CURRICULUM VITAE

Menachem Elimelech

Menachem Elimelech
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Education

1989	Ph.D.	Environmental Engineering, The Johns Hopkins University; Dissertation: "The Effect of Particle Size on the Kinetics of Deposition of Brownian Particles in Porous Media"; Advisor: Professor Charles R. O'Melia (deceased)
1985	M.Sc.	Environmental Science & Technology, The Hebrew University, Jerusalem, Israel (Summa Cum Laude)
1983	B.Sc.	Soil and Water Sciences, The Hebrew University, Jerusalem, Israel (Summa Cum Laude)

Awards

2017 Elected to the Chinese Academy of Engineering (foreign member)

2017 Thomson Reuters Highly Cited Researcher in two Categories: *Chemistry* and *Environment/Ecology*

2016 Association of Environmental Engineering and Science Professors (AEESP) Distinguished Lecturer for 2016-17

2016 Thomson Reuters Highly Cited Researcher in two Categories: *Chemistry* and *Environment/Ecology*

2015 Association of Environmental Engineering and Science Professors (AEESP) Outstanding Doctoral Dissertation Award (Doctoral Student Ngai Yin Yip)

2015 Eni Prize for 'Protection of the Environment'

2015 Thomson Reuters Highly Cited Researcher in the Categories of: *Chemistry* and *Environment/Ecology*

2015 Elected Fellow, Association of Environmental Engineering and Science Professors (AEESP)

2015 Chinese Academy of Sciences Distinguished Scholar (formerly known as "Einstein Professorship")

2014 Thomson Reuters Highly Cited Researcher in the Category: *Environment/Ecology*

2014 The Charles R. O'Melia Distinguished Educator Award, Association of Environmental Engineering and Science Professors

2012 Association of Environmental Engineering and Science Professors (AEESP) Outstanding Paper Award (with Amy E. Childress)

2012 Super Reviewer Award, *Environmental Science & Technology*

2012 Yale University Postdoctoral Mentoring Prize

2012 American Water Work Association (AWWA) First Place Best Doctoral Dissertation Award (Doctoral Student Meagan Mauter)

2011 The Simon W. Freese Environmental Engineering Award and Lecture, American Society of Civil Engineers, ASCE

2010 Liza Cariaga-Lo Faculty Award for Diversity in Scholarship and Service, Yale University

2009 World Class University Professor, Korea University, Seoul, Korea

2008 The American Institute of Chemical Engineers Lawrence K. Cecil Award in Environmental Chemical Engineering

2007 Election to the Connecticut Academy of Science and Engineering

2006 Election to the National Academy of Engineering

2006 Association of Environmental Engineering and Science Professors (AEESP) Frontier of Research Award

2006 American Water Work Association (AWWA) First Place Best Doctoral Dissertation Award (Doctoral Student Nathalie Tufenkji)

2005 The Athalie Richardson Irvine Clarke Prize, National Water Research Institute

2004 Excellence in Review Award, *Environmental Science & Technology*

2004 Yale University Graduate Mentor Award

2002 Association of Environmental Engineering and Science Professors (AEESP) Outstanding Paper Award

2002 Association of Environmental Engineering and Science Professors (AEESP) Outstanding Doctoral Dissertation Award (Doctoral Student Eric M.V. Hoek)

1996 American Society of Civil Engineers, Walter L. Huber Civil Engineering Research Prize

1994 W.M. Keck Foundation, Engineering Teaching Excellence Award

1990 National Science Foundation, Research Initiation Award

1989 Environmental Engineering and Chemistry Graduate Student Award, American Chemical Society-Division of Environmental Chemistry

Honors and Recognitions

2010 Advisory Board of *Journal of Membrane Science*

2009 Advisory Board of *Desalination and Water Treatment*

2008 Advisory Board of *Langmuir*

2005 Trendsetter, Public Work Magazine

2004 Advisory Board of *Separation Science & Technology*

2004 Advisory Board of *Colloids and Surfaces A*

2003 Certificate of Merit Award for paper presentation (co-author with graduate student Sharon L. Walker) at the 226th American Chemical Society National Meeting, New Orleans, LA

2002 ExxonMobil Chair Professorship, National University of Singapore (summer 2002)

2002 Advisory Board of *Desalination*

2001 Certificate of Merit Award for paper presentation (co-author with graduate student J. Chen) at the 222nd American Chemical Society National Meeting, Chicago, IL.

2000 Certificate of Merit Award for paper presentation (co-author with graduate student E. Vrijenhoek) at the 220th American Chemical Society National Meeting, Washington, DC.

2000 Associate Editor, *Environmental Engineering Science*

1999 Certificate of Merit Award for paper presentation (co-author with graduate student C.-H. Ko) at the 217th American Chemical Society National Meeting, Anaheim, CA.

1998 Advisory Board of *Environmental Science & Technology*

1997 Advisory Board of the *Journal of Colloid and Interface Science* for the 1998-2000 period

1996 Certificate of Merit Award for paper presentation (co-author with graduate student S. Hong) at the 212th American Chemical Society National Meeting

1996 Certificate of Merit Award for paper presentation (co-author with graduate student A.E. Childress) at the 212th American Chemical Society National Meeting, Orlando, FL.

1996 Best poster presentation, American Desalting Association Biennial Conference, Monterey, California (with Graduate Student S. Hong)

1989 Best poster presentation in the international workshop on "*Aquatic Chemical Kinetics: Reaction Rates of Processes in Natural Waters"*, March 19-23, 1989, Warth, Switzerland (with Prof. Charles R. O'Melia)

Professional Experience

2005-present	Roberto C. Goizueta Professor, Department of Chemical and Environmental Engineering, Yale University
2005-2010	Chair, Chemical Engineering Department, Yale University
1998-2004	Llewellyn West Jones Professor, Department of Chemical Engineering, Environmental Engineering Program, Yale University
1998-present	Director, Environmental Engineering Program, Yale University
2003-2008	Adjunct Professor, Kwangju Institute of Science and Technology (K-JIST), Korea
2002 (summer)	ExxonMobil Chair Professor, Department of Civil Engineering, National University of Singapore
2001 (summer)	Visiting Professor, Department of Civil Engineering, National University of Singapore
2000 (Fall)	Acting Chair, Dept. of Chemical Engineering, Yale University
1997	Guest Professor, Institute of Terrestrial Ecology, Soil Chemistry

(Spring, Summer)	Group, Swiss Federal Institute of Technology (ETH-Zurich)
1997-1998	Professor, Dept. of Civil & Environmental Engineering, UCLA
1996 (Fall Quarter)	Visiting Associate, Environmental Engineering Science, California Institute of Technology
1994-1997	Associate Professor, Dept. of Civil & Environmental Engineering, UCLA
1989-1994	Assistant Professor, Dept. of Civil & Environmental Engineering, UCLA
1986-1989	Graduate Student Research Assistant, Department of Geography & Environmental Engineering, The Johns Hopkins University
1984 (summer)	Lab Research Assistant, Laboratory of Water Quality, Jerusalem Municipality, Israel
1983-1985	Graduate Student Research Assistant, Division of Environmental Sciences, The Hebrew University of Jerusalem, Israel
1982-1983	Research Assistant, Laboratory of Soil Physics, School of Agriculture, The Hebrew University of Jerusalem, Israel
1974-1980	Military Service

Professional Society Memberships

American Chemical Society; Association of Environmental Engineering Science Professors; American Institute of Chemical Engineers; American Society of Civil Engineers; American Water Works Association

Research Interests and Activities

- Membrane separation processes for desalination and water reuse
- Engineered osmosis for water and power production
- Environmental applications of nanomaterials
- Water and sanitation in developing countries

Past and Current Research Grants and Contracts

- American Chemical Society, The Petroleum Research Fund
- American Water Works Association Research Foundation
- Center for Clean Technology, UCLA,
- Coca Cola Foundation
- Fluid Systems Corporation
- Metropolitan Water District of Southern California
- Mitsubishi Heavy Industries, Ltd. (Japan)
- National Science Foundation
- National Water Research Institute
- Oasys Water Inc.
- Office of Naval Research
- State of California, Department of Water Resources
- Strategic Environmental Research and Development Program (SERDP)

- The Camille and Henry Dreyfus Foundation
- Toyobo Company, Ltd.
- University of California, Water Resources Center
- U.S. Department of the Interior, Bureau of Reclamation
- U.S. Department of the Army
- U.S. Department of Energy
- U.S. Department of Energy (ARPA-E)
- W.M. Keck Foundation
- US Department of Agriculture
- U.S. Environmental Protection Agency

Graduate Student Supervision: Current Ph.D. Students at Yale

1. Chanhee Boo
   Research Area: Membrane-based processes for water and power generation
2. Humberto Jaramillo
   Research Area: Inorganic membrane scaling
3. Jay Werber
   Research Area: Advanced membranes
4. Akshay Deshmukh
   Research Area: Membrane processes at the water-energy nexus
5. Douglas Davenport
   Research Area: Advanced membrane processes for water purification
6. Camrynn Fausey (co-advised with Julie Zimmerman)
   Research Area: Nanotechnology-based processes for water purification in developing countries
7. Cassandra Porter
   Research Area: Novel membrane materials
8. Cody Ritt
   Research Area: Next-generation desalination membranes
9. Julliane Rolf
   Research Area: to be developed
10. Ruan DuChanois
    Research Area: to be developed
11. Xuechen Zhou (co-advised with Jaehong Kim)
    Research Area: Novel membrane materials

Current Post-Doctoral Fellows

1. Dr. Xinglin Liu (Ph.D., Harbin Institute of Technology)
   Research Area: Advanced membrane materials
2. Dr. Ines Zucker (Ph.D., Tel-Aviv University)

Research Area: Environmental nanotechnology

3. Dr. Meng (Chris) Sun (Ph.D., RCEES, Chinese Academy of Sciences)
   Research Area: Membrane technologies at the water-energy nexus
4. Dr. Razi Epzstein (Ph.D., Technion, Israel)
   Research Area: Ion transport in membranes
5. Dr. Vasiliki Karanikola (Ph.D., University of Arizona)
   Research Area: Thermal desalination membranes
6. Dr. David Warsinger (Ph.D., MIT) (co-advised with Jaehong Kim)
   Research Area: Membrane desalination

Past Ph.D. Graduates

1. Lianfa Song (1993)
   Dissertation Title: Theoretical Aspects of Particle Deposition in Porous Media
   Title and Affiliation: Associate Professor, Dept. of Civil Engineering, Texas Tech University
2. Hsiao-Wei (David) Ching (1993)
   Dissertation Topic: Removal of Particles and THM Precursors from Surface Waters by Chemical Coagulation
   Title and Affiliation: Associate Professor, Department of Environmental Engineering, Tung-Nan Institute of Technology, Taipei, Taiwan
3. Daylin Liu (1994)
   Dissertation Title: Chemical Aspects of Particle Deposition Dynamics in Porous Media
   Title and Affiliation: Program Developer, Los Angeles, CA
4. Philip R. Johnson (1995)
   Dissertation Title: Modeling Colloidal Transport in Saturated Porous Media
   Title and Affiliation: *Previously* - Assistant Professor, Dept. of Civil Engineering and Geological Sciences, University of Notre Dame. *Currently* – unknown.
5. Xiaohua (Tracy) Zhu (1996)
   Dissertation Title: Chemical Aspects of Colloidal Fouling of Cellulose Acetate and Thin-Film Composite Reverse Osmosis Membranes
   Title and Affiliation: LEEI Consulting Engineers, Sunnyvale, California
6. Seungkwan Hong (1997)
   Dissertation Title: Natural Organic Matter and Colloidal Fouling in Crossflow Membrane Filtration
   Title and Affiliation: *Previously* – Associate Professor, Civil and Environmental Engineering Department, University of Central Florida. *Currently* – Professor, Civil and Environmental Engineering Department, Korea University, Seoul, Korea.
7. Amy E. Childress (1997)
   Dissertation Title: Characterization and Performance of NF and RO Membranes
   Title and Affiliation: Professor and Chair, Civil and Environmental Engineering Department, University of Nevada at Reno
8. Ning Sun (March, 1998)
   Dissertation Title: Colloid Transport in Physically and Geochemically Heterogeneous Porous Media: Modeling, Measurements, and parameter Identification
   Title and Affiliation: Senior Research Scientist, School of Public Health, Yale University.

9. John J. Waypa (June, 1998)
   Dissertation Title: Separation of Ionic Species by Polymeric Nanofiltration Membranes in Crossflow Membrane Filtration: Implications for Arsenic Removal
   Title and Affiliation: Senior Member Technical Staff, Northrop Grumman Information Systems, Herndon, VA

10. Yann Le Gouellec (November, 1998)
    Dissertation Title: Calcium Sulfate Scale Formation and Control in Nanofiltration of Agricultural Drainage Water
    Title and Affiliation: Senior Engineer, Greater Cincinnati Water Works

11. Chun-Han Ko (July, 1999)
    Dissertation Title: Particle Deposition in Heterogeneous Porous Media
    Title and Affiliation: Professor, National Taiwan University

12. Albert (Sechurl) Kim (June, 2000) (co-adviser)
    Dissertation Title: Dynamics of Particle Aggregation in Natural and Engineered Aquatic Systems
    Title and Affiliation: Associate Professor, Civil and Environmental Engineering Department, University of Hawaii

13. Eric M.V. Hoek (formerly Vrijenhoek) (December 2001)
    Dissertation Title: Mechanisms of Colloidal Fouling of RO and NF Membranes
    Title and Affiliation: Associate Professor, Civil and Environmental Engineering Department, University of California, Los Angeles

14. Sharon L. Walker (November 2004)
    Dissertation Title: Mechanisms of Bacterial Adhesion to Solid Surfaces in Aquatic Systems
    Title and Affiliation: Associate Professor, Department of Chemical and Environmental Engineering, University of California, Riverside

15. Nathalie Tufenkji (November 2004)
    Dissertation Title: Spatial Distributions of Retained Colloidal and Microbial Particles in Porous Media: Measurements, Modeling, and Mechanisms
    Title and Affiliation: Associate Professor, Department of Chemical Engineering, McGill University, Canada

16. Jim C. Chen (July 2005)
    Dissertation Title: Membrane Filtration of Interacting Colloidal Particles: Mechanisms, Modeling, and Applications
    Title and Affiliation: Assistant Professor, Nanyang Technological University, Singapore

17. Zachary A. Kuznar (August 2005)
    Dissertation Title: Adhesion Mechanisms of *Cryptosporidium parvum* Oocysts to Solid Surfaces in Aquatic Systems
    Title and Affiliation: Senior Engineer, Renewable Energy Technology Strategy, Duke Energy

18. Jane Hill (March 2006)
    Dissertation Title: Organic Phosphorus Pollution: The Fate of Phytate in the Chesapeake Bay Watershed
    Title and Affiliation: Assistant Professor, College of Engineering and Mathematical Sciences, University of Vermont

19. Alexis de Kerchove (May 2007)
    Dissertation Title: Deposition of Motile and Non-Motile Bacteria onto Conditioning Films: Measurements and Mechanisms

Title and Affiliation: Project Manager, Processes and New Technologies at Xylem Inc., Stockholm, Sweden

20. Jeffrey R. McCutcheon (May 2007)
Dissertation Title: Osmotically Driven Membrane Processes: Characterization of Water Transport Phenomena through Asymmetric Polymeric Membranes
Title and Affiliation: Assistant Professor, Department of Chemical Engineering, University of Connecticut.

21. Kai Loon Chen (January 2008)
Dissertation Title: Aggregation and Deposition of Nanoparticles in Aquatic Environments
Title and Affiliation: Assistant Professor, Johns Hopkins University.

22. Wui Seng Ang (July 2008)
Dissertation Title: Optimization of Chemical Cleaning of Organic-fouled Reverse Osmosis Membranes: Implications for Wastewater Reclamation
Title and Affiliation: Research Engineer, Singapore Public Utility Board.

23. Allegra da Silva (August 2008)
Dissertation Title: Norovirus Adsorption and Removal in Engineered and Natural Aquatic Environments
Title and Affiliation: Environmental Engineer, CDM Smith

24. Anna S. Brady-Estevez (May 2009)
Dissertation Title: Carbon Nanotube-Based Hybrid Filter Development: Effective Removal of Viral and Bacterial Pathogens from Water at Low Pressures
Title and Affiliation: Director, Strategy, AES Corporation, Washington D.C.

25. Maggie Montgomery (May 2009)
Dissertation Title: Effectiveness of Sanitation in Preventing Risk of Trachoma in Rural Tanzania
Title and Title and Affiliation: World Health Organization (WHO), Geneva

26. Robert McGinnis (May 2009)
Dissertation Title: Ammonia – Carbon Dioxide Forward Osmosis Desalination and Pressure Retarded Osmosis
Title and Affiliation: Chief Technology Officer, Oasys Water Inc., Boston, MA

27. Meagan Mauter (August 2011)
Dissertation Title: Implications and Applications of Nanomaterials for Membrane-Based Water Treatment
Title and Affiliation: Assistant Professor, Carnegie Mellon University

28. Laura Sima (August 2012)
Dissertation Title: Performance and Health Impact of Decentralized Membrane-Based Water and Wastewater Treatment Technologies
Title and Affiliation: Postdoctoral Fellow, Johns Hopkins University

29. Juishan Yong (August 2012)
Dissertation Title: Reverse Draw Solute Transport in Forward Osmosis Systems
Title and Affiliation: PM, Veolia Water Solutions and Technologies North America

30. Alberto Tiraferri (August 2011)
Dissertation Title: Improving the Performance and Antifouling Properties of Thin-Film Composite Membranes for Water Separation Technologies
Title and Affiliation: Postdoctoral Fellow, University of Geneva

31. Ngai Yin Yip (May 2014)
    Dissertation Title: Sustainable Production of Water and Energy with Osmotically-Driven Membrane Processes and Ion-Exchange Membrane Processes
    Title and Affiliation: Postdoctoral Fellow, NTU (Assistant Professor, Columbia University as of July 2015)

32. Katherine Zodrow (June 2014)
    Dissertation Title: Biofilm Characterization and Prevention in Engineered Systems
    Title and Affiliation: Postdoctoral Fellow, Rice University

33. Laura Arias Chaves (formerly Laura Hoover) (July 2011)
    Dissertation Title: Re-Designing Membranes: Electrospun Nanofibers for Control of Structure and Material Properties
    Title and Affiliation: Assistant Professor, Tennessee Technological University

34. Marissa E. Tousley (May 2016)
    Dissertation Title: Nanomaterial Modification and Molecular-Level Assembly of Materials Aimed Toward the Development of Next Generation Membranes
    Title and Affiliation: Assistant Professor, Rose-Hulman Institute of Technology

35. Devin L. Shaffer (August 2016)
    Dissertation Title: Design of Anti-Fouling and Anti-Scaling Membranes for Forward Osmosis Desalination
    Title and Affiliation: Postdoctoral Fellow, National Institute of Standards and Technology (NIST)

36. Anthony P. Straub (August 2017)
    Dissertation Title: Membrane-Based Processes for Energy Production from Salinity Gradients and Low-Grade Heat
    Title and Affiliation: Postdoctoral Fellow, MIT

Past Post-Doctoral Researchers

1. Dr. Subir Bhattacharjee (2001)
   Title and Affiliation: Professor, University of Alberta

2. Dr. Arza Seidel (2001)
   Title and Affiliation: Technical Editor, John Wiley and Sons, New York

3. Dr. Steven Mylon (co-advised with Gaboury Benoit) (2002)
   Title and Affiliation: Associate Professor, Lafayette College

4. Dr. Pawel Weronski (co-advised with John Walz) (2003)
   Title and Affiliation: Associate Professor, Institute of Catalysis and Surface Chemistry, Polish Academy of Sciences, Krakow, Poland

5. Dr. How Ng (2003)
   Title and Affiliation: Associate Professor, National University of Singapore

6. Dr. Qilin Li (2003)
   Title and Affiliation: Associate Professor, Rice University (as of January 2006)

7. Dr. Jeremy Redman (2004)
   Title and Affiliation: Assistant Professor, Californian State University, Long Beach

8. Dr. Sangyoup Lee (2005)

Title and Affiliation: *Formerly* — Assistant Professor, Cheongju University, Korea; *Currently* — Research Professor, Korea University, Seoul, Korea

9. Dr. Thanh (Helen) Nguyen (2006)
   Title and Affiliation: Assistant Professor, University of Illinois, UIUC
10. Dr. Moshe Herzberg (2007)
    Title and Affiliation: Senior Lecturer, Ben Gurion University, Israel
11. Dr. Baoxia Mi (2008)
    Title and Affiliation: Assistant Professor, University of Maryland
12. Dr. Navid Saleh (2008)
    Title and Affiliation: Assistant Professor, University of South Carolina
13. Dr. Seoktae (Steve) Kang (2009)
    Title and Affiliation: *Formerly* — Assistant Professor, University of Alberta, Canada; *Currently* — Assistant Professor, Kyung Hee University, Korea
14. Dr. Debora F. Rodrigues (2009)
    Title and Affiliation: Assistant Professor, University of Houston
15. Dr. Chad Vecitis (2010)
    Title and Affiliation: Assistant Professor, Harvard University
16. Dr. Deb Jaisi (2010)
    Title and Affiliation: Assistant Professor, University of Delaware
17. Dr. William Phillip (2011)
    Title and Affiliation: Assistant Professor, University of Notre Dame
18. Dr. Jessica Schiffman (2011)
    Title and Affiliation: Assistant Professor, University of Massachusetts, Amherst
19. Dr. Zhiyong Meng (2011) (co-advised with Prof. Chinedum Ousji)
    Title and Affiliation: Senior Researcher, Parker Hannifin Corporation
20. Dr. Md. Saifur Rahaman (2012)
    Title and Affiliation: Assistant Professor, Concordia University, Canada
21. Dr. Moshe Ben-Sasson (2013)
    Title and Affiliation: Post-doctoral fellow, Weizmann Institute of Science, Israel
22. Dr. Santiago R-V. Castrillón (2013)
    Title and Affiliation: Assistant Professor, University of Minnesota
23. Dr. Yunxia Hu (2013)
    Title and Affiliation: Assistant Professor, Yantai Institute of Coastal Zone Research, China
24. Dr. Shihong Lin (2013)
    Title and Affiliation: Assistant Professor, Vanderbilt University
25. Dr. Edo Bar-Zeev (2015)
    Title and Affiliation: Assistant Professor, Ben-Gurion University. Israel
26. Dr. François Perreault (2015)

Title and Affiliation: Assistant Professor, Arizona State University

27. Dr. Siamak Nejati (2016)
    Title and Affiliation: Assistant Professor, University of Nebraska – Lincoln

28. Dr. Andreia Fonseca de Faria (2016)
    Title and Affiliation: TBA

29. Dr. Jongho Lee (2017)
    Title and Affiliation: Assistant Professor, University of British Columbia

30. Dr. Tiezheng Tong (2017)
    Title and Affiliation: Assistant Professor, Colorado State University

Past Visiting Graduate Students

1. Dr. Long Nghiem (2002-2003)
   Title and Affiliation: Lecturer, University of Wollongong, Australia
2. Bart Postmus (2003)
   Title and Affiliation: Doctoral student, Wageningen University, The Netherlands
3. Ana Rita Costa (2005)
   Title and Affiliation: Doctoral Student, Instituto Superior Técnico, Lisboa, Portugal
4. Esther Huertas (2005)
   Title and Affiliation: Doctoral Student, Universitat de Barcelona, Spain
5. Alberto Tiraferri (2007)
   Title and Affiliation: Graduate Student, Politecnico di Torino, Italy
6. Yinghui Mo (2011)
   Title and Affiliation: Graduate Student, Tsinghua University, P.R. China
7. Shuai Liang (2012)
   Title and Affiliation: Graduate Student, Tsinghua University, P.R. China
8. Xinglin Lu (2014)
   Title and Affiliation: Graduate Student, Haarbin Institute of Technology, P.R. China
9. Ming Xie (2014)
   Title and Affiliation: Graduate Student, Wollongong University, Australia

Courses Taught at UCLA

- Physical and Chemical Processes (**CEE 255A**)
- Membrane Separations in Aquatic Systems (**CEE 258**)
- Colloidal Phenomena in Aquatic Systems (**CEE 261**)
- Water Treatment Plant Design (**CEE 157B**)
- Selected Topics in Environmental Engineering (**CEE 259A**)

Courses Taught at Yale

- Introduction to Environmental Engineering (**ENVE 120**)
- Transport Phenomena (**CENG/ENVE 315**)
- Environmental Transport Processes (**ENVE 448 / ENAS 648**)
- Water Quality Control (**CENG/ENVE 377**)
- Physical and Chemical Processes in Environmental Engineering (**ENAS 642**)
- Separation Processes (**CENG 411**)

Short Courses Taught at International Institutions

- Membrane Separations in Aquatic Systems, Korea University, Seoul, Korea, August 2010
- Membrane Technology in Water and Wastewater Treatment, National University of Singapore, 4-6 July, 2001
- Particles and Surfaces: Fundamental Aspects and Applications, Swiss federal Institute of Technology (ETH), 17- 18 July, 1997
- Colloidal Transport in Heterogeneous Porous Media, Swiss federal Institute of Technology (ETH), June 19-20, 1997
- Particle Deposition onto Model Collectors, Swiss federal Institute of Technology (ETH), June 17, 1997
- Physico-Chemical Processes for Water and Wastewater Treatment: International Course on Wastewater Reclamation and Reuse, Institute of Desert Research, Ben Gurion University, Israel, 10-12 August 1996

Service on University Wide Committees at Yale (Selected)

- Physical Sciences and Engineering Tenure Appointments Committee (2010-present)
- Yale College Course of Study Committee (1999 – 2001)
- Studies in the Environment Committee (2000 – present)
- Advisory/Tenure Committee of the Division of Physical Sciences and Engineering (2001 – 2002; 2003-2005; 2011-present)
- Yale College Study Abroad Committee (2006)
- Standing Advisory and Appointments Committee for the School of Forestry and Environmental Studies (2000 – present)
- Advisory Committee on Environmental Management

Reviewer for Scholarly Journals (Selected)

ACS Nano; ACS Materials; Advanced Materials; Advances in Environmental Research; Advances in Water Resources; American Institute of Chemical Engineers Journal; Analytical Chemistry; Aqua; Biomacromolecules; Bioresource Technology; Biotechnology Progress; Carbon; Chemical Engineering Communications; Chemical Engineering Science; Chemosphere; Colloids and Surfaces A and B; Desalination; Environmental Engineering Science; Environmental Science & Technology; Environmental Technology; Geochimica Cosmochimica Acta; Geophysical Research Letters; Industrial & Engineering Chemistry Research; Journal of Adhesion; Journal American Water Works Association; Journal of the American Chemical Society; Journal of Chemical Engineering of Japan; Journal of Chemical Physics; Journal of Colloid and Interface Science; Journal of Contaminant Hydrology; Journal of Environmental Engineering, ASCE; Journal of Hazardous Materials; Journal of Hydrology; Journal of Membrane

Science; Journal of Membrane Biology; Journal of Nanoparticle Research; Journal of Physical Chemistry; Langmuir; Macromolecules; Nano Letters, Nature Nanotechnology; PNAS; Powder Technology; Reviews in Chemical Engineering; Science; Science; Separation and Purification Technology; Separation Science and Technology; Small; Transport in Porous Media; Water Environment Research; Water Research; Water Resources Research; Water Science and Technology

Reviewer for Agencies, Review Panels, and Review Teams (Selected)

American Chemical Society, The Petroleum Research Fund; Department of Energy; Department of Energy, Subsurface Science Program; Environmental Protection Agency; Israel Science Foundation; Lawrence Livermore National Laboratory; National Research Council (NRC), Water Science and Technology Board; National Science Foundation (US); National Science and Engineering Research Council of Canada (NSERC); National Science and Technology Board of Singapore; Netherlands Science Foundation; National University of Singapore; University of Arizona Water Resources Center; UC Water Resources Center; Swiss National Science Foundation; State of Louisiana, NSF EPSCoR (Tulane, LSU, and University of New Orleans)

Selected Advisory Committees and Committee Memberships

- Chair, Scientific Advisory Board, Water Desalination and Reuse Center, KAUST (2012-present)
- Chair, External Review Panel, Water Desalination and Reuse Center, KAUST (2012)
- Scientific Advisory Board, Engineering Research Center for Re-inventing Urban Water Infrastructure, Stanford University (2011-present)
- Scientific Advisory Board, The Cyprus Institute, Cyprus (2011-present).
- Scientific Advisory Board, Singapore Centre on Environmental Life Sciences Engineering (SCELSE) (2010-present)
- National Academies (Institute of Medicine) Committee on Blue Water Navy Vietnam Veterans and Agent Orange Exposure (2010-present)
- External Advisory Board, Center for Environmental Implications of Nanotechnology, UCLA (2009-present)
- External Advisory Board, Delaware Environmental Institute (2009-present)
- NRC Committee on Advancing Desalination Technologies (2006-2008)
- Scientific Advisory Board of NanoH2O Inc. (2009-present)
- Scientific Advisory Board of Oasys Water Inc. (2008-present)
- Advisory Committee for the international symposium “Interfaces Against Pollution” (IUPAC), to be held in Granada, Spain, June 2006
- International Scientific Committee, International Symposium on Wastewater Reclamation & Reuse for Sustainability, Jeju, Korea, November 2005
- Advisory Committee 3th International Association on Water Quality (IWA) Membrane Conference, Seoul, Korea, June 7-10, 2004
- Advisory Committee for the international symposium “Interfaces Against Pollution” (IUPAC), to be held in Julich, Germany, May 2004
- Advisory Committee for the 13th Annual Meeting of the North American Membrane Society (NAMS), May 2001, Long Beach, California
- Advisory Committee for the International Conference on Membrane Technology for Wastewater Reclamation and Reuse, September 2001, Tel Aviv, Israel

- Advisory Committee for the international symposium "Interfaces Against Pollution" (IUPAC), Wageningen, The Netherlands, August 1997
- American Water Works Association, Research Committee on Membrane Technology, 1998 – present
- Titular Member of the IUPAC "Fundamentals of Environmental Chemistry", 1997-2001
- Scientific Advisory Board, Zuckerberg Institute for Water Research, Israel, 2003-present
- Scientific Advisory Committee, Center for Water Research, Department of Civil Engineering, National University of Singapore, 2002-present
- Scientific Advisory Committee, Department of Earth and Environmental Engineering, Columbia University, 2002-present

Selected Editorial Services

- Guest Editor (with W.P. Ball, J.E. Tobiason) for a Special Issue in *Environmental Science & Technology* in Honor of Charles R. O'Melia (Volume 31, September 2005)
- Guest Editor (with M.R. Wiesner) for a special issue on "Membrane Technology", *Environmental Engineering Science* (Volume 19 (6), 2002)
- Guest Editor (with A.K. SenGupta) for the special issue "Colloids and Interfaces in Environmental Processes", *Colloids and Surfaces A* (Vol. 191, October 2001)
- Guest Editor (with J.G. Hering) for the special issue "Colloidal and Interfacial Phenomena in Aquatic Environments", *Colloids and Surfaces A* (Vol. 107, February 1996)
- Advisory Board, *Journal of Colloid and Interface Science* (1998-2001)
- Advisory Board, *Colloids and Surfaces A*
- Advisory Board, *Desalination*
- Advisory Board, *Desalination and Water Treatment*
- Advisory Board, *Environmental Science & Technology Letters*
- Advisory Board, *Environmental Engineering Science*
- Advisory Board, *Separation Science and Technology*
- Advisory Board, *Langmuir*

Conference and Symposia Organizer (Selected)

- Co-organizer of a symposium (with J.G. Hering and T.C. Harmon): *Physical-Chemical Processes Controlling Contaminant Mobility in Aquatic Environments*, American Chemical Society-Division of Environmental Chemistry, March 13-18, 1994, San Diego, California.
- Organizer of a symposium (with J.G. Hering): *Colloidal and Interfacial Phenomena in Aquatic Environments*, American Chemical Society-Division of Environmental Chemistry, April 1995, Anaheim, California
- Organizer of a symposium (with G.L. Amy and M.M. Clark): *Fundamentals of Membrane Separation Processes in Aquatic Systems*, American Chemical Society-Division of Environmental Chemistry, August 1996, Orlando, Florida
- Organizer of a symposium (with M. Borkovec and J.G. Hering): *Interfacial and Colloidal Phenomena in Aquatic Environments*, American Chemical Society-Division of Environmental Chemistry, March 1999, Anaheim, California

- Organizer of a symposium (with A. SenGupta): *Interfacial and Colloidal Phenomena in Aquatic Environments*, 74th Colloid and Surface Science Symposium, American Chemical Society, Lehigh University, June 2000.
- Organizer of a symposium (with M. Clark and G. Amy): *Membrane Separation Processes in Aquatic Systems*, 220th American Chemical Society National Meeting -Division of Environmental Chemistry, August 2000, Washington, DC.
- Organizer of a symposium (with M. Borkovec): *Surfactants, Polymers, and Colloids in the Aquatic Environment*, 220th American Chemical Society National Meeting-Division of Colloid and Surface Chemistry, August 2000, Washington, DC.
- Organizer of a symposium (with M. Borkovec): *Processes Involving Colloids and Polymers in the Aquatic Environment*, 224th American Chemical Society National Meeting-Division of Colloid and Surface Chemistry, August 2002, Boston, MA.
- Co-organizer of a symposium (with K.F Hayes and T.M. Olson): *Interfacial and Colloidal Phenomena in Aquatic Systems*, 76th Colloid and Surface Science Symposium, American Chemical Society, University of Michigan, June 2002.
- Co-organizer, 78th ACS Colloid and Surface Science Symposium, June 20-13, 2004, Yale University
- Organizer (with W.P. Ball and J.E. Tobiason) of a Symposium in Honor of Professor Charles R. O'Melia: *Particles and Interfaces in Aquatic Systems*, 228th American Chemical Society National Meeting-Division of Colloid and Surface Chemistry, August 22-24, 2004, Philadelphia, PA

Refereed Journal Publications (>360 papers; >63,000 citations; h index = 131; based on Google Scholar)

1. Rahimi, M, Straub, A.P., Zhang, F., Zhu, X., Elimelech, M., Gorski, C., & Logan, B.E. "Emerging electrochemical and membrane-based systems to convert low-grade heat to electricity", *Energy & Environmental Science*, 2018, in press.
2. Dizge, N., Epsztein, R., Cheng, W., Porter, C.J., & Elimelech, M. "Biocatalytic and salt selective multilayer polyelectrolyte nanofiltration membrane", *Journal of Membrane Science*, 2018, in press.
3. Engel, M., Hadar, Y., Belkin, S., Lu, X., Elimelech, M., & Chefetz, B. "Bacterial inactivation by a carbon nanotube–iron oxide nanocomposite: a mechanistic study using E. coli mutants", *Environmental Science: Nano*, 2018, in press.
4. Sun, M., Davenport, D., Liu, H., Qu, J., Elimelech, M., & Li, J. "Highly efficient and sustainable non-precious-metal Fe–N–C electrocatalysts for the oxygen reduction reaction", *Journal of Materials Chemistry A*, 2018, in press.
5. Straub, A.P. & Elimelech, M. "Energy Efficiency and Performance Limiting Effects in Thermo-Osmotic Energy Conversion from Low-Grade Heat", *Environmental Science & Technology*, 51, December 2017, page(s) 12925-12937.
6. Shaffer, D.L., LaManna, J.M., Jacobson, D.L., Hussey, D.S., Elimelech, M., & Chan, E.P. "Studying water and solute transport through desalination membranes via neutron radiography", *Journal of Membrane Science*, 2017, in press.
7. Epsztein, R., Cheng, W., Shaulsky, E., Dizge, N., & Elimelech, M. "Elucidating the mechanisms underlying the difference between chloride and nitrate rejection in nanofiltration", *Journal of Membrane Science*, 2017, in press.

8. Luo, W., Phan, H.V., Li, G.X., Hai, F.I., Price, W.E., Elimelech, M., & Nghiem, L.D. "An Osmotic Membrane Bioreactor – Membrane Distillation System for Simultaneous Wastewater Reuse and Seawater Desalination: Performance and Implications", *Environmental Science & Technology*, 51, December 2017, page(s) 14311-14320.

9. Lu, X., Feng, X., Werber, J.R., Chu, C., Zucker, I., Kim, J.-H., Osuji, C.O., & Elimelech, M. "Enhanced antibacterial activity through the controlled alignment of graphene oxide nanosheets", *Proceedings of the National Academy of Sciences*, 2017, page(s) E9793-E9801.

10. Liu, C., Lee, J., Small C., Ma, J., Elimelech, M., "Comparison of organic fouling resistance of thin-film composite membranes modified by hydrophilic silica nanoparticles and zwitterionic polymer brushes", Volume 544, 15 December 2017, Pages 135-142.

11. Davenport D.M., Lee, J., Elimelech, M., "Efficacy of antifouling modification of ultrafiltration membranes by grafting zwitterionic polymer brushes", Separation and Purification Technology, Volume 189. December 2017, page(s) 389-398.

12. Zucker, I., Werber J.R., Fishman Z.S., Hashmi S.M., Gabinet U.R., Lu, X, Osuji C.O, Pfefferle L.D., Elimelech, M., "Loss of Phospholipid Membrane Integrity Induced by Two-Dimensional Nanomaterials", Environmental Science & Technology Letters 2017, 4 (10), pp 404–409.

13. Zodrow, K.R., Li, Q., Buono, R.M., Chen, W., Daigger, G., Duenas-Osorio, L, Elimelech, M., Huang, X., Jiang, G., Kim, J-H., Logan, B.E., Sedlak, D.L., Westerhoff, P., Alvarez, P.J.J., "Advanced Materials, Technologies, and Complex Systems Analyses: Emerging Opportunities to Enhance Urban Water Security", Environmental Science & Technology, Environ. Sci. Technol., 2017, 51 (18), pp 10274–10281.

14. Deshmukh, A. & Elimelech, M., "Understanding the impact of membrane properties and transport phenomena on the energetic performance of membrane distillation desalination", Journal of Membrane Science, Volume 539. October 2017. page(s) 458-474.

15. Werber, J.R., Bull, S.K., & Elimelech, M., "Acyl-chloride quenching following interfacial polymerization to modulate the water permeability, selectivity, and surface charge of desalination membranes", Journal of Membrane Science, Volume 535. August 2017. page(s) pages 357-364.

16. Hickenbottom, K.L., Vanneste, J., Miller-Robbie, L., Deshmukh, A., Elimelech, M., Heeley, M.B., & Cath, T.Y, "Techno-economic assessment of a closed-loop osmotic heat engine", Journal of Membrane Science, Volume 535. August 2017. page(s) pages 178-187.

17. Sun, J., Hu, C., Tong, T., Zhao, K., Qu, J., Liu, H., & Elimelech, M. "Performance and Mechanisms of Ultrafiltration Membrane Fouling Mitigation by Coupling Coagulation and Applied Electric Field in a Novel Electrocoagulation Membrane Reactor", Environmental Science & Technology, Volume 51. August 2017. page(s) 8544-8551.

18. Chen, D., Werber, J.R., Zhao, X., & Elimelech, M. "A Facile Method to Quantify the Carboxyl Group Areal Density in the Active Layer of Polyamide Thin-Film Composite Membranes", Journal of Membrane Science, Volume 534. July 2017. page(s) 100-108.

19. Dongare, P.D., Alabastri, A., Pedersen, S., Zodrow, K.R., Hogan, N.J., Neumann, O., Wu, J., Wang, T., Deshmukh, A., Elimelech, M., Li, Q., Nordlander, P., & Halas, N.J. "Nanophotonics-enabled solar membrane distillation for off-grid water purification", Proceedings of the National Academy of Science, Volume 114. July 2017. page(s) 6936-6941.

20. Boo, C. & Elimelech, M. "Thermal desalination membranes: Carbon nanotubes keep up the heat", Nature Nanotechnology, Volume 12. June 2017. page(s) 501-503.

21. Park, H.B., Kamcev, J., Robeson, L.M., Elimelech, M., & Freeman, B.D. "Maximizing the right stuff: The trade-off between membrane permeability and selectivity", Science, 356. June 2017. page(s) eaab0530.

22. Feng, X., Kawabata, K., Kaufman, G., Elimelech, M., & Osuji, C.O. "Highly Selective Vertically Aligned Nanopores in Sustainably Derived Polymer Membranes by Molecular Templating", ACS Nano, **2017**, 11 (4), pp 3911–3921

23. Tong, T., Zhao, S., Boo, C., Hashmi, S.M., & Elimelech, M. "Relating Silica Scaling in Reverse Osmosis to Membrane Surface Properties", Environmental Science & Technology, Volume 51. June 2017. page(s) 4396-4406.

24. Geng, Z., Yang, X., Boo, C., Zhu, S., Lu, Y., Fan, W., Huo, M., Elimelech, M., & Yang, X. "Self-cleaning anti-fouling hybrid ultrafiltration membranes via side chain grafting of poly(aryl ether sulfone) and titanium dioxide", Journal of Membrane Science, Volume 529. May 2017. page(s) 1-10.

25. Shaulsky, E., Nejati, S., Boo, C., Perreault, F., Osuji, C.O., & Elimelech, M. "Post-fabrication modification of electrospun nanofiber mats with polymer coating for membrane distillation applications", Journal of Membrane Science, Volume 530. May 2017. page(s) 158-165.

26. Faria, A.F., Liu, C., Xie, M., Perreault, F., Nghiem, L.D., Ma, J., & Elimelech, M. "Thin-film composite forward osmosis membranes functionalized with graphene oxide–silver nanocomposites for biofouling control", Journal of Membrane Science, Volume 525. March 2017. page(s) 146-156.

27. Shaffer, D.L., Tousley, M.E., & Elimelech, M. "Influence of polyamide membrane surface chemistry on gypsum scaling behavior", Journal of Membrane Science, Volume 525. March 2017. page(s) 249-256.

28. Liu, C., Lee, J., Ma, J., & Elimelech, M. "Antifouling Thin-Film Composite Membranes by Controlled Architecture of Zwitterionic Polymer Brush Layer", Environmental Science & Technology, Volume 51. February 2017. page(s) 2161-2169.

29. Luo, W., Phan, H.V., Xie, M., Hai, F.I., Price, W.E., Elimelech, M., & Nghiem, L.D." Osmotic versus conventional membrane bioreactors integrated with reverse osmosis for water reuse: Biological stability, membrane fouling, and contaminant removal", Water Research, Volume 109. February 2017. page(s) 122-134.

30. Liu, C., Faria, A.F., Ma, J., & Elimelech, M." Mitigation of Biofilm Development on Thin-Film Composite Membranes Functionalized with Zwitterionic Polymers and Silver Nanoparticles", *Environmental Science & Technology*, Volume 51. January 2017. page(s) 182-191.

31. Werber, J.R., Deshmukh, A., & Elimelech, M. "Can batch or semi-batch processes save energy in reverse-osmosis desalination?", Desalination, 402. January 2017. page(s) 109-122.

32. Lin, S. & Elimelech, M. "Kinetics and energetics trade-off in reverse osmosis desalination with different configurations", Desalination, Volume 401. January 2017. page(s) 42-52.

33. Boo, C., Lee., J., & Elimelech, M. "Omniphobic Polyvinylidene Fluoride (PVDF) Membrane for Desalination of Shale Gas Produced Water by Membrane Distillation", Environmental Science & Technology, Volume 50, November 2016, page(s) 12275-12282.

34. Tousley, M.E., Shaffer, D.L., Lee, J.-H., Osuji, C.O, & Elimelech, M. "Effect of Final Monomer Deposition Steps on Molecular Layer-by-Layer Polyamide Surface Properties", Langmuir, Volume 32, October 2016, page(s) 10815-10823.

35. Luo, W., Hai, F.I., Price, W.E., Elimelech, M., & Nghiem, L.D. "Evaluating ionic organic draw solutes in osmotic membrane bioreactors for water reuse", Journal of Membrane Science, Volume 514, September 2016, page(s) 636-645.

36. Zhang, R., Liu, Y., He, M., Su, Y., Zhao, X., Elimelech, M., & Jiang, Z. "Antifouling membranes for sustainable water purification: strategies and mechanisms", Chemical Society Reviews, Volume 45, August 2016. page(s) 5888-5924.

37. Novek, E.J., Shaulsky, E., Fishman, Z.S., Pfefferle, L.D., & Elimelech, M. "Low-Temperature Carbon Capture Using Aqueous Ammonia and Organic Solvents", Environmental Science & Technology Letters, Volume 3, August 2016, page(s) 291-296.

38. Hickenbottom, K.L., Vanneste, J., Elimelech, M. & Cath, T.Y. "Assessing the current state of commercially available membranes and spacers for energy production with pressure retarded osmosis", Desalination, Volume 389, July 2016, page(s) 108-118.

39. Boo, C., Lee, J., & Elimelech, M. "Engineering Surface Energy and Nanostructure of Microporous Films for Expanded Membrane Distillation Applications", Environmental Science & Technology, Volume 50, July 2016, page(s) 8111-8119.

40. Ben-Sasson, M., Lu, X., Nejati, S., Jaramillo, H., & Elimelech, M. "In situ surface functionalization of reverse osmosis membranes with biocidal copper nanoparticles", Desalination, Volume 388, June 2016, page(s) 1-8.

41. Straub, A.P., Yip, N.Y., Lin, S., Lee, J., & Elimelech, M. "Harvesting low-grade heat energy using thermo-osmotic vapour transport through nanoporous membranes", Nature Energy, Volume 1, June 2016, page(s) 16090.

42. Tong, T. & Elimelech, M. "The Global Rise of Zero Liquid Discharge for Wastewater Management: Drivers, Technologies, and Future Directions", Environmental Science & Technology, Volume 50, June 2016, page(s) 6846–6855.

43. Perreault, F., Jaramillo, H., Xie, M., Ude, M., & Elimelech, M. "Biofouling Mitigation in Forward Osmosis using Graphene Oxide Functionalized Thin-Film Composite Membranes", Environmental Science & Technology, Volume 50 (11), May 2016, page(s) 5840-5848.

44. Lee, J., Boo, C., Ryu, W.-H., Taylor, A.D., & Elimelech, M. "Development of Omniphobic Desalination Membranes Using a Charged Electrospun Nanofiber Scaffold", ACS Applied Materials & Interfaces, Volume 8, May 2016, page(s) 11154-11161.

45. Werber, J.R., Osuji, C.O., & Elimelech, M. "Materials for next-generation desalination and water purification membranes", Nature Reviews Materials, April 2016, page(s) 16018.

46. Werber, J.R., Deshmukh, A., & Elimelech, M. "The Critical Need for Increased Selectivity, Not Increased Water Permeability, for Desalination Membranes", Environmental Science & Technology Letters, Volume 3, April 2016, page(s) 112-120.

47. Gilbertson, L.M., Albalghati, E.M., Fishman, Z.S., Perreault, F., Corredor, C., Posner, J.D., Elimelech, M., Pfefferle, L.D. & Zimmerman, J.B. "Shape-Dependent Surface Reactivity and Antimicrobial Activity of Nano-Cupric Oxide", Environmental Science & Technology, Volume 50, April 2016, page(s) 3975-3984.

48. Ryu, W.H., Wilson, H., Sohn, S., Li, J., Tong, X., Shaulsky, E., Schroers, J., Elimelech, M., & Taylor, A.D. "Heterogeneous WSx/WO3 Thorn-Bush Nanofiber Electrodes for Sodium-Ion Batteries", ACS Nano, Volume 10, March 2016, page(s) 3257-3266.

49. Wang, Z., Elimelech, M., & Lin, S. “Environmental Applications of Interfacial Materials with Special Wettability”, Environmental Science & Technology, Volume 50, February 2016, page(s) 2132-50.

50. Hibbs, M.R., McGrath, L.K., Kang, S., Adout, A., Altman, S.J., Elimelech, M., & Cornelius, C.J. "Designing a biocidal reverse osmosis membrane coating: Synthesis and biofouling properties." *Desalination*, Volume 380. February 2016. pages 52-59.

51. Xie, M., Shon, H.K., Gray, S.R., & Elimelech, M. "Membrane-based Processes for Wastewater Nutrient Recovery: Technology, Challenges, and Future Direction." *Water Research*, Volume 89. February 2016. pages 210-221

52. Feng, X., Nejati, S., Cowan, M.G., Tousley, M.E., Wiesenauer, B.R., Noble, R.D., Elimelech, M., Gin, D.L., & Osuji, C.O. "Thin Polymer FIlms with Continuous Vertically Aligned 1-nm Pores Fabricated by Soft Confinement." *ACS Nano.*, Volume 10. January 2016. pages 150-158.

53. Straub, A.P., Deshmukh, A., & Elimelech, M. "Pressure-retarded osmosis for power generation from salinity gradients: is it viable?" *Energy & Environmental Science*, Volume 9. January 2016. pages 31-48.

54. Xie, M., Bar-Zeev, E., Hashmi, S.M., Nghiem, L.D., & Elimelech, M. "Role of Reverse Divalent Cation Diffusion in Forward Osmosis Biofouling." *Environmental Science & Technology*, Volume 49. November 2015. pages 13222-13229.

55. Bar-Zeev, E., Perreault, F., Straub, A.P., & Elimelech, M. "Impaired Performance of Pressure-Retarded Osmosis due to Irreversible Biofouling." *Environmental Science & Technology*, Volume 49. November 2015. pages 13050-13058.

56. Xie, M., Lee, J., Nghiem, L.D., & Elimelech, M. "Role of Pressure in Organic Fouling in Forward Osmosis and Reverse Osmosis." *Journal of Membrane Science*, Volume 493. November 2015. pages 748-754.

57. Kwan, S.E., Bar-Zeev, E., & Elimelech, M. "Biofouling in forward osmosis and reverse osmosis: Measurements and mechanisms ." *Journal of Membrane Science*, Volume 493. November 2015. pages 703-708.

58. Straub, A.P., Osuji, C.O., Cath, T.Y., & Elimelech, M. "Selectivity and Mass Transfer Limitations in Pressure-Retarded Osmosis at High Concentrations and Increased Operating Pressures." *Environmental Science & Technology*, Volume 49. October 2015. pages 12551-12559.

59. Ye, G., Lee, J., Perreault, F., & Elimelech, M. "Controlled Architecture of Dual-functional Block Copolymer Brushes on Thin-Film Composite Membranes for Integrated ‘Defending’ and ‘Attacking’ Strategies against Biofouling. " *ACS Applied Materials & Interfaces*, Volume 7. October 2015. pages 23069-23079.

60. Nejati, S., Boo, C., Osuji, C.O., & Elimelech, M. "Engineering flat sheet microporous PVDF films for membrane distillation." *Journal of Membrane Science*, Volume 492. October 2015. pages 355-363

61. Deshmukh, A., Yip, N.Y., Lin, S., & Elimelech, M. "Desalination by forward osmosis: Identifying performance limiting parameters through module-scale modeling." *Journal of Membrane Science*, Volume 491. October 2015. pages 159-167.

62. Luo, W., Hai, F.I., Kang, J., Price, W.E., Nghiem, L.D., & Elimelech, M. "The role of forward osmosis and microfiltration in an integrated osmotic-microfiltration membrane bioreactor system." *Chemosphere*, Volume 136. October 2015. pages 125-132.

63. Mo, W., Soh, L., Werber, J.R., Elimelech, M., & Zimmerman, J.B. "Application of membrane dewatering for algal biofuel." *Algal Research*, Volume 11. September 2015. pages 1-12.

64. Shaffer, D.L., Jaramillo, H., Romero-Vargas Castrillón, S., Lu, X., & Elimelech, M. "Post-fabrication modification of forward osmosis membranes with a poly(ethylene glycol) block copolymer for improved organic fouling resistance." *Journal of Membrane Science*, Volume 490. September 2015. pages 209-219.

65. Lu, X., Nejati, S., Choo, Y., Osuji, C.O., Ma, J., & Elimelech, M. "Elements Provide a Clue: Nanoscale Characterization of Thin-Film Composite Polyamide Membranes." *ACS Applied Materials & Interfaces*, Volume 7. August 2015. pages 16917-16922.

66. Perreault, F., Fonseca de Faria, A., & Elimelech, M. "Environmental applications of graphene-based nanomaterials." *Chemical Society Reviews*, Volume 44. August 2015. pages 5861-5895.

67. Perreault, F., Fonseca de Faria, A., Nejati, S., & Elimelech, M. "Antimicrobial Properties of Graphene Oxide Nanosheets: Why Size Matters ." *ACS Nano*, Volume 9. July 2015. pages 7226-7236.

68. Fonseca de Faria, A., Perreault, F., Shaulsky, E., Arias Chavez, L.H., & Elimelech, M. "Antimicrobial Electrospun Biopolymer Nanofiber Mats Functionalized with Graphene Oxide - Silver Nanocomposites" *ACS Applied Materials & Interfaces*, Volume 7. June 2015. pages 12751-12759.

69. Lin, S. & Elimelech, M. "Staged reverse osmosis operation: Configurations, energy efficiency, and application potential" *Desalination*, Volume 366. June 2015. pages 9-14.

70. Shaulsky, E., Boo, C., Lin, S., & Elimelech, M. "Membrane-Based Osmotic Heat Engine with Organic Solvent for Enhanced Power Generation from Low-Grade Heat" *Environmental Science & Technology*, Volume 49. May 2015. pages 5820-5827.

71. Romero-Vargas Castrillón, S., Perrault, F., Fonseca de Faria, A., & Elimelech, M. "Interaction of Graphene Oxide with Bacterial Cell Membranes: Insights from Force Spectroscopy "*Environmental Science & Technology Letters*, Volume 2. March 2015. pages 112-117.

72. Lu, X., Arias Chavez, L.H., Romero-Vargas Castrillón, S., Ma, J., & Elimelech, M. "Influence of Active Layer and Support Layer Surface Structures on Organic Fouling Propensity of Thin-Film Composite Forward Osmosis Membranes" *Environmental Science & Technology*, Volume 49. February 2015. pages 1436-1444.

73. Bar-Zeev, E., Passow, U., Romero-Vargas Castrillón, S., & Elimelech, M. "Transparent Exopolymer Particles (TEP): From Aquatic Environments and Engineered Systems to Membrane Biofouling" *Environmental Science & Technology*, Volume 49. January 2015. pages 691-707.

74. Shaffer, D.L., Werber, J.R., Jaramillo, H., Lin, S., & Elimelech, M. "Forward osmosis: Where are we now?" *Desalination*, Volume 356. January 2015. pages 271-284.

75. Boo, C., Khalil, Y., and Elimelech, M. "Performance Evaluation of trimethylamine-carbon dioxide thermolytic draw solution for engineered osmosis." *Journal of Membrane Science*, Volume 473. January 2015. pages 302-309.

76. Lu, X., Boo, C., Ma, J., & Elimelech, M. "Bidirectional Diffusion of Ammonium and Sodium Cations in Forward Osmosis: Role of Membrane Active Layer Surface Chemistry and Charge" *Environmental Science & Technology*, Volume 48. December 2014. pages 14369-14376.

77. Feng, X., Tousley, M.E., Cowan, M.G., Wiesenauer, B.R., Nejati, S., Choo, Y., Noble, R.D., Elimelech, M., Gin, D.L., and Osuji, C.O. "Scalable Fabrication of Polymer Membranes with

Vertically Aligned 1-nm Pores by Magnetic Field Directed Self-Assembly." *ACS Nano*, Volume 8. December 2014. pages 11977-11986.

78. Zodrow, K.R., Bar-Zeev, E., Giannetto, M.J., and Elimelech, M. "Biofouling and Microbial Communities in Membrane Distillation and Reverse Osmosis." *Environmental Science & Technology*, Volume 48. November 2014. pages 13155-13164.

79. Tousley, M.E., Feng, X., Elimelech, M., and Osuji, C.O. "Aligned Nanostructured Polymers by Magnetic Field Directed Self-Assembly of a Polymerizable Lyotropic Mesophase." *ACS Applied Materials & Interfaces*, Volume 6. November 2014. pages 19710-19717

80. Lin, S., Nejati, S., Boo., C., Hu, Y., Osuji, C.O., and Elimelech, M. "Omniphobic Membrane for Robust Membrane Distillation." *Environmental Science & Technology Letters*, Volume 1, November 2014, pages 443-447.

81. Straub, A.P., Lin, S., and Elimelech, M. "Module-Scale Analysis of Pressure Retarded Osmosis: Performance Limitations and Implications for Full-Scale Operation." *Environmental Science & Technology*, Volume 48. October 2014. pages 12435-12444.

82. Ben-Sasson, M., Lu, X., Bar-Zeev, E., Zodrow, K.R., Nejati, S., Qi, G., Giannelis, E.P., and Elimelech, M. "In situ formation of silver nanoparticles on thin-film composite reverse osmosis membranes for biofouling mitigation." *Water Research*, Volume 62, October 2014, pages 260-270.

83. Bar-Zeev, E., Zodrow, K.R., Kwan, S.E., and Elimelech, M. "The importance of microscopic characterization of membrane biofilms in an unconfined environment." *Desalination*, Volume 348, September 2014, pages 8-15.

84. Oh, Y., Lee, S., Elimelech, M., Ju, Y., Lee, S., Hong, S. "Effect of Hydraulic Pressure and Membrane Orientation on Water Flux and Reverse Solute Flux in Pressure Assisted Osmosis." *Journal of Membrane Science*, Volume 465, September 2014, pages 159-166.

85. Yip, N.Y. and Elimelech, M. "Comparison of Energy Efficiency and Power Density in Pressure Retarded Osmosis and Reverse Electrodialysis." *Environmental Science & Technology*, Volume 48, September 2014, pages 11002-11012.

86. Gopinadhan, M., Deshmukh, P., Choo, Y., Majewski, P.W., Bakajin, O., Elimelech, M., Kasi, R.M., Osuji, C.O. "Thermally Switchable Aligned Nanopores by Magnetic-Field Directed Self-Assembly of Block Copolymers." *Advanced Materials*, Volume 26, August 2014, pages 5148-5154. DOI: 10.1002/adma.201401569 PDF File

87. Liang, S., Qi, G., Xiao, K., Sun, J., Giannelis, E.P., Huang, X., Elimelech, M. "Organic fouling behavior of superhydrophilic polyvinylidene fluoride (PVDF) ultrafiltration membranes functionalized with surface-tailored nanoparticles: Implications for organic fouling in membrane bioreactors." *Journal of Membrane Science*, Volume 463, August 2014, pages 94-101.

88. Lin, S., Straub, A.P., Elimelech, M. "Thermodynamic Limits of Extractable Energy by Pressure Retarded Osmosis" *Energy & Environmental Science*, Volume 7, August 2014, pages 2706-2714.

89. Praetorius, A., Tufenkji, N., Goss, K.U., Scheringer, M., von der Kammer, F., Elimelech, M. "The road to nowhere: Equilibrium partition coefficients for nanoparticles." *Environmental Science: Nano*. Volume 1, August 2014, pages 317-323.

90. Phuntsho, S., Lotfi, F., Hong, S., Shaffer, D.L., Elimelech, M., Shon, H.K. "Membrane scaling and flux decline during fertiliser-drawn forward osmosis desalination of brackish groundwater." *Water Research*, Volume 57, June 2014, pages 172-182.

91. Kim, Y., Elimelech, M., Shon, H.K., Hong, S. "Combined organic and colloidal fouling in forward osmosis: Fouling reversibility and the role of applied pressure." *Journal of Membrane Science*, Volume 460, June 2014, pages 206-212.

92. Deshmukh, P., Gopinadhan, M., Choo, Y., Ahn, S., Majewski, P.W., Yoon, S.Y., Bakajin, O., Elimelech, M., Osuji, C.O., Kasi, R.M. "Molecular Design of Liquid Crystalline Brush-Like Block Copolymers for Magnetic Field Directed Self-Assembly: A Platform for Functional Materials." *ACS Macro Letters*. Volume 3, May 2014, pages 462-466.

93. Lin, S., Yip, N.Y., Cath, T.Y., Osuji, C.O., Elimelech, M. "Hybrid Pressure Retarded Osmosis − Membrane Distillation System for Power Generation from Low-Grade Heat: Thermodynamic Analysis and Energy Efficiency." *Environmental Science & Technology*, Volume 48, May 2014, pages 5306-5313.

94. Yip, N.Y., Vermaas, D.A., Nijmeijer, K., Elimelech, M. "Thermodynamic, Energy Efficiency, and Power Density Analysis of Reverse Electrodialysis Power Generation with Natural Salinity Gradients." *Environmental Science & Technology*, Volume 48, May 2014, pages 4925-2936.

95. Zodrow, K.R., Coulter, V.H., Shaulsky, E., Elimelech, M. "Low Flow Data Logger in Membrane Distillation: An Interdisciplinary Laboratory in Process Control." Interdisciplinary Engineering Design Education Conference, Volume 4, March 2014, pages 70-73.

96. Xie, M., Nghiem, L.D., Price, W.E., and Elimelech, M., "Impact of organic and colloidal fouling on trace organic contaminant rejection by forward osmosis: Role of initial permeate flux.", *Desalination*, Volume 336, March 2014, pages 146-152.

97. Lin. S., Yip, N.Y., and Elimelech, M.. "Direct Contact Membrane Distillation with Heat Recovery: Thermodynamic Insights from Module Scale Modeling.", *Journal of Membrane Science*, Volume 453, March 2014, pages 498–515.

98. Phuntsho, S., Hong, S., Elimelech, M., and Shon, H.K "Osmotic Equilibrium in the Forward Osmosis Process: Modelling, Experiments and Implications for Process Performance.", *Journal of Membrane Science*, Volume 453, March 2014, pages 240–252.

99. Zodrow, K.R., Tousley, M.E., and Elimelech, M.. "Mitigating biofouling on thin-film composite polyamide membranes using a controlled-release platform." *Journal of Membrane Science*, Volume 453, March 2014, pages 84–91.

100. Rahaman, M.S., Therien-Aubin, H., Ben-sasson, M., Ober, C.K., Nielsen, M., and Elimelech, M. "Control of Biofouling on Reverse Osmosis Polyamide Membranes Modified with Biocidal Nanoparticles and Antifouling Polymer Brushes." *Journal of Materials Chemistry B*, Volume 2, March2014, pages 1724-1732.

101. Xie, M., Nghiem, L.D., Price, W.E., and Elimelech, M. "Relating Rejection of Trace Organic Contaminants to Membrane Properties in Forward Osmosis: Measurement, Modelling and Implications." *Water Research*, Volume 49, February 2014, pages 265–274.

102. Xie, M., Nghiem, L.D., Price, W.E., and Elimelech, M. "Toward Resource Recovery from Wastewater: Phosphorus Extraction from Digested Sludge using Hybrid Forward Osmosis – Membrane Distillation Process." *Environmental Science & Technology Letters*, Volume 1, February 2014, pages 191-195.

103. Bar-Zeev, E., and Elimelech, M. "Reverse Osmosis Biofilm Dispersal by Osmotic Back-Flushing: Cleaning via Substratum Perforation." *Environmental Science & Technology Letters*, Volume 1, February 2014.

104. Dorin, R.M., Phillip, W.A., Sai, H., Werner, J., Elimelech, M., and Wiesner U. "Designing Block Copolymer Architectures for Targeted Membrane Performance." *Polymer*, Volume 55, January 2014, pages 347–353.

105. Romero-Vargas Castrillón, S., Lu, X., Shaffer, D.L., and Elimelech, M. "Amine Enrichment and Poly(ethylene glycol) (PEG) Surface Modification of Thin-Film Composite Forward Osmosis Membranes for Organic Fouling Control." *Journal of Membrane Science*, Volume 450, January 2014, pages 331–339. .

106. Xie, M., Nghiem, L.D., Price, W.E., and Elimelech, M. "A Forward Osmosis-Membrane Distillation Hybrid Process for Direct Sewer Mining: System Performance and Limitations", *Environmental Science & Technology*, Volume 47, December 2013, pages 13486–13493.

107. Yip, N.Y. and Elimelech, M. "Influence of Natural Organic Matter Fouling and Osmotic Backwash on Pressure Retarded Osmosis Energy Production from Natural Salinity Gradients", *Environmental Science & Technology*, Volume 47, November 2013, pages 12607–12616.

108. Lu, X., Romero- Castrillón, S., Shaffer, D.L., Ma, J., and Elimelech, M. "In Situ Surface Chemical Modification of Thin-Film Composite Forward Osmosis Membranes for Enhanced Organic Fouling Resistance", *Environmental Science & Technology*, Volume 47, November 2013, pages 12219–12228.

109. Sima, L.C., Ng, R., and Elimelech, M. "Modeling Risk Categories to Predict the Longitudinal Prevalence of Childhood Diarrhea in Indonesia", *The American Journal of Tropical Medicine and Hygiene*, Volume 89, November 2013, pages 884–891.

110. Graeupner, J., Hintermair, U., Huang, D.L., Thomsen, J.M., Takase, M., Campos, J., Hashmi, S.M., Elimelech, M., Brudvig, G.W., and Crabtree, R.H. "Probing the Viability of Oxo-Coupling Pathways in Iridium-Catalyzed Oxygen Evolution", *Organometallics*, Volume 32, October 2013, pages 5384–5390.

111. Vermaas, D., Veerman, J., Yip, N.Y., Elimelech, M., Saakes, M., and Nijmeijer, K. "High Efficiency in Energy Generation from Salinity Gradients with Reverse Electrodialysis" *ACS Sustainable Chemistry & Engineering*, Volume 1, October 2013, pages 1295–1302.

112. Tiraferri, A., Yip, N.Y., Straub, A.P., Romero-Vargas Castrillon, S., and Elimelech, M. "A Method for the Simultaneous Determination of Transport and Structural Parameters of Forward Osmosis Membranes", *Journal of Membrane Science*, Volume 444, October 2013, pages 523–538

113. Boo, C., Elimelech, M., and Hong, S. "Fouling control in a forward osmosis process integrating seawater desalination and wastewater reclamation", *Journal of Membrane Science*, Volume 444, October 2013, pages 148–156.

114. Xie, M., Nghiem, L.D., Price, W.E., and Elimelech, M. " Impact of humic acid fouling on membrane performance and transport of pharmaceutically active compounds in forward osmosis", *Water Research*, Volume 47, September 2013, pages 4567-4575.

115. Shaffer, D.L., Arias Chavez, L.H., Ben-Sasson, M., Romero-Vargas Castrillon, S., Yip, N.Y., and Elimelech, M. "Desalination and Reuse of High-Salinity Shale Gas Produced Water: Drivers, Technologies, and Future Directions"*Environmental Science & Technology*, Volume 47, September 2013, pages 9569–9583.

116. Liang, S., Kang, Y., Tiraferri, A., Giannelis, E., Huang, X., and Elimelech, M. "A Highly Hydrophilic Polyvinylidene Fluoride (PVDF) Ultrafiltration Membrane via Post-Fabrication Grafting of Surface-Tailored Silica Nanoparticles", *ACS Applied Materials & Interfaces*, Volume 5 (14), July 2013, pages 6694–6703.

117. Sima, L.C. and Elimelech, M. "More than a Drop in the Bucket: Decentralized Membrane-Based Drinking Water Refill Stations in Southeast Asia" *Environmental Science & Technology*, Volume 47, July 2013, pages 7580–7588.

118. Xie, M., Price, W.E., Nghiem, L.D., and Elimelech, M. "Effects of feed and draw solution temperature and transmembrane temperature difference on the rejection of trace organic contaminants by forward osmosis", *Journal of Membrane Science*, Volume 438, July 2013, pages 57–64.

119. Mauter, M.S., Fait, A., Elimelech, M., and Herzberg, M. "Surface Cell Density Effects on Escherichia coli Gene Expression during Cell Attachment"*Environmental Science & Technology*, Volume 47, June 2013, pages 6223–6230.

120. Phuntshoa, S., Hong, S., Elimelech, M., and Shon, H.K. "Forward Osmosis Desalination of Brackish Groundwater: Meeting Water Quality Requirements for Fertigation by Integrating Nanofiltration", *Journal of Membrane Science*, Volume 436, June 2013, pages 1–15.

121. Sima, L.C., Klener-Levine, E., Eckelman, M.J., McCarty, K.M., and Elimelech, M. "Water Flows, Energy Demand, and Market Analysis of the Informal Water Sector in Kisumu, Kenya", *Ecological Economics*, Volume 87, March 2013, pages 137–144. Mi, B. and Elimelech, M. "Silica Scaling and Scaling Reversibility in Forward Osmosis", *Desalination*, Volume 312, March 2013, pages 75–81.

122. Cath, T.Y., Elimelech, M., McCutcheon, J.R., McGinnis, R.L., Achilli, A., Anastasio, D., Brady, A.R., Childress, A.E., Farr, I.V., Hancock, N.T., Lampi, J., Nghiem, L.D., Xie, M., Yip, N.Y. "Standard Methodology for Evaluating Membrane Performance in Osmotically Driven Membrane Processes",*Desalination*, Volume 312, March 2013, pages 31–38.

123. Alsvik, I.L., Zodrow, K.R., Elimelech M., and Hägg, M.B. "Polyamide Formation on a Cellulose Triacetate Support for Osmotic Membranes: Effect of Linking Molecules on Membrane Performance", *Desalination*, Volume 312, March 2013, pages 2–9.

124. Mi, B., and Elimelech M. " Silica scaling and scaling reversibility in forward osmosis", *Desalination*, Volume 312, March 2013, pages 75-81.

125. Meng Zhou, M., Hintermair, U., Hashiguchi, B.G., Parent, A.R., Hashmi, S.M., Elimelech, M., Periana, R.A., Brudvig, G.W., Crabtree, R.H. "Cp* Iridium Precatalysts for Selective C-H Oxidation with Sodium Periodate as the Terminal Oxidant", *Organometallics*, Volume 32, February 2013, pages 957–965.

126. Kim, Y.C. and Elimelech, M. "Potential of Osmotic Power Generation by Pressure Retarded Osmosis using Seawater as Feed Solution: Analysis and Experiments", *Journal of Membrane Science*, Volume 429, February 2013, pages 330–337.

127. Meng, Z., Hashmi, S.M., and Elimelech, M. "Aggregation Rate and Fractal Dimension of Fullerene Nanoparticles via Simultaneous Multiangle Static and Dynamic Light Scattering Measurement", *Journal of Colloid and Interface Science*, Volume 392, February 2013, pages 27–33.

128. Aslan, S., Määttä, J., Haznedaroglu, B.Z., Pfefferle, L.D., Elimelech, M., Pauthe, E., Sammalkorpi, M., and Van Tassel, P.R. "Carbon nanotube bundling: influence on layer-by-layer assembly and antimicrobial activity", *Soft Matter*, Volume 9, January 2013, pages 2136–2144.

129. Rodrigues, D.F., Jaisi, D.P., and Elimelech, M. "Toxicity of Functionalized Single-Walled Carbon Nanotubes on Soil Microbial Communities: Implications for Nutrient Cycling in Soil", *Environmental Science & Technology*, Volume 47, January 2013, pages 625–633.

130. Alturki, A.A., McDonald, J.A., Khan, S.J., Price, W.E., Nghiem, L.D., and Elimelech, M. "Removal of trace organic contaminants by the forward osmosis process", *Separation and Purification Technology,* Volume 103, January 2013, pages 258–266.

131. Hoover, L.A., Schiffman, J.D., and Elimelech, M. "Nanofibers in Thin-Film Composite Membrane Support Layers: Enabling Expanded Application of Forward and Pressure Retarded Osmosis", *Desalination,* Volume 308, January 2013, pages 73–81.

132. Sima, L.C., Desai, M.M., McCarty, K.M., and Elimelech, M. "Relationship between Use of Water from Community-Scale Water Treatment Refill Kiosks and Childhood Diarrhea in Jakarta", The American Journal of Tropical Medicine and Hygiene, Volume 87, December 2012, pages 979–984.

133. Mo, Y.H., Tiraferri, A., Yip, N.Y., Adout, A., Huang, X., and Elimelech, M. "Improved Antifouling Properties of Polyamide Nanofiltration Membranes by Reducing the Density of Surface Carboxyl Groups", Environmental Science & Technology, Volume 46, December 2012, pages 13253–13261.

134. Aslan, S., Deneufchatel, M., Hashmi, S.M., Li N., Pfefferle, L.D., Elimelech, M., Pauthe, E., and Van Tassel, P.R. "Carbon nanotube-based antimicrobial biomaterials formed via layer-by-layer assembly with polypeptides", *Journal of Colloid and Interface Science*, Volume 388 (1), December 2012, pages 268–273.

135. Tiraferri, A., Kang, Y., Giannelis, E., and Elimelech, M. "Superhydrophilic Thin-Film Composite Forward Osmosis Membranes for Organic Fouling Control: Fouling Behavior and Antifouling Mechanisms", *Environmental Science & Technology*, Volume 46, October 2012, pages 11135–11144.

136. Yong, J.S., Phillip, W.A., and Elimelech, M. "Reverse Permeation of Weak Electrolyte Draw Solutes in Forward Osmosis", *Industrial & Engineering Chemistry Research*, Volume 51 (41), October 2012, pages 13463–13472.

137. Zodrow, K.R., Schiffman, J.D., and Elimelech, M. "Biodegradable Polymer (PLGA) Coatings Featuring Cinnamaldehyde and Carvacrol Mitigate Biofilm Formation", *Langmuir*, Volume 28 (39), October 2012, pages 13993–13999.

138. Kim, C., Lee, S., Shon, H.K., Elimelech, M, and Hong, S. "Boron Transport in Forward Osmosis: Measurements, Mechanisms, and Comparison with Reverse Osmosis", *Journal of Membrane Science*, Volume 419–420, November 2012, pages 42–48.

139. Tiraferri, A., Kang, Y., Giannelis, E., and Elimelech, M. "Highly Hydrophilic Thin-Film Composite Forward Osmosis Membranes Functionalized with Surface-Tailored Nanoparticles", *ACS Applied Materials & Interfaces*, Volume 4 (9), September 2012, pages 5044–5053.

140. Logan, B.E. and Elimelech, M. "Membrane-Based Processes for Sustainable Power Generation using Water and Wastewater", *Nature*, Volume 488, August 2012, pages 313-319.

141. Shaffer, D.L., Yip, N.Y., Gilron J., and Elimelech, M. "Seawater Desalination for Agriculture by Integrated Forward and Reverse Osmosis: Improved Product Water Quality for Potentially Less Energy", *Journal of Membrane Science*, Volume 415–416, October 2012, pages 1 –8.

142. Pasquini, L., Hashmi, S.M., Sommer, T., Elimelech, M., and Zimmerman, J.B. "Impact of Surface Functionalization on Bacterial Cytotoxicity of Single-Walled Carbon Nanotubes", *Environmental Science & Technology*, Volume 46, June 2012, pages 6297–6305.

143. Hintermair, U., Hashmi, S.M., Elimelech,M., and Crabtree, R.H. "Particle Formation during Oxidation Catalysis with Cp* Iridium complexes", *Journal of the American Chemical Society*, Volume 134, May 2012, pages 9785–9795.

144. Yip, N.Y. and Elimelech, M. "Thermodynamic and Energy Efficiency Analysis of Power Generation from Natural Salinity Gradients by Pressure Retarded Osmosis", *Environmental Science & Technology*, Volume 46, May 2012, pages 5230–5239.

145. Kim, Y.C. and Elimelech, M. "Adverse Impact of Feed Channel Spacers on the Performance of Pressure Retarded Osmosis", *Environmental Science & Technology*, Volume 46, April 2012, pages 4673–4681.

146. Xie, M., Nghiem, L.D., Price, W.E., and Elimelech, M. "Comparison of the Removal of Hydrophobic Trace Organic Contaminants by Forward Osmosis and Reverse Osmosis", *Water Research*, Volume 46, May 2012, pages 2683–2692.

147. Mauter, M.S., Elimelech, M., and Osuji, C.O. "Stable Sequestration of Single-Walled Carbon Nanotubes in Self-Assembled Aqueous Nanopores", *Journal of the American Chemical Society*, Volume 134, March 2012, pages 3950–3953.

148. Eckelman, M.J, Mauter, M.S, Isaacs, J.A., and Elimelech, M. "New Perspectives On Nanomaterial Aquatic Ecotoxicity: Production Impacts Exceed Direct Exposure Impacts for Carbon Nanotoubes", *Environmental Science & Technology*, Volume 46, March 2012, pages 2902–2910.

149. Yong, J.S., Phillip, W.A., and Elimelech, M. "Coupled Reverse Draw Solute Permeation and Water Flux in Forward Osmosis with Neutral Draw Solutes", *Journal of Membrane Science*, Volume 392–393, March 2012, pages 9–17.

150. Rahaman, M.S., Vecitis, C.D., and Elimelech,M. "Electrochemical Carbon-Nanotube Filter Performance towards Virus Removal and Inactivation in the Presence of Natural Organic Matter", *Environmental Science & Technology*, Volume 46, February 2012, pages 1556–1564.

151. Boo, C., Lee, S., Elimelech, M., Meng, Z., and Hong, S. "Colloidal Fouling in Forward Osmosis: Role of Reverse Salt Diffusion", *Journal of Membrane Science*, Volume 390–391, February 2012, pages 277–284.

152. Tiraferri, A., and Elimelech, M. "Direct Quantification of Negatively-Charged Functional Groups on Membrane Surfaces", *Journal of Membrane Science*, Volume 389, February 2012, pages 499–508.

153. Hancock, N.T., Phillip, W.A., Elimelech, M., and Cath T.Y. "Bidirectional Permeation of Electrolytes in Osmotically Driven Membrane Processes", *Environmental Science & Technology*, Volume 45, December 2011, pages 10642–10651.

154. Yip, N.Y. and Elimelech, M. "Performance Limiting Effects in Power Generation from Salinity Gradients by Pressure Retarded Osmosis", *Environmental Science & Technology*, Volume 45, December 2011, pages 10273–10282.

155. Hoover, L.A., Phillip, W.A., Tiraferri, A., Yip, N.Y., and Elimelech, M. "Forward with Osmosis: Emerging Applications for Greater Sustainability", *Environmental Science & Technology*, Volume 45, December 2011, pages 9824–9830.

156. Schiffman, J.D., Wang, Y., Giannelis, E.P., and Elimelech, M. "Biocidal Activity of Plasma Modified Electrospun Polysulfone Mats Functionalized with Polyethyleneimine-Capped Silver Nanoparticles", *Langmuir*, Volume 27, November 2011, pages 13159–13164.

157. Elimelech, M. and Phillip, W.A. "The Future of Seawater Desalination: Energy, Technology, and the Environment", *Science*, Volume 333, August 2011, pages 712-717.

158. Ang, W.S., Yip, N.Y., Tiraferri, A., and Elimelech, M. "Chemical Cleaning of RO Membranes Fouled by Wastewater Effluent: Achieving Higher Efficiency with Dual-step Cleaning", *Journal of Membrane Science*, Volume 382, October 2011, pages 100-106.

159. Tiraferri, A.,Vecitis, C.D., and Elimelech, M. "Covalent Binding of Single-Walled Carbon Nanotubes to Polyamide Membranes for Antimicrobial Surface Properties", *ACS Applied Materials & Interfaces*, Volume 3, Issue 8, August 2011, pages 2869–2877.

160. Mauter, M.S, Wang, Y., Okemgbo, K.C., Osuji, C.O., Giannelis, E.P. and Elimelech, M. "Antifouling Ultrafiltration Membranes via Post-Fabrication Grafting of Biocidal Nanomaterials", *ACS Applied Materials & Interfaces*, Volume 3, Issue 8, August 2011, pages 2861–2868. .

161. Sima, L.C., Schaeffer, J., Le Saux, J.C., Parnaudeau, S., Elimelech, M., and Le Guyader, F.S., "Calicivirus Removal in a Membrane Bioreactor Wastewater Treatment Plant", *Applied and Environmental Microbiology*, Volume 77, August 2011, pages 5170–5177.

162. Phillip, W.A., Dorin, R.M., Werner, J.G., Hoek, E.M.V., Wiesner, U., and Elimelech, M. "Tuning Structure and Properties of Graded Triblock Terpolymer-Based Mesoporous and Hybrid Films", *Nano Letters*, Volume 11, June 2011, pages 2892–2900.

163. Montgomery, M.A., Desai, M.M., Groce, N.E., and Elimelech, M. "Relationship between Distance to Social Gathering Facilities and Risk of Trachoma for Households in Rural Tanzanian Communities", *Social Science & Medicine*, Volume 73, Issue 1, July 2011, pages 1–5.

164. Yip, N.Y., Tiraferri, A., Phillip, W.A., Schiffman, J.D., Hoover, L.A., Kim, Y.C., and Elimelech, M. "Thin-Film Composite Pressure Retarded Osmosis Membranes for Sustainable Power Generation from Salinity Gradients", *Environmental Science & Technology*, Volume 45, May 2011, pages 4360–4369.

165. Ang, W.S., Tiraferri, A., Chen, K.L., and Elimelech, M. "Fouling and cleaning of RO membranes Fouled by Mixtures of Organic Foulants Simulating Wastewater Effluent", *Journal of Membrane Science*, Volume 376, July 2011, pages 196-206.

166. Riley, M.R., Gerba, C.P., and Elimelech, M. "Biological Approaches for Addressing the Grand Challenge of Providing Access to Clean Drinking Water", *Journal of Biological Engineering*, Volume 5, March 2011.

167. Vecitis, C.D., Schnoor, M.H., Rahaman, M.S., Schiffman, J.D., Elimelech, M. "Electrochemical Multiwalled Carbon Nanotube Filter for Viral and Bacterial Removal and Inactivation", *Environmental Science & Technology*, Volume 45, April 2011, pages 3672–3679.

168. Schiffman, J.D. and Elimelech, M. "Antibacterial Activity of Electrospun Polymer Mats with Incorporated Narrow Diameter Single-Walled Carbon Nanotubes", *ACS Applied Materials & Interfaces*, Volume 3, January 2011, pages 462 –468.

169. Tiraferri, A., Yip, N.Y., Phillip, W.A., Schiffman, J.D., Elimelech, M. "Relating Performance of Thin-Film Composite Forward Osmosis Membranes to Support Layer Formation and Structure", *Journal of Membrane Science*, Volume 367, February 2011, pages 340-352.

170. da Silva, A.K., Kavanagh, O.V., Estes, M.K., and Elimelech, M. "Adsorption and Aggregation Properties of Norovirus GI and GII Virus-Like Particles Demonstrate Differing Responses to Solution Chemistry", *Environmental Science & Technology*, Volume 45, January 2011, pages 520–526.

171. Lee, S., Lee, E. Elimelech, M., and Hong S. "Membrane Characterization by Dynamic Hysteresis: Measurements, Mechanisms, and Implications for Membrane Fouling", *Journal of Membrane Science*, Volume 366, January 2011, pages 17-24.

172. Brady-Estevez, A.S., Schnoor, M.H., Kang, S., and Elimelech, M. "SWNT-MWNT Hybrid Filter Attains High Viral Removal and Bacterial Inactivation", Langmuir, Volume 26, December 2010, pages 19153–19158.

173. Lee, S., Boo, C., Elimelech, M., Hong, S. "Comparison of Fouling Behavior in Forward Osmosis (FO) and Reverse Osmosis (RO)", Journal of Membrane Science, Volume 365, December 2010, pages 34-39.

174. Mauter, M.S., Elimelech, M., and Osuji, C.O. "Nanocomposites of Vertically Aligned SWNTs by Magnetic Alignment and Polymerization of a Lyotropic Precursor", ACS Nano, Volume 4, November 2010, pages 6651-6658.

175. Vecitis, C.D., Zodrow, K.R., Kang, S., Elimelech, M. "Electronic Structure Dependent Bacterial Cytotoxicity of Single-Walled Carbon Nanotubes", ACS Nano, Volume 4, September 2010, pages 5471-5479.

176. Brady-Estévez, A.S., Schnoor, M.H., Vecitis, C.D., Saleh, N.B., and Elimelech, M. "Multiwalled Carbon Nanotube Filter: Improving Viral Removal at Low Pressure", Langmuir, Volume 26, September 2010, pages 14975–14982.

177. Aslan, S., Kang, S., Zoican, C., Elimelech, M., Pfefferle, L.D., and Van Tassel, P.R. "Antimicrobial Biomaterials Based on Carbon Nanotubes Dispersed in Poly(Lactic-co-Glycolic Acid)", Nanoscale, Volume 2, September 2010, pages 1789-1794.

178. Petosa, A.R., Jaisi, D.P., Quevedo, I.R., Elimelech, M., and Tufenkji, N. "Aggregation and Deposition of Engineered Nanomaterials in Aquatic Environments: Role of Physicochemical Interactions", Environmental Science & Technology, Volume 44, September 2010, pages 6532–6549.

179. Phillip, W.A., Yong, J., and Elimelech, M. "Reverse Draw Solute Permeation in Forward Osmosis: Modeling and Experiments", Environmental Science & Technology, Volume 44, July 2010, pages 5170–5176.

180. Rodrigues, D.F. and Elimelech, M. "Toxic Effects of Single-Walled Carbon Nanotubes in the Development of E. coli Biofilm", Environmental Science & Technology, Volume 44, June 2010, pages 4583-4589.

181. Brady-Estévez, A.S., Nguyen, T.H., Gutierrez, L., and Elimelech, M. "Impact of Solution Chemistry on Viral Removal by a Single-Walled Carbon Nanotube Filter", Water Research, Volume 44, July 2010, pages 3773-3780.

182. Yip, N.Y., Tiraferri, A., Phillip, W.A., Schiffman, J.D., and Elimelech, M., "High Performance Thin-Film Composite Forward Osmosis Membrane", Environmental Science & Technology, Volume 44, May 2010, pages 3812–3818.

183. Nguyen, T.H., Chen, K.L., and Elimelech, M., "Adsorption Kinetics and Reversibility of Linear Plasmid DNA on Silica Surfaces: Influence of Alkaline Earth and Transition Metal Ions", Biomacromolecules, Vol. 11, May 2010, 1225–1230.

184. Montgomery, M.A., Desai, M.M., and Elimelech, M. "Comparing the Effectiveness of Shared Versus Private Latrines in Preventing Trachoma in Rural Tanzania", American Journal of Tropical Medicine & Hygiene, Vol. 82, April 2010, pages 693-695.

185. Montgomery, M.A., Desai, M.M., and Elimelech, M. "Assessment of Latrine use and Quality and Association with Risk of Trachoma in Rural Tanzania", Transactions of the Royal Society of Tropical Medicine and Hygiene, Volume 104, April 2010, pages 283-289.

186. Adout, A., Kang, S., Asatekin, A., Mayes, A.M., and Elimelech, M. "Ultrafiltration Membranes Incorporating Amphiphilic Comb Copolymer Additives Prevent Irreversible Adhesion of Bacteria", Environmental Science & Technology, Volume 44, April 2010, pages 2406–2411.

187. Saleh, N.B., Pfefferle, L.D., and Elimelech, M. "Influence of Biomacromolecules and Humic Acid on Aggregation Kinetics of Single- Walled Carbon Nanotubes", Environmental Science & Technology, Volume 44, April 2010, pages 2412–2418.

188. Mi, B. and Elimelech, M. "Gypsum Scaling and Cleaning in Forward Osmosis: Measurements and Mechanisms", Environmental Science & Technology, Volume 44, March 2010, pages 2022–2028.

189. Mi, B. and Elimelech, M. "Organic Fouling of Forward Osmosis Membranes: Fouling Reversibility and Cleaning without Chemical Reagents", Journal of Membrane Science, Volume 348, February 2010, pages 337-345.

190. Jaisi, D.P., and Elimelech, M. "Single-Walled Carbon Nanotubes Exhibit Limited Transport in Soil Columns", Environmental Science & Technology, Vol. 43, December 2009, pages 9161–9166.

191. Menniti, A. Kang, S., Elimelech, M., and Morgenroth, E. "Influence of Shear on the Production of Extracellular Polymeric Substances in Membrane Bioreactors", Water Research, Volume 43, October 2009, pages 4305–4315.

192. Chen, K.L., and Elimelech, M. "Relating Colloidal Stability of Fullerene (C60) Nanoparticles to Nanoparticle Charge and Electrokinetic Properties", Environmental Science & Technology, Volume 43, October 2009, pages 7270–7276..

193. Kang, S., and Elimelech, M. "Bioinspired Single Bacterial Cell Force Spectroscopy", Langmuir, Volume 25, August 2009, pages 9656–9659.

194. Herzberg, M., Kang, S., and Elimelech, M. "Role of Extracellular Polymeric Substances (EPS) in Biofouling of Reverse Osmosis Membranes", Environmental Science & Technology, Volume 43, July 2009, pages 4393–4398. .

195. Garcia-Castello, E.M., McCutcheon, J.R., and Elimelech, M. "Performance Evaluation of Sucrose Concentration Using Forward Osmosis", Journal of Membrane Science, Volume 338, August 2009, pages 61-66.

196. Rodrigues, D.F. and Elimelech, M. "Role of Type 1 Fimbriae and Mannose in the Development of E. coli K12 Biofilm: From Initial Cell Adhesion to Biofilm Formation", Biofouling, Volume 25, July 2009, pages 401-411.

197. Montgomery, M.A., Bartram, J. and Elimelech, M. "Increasing Functional Sustainability of Water and Sanitation Supplies in Rural Sub-Saharan Africa", Environmental Engineering Science, Volume 26, May 2009, pages 1017-1023.

198. Kang, S., Mauter, M.S. and Elimelech, M. "Microbial Cytotoxicity of Carbon-Based Nanomaterials: Implications for River Water and Wastewater Effluent", Environmental Science & Technology, Volume 43, March 2009, pages 2648-2653.

199. McGinnis, R.L., and Elimelech, M. "Global Challenges in Energy and Water Supply: The Promise of Engineered Osmosis", Environmental Science & Technology, Environmental Science & Technology, Volume 42, December 2008, pages 8625–8629.

200. da Silva, A.K., Le Guyader, F.S., Le Saux, J.C., Pommepuy, M., Montgomery, M.A., and Elimelech, M. "Norovirus Removal and Particle Association in a Waste Stabilization Pond", Environmental Science & Technology, Volume 42, December 2008, pages 9151-9157.

201. Saleh, N.B., Pfefferle, L.P., and Elimelech, M. "Aggregation Kinetics of Multiwalled Carbon Nanotubes in Aquatic Systems: Measurements and Environmental Implications", Environmental Science & Technology, Environmental Science & Technology, Volume 42, November 2008, pages 7963–7969.

202. Jaisi, D.P., Saleh, N.B., Blake, R.E., and Elimelech, M. "Transport of Single-Walled Carbon Nanotubes in Porous Media: Filtration Mechanisms and Reversibility", Environmental Science & Technology, Volume 42, November 2008, pages 8317–8323.

203. Ang, W.S., and Elimelech, M. "Fatty Acid Fouling of Reverse Osmosis Membranes: Implications for Wastewater Reclamation", Water Research, Volume 42, October 2008, pages 4393-4403.

204. Chen, K.L., and Elimelech, M. "Interaction of Fullerene (C60) Nanoparticles with Humic Acid and Alginate Coated Silica Surfaces: Measurements, Mechanisms, and Environmental Implications", Environmental Science & Technology, Environmental Science & Technology, Volume 42, October 2008, pages 7607–7614.

205. Kang, S., Mauter, M.S., and Elimelech, M. "Physicochemical Determinants of Multiwalled Carbon Nanotube Bacterial Cytotoxicity", Environmental Science & Technology, Environmental Science & Technology, Volume 42, August 2008, pages 5843-5859.

206. Mauter, M.S., and Elimelech, M. "Environmental Applications of Carbon-Based Nanomaterials", Environmental Science & Technology, Volume 42, August 2008, pages 5843-5859.

207. Tiraferri, A. Chen, K.L., Sethi, R., and Elimelech, M. "Reduced Aggregation and Sedimentation of Zero-Valent Iron Nanoparticles in the Presence of Guar Gum", Journal of Colloid and Interface Science, Volume 324, August 2008, pages 71-79.

208. Mi, B., and Elimelech, M. "Chemical and Physical Aspects of Organic Fouling of Forward Osmosis Membranes", Journal of Membrane Science, Volume 320, July 2008, pages 292-302.

209. Kang, S., Herzberg, M., Rodrigues, D. F., and Elimelech, M. "Antibacterial Effects of Carbon Nanotubes: Size Does Matter!", Langmuir, Volume 24, June 2008, pages 6409-6413.

210. McCutcheon, J.R., and Elimelech, M. "Influence of Membrane Support Layer Hydrophobicity on Water Flux in Osmotically Driven Membrane Processes", Journal of Membrane Science, Volume 318, June 2008, pages 458-466.

211. Huertas, H, Herzberg, M., Oron, G. Elimelech, M, "Influence of Biofouling on Boron Removal by Nanofiltration and Reverse Osmosis Membranes", Journal of Membrane Science, Volume 318, June 2008, pages 264-270.

212. de Kerchove, A.J., and Elimelech, M. "Bacterial Swimming Motility Enhances Cell Deposition and Surface Coverage", Environmental Science & Technology, Volume 42, June 2008, pages 4371-4377.

213. Shannon, M.A., Bohn, P.W., Elimelech, M., Georgiadis, J.G., Mariñas, B.J. and Mayes, A.M. "Science and Technology for Water Purification in the Coming Decades", Nature, Volume 452, March 2008, pages 301-310.

214. de Kerchove, A.J. and Elimelech, M. "Calcium and Magnesium Cations Enhance the Adhesion of Motile and Non-Motile Pseudomonas aeruginosa on Alginate Films", Langmuir, Volume 24, March 2008, pages 3392-3399. .

215. Brady-Estévez, A.S., Kang, S., and Elimelech, M. "A Single-Walled Carbon Nanotube Filter for Removal of Viral and Bacterial Pathogens", Small, Volume 4, April 2008, pages 481-484.

216. Weronski, P., and Elimelech, M. "A Novel Numerical Method for Calculating Initial Flux of Colloid Particle Adsorption through an Energy Barrier", Journal of Colloid and Interface Science, Volume 319, March 2008, pages 406-415.

217. Herzberg, M. and Elimelech, M. "Physiology and Genetic Traits of Reverse Osmosis Membrane Biofilms: A Case Study with Pseudomonas aeruginosa", The ISME Journal, Volume 2, February 2008, pages 180-194.

218. da Silva, A.K, Le Saux, J.C., Parnaudeau, S. Pommepuy, M. Elimelech, M., and Le Guyader, F.S. "Evaluation of Removal of Noroviruses during Wastewater Treatment, Using Real-Time Reverse Transcription-PCR: Different Behaviors of Genogroups I and II", *Applied and Environmental Microbiology*, Volume 73, December 2007, pages 7891–7897.

219. Hill, J.E., Kysela, D.T., and Elimelech, M. "Isolation and Assessment of Phytate-Hydrolyzing Bacteria from the DelMarVa Peninsula", *Environmental Microbiology*, Volume 9, December 2007, pages 3100-3107.

220. de Kerchove, A.J. and Elimelech, M. "Adhesion of Non-Motile Pseudomonas aeruginosa on "Soft" Polyelectrolyte Layer in a Radial Stagnation Point Flow System: Measurements and Model Prediction", *Langmuir*, Volume 23, November 2007, pages 12301-12308.

221. McGinnis, R.L., McCutcheon, J.R., and Elimelech, M. "A Novel Ammonia - Carbon Dioxide Osmotic Heat Engine for Power Generation", *Journal of Membrane Science*, Volume 305, November 2007, pages 13-19.

222. Kang, S., Pinault, M., Pfefferle, L.D., and Elimelech, M. "Single-Walled Carbon Nanotubes Exhibit Strong Antimicrobial Activity", *Langmuir*, Volume 23, August 2007, pages 8670-8673.

223. de Kerchove, A.J. and Elimelech, M. "Impact of Alginate Conditioning Film on Deposition Kinetics of Motile and Nonmotile *Pseudomonas aeruginosa* Strains", *Applied and Environmental Microbiology*, Volume 73, August 2007, pages 5227-5234.

224. McCutcheon, J.R., and Elimelech, M. "Modeling Water Flux in Forward Osmosis: Implications for Improved Membrane Design", *AIChE Journal*, Volume 53, June 2007, pages 1736-1744.

225. Asatekin, A., Kang, S, Elimelech, M., and Mayes, A.M. "Anti-fouling Ultrafiltration Membranes Containing Polyacrylonitrile-Graft-Poly(Ethylene Oxide) Comb Copolymer Additives" , *Journal of Membrane Science*, Volume 298, June 2007, pages 136-146.

226. Chen, K. L., Mylon, S. E., and Elimelech, M. **"**Enhanced Aggregation of Alginate-Coated Iron Oxide (Hematite) Nanoparticles in the Presence of Calcium, Strontium, and Barium Cations"**,** *Langmuir*, Volumes 23, May 2007, pages 5920-5928. ../../../../../../../../documents and settings/program files/eudora/attach/publication-pdf/Chen-Mylon-Elimelech-LANGMUIR-2007.pdf

227. Kang, S., Asatekin, A., Mays, A.M., and Elimelech, M. "Protein antifouling mechanisms of PAN UF membranes incorporating PAN-g-PEO additive" *Journal of Membrane Science*, Volume 296, June 2007, pages 42-50.

228. Ang, W.S., and Elimelech, M. "Protein (BSA) Fouling of Reverse Osmosis Membranes: Implications for Wastewater Reclamation", *Journal of Membrane Science*, Volume 296, June 2007, pages 83-92.

229. Herzberg, M. and Elimelech, M. "Biofouling of Reverse Osmosis Membranes: Role of Biofilm-Enhanced Osmotic Pressure", *Journal of Membrane Science*, Volume 295, May 2007, Pages 11-20.

230. Chen, K.L., and Elimelech, M. "Influence of Humic Acid on the Aggregation Kinetics of Fullerene (C_{60}) Nanoparticles in Monovalent and Divalent Electrolyte Solutions", *Journal of Colloid and Interface Science, Volume 309, May 2007*, p*ages 126-134*.

231. Nguyen, T.H., and Elimelech, M. "Adsorption of Plasmid DNA to a Natural Organic Matter Coated Silica Surface: Kinetics, Conformation, and Reversibility" *Langmuir*, Volume 23, March 2007, pages 3273-3279.

232. Lee, S., and Elimelech, M. "Salt cleaning of Organic-Fouled Reverse Osmosis Membranes", *Water Research,* Volume 41, March 2007, pages 1134-1142.

233. Kuznar, Z.A. and Elimelech, M. "Direct Microscopic Observation of Particle Deposition in Porous Media: Role of the Secondary Energy Minimum", *Colloids and Surfaces A*, Vol. 294, February 2007, pages 156-162.

234. Montgomery, M.A., and Elimelech, M. "Water and Sanitation in Developing Countries: Including Health in the Equation", *Environmental Science and Technology*, Volume 41, January 2007, pages 17-24.

235. Nguyen, T.H., and Elimelech, M. "Plasmid DNA Adsorption on Silica: Kinetics and Conformational Changes in Mono and Divalent Salts" *Biomacromolecules*, Volume 8, January 2007, pages 24-32.

236. de Kerchove, A.J. and Elimelech, M. "Formation of Polysaccharide Gel Layers in Presence of Ca^{2+} and K^{+} Ions: Measurements and Mechanisms", *Biomacromolecules*, Volume 8, January 2007, pages 113-121.

237. McGinnis, R.L., and Elimelech, M. "Energy Requirements of Ammonia–Carbon Dioxide Forward Osmosis Desalination", *Desalination*, Volume 207, 2007, pages 370-382.

238. McGinnis, R.L., and Elimelech, M. "Energy Requirements of Ammonia–Carbon Dioxide Forward Osmosis Desalination", *Desalination*, Volume 207, 2006, pages 370-382.

239. Nghiem, L.D., Schäfer, A.I, and Elimelech, M. "Role of Electrostatic Interactions in the Retention of Pharmaceutically Active Contaminants by a Loose Nanofiltration Membrane", *Journal of Membrane Science*, Volume 286, December 2006, pages 52-59.

240. Chen, K.L., and Elimelech, M. "Aggregation and Deposition Kinetics of Fullerene (C_{60}) Nanoparticles", *Langmuir*, Volume 22, November 2006, pages 10994-11001.

241. Asatekin, A., Menniti, A., Kang, S. Elimelech, M., Morgenroth, E., and Mayes, A.M. "Antifouling Nanofiltration Membranes for Membrane Bioreactors from Self-Assembling Graft Copolymers", *Journal of Membrane Science*, Volume 285, November 2006, pages 81–89.

242. McCutcheon, J.R., and Elimelech, M. "Influence of Concentrative and Dilutive Internal Concentration Polarization on Flux Behavior in Forward Osmosis", *Journal of Membrane Science*, Volume 284, October 2006, pages 237-247.

243. de Kerchove, A.J. and Elimelech, M. "Structural Growth and Viscoelastic Properties of Adsorbed Alginate Layers in Monovalent and Divalent Salts", *Macromolecules*, Volume 39, September 2006, pages 6558-6564.

244. Cath, T.Y., Childress, A.E., and Elimelech, M. "Forward osmosis: Principles, Applications, and Recent Developments", *Journal of Membrane Science,* Volume 281, September 2006, pages 70-87.

245. Costa, A.R., de Pinho, M.N., and Elimelech, M. "Mechanisms of Colloidal Natural Organic Matter Fouling in Ultrafiltration", *Journal of Membrane Science*, Volume 281, September 2006, pages 716-725.

246. McCutcheon, J.R., McGinnis, R.L., and Elimelech, M. "Desalination by Ammonia-Carbon Dioxide Forward Osmosis: Influence of Draw and Feed Solution Concentrations on Process Performance", *Journal of Membrane Science*, Volume 278, July 2006, pages 114-123.

247. Gray, G.T., McCutcheon, J.R., and Elimelech, M. "Internal Concentration Polarization in Forward Osmosis: Role of Membrane Orientation", *Desalination*, Volume 197, June 2006, pages 1-8.

248. Li, Q., and Elimelech, M. "Synergistic Effects in Combined Fouling of a Loose Nanofiltration Membrane by Colloidal Materials and Natural Organic Matter", *Journal of Membrane Science*, Volume 278, July 2006, pages 72-82.

249. Kuznar, Z.A. and Elimelech, M. "*Cryptosporidium* Oocyst Surface Macromolecules Significantly Hinder Oocyst Attachment", *Environmental Science and Technology*, Volume 40, March 2006, pages 1837-1842.

250. Chen, K.L., Mylon, S.E., and Elimelech, M. "Aggregation Kinetics of Alginate-Coated Hematite Nanoparticles in Monovalent and Divalent Electrolytes", *Environmental Science and Technology*, Volume 40, March 2006, pages 1516-1523.

251. Lee, S., and Elimelech, M. "Relating Organic Fouling of Reverse Osmosis Membranes to Intermolecular Adhesion Forces", *Environmental Science and Technology*, Volume 40, February 2006, pages 980-987.

252. Ang, W.S., Lee, S., and Elimelech M., "Chemical and Physical Aspects of Cleaning of Organic-Fouled Reverse Osmosis Membranes", *Journal of Membrane Science*, Volume 272, March 2006, Pages 198-210.

253. Elimelech, M. "The Global Challenge for Adequate and Safe Water", *Journal of Water Supply: Research and Technology – AQUA*, Volume 55, February 2006, pages 3-10.

254. Lee, S., Ang, W.S., and Elimelech M., "Fouling of Reverse Osmosis Membranes by Hydrophilic Organic Matter: Implications for Water Reuse", *Desalination*, Volume 187, February 2006, pages 313-321.

255. Nghiem, L.D., Schäfer, A.I., and Elimelech, M. "Pharmaceutical Retention Mechanisms by Nanofiltration Membranes", *Environmental Science and Technology*, Volume 39, October 2005, pages 7698 – 7705.

256. Nghiem, L.D., Schäfer, A.I., and Elimelech, M. "Nanofiltration of Hormone Mimicking Trace Organic Contaminants", *Separation Science and Technology*, Volume 40, November 2005, pages 2633-2649.

257. Lee, S., Cho, J. and Elimelech M., "Combined Influence of Natural Organic Matter (NOM) and Colloidal Particles on Nanofiltration Membrane Fouling", *Journal of Membrane Science*, Volume 262, October 2005, pages 27-41.

258. Abudalo, R.A., Bogatsu, Y.G., Ryan, J.N., Harvey, R.W. Metge, D.W., and Elimelech, M. "The Effect of Ferric Oxyhydroxide Grain Coatings on the Transport of Bacteriophage PRD1 and *Cryptosporidium parvum* Oocysts in Saturated Porous Media." *Environmental Science and Technology*, Volume 39, September 2005, pages 6412 - 6419.

259. Walker, S.L., Redman, J.A., and Elimelech M. "Influence of Growth Phase on Bacterial Deposition: Interaction Mechanisms in Packed-Bed Column and Radial Stagnation Point Flow Systems", *Environmental Science and Technology*, Volume 39, September 2005, pages 6405 - 6411.

260. Lee, S., Cho, J. and Elimelech M., "A Novel Method for Investigating the Influence of Feed Water Recovery on Colloidal and NOM Fouling of RO and NF Membranes", *Environmental Engineering Science*, Volume 22, July 2005, pages 496-509.

261. de Kerchove, A.J. and Elimelech, M. "Relevance of Electrokinetic Theory for 'Soft' Particles to Bacterial Cells: Implications for Bacterial Adhesion", *Langmuir*, Volume 21, July 2005, pages 6462-6472.

262. Walker, S.L., Hill, J.E., Redman, J.A., and Elimelech M. "Influence of Growth Phase on the Adhesion Kinetics of *Escherichia coli* D21g", *Applied and Environmental Microbiology*, Volume 71, June 2005, pages 3093-3099.

263. Chen, J.C., Elimelech, M., and Kim, A.S., "Monte Carlo Simulation of Colloidal Membrane Filtration: Model Development with Application to Characterization of Phase Transition Phenomenon", *Journal of Membrane Science*, Volume 255, June 2005, Pages 291-305.

264. Tufenkji, N., and Elimelech M. "Spatial Distributions of *Cryptosporidium* Oocysts in Porous Media: Evidence for Dual Mode Deposition", *Environmental Science and Technology*, Volume 39, May 2005, pages 3620 - 3629.

265. McCutcheon, J.R., McGinnis, R.L., and Elimelech, M. "A Novel Ammonia-Carbon Dioxide Forward (Direct) Osmosis Desalination Process", *Desalination*, Volume 174, 2005, pages 1-11.

266. Tufenkji, N., and Elimelech M. "Breakdown of Colloid Filtration Theory: Role of the Secondary Energy Minimum and Surface Charge Heterogeneities", *Langmuir*, Volume 21, January 2005, pages 841-852.

267. Kuznar, Z.A. and Elimelech, M. "Role of Surface Proteins in the Deposition Kinetics of *Cryptosporidium parvum* Oocysts", *Langmuir*, Volume 21, January 2005, pages 710-716.

268. Kuznar, Z.A. and Elimelech, M. "Adhesion Kinetics of Viable *Cryptosporidium parvum* Oocysts to Quartz Surfaces", *Environmental Science and Technology*, Volume 38, December 2004, pages 6839-6845.

269. Tufenkji, N., and Elimelech M. "Deviation from Classical Colloid Filtration Theory in the Presence of Repulsive DLVO Interactions", *Langmuir*, Volume 20, December 2004, pages 10818-10828.

270. Tufenkji, N., Miller, G.F., Ryan, J.N., Harvey, R.W., and Elimelech M. "Transport of *Cryptosporidium* Oocysts in Porous Media: Role of Straining and Physico-Chemical Filtration", *Environmental Science and Technology*, Volume 38, November 2004, pages 5932-5938.

271. Ng, H.Y., and Elimelech, M. "Influence of Colloidal Fouling on Rejection of Trace Organics by Reverse Osmosis", *Journal of Membrane Science*, Volume 244, November 2004, pages 215-226.

272. Mylon, S.E., Chen, K.L., and Elimelech, M. "Influence of Natural Organic Matter and Ionic Composition on the Kinetics and Structure of Hematite Colloid Aggregation: Implications to Iron Depletion in Estuaries", *Langmuir*, Volume 20, October 2004, pages 9000-9006.

273. Li, Q. and Elimelech, M. "Organic Fouling and Chemical Cleaning of Nanofiltration Membranes: Measurements and Mechanisms", *Environmental Science and Technology*, Volume 38, September 2004, pages 4683-4693.

274. Walker, S.L., Redman, J.A., and Elimelech M. "Role of Cell Surface Lipopolysaccharides (LPS) in *Escherichia coli* K12 Adhesion and Transport", *Langmuir*, Volume 20, August 2004, pages 7736-7746.

275. Nghiem, D.L., McCutcheon, J., Schäfer, A.I., and Elimelech, M. "The Role of Endocrine Disrupters in Water Recycling: Risk or Mania?", *Water Science and Technology*, Volume 50, 2004, pages 215-220.

276. Redman, J.A., Walker, S.L., and Elimelech, M., "Bacterial Adhesion and Transport in Porous Media: Role of the Secondary Energy Minimum", *Environmental Science and Technology*, Volume 38, March 2004, pages 1777-1785.

277. Nghiem, L.D., Schaefer, A.I., and Elimelech, M. "Removal of Natural Hormones by Nanofiltration Membranes: Measurement, Modeling, and Mechanisms", *Environmental Science and Technology*, Volume 38, March 2004, pages 1888-1896.

278. Chen, J.C., Li, Q., and Elimelech, M. "In-situ Monitoring Techniques for Concentration Polarization and Fouling in Membrane Filtration", *Advances in Colloid and Interface Science*, Volume 107, March 2004, pages 83-104.

279. Tufenkji, N. and Elimelech M. "Correlation Equation for Predicting Single-Collector Efficiency in Physicochemical Filtration in Saturated Porous Media", *Environmental Science and Technology*, Volume 38, January 2004, pages 529-536.

280. Lee, S., Cho, J. and Elimelech M., "Influence of Colloidal Fouling and Feed Water Recovery on Salt Rejection in RO and NF Membrane Separations", *Desalination*, Volume 160, January 2004, pages 1-12.

281. Hoek E.M.V., and Elimelech, M. "Cake-Enhanced Concentration Polarization: A New Fouling Mechanism for Salt Rejecting Membranes", *Environmental Science and Technology*, Volume 37, December 2003, pages 5581 - 5588

282. Loveland, J.P., Bhattacharjee, S., Ryan, J.N. Elimelech, M. "Colloid Transport in a Geochemically Heterogeneous Porous Medium: Aquifer Tank Experiment and Modeling", *Journal Contaminant Hydrology*, Volume 65, September 2003, pages 161-182.

283. Elimelech, M., Chen, J.Y., and Kuznar, Z. "Particle Deposition on Surfaces with Micropatterned Charge Heterogeneity: The Hydrodynamic Bump Effect, *Langmuir*, Volume 19, August 2003, pages 6594-6597.

284. Song, L., Hu, J. Y, Ong, S.L., Ng, W.J., Elimelech, M., and Wilf, M. "Emergence of Thermodynamic Restriction and its Implications for the Full-Scale Reverse Osmosis Process", *Desalination*, Vol. 155, July 2003, Pages 213-228

285. Weronski, P.; Walz, J.Y.; Elimelech, M. "Effect of Depletion Interaction on Transport of Colloidal Particles in Porous Media" *J. Colloid Interface Sci*., Volume 262, June 2003, pages 372-383.

286. Hoek E.M.V., Bhattacharjee, S., and Elimelech, M. "Effect of Membrane Surface Roughness of Colloid-Membrane DLVO Interactions", *Langmuir*, Vol. 19, May 2003, pages 4836-4847.

287. Song, L., Hu, J. Y, Ong, S.L., Ng, W.J., Elimelech, M., and Wilf, M. "Performance Limitation in the Full-Scale Reverse Osmosis Process", *Journal of Membrane Science*, Vol. 214, April 2003, 239-244.

288. Tufenkji, N., Redman, J.A., and Elimelech, M. "Interpreting Deposition Patterns of Microbial Particles in Laboratory-Scale Column Experiments" *Environmental Science & Technology*, Volume 37, February 2003, pages 616-623.

289. Hoek, E.M.V., Kim, A.S., and Elimelech, M., "Influence of Crossflow Membrane Filter Geometry and Shear Rate on Colloidal Fouling in reverse Osmosis and Nanofiltration Separations", *Environmental Engineering Science*, Volume 19, December 2002, pages 357-372.

290. Le Gouellec, Y.A., and Elimelech, M. "Control of Calcium Sulfate (Gypsum) Scale in Nanofiltration of Saline Agricultural Drainage Water", *Environmental Engineering Science*, Volume 19, December 2002, pages 387-398.

291. Tufenkji, N., Ryan, J.N., and Elimelech M. "The Promise of Bank Filtration", *Environmental Science & Technology*, Volume 36, November 2002, pages 422A-428A.

292. Ryan, J.N., Harvey, R.H., Metge, D., Elimelech, M., Navigato, T., and Piper A.P. "Field and Laboratory Investigations of Inactivation of viruses (PRD1 and MS2) Attached to Iron Oxide-Coated Quartz Sand", *Environmental Science and Technology*, Volume 36, August 2002, pages 2403-2413.

293. LeGouellec, Y. and Elimelech, M. "Gypsum Scaling in Nanofiltration of Agricultural Drainage Water", *Journal of Membrane Science*, Volume 205, August 2002, 279-291.

294. Bhattacharjee, S., Ryan, J.N., and Elimelech, M. "Virus Transport in Physically and Geochemically Heterogeneous Subsurface Porous Media", *Journal of Contaminant Hydrology*, Volume 57, August 2002, 161-187.

295. Chen, J.Y., Klemic, J.F., Elimelech, M. "Micropatterning Microscopic Chemical Heterogeneity on Flat Surfaces for Studying the Interaction between Colloidal Particles and Heterogeneously Charged Surfaces", *Nano* Letters, Volume 2, April 2002, pages 393-396.

296. Seidel, A., and Elimelech, M. "Coupling between Chemical and Physical Interactions in NF Membrane Fouling by Natural Organic Matter: Implications for Fouling Control", *Journal of Membrane Science*, Volume 203, March 2002, pages 245-255.

297. Walker, S.L., Bhattacharjee, S., Hoek. E.M.V., and Elimelech, M. "A Novel Asymmetric Clamping Cell for Measuring Streaming Potential of Flat Surfaces", *Langmuir*, Volume 18, March 2002, pages 2193-2198.

298. Bunn, R.A., Ryan, J.N., and Elimelech, M. "Mobilization of Natural Colloids from an Iron Oxide Coated Sand Aquifer: Effect of pH and Ionic Strength", *Environmental Science and Technology*, Volume 36, February 2002, pages 314-322.

299. Bhattacharjee, S., Chen, J.C., and Elimelech, M. "Coupled Model of Concentration Polarization and Pore Transport in Crossflow Nanofiltration of Multi-Component Electrolytes", *AIChE Journal*, December 2001, Vol. 47, pages 2733-2745.

300. Chen, J.Y., Ko, C.-H., Bhattacharjee, S., and Elimelech, M. "Role of Spatial Distribution of Porous Medium Geochemical Heterogeneity in Colloid Transport", *Colloids and Surfaces A*, Volume 191, October 2001, pages 3-16

301. Grolimund, D., Elimelech, M., and Borkovec, M. "Aggregation and Deposition Kinetics of Mobile Colloidal Particles in Natural Porous Media", *Colloids and Surfaces A*, Volume 191, October 2001, pages 179-188.

302. Vrijenhoek, E.M., Hong, S., and Elimelech, M. "Influence of Membrane Surface Properties on Initial Rate of Colloidal Fouling of Reverse Osmosis and Nanofiltration Membranes", *Journal of Membrane Science*, Volume 188, June 2001, pages 115-128.

303. Sun, N., Elimelech, M., Sun, N.-Z., and Ryan, J.N. "A Novel Two-Dimensional Model for Colloid Transport in Physically and Geochemically Heterogeneous Porous Media", *Journal of Contaminant Hydrology*, Volume 49, June 2001, pages 173-199.

304. Seidel, A., Waypa, J.J. and Elimelech, M. "Role of Charge (Donnan) Exclusion in Removal of Arsenic from Water by a Negatively Charged Porous Nanofiltration Membrane", *Environmental Engineering Science*, Volume 18, May 2001, pages 105-113.

305. Sun, N., Sun, N.-Z ., Elimelech, M., and Ryan, J.N. "Sensitivity Analysis and Parameter Identifiability in Colloid Transport in Geochemically Heterogeneous Porous Media", *Water Resources Research*, Volume 37, February 2001, pages 209-222.

306. Kim, S., Bhattacharjee, S. and Elimelech, M. “Shear Induced Reorganization of Deformable Molecular Assemblages: Monte Carlo Studies, *Langmuir*, Vol. 17, January 2001, pages 552-561.

307. Kuhnen, F., Bhattacharjee, S., Elimelech, M, and Kretzschmar, R. “Transport and Deposition Dynamics of Iron Oxide Colloids in Packed Quartz Media: Monolayer and Multilayer Deposition” *Journal of Colloid and Interface Science*, Vol. 231, November 2000, pages 32-41.

308. Ko, C.-H., and Elimelech, M. "The Shadow Effect in Colloid Transport and Deposition Dynamics in Granular Porous Media: Measurements and Mechanisms", *Environmental Science and Technology*, Volume 34, September 2000, pages 3681-3689.

309. Ko, C.-H., Bhattacharjee, S., and Elimelech, M. "The Coupled Influence of Ionic Strength, Particle Size, and Flow Velocity on the RSA Dynamic Blocking Function during Colloid Deposition in a Packed Bed of Spherical Collectors", *Journal of Colloid and Interface Science*, Volume 229, September 2000, pages 554-567.

310. Childress, A.E., and Elimelech, M. “Relating Nanofiltration Membrane Performance to Membrane Charge (Electrokinetic) Characteristics”, *Environmental Science and Technology*, Volume 34, September 2000, pages 3710-3716.

311. Ryan, J.N., Elimelech, M., Magelky, R.D., and Baseman, J.L., "Silica-Coated Titania and Zirconia Colloids for Subsurface Transport Field Experiments", *Environmental Science and Technology*, Volume 34, May 2000, pages 2000-2005.

312. Elimelech, M., Nagai, M., Ko, C.-H., and Ryan, J.N. " Relative Insignificance of Mineral Grain Zeta Potential to Colloid Transport in Geochemically Heterogeneous Porous Media", *Environmental Science and Technology*, Volume 34, June 2000, pages 2143-2148.

313. Bhattacharjee, S., Chen, J.Y., and Elimelech M. "DLVO Interaction between Spheroidal Particles and a Flat Surface", *Colloids and Surfaces A*, Volume 165, May 2000, pages 143-156.

314. Childress, A.E., Vrijenhoek, E.M., Elimelech, M. “Particulate and THM Precursor Removal with Ferric Chloride”, *Journal of Environmental Engineering, ASCE,* Volume 125 (11), November 1999, pages 1054-1061.

315. Bhattacharjee, S., Kim, A.S., and Elimelech, M., “Concentration Polarization of Interacting Solute particles in Crossflow membrane Filtration”, *Journal of Colloid and Interface Science*, Volume 212, April 1999, pages 81-99.

316. Kretzschmar, R., Borkovec, M., Grolimund, D., and Elimelech, “Mobile Subsurface Colloids and their Role in Contaminant Transport” (Review Paper), *Advances in Agronomy,* Volume 66, January 1999, pages 121-194.

317. Ryan J.N., Elimelech M., Ard R.A., Harvey R.W., and Johnson P.R., “Bacteriophage PRD1 and Silica Colloid Transport and Recovery in an Iron Oxide-Coated Sand Aquifer”, *Environmental Science & Technology*, Volume 33, January 1999, pages 63-73.

318. Bhattacharjee, S., Elimelech, M., and Borkovec, M., “DLVO Interaction between Colloidal Particles: Beyond Derjaguin’s Approximation”, (Invited Paper for a Special Issue in Honor of Professor Egon Matijevic) *Croatica Chemica Acta*, Volume 71, December 1998, pages 883-903.

319. Grolimund, D., Elimelech, M., Borkovec, M., Barmettler, K., Kretzschmar, R., and Sticher, H., “Transport of *in-situ* Mobilized Colloidal Particles in Packed Soil Columns”**,** *Environmental Science & Technology*, Volume 32, November 1998, pages 3562-3569.

320. Clark, M.M. *et al*. AWWA “Committee Report: Membrane Processes”, *Journal American Water Works Association*, Volume 90, June 1998, pages 91-105.

321. Faibish, R.S., Elimelech, M., and Cohen, Y., "Effect of Interparticle Electrostatic Double Layer Interactions on Permeate Flux Decline in Crossflow Membrane Filtration of Colloidal Suspensions: An Experimental Investigation", *Journal of Colloid and Interface Science*, Volume 204, August 1998, pages 77-86.

322. Elimelech, M, and Bhattacharjee, S. "A Novel Approach for Modeling Concentration Polarization in Crossflow Membrane Filtration Based on the Equivalence of Osmotic Pressure Model and Filtration Theory", *Journal of Membrane Science*, Volume 145, July 1998, pages 223-241.

323. Bhattacharjee, S., Ko, C.-H., and Elimelech, M., "DLVO Interaction between Rough Surfaces, *Langmuir*, Volume 14, June 1998, pages 3365-3375.

324. Vrijenhoek, E., Childress, A.E., Elimelech, M, Tanaka, T.S., and Beuhler, M.D., "Removal of Particles and THM Precursors by Enhanced Coagulation", *Journal American Water Works Association*, Volume 90, April 1998, pages 139-150.

325. Mazzolani, G., Stolzenbach, K.D., and Elimelech, M. "Coagulation of Settling Aggregates of Different Size and Density", *Journal of Colloid and Interface Science*, Vol. 197, January 1998, pages 334-347.

326. Hong, S., Faibish, R.S., and Elimelech, M. "Kinetics of Permeate Flux Decline in Crossflow Membrane Filtration of Colloidal Suspensions", *Journal of Colloid and Interface Science*, Volume 196, December 1997, pages 267-277.

327. Zhu, X., and Elimelech M. "Colloidal Fouling of Reverse Osmosis Membranes: Measurements and Fouling Mechanisms", *Environmental Science & Technology*, Volume 31, December 1997, pages 3654-3662.

328. Bhattacharjee, S., and Elimelech, M., "Surface Element Integration: A Novel Technique for Evaluation of DLVO Interaction between a Particle and an Infinite Flat Plate", *Journal of Colloid and Interface Science*, Volume 193, October 1997, pages 273-285.

329. Waypa, J.J., Hering, J.G., and Elimelech, M. "Arsenic Removal from Water by Reverse Osmosis and Nanofiltration Membrane Processes*", Journal American Water Works Association*, Volume 89(10), October 1997, pages 102-114..

330. Hong, S., and Elimelech, M. "Chemical and Physical Aspects of Natural Organic Matter (NOM) Fouling of Nanofiltration Membranes", *Journal of Membrane Science*, Volume 132, September 1997, pages 159 - 181.

331. Hering, J.G., Chen P-Y., Wilkie, J.A., and Elimelech, M. "Arsenic Removal from Drinking Water During Coagulation", *Journal of Environmental Engineering, ASCE*., Volume 123(8), August 1997, pages 800-807.

332. Elimelech, M., Zhu, X., and Childress, A.E. "Role of Surface Morphology in Colloidal Fouling of Polymeric Membranes", *Journal of Membrane Science*, Volume 127, April 1997, pages 101-109.

333. Johnson, P.R., Sun, N., and Elimelech, M. "Colloid Transport in Geochemically Heterogeneous Porous Media: Modeling and Measurements", *Environmental Science & Technology*, Volume 30, November 1996, pages 3284-3293.

334. Childress, A.E., and Elimelech, M. "Effect of Solution Chemistry on the Surface Charge of Polymeric Reverse Osmosis and Nanofiltration Membranes", *Journal of Membrane Science*, Volume 119(2), October 1996, pages 253-268.

335. Hering, J.G., Chen, P.-Y., Wilkie, J.A., Elimelech, M., and Liang, S. "Arsenic Removal by Ferric Chloride", Journal American Water Works Association, Volume 88, April 1996, pages 155-167.

336. Ryan, J.N., and Elimelech, M. “Colloid Mobilization and Transport in Groundwater”, *Colloids and Surfaces A,* Volume 107, February 1996, pages 1-56.

337. Liu, D., Johnson, P.R., and Elimelech, M. “Colloid Deposition Dynamics in Flow Through Porous Media: Role of Electrolyte Concentration”, *Environmental Science & Technology,* Volume 29, December 1995, pages 3021-3031.

338. Zhu, X., and Elimelech, M. “Fouling of Reverse Osmosis Membranes by Aluminum Oxide Colloids”, *Journal of Environmental Engineering, ASCE*., Volume 121, December 1995, pages 884-892..

339. Song, L. and Elimelech M. “Theory of Concentration Polarization in Crossflow Filtration”, *Journal of the Chemical Society, Faraday Transactions* , Volume 91, October 1995; pages 3389-3398.

340. Song, L. and Elimelech M. “Particle Deposition onto a Permeable Surface in Laminar Flow” *Journal of Colloid and Interface Science* Vol. 173, July 1995, pages 165-180

341. Johnson, P.R., and Elimelech, M. “Dynamics of Colloid Deposition in Porous Media: Blocking Based on Random Sequential Adsorption”, *Langmuir* Vol. 11, March 1995, pages 801-812.

342. Elimelech, M., “Particle Deposition on Ideal Collectors from Dilute Flowing Suspensions: Mathematical Formulation, Numerical Solution, and Simulations”, *Separations Technology*, Vol. 4, October 1994, pages 186-212.

343. Song, L., and Elimelech, M., "Transient Deposition of Colloidal Particles in Heterogeneous Porous Media", *Journal of Colloid and Interface Science,* Vol. 167 October 1994, pages 222-234

344. Elimelech, M., Chen, W. H., and Waypa, J. J. "Measuring the Zeta (Electrokinetic) Potential of Reverse Osmosis Membranes by a Streaming Potential Analyzer", *Desalination*., Vol. 95(3), July 1994, pages 269-286.

345. Glater J., Hong, S-K., and Elimelech, M. "The Search for a Chlorine Resistant Reverse Osmosis Membrane", *Desalination*., Vol. 95(3), July 1994, pages 325-345.

346. Song, L., Johnson, P. R., and Elimelech, M. "Kinetics of Colloid Deposition onto Heterogeneously Charged Surfaces in Porous Media", *Environmental Science & Technology*,. Vol. 28(6), June 1994, pages 1164-1171.

347. Elimelech, M. "Effect of Particle Size on the Kinetics of Particle Deposition under Attractive Double Layer Interactions", *Journal of Colloid and Interface Science*., Vol. 164, April 1994, pages 190-199.

348. Stolzenbach, K. D., and Elimelech, M., "The Effect of Particle Density on Collisions Between Sinking Particles: Implications for Particle Aggregation in the Ocean", *Deep-Sea Research*, Vol. 41(3), March 1994, pages 469-483.

349. Ching, H-W., and Elimelech, M., "Dynamics of Coagulation of Kaolin Particles with Ferric Chloride", *Water Research,* Vol. 28, March 1994, pages 559-569**.**

350. Ching, H-W., Elimelech, M., and Hering J. G., "Dynamics of Coagulation of Clay Particles with Aluminum Sulfate", *Journal of Environmental Engineering, ASCE*., Vol. 120, January/February 1994, pages 169-189.

351. Song, L., and Elimelech, M., "Calculation of Particle Deposition Rate under Unfavorable Particle-Surface Interactions", *Journal of the Chemical Society, Faraday Transactions*, Vol. 89, September 1993, pages 3443-3452.

352. Song, L., and Elimelech, M., "Dynamics of Colloid Deposition in Porous Media: Modeling the Role of Retained Particles", *Colloids and Surfaces A*, Vol. 73, June 1993, pages 49-63.

353. van Zanten, J. H., and Elimelech, M., "Determination of Absolute Coagulation Rate Constants by Multiangle Light Scattering", *Journal of Colloid and Interface Science*, Vol. 154, November 1992, pages 1-7.

354. Song, L., and Elimelech, M., "Deposition of Brownian Particles in Porous Media: Modified Boundary Conditions for the Sphere-in-Cell Model", *Journal of Colloid and Interface Science*, Vol. 153, October 1992, pages 294-297.

355. Elimelech, M., and Song L., "Theoretical Investigation of Colloid Separation from Dilute Aqueous Suspensions by Oppositely Charged Granular Media", *Separations Technology*, Vol. 2, January 1992, pages 2-12.

356. Elimelech, M., "Predicting Collision Efficiencies of Colloidal Particles in Porous Media", *Water Research*, Vol. 26, January 1992, pages 1-8.

357. Elimelech, M., "Kinetics of Capture of Colloidal Particles in Packed Beds Under Attractive Colloidal Interactions", *Journal of Colloid and Interface Science*, Vol. 146, October 1991, pages 337-352.

358. Elimelech, M., and O'Melia C.R., "Kinetics of Deposition of Colloidal Particles in Porous Media", *Environmental Science & Technology*, Vol. 24, October 1990, pages 1528-1536.

359. Elimelech, M., "Indirect Evidence for Hydration Forces in the Deposition of Polystyrene Latex Colloids on Glass Surfaces", *Journal of the Chemical Society, Faraday Transactions*, Vol. 86(9), May 1990, pages 1623-1624.

360. Elimelech, M., and O'Melia C.R., "Effect of Particle Size on Collision Efficiency in the Deposition of Brownian Particles with Electrostatic Energy Barriers", *Langmuir*, Vol. 6(6), June 1990, pages 1153-1163.

361. Elimelech, M., and C.R., O'Melia, "Effect of Electrolyte Type on the Electrophoretic Mobility of Polystyrene Latex Colloids", *Colloids and Surfaces*, Vol. 44, March 1990, pages 165-177.

362. Adin, A., and Elimelech, M., "Particle Filtration for Wastewater Irrigation", *Journal of Irrigation and Drainage Engineering, ASCE*, Vol. 115, No. 3, June 1989, pages 474-487.

Patents

1. Osmotic heat engine, R L McGinnis, M Elimelech, J McCutcheon, US Patent App. 60/858,245 5/22/2008
2. Method for designing membranes for osmotically driven membrane processes, M Elimelech, J McCutcheon, US Patent App. 60/927,222, 11/13/2008
3. Multi-Stage Column Distillation (MSCD) Method for Osmotic Solute Recovery, Robert L. McGinnis, M Elimelech, US Patent App. 60/812,383, 12/3/2009
4. Forward Osmosis Separation Processes, RL McGinnis, M Elimelech, US Patent App. 13/420,052, 12/23/2009
5. Carbon nanotube filters, A S Brady-Estevez, M Elimelech, US Patent App. 61/167,318, 11/4/2010
6. High flux thin-film composite forward osmosis and pressure-retarded osmosis membranes, N Y Yip, W A Phillip, J D Schiffman, M Elimelech, US Patent App. 13/512,788, 06/09/2011

7. Nanoparticle-functionalized membranes, methods of making same, and uses of same, E P Giannelis, Y Wang, M Elimelech, A Tiraferri, M Mauter, US Patent App. 61/490,806, 12/6/2012
8. Forward Osmosis Separation Processes, R L McGinnis, M Elimelech, US Patent App. 13/086,050, 9/13/2012
9. Electrochemical desalination cell, David Kohn, Andre D. Taylor, Menachem Elimelech, US Patent App. 61/512,063 1/31/2013
10. Polymeric composites having oriented nanomaterials and methods of making the Same, M Elimelech, C Osuji, M Mauter, US Patent App. 61/545,830, 6/10/2014
11. Polymeric composites having oriented nanomaterials and methods of making the Same, M Elimelech, C Osuji, M Mauter, US Patent App. 13/649,472, 2/19/2015
12. In situ formation of biocidal metal nanoparticles on thin-film composite reverse osmosis membranes for biofouling mitigation, M Elimelech, M Ben-Sasson, US Patent App. 62/010,824, 5/4/2017

Discussions

Elimelech, M. Discussion of "Colloid Filtration in Fluidized Beds" by G. Sprouse and B. E. Rittmann, *Journal of Environmental Engineering, ASCE*, Vol. 117, No. 5., September/October 1991, pages 706-708.

Books

Elimelech, M., J. Gregory, X. Jia, and R. A. Williams (1995). "*Particle Deposition and Aggregation: Measurement, Modeling, and Simulation*", **Butterworth-Heinemann,** Oxford.

Book Chapters

1. Elimelech, M., and Song L., "Deposition of Colloids in Porous Media: Theory and Numerical Solution", In: *Transport and Remediation of Subsurface Environments: Colloidal, Interfacial, and Surfactant Phenomena*, Sabatini, D. A. and Knox, R. C. Editors, **ACS Symposium Series 491**, 1992, pages 26-39
2. Elimelech, M. "Deposition of Colloidal Particles in Porous Media in the Presence of Attractive Double Layer Interactions", In: *Manipulation of Groundwater Colloids for Environmental Restoration*, McCarthy, J. F. and Wobber, F. J. Editors, **Lewis Publishers**, 1993, pages 219-224.
3. Song, L., and Elimelech, M., "Dynamics of Colloid Deposition in Porous Media: Modeling the Role of Retained Particles", In: *Colloids in the Aquatic Environment* , Tadros, Th. F. and Gregory, J. Editors, Elsevier Science Publishers, 1993, pages 49-63
4. Elimelech M. and Ryan, J.N., "The Role of Mineral Colloids in the Facilitated Transport of Contaminants in Saturated Porous Media", Wiley Interscience, in press.

Papers in Conference Proceedings (not updated)

1. Elimelech, M., "The Role of Colloidal Interactions in the Filtration of Submicron Particles", *Proceedings of the Annual American Water Works Association Conference* , June 18-21, 1990, pages 1831-1840.

2. Elimelech, M., "Particle Filtration in the Presence of Attractive Double Layer Interactions", *Proceedings of the National Meeting of the American Filtration Society*, October 20-23, 1991, Volume 5, pages 13-16.
3. Elimelech, M., Liu, D., and Song, L., "Role of Retained Particles in Particle Deposition: Measurements and Modeling", *Proceedings of the National Meeting of the American Filtration Society*, W.W.-F. Leung, Editor, Volume 7, May 1993, pages 39-40.
4. Elimelech, M., and Ching, H-W., "Monitoring the Dynamics of Coagulation with Metal Salts by a Flow-Through Optical Technique", *Proceedings of the National Meeting of the American Filtration Society*, W.W.-F. Leung, Editor, Volume 7, May 1993, pages 576-580.
5. Elimelech, M., and Song, L., "A Model for the Dynamics of Particle Deposition in Packed Bed Filters", *Proceedings of the National Meeting of the American Filtration Society*, W.W.-F. Leung, Editor, Volume 7, May 1993, pages 208-211.
6. Elimelech, M., Chen, W. H. and Fairhurst, D. "Measuring the Electrokinetic (Zeta) Potential of Reverse Osmosis Membranes by a Streaming Potential Analyzer", *Proceedings of the National Meeting of the American Filtration Society*, W.W.-F. Leung, Editor, Volume 7, May 1993, page 382.
7. Ching, H-W., Elimelech, M., and Tanaka, T. S., "Use of Scattered Light Fluctuations to Monitor Coagulation Dynamics with Aluminum Sulfate", *Proceedings of the 1993 Annual American Water Works Association Conference*, June 1993, pages 373-380.
8. Elimelech, M., and Zhu, X., "Colloidal Fouling of Reverse Osmosis Membranes", *Proceedings of the ASCE-1994 National Conference on Environmental Engineering*, July 11-13, 1994, pages 329-335.
9. Glater, J., Hong, S., and Elimelech, M. "Reverse Osmosis Membrane Chlorine Sensitivity", *Proceedings of the 7th International Symposium on Synthetic Membranes in Science and Industry*, August 29-September 1, 1994, Tubingen, Germany, pages 238-241.
10. Waypa, J.J., Wilkie, J.A., and Elimelech, M. "Removal of Arsenic from Water by Membrane Processes" *Proceedings of the 1995 Annual American Water Works Association Conference*, June 1995.
11. Hering, J.G., and Elimelech, M. "International Perspectives on Arsenic in Groundwater: Problems and Treatment Strategies" *Proceedings of the 1995 Annual American Water Works Association Conference*, June 1995.
12. Zhu, X., Hong, S., Childress, A.E., and Elimelech, M. "Colloidal Fouling of Reverse Osmosis Membranes: Experimental Results, Fouling Mechanisms, and Implications for Water Treatment", *Proceedings of the 1995 AWWA Membrane Technology Conference*, August 1995, Reno, Nevada, pages 251-262.
13. Childress, A.E., Deshmukh, S.S., and Elimelech, M., "Zeta Potential Measurements of Reverse Osmosis and Nanofiltration Membranes", *American Desalination Association Biennial Conference and Exposition*, August 4-8, 1996, Monterey, California, pages 700-716.
14. Hong, S. and Elimelech, M. "Fouling of Nanofiltration Membranes by Natural Organic Matter", Proceedings of *American Desalting Association 1996 Biennial Conference and Exposition*, August 4-8, 1996, Monterey, California, pages 717-727.
15. Childress, A.E. and Elimelech, M., "Effects of Humics and Surfactants on the Zeta Potential of Polymeric Reverse Osmosis and Nanofiltration Membranes", *American Chemical Society 212th National Meeting*, August 25-29, 1996, Orlando, Florida, pages 106-108.

16. Hong, S. and Elimelech, M. "Chemical and Physical Aspects of Natural Organic Matter Fouling of Nanofiltration Membranes", *American Chemical Society 212th National Meeting*, August 25-29, 1996, Orlando, Florida, pages 89-81.
17. Hong, S., Elimelech, M, and Song, L. "Crossflow Membrane Filtration of Colloidal Suspensions", *American Chemical Society 212th National Meeting*, August 25-29, 1996, Orlando, Florida, pages 121-122.
18. Le Goullec, Y., Elimelech, M., and Glater, J. "High Performance Nanofiltration Membranes for Agricultural Wastewater reclamation", Proceedings of the *IDA World Congress ion Desalination and Reuse*, October 6-9, 1997, Madrid, Spain, pages 97-111.
19. **LeGouellec**, Y., Nagai M., and Elimelech M., "Calcium Sulfate Scale Formation and Control in Nanofiltration of Agricultural Drainage Water", *Proceedings of the American Water Works Association 1998 Annual Conference, Dallas, TX*, June 1998.
20. Elimelech, M., LeGouellec, Y., Nagai, M., and Glater, J. "Fouling of Nanofiltration Membranes due to Calcium Sulfate in Treatment of Agricultural Drainage", Proceedings of the *National Conference on Environmental Engineering, ASCE*, July 25-28, 1999, Norfolk, Virginia, pages 538-542.
21. Vrijenhoek, E.M., M. Elimelech, and S. Hong, "Influence of Membrane Properties, Solution Chemistry, and Hydrodynamics on Colloidal Fouling of Reverse Osmosis and Nanofiltration Membranes" *in Preprints of Extended Abstracts of the 220th American Chemical Society National Meeting*, Washington, DC, August 20-24, 40(2) (2000) 281-283.
22. Vrijenhoek, E.M., M. Elimelech and S. Bhattacharjee, "Influence of Membrane Surface Morphology on Colloidal Interactions in Membrane Systems" in *Proceedings of the American Institute of Chemical Engineers Annual Meeting –Colloidal Interactions in Membrane Systems Session*, Reno, NV, November 4-9, 2001.
23. Vrijenhoek, E.M., M. Elimelech and S. Bhattacharjee, "Effect of Crossflow Shear Rate on Initial Rate of Colloidal Fouling in Crossflow Membrane Filtration Processes" in *Proceedings of the Membrane Technology for Wastewater Reclamation and Reuse Conference*, Tel Aviv, Israel, September 9-13, 2001.
24. Seidel, A., and M. Elimelech, "Coupled Influence of Chemical and Physical Interactions in Natural Organic Matter (NOM) Fouling of NF Membranes" in *Proceedings of the Membrane Technology for Wastewater Reclamation and Reuse Conference*, Tel Aviv, Israel, September 9-13, 2001.
25. Vrijenhoek, E.M., M. Elimelech and S. Bhattacharjee, "Optimization of Channel Geometry for Control of Colloidal Fouling in Crossflow Membrane Filtration Processes" in *Proceedings of the AWWA Annual Conference*, Washington, DC, June 17-20, 2001.
26. Vrijenhoek, E.M., M. Elimelech and S. Bhattacharjee, "Optimization of Channel Height to Control Colloidal Fouling in Crossflow Membrane Filtration Processes" in *Proceedings of the AWWA Membrane Technology Conference*, San Antonio, TX, March 4-7, 2001.
27. Ryan J.N., Elimelech M., and Harvey R.W., "Attachment and inactivation during virus transport in groundwater", In 2001 STAR Drinking Water Progress Review Workshop, February 22-23, 2001, Silver Spring, Maryland, Report EPA/6/R-01/027, National Center for Environmental Research, U.S. Environmental Protection Agency, Washington, DC.
28. Ryan J.N., Elimelech M., Harvey R.W., Aronheim J.S., Bhattacharjee S., Bogatsu Y., Loveland J.P., Metge D.W., Navigato T., and Pieper A.P. (2002) "Transport of Viruses in Porous Media. In Colloids and Colloid-Facilitated Transport of Contaminants in Soils and Sediments, de Jonge L.W., Moldrup P., and Jacobsen O.H., eds., Danish Institute of Agricultural Sciences Plant Production Report No. 80, Tjele, Denmark, 93-99.

29. Nghiem, L.D.; Schäfer, A.I.; Elimelech, M., Mechanisms of steroid hormones and hormone mimicking compounds removal in nanofiltration, Environmental Engineering Research event 2003, Melbourne, Australia.
30. Nghiem, L.D.; Schäfer, A.I.; Elimelech, M., *Retention of emerging water and wastewater pollutants in nanofiltration, IMSTEC, November 11-13, 2003, Australia, Sydney.*
31. Nghiem, L.D.; McCutcheon, J.; Schäfer, A.I. ; Elimelech, M. The role of endocrine disrupters in water recycling – risk or mania?, IWA 4th International Symposium on Wastewater Reclamation and Reuse, November 12-14, 2003, Mexico, City.

Seminar, Conference, and Symposium Presentations (including invited, keynote, plenary; updated through December 2011)

1. Elimelech, M., and C.R., O'Melia, "Kinetics of Deposition of Colloidal Particles in Porous Media", presented in: *Workshop on "Aquatic Chemical Kinetics: Reaction Rates of Processes in Natural Water"*, March 19-23, 1989, Kartause Ittingen, Warth, Switzerland.
2. Elimelech, M., and C.R., O'Melia, "The Effect of Particle Size on the Capture Efficiency of Colloids by Surfaces in the Presence of DLVO Energy Barriers", presented at: *ACS - 63rd Annual Colloid and Surface Science Symposium*, June 18-21, 1989, Seattle, Washington.
3. Elimelech, M., and C.R., O'Melia, "Electrokinetic Studies of Hydrophobic Latex Particles", presented at: *ACS - 63rd Annual Colloid and Surface Science Symposium*, June 18-21, 1989, Seattle, Washington.
4. Elimelech, M. (invited) "Kinetics of Deposition of Colloidal Particles in Porous Media", *Environmental Engineering Science, California Institute of Technology*, March 1990.
5. Elimelech, M., "The Role of Colloidal Interactions in the Filtration of Submicron Particles", presented at: *Annual American Water Works Association Conference* , June 18-21, 1990, Cincinnati, Ohio.
6. Elimelech, M., "Role of Particle Size in Liquid Filtration of Submicron Particles", presented at: *21st Annual Meeting of the Fine Particle Society*, August 19-25, 1990, San Diego, California.
7. Elimelech, M., "Deposition of Colloidal Particles in Porous Media in the Presence of Attractive Double Layer Interactions," presented in Department of Energy Workshop on: *Concepts in Manipulation of Ground Water Colloids for Environmental Restoration*, October 15-18, 1990, Manteo, North Carolina.
8. Elimelech, M., (invited) "Physicochemical Aspects of Colloid Deposition in Porous Media", *Department of Civil and Environmental Engineering, University of California, Irvine*, November, 1990.
9. Elimelech, M., (invited) "Chemical Aspects of Depth Filtration in Water Treatment", *Department of Civil and Environmental Engineering, University of Southern California* November, 1990.
10. Elimelech, M., (invited) "Kinetics of Particle Deposition in Porous Media under Attractive Double Layer Interactions", *Department of Civil and Environmental Engineering, University of California, Berkeley*, March, 1991.
11. Elimelech, M., and Song L., "Capture of Colloids in Porous Media: Theory, Numerical Solution, and Implications to the Transport of Colloidal Contaminants in Groundwaters", presented at: *ACS - 65th Annual Colloid and Surface Science Symposium;*, in the session of: **Colloid and Interfacial Aspects of Groundwater and Soil Cleanup**, June 17-19, 1991, Norman, Oklahoma.
12. Elimelech, M., "Kinetics of Colloid Deposition Under Attractive Double Layers", presented at: *22nd Annual Meeting of the Fine Particle Society*, July 29 - August 2, 1991, San Jose, California.

13. Elimelech, M., and H. Ching, "Effects of Organic Molecules on Electrokinetic Properties and Colloidal Stability of Aluminum Oxide Colloids", presented at: *22nd Annual Meeting of the Fine Particle Society*, July 29 - August 2, 1991, San Jose, California.
14. Elimelech, M., "Kinetics of Particle Deposition in Porous Media under Attractive Double Layer Interactions", presented in the international conference: *Interfacial Phenomena in the Environment*, October 6-11, 1991, Davos, Switzerland.
15. Elimelech, M., "Particle Filtration in the Presence of Attractive Double Layer Interactions", presented at: *1991 National Meeting of the American Filtration Society*, October 20-23, Atlanta, Georgia.
16. Ching, H.-W., and Elimelech, M., "Chemical Aspects of Coagulation in Natural Waters", presented at: *American Geophysical Union 1991 Fall Meeting*, December 9-13, 1991, San Francisco, California.
17. Song, L., and Elimelech, M., "Modeling of Particle Deposition in Porous Media", presented at: *American Geophysical Union 1991 Fall Meeting*, December 9-13, 1991, San Francisco, California.
18. Liu, D., and Elimelech, M., "Dynamics of Colloid Transport in Porous Media: Chemical-Colloidal Aspects", presented at: *American Geophysical Union 1991 Fall Meeting*, December 9-13, 1991, San Francisco, California.
19. Song, L., and Elimelech, M., "Deposition of Brownian Particles in Porous Media: Modified Boundary Conditions for the Sphere-in-Cell Model", presented at: *ACS - 66th Annual Colloid and Surface Science Symposium*, June 17-21, 1992, Morgantown, West Virginia.
20. Song, L., and Elimelech, M., "Dynamics of Particle Deposition in Porous Media: Role of Retained Particles*", presented at: ACS - 66th Annual Colloid and Surface Science Symposium*, June 17-21, 1992, Morgantown, West Virginia.
21. Elimelech, M., and Song L., "Dynamics of Colloid deposition in Porous Media", presented at: *Colloids in the Aquatic Environment: An International symposium*, September 7-9, 1992, London, United Kingdom.
22. Elimelech, M., (invited) "Dynamics of Colloid deposition in Porous Media", *Department of Chemical Engineering, University of Manchester Institute of Science and technology (UMIST), United Kingdom*, September 1992.
23. Elimelech, M. "Transport and Deposition of Colloids in Porous Media: Chemical Aspects", presented at: *Second Forum on NSF Research Activities in Subsurface Systems*, October 7-9, 1992, University of Michigan, Ann Arbor.
24. Elimelech, M., Liu, D., and Song, L., "Role of Retained Particles in Particle Deposition: Measurements and Modeling", presented at the *1993 National Meeting of the American Filtration Society*, May 1993, Chicago, Illinois.
25. Elimelech, M., and Ching, H-W., "Monitoring the Dynamics of Coagulation with Metal Salts by a Flow-Through Optical Technique", presented at the *1993 National Meeting of the American Filtration Society*, May 1993, Chicago, Illinois.
26. Elimelech, M., and Song, L., "A Model for the Dynamics of Particle Deposition in Packed Bed Filters", presented at the *1993 National Meeting of the American Filtration Society*, May 1993, Chicago, Illinois.
27. Elimelech, M., Chen, W. H. and Fairhurst, D. "Measuring the Electrokinetic (Zeta) Potential of Reverse Osmosis Membranes by a Streaming Potential Analyzer", presented at the *1993 National Meeting of the American Filtration Society*, May 1993, Chicago, Illinois.
28. Elimelech, M., Liu, D., and Song, L., "Role of Retained Particles in the Dynamics of Particle Deposition in Porous Media: Modeling and Measurements", presented at the *ACS-67th Annual Colloid and Surface Science Symposium*, June, 1993, Toronto, Canada.

29. Elimelech, M., and Song, L., "Role of Particle Size in the Kinetics of Particle Deposition under Attractive Electric Double Layer Interactions", presented at the *ACS-67th Annual Colloid and Surface Science Symposium*, June, 1993, Toronto, Canada.
30. Song, L., and Elimelech, M., "Deposition of Colloidal Particles from Flowing Suspensions onto Heterogeneous Solid Surfaces", presented at the *ACS-67th Annual Colloid and Surface Science Symposium*, June, 1993, Toronto, Canada.
31. Ching, H-W., Elimelech, M., and Tanaka, T. S., "Use of Scattered Light Fluctuations to Monitor Coagulation Dynamics with Aluminum Sulfate", presented at the *AWWA 1993 Annual Conference*, June 1993, San Antonio, Texas.
32. Elimelech, M., "Arsenic Removal by Membrane Processes", presented at the *1993 Arsenic Workshop of the Association of California Water Agencies*, May 1993, Diamond Bar, California.
33. Fairhurst, D., and Elimelech, M. "Use of Streaming Potential for the Determination of Zeta Potentials of Polymeric Membranes", presented at the *24th Annual Meeting of the Fine Particle Society*, August 1993, Chicago, Illinois.
34. Elimelech, M., "Particles in Water Treatment: Analysis, Removal, and Challenges", presented at *ALEX 93: The Analytical Laboratory and Exposition Conference*, October 4-8, 1993, San Francisco, California.
35. Stolzenbach, K. D., and Elimelech, M. "The Effect of Particle Density and Porosity on Particle Deposition by Differential Sedimentation" presented at the *Sixth International Symposium: Interactions Between Sediments and Water*, December 1993, Santa Barbara, California..
36. Liu, D. and Elimelech, "Effect of Retained Colloids on Particle Deposition Dynamics", presented at the *American Chemical Society Annual Meeting*, March 1994, San Diego, California.
37. Song, L., and Elimelech, M. "Colloid Deposition onto Heterogeneously Charged Surfaces in Porous " presented at the *American Chemical Society Annual Meeting*, March 1994, San Diego, California.
38. Stolzenbach, K. D., and Elimelech, M. "The Effect of Particle Density on Collisions Between Sinking Particles: Implications for particle Aggregation in the Ocean" presented at the *AGU, Ocean Sciences Meeting*, February 1992, San Diego, California..
39. Song, L., Hong, S., and Elimelech, M., "Particle Transport and Deposition in Porous Membrane Channels", presented at the *ACS-68th Annual Colloid and Surface Science Symposium*, June 12-15, 1994, Stanford, California.
40. Elimelech, M., and Song, L., "Transient Deposition of Colloidal Particles in Heterogeneous Porous Media", presented at the *ACS-68th Annual Colloid and Surface Science Symposium*, June 20-23, 1994, Stanford, California.
41. van Zanten, J. H., and Elimelech, M., "Determination of Absolute Coagulation Rate Constants by Multiangle Static Light Scattering ", presented at the *ACS-68th Annual Colloid and Surface Science Symposium*, June 12-15, 1994, Stanford, California.
42. Elimelech, M., and Zhu, X., "Colloidal Fouling of Reverse Osmosis Membranes", presented at the *ASCE-1994 National Conference on Environmental Engineering*, July 11-13, 1994, Boulder, Colorado.
43. Elimelech, M. "Transport and Deposition of Colloids in Groundwater: Theory and Applications", presented at the *ACS National Meeting*, August 21-25, 1994, Washington, D.C.
44. Glater, J., Hong, S., and Elimelech, M. "Reverse Osmosis Membrane Chlorine Sensitivity", presented at the *7th International Symposium on Synthetic Membranes in Science and Industry*, August 29-September 1, 1994, Tubingen, Germany.
45. Johnson, P.R., and Elimelech, M. "Colloid Deposition in Granular Porous Media Based on Random Sequential Adsorption " presented at the *American Chemical Society Annual Meeting*, March 2-7, 1995, Anaheim, California.

46. Johnson, P.R., Liu, D., and Elimelech, M. "Transient Deposition of Colloidal Particles onto Oppositely Charged Porous Media Surfaces: Experimental Investigation on the Role of lateral Double Layer Repulsion" presented at the *American Chemical Society Annual Meeting*, March 2-7, 1995, Anaheim, California.
47. Waypa, J.J., and Elimelech, M. "Removal of Arsenic from Water by Reverse Osmosis and Nanofiltration Membranes", Presented at the *1995 North American Membrane Society Meeting*, May 20-24, 1995, Portland, Oregon.
48. Hong, S. and Elimelech M. "Particle Transport and Deposition in a Semi-Permeable Membrane Channel", Presented at the *1995 North American Membrane Society Meeting*, May 20-24, 1995, Portland, Oregon.
49. Zhu, X. and Elimelech M. "Fouling of Reverse Osmosis Membranes by Colloidal Silica", Presented at the *1995 North American Membrane Society Meeting*, May 20-24, 1995, Portland, Oregon.
50. Childress, A.E. and Elimelech M. "Zeta Potential Characterization of Reverse Osmosis and Nanofiltration Membranes", Presented at the *1995 North American Membrane Society Meeting*, May 20-24, 1995, Portland, Oregon.
51. Waypa, J.J., Wilkie, J.A., and Elimelech, M. "Removal of Arsenic from Water by Membrane Processes" presented at the *1995 Annual American Water Works Association Conference*, June 18-22, 1995, Anaheim, California.
52. Hering, J.G., and Elimelech, M. "International Perspectives on Arsenic in Groundwater: Problems and Treatment Strategies" presented at the *1995 Annual American Water Works Association Conference*, June 18-22, 1995, Anaheim, California.
53. Hering, J.G., Elimelech, M., and Chen, P.-Y. "Arsenic Removal by Enhanced Coagulation and Membrane Processes" presented at the *1995 Annual American Water Works Association Conference*, June 18-22, 1995, Anaheim, California.
54. Elimelech, M. "Colloidal Fouling of Reverse Osmosis Membranes: Experimental Results and Fouling Mechanisms", presented at the: *1995 AWWA Membrane Technology Conference*, August 1995, Reno, Nevada.
55. Elimelech, M. (invited) "Colloidal Transport in Chemically Heterogeneous Porous Media", *Department of Chemical Engineering, University of Southern California*, November 1995.
56. Elimelech, M. (invited) "Colloid Mobilization and Transport in the Subsurface Aquatic Environment" presented at the *International Chemical Congress of Pacific Rim Societies (Pacifichem 95)*, December 17-22, 1996, Honolulu, Hawaii.
57. Elimelech, M. (invited) "Colloidal Transport in Geochemically Heterogeneous Porous Media", *Environmental Engineering Science, California Institute of Technology*, April 3, 1996.
58. Elimelech, M. "Colloidal Fouling of Reverse Osmosis Membranes: Experimental Results and Fouling Mechanisms", presented at: *Workshop on Colloid Science in Membrane Engineering*, May 13-15, 1996, Toulouse, France.
59. Elimelech, M. "Theory of Concentration Polarization of Non-interacting Particles in Crossflow Membrane Filtration", presented at: *Workshop on Colloid Science in Membrane Engineering*, May 13-15, 1996, Toulouse, France.
60. Hong, S., Song, L., and Elimelech, M. "Crossflow Membrane Filtration of Particle Suspensions: Theory and Experiments", *Annual Meeting of the North American Membrane Society*, May 19-23.
61. Hong, S., Tanaka, S., and Elimelech, M. "Role of Multivalent Cations in Natural Organic Matter Fouling of Nanofiltration Membranes", *Annual Meeting of the North American Membrane Society*, May 19-23.

62. Elimelech, M. and Hong, S. "On the 'Flux Paradox' and Particle Back-transport Mechanisms in Crossflow membrane Filtration", *ACS - 70th Colloid and Surface Science Symposium*, June 16-19, Potsdam, New York.
63. Johnson, P.R., Sun, N., and Elimelech, M. "Colloid Transport in Chemically Heterogeneous Porous Media", *ACS - 70th Colloid and Surface Science Symposium*, June 16-19, Potsdam, New York.
64. Waypa, J.J. and Elimelech, M. "Removal of Arsenic from Water Using Reverse osmosis and Nanofiltration Membranes", *1996 Biennial Conference of the American Desalting Association*, August 4-8, 1996, Monterey, California.
65. Childress, A.E. and Elimelech, M. "Zeta Potential Measurements of Reverse Osmosis and Nanofiltration Membranes", *1996 Biennial Conference of the American Desalting Association*, August 4-8, 1996, Monterey, California.
66. Hong, S. and Elimelech, M. "Fouling of Nanofiltration Membranes by Natural Organic Matter", *1996 Biennial Conference of the American Desalting Association*, August 4-8, 1996, Monterey, California.
67. Hong S. and Elimelech, M. "Chemical and Physical Aspects of Natural Organic Matter Fouling of Nanofiltration Membranes", *212th American Chemical Society National Meeting*, August 25-29, 1996, Orlando, Florida.
68. Childress, A.E. and Elimelech, M. "Effect of Humics and Surfactants on the Zeta Potential of Polymeric Reverse Osmosis and Nanofiltration Membranes", *212th American Chemical Society National Meeting*, August 25-29, 1996, Orlando, Florida.
69. Elimelech, M. and Song, S. "Crossflow Membrane Filtration of Colloidal Suspensions", *212th American Chemical Society National Meeting*, August 25-29, 1996, Orlando, Florida.
70. Elimelech, M. (invited) "Colloid Transport in Chemically Heterogeneous Porous Media", *Department of Geography and Environmental Engineering, Johns Hopkins University*, October 1996
71. Elimelech, M. (invited) "Interactions of Natural Organic Matter with Nanofiltration Membranes", *Environmental Engineering Science, California Institute of Technology*, November 1996
72. Long, J., Sun, N-Z., and Elimelech, M. "Colloidal Transport in Physically and Chemically Heterogeneous Porous Media", *American Geophysical Union Fall Meeting*, December 16-19, 1996, San Francisco, California.
73. Johnson, P.R. and Elimelech, M. "Modeling Colloid Transport in Geochemically Heterogeneous Porous Media", *American Geophysical Union Fall Meeting*, December 16-19, 1996, San Francisco, California.
74. Elimelech M. (invited) "Colloidal Fouling of Reverse Osmosis Membranes", March 1197, Montgomery-Watson Consulting Engineers, Pasadena, California.
75. Elimelech, M. (invited), "Colloid Transport in Geochemically Heterogeneous Porous Media", May 1997, ETH/EAWAG, Swiss Federal Institute of Environmental Science and Technology , Duebendorf, Switzerland
76. Elimelech, M. (invited), "Colloid Transport in the Subsurface Aquatic Environment", May 1997, Department of Inorganic, Analytical, and Environmental Chemistry, University of Geneva, Geneva, Switzerland
77. Elimelech, M. and Bhattacharjee, S. "Calculation of DLVO Interactions between Small Colloidal Particles", *9th International Conference on Surface and Colloid Science*, July 6-12, 1997, Sofia, Bulgaria.
78. Elimelech, M. and Hong, S., "NOM Fouling of NF Membranes", *9th International Conference on Surface and Colloid Science*, July 6-12, 1997, Sofia, Bulgaria.

79. Bhattacharjee, S., and Elimelech, M., "A Novel Technique for Evaluation of DLVO Interactions between a Small Colloidal Particle and a Planar Surface", *71st Colloid and Surface Science Symposium*, July 29-July 2, 1997, University of Delaware, Newark, Delaware.
80. Bhattacharjee, S., and Elimelech, M., "Determination of DLVO Interaction between Rough Surfaces", *71st Colloid and Surface Science Symposium*, July 29-July 2, 1997, University of Delaware, Newark, Delaware.
81. Ko, C-H., and Elimelech, M., "Colloid Transport and Mobilization in Heterogeneous Porous Media", *71st Colloid and Surface Science Symposium*, July 29-July 2, 1997, University of Delaware, Newark, Delaware.
82. Elimelech, M. "Colloid Transport in the Subsurface Aquatic Environment", IAP 97: International Symposium on Interfaces Against Pollution, August 10-13, 1997, Wageningen, the Netherlands.
83. Elimelech, M. (invited) "Colloid Transport in Heterogeneous Porous Media", September 1997, Polish Academy of Sciences, Institute of Catalysis and Surface Chemistry, Krakow, Poland
84. Elimelech, M. (invited) "Colloid Transport in Heterogeneous Porous Media", September 4, 1997, Polish Academy of Sciences, Institute of Catalysis and Surface Chemistry, Krakow, Poland
85. Bhattacharjee, S. and Elimelech M. "Accurate Evaluation of DLVO Interactions between Small Colloidal Particles", *214th American Chemical Society National Meeting*, September 7, 1997, Las Vegas, Nevada.
86. Bhattacharjee, S. and Elimelech M. "Prediction of DLVO Interaction Energy and Particle Deposition Rates for Rough Surfaces", *214th American Chemical Society National Meeting*, September 7, 1997, Las Vegas, Nevada.
87. Elimelech, M. (invited) "Physical and Chemical Aspects of NOM Fouling of NF Membranes", September 9, 1997, Institute of Water Research (IWW), University of Duisburg, Muelheim, Germany.
88. Elimelech, M. (invited) "Colloid Transport in Geochemically Heterogeneous Subsurface Porous Media", September 22, 1997, Department of Environmental Sciences, Weizmann Institute of Science, Rehovot, Israel.
89. Elimelech, M. (invited) "Colloid Transport in the Subsurface Aquatic Environment", September 22, 1997, Institute of Soils and Water, ARO, The Volcani Center for Agricultural Research, Bet Dagan, Israel.
90. Elimelech, M. (invited) "Colloid Transport in Geochemically Heterogeneous Subsurface Porous Media", October 1997, Environmental and Water Resources Engineering Program, University of Michigan, Ann Arbor.
91. Waypa, J.J., and Elimelech M. "Modeling the Transport and Separation of Ionic Species in Membrane Filtration", presented at the: *1997 AIChE Annual Meeting*, November 16-21, Los Angeles, California.
92. Faibish, R.S., Elimelech, M., and Cohen, Y., "Role of Interparticle Colloidal Interactions on Permeate Flux Decline in Crossflow Membrane Filtration of Colloidal Suspensions", presented at the: *1997 AIChE Annual Meeting*, November 16-21, Los Angeles, California.
93. Bhattacharjee, S., and Elimelech, M., "Solute Rejection by Membrane Pores in Presence of Attractive Interactions Between the Solute and the Membrane", presented at the: *1997 AIChE Annual Meeting*, November 16-21, Los Angeles, California.
94. Bhattacharjee, S., and Elimelech, M., "Surface Element Integration: A Novel Technique for Evaluation of DLVO Interaction between a Particle and a Flat Plate", presented at the: *1997 AIChE Annual Meeting*, November 16-21, Los Angeles, California.

95. Mazzolani, G., Stolzenbach, K.D., and Elimelech, M., "Gravity-Induced Coagulation of Spherical Particles of Different Size and Density", presented at the: *1997 AIChE Annual Meeting*, November 16-21, Los Angeles, California.
96. Bhattacharjee, S., Kim, A.S., and Elimelech, M., "Concentration Polarization of Protein Solutions in Crossflow Ultrafiltration: Effects of Intermolecular Interactions", presented at the: *1997 AIChE Annual Meeting*, November 16-21, Los Angeles, California.
97. Elimelech, M. (invited plenary lecture) "Interaction of Colloidal Particles with Surfaces: Concepts and Applications", presented at the Annual Meeting of the Swiss Group of Colloid and Interface Scientists", November 21, Lausanne, Switzerland.
98. Elimelech, M. (invited) "Colloid Transport in Geochemically Heterogeneous Subsurface Porous Media", January 30, 1998, Department of Chemical Engineering, Yale University.
99. Elimelech, M. (invited) "Colloid Transport in Subsurface Porous Media", March 6, 1998, Department of Chemical Engineering, Tulane University.
100. Le Gouellec Y., Nagai, M., Glater, J., and Elimelech, M. "Gypsum Scale Prevention in Agricultural Drainage Water Reclamation by Nanofiltration Membranes", *Annual Meeting of the North American Membrane Society*, May 16-20, 1998, Cleveland, Ohio.
101. Bhattacharjee, S. and Elimelech, M., "Influence of Intermolecular Interactions on Concentration Polarization during Crossflow Membrane Filtration", *Annual Meeting of the North American Membrane Society*, May 16-20, 1998, Cleveland, Ohio.
102. Bhattacharjee, S. and Elimelech, M., "A Novel Approach for Modeling Concentration Polarization in Crossflow Membrane Filtration Based on the Equivalence of Osmotic Pressure Model and Filtration Theory", *Annual Meeting of the North American Membrane Society*, May 16-20, 1998, Cleveland, Ohio.
103. Kim, S., Bhattacharjee, S. and Elimelech, M., "M Shear Induced Reorganization of Deformable Molecular Assemblages: Monte Carlo Studies", *Annual Meeting of the North American Membrane Society*, May 16-20, 1998, Cleveland, Ohio.
104. Sun, N., Sun, N.-Z., and Elimelech, M. "Colloid Transport in Physically and Geochemically Heterogeneous Porous Media: Sensitivity Analysis and Parameter Identifiability", *American Geophysical Union Spring Meeting*, May 26-29, 1998, Boston, Massachusetts
105. Leslie, G.L., Childress, A.E., and Elimelech, M., "Colloidal Fouling of Synthetic Membranes in Indirect Reuse Applications", presented at: *University of California Annual Water Reuse Research Conference*, June 4-5, 1998, Monterey, California.
106. Elimelech, M., and Ko, C.-H. "Colloid Transport Dynamics in Flow through Granular Porous Media", *72nd ACS Colloid and Surface Science Symposium*, June 21-24, 1998, University Park, Pennsylvania.
107. Elimelech, M., and Hong, S. "Natural Organic Matter of Nanofiltration Membranes", *72nd ACS Colloid and Surface Science Symposium*, June 21-24, 1998, University Park, Pennsylvania.
108. Le Gouellec, Y., Nagai, M., and Elimelech, M. "Gypsum Scale Formation and Control in Nanofiltration of Agricultural Drainage Water" Membranes", *Annual American Water Works Association meeting*, June 21-25, 1998, Dallas, Texas.
109. Childress, A.E., Deshmukh, S.S., and Elimelech, M., "Surface Characterization and Performance of Polymeric Reverse Osmosis and Nanofiltration Membranes", presented at: *International Water Services Association 1998 Conference on Membranes in Drinking and Industrial Water Production*, September 21-24, 1998, Amsterdam, The Netherlands.
110. Elimelech, M. (invited) "Natural Organic Matter Fouling of nanofiltration Membranes", October 23, 1998, Department of Civil and Environmental Engineering, University of Massachusetts, Amherst, MA.

111. Elimelech, M. (invited) "Colloid Transport in Geochemically Heterogeneous Subsurface Porous Media", October 30, 1998, Environmental Engineering Program, University of Connecticut, Storrs, CT.
112. Kim, A.S., Bhattacharjee, S., and Elimelech M. "Shear Induced Reorganization of Deformable Molecular Assemblages: Monte Carlo Studies", presented at the: *1998 AIChE Annual Meeting*, November 15-20, Miami Beach, Florida.
113. Ko, C.-H., and Elimelech M. "Dynamics of Colloid Deposition in Granular Porous Media: Effect of Solution Chemistry and Flow Intensity on Deposited Layer Structure", presented at the: *1998 AIChE Annual Meeting*, November 15-20, Miami Beach, Florida.
114. Elimelech, M., Ko, C.-H., and Nagai, M. "Colloidal Transport in Geochemically Heterogeneous Subsurface Porous Media: Implications for Colloid Facilitated Transport", presented at the: *1998 AIChE Annual Meeting*, November 15-20, Miami Beach, Florida.
115. Elimelech, M. (invited) "Fouling of Pressure-Driven Membranes: Measurements, Modeling, and Fouling Mechanisms", to be presented at the international workshop *"Fouling Mitigation in Membrane Processes*", January 27-28, Haifa, Israel.
116. Waypa,J.J., Bhattacharjee, S., and Elimelech, M. "Separation of Ionic Species by Polymeric Nanofiltration Membranes during Crossflow Membrane Filtration", presented at: *American Water Works Association 1999 Membrane Technology Conference*, February 28-March 3, 1999, Long Beach, California.
117. Elimelech M. (invited keynote) "Particle Deposition and Release Processes in Environmental Engineering Science", presented at the *International Workshop Particles and Surfaces: Fundamentals, Techniques, and Applications*, March 13-16, 1999, Oud Poelgeest, The Netherlands.
118. Ko, C.-H., Bhattacharjee, S., and. Elimelech, M. "The 'Shadow Effect' in Colloid Transport and Deposition Dynamics in Granular Porous Media: Measurements and Mechanisms", presented at the: *217th American Chemical Society (ACS) National Meeting*, Anaheim, California, March 21-25, 1999.
119. Elimelech, M., and Bhattacharjee , S. "Effect Of Interparticle Interactions on Concentration Polarization during Crossflow Membrane Filtration", presented at the *International Congress on Membranes and Membrane Processes*, June 13-16, 1999, Toronto, Canada.
120. Elimelech, M., LeGouellec, Y., Nagai, M , "Nanofiltration Membrane Fouling By Calcium Sulfate Precipitation In Treatment Of Agricultural Drainage Water", ", presented at the *International Congress on Membranes and Membrane Processes*, June 1999, Toronto, Canada.
121. Elimelech, M. (invited) "Crossflow Membrane Filtration of Suspended Colloidal Particles: Mechanisms, Modeling, and Measurements", presented at: *American Water Works Association Annual Meeting*, June 21, 1999, Chicago, IL.
122. Bhattacharjee, S. and Elimelech, M. "A model of Virus Transport in Heterogeneous Porous Media", *31st Mid-Atlantic Industrial and Hazardous Waste Conference*, University of Connecticut, Storrs, CT, June 20-23,1999.
123. Bhattacharjee, S. and Elimelech, M., "Structure and Properties of Concentrated Colloidal Dispersions: Sedimentation and Mutual Diffusion, *ACS 73rd Colloid and Surface Science Symposium*, Cambridge, MA, June 13 – 16, 1999.
124. S. Bhattacharjee, S. and Elimelech, M., Concentration Polarization of Interacting Colloidal Particles in Crossflow Membrane Filtration", *ACS 73rd Colloid and Surface Science Symposium*, Cambridge, MA, June 13 – 16, 1999.
125. Bhattacharjee, S. and Elimelech, M., "Deformation of Molecular Assemblages in Presence of Hydrodynamic Shear", *ACS 73rd Colloid and Surface Science Symposium*, Cambridge, MA, June 13 – 16, 1999.

126. Elimelech, M., LeGouellec, Y., Nagai, M., and Glater J., "Fouling of Nanofiltration Membranes due to Calcium Sulfate Precipitation in Treatment of Agricultural Drainage Water", presented at the *American Society of Civil Engineers Conference on Environmental Engineering*, July 25-28, 1999, Norfolk, Virginia.
127. Elimelech, M. (invited), "Colloid Transport in Geochemically Heterogeneous Subsurface Porous Media", Department of Chemical Engineering, University of Alberta, October, 1999.
128. Bhattacharjee, S., and Elimelech, M., Structure and Properties of Colloidal Dispersions in a Concentration Polarization Layer: Influence on Permeate Flux Behavior during Crossflow Membrane Filtration, presented at the *AIChE Annual Meeting*, October 31 - November 5, 1999, Dallas, Texas.
129. Bhattacharjee, S., and Elimelech, M., A Model of Virus Transport in Heterogeneous Subsurface Porous Media, presented at the *AIChE Annual Meeting*, October 31 - November 5, 1999, Dallas, Texas.
130. Elimelech, M. (invited), "Colloid Transport in Geochemically Heterogeneous Porous Media", Department of Chemistry, Clarkson University, November 1999.
131. Elimelech, M. (invited), "Colloid Transport in Geochemically Heterogeneous Porous Media", Department of Chemical Engineering, Technion, Israel Institute of Technology, December 1999.
132. Elimelech, M. (invited), "Fouling Mechanisms of Nanofiltration Membranes", Institute of Applied Research, Ben Gurion University, Israel, December 1999.
133. Elimelech, M. (invited), "Colloid Transport and Mobilization in Subsurface Aquatic Environments", Graduate School of Applies Science, Environmental Science and technology Division, Hebrew University, December 1999.
134. Elimelech, M. (invited), "Colloid Transport in Geochemically Heterogeneous Subsurface Porous Media: Measurements, Mechanisms, and Modeling", Division of Engineering and Applied Science, Harvard University, February 18, 2000.
135. Vrijenhoek, E.M., Elimelech, M., and Hong, S. "Interplay between Physical and Chemical Interactions in Colloidal Fouling of Reverse Osmosis and Nanofiltration Membranes" *North American Membrane Society (NAMS2000) Meeting*, Boulder, CO, May 23-28, 2000.
136. Bhattacharjee, S., Ko, C.-H., and Elimelech, M. "Dynamics of Colloid Deposition based on Random Sequential Adsorption: Influence of Electrostatic and Hydrodynamic Interactions on Maximum Surface Coverage", *74th Colloid and Surface Symposium of the American Chemical Society*, Lehigh University, Bethlehem, Pennsylvania, June 2000.
137. Bhattacharjee, S., Elimelech, M., and Ryan, J.N. "Virus Transport in Heterogeneous Subsurface Porous Media", *74th Colloid and Surface Symposium of the American Chemical Society*, Lehigh University, Bethlehem, Pennsylvania, June 2000.
138. Loveland J.P., Ryan J.N., and Elimelech M., "Anionic surfactant adsorption and silica-coated colloid release in a geochemically heterogeneous porous media", *74th Colloid and Surface Symposium of the American Chemical Society*, Lehigh University, Bethlehem, Pennsylvania, June 2000.
139. Chen, J.Y., Bhattacharjee, S. and Elimelech, M. "DLVO Interaction Energy between Spheroidal Particles and a Flat Surface", *74th Colloid and Surface Symposium of the American Chemical Society*, Lehigh University, Bethlehem, Pennsylvania, June 2000.
140. Ko, C.-H and Elimelech, M. "The "Shadow Effect" in Colloid Transport in Granular Porous Media", *74th Colloid and Surface Symposium of the American Chemical Society*, Lehigh University, Bethlehem, Pennsylvania, June 2000.
141. Ko, C.-H and Elimelech, M., and Ryan, J.N. "The Role Of Mineral Grain Zeta Potential In Colloid Transport Through Geochemically Heterogeneous Porous Media", *74th Colloid and Surface*

Symposium of the American Chemical Society, Lehigh University, Bethlehem, Pennsylvania, June 2000.

142. Vrijenhoek, E.M. and M. Elimelech, "Role of Physical and Chemical Interactions in Colloidal Fouling of Reverse Osmosis and Nanofiltration Membranes", *74th Colloid and Surface Symposium of the American Chemical Society*, Lehigh University, Bethlehem, Pennsylvania, June 2000.
143. Bhattacharjee, S. and Elimelech, M. Particle deposition dynamics in a bed of spherical collectors: Beyond random sequential adsorption, *220th American Chemical Society National Meeting*, Washington, DC, August 19-24, 2000.
144. Elimelech, M., and Ko, C.-H. The Relative Insignificance of Zeta Potential of Mineral Grains to Colloid Transport in Geochemically Heterogeneous Porous Media, *220th American Chemical Society National Meeting*, Washington, DC, August 19-24, 2000.
145. Vrijenhoek, E.M., M. Elimelech, and S. Hong, "Influence of Membrane Properties, Solution Chemistry, and Hydrodynamics on Colloidal Fouling of Reverse Osmosis and Nanofiltration Membranes" *220th American Chemical Society National Meeting*, Washington, DC, August 20-24, 2000.
146. Seidel A. and M. Elimelech, "Effect of Operational Parameters on NOM Fouling of a Negatively Charged NF Membrane", *220th American Chemical Society National Meeting*, Washington DC, August 20-24, 2000.
147. Bhattacharjee, S. and Elimelech, M. "Concentration polarization of interacting colloidal particles: Influence of interparticle and hydrodynamic interactions on permeate flux", *220th American Chemical Society National Meeting*, Washington, DC, August 19-24, 2000.
148. Vrijenhoek, E.M., M. Elimelech, and S. Hong, "Importance of Physical and Chemical Interactions in Colloidal Fouling of Reverse Osmosis and Nanofiltration Membranes" *Bi-annual Meeting of the European Membrane Society*, *EUROMEMBRANE 2000*, Jerusalem, Israel, September 24-27, 2000.
149. Chen, J.Y., Ko, C.-H., and Elimelech, M. "Effect of Spatial Distribution of Porous Media Geochemical Heterogeneity on Colloid Transport", *American Institute of Chemical Engineers Annual Meeting*, Los Angeles, CA, November 2000.
150. Elimelech, M. and Vrijenhoek, E. "Role of Physical and Chemical Interactions in Colloidal Fouling of Reverse Osmosis and Nanofiltration Membranes", *The International Chemical Congress of Pacific Basin Societies, Pacifichem 2000*, Honolulu, Hawaii, December 14-19, 2000.
151. Vrijenhoek, E.M., M. Elimelech and S. Bhattacharjee, "Optimization of Channel Height to Control Colloidal Fouling in Crossflow Membrane Filtration Processes" *American Water Works Association Membrane Technology Conference*, San Antonio, TX, March 4-7, 2001.
152. Elimelech, M. and Seidel, A. "Coupling between Chemical and Physical Interactions in NOM Fouling of NF Membranes: Implications for Fouling Control" *American Water Works Association Membrane Technology Conference*, San Antonio, TX, March 4-7, 2001.
153. Elimelech M. (invited) "Colloidal Fouling of Crossflow Pressure-Driven Membranes", Department of Environmental Science and Engineering, Rice University, March 20, 2001.
154. Elimelech M. (invited) "Colloidal Fouling of Pressure-Driven Membranes: Role of Membrane Surface Morphology", Department Civil Engineering, National University of Singapore, May 2001.
155. Elimelech M. (invited) "Nanofiltration Membrane Fouling by Calcium Sulfate Precipitation in Treatment of Agricultural Drainage Water", Department Civil Engineering, National University of Singapore, June 2001.
156. Elimelech M. (invited) "Natural Organic Matter (NOM) Fouling of NF Membranes", Department Civil Engineering, National University of Singapore, June 2001.
157. Vrijenhoek, E.M., S. Bhattacharjee and M. Elimelech, "Role of Morphological Surface Heterogeneity in Deposition of Colloidal Particles onto Semi-Permeable Polymeric Membrane

Surfaces" *75th ACS Colloid and Surface Science Symposium*, Carnegie-Mellon University, Pittsburgh, PA, June 10-13, 2001.

158. Vrijenhoek, E.M. and M. Elimelech, "Role of Membrane Surface Roughness in Colloidal Fouling of Nanofiltration Membranes" *75th ACS Colloid and Surface Science Symposium*, Carnegie-Mellon University, Pittsburgh, PA, June 10-13, 2001.
159. Bunn, R., Magelky, R.D., Ryan, J.N., and Elimelech, M. "Effect of Chemical Perturbations on the Mobilization of Colloids in a Ferric Oxyhydroxide-Coated Sand Aquifer: Field Experiments", *75th ACS Colloid and Surface Science Symposium*, Carnegie-Mellon University, Pittsburgh, PA, June 10-13, 2001.
160. Chen, J.Y., Bhattacharjee, S., and Elimelech, M. "Influence of Surface Charge Nanoheterogeneity on the Attachment of Colloidal Particles to Solid Surfaces in a Stagnation Point Flow System", *75th ACS Colloid and Surface Science Symposium*, Carnegie-Mellon University, Pittsburgh, PA, June 10-13, 2001.
161. Chen, J.C., Bhattacharjee, S., and Elimelech, M. "A Coupled Model for Transport of Multi-component Ionic Species through Nanofiltration Membranes: Implications for Arsenic Removal", *75th ACS Colloid and Surface Science Symposium*, Carnegie-Mellon University, Pittsburgh, PA, June 10-13, 2001.
162. Vrijenhoek, E.M., M. Elimelech and S. Bhattacharjee, "Optimization of Channel Geometry for Control of Colloidal Fouling in Crossflow Membrane Filtration Processes" *American Water Works Association Annual Conference*, Washington, DC, June 17-21, 2001.
163. Chen, J.Y., Walker, S.L., and Elimelech, M. "A Novel Technique for Studying the Role of Microscopic Chemical Heterogeneity on Colloid and Bacterial Adhesion", *222nd American Chemical Society National Meeting*, Chicago, IL, August, 2001.
164. Logan, B.E., Chorover, J.D., Velegol, D., Kubicki, J., and Elimelech, M. "Molecular Level Analysis of Macromolecule-Surface Interactions in Bacterial Adhesion", *222nd American Chemical Society National Meeting*, Chicago, IL, August, 2001.
165. Vrijenhoek, E.M., M. Elimelech and S. Bhattacharjee, "Effect of Crossflow Shear Rate on Initial Rate of Colloidal Fouling in Crossflow Membrane Filtration Processes" *Membrane Technology for Wastewater Reclamation and Reuse Conference*, Tel Aviv, Israel, September 9-13, 2001.
166. Elimelech M., (invited keynote) "Colloidal Phenomena in Membrane Systems" *Membrane Technology for Wastewater Reclamation and Reuse Conference*, Tel Aviv, Israel, September 9-13, 2001.
167. Elimelech, M. and Seidel, A., "Coupled Influence of Chemical and Physical Interactions in Natural Organic Matter (NOM) Fouling of NF Membranes" *Membrane Technology for Wastewater Reclamation and Reuse Conference*, Tel Aviv, Israel, September 9-13, 2001.
168. Elimelech, M. (invited) "Transport of Colloidal Particles in Heterogeneous Subsurface Porous Media", Department of Civil and Environmental Engineering, University of Illinois at Urbana-Champaign, October 18, 2001.Elimelech, M. (invited) "Colloid Deposition and Aggregation", Cabot Corporation, Billerica, MA., October 23, 2001.
170. Vrijenhoek, E.M., S. Bhattacharjee, and M. Elimelech, "Influence of Membrane Surface Morphology on Colloidal Interactions in Membrane Systems" *American Institute of Chemical Engineers Annual Meeting*, Reno, NV, November 4-9, 2001.
171. Chen J.Y., and M. Elimelech, "Influence of Microscopic Surface Charge Heterogeneity on Colloid Deposition Kinetics in a Stagnation Point Flow System" *American Institute of Chemical Engineers Annual Meeting*, Reno, NV, November 4-9, 2001.

172. Elimelech M. (invited) "Transport of Colloidal Particles in Heterogeneous Subsurface Porous Media", Department of Civil and Environmental Engineering, University of Nevada, Reno, November 8, 2001
173. Walker, S.L., Chen, J.C.; Elimelech, M, "A Novel Technique for Synthesizing Microscopic Chemical Heterogeneity for Studying Colloidal and Bacterial Adhesion" Poster at the 5th Annual Environmental Chemistry Symposium, Pennsylvania State University, March 22-23, 2002, State College, PA
174. Hoek, E.M.V., and M. Elimelech, "DLVO Interactions between Colloidal Particles and Rough Membrane Surfaces," presented at the *13th Annual Meeting of the North American Membrane Society*, Long Beach, CA, May 11-15, 2002.
175. Hoek, E.M.V., and M. Elimelech, "Role of Cake-Enhanced Osmotic Pressure in Colloidal Fouling of Reverse Osmosis and Nanofiltration Membranes," presented at *13th Annual Meeting of the North American Membrane Society*, Long Beach, CA, May 11-15, 2002.
176. Walker, S.L., Bhattacharjee, S..; Elimelech, M, "Measuring the Streaming Potential of Flat Surfaces Using a Novel Asymmetric Clamping Cell" Presentation at the American Chemical Society 76th Colloid and Surface Science Symposium, June 20, 2002, Ann Arbor, MI.
177. Tufenkji, N; Redman, J. A.; Elimelech, M. "Interpreting biocolloid deposition patterns in laboratory-scale column experiments" presented at the American Chemical Society 76th Colloid and Surface Science Symposium, University of Michigan, Ann Arbor, Michigan, June 23, 2002.
178. Chen, J.C., Walker, S.L., Elimelech, M, "A Novel Technique for Investigation the Influence of Microscopic Surface Chemical Heterogeneity on the Kinetics Of Colloid and Bacterial Deposition" Presentation at the American Chemical Society 76th Colloid and Surface Science Symposium, June 20, 2002, Ann Arbor, MI.
179. Redman, J. A.; Walker, S.; Elimelech, M. "Tailing in particle and bacterial breakthrough curves in porous flow-through media" presented at the American Chemical Society 76th Colloid and Surface Science Symposium, University of Michigan, Ann Arbor, Michigan, June 23, 2002.
180. Weronski, P.; Walz, J.Y.; Elimelech, M. "Effect of Depletion Interaction on Transport of Colloidal Particles in Porous Media", *ACS 76th Annual Colloid and Surface Science Symposium*, June 23-26 , 2002, Ann Arbor, Michigan.
181. Elimelech, M. (invited) "Role of Geochemical Heterogeneity in the Transport of Colloids and Microbial Particles in Subsurface Environments", Gordon Research Conference on Environmental Sciences: Water, June 2002, Holderness School, Plymouth, New Hampshire.
182. Hoek, E.M.V., and M. Elimelech, "Cake-Enhanced Osmotic Pressure in Reverse Osmosis and Nanofiltration Separations," *76th ACS Colloid and Surface Science Symposium*, Ann Arbor, MI, June 23-26, 2002.
183. Lee, S. and Elimelech, M. "A novel method for investigating the influence of recovery on colloidal and NOM fouling of RO and NF membranes", 76th ACS Colloids & Surface Science Symposium, University of Michigan, Ann Arbor, Michigan, June 23-26, 2002
184. Elimelech, M. (invited) "Cake-Enhanced Osmotic Pressure: A Major Fouling Mechanism for Reverse Osmosis & Nanofiltration Membranes", Department of Civil Engineering, National University of Singapore, July 26, 2002
185. Elimelech, M. (invited) "A Novel Method for Investigating the Influence of Feed Water Recovery on Colloidal and NOM Fouling of RO and NF Membranes", Department of Civil Engineering, National University of Singapore, July 31, 2002
186. Elimelech, M. (invited) "Role of Chemical Heterogeneity in the Transport of Colloids & Microbial Particles in Subsurface Environments", Department of Civil Engineering, National University of Singapore, August 7, 2002

187. Weronski, P.; Walz, J.Y.; Elimelech, M. "Effect of Depletion Interaction on Transport of Colloidal Particles in Porous Media", presented at: *International Symposium on Electrokinetic Phenomena*, August 18-22, 2002, Krakow, Poland.
188. Elimelech, M. (keynote lecture) "Interactions and Transport of Colloidal Particles in Porous Media", Symposium in Honor of Professor Egon Matijevic, 224th ACS National Meeting, Boston, MA, August 18-22, 2002
189. Redman, J. A.; Walker, S.; Elimelech, M. "Observations of Tailing in particle breakthrough curves in porous media" presented at the 224th American Chemical Society National Meeting, Boston, Massachusetts, August 18, 2002.
190. Tufenkji, N; Redman, J. A.; Elimelech, M. "Interpreting biocolloid deposition patterns in laboratory-scale column experiments" presented at the 224th American Chemical Society National Meeting, Boston, Massachusetts, August 18, 2002.
191. Walker, S.L., Chen, J.C.; Elimelech, M, "Colloid and Bacterial Deposition Kinetics onto Chemically Micropatterned Surfaces in a Stagnation Point Flow System" Presentation at the 224th American Chemical Society National Meeting, August 18, 2002, Boston, MA
192. Ryan, J.N., Elimelech, M. and Harvey, R., "Virus Transport in Porous Media" International Workshop on Colloids and Colloid-Facilitated Transport of Contaminants in Soils and Sediments, Research Center Foulom, Tjele, Denmark, September 2002.
193. Tufenkji, N.; Redman, J. A.; Elimelech, M. (invited) "Microbial Deposition Patterns in Laboratory-Scale Column Experiments" presented at the National Institute of Public Health and the Environment, Bilthoven, The Netherlands, September 27, 2002.
194. Lee, S. Cho, J.. and Elimelech, M. "Simulation of feed water recovery and concentration factor and their influence on colloid and NOM fouling of NF membranes", AWWA Membrane Technology Conference, March 2-5, 2003, Atlanta, Georgia.
195. Walker, S.L., Redman, J.A., and Elimelech, M, The Role of LPS Composition on Bacterial Adhesion and Detachment under Flow Conditions, *225th American Chemical Society National Meeting*, March 24, 2003, New Orleans, LA.
196. Elimelech, M. (invited) "Transport of Colloidal Particles over Heterogeneously Charged Collector Surfaces: Coupling between Hydrodynamic and Colloidal Interactions", 3rd Chemical Engineering Conference for Collaborative Research in Easter Mediterranean, Thessaloniki, Greece, May 13-15, 2003
197. Li, Q., and Elimelech, M. "Chemical Cleaning of Organic-fouled Nanofiltration Membranes: Measurements and Mechanisms", *14th Annual Meeting of the North American Membrane Society*. Jackson Hole, Wyoming, May 17-21, 2003.
198. Nghiem, L.D.; Schäfer, A.I.; and Elimelech, M. "Removal Mechanisms of Steroid Hormones and Alkyl Phenols in Nanofiltration, Annual Meeting of the North American Membrane Society, May 17-21, 2003, Jackson Hole, WY.
199. Li, Q., and Elimelech, M. "Chemical Cleaning of Fouled Nanofiltration and Reverse Osmosis Membranes: Measurements and Mechanisms", *77th ACS Colloid and Surface Science Symposium*, Atlanta, GA, June 15-18, 2003.
200. Walker, S.L., Redman, J.A., Elimelech, M, "Measuring Effect of Bacterial Lipopolysaccharides on Adhesion and Detachment Under Flow Conditions", *American Chemical Society 77th Colloid and Surface Science Symposium*, June 16, 2003, Atlanta, GA.
201. Kuznar, Z.A.; Chen, J.Y.; Elimelech, M. "Transport of Colloidal Particles over Heterogeneously Charged Collector Surfaces", *American Chemical Society 77th Colloid and Surface Science Symposium*, June 16, 2003, Atlanta, GA.

202. Miller, G. and Elimelech, M. " Transport of *Cryptosporidium* in Saturated Porous Media", *American Chemical Society 77th Colloid and Surface Science Symposium*, June 16, 2003, Atlanta, GA.
203. Tufenkji, N and Elimelech, M. "A New Correlation Equation for Predicting Single-Collector Efficiency in Physicochemical Filtration in Saturated Porous Media" *American Chemical Society 77th Colloid and Surface Science Symposium*, Georgia Tech, Atlanta, Georgia, June 16, 2003.
204. .Nghiem, L.D. ; Schäfer, A.I.; and Elimelech, M. "Rejection of trace organic contaminants by nanofiltration membranes: role of membrane surface properties and contaminant chemical structure", *American Chemical Society 77th Colloid and Surface Science Symposium*, Georgia Tech, Atlanta, Georgia, June 16, 2003.
205. Elimelech, M., Chen, J.Y., and Kuznar, Z.A. (invited) "Particle Deposition onto Solid Surfaces with Microscopic Charge Heterogeneity: The 'Hydrodynamic Bump' Effect", *International Conference on MEMS, NANO and Smart Systems (ICMENS 2003)*, July 20 - 23, Banff, AB, Canada.
206. Walker, S.L, and Elimelech, M. "The Role of LPS in Bacterial Adhesion and Transport in Aquatic Systems", presented at the Gordon Research Conference, Molecular Mechanisms of Microbial Adhesion, Salve Regina University, July 27-August 1, 2003, Newport, RI.
207. Walker, S.L., Redman, J.A., Elimelech, M. "Role of Secondary Minimum on bacterial Adhesion and Transport", *226th American Chemical Society National Meetin*g, Symposium in Honor of Professor Walter J. Weber Jr. , September 10, 2003, New York, NY
208. Elimelech, M., Chen, J.Y., and Kuznar, Z.A. "Deposition of Colloidal Particles on Chemically Heterogeneous Surfaces: Role of Microscopic Surface Charge Heterogeneity", *226th American Chemical Society National Meetin*g, Symposium in Honor of Professor Walter J. Weber Jr. , September 10, 2003, New York, NY.
209. Tufenkji, N and Elimelech, M. "Relating Heterogeneities in Molecular-Scale Properties to Distributions in the Microbial Deposition Rate", *226th American Chemical Society Annual Meeting*, New York, New York, September 10, 2003.
210. Nghiem, L.D. ; Schäfer, A.I.; and Elimelech, M, "Removal of Natural Hormones by Nanofiltration Membranes: Measurement, Modeling, and Mechanisms," *226th American Chemical Society Annual Meeting*, New York, New York, September 10, 2003..
211. Li, Q. and Elimelech, M. "Revealing the Mechanisms of Organic Fouling and Chemical Cleaning of Nanofiltration Membranes", *226th ACS National Meeting*, New York, NY, September 7-11, 2003
212. Elimelech, M., Miller, G., and Kuznar, Z.A., "Transport and Removal of Cryptosporidium Oocysts in Subsurface Porous Media", National Water Research Institute, The Second International Riverbank Filtration Conference, Cincinnati, OH, September 16, 2003
213. Tufenkji, N and Elimelech, M. "Relating Physical and Chemical Heterogeneities of Microbial Particles to Distributions in the Deposition Rate" *11th International Conference on Surface and Colloid Science*, Iguassu Falls, Brazil, September 18, 2003.
214. Elimelech, M. and Lee, S. (invited) "Colloidal/NOM Fouling of Salt Rejecting Membranes: Measurements and Mechanisms", IWA International Conference on Nano and Microparticles in Water and Wastewater Treatment, Zurich, Switzerland, 22 - 24 September, 2003
215. Elimelech, M. (invited) "Chemical and Physical Aspects of Bacterial Adhesion in Aquatic Systems", Department of Chemistry, University of Geneva, September 25, 2003
216. Elimelech, M. (invited) "Chemical and physical Aspects of Bacterial Adhesion" , Department of Chemical Engineering, University of Virginia, October 16, 2003
217. Elimelech, M. (invited) "Physical and Chemical Aspects of Bacterial Transport and Adhesion", Department of Civil and Environmental Engineering, University of Delaware, October 17, 2003

218. Elimelech, M. (invited, CH2M Hill Distinguished Lecture) "Physical and Chemical Aspects of Microbial Transport and Adhesion", Department of Civil and Environmental Engineering, Auburn University, October 29, 2003
219. Elimelech, M. (invited) "Organic fouling and chemical cleaning of NF Membrane : Measurements and mechanisms", Department of Environmental Science and Engineering, Kwangju Institute of Science and Technology (K-JIST), Gwangju, Korea, December 3, 2003
220. Elimelech, M. (invited) "Chemical and Chemical Aspects of Bacterial Adhesion and Transport", Department of Environmental Science and Engineering, Kwangju Institute of Science and Technology (K-JIST), Gwangju, Korea, December 3, 2003
221. Elimelech, M. (invited) "Organic fouling and chemical cleaning of NF Membrane: Measurements and mechanisms", Department of Civil Engineering, Korea University, Seoul, Korea, December 6, 2003.
222. Sangyoup Lee, Boksoon Kwon, Menachem Elimelech, and Jaeweon Cho, "Characterization of NOM in NF and tight-UF permeates" Natural Organic Material Research: Innovations and Applications for Drinking Water, March 2-5, 2004, Victor Harbor, South Australia.
223. Elimelech, M. (invited) "Chemical and Physical Aspects of Bacterial Transport and Adhesion", Department of Civil and Environmental Engineering, Johns Hopkins University, March 9, 2004.
224. Abu-Dalo R.A., Bogatsu Y.G., Ryan J.N., Metge D.W., Elimelech M., and Harvey R.W. "Transport of bacteriophage PRD1 and Cryptosporidium parvum oocysts in saturated porous media: The importance of surface ferric oxyhydroxides", presented at the 1st Water Environment Federation/American Water Works Association Student Conference, Rocky Mountain Region, Golden, Colorado, May 2004
225. Abu-Dalo R.A., Bogatsu Y.G., Ryan J.N., Metge D.W., Harvey R.W., and Elimelech M., "The effect of ferric oxyhydroxide surface coatings on the transport of bacteriophage PRD1 and Cryptosporidium parvum oocysts in saturated porous media", presented at the 78th American Chemical Society Colloids and Surfaces Symposium, Yale University, New Haven, CT, June 2004.
226. H. Y. Ng, Q. Li and M. Elimelech, 2004. "Organic Fouling of RO Membranes for Water Reuse: Role of Proteins and Polysaccharides", IWA Specialty Conference: Water Environment-Membrane Technology, WEMT2004, June 7-10, 2004, Seoul, Korea.
227. Elimelech, M. (invited keynote) "Role of Electrostatic Interactions in Bacterial Adhesion and Transport in Aquatic Environments" presented at the International Electrokinetics Conference, ELKIN 2004, Pittsburgh, PA, June 13-17, 2004.
228. Walker, S.L., Redman, J.A., Elimelech, M, "Influence of Lipopolysaccharides on Bacterial Adhesion and Transport in Aquatic Systems" Presented at the American Chemical Society 78th Colloid and Surface Science Symposium, June 22, 2004, New Haven, CT.
229. Redman, J.A., Walker, S.L., Hill, J.E., Elimelech, M, "Influence of Growth Phase on Bacterial Adhesion and Transport" Presented at the American Chemical Society 78th Colloid and Surface Science Symposium, June 22, 2004, New Haven, CT.
230. Mylon, S.E. and Chen K.L., and M. Elimelech, "Influence of natural organic matter and ionic composition on the kinetics and structure of hematite colloid aggregation: Implications to iron depletion in estuaries" presented at the 78th ACS Colloid and Surface Science Symposium, Yale University, New Haven, CT, Jun 20-23, 2004
231. Li, Q. and Elimelech, M. Combined Colloidal and Organic Fouling and Chemical Cleaning of Nanofiltration Membranes. The 15th North America Membrane Society Annual Meeting. Honolulu, Hawaii, June 26-30, 2004.

232. Li, Q. and Elimelech, M. Combined Fouling of Nanofiltration Membranes by Colloidal Material and Natural Organic Matter and Chemical Cleaning of the Fouled Membranes. The 78th ACS Colloid and Surface Science Symposium. New Haven, Connecticut, June 20-23, 2004.
233. Kuznar, Z.A.; Elimelech, M. "Adhesion of Viable *Cryptosporidium* oocysts to Quartz Surfaces" presented at the 78th Colloid and Surface Science Symposium, Yale University, New Haven, CT, June 20 – 24, 2004.
234. Sangyoup Lee, Jaeweon Cho, and Menachem Elimelech, "Combined influence of natural organic matter and colloidal particles on nanofiltration membrane fouling" 78th ACS Colloids and Surface Science Symposium, June 20-23, 2004, New Haven, CT
235. de Kerchove, A. J. and Elimelech, M. "Application of Electrokinetic Theory for Soft Particles to Bacterial Cells" presented at the American Chemical Society 78th Colloid and Surface Science Symposium, Yale University, New Haven, Connecticut, June 2004
236. de Kerchove, A. J. and Elimelech, M. "Relevance of the Soft Particle Outer-Surface Potential to Bacterial-Surface Interactions in Aquatic Systems" presented at the American Chemical Society 78th Colloid and Surface Science Symposium, Yale University, New Haven, Connecticut, June 2004
237. Tufenkji, N. and Elimelech, M. "Deposition Patterns of Colloidal Particles in Saturated Porous Media – Deviation from Colloid Filtration Theory" presented at the American Chemical Society 78th Colloid and Surface Science Symposium, Yale University, New Haven, Connecticut, June 22, 2004.
238. McCutcheon, J.R.; Elimelech, M. "Forward (direct) osmosis desalination", presented at the 78th Colloid and Surface Science Symposium, Yale University, New Haven, Connecticut, June 20th-23rd, 2004
239. McCutcheon, J.R.; Elimelech, M. "Forward (direct) osmosis desalination", presented at the 15th annual meeting of the North American Membrane Society, Honolulu, Hawaii, June 26th-30th, 2004.
240. H. Y.Ng and M. Elimelech, 2004. "Effect of Colloidal Fouling on Removal of Trace Organics by RO", North American Membrane Society 15th Annual Meeting, June 26-30, 2004, Honolulu, Hawaii, USA.
241. McCutcheon, J.R.; Elimelech, M. "Forward (direct) osmosis desalination", presented at the Gordon Research Conference on Membranes, Colby Sawyer College, New London, New Hampshire, August 1-5, 2004.
242. Elimelech, M. (invited) "Organic Fouling and Chemical Cleaning of Polymeric Membranes: Measurements and Mechanisms", presented at the Gordon Research Conference on Membranes, Colby Sawyer College, New London, New Hampshire, August 1-5, 2004.
243. Sangyoup Lee and Menachem Elimelech, "Salt cleaning of organic fouled reverse osmosis membranes" ", presented at the Gordon Research Conference on Membranes, Colby Sawyer College, New London, New Hampshire, August 1-5, 2004.
244. Nghiem, L.D., Schäfer, A.I., *and* Elimelech, M., "Solute-membrane affinity in nanofiltration: natural hormones vs pharmaceuticals", ", presented at the Gordon Research Conference on Membranes, Colby Sawyer College, New London, New Hampshire, August 1-5, 2004.
245. McCutcheon, J.R.; Elimelech, M. "Forward (direct) osmosis desalination using polymeric membranes", presented at the 228th American Chemical Society National Meeting, Philadelphia, Pennsylvania, August 22nd – August 26th, 2004
246. de Kerchove, A. J. and Elimelech, M. "Relevance of the Soft Particle Outer-Surface Potential to Bacterial-Surface Interactions in Aquatic Systems" presented at the 227th American Chemical Society National Meeting, Philadelphia, Pennsylvania, August 2004

247. Mylon, S.E. and Chen K.L., and M. Elimelech "Influence of natural organic matter and ionic composition on the kinetics and structure of hematite colloid aggregation: Implications for iron depletion in estuaries" presented at the 228th ACS National Meeting, Philadelphia, PA, Aug 22-26, 2004
248. Kuznar, Z.A.; Elimelech, M. "Deposition Kinetics of *Cryptosporidium parvum* oocysts" presented at the 228th American Chemical Society National Meeting, Philadelphia, PA, August 22 – 26, 2004.
249. Walker, S.L., Redman, J.A., Elimelech, M, "Bacterial Transport and Deposition in Porous Media: Role of Cell Surface Lipopolysaccharides (LPS)" Presented at the 228th American Chemical Society National Meeting, Symposium in Honor of Professor Charles O'Melia, August 2004, Philadelphia, PA.
250. Tufenkji, N.; Redman, J. A.; Elimelech, M. "Deviation from Colloid Filtration Theory in the Presence of Repulsive DLVO Interactions – Implications to Microbial Transport" presented at the 227th American Chemical Society National Meeting, Philadelphia, Pennsylvania, August 23, 2004.
251. Sangyoup Lee, Wui Seng Ang, and Menachem Elimelech, "Role of divalent cations in organic fouling of reverse osmosis membranes" 228th ACS National Meeting, August 22-26, 2004, Philadelphia, PA.
252. Elimelech, M., and Li, Q. "Natural Organic Matter (NOM) Fouling and Chemical Cleaning of Nanofiltration Membranes", presented at the International Water Association 4th World Water Congress, September 19-24, Marrakech, Morocco.
253. Nghiem, L.D., Schäfer, A.I., and Elimelech, M. "Mechanisms of steroid hormones and hormone mimicking compounds removal in nanofiltration", presented at the International Water Association 4th World Water Congress, September 19-24, Marrakech, Morocco.
254. Elimelech, M., and Ng, H.Y. "Influence of Colloidal Fouling on removal of Trace Organics by RO Membranes", presented at the International Water Association 4th World Water Congress, September 19-24, Marrakech, Morocco.
255. Nghiem, L.D., Khan, S, Schäfer, A.I., and Elimelech, M. "Membrane-Organic solute affinity and its role in NF/RO separation, Euromembrane 2004, September 29- October 1, 2004, Hamburg, Germany.
256. M. Elimelech (invited) "A Novel Forward Osmosis Desalination Process", presented at the International Water Desalination and Purification Workshop, Office of Naval Research Global, October 14-15, 2004, London.
257. Elimelech, M. (invited) "Chemical and Physical Aspects of Bacterial Transport and Adhesion", Department of Civil and Environmental Engineering, Duke University, November 17, 2004.
258. Elimelech, M., (invited) "Chemical and Physical Interactions in Bacterial Adhesion and Transport", department of Earth and Environmental Engineering, Columbia University, NY, January 28, 2005.
259. Elimelech, M., (keynote) "Membrane Technology in Water Recycling Principles and Challenge", Symposium on Integrated Concepts in Water Recycling Wollongong, NSW, Australia, 13-17 February, 2005
260. Hill, J. and Elimelech, M. "Sulfur and Organic Phosphorus Cycling by Thiobacillus", The American Society of Limnology and Oceanography (ASLO) Aquatic Sciences Meeting, February 20-25, 2005, Salt Lake City, UT.
261. Chen, K.L. Mylon, S.E., and Elimelech, M., "Influence of Solution Chemistry on the Aggregation Kinetics of Alginate-Coated Hematite Colloids", American Chemical Society 229th National Meeting, March 13-17, 2005, San Diego, CA.
262. Ang, W.S., Lee, S., and Elimelech, M., "Chemical and Physical Aspects of Cleaning of Organic-fouled Reverse Osmosis Membranes", 2005 ACS Annual Meeting, March 13, San Diego, CA.

263. Chen, J.C., Kim, A.S, and Elimelech, M. "Monte Carlo Simulation of Colloidal Membrane Filtration: Model Development with Application to Characterization of Phase Transition Phenomenon", the 229th American Chemical Society National Meeting, San Diego, CA, March 13–17, 2005.
264. Kuznar, Z.A. and Elimelech, M., "Role of surface proteins in the deposition kinetics of *Cryptosporidium* parvum oocysts", American Chemical Society 229th National Meeting, March 13-17, 2005, San Diego, CA.
265. Lee, S. Ang, W.S., and Elimelech, M., "Novel salt cleaning of organic fouled reverse osmosis membranes", American Chemical Society 229th National Meeting, March 13-17, 2005, San Diego, CA.
266. Elimelech, M., (keynote) "Organic Fouling and Chemical Cleaning of RO Membranes: Role of Chemical and Physical Interactions", Symposium on Advanced Materials for Purification of Water with Systems, Atlanta, GA, April 13-15, 2005.
267. Kuznar, Z.A., and Elimelech, M. "Role of Surface Polymers in the Deposition Kinetics of *Cryptosporidium parvum* oocysts onto Quartz Surfaces", 79th American Chemical Society Colloid and Surface Science Symposium, June 12-15, 2005, Clarkson University, Potsdam, NY.
268. de Kerchove, A. J. and Elimelech, M. "Effect of Monovalent and Divalent Electrolytes on the Adsorption of Polysaccharides on Solid Surfaces in Aquatic Systems" Presented at the American Chemical Society 79th Colloid and Surface Science Symposium, June 2005, Clarkson University, Potsdam, NY.
269. de Kerchove, A. J. and Elimelech, M. "Multi-Layer Adsorption of Sodium Alginate on Quartz Surfaces: A QCM-D Study of Adsorbed Layer Properties" Presented at the American Chemical Society 79th Colloid and Surface Science Symposium, June 2005, Clarkson University, Potsdam, NY.
270. Li, Y., Chen, J.C., Elimelech, M., and Kim, A.S., "Monte Carlo Simulation of Colloidal Membrane Filtration: Principal Issues for Modeling", American Chemical Society, the 79th Colloid and Surface Science Symposium, Potsdam, NY, June 12–15, 2005.
271. Ang, W.S., Lee, S., and Elimelech, M., "Mechanisms of Chemical Cleaning of Organic-fouled Reverse Osmosis Membranes", 2005 Annual North American Membrane Society (NAMS) Meeting, June 11-15, Providence, RI.
272. Chen, K.L. Mylon, S.E., and Elimelech, M., "Influence of Alginate and Ionic Composition on the Stability of Hematite Colloids", 79th American Chemical Society Colloid and Surface Science Symposium, June 12-15, 2005, Clarkson University, Potsdam, NY.
273. Chen, K.L. Mylon, S.E., and Elimelech, M., "Aggregation Kinetics of Alginate-Coated Hematite Colloids in Divalent Electrolytes", 79th American Chemical Society Colloid and Surface Science Symposium, June 12-15, 2005, Clarkson University, Potsdam, NY.
274. McCutcheon, J.R., McGinnis, R.L., and Elimelech, M. "Desalination by a Novel Ammonia-Carbon Dioxide Forward Osmosis Process: Influence of Draw and Feed Solution Concentrations on Process Performance", 2005 Annual North American Membrane Society (NAMS) Meeting, June 11-15, Providence, RI.
275. Lee, S., and Elimelech, M. "AFM as a Tool to Characterize the Organic Fouling Potential of RO and NF Membranes", 2005 Annual North American Membrane Society (NAMS) Meeting, June 11-15, Providence, RI.
276. Elimelech, M., Walker, S.L. and de Kerchove, A.J. (Keynote), "Role of Electrostatic Interactions in Bacterial Deposition", 79th American Chemical Society Colloid and Surface Science Symposium, June 12-15, 2005, Clarkson University, Potsdam, NY.

277. Elimelech, M., "The Global Challenge for Adequate and Safe Water", The 2005 Clarke Prize Lecture, July 7, 2005, Danna Point, CA.
278. Elimelech, M., (invited) "Membrane Technology for Wastewater Reuse and Desalination", presented at the Israel Electric Company, Haifa, Israel, 7 August, 2005.
279. Chen, K.L. Mylon, S.E., and Elimelech, M., "Aggregation of Alginate-Coated Hematite Nanoparticles in Monovalent and Divalent Electrolytes", American Chemical Society 230th National Meeting, August 28 – September 1, 2005, Washington, DC.
280. Chen, K.L. Mylon, S.E., and Elimelech, M., "Influence of Alginate and Ionic Composition on Aggregate Structure of Hematite Colloids", American Chemical Society 230th National Meeting, August 28 – September 1, 2005, Washington, DC.
281. Da Siva, A.K., and Elimelech, M., "Adsorption kinetics of recombinant Norovirus nanoparticles to a quartz surface", American Chemical Society 230th National Meeting, August 28 – September 1, 2005, Washington, DC.
282. McCutcheon, J.R., McGinnis, R.L., and Elimelech, M. "Desalination Using a Novel Ammonia-Carbon Dioxide Forward Osmosis Process: Evaluation of Process Performance", 2005 Annual AIChE Meeting, November 2005, Cincinnati, OH.
283. Lee, S., and Elimelech, M. "Role of Foulant-Foulant Adhesion in Organic Fouling of Reverse Osmosis Membranes", 2005 Annual AIChE Meeting, November 2005, Cincinnati, OH.
284. Chen, K.L. Mylon, S.E., and Elimelech, M., "Enhanced Aggregation of Alginate-Coated Hematite Nanoparticles", The American Institute of Chemical Engineers (AIChE) 2005 Annual Meeting, October 30 – November 4, 2005, Cincinnati, Ohio.
285. Ang, W.S., Lee, S., and Elimelech, M., "Cleaning Mechanisms of Organic-fouled Reverse Osmosis Membranes", 2005 Annual AIChE Meeting, November 2, Cincinnati, OH.
286. de Kerchove, A. J. and Elimelech, M. "Structural Growth and Viscoelastic Properties of Polysaccharide Layers in Mono- and Divalent Salts" Presented at the 2005 AIChE Annual Meeting, Nov. 2005, Cincinnati, OH.
287. Elimelech, M., (plenary lecture) "Membrane Fouling and Cleaning: Role of Chemical and Physical Interactions", International Symposium on Wastewater Reclamation & Reuse for Sustainability, Jeju, Korea, November 8-11, 2005
288. Elimelech, M. "Transport of Biological Agents in the Subsurface Environment", Presentation at the International Conference on Hazardous Waste Management for a Sustainable Future, 10-12 January 2006, Bangkok, Thailand.
289. McGinnis, R.L., McCutcheon, J.R., Elimelech, M., "Pilot Scale Demonstration of Ammonia Carbon Dioxide Forward Osmosis Desalination Process", Presented at EUWP Program Funding Review Conference, January 17th - 18th, 2006, Long Beach, CA.
290. Nguyen, T.H. and Elimelech M. "Plasmid DNA Adhesion on Silica: Kinetics and Conformational Changes in Mono and Divalent Salts". Poster presentation at Gordon Research Conference on Bioanalytical Sensors, CA, USA, Feb. 2006.
291. Elimelech, M. "Transport and Adhesion of Microbes in Subsurface Aquatic Environments: Viruses, Bacteria, and *Cryptosporidium*", CESEP Distinguished Lecture, Colorado School of Mines, March 9, 2006.
292. Chen, K-L., and Elimelech, M., Aggregation and Deposition Kinetics of Fullerene Nanoparticles in Aquatic Environments, 26th New England Workshop on Complex Fluids, March 10, 2006, Yale University, New Haven, Connecticut.
293. Elimelech, M. "Relating Organic Fouling of Reverse Osmosis Membranes to Intermolecular Adhesion Forces", Presentation at the U.S. – Israeli Workshop on Nanotechnology for Water Purification, Arlington, VA, March 13-15, 2006

294. Elimelech, M. "Physical and Chemical Interactions in Adhesion and Transport of Microbes in Subsurface Aquatic Environments", Presentation at the Workshop on "Subsurface Transport of Microorganisms and other Colloids", RIVM, Bilthoven, The Netherlands, March 16, 2006.
295. Elimelech, M. "Aggregation of Alginate-Coated Hematite Nanoparticles in Aquatic Systems", Seminar, Department of Chemistry, University of South Carolina, March 31, 2006
296. Elimelech, M. "Mechanisms of Organic Fouling and Subsequent Cleaning of Fouled Membranes", Presentation at Procter and Gamble, Cincinnati, OH, April 17, 2006.
297. Elimelech, M. "Filtration Mechanisms of Microbial Pathogens in Flow through Porous Media", Presentation at Procter and Gamble, Cincinnati, OH, April 17, 2006.
298. Herzberg, M. and Elimelech, M.**;** "Influence of Biofouling on Reverse Osmosis Membrane Performance", *WATERCAMPWS 3rd Annual symposium*, April 17, 2006, San Francisco, CA.
299. McCutcheon, J.R.; Elimelech, M. "Modeling flux in forward osmosis: Influence of feed and draw solution concentration and membrane structural properties on performance.", poster presented at the 17th annual meeting of the North American Membrane Society, Chicago, IL, May 12-17, 2006.
300. McCutcheon, J.R.; Elimelech, M. "Influence of concentrative and dilutive internal concentration polarization on flux behavior in forward osmosis", Keynote lecture at the 17th annual meeting of the North American Membrane Society, Chicago, IL, May 12-17, 2006.
301. Ang W-S., and Elimelech, M. Protein Fouling of Reverse Osmosis Membranes, Annual NAMS Meeting, May 16, 2006, Chicago, Illinois.
302. McGinnis, R.L., McCutcheon, J.R., Elimelech, M., "Energy Requirements of Forward Osmosis Desalination", Poster Presented at 2006 National Meeting of the North American Membrane Society, May 16th, 2006, Chicago, IL.
303. Elimelech, M. (plenary) "Microbial Adhesion and Transport in Aquatic Environments", Presentation at the 4th International Conference: *Interfaces Against Pollution*, June 4-7, 2006, Granada, Spain.
304. Chen, K-L., and Elimelech, M., Aggregation and Deposition Kinetics of Fullerene Nanoparticles in Aquatic Environments, Interfaces Against Pollution 4th International Conference, June 4–7, 2006, Granada, Spain.
305. Nguyen, T.H. and Elimelech, M. "Plasmid DNA Adhesion on Silica: Kinetics and Conformational Changes in Mono and Divalent Salts", presented at the 80th Colloid and Surface Science Symposium, University of Colorado, Boulder, June 17-21, 2006.
306. Chen, K-L. and Elimelech, M., Aggregation and Deposition Kinetics of Fullerene Nanoparticles in Monovalent and Divalent Electrolytes, 80th American Chemical Society Colloid and Surface Science Symposium, June 18–21, 2006, Colorado University, Boulder, Colorado.
307. Chen, K-L., Mylon, S.E., and Elimelech, M., Enhanced Aggregation of Alginate-Coated Hematite Nanoparticles: Influence of Divalent Cations on Gel-Network Formation, 80th American Chemical Society Colloid and Surface Science Symposium, June 18–21, 2006, Colorado University, Boulder, Colorado.
308. Elimelech, M. "Water, Sanitation, and Health in Developing Countries", Presentation at the Gordon Research Conference, Environmental Sciences: Water, June 25-30, 2006, Holderness School, Plymouth, NH.
309. McGinnis, R.L., McCutcheon, J.R., Elimelech, M., "Pilot Scale Demonstration of Ammonia Carbon Dioxide Forward Osmosis Desalination Process", Presented at EUWP Program Funding Review Conference, June 27th - 29th, 2006, Washington, D.C.
310. McGinnis, R.L., McCutcheon, J.R., Elimelech, M., "Pilot Scale Demonstration of Ammonia Carbon Dioxide Forward Osmosis Desalination Process", Presented at EUWP Industry-Academia Workshop, June 28th, 2006, Washington, D.C.

311. McCutcheon, J.R.; Elimelech, M. "Modeling flux in forward osmosis: Influence of feed and draw solution concentration and membrane structural properties on performance.", poster presented at the Gordon Research Conference, Colby Sawyer College, New London, NH, August 6 - 10, 2006.
312. Elimelech, M. "Mechanisms of Organic Fouling and Chemical Cleaning of RO/NF Membranes", Presentation at Sandia National Lab, Albuquerque, NM, August 17, 2006.
313. de Kerchove, A. J. and Elimelech, M. "Role of Alginate Conditioning Film in the Deposition Kinetics of *Pseudomonas aeruginosa* in a Radial Stagnation Point Flow Chamber" Presented at the American Chemical Society 232th National Meeting, San Francisco, CA, September 10-14, 2006.
314. de Kerchove, A. J. and Elimelech, M. "Role of Divalent Cations in the Deposition Kinetics of *Pseudomonas aeruginosa* on Quartz Surfaces" Presented at the American Chemical Society 232th National Meeting, San Francisco, CA, September 10-14, 2006.
315. Herzberg, M. and Elimelech, M.**; "**Biofouling of reverse osmosis membrane: Mechanisms and performance", *232nd American Chemical Society National Meeting*, September 10-14, 2006**,** San Francisco, CA.
316. Herzberg, M. and Elimelech, M.**; "**Dynamics of biofilm growth on reverse osmosis membranes", *232nd American Chemical Society National Meeting*, September 10-14, 2006**,** San Francisco, CA.
317. Elimelech, M. "Microbial Adhesion and Transport in Aquatic Environments", Presentation at the University of Minnesota, Civil Engineering Department, October 27, 2006.
318. Elimelech, M. "Aggregation Kinetics of Hematite Nanoparticles in Aquatic Systems", Seminar, Department of Civil and Environmental Engineering, Virginia Tech, Nov. 3, 2006.
319. Nguyen, T.H., Chen, K-L., and Elimelech, M., Adhesion of Plasmid DNA to Natural Organic Matter Coated Mineral Surfaces, The American Institute of Chemical Engineers 2006 Annual Meeting, November 12–17, 2006, San Francisco, California.
320. Chen, K-L. and Elimelech, M. Aggregation and Deposition Kinetics of Fullerene Nanoparticles onto Quartz Surface, The American Institute of Chemical Engineers 2006 Annual Meeting, November 12–17, 2006, San Francisco, California.
321. Chen, K-L., Mylon, S.E., and Elimelech, M., Mechanism of Enhanced Aggregation of Alginate-Coated Hematite Nanoparticles in the Presence of Calcium, Strontium, and Barium Cations, The American Institute of Chemical Engineers 2006 Annual Meeting, November 12–17, 2006, San Francisco, California.
322. McCutcheon, J.R.; Elimelech, M. "Influence of concentrative and dilutive internal concentration polarization on flux behavior in forward osmosis", oral presentation at the American Institute of Chemical Engineers national meeting, San Francisco, CA. November 12-17, 2006.
323. McCutcheon, J.R.; Elimelech, M. "The ammonia-carbon dioxide forward osmosis desalination process: A high recovery alternative to reverse osmosis", oral presentation at the American Institute of Chemical Engineers national meeting, San Francisco, CA. November 12-17, 2006.
324. McCutcheon, J.R.; Elimelech, M. "The ammonia-carbon dioxide forward osmosis desalination process: Performance and modeling", poster presented at the American Institute of Chemical Engineers national meeting, San Francisco, CA. November 12-17, 2006.
325. Nguyen, T.H., Chen K.L. and Elimelech, M. "Adhesion of Plasmid DNA to Natural Organic Matter Coated Mineral Surfaces", presented at the 2006 AIChE Annual Meeting, San Francisco, California, November 12-17, 2006.
326. Nguyen, T.H., and Elimelech, M. "Plasmid DNA Adhesion on Silica: Kinetics and Conformational Changes in Mono and Divalent Salts", presented at the 2006 AIChE Annual Meeting, San Francisco, California, November 12-17, 2006.

327. Ang W-S. and Elimelech, M., Effect of Ca^{2+} on Fouling of RO Membranes by Combined Organic Foulants in Wastewater Reclamation, AIChE Annual Meeting, November 14, 2006, San Francisco, California.
328. Elimelech, M. (plenary) "The Global Challenge for Adequate and Clean Water", AIChE Annual Meeting, San Francisco, California, November 15, 2006.
329. Elimelech, M. "Mechanisms of Organic Fouling and Chemical Cleaning of RO/NF Membranes", Presentation at the Department of Civil and Environmental Engineering, Arizona State University, December 7, 2006.
330. Elimelech, M. "Aggregation and Deposition Behavior of Carbon-Based Nanomaterials in Aquatic Environments", 2007 NSF Nanoscale Science and Engineering Grantees Conference, Arlington, VA, December 3-6, 2007
331. Elimelech, M. "Carbon-Based Nanomaterials in Aquatic Environments: Aggregation, Deposition, and Cytotoxicity", Rice University, Department of Civil and Environmental Engineering, November 30, 2007.
332. Elimelech, M. Kang, S., Asatekin, A., Mayes, A.M. "AFM as a Tool to Characterize Membrane Fouling Mechanisms by Biomacromolecules", Presentation at the MRS Fall Meeting, Boston, MA, November 27, 2007.
333. Elimelech, M. (keynote) "Water, Sanitation, and Health in Developing Countries", Department of Geography and environmental Engineering Alumni Day, Johns Hopkins University, Baltimore, MD, September 29, 2007.
334. Elimelech, M. (invited/keynote) "Interaction of Carbon Nanotubes with Bacterial Cells", UCLA/CNSI workshop "*Bio-physicochemical Interactions of Engineered Nanomaterials",* September 10, 2007
335. Elimelech, M. (keynote) "Nanoparticles and Biomacromolecules in Natural and Engineered Aquatic Environments", AEESP Education and Research Conference, Virginia Tech, Blacksburg, VA, July 31, 2007.
336. Elimelech, M. "Nanoparticles and Nanomaterials in Aquatic Environments", Presentation at Ben Gurion University, Beer Sheva, Israel, July 5, 2007.
337. Elimelech, M. (Distinguished Lecture)"Nanoparticles and Nanomaterials in Aquatic Environments: Transport, Aggregation, and Environmental Implications", MWH Distinguished Lecture, Department of Civil & Environmental Engineering, UCLA, May 29, 2007.
338. Elimelech, M. "Aggregation Kinetics of Nanoparticles in Aquatic Systems ", Lindsay Lecture Series, Department of Chemical Engineering, Texas A&M University, April 20, 2007
339. Elimelech, M. "Aggregation Kinetics of Nanoparticles in Aquatic Systems", Department of Civil and Environmental Engineering, University of Connecticut, April 13, 2007.
340. Elimelech, M. "Aggregation Kinetics of Nanoparticles in Aquatic Systems", Department of Civil and Environmental Engineering, University of Michigan, March 22, 2007.
341. Elimelech, M. (invited) "Environment – Water: The Water and Sanitation Challenge", BioVision 2007, 11-14 March, 2007, Lyon, France.
342. Elimelech, M. "Mechanisms of Organic Fouling and Chemical Cleaning of Reverse Osmosis and Nanofiltration Membranes", Presentation at the Department of Chemistry, Stony Brook University, February 23, 2007.
343. Elimelech, M. (keynote) "Environmental Engineering in the New Millennium Opportunities and Challenges", International Conference on "Civil Engineering in the New Millennium: Opportunities and Challenges (CENeM-2007)", Bengal Engineering and Science University, January 11-14, 2007, Kolkata, India

344. McCutcheon, J.R.; Elimelech, M. "Wetting phenomenon and internal concentration polarization in pressure retarded osmosis", oral presentation at the 18thth annual meeting of the North American Membrane Society, Orlando, FL, May 12-16, 2007.
345. McCutcheon, J.R.; McGinnis, R.L., Elimelech, M. "The ammonia-carbon dioxide forward osmosis desalination process: A high recovery, sustainable desalination alternative" oral presentation at the American Water Works Association: Membrane Technology Conference & Exposition, March 18-21, 2007.
346. McCutcheon, J.R.; Elimelech, M. "Wetting phenomenon in engineered osmosis", poster presented at the Engineering Conference International Water Treatment and Reuse II, Tomar, Portugal, February 11-17, 2007. "Honorable Mention" in poster competition.
347. McCutcheon, J.R.; Elimelech, M. "Modeling of membrane performance in forward osmosis desalination: Implications for improved membrane design", oral presentation at the Engineering Conference International Water Treatment and Reuse II, Tomar, Portugal, February 11-17, 2007.
348. Mi, B. and Elimelech, M. "Organic fouling of forward osmosis membranes" Presented at the North American Membrane Society Annual Meeting, April 14-17, 2007, Orlando, FL.
349. Mi, B. and Elimelech, M. "Mechanisms of organic fouling of forward osmosis (FO)membranes" Presented at the Materials Research Society Fall Meeting, November 26-30, 2007, Boston, MA.
350. Tiraferri, A., Chen, K.L., Sethi, R., Elimelech, M., "Reduced Aggregation and Sedimentation of Zerovalent Iron Nanoparticles in the Presence of Guar Gum" Presented at the 3rd International Symposium on Permeable Reactive Barriers and Reactive Zones, November 8-9, 2007, Rimini, Italy
351. Kang, S., Asatekin, A., Mayes, A.M., and Elimelech, M. "Protein Antifouling Mechanisms of PAN UF Membranes Incorporating PAN-g-PEO Additive" Presented at the American Chemical Society 233rd National Meeting, March 27th, Chicago, IL, 2007
352. Kang, S., Asatekin, A., Mayes, A.M., and Elimelech, M. "Application of AFM Force Measurements for the Selection of Antifouling UF Membranes Containing Polyacrylonitrile-graft-Poly(ethylene oxide) Comb Copolymer Additives" Presented at the North American Membrane Society 2007 Meeting, May 14th, Orlando, FL, 2007
353. Kang, S., Pinault, M., Pfefferle, L. D., and Elimelech, M. "Single-walled Carbon Nanotubes Exhibit Strong Antimicrobial Activity" Presented at the American Chemical Society 234th National Meeting, August 20th, Boston, MA, 2007
354. Montgomery, M.A., Elimelech, M. "Enhancing Trachoma Elimination with Environmental Prevention Measures." In Collaboration with the World Health Organization (WHO), Geneva Switzerland. Presented at Unite for Sight 2007 International Health Conference, April 2007, Stanford University, CA.
355. Herzberg, M. and Elimelech, M. "The role of EPS in biofouling of reverse osmosis membranes" Presented at the American Chemical Society 233rd National Meeting, Chicago, IL, 2007
356. Herzberg, M. and Elimelech, M. "Gene expression in reverse osmosis membrane biofilms" Presented at the American Chemical Society 233rd National Meeting, Chicago, IL, 2007.
357. Herzberg, M. and Elimelech, M. "Gene expression in reverse osmosis membrane biofilms" Presented at the 4th American Society for Microbiology Conference on Biofilms, Quebec, Canada, 2007.
358. Chen, K. L. and Elimelech, M., Aggregation Kinetics of Fullerene (C_{60}) Nanoparticles in the Presence of Humic Acid, The American Institute of Chemical Engineers 2007 Annual Meeting, November 4–9, 2007, Salt Lake City, Utah.

359. Chen, K. L. and Elimelech, M., Electrokinetic Properties and Stability of Engineered Fullerene (C_{60}) Nanoparticles in Aqueous Solutions, The American Institute of Chemical Engineers 2007 Annual Meeting, November 4–9, 2007, Salt Lake City, Utah.
360. Chen, K. L. and Elimelech, M., Influence of Humic Acid on the Aggregation Kinetics of Fullerene (C_{60}) Nanoparticles in Monovalent and Divalent Electrolyte Solutions, American Chemical Society 234th National Meeting, August 19–23, 2007, Boston, Massachusetts *(Invited Talk)*.
361. Chen, K. L. and Elimelech, M., Aggregation and Deposition Kinetics of Fullerene (C_{60}) Nanoparticles in Aquatic Environments, Association of Environmental Engineering and Science Professors Conference, July 28–August 1, 2007, Virginia Tech, Blacksburg, Virginia.
362. Chen, K. L. and Elimelech, M., Influence of Humic Acid on the Aggregation Kinetics of Fullerene (C_{60}) Nanoparticles, 81st American Chemical Society Colloid and Surface Science Symposium, June 24–27, 2007, University of Delaware, Newark, Delaware.
363. Chen, K. L. and Elimelech, M., Influence of Synthesis Technique on Electrokinetic Properties of Fullerene (C_{60}) Nanoparticles in Aqueous Solutions, 81st American Chemical Society Colloid and Surface Science Symposium, June 24–27, 2007, University of Delaware, Newark, Delaware.
364. da Silva, A.K., Le Saux, J.C., Parnaudeau, S., Elimelech, M., Pommepuy, M., Le Guyader, S.F. "Annual gastroenteritis outbreak in France: tracking norovirus GI and GII through sewage treatment," Presented at the 7th National Congress of the French Society of Microbiology, Nantes, France, May 30 – June 1, 2007.
365. da Silva, A.K., Le Saux, J.C., Parnaudeau, S., Elimelech, M., Pommepuy, M., Le Guyader, S.F. "Removal of norovirus in wastewater treatment using real-time RT-PCR: different behavior of genogroup I (GI) and genogroup II (GII)," Presented at the International Water Association 14th Int'l Symposium on Health-related Water Microbiology ("WaterMicro 2007"), Tokyo, Japan, September 9-15, 2007.
366. da Silva, A.K., Le Saux, J.C., Parnaudeau, S., Elimelech, M., Pommepuy, M., Le Guyader, S.F. "Removal of norovirus genogroup I (GI) and genogroup II (GII) in wastewater treatment using real-time RT-PCR," Presented at the 3rd International Calicivirus Conference, Cancun, México, November 10-13, 2007.
367. Brady-Estevez, A. S., Kang, S., Elimelech, M. "A Single-Walled Carbon Nanotube Hybrid Filter for Removal of Microbial Contaminants" Presented at the 2007 Fall Meeting of the Materials Research Society, Boston, MA, 2007.
368. Brady-Estevez, A. S., Kang, S., Elimelech, M. "A Single-Walled Carbon Nanotube Hybrid Filter for Removal of Microbial and Viral Contaminants" Poster Presented at NT '07 The Eighth International Conference on the Science and Application of Nanotubes, Ouro Preto, Brazil, 2007.
369. Asatekin, A., S. Kang, M. Elimelech, M.F. Rubner, A.M. Mayes, "Anti-fouling ultrafiltration membranes containing polyacrylonitrile-graft-poly(ethylene oxide) comb copolymer additives", North American Membrane Society (NAMS) 2007 Annual Meeting, Orlando, FL, May 14, 2007.
370. Asatekin, A., S. Kang, E. Olivetti, M. Elimelech, M.F. Rubner, A.M. Mayes, "Amphiphilic comb copolymers for better water purification membranes", Millipore Research & Development Center, Bedford, MA, July 26th, 2007.
371. Asatekin, A., S. Kang, M. Elimelech, M.F. Rubner, A.M. Mayes, "Anti-fouling ultrafiltration membranes containing polyacrylonitrile-graft-poly(ethylene oxide) comb copolymer additives", MRS 2007 Fall Meeting, Boston, MA, November 27, 2007.
372. Asatekin, A., S. Kang, M. Elimelech, M.F. Rubner, A.M. Mayes "Amphiphilic comb copolymers for fouling resistant ultrafiltration (UF) membranes", MIT Materials Day 2007, Cambridge, MA, October 16, 2007.

373. McGinnis, R., McCutcheon, J., Elimelech, M. “Pilot Scale Demonstration of Ammonia / Carbon Dioxide Forward Osmosis Desalination Process”, oral presentation to the EUWP Desalination Program, Las Cruces, NM, September 2007.
374. McGinnis, R., McCutcheon, J., Elimelech, M. “Forward Osmosis Desalination”, oral presentation to the employees of Membrane Technology & Research, Menlo Park, CA. August 2007.
375. McGinnis, R., McCutcheon, J., Elimelech, M. “Forward Osmosis Desalination: Current Research and Future Prospects”, oral presentation at the American Membrane Technology Association conference, Las Vegas, NV. July 2007.
376. McGinnis, R., Elimelech, M. “Osmotic Heat Engine (Closed Cycle NH3/CO2 PRO)”, oral presentation at the ACS Green Chemistry and Engineering conference, Washington, D.C. June, 2007.
377. McGinnis, R., McCutcheon, J., Elimelech, M. “Forward Osmosis Energy Use: Comparisons to RO, MSF, and MED”, oral presentation at the North American Membrane Society conference, Orlando, Fl. May, 2007.
378. McCutcheon, J.R., McGinnis, R.L., Elimelech, M. “Influence of membrane support layer hydrophilicity on water flux in pressure retarded osmosis applications”, Presented at the International Congress on Membranes and Membrane Processes, Honolulu, HI, June 12-18, 2008.
379. Rodrigues, D. F., Elimelech, M. Influence of D-mannose on Biofilm Formation. Presented at the Gordon Research Conference on Environmental Sciences: Water, Holderness, NH, 2008.
380. Rodrigues, D.F., Elimelech, M. Influence of Carbon Source on Biofilm Formation. Presented at the 235th ACS meeting, New Orleans, LA, 2008.
381. McGinnis, R., Elimelech, M. "Osmotically Driven Membrane Processes" Presented at the 1st annual Osmosis Membrane Summit, October 27-28, 2008, Amsterdam, Netherlands.
382. Adout, A. Kang, S. Mayes,A. M. and Elimelech M. Antibiofouling Ultrafiltration Membranes Incorporating PAN-g-PEO Comb Copolymer Additives. Presented at the 235th American Chemical Society National meeting & exposition, New Orleans, LA, 2008
383. Saleh, N. B., Pfefferle, L. D., Elimelech, M. “Aggregation Kinetics of Carbon Nanotubes in the Presence of Biomacromolecules” Presented at the American Institute of Chemical Engineers 100th Annual Meeting, November 16-21, 2008, Philadelphia, PA.
384. Saleh, N. B., Pfefferle, L. D., Elimelech, M. “Aggregation Kinetics of Multi-walled Carbon Nanotubes in Aquatic Systems” Presented at the American Institute of Chemical Engineers 100th Annual Meeting, November 16-21, 2008, Philadelphia, PA.
385. Jaisi, P. D., Saleh, N. B., Blake, R. E., Elimelech, M. “Filtration Mechanisms of Single-walled Carbon Nanotubes in Porous Media” Presented at the American Institute of Chemical Engineers 100th Annual Meeting, November 16-21, 2008, Philadelphia, PA.
386. Saleh, N. B., Pfefferle, L. D., Elimelech, M. “Effect of Biomacromolecules on Aggregation Kinetics of Carbon Nanotubes” Presented for the Best Poster Award at the Gordon Research Conference, Environmental Sciences: Water, June 22-27, Holderness School, Holderness, NH.
387. Saleh, N. B., Pfefferle, L. D., Elimelech, M. “Aggregation Kinetics of Multi-walled Carbon Nanotubes in Aquatic Systems.” Presented at the American Chemical Society 235th National Meeting, April 6-10, New Orleans, LA.
388. Tiraferri, A., Chen, K.L., Sethi, R. and Elimelech, M., "Guar gum reduces aggregation of zerovalent iron nanoparticles and enhances their mobility in porous media", Poster presented at 2008 nanoECO "Nanoparticles in the environment - Implications and Applications", March 2nd-7th, 2008, Monte Verità, Switzerland

389. Kang, S., Herzberg, M., Rodrigues, D. F., and Elimelech, M. “Carbon Nanotube Bacterial Cytotoxicity: Does the Type of Carbon Nanotubes Matter?” Presented at the 2008 AIChE Annual Meeting, Philadelphia, PA, 2008
390. Kang, S., Asatekin, A., Mayes, A. M., and Elimelech, M. “Atomic Force Microscopy as a Tool to Characterize the Antifouling Properties of Polymer-Grafted membranes” Presented at the Gordon Research Conference on Membranes: Materials and Processes, New London, NH, 2008
391. Kang, S. and Elimelech, M. “Bacterial Toxicity of Multi-Walled Carbon Nanotubes” Presented at the American Chemical Society 235th National Meeting, New Orleans, LA, 2008
392. Kang, S. and Elimelech, M. “Cellular Toxicity of Single-Walled Carbon Nanotubes (SWNT) Deposited Surfaces” Presented at the American Chemical Society 235th National Meeting, New Orleans, LA, 2008
393. Kang, S., Asatekin, A., Mayes, A.M., Elimelech, M. “Implication of AFM force measurements for the various blends of antifouling UF membranes containing polyacrylonitrile-graft-poly(ethylene oxide) comb copolymer additives” Presented at the American Chemical Society 235th National Meeting, New Orleans, LA, 2008
394. Kang, S., Mauter, M.S., Elimelech, M., "Physiochemical Determinants of CNT toxicity. Gordon Research Conference", Poster Presented at 2008 Gordon Research Conference, Environmental Sciences: Water, June 23rd 2008, Holderness, NH.
395. Kang, S., Mauter, M.S., Elimelech, M., Carbon-based Nanotechnologies in River Water and Wastewater. Poster Presented at Chemodynamics of Ecosystems Conference, October 28th 2008, Ascona, Switzerland
396. Jaisi, D.P., Saleh, N.B., Blake, R.B., Elimelech, M. "Transport and filtration of carbon nanotubes in porous media" Poster presented at *Goldschmidt 2008* Vancouver, Canada, 2008.
397. Chen, K. L. and Elimelech, M., Aggregation of Fullerene (C60) Nanoparticles in Monovalent and Divalent Electrolytes: Implications for Fate, Transport, and Bioavailability, The American Institute of Chemical Engineers 2008 Annual Meeting, November 16–21, 2008, Philadelphia, Pennsylvania.
398. Chen, K. L. and Elimelech, M., Interaction of Fullerene (C60) Nanoparticles with Humic Acid and Alginate Coated Silica Surfaces: Implications for Fate and Transport, The American Institute of Chemical Engineers 2008 Annual Meeting, November 16–21, 2008, Philadelphia, Pennsylvania.
399. Chen, K. L. and Elimelech, M., Deposition Kinetics of Fullerene (C60) Nanoparticles on Silica Surfaces: Influence of Surface Modification with Humic Acid and Alginate, Chemodynamics of Ecosystems, October 26–31, 2008, Monte Verità, Ascona, Switzerland.
400. Chen, K. L. and Elimelech, M., Deposition Kinetics of Fullerene Nanoparticles on Silica Surfaces Coated with Humic Acid and Alginate, 82nd American Chemical Society Colloid and Surface Science Symposium, June 15–18, 2008, North Carolina State University, Raleigh, North Carolina.
401. Chen, K. L. and Elimelech, M., Deposition Kinetics of Fullerene (C60) Nanoparticles on Silica Surfaces: Influence of Surface Modification with Humic Acid and Alginate, Poster Presented at Chemodynamics of Ecosystems, October 26–31, 2008, Monte Verità, Ascona, Switzerland.
402. Chen, K. L. and Elimelech, M., Deposition Kinetics of Fullerene Nanoparticles on Silica Surfaces Coated With Humic Acid and Alginate, Poster Presented at Gordon Research Conference 2008 – Environmental Sciences: Water, June 22–27, 2008, Holderness, New Hampshire.
403. Rodrigues, D. F., Elimelech, M. Influence of D-mannose on Biofilm Formation. Presented at the Gordon Research Conference on Environmental Sciences: Water, Holderness, NH, 2008.
404. Rodrigues, D.F., Elimelech, M. Influence of Carbon Source on Biofilm Formation. Presented at the 235th ACS meeting, New Orleans, LA, 2008.

405. McCutcheon, J.R., McGinnis, R.L., Elimelech, M. "Influence of membrane support layer hydrophilicity on water flux in pressure retarded osmosis applications", Presented at the International Congress on Membranes and Membrane Processes, Honolulu, HI, June 12-18, 2008.
406. Montgomery, M., Desai, M., Elimelech, M. "Relationship between use and quality of latrines and risk of trachoma among children in rural Tanzania." Presentation given at Sustainable and Safe Drinking Water, UNC-Chapel Hill, November 5-6, 2008, Chapel Hill, North Carolina.
407. Montgomery, M., Elimelech, M. "Three Pillars of Sustainability: A framework for provision of water and sanitation in rural Africa." Presentation given at Sanitation Challenge. Wageningen University, May 19-21, 2008, Wageningen, Netherlands.
408. Montgomery, M., Desai, M., Elimelech, M. "Associations between latrines, hygiene, and trachoma". Presentation given at Stanford Water and Development Conference. Stanford University, April 29-30, 2008, Stanford, California.
409. Montgomery, M., Desai, M., Elimelech, M. "Preliminary results of environment and trachoma research in rural Tanzania." Presentation given at World Health Organization Expert Meeting of Global Alliance for Elimination of Blinding Trachoma, April 16-19th, 2008, Geneva, Switzerland.
410. Elimelech, M. (invited) "Aggregation and Cytotoxicity of Carbon-Based Nanomaterials in Aquatic Environments" Department of Chemical and Environmental Engineering, University of California, Riverside, December 5, 2008.
411. Elimelech, M. (invited) "Aggregation and Cytotoxicity of Carbon-Based Nanomaterials in Aquatic Environments", Sigma Xi Seminar, NIST, December 11, 2008
412. Elimelech, M. (invited) "Mechanisms of Organic Fouling and Subsequent Cleaning of Fouled Membranes", Doosan Desalination R&D Center, Dubai, UAE, November 24, 2008.
413. Elimelech, M. (invited) "Advanced Membrane Technologies for Desalination and Water Reuse", Doosan Desalination R&D Center, Dubai, UAE, November 24, 2008.
414. M. Elimelech, "Aggregation and Deposition Behavior of Carbon Nanotubes (CNTs) in Aquatic Systems", Interagency Environmental Nanotechnology Grantees Workshop, Tampa, Florida, November 19-21, 2008.
415. Elimelech, M. (invited) "Science and Technology for Sustainable Water Supply", Lawrence K. Cecil Award Lecture, AIChE Environmental Division, AIChE Annual Meeting, November 19, 2008, Philadelphia, PA.
416. Elimelech, M. "Membrane Technologies for Sustainable Wastewater Reuse", BSF Workshop: Ensuring the Sustainable Reuse of Wastewater for Agricultural Irrigation in Semi-Arid/Arid Regions, November 8-13, 2008, Haifa University (Israel).
417. Elimelech, M., Chen, K. L., Saleh, N., and Kang, S., (invited) "Aggregation Kinetics of Carbon-Based Nanomaterials in Aquatic Systems: Measurements and Environmental Implications", Chemodynamics of Ecosystems, October 26–31, 2008, Monte Verità, Ascona, Switzerland.
418. Elimelech, M. (invited), "Energy Demand of Seawater Desalination: Implications for the Middle East", Princeton University, Oil, Energy, and the Middle East Program, October 22, 2008.
419. Elimelech, M. (keynote) "Advances in Water Treatment Technologies", Seoul International Symposium on Waterworks Technology, Korea Chamber of Commerce & Industry, Seoul, Korea, September 1-3, 2008.
420. Elimelech, M. (keynote) "Forward Osmosis Desalination", IWA North American Membrane Conference, University of Massachusetts, Amherst, August 10-13, 2008.
421. Elimelech, M. "Water, Nanotechnology, and Health", PepsiCo Leading with Purpose Program, Yale University, July 29, 2008.

422. Elimelech, M. (invited), “Forward Osmosis Desalination: Progress and Challenges”, Seminar at Nanyang Technological University, Singapore, June 30, 2008.
423. Elimelech, M. (keynote) “What the Future Needs to Bring for Water Treatment Technologies”, Singapore International Water Week (SIWW), Singapore, June 24, 2008.
424. Elimelech, M. (invited), “Deposition of Motile and Non-Motile Bacteria onto Conditioning Films”, Nagoya Institute of Technology, Japan, June 6, 2008.
425. Elimelech, M. (invited), “Aggregation Kinetics of Carbon-Based Nanomaterials in Aquatic Systems”, Kyoto University, June 5, 2008.
426. Elimelech, M. (keynote) “Antibacterial Effects of Carbon Nanotubes”, Iterfaces Against Pollution (IAP) 2008, Kyoto, Japan, June 2008.
427. Elimelech, M. “Forward Osmosis Desalination”, EMCC5, Cetraro, Italy, May 29, 2008.
428. Elimelech, M. (invited) “Aggregation Kinetics and Cytotoxicity of Carbon-Based Nanomaterials in Aquatic Environments”, Chemical Engineering Department, UMASS, April 29, 2008.
429. Elimelech, M. (invited), “Aggregation Behavior and Cytotoxicity of Carbon-Based Nanomaterials in Aquatic Environments”, Department of Civil and Environmental Engineering, Michigan State University, March 13, 2008.
430. Elimelech, M. (invited), “Aggregation Behavior and Cytotoxicity of Carbon-Based Nanomaterials in Aquatic Environments”, Department of Civil and Environmental Engineering, Stevens Institute of Technology, March 5, 2008.
431. Vecitis C.D., Kang, S., Elimelech, M. “Antimicrobial Kinetics and Mechanisms of Carbon Nanomaterials”, University of Massachusetts Amherst, International Conference on Environmental Implications and Applications of Nanotechnology, June, 2009, Amherst, MA.
432. Jaisi, D.P., Elimelech, M. “Carbon nanotubes exhibit limited transport in soil column” Presented at the 13th IACIS International Conference on Surface and Colloid Science and the 83rd ACS Colloid & Surface Science Symposium, June 14-19, 2009, New York, NY.
433. Chen, K. L. and Elimelech, M., Influence of Solution Chemistry on the Deposition Kinetics of Fullerene Nanoparticles on Silica Surfaces, 83rd American Chemical Society Colloid and Surface Science Symposium, June 14–19, 2009, Colombia University, New York, New York.
434. Mi, B., Elimelech, M. (2009). "Scaling and cleaning behavior of forward osmosis membranes." Presented at the 5th International Water Association (IWA)Specialized Membrane Technology Conference for Water and Wastewater Treatment, September 1-3, Beijing, China.
435. Mi, B., Elimelech, M. (2009). "Comparison of scaling and cleaning behavior of forward osmosis and reverse osmosis membranes." Presented at the 19th North American Membrane Society (NAMS) Annual Conference, June 20-24, Charleston, SC.
436. Tiraferri, A., Elimelech, M. "Incorporating Carbon-Based Nanomaterials into Thin-Film Composite Polyamide Membranes" Poster Presented at the ACS Division Of Polymer Chemistry meeting Advances in Materials and Processes for Polymeric Membrane Mediated Water Purification, February 22-25, 2009, Asilomar Conference Center, Pacific Grove, CA.
437. Saleh, N. B., Pfefferle, L. D., Elimelech, M. “Aggregation and Deposition Behavior of Carbon Nanotubes” Presented at the EPA Nano Grantees Workshop, November 9-10, 2010, Las Vegas, NV.
438. Saleh, N. B., Pfefferle, L. D., Elimelech, M. “Influence of Natural Organic Matter on Deposition Rate of Single-walled Carbon Nanotubes” Presented at the American Chemical Society 237th National Meeting, March 22-26, 2010, Salt lake City, UT.

439. Saleh, N. B., Pfefferle, L. D., Elimelech, M. "Aggregation Kinetics of Carbon Nanotubes in the Presence of Biomacromolecules" Presented at the American Chemical Society 237th National Meeting, March 22-26, 2010, Salt lake City, UT.
440. Kang, S., Mauter, M., Elimelech, M. "Microbial Cytotoxicity of Carbon-Based Nanomaterials: From the Laboratory to Natural And Engineered Aquatic Systems" Presented at the 13th IACIS International Conference on Surface and Colloid Science and the 83rd ACS Colloid & Surface Science Symposium, June 14-19, 2009, New York, NY
441. Kang, S., Mauter, M., Elimelech, M. "Microbial Cytotoxicity of Carbon-Based Nanomaterials: Implications for River Water and Wastewater Effluent" Presented at the International Conference on the Environmental Implications and Applications of Nanotechnology, June 9-11, 2009, Amherst, MA
442. Kang, S., Mauter, M., Elimelech, M. "Bacterial toxicity of carbon-based nanomaterials: Implication for natural and engineered aquatic system" Presented at the American Chemical Society 237th National Meeting, March 24, 2009, Salt Lake City, UT
443. Mauter, M.S.; Osuji, C.; Elimelech, M. Engineered Applications of Carbon Nanotubes in Reverse Osmosis Membranes. International Symposium on Environmental Implications and Applications of Nanotechnology; UMASS Amherst; 2009.
444. Mauter, M.S.; Elimelech, M.; Osuji, C., Vertical Alignment of Single Wall Carbon Nanotubes (SWNTs) in Thin Polymer Films. American Physics Society, March Meeting; Philadelphia; 2009.
445. Mauter, M.S.; Osuji, C.; Elimelech, M., Vertical Alignment of Single Wall Carbon Nanotubes (SWNTs) for Polymeric Membrane Applications. ACS Division of Polymer Chemistry meeting "Advances in Materials and Processes for Polymeric Membrane Mediated Water Purification", February 22-25, 2009, Asilomar Conference Center, Pacific Grove, CA.
446. Elimelech, M. (invited). Aggregation and Bacterial Cytotoxicity of Carbon-Based Nanomaterials in Aquatic Environments. Washington University at St Louis, Energy, Environmental & Chemical Engineering Seminar Series, October 9, 2009
447. Elimelech, M. (plenary). Osmotically-Driven Membrane Processes. Wetsus Congress, October 5-6, 2009, Leeuwarden, The Netherlands.
448. Elimelech, M. (keynote). Prospects of Seawater Desalination, SEAHERO Workshop on Seawater Desalination, Jeju Island, Korea, December 16, 2009.
449. Elimelech, M. (invited). The Promise of Engineered Osmosis, Samsung Advanced Institute of technology, December 8, 2009, Giheung SAIT, Korea.
450. Elimelech, M. (invited). Osmotically-Driven Membrane Processes, ExxonMobil Research and Engineering, Annandale, New Jersey, October 29, 2009
451. Elimelech, M. (invited). Science and Technology for Sustainable Water Supply, Seminar, Department of Chemical Engineering, McGill University, Montreal, Canada, October 26, 2009
452. Elimelech, M. (plenary). Recent Advances in Membrane Technology, 5th IWA Specialized Membrane Technology Conference for Water and Wastewater Treatment, 1-4 September 2009, Beijing, P.R. China.
453. Elimelech, M. (invited). Science and Technology for Sustainable Water Supply, Seminar, Tsinghua Environmental Forum, Tsinghua University, Beijing, P.R. China, September 4, 2009
454. Elimelech, M. (keynote). (invited). Osmotically-Driven Membrane Processes : Prospects and Challenges, World City Water Forum, Incheon, Korea, August 19, 2009.
455. Elimelech, M. (invited). The Promise of Forward Osmosis, Waterworks Research Institute, Seoul, Korea, August 13, 2009.

456. Elimelech, M. (invited). Forward Osmosis: Principles, Applications, and Challenges, K-Water, Daejeon, Korea, August 10, 2009.
457. Elimelech, M. (keynote). Principles and Applications of Forward Osmosis, Water and Wastewater Facing Climate Change, Seoul, Korea, July 27-28, 2009.
458. Elimelech, M. (keynote). Aggregation and Bacterial Cytotoxicity of Carbon-Based Nanomaterials in Aquatic Environments, 83rd ACS Colloid and Surface Science Symposium, June 14-19, Columbia University, New York, NY.
459. Elimelech, M. (invited). Osmotic Heat Engine for Power Generation, Renewable and Clean Energy Technologies - A Scottish Italian Conference, Heriot-Watt University, Edinburgh, Scotland, May 28, 2009.
460. Elimelech, M. (invited). Science and Technology for Sustainable Water Supply, Seminar, University of Edinburgh, May 25, 2009.
461. Elimelech, M. (invited). Aggregation and Bacterial Cytotoxicity of Carbon-Based Nanomaterials in Aquatic Environments, University of Edinburgh Nano Workshop, May 21, 2009
462. Elimelech, M. (plenary). Deposition of Motile and Non-Motile Bacteria onto Conditioning Films, Microbial Transport and Survival in the Subsurface: First International Conference, May 10-13, 2009, Niagara-on-the-Lake, Ontario, Canada.
463. Elimelech, M. (invited). Aggregation and Bacterial Cytotoxicity of Carbon-Based Nanomaterials in Aquatic Environments, Seminar, Brown University, May 1, 2009.
464. Elimelech, M. (invited). Science and Technology for Sustainable Water Supply, Water Symposium, Yale University, April 21, 2009.
465. Elimelech, M. (invited). Science and Technology for Sustainable Water Supply, The Symposium for World Water Day "Future Water Culture and Green Renaissance", Seoul, Korea, March 16, 2009.
466. Elimelech, M. (invited). Osmotically-Driven Membrane Processes: Challenges and Recent Developments, Advances in Materials and Processes for Polymeric Membrane Mediated Water Purification, February 22-25, 2009, Pacific Grove, California.
467. Elimelech, M. (invited). Science and Technology for Sustainable Water Supply, Seminar, University of Oklahoma, February 20, 2009.
468. Elimelech, M. (invited, Lectures at the Leading Edge), "Science and Technology for Sustainable Water Supply", Department of Chemical Engineering and Applied Chemistry, University of Toronto, December 8, 2010.
469. Elimelech, M. (Distinguished Lecture), "Science and Technology for Sustainable Water Supply", Department of Chemical, Materials & Biomolecular Engineering, University of Connecticut, December 7, 2010.
470. Elimelech, M. (Distinguished Lecture), "The Global Challenge for Adequate and Safe Water", Department of Chemical, University of Connecticut, December 7, 2010.
471. Elimelech, M. (invited), "Selected Applications of Carbon Nanotubes in Water Purification", Environmental Nanotechnology Symposium, Harvard University, December 2, 2010.
472. Elimelech, M. (invited), "Recent Developments in Forward Osmosis", Korea Research Institute of Chemical Technology (KRICT), October 13, 2010, Daejeon, Korea.
473. Elimelech, M. (invited), "Aggregation Behavior of Carbon Nanotubes in Aquatic Environments: Implications for Transport and Bacterial Cytotoxicity", 5thLate Summer Workshop: "Nanoparticles and Nanomaterials in Aquatic Systems", Schloss Maurach, Lake Constance, September 2-October 1, 2010.

474. Elimelech, M. (plenary), "Recent Developments in Forward Osmosis", EuroMed 2010, 3-7 October, Tel Aviv, Israel.
475. Elimelech, M. (keynote), "Aggregation Behavior and of Carbon Nanotubes in Aquatic Environments: Implications for Transport and Bacterial Cytotoxicity", ACS Fall Meeting, Boston, MA, August 25, 2010.
476. Elimelech, M. (invited), "Recent Developments in Forward Osmosis", Korea Institute of Science and Technology (KIST), August 31, 2010, Seoul, Korea.
477. Elimelech, M. (invited), "Recent Developments in Forward Osmosis", Korea Institute of Machinery & Materials (KIMM), August 18, 2010, Daejeon, Korea.
478. Elimelech, M. (keynote), "Recent Advances in Membrane Technology", China National Petroleum Corporation (CNPC), 13 August 2010, Beijing, P.R. China.
479. Elimelech, M. (invited), "Recent Developments in Forward Osmosis", Gwangju Institute of Science and Technology (GIST), August 6, 2010, Gwangju, Korea.
480. Elimelech, M. (invited), "New Developments in Forward Osmosis: Membranes and Processes", Gordon Research Conference, Membranes: Materials & Processes", July 25-30, 2010, Colby-Sawyer College, New London, NH.
481. Elimelech, M. (keynote), "Advanced Membrane Technologies for Sustainable Water Supply", IWA Leading-Edge Technology Conference, 2-4 June, 2010, Phoenix, Arizona.
482. Elimelech, M. (keynote), "Aggregation Behavior of Carbon-Based Nanomaterials in Aquatic Environments: Implications for Transport, Fate, and Cytotoxicity", ICEIN 2010: International Conference on Environmental Implications of Nanotechnology, UCLA, May 11-13, 2010.
483. Elimelech, M. (invited), "Biofouling of Reverse Osmosis Membranes: Measurements and Mechanisms", International Symposium on Membrane Biofouling, April 28-30, Bisbee, Arizona.
484. Elimelech, M. (invited), "Science and Technology for Sustainable Water Supply", Seminar, Department of Chemical Engineering, Princeton University, April 14, 2010.
485. Elimelech, M. (plenary), "Science and Technology for Sustainable Water Supply", 6th Chemical Engineering Conference for Collaborative Research in Eastern Mediterranean Countries, EMCC6, Antalya, Turkey, March 7-12, 2010.
486. Elimelech, M. (keynote), "Desalination: Prospects and Challenges" The Institute of Biological Engineering (IBE) 2010 Meeting, Cambridge, MA, March 5, 2010.
487. Hoover, L.A., Schiffman, J.D., Elimelech, M. "Incorporation of Electrospun Poly(ethylene terephthalate) in Thin-Film Composite Membranes for Osmotically Driven Processes", Gordon Research Conference, Membranes: Materials & Processes, July, 2010, New London, NH.
488. Phillip, W.A., Dorin, R.M., Werner, J., Wiesner, L., and Elimelech, M. "Generation Filtration Membranes with Vertically-Aligned Cylindrical Nanopores", KAUST-Cornell Annual Meeting 2010, Ithaca, NY, June 2010.
489. Phillip, W.A., Yong, J., and Elimelech, M. "Reverse Draw Solute Permeation in Forward Osmosis: Modeling and Experiments", ACS National Meeting 2010, San Francisco, CA, March 2010.
490. Phillip, W.A., and Elimelech, M. "Aligning Cylindrical Domains in Block Terpolymer Membranes for Water Applications", KAUST-Cornell Annual Meeting 2010, Ithaca, NY, June 2010.
491. Tiraferri, A., and Elimelech, M. "Incorporating Nanomaterials in Thin Film Composite Membranes" ACS National Meeting 2010, San Francisco, CA, March 2010.
492. Tiraferri, A., Vecitis, C.D., and Elimelech, M. "Binding Nanomaterials to Membrane Surface for Biofouling Control" KAUST-CU Annual Meeting 2010, Ithaca, NY, June 2010.

493. Tiraferri, A., Vecitis, C.D., and Elimelech, M. “Binding Nanomaterials to Membrane Surface for Biofouling Control”, Gordon Research Conference Membranes: Materials and Processes 2010, New London, NH, July 2010
494. Yip N.Y., Tiraferri A., Phillip W.A., Schiffman J.D., Elimelech M., “Thin-film Composite Membrane For Osmotically-Driven Membrane Processes”, ACS National Meeting, San Francisco, CA, March 2010.
495. Yip N.Y., Tiraferri A., Phillip W.A., Schiffman J.D., Elimelech M., “Thin-film Composite Membrane For Forward Osmosis Applications”, Singapore International Water Week 2010 - Water Convention, Singapore, June 2010.
496. Yip N.Y., Tiraferri A., Phillip W.A., Schiffman J.D., Elimelech M., “Thin-film Composite Membrane For Osmotically-Driven Membrane Processes” Gordon Research Seminar Membranes: Materials and Processes 2010, New London, NH, July 2010.
497. Schiffman, J.D., Elimelech, M. “Non-woven polysulfone-single-walled carbon nanotube membranes as antibacterial coatings,” Gordon Research Conference Membranes: Materials and Processes, July 2010, New London, NH.
498. Zhiyong, M., and Elimelech, M. “Characterization of Aggregation Behavior of C60 Nanoparticles in Aqueous Solutions by Multi-Angle Light Scattering”, presented at the 42nd New England Complex Fluid Workshop, Yale University, New Haven, CT, March 5, 2010.
499. Zhiyong, M., Elimelech, M. “Characterization of Aggregation Behavior of C60 Nanoparticles in Aqueous Solutions by Multi-Angle Light Scattering”, Poster presentation at the Gordon Research Conference on Colloidal, Macromolecular & Polyelectrolyte Solutions, Ventura, CA, February 21-26, 2010.
500. Sima, L., Elimelech, M., Schaeffer, J., Parnaudeau, S., La Saux, J.C., and Le Guyader, F.S. "Prevalence and Removal of Human Enteric Viruses in a Municipal Membrane Bioreactor." University of Carolina, Water and Health: Where Science Meets Policy, October, 2010, Chapel Hill, NC.
501. Sima, L., Elimelech, M., Schaeffer, J., Parnaudeau, S., La Saux, J.C., and Le Guyader, F.S. "Prevalence and Removal of Human Enteric Viruses in a Municipal Membrane Bioreactor." 4th International Conference on Caliciviruses, October, 2010, Santa Cruz, Chile.
502. S. Kang, C. Vecitis, M. Elimelech, “Stabilization of multiwalled carbon nanotubes by natural organic matter in aqueous phase”, IWA World Water Congress, September, 2010, Montreal, Canada.
503. Mauter, M. S.; Elimelech, M.; Osuji, C. O. “Vertical Alignment of Single-Walled Carbon Nanotubes (SWNTs) in Polymer Membranes. Gordon Research Seminar, Membranes: Materials and Processes, Colby-Sawyer College, June 2010.
504. Mauter, M. S.; Elimelech, M.; Osuji, C. O. “Polymerizable lyotropic liquid crystalline matrix for magnetic alignment of nanorods and nanotubes in polymer thin films. American Chemical Society, 84th Colloid and Surface Science Symposium, Akron, 2010.
505. Mauter, M. S.; Elimelech, M.; Osuji, C. O. “Templated alignment of single-walled carbon nanotubes in polymer films. American Chemical Society, 239th National Meeting, San Francisco, 2010.
506. Mauter, M. S.; Elimelech, M., Single-walled carbon nanotube (SWNT) composite membranes for reduction of biofouling in water treatment. American Chemical Society, 239th National Meeting, San Francisco, 2010.

507. Kim, C., Lee, S. Boo, C., Oh, Y., Hong, S., Hur, H., and Elimelech, M. "Osmotic Backwashing for Forward osmosis", 3rd IWA Asia Pacific Young Water Professionals Conference Achieving Sustainable Development in the New Era, 21-24 November, 2010, Singapore.

508. Boo, C., Lee, S., Kim, C., Oh, Y., Hong, S., Elimelech, M., "Colloidal Fouling in Forward Osmosis: Role of Reverse Diffusion in Colloidal Fouling", The 3rd International Desalination Workshop, Nov 3-6, 2010, Jeju, Korea

509. Kim, C., Lee, S., Boo, C., Elimelech, M., Hong, S., "Comparison of boron rejection behaviors in forward and reverse osmosis systems", IWA MTWR 2010, Oct 18-22, 2010, Istanbul, Turkey.

510. Boo, C., Lee, S., Kim, C., Choi, S., Elimelech, M., Hong, S., "Investigation of fouling layer characteristics in forward and reverse osmosis systems", MDIW(Membrane in Drinking and Industrial Water Treatment), June 27-30, 2010, Trondheim, Norway.

511. Kim, C., Lee, S., Boo, C., Elimelech, M., Hong, S., "Comparison of solute rejection behaviors in forward and reverse osmosis systems", (Poster) MDIW(Membrane in Drinking and Industrial Water Treatment), June 27-30, 2010, Trondheim, Norway.

512. Lee, E., Kuk, J., Lee, S., Ko, K.B., Hong, S., Elimelech, M., "Determination of chemical surface heterogeneity of RO membranes by dynamic hysteresis as well as atomic force microscopy(AFM) and its relation to membrane fouling", MDIW(Membrane in Drinking and Industrial Water Treatment), June 27-30, 2010, Trondheim, Norway.

513. Boo, C., Lee, S., Elimelech, M., Hong, S.," Reversibility of Membrane Fouling in Forward Osmosis (FO) for Wastewater Reclamation", (Poster), IWA DEWATS Conference, March 23-26, 2010, Surabaya, Indonesia.

514. Elimelech, M. (invited) "The Future of Seawater Desalination", Seminar at Eawag, Swiss Federal Institute of Aquatic Science and Technology, Dübendorf, Switzerland, December 9, 2011.

515. Elimelech, M. (invited) "The Future of Seawater Desalination", Seminar, Department of Civil and Environmental Engineering, Pennsylvania State University, November 30, 2011.

516. Elimelech M. (plenary) "The Promise of Forward Osmosis", 6th IWA Specialist Conference on Membrane Technology for Water & Wastewater Treatment, Aachen, Germany, 4-7 October 2011.

517. Elimelech M. (invited) "Science and Technology for Sustainable Water Supply", The 33rd Annual Chemical Engineering Graduate Student Association (ChEGSA) Symposium, Carnegie Mellon University, September 15-16, 2011.

518. Elimelech M. (invited) "Research on Technological Solutions to Global Water Scarcity", Yale University Council Committee on Technology Transfer September 9, 2011.

519. Elimelech M. (keynote) "The Future of Seawater Desalination: Energy, Technology, and the Environment", 1st International Conference on Green Environmental Technology, Korean Society of Environmental Engineers, Busan, Korea, August 21-24, 2011.

520. Elimelech M. (invited) "The Future of Seawater Desalination: Energy, Technology, and the Environment", Korea Institute of Science and Technology (KIST), August 17, 2011, Seoul, Korea.

521. Elimelech M. (award lecture) "Science and Technology for Sustainable Water Supply", Simon W. Freese Environmental Engineering Award Lecture, May 26, 2011, Palm Springs, California.

522. Elimelech M. (invited) "Prospects and Challenges of Desalination", Symposium on Technology and R&D in Water, The National Bureau of Economic Research, Cambridge, MA, April 26, 2011.

523. Elimelech M. (invited) “Binding Nanomaterials to Thin-Film Composite Membranes to Tailor Surface Properties”, The Eighth U.S.-Korea Forum on Nanotechnology: Nanotechnology for Sustainability, Pasadena, CA, USA, April 4 & 5, 2011.

524. Mauter, M.S. and Elimelech, M. Nanomaterials for Membrane-Based Water Treatment Applications. IWA Nano and Water, Monte Verita, Switzerland, 2011.

525. Mauter, M.S., Wang, Y., Giannelis, E., Osuji, C., and Elimelech, M. Antifouling Ultrafiltration Membranes via Post-Synthesis Grafting of Biocidal Nanomaterials. Advances in Materials and Processes for Polymeric Membrane Mediated Water Purification, ACS Division of Polymer Chemistry, February 27-March 2, 2011, Asilomar Conference Grounds, Pacific Grove, CA.

526. William A. Phillip, Rachel Mika Dorin, Joerg Werner, Eric M.V. Hoek, Ulrich Wiesner and Menachem Elimelech, “Self-Assembled Block Polymers Used as Water Filtration Membranes” Gordon Research Conference Membranes: Materials and Processes 2010, New London, NH. Poster Presentation, February 2011.

527. William A. Phillip, Rachel Mika Dorin, Joerg Werner, Eric M.V. Hoek, Ulrich Wiesner and Menachem Elimelech, “Tuning Structure and Properties of Graded Triblock Terpolymer-Based Mesoporous Films” AIChE National Meeting 2011, Minneapolis, MN. Speaker October 2011.

528. William Phillip, Jui Shan Yong, Menachem Elimelech, “Permeation of Interacting Solutes In Forward Osmosis” AIChE National Meeting 2011, Minneapolis, MN. Speaker October 2011

529. Boo, C., Kim, D., Kim, Y., Lee, S., Elimelech, M., Hong, S. Collodial fouling in forward osmosis (FO): Abnormal behavior of silica colloidal particles_Water & Innovation water Technology, Oct, 2011, Aquatech, Amsterdam, Netherlands.

530. Schiffman, J.D., Wang, Y., Giannelis, E.P., Elimelech, M., "Antibacterial Activity of Composite Electrospun Polysulfone Mats Featuring Biocidal Nanomaterials", 85th ACS Colloid & Surface Science Symposium, June 2011, Montreal, Quebec, Canada.

531. Schiffman, J.D., Wang, Y., Giannelis, E.P., Elimelech, M., “Electrospun Polysulfone Mats Using Biocidal Nanomaterials". AIChE Annual Meeting, October 2011, Minneapolis, MN.

532. Schiffman, J.D., Zodrow, K.R., Elimelech, M., "Biofilm Reduction by Carvacrol and Cinnamaldehyde Incorporated into Poly(Lactide-co-glycolide) (PLGA) Thin Films" MRS Fall Meeting, November 2011, Boston, MA.

533. Meng, Z., and Elimelech, M., "Aggregation Profile and Fractal Dimension Evolution of Aggregates of C60 Nanoparticles (FNPs) and Single-Walled Carbon Nanotubes (SWNTs)", 85th ACS Colloid & Surface Science Symposium, June 2011, Montreal, Quebec, Canada.

534. Hoover, L. A.; Schiffman, J. D.; Elimelech, M., "Fabrication of thin-film composite membranes on electrospun poly(ethylene terephthalate) (PET) for engineered osmosis" Oral presentation at the 21st Annual Meeting of the North American Membrane Society, June 4-8, 2011, Las Vegas, NV.

535. Tiraferri A., Wang, Y., Giannelis E..P., Elimelech, M. "Binding Nanomaterials to Polymeric Membrane Surface: a New Approach to Tailor Surface Properties", poster presented at conference "Advances in Materials and Processes for Polymeric Membrane Mediated Water Purification", ACS Division of Polymer Chemistry, February 27-March 2, 2011, Asilomar Conference Grounds, Pacific Grove, CA

536. Tiraferri A., Vecitis, C.D, Elimelech, M. "Covalent Binding of Single-walled Carbon Nanotubes to Polyamide Membranes for Antimicrobial Surface Properties" presented at AMTA/SEDA Joint Conference & Exposition, July 18-21, 2011, Miami Beach, FL.

537. Tiraferri A., Kang. Y., Wang Y., Giannelis E.P., Elimelech M. "Super-hydrophilic Polyamide Membranes via Surface Functionalization with Silica-based Nanoparticles" presented at the 242nd ACS National Meeting & Exposition, August 28-September 1, 2011, Denver, CO

538. Elimelech M. "Thin-film Composite Membranes for Osmotically-driven Membrane Processes" presented by Tiraferri A. at the 242nd ACS National Meeting & Exposition, August 28-September 1, 2011, Denver, CO.

539. Yip, N.Y., Tiraferri, A., Phillip, W.A., Schiffman, J.D., and Elimelech, M. "Thin-film Composite Membranes for Osmotically-Driven Processes ", 8th IWA Leading-Edge Conference on Water and Wastewater Technologies, June 08, 2011, Amsterdam, The Netherlands.