exhibition, Aberdeen, Scotland, UK, 11–12 May 2016
20. Bhandari, N., A. T. Kan, Z. Dai, F. Zhang, F. Yan, G. G. Ruan, H. A. Al-Saiari, Z. Zhang, Y. Liu, Y. (Alex) Lu, G. Deng and M. B. Tomson (2016) “Effect of Hydrodynamic Pressure on Mineral Precipitation Kinetics and Scaling Risk at HPHT” SPE-179873-MS SPE International Oilfield Scale Conference and Exhibition, Aberdeen, Scotland, UK, 11–12 May 2016

21. Ruan, G., A. T. Kan, F. Yan, F. Zhang, N. Bhandari, H. A. Al-Saiari, Z. Dai, Y. Liu, Z. Zhang and M. B. Tomson (2016) "Citrate Assisted Metal Phosphonate Colloidal Scale Inhibitors For Long-term Squeeze Treatments" SPE-179898-MS SPE International Oilfield Scale Conference and Exhibition, Aberdeen, Scotland, UK, 11–12 May 2016
22. Zhang, F., C. J. Hinrichsen, A. T. Kan, W. Wang, W. Wei, Z. Dai, F. Yan, Y. Liu, N. Bhandari, Z. Zhang, G. Ruan, and M. B. Tomson (2016) "Calcium Sulfate Scaling Risk and Inhibition for a Steamflood" SPE-179875-MS SPE International Oilfield Scale Conference and Exhibition, Aberdeen, Scotland, UK, 11–12 May 2016
23. Zhang, Z., Y. Liu, Z. Dai, N. Bhandari, F. Zhang, F. Yan, G. Ruan, H. Alsairi, Y. Lu, G. Deng, A. T. Kan and M. B. Tomson (2016) "Impact of Fe(III)/Fe(II) on scale inhibition" SPE International Oilfield Scale Conference and Exhibition, Aberdeen, Scotland, UK, 11–12 May 2016
24. Kan, A.T. and M. B. Tomson (2016) "Scale control in oil and gas industries and new insight into carbonates and sulfates mineral nucleation, precipitation and inhibition" PAPER ID: 2419096 251st ACS National Meeting, San Diego, California, March 13-17, 2016
25. Zhang, F., W. Wang, A. T. Kan, C. J. Hinrichsen, W. Wei, Z. Dai, Y. Liu, F. Yan, Z. Zhang, N. Bhandari, and M. B. Tomson (2016) "Calcium Sulfate Scale Formation and Inhibitor Selection for a Steamflood Project" NACE Corrosion Conference, Vancouver, BC, Canada March 6 - 10, 2016
26. Zhang, P., A. T. Kan and M. B. Tomson(2015) Chapter 24 "Oil Field Mineral Scale Control" (Pages 603-617) in the book of "Mineral Scales and Deposits: Scientific and Technological Approaches", edited by Amjad, Z., Demadis, K., Elsevier Publishing, 2015
27. Work, S., A. T. Kan and M. B. Tomson (2015) "Pretreatment of acid soluble minerals with tartaric acid for application in acid gas injection" Energy & Environment 26(4):617-630
28. Dai, Z., A. T. Kan, F. Zhang, and M. B. Tomson (2015) " A Thermodynamic Model for the Solubility Prediction of Barite, Calcite, Gypsum, and Anhydrite, and the Association Constant Estimation of CaSO₄(0) Ion Pair up to 250 °C and 22000 psi" J. Chem. Eng. Data 60 (3): 766-774
29. Yan, F., Y. Chu, K. Zhang, F. Zhang, N. Bhandari, G. Ruan, Z. Dai, Y. Liu, Z. Zhang, A.T. Kan and M.B. Tomson (2015) "Determination of adsorption isotherm parameters with correlated errors by measurement error models" Chemical Engineering Journal 281: 921-930
30. Yan, F., F. Zhang, N. Bhandari, L. Wang, Z. Dai, Z. Zhang, Y. Liu, G. Ruan, A. T. Kan, and M. B. Tomson (2015) "Adsorption and precipitation of scale inhibitors on shale formations" SPE J. 136: 32-40

31. Yan, Chao., A. T. Kan, F. Zhang, Y. Liu, R. C. Tomson and M. B. Tomson (2015) "Systematic Study of Barite Nucleation and Inhibition With Various Polymeric Scale Inhibitors by Novel Laser Apparatus" SPE J. 20: 03 642-651
32. Alsaiani, H., M. Al-Khaldi, Q. Wang, I. Al-Taie, F. Zhang, Y. Chu, K. Zhang, F. Zhang, N. Bhandari, G. Ruan, Z. Dai, Y. Liu, Z. Zhang, A.T. Kan and M.B. Tomson (2015) "Impact of Zirconium, Titanium and Boron on The Performance of Calcium Sulfate Scale Inhibitors" SPE International Symposium on Oilfield Chemistry, Woodlands, TX. April 13-15, 2015
33. Kan, A. T., F. Zhang, Z. Dai, N. Bhandari, F. Yan, Z. Zhang, Y. Liu, L. Wang, V. Bolanos and M. B. Tomson (2015) "Scale Prediction and Control at Ultra HTHP" SPE International Symposium on Oilfield Chemistry, Woodlands, TX. April 13-15, 2015
34. Yan, F., F. Zhang, N. Bhandari, Y. Liu, L. Wang, Z. Dai, Z. Zhang, V. Bolanos, A. T. Kan and M. B. Tomson (2015) "Interaction between Scale Inhibitors and Shale Minerals" SPE International Symposium on Oilfield Chemistry, Woodlands, TX. April 13-15, 2015
35. Bhandari, N., A. T. Kan, Z. Dai, F. Zhang, F. Yan, Y. Liu, Z. Zhang, L. Wang and M. B. Tomson (2015) "The Effect of Pressure and TDS on Barite Scaling Kinetics" SPE International Symposium on Oilfield Chemistry, Woodlands, TX. April 13-15, 2015
36. Zhang, Z., Q. Wang, Y. Liu, Z. Dai, L. Wang, V. Bolanos, F. Zhang, F. Yan, N. Bhandari, A.T. Kan, and M.B. Tomson (2015) "Ferrous iron impact on phosphonate and polymeric BaSO₄ scale inhibitor performance at temperature from 77 to 200 F" SPE International Symposium on Oilfield Chemistry, Woodlands, TX. April 13-15, 2015
37. Dai, Z., F. Zhang, F. Yan, Z. Zhang, Y. Liu, V. Bolanos, L. Wang, N. Bhandari, G. Ruan, A. T. Kan, and M. B. Tomson (2015) "Inhibition mechanism analysis of DTPMP on barite precipitation based on a novel two-stage crystallization model, turbidity measurements, and Cryo-TEM observations" 249th ACS National Meeting, Denver, Colorado, March 22-26, 2015
38. Farrell, J.W., J. Fortner, S. Work, C. Avendano, N. I. Gonzalez-Pech, R. Z. Araiza, Q. Li, P. J.J. Álvarez, V. Colvin, A.T. Kan and M. B. Tomson (2014) "Arsenic Removal by Nanoscale Magnetite in Guanajuato, Mexico " Environmental Engineering Science. Special issue: Environmental Nanomaterials 31(7): 393-402
39. Contreras, E.Q., J. Huang, R. S. Posusta, D. K. Sharma, C. Yan, P. Guraieb, M. B. Tomson and R. C. Tomson (2014) "Optical measurement of uniform and localized corrosion of C1018, SS 410, and Inconel 825 alloys using white light interferometry" Corrosion Science 87 (2014) 383–391
40. W. Wang, A. T. Kan, W. Shi, C. Fan, and M. B. Tomson (2014) "Scaling Control for High Temperature and Pressure Oil Production" "Mineral Scales in Biological and

Industrial Systems” (2014), 77-101 Z. Amjad (Ed), CRC Press Boca Raton, FL ISBN 9781466568648

41. Gautam C. K., J. Yua, L. Wang, A. T. Kan, S. L. Biswala, J. M. Tour, M. B. Tomson and M. S. Wong (2014) “Salt- and temperature-stable quantum dot nanoparticles for porous media flow” *Colloids and Surfaces A: Physicochemical and Engineering Aspects* 443(20) 492-500
42. Yan, C., A.T. Kan, F. Zhang, Y. Liu, R.C. Tomson and M.B. Tomson(2014) “Systematic Study of Barite Nucleation and Inhibition With Various Polymeric Scale Inhibitors by Novel Laser Apparatus” *SPE J.* 20(03):
43. Yan, C., A.T. Kan, W. Wang, F. Yan, L. Wang and M. B. Tomson (2014) “ Sorption Study of r-AlO(OH) Nanoparticle-Crosslinked Polymeric Scale Inhibitors and Their Improved Squeeze Performance in Porous Media" *SPE J.* 19 (4): 687-694
44. Wang, W., A. T. Kan, F. Zhang, C. Yan and M. B. Tomson (2014) “Measurement and Prediction of Thermal Degradation of Scale Inhibitors” *SPE J.* 19 (6): 1169-1176
45. Hwang, C., G. Ruan, L. Wang, H. Zheng, E. Samuel, C. Xiang, W. Lu, W. Kasper, K. Huang, Z. Peng, Z. Schaefer, A.T. Kan, A. Martí, M. Wong, M.B. Tomson and J. Tour (2014) “Carbon-Based Nanoreporters Designed for Subsurface Hydrogen Sulfide Detection” *ACS Appl. Mater. Interfaces*, 2014, 6 (10), pp 7652–7658
46. Djamali, E., · P. Venkataraman, A. Bansal, W. Fouad, M. B. Tomson, K. R. Cox, and W. G. Chapman (2014) “Thermodynamic Properties of Simple and Multicomponent Electrolytes in Mixed Solvent System to Extreme Temperatures and Pressures” *AIChE Annual Meeting Atlanta, GA. November 16-21, 2014*
47. Zhang, P., A.T. Kan and M. B. Tomson (2014)“Oilfield Mineral Scale Control” *Elsevier portal March 2014*
48. Dai, Z.,W. Shi, A. T. Kan, N. Zhang and M. B. Tomson (2014) "Improvement of Thermodynamic Modeling of Calcium Carbonate and Calcium Sulfates at High Temperature and High Pressure in Mixed Electrolytes” *SPE 169786 SPE International Conference on Oilfield Scale, Aberdeen, UK. May 14-15, 2014*
49. Wang, L., A. T. Kan, Z. Zhang, F. Yan, Y. Liu, Z. Dai and M. B. Tomson (2014)" Field method for measurement of bicarbonate alkalinity" *SPE 169758 SPE International Conference on Oilfield Scale, Aberdeen, UK. May 14-15, 2014*
50. Zhang, F., C. Yan, N. Bhandari, A. T. Kan and M. B. Tomson (2014) “Barite Scaling Risk and Inhibition at High Temperature: A Study with New Apparatus” *SPE 169771 SPE International Conference on Oilfield Scale, Aberdeen, UK. May 14-15, 2014*
51. Wang, Q., Z. Zhang, A.T. Kan, and M. B. Tomson (2014)“ Kinetics and Inhibition of Ferrous Sulfide Nucleation and Precipitation ” *SPE 169748 SPE International Conference on Oilfield Scale, Aberdeen, UK. May 14-15, 2014*

52. Yan, F., A.T. Kan, C. Yan, L. Wang, Y. Liu and M.B. Tomson (2014) “Experimental and Modeling Study on Enhancement of Squeeze Treatment in Sandstone by the Addition of Zinc Ion” SPE 169753 SPE International Conference on Oilfield Scale, Aberdeen, UK. May 14-15, 2014
53. Liu, Y., A. T. Kan, C. Yan, F. Wang, L. Wang and M. B. Tomson (2014) “An Assay Method for the Detection of all Scale Inhibitors at Extremely low Concentration” SPE-169762 SPE International Conference on Oilfield Scale, Aberdeen, UK. May 14-15, 2014
54. Yan, C., A. T. Kan, F. Zhang, Y. Liu, R. C. Tomson and M. B. Tomson (2014) “Systematic Study of Barite Nucleation and Inhibition with Various Polymeric Scale Inhibitors by Novel Laser Apparatus” SPE 169787-MS SPE International Conference on Oilfield Scale, Aberdeen, UK. May 14-15, 2014
55. Zhang, N., A.T. Kan and Mason Tomson (2014) “Attachment/release of Phosphonate to/from a CaCO₃ Surface in Supersaturated Brine” SPE International Conference on Oilfield Scale, Aberdeen, UK. May 14-15, 2014
56. Huang, J., P. Guraieb, C. Yan, E. Contreras, M. B. Tomson and R. C. Tomson (2014) “Corrosion Testing of Deepwater Tubing Materials under Extreme Pressure and Temperature Conditions” OTC 25193 Offshore Technology Conference, Houston, Texas, USA. May 5-8, 2014
57. Yan, C., P. Guraieb, J. Huang, E. Contreras, R. C. Tomson and M.B. Tomson (2014) “Solubility Study of Magnetite under Extreme High Pressure and High Temperature” OTC 25216-PT Offshore Technology Conference, Houston, Texas, USA. May 5-8, 2014
58. Jin Huang, J., P. Guraieb, E. Q. Contreras, C. Yan, M. B. Tomson and R. S. Tomson (2014) “Corrosion Behavior of Deepwater Oil Production Tubing Materials under Extremely High Temperature and High Pressure” Paper #3978 NACE Corrosion Conferences, San Antonio, TX. March 13-17, 2014
59. Guraieb, P., J. Huang, C. Yan, E. Contreras, M. B. Tomson and R. S. Tomson (2014) “Validation of the Activity Coefficients for Carbonates at Various High Pressure High Temperature (HPHT) and Total Dissolved Solids (TDS)” Paper # 4360 NACE Corrosion Conference, San Antonio, TX. March 13-17, 2014
60. Shi, Wei; A. T. Kan, N. Zhang and M. B. Tomson (2013) “Dissolution of calcite at up to 250°C and 1,450 bar and the presence of mixed salts” Ind. Eng. Chem. Res. 2013, 52, 2439–2448
61. Wang, W., A. T. Kan, and M. B. Tomson (2013) “A Novel and Comprehensive Study of Polymeric and Traditional Phosphonate Inhibitors for High Temperature Scale Control” SPE J. 18(3): 575-582

62. Wang, L., J. Fortner, L. Hou, C. Zhang, A. T. Kan, M. B. Tomson and W. Chen (2013) "Contaminant-Mobilizing Capability of Fullerene Nanoparticles (nC60): Effect of Solvent-Exchange Process in nC60 Formation" *Environmental Toxicology and Chemistry* 25, 32(2): 329–336
63. Wang, L., A.T. Kan., M.B. Tomson(2013) "Transport behavior of nanoparticles, aqueous solutions in porous media vs T" ACS 87th Colloid & Surface Science Symposium, UC Riverside. June 23-26, 2013
64. Chen, W., J. Fortner, M.B. Tomson (2013) "Carbon nanoparticles mobilize hydrophobic organic contaminants in groundwater: Linking aggregation properties and contaminant-mobilizing capabilities" ACS 87th Colloid & Surface Science Symposium, UC Riverside. June 23-26, 2013
65. Yan, C., A. T. Kan., W. Wang., F. Yan., L. Wang H. Zhu., R. Tomson and M. B. Tomson(2013) "Boehmite Based Sulphonated Polymer Nanoparticles with Improved Squeeze Performance for Deepwater Scale Control" Offshore Technology Conference , Houston, TX. May 6-9, 2013
66. Yan, C., A.T. Kan, W. Wang, F. Yan, L. Wang and M. B. Tomson (2013)"Synthesis of Sorption Study of ALOOH nanoparticle cross-linked polymeric scale inhibitors and their performance in porous media" SPE International Symposium on Oilfield Chemistry, Woodlands, TX. April 8-10, 2013
67. Kan, A.T., N. Zhang., W. Shi., K. Wang., L. Wang., C. Yan., F. Yan and M. B. Tomson(2013). (Rice University) R. C. Tomson., H. Zhu., S. M.A. Razavi (Shale Water Research Center) "Interrelationship of CO₂, Weak Acids, Bases, and pH in Scale Prediction and Control" SPE International Symposium on Oilfield Chemistry, Woodlands, TX. April 8-10, 2013
68. Wang, W., A. T. Kan, C. Yan, and M. B. Tomson (2013) "The Use of Inhibition Kinetics and NMR Spectroscopy in Thermal Stability Study of Scale Inhibitors" SPE 164047 SPE International Symposium on Oilfield Chemistry, Woodlands, TX. April 8-10, 2013
69. Dai, Z., W. Shi., A. T. Kan., N. Zhang and M. B. Tomson (2013) "Thermodynamic model improvements for common minerals at high temperature, high pressure and high TDS with mixed salts" SPE-164045-MS SPE International Symposium on Oilfield Chemistry, Woodlands, TX. April 8-10, 2013
70. Kan, A.T., and M. B. Tomson (2012) "Scale Prediction for Oil and Gas Production" SPE J. 17 (2): 362-378
71. Fan, C., A. T. Kan, P. Zhang, H. Lu, S. Work, J. Yu and M. B. Tomson (2012) "Scale prediction and inhibition for oil and gas production at high temperature/high pressure" SPE J. 17 (2): 379-392

72. Fan, C., W. Shi, P. Zhang, H. Lu, N. Zhang, S. Work, H. A. Al-Saiari, A. T. Kan and M. B. Tomson (2012) "Ultra-high-Temperature/Ultra-high-Pressure Scale Control for Deepwater Oil and Gas Production" SPE J. 17 (1): 177-186.
73. Djamali, E., A.T. Kan, and M.B. Tomson (2012) "A Priori Prediction of Thermodynamic Properties of Electrolytes in Mixed Aqueous–Organic Solvents to Extreme Temperatures" J. Phys. Chem. 116 (30), pp 9033–9042
74. Shi, W., A.T. Kan, C. Fan, and M.B. Tomson (2012) "Solubility of Barite up to 250°C and 1500 bar in up to 6m NaCl solution" Ind. & Eng. Chem. Res. 51 (7): 3119-3128
75. Zhang, L., L. Hou, L. Wang, A. T. Kan, W. Chen, and M. B. Tomson (2012) "Transport of Fullerene Nanoparticles (nC60) in Saturated Sand and Sandy Soil: Controlling Factors and Modeling" Environ Sci Technol. 3; 46 (13):7230-8
76. Hwang, C.C., L. Wang, W. Lu, G. Ruan, G. Kini, C. Xiang, E. L. G. Samuel, W. Shi, A. T. Kan, M. S. Wong, M. B. Tomson and J. M. Tour (2012) "Highly stable carbon nanoparticles designed for downhole hydrocarbon detection" Energy & Environmental Science 5, 8304–8309
77. Yang, W., N. Zhao, N. Zhang, W. Chen, A. T. Kan and M. B. Tomson (2012) "Time-dependent adsorption and resistant desorption of arsenic on magnetite nanoparticles: kinetics and modeling" Desalination and Water Treatment 44 (2012): 100-109
78. Wang, L., Y. Huang, A. T. Kan, M. B. Tomson and W. Chen (2012) "Enhanced Transport of 2,2',5,5'-Polychlorinated Biphenyl by Natural Organic Matter (NOM) and Surfactant-Modified Fullerene Nanoparticles (nC60)" Environ. Sci. Technol. 46 (10): 5422-5429
79. Kan, A. T., W. Shi, W. Wang and M. B. Tomson (2012) "Scaling control for high temperature and pressure oil production" ACS 244th National Meeting in Philadelphia, August 19-23, 2012
80. Yan, C., W. Wang, L. Wang, A.T. Kan and M. B. Tomson.(SPE 155627-2012). "Synthesis and Size Control of Monodispersed Al-sulphonated Polycarboxylic Acid (Al-SPCA) Nanoparticles with Improved Squeeze Performance and Their Transport in Porous Media. SPE International Oilfield Nanotechnology Conference and Exhibition, Palace Hotel, Noordwijk, Netherlands, June 12-14, 2012
81. Kan, A.T., W. Shi, W. Wang and M. B. Tomson (2012) "Scaling control for high temperature and pressure oil production" SPE International Conference on Oilfield Scale, Aberdeen, UK. May 30-31, 2012
82. Shi, W., H. Lu, N. Zhang, C. Fan, A.T. Kan, and M. B. Tomson (2012) "Modeling the Thermodynamic Properties of Common Minerals at High Temperature, Pressure and Salinity with Complex Ions" 155045-MS SPE International Conference on Oilfield Scale, Aberdeen, UK. May 30-31, 2012

83. Alsaiari, H.A., N. Zhang, S. Work, A.T. Kan, and M. B. Tomson (SPE 155127-2012) "A New Correlation to Predict the Stoichiometry of Mixed Scale: Iron-Calcium Carbonate". SPE International Conference on Oilfield Scale, Aberdeen, UK. May 30-31, 2012
84. Zhang, N., A.T. Kan, Shi, W. Alsaiari, H. and M. B. Tomson (2012) "A novel approach to the study of CaCO_3 precipitation kinetics on carbon steel pipe" (MS-155263) SPE International Conference on Oilfield Scale, Aberdeen, UK. May 30-31, 2012
85. Wang, W., A.T. Kan, M.B. Tomson, (SPE 155108-2012) "A Novel and Comprehensive Study of Polymeric and Traditional Phosphonate Inhibitors for High Temperature Scale Control". SPE International Conference on Oilfield Scale, Aberdeen, UK, May 30-31, 2012
86. Djamali, E., H. Lu, A.T. Kan, and M. B. Tomson (SPE 155042-2012) "Effects of Hydrate Inhibitors on the Solubility of Barite and Halite in Produced Water" SPE International Conference on Oilfield Scale, Aberdeen, UK. May 30-31, 2012
87. Fan, C., A. T. Kan, P. Zhang and M. B. Tomson (2011) "Barite nucleation and inhibition at 0 to 200 °C with and without thermodynamic hydrate inhibitors" SPE J. 16(2): 440-450
88. Shipley, H. J., Y. Gao, A. T. Kan and M. B. Tomson (2011) "Mobilization of trace metals and inorganic compounds during resuspension of anoxic sediments from Trepangier Bayou, Louisiana." J. Env. Quality 40(2): 484-491
89. Zhang, P., C. Fan, H. Lu, A. T. Kan and M. B. Tomson (2011) "Synthesis of the crystalline phase silica-based Ca-phosphonate nanomaterials and their transport in carbonate and sandstone porous media" Ind. Eng. Chem. Res. 50(4): 1819-1830
90. Zhang, P., A. T. Kan, C. Fan, S. N. Work, J. Yu, H. Lu, H. A. Alsaiari and M. B. Tomson (2011) "Silica-templated synthesis of novel zinc-DTPMP nanomaterials, their transport in carbonate and sandstone porous media and scale inhibition" SPE J. 16(3): 662-671
91. Zhang, L., L. Wang, P. Zhang, A. T. Kan, W. Chen and M. B. Tomson (2011) "Facilitated Transport of 2,2',5,5'-Polychlorinated Biphenyl and Phenanthrene by Fullerene Nanoparticles (nC60) through Sandy Soil Columns" Environ. Sci. Technol. (2011) 45(4): 1341-1348
92. Berlin, J. M., J. Yu, W. Lu, E. E. Walsh, L. Zhang, P. Zhang, W. Chen, A. T. Kan, M. S. Wong, M. B. Tomson and J. M. Tour (2010) "Engineered nanoparticles for hydrocarbon detection in oil-field rocks" Energy & Environmental Science 4(2): 505-509
93. Yang, W., A. T. Kan, M. B. Tomson and W. Chen (2010) "pH-Dependent Effect of Zinc on Arsenic Adsorption to Magnetite Nanoparticles" Water research 44(19): 5693-5701

94. Fan, C., A. T. Kan, G. Fu, D. Shen and M. B. Tomson (2010) "Quantitative evaluation of calcium sulfate precipitation kinetics in the presence and absence of scale inhibitors" SPE J. 14(4): 983-994
95. Alsaiani, H. A., A.T. Kan and M. B. Tomson (2010) "Effect of calcium and iron (ii) ions on the precipitation of calcium carbonate and ferrous carbonate" SPE J. 15(2): 294-300
96. Kan, A. T., H. Lu and M. B. Tomson (2010) "Effects of monoethylene glycol on carbon dioxide partitioning in gas/moethylene glycol/water/salt mixed systems" Ind. Eng. Chem. Res. 49(12): 5884-5890
97. Zhang, P., D. Shen, C. Fan, A. T. Kan and M. B. Tomson (2010) "Surfactant-assisted synthesis of metal-phosphonate inhibitor nanoparticles and transport in porous media" SPE J. 15(3): 610-617
98. Lu, H., A. T. Kan and M. B. Tomson (2010) "Effects of monoethylene glycol on carbonate equilibrium and calcite solubility in gas/moethylene glycol/nacl/water mixed systems" SPE J. 15(3): 714-725
99. Lu, H., A. T. Kan, P. Zhang, J. Yu, C. Fan and M. B. Tomson(2010) "Phase stability and solubility of calcium sulfate in the system NaCl/moethylene glycol/water" SPE J., 2010, 17 (1): 187-197
100. Shipley, H. J., S. Yean, A. T. Kan and M. B. Tomson (2010) "A sorption kinetics model for arsenic adsorption to magnetite nanoparticles" Environ. Sci. Pollut. Res. 17(5): 1053-1062
101. Yu, J., J. B. Berlin, W. Lu, L. Zhang, A. T. Kan, P. Zhang, E. E. Walsh, S. N. Work, W. Chen, J. M. Tour, M. S. Wong and M. B. Tomson SPE 130619 "Transport Study of Nanoparticles for Oilfield Application" SPE International Conference on Oilfield Scale, Aberdeen, United Kingdom, 26-27 May 2010
102. Kan, A. T. And M. B. Tomson SPE 132237 "Scale Prediction for Oil and Gas Production" CPS/SPE International Oil & Gas Conference and Exhibition in Beijing, China, 8-10 June 2010
103. Zhang, P., A. T. Kan, C. Fan, S. N. Work, J. Yu, H. Lu, H. A. Alsaiani and M. B. Tomson SPE 130639 "Silica-templated synthesis of novel zinc-DTPMP nanoparticles, their transport in carbonate and sandstone porous media and scale inhibition" SPE International Conference on Oilfield Scale, Aberdeen, United Kingdom, 26-27 May 2010
104. Lu, H., A. T. Kan, P. Zhang, J. Yu, C. Fan and M. B. Tomson SPE 130697 "Phase stability of calcium sulfate in the system NaCl/moethylene glycol/water" SPE International Conference on Oilfield Scale, Aberdeen, United Kingdom, 26-27 May 2010
105. Fan, C., A. T. Kan, P. Zhang, H. Lu, S. N. Work, J. Yu and M. B. Tomson SPE 130690 "Scale prediction and inhibition for unconventional oil and gas production" SPE

International Conference on Oilfield Scale Aberdeen, United Kingdom, 26–27 May 2010

106. Alsaiani, H. A., A.T. Kan and M. B. Tomson “Constant Composition Study of Crystal Growth of Mixed Calcium-Ferrous Carbonate salt” NACE 2010
107. Kan, A. T., G. Fu, H. A. Alsalari, M. B. Tomson and D. Shen (2009) “Enhanced scale-inhibitor treatments with the addition of zinc” SPE J. 14(4): 617-626
108. Shen, D., G. Fu, H. A. Alsalari, A. T. Kan and M. B. Tomson (2009) “Barite dissolution/precipitation kinetics in porous media and in the presence and absence of a common scale inhibitor” SPE J. 14(3): 462-471
109. Shipley, H. J., S. Yean, A. T. Kan and M. B. Tomson (2009) “Adsorption of arsenic to magnetite nanoparticles: Effect of particle concentration, pH, ionic strength, and temperature” Environ. Toxicol. Chem. 28(3): 509-515
110. Fu, G., A. T. Kan, M. B. Tomson(2009) SPE-121556 “Enhanced Effect of Transition Metal Ions on Inhibitor Squeeze Treatments” SPE International Symposium on Oilfield Chemistry, Woodlands, TX. April 20-22, 2009
111. Tomson, M. B., C. Fan, H. Lu, P. Zhang, H. A. Alsaiani and A. T. Kan(2009) SPE-121681 “Integration of kinetics into scale prediction software, ScaleSoftPitzer” SPE International Symposium on Oilfield Chemistry, Woodlands, TX. April 20-22, 2009
112. Fan, C., A. T. Kan and M. B. Tomson(2009) SPE-121559 “Barite Nucleation and Inhibition at 0-200°C, with and without hydrate inhibitors” SPE International Symposium on Oilfield Chemistry, Woodlands, TX. April 20-22, 2009
113. Zhang, P., D. Shen, C. Fan, A. T. Kan and M. B. Tomson(2009) SPE-121552 “Surfactant-assisted synthesis of metal-phosphonate inhibitor nanoparticles and its transport in porous media” SPE International Symposium on Oilfield Chemistry, Woodlands, TX. April 20-22
114. Alsaiani, H.A., A. T. Kan and M. B. Tomson(2009) SPE-121553 “Molar ratio of Ca²⁺ to Fe²⁺ in the supersaturated solution of Iron carbonate and calcium carbonate and in the precipitate: Relation and Interpretation” SPE International Symposium on Oilfield Chemistry, Woodlands, TX. April 20-22, 2009
115. Fan, C., A. T. Kan and M. B. Tomson(2009) SPE-121559 “Barite Nucleation and Inhibition at 0-200°C, with and without hydrate inhibitors” SPE International Symposium on Oilfield Chemistry, Woodlands, TX. April 20-22, 2009
116. Lu, H., A. T. Kan and M. B. Tomson(2009) SPE-121562 “Effects of Monoethylene Glycol on Carbonate Equilibrium and Calcite solubility in Gas/Monoethylene Glycol/water/Salt Mixed Systems” SPE International Symposium on Oilfield Chemistry, Woodlands, TX. April 20-22, 2009

117. Kan, A. T., G. Fu, C. Fan and M. B. Tomson Rice University. Shen, D. BJ Chemical Service Inc. (2009) SPE-121563 “Quantitative evaluation of calcium sulfate precipitation kinetics in the presence and absence of scale inhibitors” SPE International Symposium on Oilfield Chemistry, Woodlands, TX. April 20-22, 2009
118. Zhang, P., A. T. Kan and M. B. Tomson (2008) “Study of aqueous nano-c60 formation and interaction with soil under typical groundwater conditions” Prepr. Ext. Abstr. ACS Natl. Meet., Am. Chem. Soc., Div. Environ. Chem. 48(1): 199-205
119. Chen, W., L. Cong, H. Hu, P. Zhang, J. Li, Z. Feng, A. T. Kan and M. B. Tomson (2008) “Release of adsorbed polycyclic aromatic hydrocarbons under cosolvent treatment: Implications for availability and fate” Environ. Toxicol. Chem. 27(1): 112-118
120. Tomson, M. B., A. T. Kan, G. Fu, D. Shen, H. A. Nasr-El-Din, H. Al-Saiari and M. Al-Thubaiti (2008). “Mechanistic understanding of rock/phosphonate interactions and the effect of metal ions on inhibitor retention” SPE J. 13(3): 325-336
121. Yang, W., L. Duan, N. Zhang, C. Zhang, H. J. Shipley, A. T. Kan, M. B. Tomson and W. Chen (2008) “Resistant desorption of hydrophobic organic contaminants in typical chinese soils: Implications for long-term fate and soil quality standards” Environ. Toxicol. Chem. 27(1): 235-242
122. Yang, W., A. T. Kan, W. Chen and M. B. Tomson (2008) “Adsorption and desorption of arsenic on nano-magnetite” Prepr. Ext. Abstr. ACS Natl. Meet., Am. Chem. Soc., Div. Environ. Chem. 48(1): 216-219
123. Kan, A. T., G. Fu, D. Shen, H. A. Alsaiari and M. B. Tomson (2008) SPE 114060 “Enhanced Inhibitor Treatments With the Addition of Transition Metal Ions” SPE International Oilfield Scale Conference, Aberdeen, UK May 28-29, 2008
124. Shen, D., G. Fu, H. A. Alsaiari, A. T. Kan and M. B. Tomson (2008) SPE 114062 “Seawater Injection, Inhibitor Transport, Rock-Brine Interactions, and BaSO₄ Scale Control During Seawater Injection” SPE International Oilfield Scale Conference, Aberdeen, UK May 28-29, 2008
125. Shen, D., P. Zhang, A. T. Kan, G. Fu, J. Farrell and M. B. Tomson(2008) SPE 114063 “Control Placement of Scale Inhibitors in the Formation With Stable Ca-DTPMP Nanoparticle Suspension and its Transport Porous Media” SPE International Oilfield Scale Conference, Aberdeen, UK May 28-29, 2008
126. Alsaiari, H. A., S. Yean, A. T. Kan and M. B. Tomson (2008) SPE 114064 “Iron (II)-Calcium Carbonate: Precipitation Interaction” SPE International Oilfield Scale Conference, Aberdeen, UK May 28-29, 2008
127. Yean, S., H. A. Alsaiari, A. T. Kan and M. B. Tomson(2008) SPE 114124 “Ferrous carbonate nucleation and inhibition” SPE International Oilfield Scale Conference, Aberdeen, UK May 28-29, 2008

128. Shipley, H. J., M. Auffan and M. B. Tomson(2007) "Nano-adsorbents, Nanomaterial, Environment, and Sustainability In Environmental Nanotechnology" Eds. Wiesner and Bottero, McGraw-Hill Publishing: New York; pp.371-389. 2007
129. Mayo, J. T., C. Yavuz, S. Yean, L. Cong, H. J. Shipley, W. Yu, J. Falkner, A. T. Kan, M. B. Tomson and V. L. Colvin (2007) "The effect of nanocrystalline magnetite size on arsenic removal" *Sci. Technol. Adv. Mater.* 8(1-2): 71-75
130. Shipley, H. J., S. Yean, A. T. Kan and M. B. Tomson (2007) "Magnetite nanoparticles for treatment of arsenic from the drinking water" *Prepr. Ext. Abstr. ACS Natl. Meet., Am. Chem. Soc., Div. Environ. Chem.* 47(1): 1576-1582
131. Yean, S., H. J. Shipley, A. T. Kan and M. B. Tomson (2007) "Arsenic removal from drinking water using nanoscale magnetite and iron salt" *Prepr. Ext. Abstr. ACS Natl. Meet., Am. Chem. Soc., Div. Environ. Chem.* 47(1): 1583-1587
132. Lubick, N., H. J. Shipley, S. Yean, A. T. Kan and M. B. Tomson (2007) "Tiny filters fix big water problems" *Environ. Sci. Technol.* (41), 4495-4496 2007
133. Tomson, M. B., A. T. Kan, G. Fu and L. Cong (2006) "Measurement of total alkalinity and carboxylic acid and their relation to scaling and corrosion" *SPE J.* 11(1): 103-110
134. Tomson, M. B., A. T. Kan, G. Fu, M. Al-Thubaiti, D. Shen and H. J. Shipley (2006) "Scale formation and prevention in the presence of natural gas hydrate inhibitors" *SPE J.* 11(2): 248-258
135. Tomson, M. B., A. T. Kan and G. Fu (2006) "Control of scale inhibitor squeeze through mechanistic understanding of inhibitor chemistry" *SPE J.* 11(3): 283-293
136. Yean, S., L. Cong, C. T. Yavuz, J. T. Mayo, W. W. Yu, J. C. Falkner, A. T. Kan, V. L. Colvin and M. B. Tomson (2006) "Effect of magnetite particle size on adsorption and desorption of arsenite and arsenate" [Erratum to document cited in ca144:178278] *J. Mater. Res.* 21(7): 1862
137. Yavuz, C. T., J. T. Mayo, W. W. Yu, A. Prakash, J. C. Falkner, S. Yean, L. Cong, H. J. Shipley, A. T. Kan, M. B. Tomson, D. Natelson and V. L. Colvin (2006) "Low-field magnetic separation of monodisperse Fe_3O_4 nanocrystals" *Science* 314(5801): 964-7
138. Shipley, H. J., A. T. Kan, G. Fu, D. Shen and M. B. Tomson(2006) SPE 100522 "Effect of Hydrate Inhibitors on Calcite, Sulfates, and Halite Scale Formation" *SPE International Oilfield Scale Symposium, Aberdeen, UK. May,31- June, 1 2006*
139. Zhang, P., Kan, A. T. and Tomson, M. B. (2006) "Transport of nano-C60 in porous media: soil column experiment" *ACS National Meeting, Division of Geochemistry 10-14 September, 2006 San Francisco, CA.*
140. McElhiney, J. E., A. T. Kan and M. B. Tomson(2006) SPE 100480 "Design of Low-Sulfate Seawater Injection Based Upon Kinetic Limits" *SPE International Oilfield*

Scale Symposium, Aberdeen, UK. May 31- June 1, 2006

141. Cheng, X., A. T. Kan and M. B. Tomson (2005) "Uptake and Sequestration of Environmental Contaminants by Fullerene" *Journal of Nanoparticle Research*, 7: 555-567
142. Cheng, X., A. T. Kan and M. B. Tomson (2005) "Study of c60 transport in porous media and the effect of sorbed C60 on naphthalene transport" *J. Material Research* 20(12): 3244-3254
143. Kan, A. T., G. Fu and M. B. Tomson (2005) "Reaction of phosphonates and phosphinopolycarboxylate in the subsurface" *ACS Symp. Ser. 910(Biogeochemistry of Chelating Agents)*: 248-262
144. Kan, A. T., G. Fu and M. B. Tomson (2005) "Adsorption and precipitation of an aminoalkylphosphonate onto calcite" *J. Colloid Interface Sci.* 281(2): 275-284
145. Shipley, H. J., Y. Gao, A. T. Kan and M. B. Tomson (2005) "Mobilization of metals and inorganic compounds during resuspension of anoxic sediment" *Prepr. Ext. Abstr. ACS Natl. Meet., Am. Chem. Soc., Div. Environ. Chem.* 45(1): 630-638
146. Yean, S., L. Cong, C. T. Yavuz, J. T. Mayo, W. W. Yu, A. T. Kan, V. L. Colvin and M. B. Tomson (2005) "Effect of magnetite particle size on adsorption and desorption of arsenite and arsenate" *J. Mater. Res.* 20(12): 3255-3264
147. Yean, S., L. Cong, C. T. Yavuz, J. T. Mayo, A. T. Kan, V. L. Colvin and M. B. Tomson (2005) "Magnetite nanoparticles size effects on adsorption, desorption and magnetic separation of as(v) and as(iii)." *Prepr. Ext. Abstr. ACS Natl. Meet., Am. Chem. Soc., Div. Environ. Chem.* 45(2): 842-846
148. Tomson, M. B., A. T. Kan and G. Fu (2005) "Inhibition of barite scale in the presence of hydrate inhibitors" *SPE J.* 10(3): 256-266
149. Tomson, M.B., A. T. Kan, G. Fu, X. Wu, X. M. Al-Thubaiti, J. Kirk, R. Martin, G. Prukop, E. Inan and S. T. Davis SPE 93266 "Simultaneous Analysis of Total Alkalinity and Organic Acid in Oilfield Brine" *SPE International Symposium on Oilfield Chemistry, Woodlands, Texas February 2-4, 2005*
150. Kan, A. T., G. Fu and M. B. Tomson SPE 93265 "Prediction of Scale Inhibitor Squeeze and Return in Calcite-Bearing Formation" *SPE International Symposium on Oilfield Chemistry, Woodlands, Texas February 2-4, 2005*
151. Kan, A. T., X. Wu, G. Fu and M. B. Tomson SPE 93264 "Validation of Scale Prediction Algorithms at Oilfield Conditions" *SPE International Symposium on Oilfield Chemistry, Woodlands, Texas February 2-4, 2005*
152. Yavuz, C. T., J. T. Mayo, W. W. Yu, J. C. Falkner, J.C, S. Yean, L. Cong, A. T. Kan, M. B. Tomson and V. L. Colvin "Switchable magnetism for arsenic removal and biomagnetic separation" *Abstracts of Papers, 230th ACS National Meeting, Washington,*

DC, United States, Aug. 28-Sept. 1, 2005

153. Cheng, X., A. T. Kan and M. B. Tomson “Nano-C60 fullerene particles and naphthalene adsorption-desorption and transport in soil” Abstracts of Papers, 230th ACS National Meeting, Washington, DC, United States, Aug. 28-Sept. 1, 2005
154. Cheng, X., A. T. Kan and M. B. Tomson “Nano-C60 fullerene particles and naphthalene adsorption-desorption and transport in soil” Preprints of Extended Abstracts presented at the ACS National Meeting, American Chemical Society, Division of Environmental Chemistry 2005, 45(2), 714-718
155. Chen, W., K. Lakshmanan, A. T. Kan and M. B. Tomson (2004) “A program for evaluating dual-equilibrium desorption effects on remediation” *Ground Water* 42, 620-624
156. Gao, Y., R. Wahi, A. T. Kan, J. C. Falkner, V. L. Colvin and M. B. Tomson (2004) “Adsorption of cadmium on anatase nanoparticles. Effect of crystal size and pH” *Langmuir* 20(22): 9585-9593
157. Kan, A. T., G. Fu, M. B. Tomson, M. Al-Thubaiti and A. J. Xiao (2004) “Factors affecting scale inhibitor retention in carbonate-rich formation during squeeze treatment” *SPE J.* 9(3): 280-289
158. Gao, Y., A. T. Kan and M. B. Tomson (2004) “Critical evaluation of desorption phenomena of heavy metals from natural sediments” *Environ. Sci. Technol.* 38(17): 4703
159. Cheng, X., A. T. Kan and M. B. Tomson (2004) “Naphthalene Adsorption and Desorption from Aqueous C60 Fullerene” *Journal of Chemical and Engineering Data.* 49 (3), 675-683
160. Shipley, H. J., Y. Gao, A. T. Kan and M. B. Tomson “The Mobilization of Metals and Inorganic Compounds During Resuspension of Anoxic Sediment” 11th Annual International Petroleum Environmental Conference, Albuquerque, New Mexico October 12-15, 2004
161. Tomson, M.B., A. T. Kan and G. Fu SPE Paper 87450 “Control of Inhibitor Squeeze via Mechanistic Understanding of Inhibitor Chemistry” SPE International Symposium on Oilfield Scale, Aberdeen, United Kingdom May 26-27, 2004
162. Tomson, M. B., A. T. Kan, G. Fu and L. Cong SPE Paper 87449 “Measurement of total Alkalinity and Carboxylic Acid and Their Relation to Scaling and Corrosion” SPE International Symposium on Oilfield Scale, Aberdeen, United Kingdom May 26-27, 2004
163. Kan, A.T., G. Fu, M. B. Tomson, M. Al-Thubaiti and A. J. Xiao(2004) *J. SPE* 80230 “Factors Affecting Scale Inhibitor Retention in Carbonate-Rich Formation During Squeeze Treatment” *SPE J.* 9 (3): 280-289

164. Kan, A. T., G. Fu, M. B. Tomson and M. Al-Thubaiti NACE Paper 4388 “A Totally Contained Squeeze Simulation Approach and Squeeze Modeling” 59th Annual Corrosion NACE Expo 2004 Conference, New Orleans, Louisiana March 28 – April 1, 2004
165. Tomson, M. B., A. T. Kan, G. Fu and M. Al-Thubaiti NACE Paper 4075 “A Molecular Theory of Mineral Scale Inhibition” 59th Annual Corrosion NACE Expo 2004 Conference, New Orleans, Louisiana March 28 – April 1, 2004
166. Tomson, M.B., A. T. Kan, G. Fu, L. Cong and M. Al-Thubaiti NACE Paper 4074 “A New and Theoretically Accurate Method to Measure Alkalinity” 59th Annual Corrosion NACE Expo 2004 Conference, New Orleans, Louisiana March 28 – April 1, 2004
167. Al-Thubaiti, M., A.T. Kan and M. B. Tomson NACE Paper 4390 “The Temperature and Ionic Strength Dependence of the Solubility Product Constants of Acidic Calcium and Ferrous Phosphonate Phases in Oilfield Brine” 59th Annual Corrosion NAC Expo 2004 Conference, New Orleans, Louisiana March 28 – April 1, 2004
168. Gao, Y., A. T. Kan and M. B. Tomson (2003) “Critical evaluation of desorption phenomena of heavy metals from natural sediments” *Environ. Sci. Technol.* 37(24): 5566-5573
169. Tomson, M. B., G. Fu, M. A. Watson and A. T. Kan (2003) “Mechanisms of mineral scale inhibition” *SPE Prod. Facil.* 18(3): 192-199
170. Kan, A. T., G. Fu and M. B. Tomson (2003) “Effect of methanol and ethylene glycol on sulfates and halite scale formation” *Ind. Eng. Chem. Res.* 42(11): 2399-2408
171. Tomson, M.B., H. E. Allen, C. W. English, W. J. Lyman and J. J. Pignatello “Contaminant-Soils: From Soil-Chemical Interactions to Ecosystem Management ” Roman P. Lanno, ed., SETAC publisher. 2003
172. Kan, A.T., G. Fu, M. Al-Thubaiti, J. Xiao and M. B. Tomson SPE 80230 “A New Approach to Inhibitor Squeeze Design” SPE International Symposium on Oilfield Chemistry, Houston, Texas February 5-8, 2003
173. Chen, W., K. Lakshmanan, A. T. Kan and M. B. Tomson “Evaluating the Effect of Dual-Equilibrium Desorption on Soil/Groundwater Remediation Using Numerical Approach: A decision-Support Model” *National Groundwater Association*, 42 (14), 620-624, 2004
174. Kan, A. T., G. Fu and M. B. Tomson (2002) “Effect of methanol on carbonate equilibrium and calcite solubility in a gas/methanol/water/salt mixed system” *Langmuir* 18(25): 9713-9725
175. Chen, W., A. T. Kan, C. J. Newell, E. Moore and M. B. Tomson (2002) “More realistic soil cleanup standards with dual-equilibrium desorption” *Ground Water* 40(2): 153-164
176. Tomson, M. B., G. Fu, M. A. Watson and A. T. Kan “Mechanisms of Mineral Scale

- Inhibition” SPE 74656 Conference Proceedings, SPE 4th International Symposium on Oilfield Scale Aberdeen, United Kingdom, January 30-31, 2002
177. Kan, A.T., G. Fu., M. A. Watson and M. B. Tomson “Effect of Hydrate Inhibitors on Oilfield Scale Formation and Inhibition” SPE 74657 Conference Proceedings, SPE 4th International Symposium on Oilfield Scale Aberdeen, United Kingdom, January 30-31, 2002
 178. Xiao, J., A. T. Kan and M. B. Tomson (2001) “Prediction of baso4 precipitation in the presence and absence of a polymeric inhibitor: Phosphino-polycarboxylic acid” *Langmuir* 17(15): 4668-4673
 179. Xiao, J., A. T. Kan and M. B. Tomson (2001) “Acid-base and metal complexation chemistry of phosphino-polycarboxylic acid under high ionic strength and high temperature” *Langmuir* 17(15): 4661-4667
 180. Kan, A.T., G. Fu and M. B. Tomson “Mineral-Scale Control in Subsea Completion” OTC 13236, Conference Proceedings, 2001 Offshore Technology Conference Houston, Texas, April 30 – May 3, 2001
 181. Tomson, M.B. and A. T. Kan “Standard Test Method for Phosphonate in Brine, In: ASTM Standards on Inorganic Constituents in Water” American Society for Testing Materials, Committee D19 on water, Method D6501-99, ASTM Book of Standards, Vol. 11.01, 2001
 182. Reible, D., X. Lu, J. Fleeger, J. Pardue Louisiana State University. Hughes, J. and M. B. Tomson Rice University “Sequestration and Bioavailability of PAHS in Sediments. Presentation at the Battelle” Conference on International Remediation Contamination Sediments; Venus, Italy, October 10-12, 2001
 183. Chen, W., A. T. Kan and M. B. Tomson (2000) “Irreversible adsorption of chlorinated benzenes to natural sediments. Implications for sediment quality criteria” *Environ. Sci. Technol.* 34(3): 385-392
 184. Chen, W., A. T. Kan, G. Fu and M. B. Tomson (2000) “Factors affecting the release of hydrophobic organic contaminants from natural sediments” *Environ. Toxicol. Chem.* 19(10): 2401-2408
 185. Tomson, M. B., L. Vignona, E. Moore, W. Chen and A.T. Kan (2000) “Modeling resistant desorption” *Prepr. Ext. Abstr. ACS Natl. Meet., Am. Chem. Soc., Div. Environ. Chem.* 40(2): 134-136
 186. Kan, A. T., W. Chen and M. B. Tomson (2000) “Desorption kinetics of neutral hydrophobic organic compounds from field-contaminated sediment” *Environ. Pollut.* 108(1): 81-89
 187. Chen, W., A. T. Kan and M. B. Tomson (2000) “Modeling irreversible sorption of hydrophobic organic contaminants in natural sediments” *ACS Symp. Ser.* 772(Persistent, Bioaccumulative, and Toxic Chemicals I): 58-69

188. Chen, W., A. T. Kan and M. B. Tomson (2000) "Response to comment on Irreversible adsorption of chlorinated benzenes to natural sediments: Implications for sediment quality criteria" *Environ. Sci. Technol.* 34(19): 4250-4251
189. Xiao, J. J., A. T. Kan, M.B. Tomson and Z. Amjad "The Role of Calcium Phosphino-Polycarboxylate Complexation in Inhibiting BaSO₄ Precipitation From Here Brine" *Advances in Crystal Growth Inhibition Technologies*, Kluwer Academic/Plenum Publishers, Pp: 165-186, 2000
190. Hughes, J. B. and M. B. Tomson "Studies Conducted to Determine Biological Uptake from Contaminated Sediments" *EPA Tech Trends*, 36:2-4, 2000
191. Chen, W., A. T. Kan and M. B. Tomson "Impact of Irreversible Sorption on Bioavailability and Risk Assessment" *The 2nd International Conference on Remediation of Chlorinated and Recalcitrant Compounds (Battelle Conference)*, Monterey, CA, May 22-25, 2000
192. Chen, W., A. T. Kan and M. B. Tomson "Impact of Irreversible Sorption on Bioavailability, Site Remediation, and Risk Assessment" *Water Environment Federation 73rd Annual Conference and Exposition (WEFTEC 2000)*, New Orleans, LA., October 14-18, 2000
193. Vignona, L., E. Moore and M. B. Tomson "Non-Zero Endpoints Protective of Ecological and Human Health" *McGraw-Hill 2001 Yearbook of Science & Technology*, 2000: 138-141
194. Tomson, M.B., A. T. Kan, D. Beekles, S. Frieffeld, W. Chen, J. Hughes and D. Reible (1999) "Biological response and availability of desorption resistant organic pollutants" *Prepr. Ext. Abstr. ACS Natl. Meet., Am. Chem. Soc., Div. Environ. Chem.* 39(2): 173-175
195. Liu, W., A. T. Kan, M.B. Tomson, W. Chen, J. Hughes and D. Reible (1999) "Protocol for assessment of biological available pollutant concentration in soil" *Prepr. Ext. Abstr. ACS Natl. Meet., Am. Chem. Soc., Div. Environ. Chem.* 39(2): 175-177
196. Chen, W., A. T. Kan, G. Fu, L. C. Vignona and M. B. Tomson (1999) "Adsorption-desorption behaviors of hydrophobic organic compounds in sediments of lake charles, louisiana, USA." *Environ. Toxicol. Chem.* 18(8): 1610-1616
197. Tomson, M. B. and J. J. Pignatello (1999) "Causes and effects of resistant sorption in natural particles" *Environ. Toxicol. Chem.* 18(8): 1609
198. He, S. L., A. T. Kan and M. B. Tomson "Inhibition of Calcium Carbonate Precipitation in NaCl Brines from 25 to 90°C" *Applied Geochemistry*, 14:17-25, 1999
199. Oddo, J. E. and M. B. Tomson "The Prediction of Scale and CO₂ Corrosion in Oil Field Systems" *NACE*. Albuquerque, N.M., 1999
200. Friedfeld, S. J., S. He and M. B. Tomson (1998) "The temperature and ionic strength

dependence of the solubility product constant of ferrous phosphonate” *Langmuir* 14(13): 3698-3703

201. Kan, A. T., G. Fu, M. Hunter, W. Chen, C. H. Ward and M. B. Tomson (1998) “Irreversible sorption of neutral hydrocarbons to sediments: Experimental observations and model predictions” *Environ. Sci. Technol.* 32(7): 892-902
202. Xiao, J., A. T. Kan and M. B. Tomson (1998) “The fate of scale inhibitors in oil/gas production” *Prepr. Symp. - Am. Chem. Soc., Div. Fuel Chem.* 43(2): 246-250
203. He, S., A. T. Kan and M. B. Tomson (1998) “Inhibition of calcium carbonate precipitation in nacl brines from 25 to 90°C” *Appl. Geochem.* 14(1): 17-25
204. Oddo, J. E. and M. B. Tomson (1998) “Method predicts well bore scale, corrosion” *Oil Gas J.* 96(23): 107-114
205. Frostman, L.M., A. T. Kan, M.B. Tomson and Z. Amjad “Mechanistic Aspects of Calcium Phosphonates Precipitation, In Calcium Phosphates in Biological and Industrial Systems” Kluwer Academic Publishers, Boston, MA, pp. 493-506, 1998
206. He, S.L., A. T. Kan and M. B. Tomson “Inhibition of Mineral Scale Precipitation by Polymers” In *Water Soluble Polymers: Solution Properties and Applications.* Z. Amjad, Ed., Kluwer Academic Publishers, Boston, MA, 1998
207. Kan, A. T., G. Fu, M. A. Hunter and M. B. Tomson (1997) “Irreversible adsorption of naphthalene and tetrachlorobiphenyl to lula and surrogate sediments” *Environ. Sci. Technol.* 31(8): 2176-2185
208. Kan, A. T., M. A. Hunter, G. Fu and M. B. Tomson (1997) “Effectiveness of chemically enhanced solubilization of hydrocarbons” *SPE Prod. Facil.* 12(3): 153-157
209. Chen, W., A. T. Kan and M. B. Tomson (1997) “Sorption and desorption of hydrocarbons to and from historically contaminated Lake Charles sediments” *Prepr. Pap. ACS Natl. Meet., Am. Chem. Soc., Div. Environ. Chem.* 37(2): 176-179
210. Tomson, M. B., A. T. Kan, G. Fu, W. Chen and L. Vignona “New Definition of “Clean” for Contaminated Sediments” WERC/HSRC Joint Conference on the Environment. April 22-24, 1997
211. He, S.L., A. T. Kan, M. B. Tomson and J. E. Oddo “A New Interactive Software for Scale Prediction, Control, and Management” SPE 38801, Conference proceeding, 1997 Annual Technical Conference, San Antonio, TX, October 6-8, 1997
212. Tomson, M. B., A. T. Kan, R. L. Sullivan, J. P. Gamez and Editors (1996) *Proceedings of the 1995 American petroleum institute and gas research institute naturally occurring radioactive material conference, Houston, Texas, October 17-18, 1995*
213. Kan, A. T. and M. B. Tomson (1996) “Unifac prediction of aqueous and nonaqueous solubilities of chemicals with environmental interest” *Environ. Sci. Technol.* 30(4):

1369-76

214. Oddo, J. E., X. Zhou, J. Gamez, S. He and M. B. Tomson (1996) "A laboratory and field study of the mitigation of norm scale in the gulf coast regions of Texas and Louisiana" Proc. Int. Gas Res. Conf. (Vol. 1): 510-518
215. He, S., A. T. Kan and M. B. Tomson (1996) "Mathematical inhibitor model for barium sulfate scale control" Langmuir 12(7): 1901-5
216. Hunter, M. A., A. T. Kan and M. B. Tomson (1996) "Development of a surrogate sediment to study the mechanisms responsible for adsorption/desorption hysteresis" Environ. Sci. Technol. 30(7): 2278-2285
217. He, S., J. E. Oddo and M. B. Tomson (1995) "The nucleation kinetics of strontium sulfate in nacl solutions up to 6 m and 90°C with or without inhibitors" J. Colloid Interface Sci. 174(2): 327-35
218. He, S., J. E. Oddo and M. B. Tomson (1995) "The nucleation kinetics of barium sulfate in nacl solutions up to 6 m and 90°C" J. Colloid Interface Sci. 174(2): 319-26
219. McKenzie, M.J., S. He, C. Hinrichsen, J. E. Oddo, A. J. Gerbino, A. T. Kan and M. B. Tomson "Controlling Barium Sulfate Scale Deposition by Inhibitor Squeeze at the Guerra Well in South Texas: A Case Study" 1995 American Petroleum Institute and Gas Research Institute Naturally Occurring Radioactive Material Conference, Houston, TX. October 17-18, 1995
220. Tomson, M.B., A. T. Kan, J. E. Oddo and A. J. Gerbino "Solution and Precipitation Chemistry of Phosphonate Scale Inhibitors In: Mineral Scale Formation and Inhibition" (Z. Amjad, Ed.), Plenum Publishing Corporation, New York, NY, pp.307-322, 1995
221. Zhou, X., D. G. Linz, S. He and M. B. Tomson "The Mitigation of NORM Scale in the Gulf Coast Regions of Texas and Louisiana: A Laboratory and Field Study" SPE 29710, SPE/EPA Exploration & Production Environmental Conference, Houston, TX, March 27-29, 1995
222. Kan, A. T., M. A. Hunter, G. Fu, T. A. McRae and M. B. Tomson "Effectiveness of Chemically Enhanced Mobilization of Hydrocarbons" SPE 29769 SPE/EPA Exploration & Production Environmental Conference, Houston, TX, March 27-29, 1995
223. Tomson, M. B., A. T. Kan and J. E. Oddo (1994) "Acid/base and metal complex solution chemistry of the polyphosphonate dtpmp versus temperature and ionic strength" Langmuir 10(5): 1442-9
224. Fu, G., A. T. Kan and M. B. Tomson (1994) "Adsorption and desorption hysteresis of PAHs in surface sediment" Environ. Toxicol. Chem. 13(10): 1559-67
225. Kan, A. T., J. E. Oddo and M. B. Tomson (1994) "Formation of two calcium diethylenetriaminepentakis(methylene phosphonic acid) precipitates and their physical

- chemical properties” *Langmuir* 10(5): 1450-5
226. Oddo, J. E. and M. B. Tomson (1994) “Why scale forms and how to predict it” *SPE Prod. Facil.* 9(1): 47-54
227. Oddo, J. E. and M. B. Tomson (1994) “Algorithms can predict; inhibitors can control norm scale” *Oil Gas J.* 92(1): 33-7
228. Kan, A. T., G. Fu and M. B. Tomson (1994) “Adsorption/desorption hysteresis in organic pollutant and soil/sediment interaction” *Environ. Sci. Technol.* 28(5): 859-67
229. He, S., J. E. Oddo and M. B. Tomson (1994) “The inhibition of gypsum and barite nucleation in nacl brines at temperatures from 25 to 90°c” *Appl. Geochem.* 9(5): 561-7
230. Al-Borno, A. and M. B. Tomson (1994) “The temperature dependence of the solubility product constant of vivianite” *Geochim. Cosmochim. Acta* 58(24): 5373-8
231. He, S., J. E. Oddo and M. B. Tomson (1994) “The nucleation kinetics of calcium sulfate dihydrate in nacl solutions up to 6 m and 90°c.” *J. Colloid Interface Sci.* 162(2): 297-303
232. He, S., J. E. Oddo and M. B. Tomson (1994) “The seeded growth of calcium sulfate dihydrate crystals in nacl solutions up to 6 m and 90°c” *J. Colloid Interface Sci.* 163(2): 372-8
233. He, S., J. E. Oddo and M. B. Tomson “The Inhibition of Calcium and Barium Sulfate Nucleation and the Relationship to Scale Control” *NACE, Corrosion 94*, Baltimore, MD. 1994
234. Oddo, J.E., A. F. Bopp, C. D. Sitz and M. B. Tomson “A Field Study of Successful Control Methods for NORM Scale in Gulf Coast Gas and Oil Wells” *NACE, Corrosion 94*, Baltimore, MD. 1994
235. Oddo, J.E., C. Sitz, I. Ortiz, D. Linz, A. Lawrence, A. T. Kan and M. B. Tomson “Naturally Occurring Radioactive Materials (NORM) Scale Formation - A Case Study of the Chemistry, Prediction, Remediation and Treatment in Wells of the Antrim Gas Fields Near Gaylord, Michigan” *SPE 25937 SPE/EPA Exploration and Production Environmental Conference*, San Antonio, TX 1993
236. Oddo J.E., A.Y. Al-Borno, I. Ortiz, R. Anthony, D. Pope, D. Hill, D. Linz, J. Frank, D. Becker and M.B. Tomson *SPE 25485* “The Chemistry, Prediction and Treatment of Scale Containing Naturally Occurring Radioactive Materials (NORM) in the Antrim Formation Gas Fields” *Operations Symposium*, Oklahoma City, OK, 1993
237. Oddo, J.E., A. J. Gerbino and M. B. Tomson “Inhibition of BaSO₄ Precipitation at High Temperature, Pressure and Total Dissolved Solids” *NACE, Corrosion 93*, New Orleans, LA., 1993
238. Kan, A. T., J. E. Oddo and M. B. Tomson “A Mechanistic Interpretation of

- Precipitation and Dissolution of Divalent Metal Phosphonates” NACE, Corrosion 93, New Orleans, LA., 1993
239. Oddo, J.E., C. Sitz, I. Ortiz, D. Linz, A. Lawrence, A. Kan and M.B. Tomson, SPE 25937 “Naturally Occurring Radioactive Materials (NORM) Scale Formation - A Case Study of the Chemistry, Prediction, Remediation and Treatment in Wells of the Antrim Gas Fields Near Gaylord, Michigan” SPE/EPA Exploration and Production Environmental Conference, San Antonio, TX., 1993
 240. Greenberg, J. and M. B. Tomson (1992) “Precipitation and dissolution kinetics and equilibria of aqueous ferrous carbonate vs temperature” *Appl. Geochem.* **7**(2): 185-90
 241. Tomson, M.B., J. Matty and J. E. Oddo “Scale Inhibitor Evaluations and a Mechanism of Inhibition of Sparingly Soluble Salts” *Prod. Eng. J.*, SPE 21571, 1992
 242. Kan, A.T., X. Cao, L. Yan, J. E. Oddo and M. B. Tomson “The Transport of Chemical Scale Inhibitors in Reservoirs and Its Importance to the Squeeze Procedure” NACE, Paper 33, Corrosion 92, Nashville, TN, April 26 - May 1, 1992
 243. Oddo J. E. And M. B. Tomson “Scale Control, Prediction and Treatment or How Companies Evaluate a Scaling Problem and What They Do Wrong” NACE, Paper 34, Corrosion 92, Nashville, TN, April 26 - May 1, 1992
 244. Tomson, M.B. and J. E. Oddo “A New Saturation Index Equation to Predict Calcite Formation in Gas and Oil Production” *J. Pet. Tech.*, Paper No. SPE 022056, 1992
 245. Oddo, J.E., J. P. Smith and M. B. Tomson “Analysis of and Solutions to the CaCO_3 and CaSO_4 Scaling Problems Encountered in Some Wells Offshore, Indonesia” SPE 22782, SPE Annual Conference and Exhibition, Dallas, TX, October 6-9, 1991
 246. Tomson, M.B. and M. L. Johnson “How Ferrous Carbonate Kinetics Impacts Oilfield Corrosion” *SPE Production Engineering*, 1991
 247. Oddo J. E. And M. B. Tomson “The Prediction of the Sulfate Scales of Ca, Sr and Ba by Simplified Numerical Algorithms” In Preparation, 1991
 248. Tomson, M.B., J. Matty and J. E. Oddo “A Mechanism of Inhibition of Nucleation of Sparingly Soluble Salts” NACE/91, Paper #00502, 1991
 249. Marlow, H. J., K. L. Duston, M. R. Wiesner, M. B. Tomson, J. T. Wilson and C. H. Ward “Microbial Transport Through Porous Media: The Effects of Hydraulic Conductivity and Injection Velocity” *J. Haz Mat.*, **28**:65-74, 1991
 250. Oddo J. E. and M. B. Tomson “Why Scale Forms In The Oil Field and Methods to Prevent It” In Proceedings SPE Production Operations Symposium, Oklahoma City, Oklahoma, SPE Paper No. 21710, April 7-9, 1991
 251. Kan, A.T., L. Yan, P. B. Bedient, J. E. Oddo and M. B. Tomson “Sorption and Fate of Phosphonate Scale Inhibitors In The Sandstone Reservoir: Studied by Laboratory

- Apparatus With Core Material” In Proceedings, SPE Production Operations Symposium, Oklahoma City, OK, SPE Paper No. 21714, April 7-9, 1991
252. Tomson, M. B. and M. L. Johnson “How Ferrous Carbonate Kinetics Impacts Oilfield Corrosion” In: Proceedings, International Symposium on Oilfield Chemistry, Anaheim, CA, SPE Paper No. 21025, February 20-22, 1991
 253. Kan, A.T., K. Varughese and M. B. Tomson “Determination of Low Concentrations of Phosphonate in Brines” In Proceedings, International Symposium on Oilfield Chemistry, Anaheim, CA, Paper No. SPE 21006, February 20-22, 1991
 254. Johnson, M.L. and M. B. Tomson “Ferrous Carbonate Precipitation Kinetics and Its Impact on CO₂ Corrosion” In Proceedings, NACE Annual Conference and Corrosion Show, March 11-15, Cincinnati, OH, NACE/91 Paper #268, 1991
 255. Kan, A. T. and M. B. Tomson (1990) “Ground water transport of hydrophobic organic compounds in the presence of dissolved organic matter” *Environ. Toxicol. Chem.* 9(3): 253-63
 256. Rogers, L. A., K. Varughese, S. M. Prestwich, G. G. Waggett, M. H. Salimi, J. E. Oddo, E. H. Street, Jr. and M. B. Tomson (1990) “Use of inhibitors for scale control in brine-producing gas and oil wells” *SPE Prod. Eng.* 5(1): 77-82
 257. Kan, A. T. and M. B. Tomson (1990) “Effect of ph concentration on the transport of naphthalene in saturated aquifer media” *J. Contam. Hydrol.* 5(3): 235-51
 258. Oddo, J. E. and M. B. Tomson (1990) “The solubility and stoichiometry of calcium-diethylenetriaminepenta(methylene phosphonate) at 70°C in brine solutions at 4.7 and 5.0 ph” *Appl. Geochem.* 5(4): 527-32
 259. Tomson, M.B. “Brine Chemistry and the Control of Scale and Corrosion” In Proceedings, Industrial Consortium for the Utilization of the Geopressured-Geothermal Resource, Houston, TX, 2:99-103, January 10, 1990
 260. Tomson, M.B., J. Matty and J. E. Oddo “Scale Inhibitor Evaluations and a Mechanism of Inhibition of Sparingly Soluble Salts” Petroleum Society of CIM/SPE International Technical Meeting, Calgary, Alberta, Canada, June 10-13, Paper No. CIM/SPE 90-55, 1990
 261. Oddo, J. E. And M. B. Tomson “Using Calcium Carbonate Scaling Indices to Predict Scale Formation in Petroleum Systems” In Proceedings, "Corrosion 90" for NACE, Las Vegas, NV, 1990
 262. Oddo, J. E. And M. B. Tomson “Brine Production and Some Solutions to the Problem of Calcium Carbonate Scale Formation” In Proceedings, "Corrosion 90" for NACE, Las Vegas, NV, Paper No. 73, 1990
 263. Oddo, J. E. And M. B. Tomson “The Solubility and Stoichiometry of Calcium-Diethylenetriaminepenta(Methylene Phosphonate) at 70 °C in 2.0 M. Brine Solutions at

- 4.7–9.0 pH” J. Pet. Tech., In Preparation, 1990
264. Street, E. H., Jr., J. E. Oddo and M. B. Tomson (1989) “Scale control aids gas recovery” JPT, J. Pet. Technol. 41(10): 1080-6
 265. Oddo, J.E. and M. B. Tomson “A Discussion of Calcium Carbonate Scaling Problems and Solutions with Respect to Produced Brines” In Proceedings, 1989 Annual SPE Conv., San Antonio, TX, Paper No. SPE 19763, pp. 551-563, 1989
 266. Tomson, M.B., J. Matty, and J. E. Oddo “A Mechanism of Inhibition of Nucleation of Sparingly Soluble Salts” In Proceedings, "Corrosion 89" for NACE, New Orleans, LA, pp. 174/1-174/15, April 17-21, 1989
 267. Matty, J. M. and M. B. Tomson (1988) “Effect of multiple precipitation inhibitors on calcium carbonate nucleation” Appl. Geochem. 3(5): 549-56
 268. Tomson, M.B. and E. H. Jr. Street “Scale Inhibition During Coproduction of Natural Gas” In Proceedings, SPE Gas Technical Symposium, Dallas, TX, Paper No. SPE 17721, June 13-15, 1988
 269. Kan, A.T. and M. B. Tomson “Sorption and Migration of Organic Contaminants in Soil Column” In Proceedings, Petroleum Hydrocarbons and Organic Chemicals in Ground Water (National Water Well Association) Houston, TX, pp. 397-407, November 17-19, 1987
 270. O'Day, P. A. and M. B. Tomson “Chemistry and Disposal of Brines from Secondary Natural Gas Production” In Proceedings, Third National Conference on Drilling Muds, Norman, OK, pp. 105-122, 1987
 271. Ward, C. H., M. B. Tomson, P. B. Bedient and M. D. Lee (1986) “Transport and fate processes in the subsurface” Water Resour. Symp. 13(Land Treat: Hazard. Waste Manage. Altern.): 19-39
 272. Kan, A.T. and M. B. Tomson “Facilitated Transport of Naphthalene and Phenanthrene in a Sandy Soil Column with Dissolved Organic Matter-Macromolecules and Micelles” In Proceedings, Petroleum Hydrocarbons and Organic Chemicals in Ground Water (National Water Well Association), Houston, TX, pp. 93-106, November 12-14, 1986
 273. Clark, G. L., A. T. Kan and M. B. Tomson “Kinetic Interaction of Neutral Trace Level Organic Compounds with Soil Organic Material” In Proceedings, Petroleum Hydrocarbons and Organic Chemicals in Ground Water (National Water Well Association), Houston, TX, pp. 151-156, November 12-14, 1986
 274. Tomson, M. B. and G. L. Clark “Recovery of Aluminum as Aluminum Sulfate From Aluminum Anodizing Sludge” In Proceedings, International Symposium on Metal Speciation, Separation and Recovery, Chicago, IL, pp. VIII-39/41, 1986
 275. Tomson, M. B., L. Rogers, K. Varughese, M. Prestwich, G.G. Waggett and H. M. Salimi “Use of Inhibitors for Scale Control in Brine-Producing Gas & Oil Wells” In

Proceedings, SPE Annual Technical Conference and Exhibition, October 5-8, New Orleans, LA, Paper No. SPE 15457, 1986

276. Greenberg, J.L. and M. B. Tomson “Kinetics of Precipitation and Dissolution of Ferrous Carbonate” In Proceedings, International Symposium on Metals Speciation, Separation, and Recovery, (J. W. Patterson, ed.), Lewis Publication, Inc., Chelsea, MI, pp. I-1/17, 1986
277. Ward, C.H., M. B. Tomson, P. B. Bedient and M. D. Lee “Transport and Fate Processes in the Subsurface” In: Land Treatment, a Hazardous Waste Management Alternative, (R. C. Loehr and J. F. Malina, Jr., eds.), Center for Research in Water Resources, University of Texas, Austin, TX, pp. 19-39, 1986
278. Wilson, J. T., J. F. McNabb, J. W. Cochran, T. H. Wang, M. B. Tomson and P. B. Bedient (1985) “Biodegradation of chemicals in the subsurface environment: Influence of microbial adaptation on the fate of organic pollutants in groundwater” *Environ. Toxicol. Chem.* 4(6): 721-6
279. Hutchins, S. R., M. B. Tomson, P. B. Bedient and C. H. Ward (1985) “Fate of trace organics during land application of municipal wastewater” *CRC Crit. Rev. Environ. Control* 15(4): 355-416
280. Rogers, L. A., M. B. Tomson, J. M. Matty and L. R. Durrett (1985) “Saturation index predicts brine's scale-forming tendency” *Oil Gas J.* 83(13): 97-100, 104-6, 108
281. Matty, J. M., G. G. Waggett, K. Varughese, L. R. Durrett and M. B. Tomson “Scale Control in Geopressured Energy Production” *Geothermal Program Review*, September 11-12, Washington, DC, (CONF 8509142/DE860040740), pp. 175-178, 1985
282. Matty, J.M., K. Varughese, G.G. Waggett and M. B. Tomson “Control of Scale Associated with Geopressured-Geothermal Brine Production” In Proceedings, 6th Gulf Coast Geopressured-Geothermal Energy Conference on Mitigation of Scale Formation in Geothermal/Geopressured Energy Production (M. H. Dorfman and R. A. Morton, eds.), Pergamon Press, Elmsford, NY, pp. 137-147, 1985
283. West, C. C., G. G. Waggett and M. B. Tomson “Irreversible Sorption of Trace Level Organics by Ground Water Humic Substances: A New Mechanism of Transport” In Proceedings, Second International Conference on Ground Water Quality Research, OSU University Printing Services, Stillwater, OK, pp. 53-54, 1985
284. Tomson, M. B., C. Curran, S. R. Hutchins, M. D. Lee, G. Waggett, C. West and C. H. Ward “Land Application of Municipal Waste Water” *Ground Water Quality* (C. H. Ward, W. Giger, and P. L. McCarty, eds.), John Wiley & Sons, Inc., New York, NY, pp. 188-215, 1985
285. Wang, T. H., C.M. Curran, P. B. Bedient and M. B. Tomson “Ground Water Contamination at Conroe Waste Disposal Site” In Proceedings, Second International Conference on Ground Water Quality Research, OSU University Printing Services, Stillwater, OK, pp. 50-52, 1985

286. Hutchins, S. R., M. B. Tomson, C. H. Ward and J. T. Wilson "Anaerobic Inhibition of Trace Organic Removal During Rapid Infiltration of Wastewater" *Appl. Environ. Microbiol.* 48:1046-1048, 1984
287. Hutchins, S. R., M. B. Tomson, C. H. Ward and J. T. Wilson "Microbial Removal of Wastewater Organics as a Function of Input Concentration in Soil Columns" *Appl. Environ. Microbiol.* 48:1039-1045, 1984
288. Tomson, M.B. and L. Vignona "Precipitation of Phosphate Minerals in Waste Water Treatment Systems" In: *Phosphate Minerals*, Springer-Verlag, Heidelberg (J. O. Nriagu and P. B. Moore, eds.), pp. 386-399, 1984
289. Hutchins, S. R., M. B. Tomson, J. T. Wilson and C. H. Ward (1984) "Fate of trace organics during rapid infiltration of primary wastewater at fort devens, Massachusetts" *Water Res.* 18(8): 1025-36
290. Bedient, P. B., A. C. Rodgers, T. C. Bouvette, M. B. Tomson and T. H. Wang (1984) "Groundwater quality at a creosote waste site" *Ground Water* 22(3): 318-29
291. Hutchins, S. R., M. B. Tomson, J. T. Wilson and C. H. Ward (1984) "Microbial removal of wastewater organic compounds as a function of input concentration in soil columns" *Appl. Environ. Microbiol.* 48(5): 1039-45
292. Hutchins, S. R., M. B. Tomson, J. T. Wilson and C. H. Ward (1984) "Anaerobic inhibition of trace organic compound removal during rapid infiltration of wastewater" *Appl. Environ. Microbiol.* 48(5): 1046-8
293. Hutchins, S. R., M. B. Tomson and C. H. Ward "Microbial Involvement in Trace Organic Removal During Rapid Infiltration Recharge of Ground Water" In *Proceedings, 6th International Symposium on Environmental Biogeochemistry (ISEB)*, Van Nostrand Reinhold, Santa Fe, NM, pp. 370-382, 1983
294. Bedient, P. B., N. K. Springer, E. Baca, T. C. Bouvette, S. R. Hutchins and M. B. Tomson (1983) "Ground-water transport from wastewater infiltration" *J. Environ. Eng. (N. Y.)* 109(2): 485-501
295. Hutchins, S. R., M. B. Tomson and C. H. Ward (1983) "Trace organic contamination of ground water from a rapid infiltration site: A laboratory-field coordinated study" *Environ. Toxicol. Chem.* 2(2): 195-216
296. Tomson, M. B. (1983) "Effect of precipitation inhibitors on calcium carbonate scale formation" *J. Cryst. Growth* 62(1): 106-12
297. Curran, C.M. and M. B. Tomson "Leaching of Trace Organics into Water from Five Common Plastics" *Ground Water Monit. Rev.* 3:68-71, 1983
298. Tomson, M.B. and G.H. Nancollas "Guidelines for the Determination of Stability Constants" *Pure and Applied Chemistry* 54:2675-2692, 1982

299. Oddo, J. E., K. M. Sloan and M. B. Tomson (1982) "Inhibition of calcium carbonate precipitation from brine solutions: A new flow system for high-temperature and high-pressure studies" *JPT, J. Pet. Technol.* 34(10): 2409-12
300. Nancollas, G. H. and M. B. Tomson (1982) "Guidelines for the determination of stability constants" *Pure Appl. Chem.* 54(12): 2675-92
301. Oddo, J. E. and M. B. Tomson (1982) "Simplified calculation of calcium carbonate saturation at high temperatures and pressures in brine solutions" *JPT, J. Pet. Technol.* 34(7): 1583-90
302. Kazmierczak, T. F., M. B. Tomson and G. H. Nancollas (1982) "Crystal growth of calcium carbonate. A controlled composition kinetic study" *J. Phys. Chem.* 86(1): 103-7
303. Bedient, P.B., N. K. Springer, C. J. Cook and M. B. Tomson "Modeling Chemical Reactions and Transport in Ground Water Systems" A Review. In: *Modeling the Fate of Chemicals in the Aquatic Environment* (Dickson, K.L., Maki, A.L., Cairns, J.A. eds.), Ann Arbor Science, Inc., Ann Arbor, MI, pp. 215-246, 1982
304. Tomson, M. B., J. Dauchy, S. Hutchins, C. Curran, C. J. Cook and C. H. Ward (1981) "Groundwater contamination by trace level organics from a rapid infiltration site" *Water Res.* 15(9): 1109-16
305. Oddo, J.E., K. M. Sloan and M. B. Tomson "Precipitation of CaCO₃ in High Temperature and Pressure Brines in the Presence of Scale Inhibitors Using Novel Saturation Index Calculations" In *Proceedings, Fifth Conference on Geopressured-Geothermal Energy*, Louisiana State University, Baton Rouge, LA, pp. 127-132, 1981
306. Tomson, M.B. "Fate of Neutral Trace Level Organics in Ground Water" *Houston Engineer* 39:12-16, 1981
307. Hsieh, Y.P., M. B. Tomson and C. H. Ward (1980) "Toxicity of water-soluble extracts of no. 2 fuel oil to the freshwater alga *Selenastrum capricornutum*" *Dev. Ind. Microbiol.* 21: 401-9
308. Koutsoukos, P., Z. Amjad, M. B. Tomson and G. H. Nancollas (1980) "Crystallization of calcium phosphates. A constant composition study" *J. Am. Chem. Soc.* 102(5): 1553-7
309. Tomson, M.B., S. R. Hutchins, J. M. King and C. H. Ward "A Nitrogen Powered Continuous Delivery, All-Glass-Teflon Pumping System for Ground Water Sampling from Below 10 Meters" *Ground Water* 18:444-446, 1980
310. Tomson, M.B. and C. H. Ward, et al. *Ground Water*. In: *Transport and Fate of Toxic Chemicals in the Aquatic Environment*, a report submitted to the Office of Air, Land, and Water Use and the Office of Research and Development, U.S. EPA, Washington, DC, pp. 24-32, February 1979

311. Tomson, M.B., S. R. Hutchins, J. M. King and C. H. Ward "Trace Organic Contamination of Ground Water: Methods for Study and Preliminary Results" Papers, III World Congress on Water Resources, 8:3701-3709, 1979
312. Tomson, M.B., G. H. Nancollas, Z. Amjad and P. Koutsoukos "Aqueous Precipitation of Pure Hydroxyapatite and Related Materials" J. Dent. Res. 57:909, 1978
313. Amjad, Z., P. Koutsoukos, M. B. Tomson and G. H. Nancollas (1978) "The growth of hydroxyapatite from solution. A new constant composition method" J. Dent. Res. 57(9-10): 909
314. Eralp, A. E. and M. B. Tomson (1978) "Ph averaging" J. Water Pollut. Control Fed. 50(2): 389-92
315. Tomson, M. B. and G. H. Nancollas (1978) "Mineralization kinetics: A constant composition approach" Science 200(4345): 1059-60
316. Nancollas, G.H., M. B. Tomson, G. Battaglia, H. Wawrousek and M. Zuckerman "Precipitation of Calcium Phosphates: The Influence of Tricarboxylic Acids, Magnesium and Phosphonate" Chemistry of Wastewater Technology, Chapter 2, Alan J. Ruben (ed.), Ann Arbor Science Publ., Inc., Ann Arbor, MI, 1978
317. Nancollas, G.H., T. F. Kazmierczak, E. C. Schuttringer and M. B. Tomson "The Kinetics of Dissolution and Formation of Calcium Carbonate: A New Constant Composition Approach" "Chemistry for the Mediterranean," May 1978
318. Tomson, M. B., B. Tomazic, G. H. Nancollas, W. Miller and M. Everett (1977) "The seeded growth of calcium phosphates on dentin and predentin" J. Dent. Res. 56(11): 1369-75
319. Tomson, M. B., J. P. Barone and G. H. Nancollas (1977) "Precise calcium phosphate determination" At. Absorpt. Newsl. 16(5): 117-18
320. Tomson, M.B., T. F. Kazmierczak and G. H. Nancollas "A Controlled Composition Technique for Seeded Growth Kinetic Studies" 51st Colloid and Surface Science Symposium, Amer. Chem. Soc., Grand Island, NY, June 19-22, 1977
321. Critique; W.E.B. and M. B. Tomson "Effects of Fluoride on Enamel Solubility and Cariostasis" Caries Res. 11 (Supp. 1):139-141, 1977
322. Tomson, M.B., G. H. Nancollas and T. F. Kazmierczak "Controlled Composition Seeded Growth Kinetics of Calcium Carbonate" Proceedings, Int. Symp. Oilfield & Geothermal Chemistry, U. of California, San Diego, June 1977
323. Tomazic, B., M. B. Tomson and G. H. Nancollas (1976) "The growth of calcium phosphates on natural enamel" Calcif. Tissue Res. 19(4): 263-71
324. Nancollas, G. H. and M. B. Tomson (1976) "The precipitation of biological minerals" Faraday Discuss. Chem. Soc. 61(Precipitation): 175-83

325. Nancollas, G. H., B. Tomazic and M. B. Tomson (1976) "The precipitation of calcium phosphates in the presence of magnesium" *Croat. Chem. Acta* 48(4): 431-8
326. Barone, J. P., G. H. Nancollas and M.B. Tomson (1976) "The seeded growth of calcium phosphates. The kinetics of growth of dicalcium phosphate dihydrate on hydroxyapatite" *Calcif. Tissue Res.* 21(3): 171-82
327. Tomazic, B., M. B. Tomson and G. H. Nancollas (1975) "Growth of calcium phosphates on hydroxyapatite crystals: The effect of magnesium" *Arch. Oral Biol.* 20(12): 803-8
328. Purdie, N. and M. B. Tomson (1973) "Thermodynamics of ionization of diastereoisomeric forms of 2,3-dicarboxylic acids" *J. Amer. Chem. Soc.* 95(1): 48-50
329. Purdie, N., M. B. Tomson and N. Riemann (1972) "Thermodynamics of ionization of polycarboxylic acids" *J. Solution Chem.* 1(5): 465-76
330. Purdie, N., M. B. Tomson and G. K. Cook (1972) "Determination of composition of mixtures of diastereoisomeric forms of weak acids by ph titration" *Anal. Chem.* 44(8): 1525-8
331. Purdie, N. and M. B. Tomson (1972) "Extension of linear free energy relations to multiple ionizations" *J. Solution Chem.* 1(5): 477-80
332. Tomson, M.B. "Thermodynamics of the Ionization of Polybasic Organic Acids in Water" University Microfilms, Ann Arbor, MI, Science Publ. Inc., 1972
333. Litchinsky, D., N. Purdie, M. B. Tomson and W. D. White (1969) "Rigorous solution to the problem of interfering dissociation steps in the titration of polybasic acids" *Anal. Chem.* 41(13): 1726-30

INDUSTRIAL APPLICATIONS AND PATENTS:

1. Kan, A.T. and M.B. Tomson "A scale prediction model, SSP 2015", Brine Chemistry Consortium of twentyfive oil, gas and chemical service companies, 2015
2. Gangoli, V.S., M. M. Viana, M. S. Wong, J. M. Tour, G. Ruan, C.C. Hwang., Z. Peng., M. B. Tomson., A. T. Kan., L. Wang., G. Hirasaki, C. A. Miller., M. Puerto and H. S. J. R. Verduzco. Patent "Partially sulfonated polymers" Serial number 61/861,834, August 2, 2013
3. Tour, J. M., C.C. Hwang., W. Lu., G. Ruan, M. B. Tomson., A. T. Kan., L. Wang., M. S. Wong., G. Kini., G. J. Hirasaki., and C. Miller. Patent "Transporters of oil sensors for downhole hydrocarbon detection" Publication number WO2013142869A1, issued on Sep 26, 2013
4. Tour, J.M., Wong, M., Tomson, M., Berlin, J., Leonard, A., Lomeda, J., Lu, W., Kosynkin, D., Yu, J., Zhang, L., Kan, A. Nanomaterial-containing signaling

compositions for assay of flowing liquid streams and geological formations and methods for use thereof. U.S. Patent Application 2010. WO/2010/147859

5. Yean, S.; Yavuz, C. T., Mayo, J. T., Kan, A. T., Tomson, M. B., Colvin, V. L. Arsenic removal in drinking water system using engineered magnetite nanoparticles with a simple magnetic separation. U. S. Patent Application, 2007.
6. Kan, A.T., Tomson, M.B. ASTM/API Standard Test Method for Phosphonate in Brines. Method D6501-99, ASTM Book of Standards, Vol. 11.01, 2001.
7. Kan, A.T., Tomson, M.B. NACE Standard Test Method for Phosphonate in Brine, NACE Test Method 0399-99, 1999.
8. Oddo, J.E., Kan, A.T., Gerbino, A.J., Tomson, M.B. A Novel Method for Scale Inhibitor Squeeze Application to Gas and Oil Wells. U.S. Patent No. 5,655,601, 1997.
9. Oddo, J. E., Tomson, M.B. Elevated Temperature-Pressure Flow Simulator. U. S. Patent No. 5,370,799, 1994.
10. Kan, A.T., Varughese, K., Oddo, J.E., Tomson, M.B. Measurement of Low Phosphonate Concentrations. U.S. Patent No. 5,270,216, 1993.
11. Brine Chemistry Kit, distributed by LaMotte Chemical Co. in 1986 as a result of funded research through the Gas Research Institute, 1986.
12. Slide rule made by Shell Oil Co. of Calgary, Canada, from monograph submitted to Gas Research Institute, 1984.

BOOKS:

1. P. Zhang, A. T. Kan and M. B. Tomson “Oil Field Mineral Scale Control” Chapter 24, in: Z. Amjad, K.D..Demadis (Eds.), Mineral Scales and Deposits: Scientific and Technological Approaches, 2015, pp. 603–617 ISBN: 9780444632289 Elsevier (2015) Book: AMJAD-9780444632289
2. W. Wang, A. T. Kan, W. Shi, C. Fan, and M. B. Tomson “Scaling Control for High Temperature and Pressure Oil Production” “Mineral Scales in Biological and Industrial Systems” (2014), 77-101 Z. Amjad (Ed), CRC Press Boca Raton, FL ISBN 9781466568648
3. Shipley, H. J., Tomson, M. B. Nano-adsorbents. Nanomaterial, Environment, and Sustainability Environmental Nanotechnology ., Auffan, M. Eds. Wiesner and Bottero, McGraw-Hill Publishing: New York; pp.371-389. 2007
4. Oddo, J.E., Tomson, M.B. Calcite Scale Handbook: Measurement, Prediction and Control. GRI-98/0035 March 1998.

5. Kan, A.T., Fu, G., Hunter, M., Tomson, M.B. PCB Migration, Control and Clean-up in Natural Gas Pipelines. 1997.
6. Proceedings of the 1995 American Petroleum Institute and Gas Research Institute Naturally Occurring Radioactive Material Conference, edited by Tomson, M.B., A.T. Kan, R.L. Sullivan, J.P. Gamez, 1996.

HONORS, PRIZES, AND AWARDS

1. Co-Director of China- U.S. Center for Environmental Remediation and Sustainable Development. (2008 - 2015)
2. Director, Brine Chemistry Consortium. (1986 - 2015) Brine Chemistry Consortium
3. Steering Committee, Institute for Corrosion and Multiphase Technology Center. at Athens, OH on September 17, 2013. (2013 - 2013)
4. Conference Committee, SPE International Conference on Oilfield Scale. (2008 - 2015)
5. Honorary Professor, Nankai University in China. (2008 - 2015)
6. Environmental Advisory Group at RPSEA, Research Partnership to Secure Energy for America. (2012 - 2015)
7. A lecture "Environmental Issues Related to Shale Oil and Gas in Western US" at University of Houston, Civil and Environmental Engineering Department, Houston, TX on March 25, 2013
8. Invited speaker "Brine chemistry and scale control." at the Institute for Corrosion and Multiphase Technology Center Meeting at Athens, OH on Oct 15th, 2013.
9. "Carbon nanoparticles mobilize hydrophobic organic contaminants in groundwater: Linking aggregation properties and contaminant-mobilizing capabilities presented at ACS 87th Colloid & Surface Science Symposium, UC Riverside." (June 23- 26, 2013)
10. "Transport behavior of nanoparticles, aqueous solutions in porous media vs T presented at ACS 87th Colloid & Surface Science Symposium, UC Riverside." (June 23-26, 2013)
11. Steering committee, SPE International Oilfield Nanotechnology conference, London, UK, 13th December, 2011
12. Enid advisory panel of Anadarko Petroleum Corporation on Oct 30-Nov. 1, 2011 at Enid OK

13. Science Advisory Board at National Corrosion Center (NCC in EESI.). This is an Engineering School initiative in cooperation with National Association of Corrosion Engineers (NACE) lead by Prof. Andreas Luttge to establish a new and highly visible corrosion center for America.
14. An International Collaboration Project “ Collaborative study on flexible organic solar cells and supercapacitors based on carbon nano-materials” with Yongsheng Chen, Wei Chen (Nankai University); Yongfang Li (Institute of Chemistry, The Chinese Academy of Sciences) is funded from 1/2011 to 12/2013 for six million RMB.
15. International Petroleum Environmental Consortium (IPEC) Science Advisory Board.
16. Keynote Speaker. “Environmental transport and impact of Nanoparticles.” At the China U.S. Center workshop at Rice University on January 21st, 2010.
17. Conference Committee at SPE International Conference on Oilfield Scale. Aberdeen, United Kingdom, 26-27 May 2010.
18. One paper by my student, Ping Zhang, was selected by Society of Petroleum Engineers (SPE) as the outstanding paper in the SPE 10th International Conference on Oilfield Scale May 26-27, 2010 and he receives an all expenses paid trip to present the paper.
19. Invited speaker. “Environmental Transport and Impact of Nanoparticles” at University of Texas San Antonio on Sep. 24, 2010
20. Invited Speaker at REM TEC Summit (Remediation Technology Summit- Nano-Technologies and the Environment). “Transport of Carbon and Metal-Oxide Nanoparticles in Soil and Soil Components” Atlanta, GA., March 3-5, 2009
21. Invited Speaker for Texas A & M Nanotechnology & Nanoscience Student Association Seminar Series. “Transport and use of nanoparticles in aqueous porous media.” July 8, 2009.
22. Key note speaker. Tomson, M.B. The first annual meeting of the China-U.S. Center for Environmental Remediation and Sustainable Development (CERSD) in China. Theme: Energy, Environment, and Sustainable Development, Opportunities for China-US Collaboration. March 20-21, 2008. Nankai University, Tianjin, China.
23. Overview of Rice research for Nankai University’s President, Zihao Rao. Duncan Hall, Rice University. February 20, 2008.
24. Honorary Professor at Nankai University in China, March 2008
25. Invited Speaker at BP Corrosion Forum on Corrosion fundamental properties and modeling, Rice University, March 31, 2008
26. Workshop at Hong Kong University and Tsinghua University in Shenzhen (Houston’s Sister City in China). March 17, 2008

27. Keynote presentation: China U.S. Center's research and activities at Chinese and American Environmental Technology Collaboration Conference. By U.S. EPA and the Ministry of Science and Technology of China. Beijing, China. April, 2008.
28. One paper by my student, Sujin Yean, was selected by Society of Petroleum Engineers (SPE) as the outstanding paper in the annual petroleum scale conference in Scotland(May 28-29, 2008) and she received an all expenses paid trip to present the paper.
29. Speaker at AEL Knowledge Transfer Program: A collaborative program between City of Houston and Libyan housing and Infrastructure Board (HIB) on the Processes in Water Quality in Libya. Houston, TX. August 20, 2008
30. Invited Speaker for the Representatives of Houston Rotary Club on Research of arsenic removal with nano-magnetite technology and possible collaboration with Bangladesh University. Rice University, December 16, 2008.
31. Honorary Professor at Nankai University in China, 2007-forward
32. Invited Speaker at International Water Association 4th IWA Leading-Edge Conference on Water & Wastewater Technologies, Singapore June3-6, 2007
33. Invited Speaker at Industrial Research Institute China Forum Meeting, Beijing, China, September 10-12, 2007
34. Research Opportunities with Nanotechnology: Removal of Arsenic with Magnetite Nanoparticles. Baylor University, April 2007
35. Invited Committee Member to the 9th Annual International Petroleum Environmental Conference; Albuquerque, New Mexico, October 22-25, 2002.
36. Session Chairman of Scale Forum, Society of Petroleum Engineers 4rd International Symposium on Oil Field Scale, Aberdeen, Scotland, January 2001.
37. Gulf Coast Hazardous Substance Research Center – Congressional Hearing, United States House of Representatives, Washington, D.C., April, 1999.
38. Bound Residues of Organic Compounds in the Soil. A Specialist Workshop Organized on Behalf of the UK Ministry of Agriculture, Fisheries and Food (MAFF); Lancaster, UK. October 1998.