

Dr. Roseanne M. Ford

Professor
University of Virginia
385 McCormick Rd
Charlottesville, VA 22903 USA
Tel.: +1-434-9246283
Email: rmf3f@virginia.edu

Education and Professional Career

1980-1984	BChE Chemical Engineering, University of Delaware, Newark, DE USA
1984-1985	ME Chemical & Biochemical Engineering, University of Pennsylvania, Philadelphia, PA USA
1984-1989	PhD Chemical & Biochemical Engineering, University of Pennsylvania, Philadelphia, PA USA
1989-1994	Assistant Professor, Chemical Engineering, University of Virginia, Charlottesville, VA USA
1994-2001	Associate Professor, Chemical Engineering, University of Virginia, Charlottesville, VA USA
2004-2010	Associate Vice President for Graduate Studies, Office of the Vice President for Research & Graduate Studies, University of Virginia, Charlottesville, VA USA
2011-2015	Department Chair, Department of Chemical Engineering, University of Virginia, Charlottesville, VA USA
Since 2001	Professor, Chemical Engineering, University of Virginia, Charlottesville, VA, USA

Commitment, Appointments and Scientific Volunteer Jobs

2021-2025	Technical Programming Committee, InterPore
2020-2022	Associate Director, Pan-University Global Infectious Diseases Institute, University of Virginia
2019, 2020	Review Committee for Fellows Nominations, Biotechnology and Pharma, American Institute for Medical and Biological Engineering
2014	Local Organizing Committee and Session Chair, Ninth International Society for Subsurface Microbiology (ISSM) Symposium
2012-2015	Industrial and Professional Advisory Council, Department of Chemical Engineering, University of Arkansas
2011-2015	Advisory Board Member, Department of Chemical Engineering, Virginia Tech
2006-2011	Associate Editor, <i>Journal of Theoretical Biology</i>
2004-2006	Associate Editor, <i>Water Resources Research</i>
2003	Visiting Professor, Laboratory of Soil Science, Ecole Polytechnique Federale de Lausanne (EPFL), Switzerland.
2003	Visitor, Water Resources Division, U.S. Geological Survey, Boulder, CO.
2002-2005	Science Advisory Committee Member, EPA Western Region Hazardous Substance Research Center, Oregon State University and Stanford University
1995	Adjunct Professor, Department of Chemical Engineering, University of Tennessee, Knoxville, Tennessee
1992-1993	President, University of Virginia Chapter of Sigma Xi

Professional Awards, Offers and Recognitions

2025	Fellow, American Institute of Chemical Engineers
2017-2018	William R. Kenan, Jr. Visiting Professorship for Distinguished Teaching, Princeton University, Princeton, NJ
2016	Women's Initiatives Committee, Mentorship Excellence Award for development of the next generation of chemical engineers through outstanding mentoring, American Institute of Chemical Engineers

2011-2013	Cavaliers' Distinguished Teaching Professorship for excellence in teaching undergraduates, University of Virginia
2008	Thomas E. Hutchinson Faculty Award for dedication and excellence in teaching, University of Virginia
2005	College of Fellows, American Institute of Medical and Biological Engineering
1996	University of Virginia President and Visitors' Prize for Scientific Research (Life Sciences), University of Virginia
1991-1993	Junior Faculty Award, Department of Energy, Environmental Restoration and Waste Management Program, University of Virginia
1990-1991	Institutional Research Position Award, University of Virginia
1984-1989	duPont PhD Fellowship in Chemical Engineering, University of Pennsylvania

Most important Publications (maximum 10)

(Peer reviewed journal articles / books / patents)

- [1] Gao, B., R. Braun, D. Wu, and R. M. Ford, *Pseudomonas putida* chemotactic efficiency toward naphthalene at a NAPL-water interface decreases under increasing shear flow, *Environ. Sci. Technol.*, 2026 10.1021/acs.est.5c15041.
- [2] Gao B., and R. M. Ford, Dimensionless parameters define criteria for optimal flow velocity in enhancing chemotactic response toward residual contaminants in porous media, *Environ Sci Technol.*, 2025 **59**(10) 5080-5087.
- [3] Gao, B., X. Wang and R. M. Ford, Chemotaxis along local chemical gradients enhanced bacteria dispersion and PAH bioavailability in a heterogeneous porous medium, *Science of The Total Environment*, 2023 **859**, 160004.
- [4] Adadevoh, J. S., C. A. Ramsburg, and R. M. Ford, "Chemotaxis Increases the Irreversible Retention of Bacteria in Porous Media with Residual NAPL Entrapment," *Environ. Sci. Technol.*, 2018, **52** (13) 7289-7295.
- [5] Adadevoh, J. S., S. Ostvar, B. Wood, and R. M. Ford, "Modeling Transport of Chemotactic Bacteria in Granular Media with Distributed Contaminant Sources," *Environ. Sci. Technol.*, 2017, **51**, 14192-14198.
- [6] Adadevoh, J. S., S. C. Triolo, C. A. Ramsburg, and R. M. Ford, "Chemotaxis increases the residence time of bacteria in granular media containing distributed contaminant sources," *Environ. Sci. Technol.*, 2016, **50** (1), 181-187
- [7] Valdes-Parada, F. J., M. L. Porter, K. Narayanaswamy, R. M. Ford and B. D. Wood, "Upscaling Microbial Chemotaxis in Porous Media", *Advances in Water Resources*, **32** (2009): 1413–1428.
- [8] Long, T. and R. M. Ford, "Enhanced Transverse Migration of Bacteria by Chemotaxis in a Porous T-Sensor," *Environ. Sci. Technol.*, 2009, **43** (5): 1546–1552.
- [9] Ford, R.M. and R.W. Harvey, "Role of chemotaxis in the transport of bacteria through porous media," *Advances in Water Resources*, **30** (2007) 1608-1617.
- [10] Wood, B.D. and R.M. Ford, "Biological processes in porous media: From the pore scale to the field," *Advances in Water Resources*, **30** (2007) 1387-1391.