

Technical Publications for Imad Hannoun

1. “Evaluation of Hypolimnetic Oxygen Demand in a Large Eutrophic Raw Water Reservoir, San Vicente Reservoir, California”, *Journal of Environmental Engineering*, February 2007, (with Marc Beutel, Jeff Pasek and Kristen Bowman Kavanagh).
2. “Using Hydraulic Modeling to Optimize Contact Time”, *Journal AWWA* **90**, August 1998 (with Paul Boulos).
3. “Simulation of Sludge Pumping”, *Water Environment Research*, **70**, 2, pp. 197-204 (with E. J. List and W. Chiang), 1998.
4. “Optimizing Distribution Storage Water Quality: A Hydrodynamic Approach”, *Journal Applied Mathematical Modeling* **21**, pp. 495 – 502, 1997.
5. “Turbulence Structure near a Sharp-Density Interface”, *Journal of Fluid Mechanics* **189**, 189, 1988 (with E. J. List and H. J. S. Fernando).
6. “Turbulent Mixing at a Shear-free Density Interface”, *Journal of Fluid Mechanics* **189**, 211, 1988 (with E. J. List).
7. “Nature of Turbulence near a Density Interface”, *Bulletin of the American Physical Society*, **30**, 10, 1985 (with E. J. List and H. J. S. Fernando).
8. “Predicting Effect of Reservoir Expansion on Water Quality in Los Vaqueros Reservoir”, submitted to *Journal of Lake and Reservoir Management*, (with Benjamin Martin, Li Ding and E. John List).

Select Conference Papers and Presentations

1. “Planning for the Future: Modeling Anticipated Changes in Water Quality”, *Hydrology & Water Resources 2012 Symposium*, Sydney, Australia, November 19-22, 2012, (with Al Preston, E. John List, Peggy Roefer, Ron Zegers and Todd Tietjen).
2. “Modeling the Effects of Future Climate Change on Water Quality in Lake Mead”, *In the Proceedings of the NALMS 32nd International Symposium*, Madison, WI, November 7-9, 2012 (with Al Preston, E. John List, Todd Tietjen and Jeffery Pasek).
3. “Lake Casitas Water Quality Issues”, presented at the 27th Annual CALMS Conference, October 4-5, 2012, San Diego, CA (with Susan McMahon and Li Ding).

4. “Predictions of Effect of Climate Change on Water Quality in Lake Mead”, presented at the *27th Annual CALMS Conference*, October 4-5, 2012, San Diego, CA (with Al Preston, E. John List, Rogn Zegers, Todd Tietjen, and Peggy Roefer).
5. “Development of a Three Dimensional Hydrodynamic Model to Assess Indirect Potable Reuse/Reservoir Augmentation in San Vicente Reservoir”, *16th Annual Water Reuse & Desalination Research Conference*, San Diego, CA, June 4-5, 2012 (with Jeffery Pasek, Li Ding).
6. “Understanding Nutrient Limitations in Lake Mead”, *In the Proceedings of the Lake Mead Science Symposium*, March 5, 2012, Las Vegas, NV (with Li Ding, E. John List, Todd Tietjen, Peggy Roefer).
7. “Application of a Three-Dimensional Water Quality Model to Lake Mead for an Extended Drought Scenario”, *In the Proceedings of the Lake Mead Science Symposium*, March 5, 2012, Las Vegas, NV (with Al Preston, E. John List, Todd Tietjen, Peggy Roefer, Ron Zegers).
8. “A Detailed Phosphorus Budget for Lake Mead”, *In the Proceedings of the NALMS 31st International Symposium*, October 22, 2011, Spokane, WA (with Li Ding, E. John List, Todd Tietjen, Peggy Roefer).
9. “San Vicente Reservoir Augmentation Project”, *In the Proceedings of the NALMS 31st International Symposium*, October 22, 2011, Spokane, WA (with Li Ding, E. John List, Jeffery Pasek).
10. “Predicting Water Quality in Lake Mead: Climate Change and Drought”, *In the Proceedings of the American Water Resources Association Conference*, April 18, 2011, Baltimore, Maryland, (with Ronald E. Zegers, Peggy Roefer, Todd Tietjen).
11. “Modeling the Effect of Pump Back Operations on Water Quality in Olivenhain Reservoir, San Diego County”, *In the Proceedings of the NALMS 30th International Symposium*, November 3, 2010, Oklahoma City, Oklahoma (with Al Preston, E. John List, Thomas Keller, Robin Stampbach, Joe Wegand).
12. “Overview of Southern California Reservoirs”, *In the Proceedings of the CALMS Annual Symposium*, October 7, 2010, Palm Springs, California.
13. “Los Vaqueros Reservoir Expansion”, presented at the *CALMS Annual Symposium*, October 7, 2010, Palm Springs, California.
14. “Los Vaqueros Reservoir Expansion, presented at the *CALMS Annual Symposium*, October

- 7, 2010, Palms Springs, California (with Li Ding, Ben Martin, Matt Moses, Marguerite Naillon, Maureen Martin, Ed Nishikawa, Jean Zacher, Yoland Bartley).
15. “Joint Water Pollution Control Plant Outfall Modeling”, *in the Proceedings of the MWWD 5th International Conference on Marine Waste Water Discharges and Coastal Environment*, October 27 – 31, 2008, Dubrovnik, Croatia. (with L. Ding, E. J. List, N. Hicks and A. Steele).
 16. “Use of ELCOM-CAEDYM Modeling to Aid in the Design of a Hypolimnetic Oxygenation System for Lake Perris”, *In the Proceedings of the 27th International Symposium of the North American Lake Management Society (NALMS)*, October 20, 2007 – November 02, 2007, Lake Buena Vista, FL.
 17. “Use of Estuary and Lake Computer Model (ELCOM) and Computational Aquatic Ecosystem DYNAMICS Model (CAEDYM) for Water Quality Simulation in Boulder Basin”, *In the Proceedings of the Nevada Water Environment Association’s (NWEA) Annual Conference*, March 21 - 23, 2007, Las Vegas, NV.
 18. “Use of ELCOM and CAEDYM for Evaluation of Alternative Effluent Discharge Locations in Boulder Basin”, *In the Proceedings of the 26th International Symposium of the North American Lake Management Society (NALMS)*, November 8 - 10, 2006, Indianapolis, IN.
 19. “Use of ELCOM and CAEDYM for Water Quality Simulations”, *in the Proceedings for the 79th Water Environment Federation Technical Exhibition and Conference (WEFTEC)*, October 21 - 25, 2006, Dallas, TX.
 20. “Use of Models to Assess Water Quality Associated with a Regional Seawater Desalination Plant in Carlsbad, California”, *in the Proceedings for the California and the World Ocean Conference 2006*, September 17 - 20, 2006, Long Beach, CA (with L. Ding, E. J. List, S. Paulsen).
 21. “Receiving Water Analysis for Regional Seawater Desalination Plant in Carlsbad, California”, *in the Proceedings of the American Membrane Technology Association (AMTA) 2006 Biennial Conference and Exposition*, August 2, 2006, Anaheim, California (with E. J. List, L. Ding, N. Martin).
 22. “Receiving Water Impacts from Desalination Plants”, *In the Proceedings of the Desalination Conference*, May 12, 2006, Santa Barbara, California.
 23. “Use of ELCOM and CAEDYM for Water Quality Simulation in Boulder Basin”, *In the Proceedings of the NALMS 25th International Symposium*, November 11, 2005, Madison, Wisconsin (with E. J. List, L. Ding, K. Bowman-Kavanagh, A. Preston, I. Rackley, D. Karafa).

24. "Use of ELCOM and CAEDYM for Water Quality Simulation in Boulder Basin", *in the Proceedings of the Water Environment Federation Total Maximum Daily Load (WETMDL) 2005 Conference*, Philadelphia, Pennsylvania, June 27 - 29, 2005 (with E. J. List, K. Bowman-Kavanagh, W. Chiang, L. Ding, D. Karafa, I. Rackley).
25. "Use of the Dynamic Reservoir Water Quality Model (DYRESM-WQ) for Perchlorate Mixing and Dispersion Analysis of Lakes Mead/Mohave/Havasu", *in the Proceedings of the NALMS 2004 International Symposium*, November 3 - 5, 2004, Victoria, British Columbia (with L. Palencia, K. Bowman-Kavanagh).
26. "Use of ELCOM and CAEDYM for Water Quality Simulation in Boulder Basin", presented at the *California Lake Management Society (CALMS) Symposium*, November 13 - 14, 2003, Sacramento, California (with E. J. List, L. Ding, K. Bowman-Kavanagh, W. Chiang, I. Rackley, D. Karafa).
27. "Use of ELCOM and CAEDYM for Water Quality Simulation in Boulder Basin", *in the Proceedings of the NALMS 23rd International Symposium*, November 4 - 8, 2003, Mashantucket, CT (with E. J. List, K. Bowman-Kavanagh, W. Chiang, L. Ding, D. Karafa, I. Rackley).
28. "Optimizing Water Quality in Clearwells and Distribution Storage Reservoirs Using Computational and Fluid Dynamics", *in the Proceedings of the Virginia American Water Works Association (AWWA) Section Meeting*, October 29, 2003, Roanoke, Virginia.
29. "Optimizing Water Quality in Distribution Storage Reservoirs", *in the Proceedings of the World Water & Environmental Congress 2003*, June 23, 2003, Philadelphia, Pennsylvania (with K. Bowman-Kavanagh, D. LaMoreaux).
30. "CFD Modeling in re-Design of Reservoir Inlet/Outlet in San Francisco", *In the Proceedings of the AWWA Annual Conference*, June 16, 2003, Anaheim, California (with K. Miller).
31. "Assessing Improvements to Sedimentation Basins Using Computational Fluid Dynamics Modeling", *in the Proceedings of the 2002 AWWA Water Quality Technology Conference*, November 10 - 14, 2002, Seattle, Washington (with S. Seckinger, J. Herrick, P. Gadoury, R. Sheldon).
32. "Optimizing Water Quality in Distribution Storage Reservoirs Using Computational Fluid Dynamics Modeling", presented at the *Royal Scottish Hydraulic Group*, January, 2001, Edinburgh, Scotland.
33. "Evaluation of Hypolimnetic Oxygenation Alternatives Case Study: Lake Perris", presented at the *CALMS 15th Annual Meeting*, October 12, 2000, Temecula, California (with K. Bowman-Kavanagh).

34. "Optimizing Disinfectant Residual in a Water Distribution Storage Reservoir", in *the Proceedings of the AWWA 1998 Residual Workshop*, April 27 - 29, 1998, Philadelphia, Pennsylvania.
35. "The Design of a Second Inlet Structure to Meet Stringent Water Quality Criteria in the Eastside Reservoir", in *the Proceedings of the 1997 NALMS Conference*, December 2 - 5, 1997, Houston, Texas (with W. D. Taylor, R. F. Losee, C. Bennett, E. J. List).
36. "Optimizing Water Quality in Water Distribution Storage Reservoirs", in *the Proceedings of the 1997 Rehabilitation and Development of Civil Engineering Infrastructure Systems*, pp. 1319-1327, June 9 - 11, 1997, Beirut, Lebanon (with P. Boulos).
37. "A Method for Determining the Mixing Characteristics of a Mid-Size Water Supply Reservoir", in *the Proceedings of the 1996 NALMS Symposium*, pp.108, November 13 - 16, 1996, St. Paul, Minnesota (with J. Pasek, E. J. List, S. Paulsen).
38. "Computational Fluid Dynamics: An Emerging Computer Technology in the Water Industry", in *the Proceedings of the 1996 AWWA Computer Conference*, pp. 87-97, April 21 - 24, 1996, Chicago, Illinois.
39. "A Computational Model for Simulating the Pumping of Sludge Cake in a Wastewater Treatment Plant", in *the Proceedings of WEFTEC 68th Annual Conference*, October 21 - 25, 1995, Miami, Florida (with E. J. List, W. Chiang).
40. "Application of Computational Fluid Dynamics to the Optimization of a Water Plant Clearwell", in *the Proceedings of the 1995 AWWA Computer Conference*, pp. 1-9, April 2 - 5, 1995, Norfolk, Virginia (with P. Boulos).
41. "Gas Injection from a Solid Object into Moving Water", in *the Proceedings of the 1992 American Society of Mechanical Engineers (ASME) Fluids Engineering Conference*, Los Angeles, California, 1992.
42. "Computations of a Solid Sphere Crossing an Air/Water Interface", in *the Proceedings of the Fourth International Symposium on Computational Fluid Dynamics*, 1991, Davis, California.
43. "Air Injection into a Liquid Boundary-Layer", in *the Proceedings of the ASME Cavitation and Multiphase Flow Forum*, San Diego, California, 1989.
44. "Trident II D5 Seal Impulse Analysis", in *the Proceedings of the U. S. Navy's Underwater Launch Technical Working Group (ULTWG) Meeting*, September 7, 1988, Sunnyvale, California (with K. K. Kan, R. K. C. Chan, P. Chan, D. Long, J. H. Stuhmiller).