

Sample Publications/Book Chapters for Dr. Harry Ridgway *reverse chronology:*

- ⊕ *More than 45 peer-reviewed publications*
- ⊕ *Journal Impact Factor range: 1+ to 6+*
- 1. Fujioka, T. **Ridgway, H.F.**, Shimazu, A., Mingliang, F., Shintani, T. and T. Yoshioka. 2019. Molecular dynamics simulations of trace organic chemical transport in reverse osmosis membranes. *Submitted for publication, under review.*
- 2. Leusch, F.D.L., Neale, P.A., Buseti, F., Card, M., Humpage, A., Orbell, J.D., **Ridgway, H.F.**, Stewart, M.B., van de Merwe, J.P. and B.I. Escher. 2018. [Transformation of endocrine disrupting chemicals, pharmaceutical and personal care products during drinking water disinfection.](#) *Sci. Total Environment* 657, 1480-1490.
- 3. **Ridgway, H.F.**, Orbell, J. and S. Gray. 2018. [Chlorination of oxybenzone and prediction of transformation products using non-equilibrium “forced” molecular dynamics.](#) *Desalination and Water Treatment* 114, 31–50.
- 4. **Ridgway, H.F.**, Mohan, B., Cui, X., Chua, K.J. and M.R. Islam. 2017. [Molecular dynamics simulation of gas-phase ozone reactions with sabinene and benzene.](#) *J. Molec. Graphics and Modeling* 74, 241-250.
- 5. Piyadasa, C., Yeager, T.R., Stewart, M.B., **Ridgway, H.F.**, Pelekani, C. and J.D. Orbell. 2017. [Antimicrobial effects of pulsed electromagnetic fields from commercially available water treatment devices – controlled studies under static and flow conditions.](#) *Chem. Technol. Biotechnol.* 93, 871-877.
- 6. **Ridgway, H.F.**, J. Orbell and S. Gray. 2017. [Molecular simulations of polyamide membrane materials used in desalination and water reuse applications: Recent developments and future prospects.](#) *J. Membr. Sci.* 524, 436–448.
- 7. Piyadasa, C., Yeager, T.R., Gray, S.R, Stewart, M.B., **Ridgway, H.F.**, Pelekani, C. and J.D. Orbell. 2016. [The effect of electromagnetic fields, from two commercially available water treatment devices, on bacterial culturability.](#) *Water Sci. Technol.* 73, 1371-1377.
- 8. **Ridgway, H.F.**, Gale, J.D., Hughes, Z.E., Stewart, M.B., Orbell, J.D. and S.R. Gray. 2013. [Molecular scale modeling of membrane water treatment processes.](#) In *"Nanomaterials for Water"*, Chapter 10, Elsevier Publishing.
- 9. Flemming, H.-C. and **H.F. Ridgway**. 2008. [Biofilm control: conventional and alternative approaches,](#) pp. 103-120, in Flemming, H.-C., Murthy, P.S., Venkatesan, R., and K.E. Cooksey (eds.), *Marine and Industrial Biofouling*, Springer-Verlag, Berlin, Heidelberg.
- 10. Libotean, D., Giralt, J., Rallo, R., Cohen, Y., Giralt, F., **Ridgway, H.F.**, Rodriguez, G., and D. Phipps. 2008. [Organic Compounds Passage through RO Membranes.](#) *J. Membrane Sci.*, 313, 23-43.
- 11. Steinle-Darling, E., Zedda, M., Plumlee, M., **Ridgway, H.F.** and M. Reinhard. 2007. [Evaluating the impacts of membrane type, coating, fouling, chemical properties and water chemistry on reverse osmosis rejection of seven nitrosoalkylamines, including NDMA.](#) *Water Res.*, 41, 3959-67.
- 12. Knoell, T., Safarik, J., Cormack, T. R. Riley, S.W. Lin and **H.F. Ridgway**. 2000. [Biofouling potentials of microporous polysulfone membranes containing a sulfonated polysulfone/polyethersulfone block copolymer: correlation of membrane surface properties with bacterial attachment.](#) *J. Mem. Sci.*, 157, 117-138.
- 13. Campbell, P., Srinivasan, R., Knoell, T., Phipps, D., Ishida, K., Safarik, J., Cormack, T. and **H.F. Ridgway**. 1999. [Quantitative structure activity relationship \(QSAR\) analysis of surfactants influencing attachment of a Mycobacterium species to cellulose acetate and polyamide reverse osmosis membranes.](#) *Biotechnology and Bioengineering* 64, 527-544.
- 14. **Ridgway, H.F.**, K. Ishida, G. Rodriguez, J. Safarik, T. Knoell and R. Bold. 1999. [Biofouling of Membranes: Membrane Preparation, Characterization, and Analysis of Bacterial Adhesion,](#) pp. 463-494. In Doyle, R. (Ed.), *Methods in Enzymology: Biofilms*, Academic Press, San Diego, CA.
- 15. Phipps, D., G. Rodriguez and **H.F. Ridgway**. 1999. [Deconvolution Fluorescence Microscopy for Observation and Analysis of Membrane Biofilm Architecture,](#) pp. 178-194. In Doyle, R. (Ed.), *Methods in Enzymology: Biofilms*, Academic Press, San Diego, CA.
- 16. Mirpuri R.G., Jones W.L., McFeters G.A., **Ridgway H.F.** 1997. [Physiological stress in batch cultures of Pseudomonas putida 54G during toluene degradation.](#) *J. Ind. Microbiol. & Biotechnol.* 6, 406-13.

17. **Ridgway, H.F.** and H.-C. Flemming. 1996. Membrane Biofouling, pp 6.1-6.62, In: Water Treatment: Membrane Processes, J. Mallevalle, P. E. Odendaal, and M. R. Weisner (Eds.), McGraw-Hill Publishers, New York.
18. Leddy, M.B., Phipps, D.W. and **H.F. Ridgway**. 1995. [Catabolite-mediated mutations in alternate toluene degradative pathways in *Pseudomonas putida*](#). J. Bacteriol. 177, 4713-4720.
19. Rodriguez, G.G., Phipps, D., Ishiguro, K. and **H.F. Ridgway**. 1992. [Use of a fluorescent redox probe for direct visualization of actively respiring bacteria](#). Appl. Environ. Microbiol. 58, 1801-1808.
20. Schaule, G., Flemming, H.-C. and **H.F. Ridgway**. 1992. [Use of 5-cyano-2,3-ditolyl tetrazolium chloride \(CTC\) for quantifying planktonic and sessile respiring bacteria in drinking water](#). Appl. Environ. Microbiol. 59, 3850-3857.
21. **Ridgway, H.F.** and J. Safarik. 1991. Biofouling of Reverse Osmosis Membranes. In Proc. Of the International Workshop on Biofouling and Biocorrosion, Stuttgart, 13-14 Sept. 1991, Springer-Verlag, Berlin, Heidelberg.
22. **Ridgway, H.F.**, Safarik, J., Phipps, D., Carl, P. and D. Clark. 1990. [Identification and catabolic activity of well-derived gasoline-degrading bacteria from a contaminated aquifer](#). Appl. Environ. Microbiol. 56, 3565-3575.
23. **Ridgway, H.F.** 1988. Microbial Adhesion and Biofouling of Reverse Osmosis Membranes, In Parekh, B. (Ed), Reverse Osmosis Technology: Application for High-Purity Water Production, Marcel Dekker, Inc., New York and Basel (1988).
24. **Ridgway, H.F.**, Rigby, M.G. and D.G. Argo. 1985. [Bacterial adhesion and fouling of reverse osmosis membranes](#). J. Amer. Water Works Assoc. 77, 97-106.
25. **Ridgway, H.F.**, Rigby, M.G. and D.G. Argo. 1984. [Adhesion of a *Mycobacterium sp.* to cellulose diacetate membranes used in reverse osmosis](#). Appl. Environ. Microbiol. 47, 61-67.
26. **Ridgway, H.F.**, Justice, C.A., Whittaker, C., Argo, D. and B.H. Olson. 1984. [Biofilm fouling of RO membranes: its nature and effect on treatment of water for reuse](#). J. Amer. Water Works Assoc. 76, 94-102.
27. Whittaker, C., **Ridgway, H.F.** and B.H. Olson. 1984. [Evaluation of cleaning strategies for removal of biofilm from reverse osmosis membranes](#). Appl. Environ. Microbiol. 48, 395-403.
28. **Ridgway, H.F.**, Justice, C., Kelly, A. and B.H. Olson. 1983. [Microbial fouling of reverse osmosis membranes used in advanced wastewater treatment technology: chemical, bacteriological, and ultrastructural analyses](#). Appl. Environ. Microbiol. 45, 1066-1084.
29. **Ridgway, H.F.** and R.A. Lewin. 1983. [Subunit composition of goblet-shaped particles from the cell wall of *Flexibacter polymorphus*](#). Can. J. Microbiol. 29, 1689-1693.
30. **Ridgway, H.F.**, Means, E.G. and B.H. Olson. 1981. [Iron bacteria in drinking water distribution systems: elemental analysis of *Gallionella* stalks using x-ray energy dispersive microanalysis](#). Appl. Environ. Microbiol. 41, 288-297.
31. Means, E.G., L. Hanami, **H.F. Ridgway**, and B.H. Olson. 1981. [Evaluating mediums and plating techniques for enumerating bacteria in water distribution systems](#). Journal AWWA. 73:585-590.
32. **Ridgway, H.F.** and B.H. Olson. 1981. [Scanning electron microscope evidence for bacterial colonization of a drinking water distribution system](#). Appl. Environ. Microbiol. 41, 274-287.
33. Simon, M.I., Silverman, M., Matsumura, P., **Ridgway, H.**, Komeda, Y. and M. Hilman. 1978. Structure and function of bacterial flagella. Symposia of the Society for General Microbiology, No. XXVIII, Relations Between Structure and Function in the Prokaryotic Cell, pp. 271-286.
34. **Ridgway, H.F.** 1977. [The source of energy for gliding motility in *Flexibacter polymorphus*: effects of metabolic and respiratory inhibitors on gliding movement](#). J. Bacteriol. 131, 544-556.
35. **Ridgway, H.F.** 1977. [Ultrastructural characterization of goblet-shaped particles from the cell wall of *Flexibacter polymorphus*](#). Can. J. Microbiol. 23, 1201-1213.
36. **Ridgway, H.F.**, Silverman, M. and M.I. Simon. 1977. [Localization of proteins controlling motility and chemotaxis in *Escherichia coli*](#). J. Bacteriol. 132, 657-665.
37. **Ridgway, H.F.**, Wagner, R.M., Dawsey, W.T. and R.A. Lewin. 1975. [Fine structure of the cell envelope layers of *Flexibacter polymorphus*](#). Can. J. Microbiol. 21, 1733-1750.

Sample Reports *reverse chronology:*

1. **Ridgway, H.F.** 2014. Molecular Simulation of Halogen Reactions with Polyamide Membrane Materials. Final Project Report: Visiting Research Scientist, Water Desalination and Reuse Center, King Abdullah University of Science and Technology (KAUST), Saudi Arabia (*unpublished*).
2. Rodriguez, G., Buonora, S., Knoell, T., Phipps, D. and **H.F. Ridgway**. 2004. Rejection of pharmaceuticals by reverse osmosis (RO) membranes: quantitative structure activity relationship (QSAR) analysis. Final project report submitted to the National Water Research Institute, NWRI Project No. 01-EC-002.
3. Riley, R.L., Lin, S.W., Murphy, A., Wiater-Protas, I. and **H.F. Ridgway**. 2002. Development of a New Chlorine and Biofouling Resistant Polyamide Membrane. US Army Report No. A273214.
4. Riley, R.L., S.W. Lin, Murphy, A., **Ridgway, H.F.** and K.P. Ishida. 2001. Development of Improved Membranes for ROWPU Spiral_Wound Elements. Final project report 13 Nov 1998-1 Mar 2001, Phase 2, U.S. Army Report Number A650093.
5. **Ridgway, H.F.**, Leslie, G., Rodriguez, G.G. and D. Phipps. 2001. Fouling composition during membrane treatment of secondary effluent: microscale characterization leading to fouling prevention on the pilot scale. Final Report: National Water Research Institute (NWRI).
6. Ishida, K, Milstead, C.E., **Ridgway, H.F.** and R. L. Riley. 1995. Identification and evaluation of biocides for ROWPU systems. Final project report submitted to U. S. Army, USA Tank and Automotive Command, Mobility Tech CTR, Fort Belvoir, VA.

Sample Conference Presentations *reverse chronology:*

1. **Ridgway, H.F.** 2015. "Predicting DBP Formation Using Hybrid QM/MM Computational Methods". 19TH ANNUAL WATER REUSE & DESALINATION RESEARCH CONFERENCE, Huntington Beach, CA, 4-5 May 2015.
2. Leusch, F.D., Busetti, F., Card, M., Charrois, J., Escher, B.I., Humpage, A., Knight, N., Lau, M., Monis, P., Neale, P., Orbell, J., **Ridgway, H.**, Stewart, M.B., Tang, J.Y.M., van de Merwe, J. and D. Bull. 2014. "Evaluation of Theoretical and Experimental Techniques to Predict the Generation and Toxicity of Transformation Products of Trace Organic Compounds Following Disinfection of Drinking Water". SETAC, 2014.
3. **Invited Workshop Lecture:** "30 Years of Biofouling Research"; "IWA Leading Edge Conference" Abu Dhabi, 26 May 2014.
4. **Keynote Address:** "Desalination from the Perspective of a Bacterial Cell - and the Human on the Other End of the Microscope"; "Desalination for the Environment, Clean Water and Energy", Cyprus, 11-15 May 2014.
5. **Keynote Address:** "Mechanical Deformation of Biomolecules Under Fluid Shear: A Simulations Approach"; "6th International Meeting on Advanced Thermofluids"; National University of Singapore, 18-19 November 2013.
6. **Keynote Address:** "Why Do Biofilms Resist Water Transport"; Asia Pacific Water Recycling & Membranes and Desalination Conference | 1-4 July 2013, Brisbane, Australia
7. "Simulating Biofoulant Sorption to Polyamide Membranes Under Cross-Flow (Shear) Conditions". 24-27 February 2013, ADVANCES IN MATERIALS AND PROCESSES FOR POLYMERIC MEMBRANE-MEDIATED WATER PURIFICATION, American Chemical Society, Asilomar Conference Grounds, Pacific Grove, California USA
8. **Invited Lecture:** "Molecular Simulations of Foulant Adsorption to Membrane Materials", Membrane Fouling and Monitoring Workshop, 21-22 September 2012, Balliol College, University of Oxford.
9. "Change in performances and structure of RO membrane after chloramination in pure water, synthetic and natural seawater", T. Maugin, L. Valentino, T. Renkens, J.P. Croué, B. Marinas, EuroMembrane 2012, 23-27 September 2012, London.
10. **Invited Lecture:** "Simulation of Polyamide Membrane Degradation by Chloramination Using a Mixed Quantum Mechanics/Molecular Mechanics Algorithm", Engineering Conference International (ECI) 2012: Advanced Membrane Technology V: Membranes for Sustainable Water, Energy and the Environment, 14-19 October 2012, Singapore.
11. "Membranes and Desalination: Open Questions and Unsolved Problems", National Center of Excellence in Desalination – Australia (NCEDA), Murdoch University, Perth, Australia, 23 October 2012

12. Ridgway, H.F. 2012. Molecular Modeling of Bacterial Alginate Adsorption to RO Membranes Under Crossflow (Shear) Conditions. North American Membrane Society Conference, 9-14 June 2012, New Orleans, LA, USA.
13. **Invited Workshop Lecture:** "Biological Fouling of Membrane Materials", ARWADEX 2012, 8-11 April 2012, Riyadh, Saudi Arabia
14. **Invited Lecture:** "Molecular simulations of advanced oxidation process reactions". Division of Environmental Chemistry, Special Symposium in Honor of Martin Reinhard, 243rd American Chemical Society National Meeting, 25-29 March 2012, San Diego, California
15. **Invited Lecture:** "Molecular Simulation of the Structural and Functional Properties of Separations Membranes. Invited lecture, 2 October 2012, King Abdullah University of Science and Technology, Kingdom of Saudi Arabia.
16. **Invited Lecture:** "Simulation of Advanced Oxidation Process (AOP) Reactions Using Stepped Forced Molecular Dynamics". 28 June 2011, Institute for Sustainability and Innovation, Victoria University, Melbourne, Australia.
17. **Invited Lecture:** "Molecular dynamics simulation of transport through polyamide membranes. 27 June, CMSE - 2011 Seminar Series, CSIRO Materials Science and Engineering, CSIRO, Melbourne, Australia.
18. **Invited Lecture:** "Interactions of Biomolecules with Synthetic Membrane Materials: a molecular perspective". Second Biofouling Workshop, National Centre of Excellence in Desalination, 14-17 June 2011, Sydney, Australia.
19. **Invited Lecture:** "The Quest for Pure Water...From Atoms to Oceans", In the Challenges and Innovation in Civil and Environmental Engineering Lecture Series, 14 April 2011, Notre Dame University, Notre Dame, IN, USA.
20. **Keynote address:** Membranes and Biofilms: Intelligent Designers Needed. Biofouling Workshop, National Centre of Excellence in Desalination, 21-22 October 2010, Perth, Australia.
21. **Invited Lecture:** Simulation of Water Structure and Behavior with Membrane Biofoulants. Membranes: Materials & Processes - Improving Synthetic Membranes to Address Grand Challenges Facing Our Society, Gordon Research Conference, 25-30 July 2010, Colby-Sawyer College, New London, New Hampshire, USA.
22. **Invited Lecture:** "Molecular Simulations of Membrane-Foulant Interactions". WETSUS Centre of Excellence for Sustainable Water Technology, 17-18 November 2010, Wetsus, Leeuwarden, Netherlands.
23. Ridgway, H.F. 2010. Membrane Materials ~ Theory, Chemistry & Structure. International Symposium on Membrane Biofouling, 28-30 April, Bisbee, Arizona, USA.
24. Invited Lecture: "Membrane Separations – Basics. Membrane Technologies for Treating Brackish Groundwater, Seawater and Reclaimed Water. Department of Civil and Environmental Engineering Stanford University, Stanford, CA, 7 May 2008.
25. **Invited Lecture:** "Challenges of membrane treatment processes: Bio fouling and other issues. Water: Friend or Foe?" Transatlantic Water Conference; Workshop for the Exchange of International Perspectives. Louisiana State University, Baton Rouge, Louisiana, 31 March – 1 April 2008.
26. **Invited Lecture:** "Probing Membrane Structure and Dynamics Using Molecular Simulations". Argonne National Laboratory, Nuclear Engineering Division, 25 September 2007.
27. **Invited Lecture:** "Microbial life at engineered interfaces: genesis and control". Environmental and Water Resources Engineering Seminar Series, University of California, Los Angeles, 10 October 2006.
28. **Invited Lecture:** "Microbial life at engineered interfaces: genesis and control". American Chemical Society, 232nd National Meeting & Exposition, 10-14 September 2006, San Francisco, California.
29. **Invited Lecture:** "Modeling the rejection of trace organics and pharmaceutical agents by reverse osmosis membranes". Department of Civil and Environmental Engineering Seminar Series, University of California, Davis, 11 May 2006. **Invited Lecture:** "Trends in Membrane Design for Water Desalination and Reuse". CSIRO Workshop on Small Molecule Separations, 20-22 March 2005, Perth, Australia.