

VITA

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EDUCATION

B.A.: 1969, University of Delaware, Newark, Delaware (in Biological Sciences)
Ph.D.: 1974, Scripps Institution of Oceanography, University of California,
San Diego, California (in Oceanography) with R.R. Hessler
Dissertation: "Dispersion patterns and species diversity of macrobenthos in two bathyal communities"
Postdoctoral work: 1974-1975, USC, with Kristian Fauchald in polychaete systematics and feeding

HONORS AND AWARDS

1969 Beta Beta Beta
1969 Phi Kappa Phi
1969 Phi Beta Kappa
1969 Sigma Xi
1969-1970 Woodrow Wilson Fellow
1969-1971 National Science Foundation Fellow
1982 Certificate of Commendation from the Chief of Naval Research
1983 H. Burr Steinbach Visiting Scholar at the Woods Hole Oceanography Institution
1986 First Annual College of Ocean and Fishery Sciences Research Award
1989-1992 ONR Ocean Educator Award
1993 Previously supervised student, Deborah Penry, received Alan T. Waterman Award
1994 G. Evelyn Hutchinson Medal, American Society of Limnology and Oceanography
1995 Fellow of the American Geophysical Union
1996 Honorable Mention, COFS Annual Teaching Award
2006 Ph.D. Student, Kelly Dorgan, chosen as one of Popular Science's "Brilliant 10"
2008 Distinguished Service Award, American Society of Limnology and Oceanography
2014 CNSFA, Univ. Maine, Outstanding Research Award
2017 Sustaining Fellow, Association for the Sciences of Limnology and Oceanography

EMPLOYMENT

1964 - 1969 Research Assistant, Department of Entomology and Applied Ecology,
University of Delaware, Newark, Delaware
1971 - 1974 Research Assistant, Scripps Institution of Oceanography, La Jolla,
University of California, San Diego, California
1974 - 1975 Postdoctoral Research Associate, Allan Hancock Foundation,
University of Southern California, Los Angeles, California
1975 - 1979 Assistant Professor, Department of Oceanography,
University of Washington, Seattle, Washington
1979 - 1983 Associate Professor, Department or School of Oceanography,
University of Washington
1980 - 1982 Oceanic Biology Program (Code 422CB) and Sediment
(on leave) Dynamics Program (Code 425GG), Office of Naval Research, Arlington, Virginia
1983 - 1999 Professor, School of Oceanography, University of Washington
1986 - 1992 Editor in Chief, *Limnology and Oceanography*
1992 - 1993 Acting Director, University Research Initiative in Marine Bioremediation
1999 - 2015 Professor of Oceanography, Darling Marine Center & School of Marine
Sciences, University of Maine
2007 - 2012 Director, School of Marine Sciences, University of Maine
2015 - present Professor Emeritus of Oceanography, University of Maine

RESEARCH INTERESTS

Biological-physical interactions at the level of the individual, including biomechanics and bio-acoustics in water and sediments; functional diversity among infauna; deposit feeding; digestion theories and observations, both for animals with guts and for bacteria; and, biology of polychaetes.

ELECTIVE OFFICES AND BOARD SERVICE

President Elect, American Society of Limnology and Oceanography 2000-2002
President, American Society of Limnology and Oceanography 2002-2004
Past President, American Society of Limnology and Oceanography 2002-2006
Member-at-Large, Council of Scientific Society Presidents, 2003
Secretary, Council of Scientific Society Presidents, 2004
Treasurer, Council of Scientific Society Presidents, 2005
Past Treasurer, Council of Scientific Society Presidents, 2006
Chair Elect, Council of Scientific Society Presidents, 2007
Executive Committee, Board on Atmosphere, Climate and Oceans, APLU, 2007-2012
Chair, Maine Marine Research Coalition, 2007-2012
Chair, Council of Scientific Society Presidents, 2008-2012
Board of Directors, NERACOOS, 2008-2011
Past Chair, Council of Scientific Society Presidents, 2009

EDITORIAL SERVICES

Editorial Board: *Continental Shelf Research*, 1982-1991; *Limnology and Oceanography*, 1984-1986
Editor-in-Chief, *Limnology and Oceanography*, 1986-1992
Editorial Advisory Board, *ISI Atlas of Science*, 1987-1989
Editorial Advisory Committee, ASLO, 1995-1997
Editorial Advisory Committee, AGU, 1996-1998
Associate Editor for Scholarly Reviews, *Limnology and Oceanography*, 2005-2010

CURRENT MEMBERSHIP IN PROFESSIONAL SOCIETIES

American Association for the Advancement of Science
AGU (Fellow)
Association for the Sciences of Limnology and Oceanography (Fellow)

PUBLICATIONS (Retrieve pdf files by pasting the full titles into *Google Scholar*)

1. Jumars, P.A., F. J. Murphey and R. W. Lake. 1969. Can blood-fed *Culex pipiens* L. Overwinter? *Proceedings of the 56th Annual Meeting, New Jersey Mosquito Extermination Association*: 219-225.
2. Hessler, R.R., and P.A. Jumars. 1974. Abyssal community analysis from replicate box cores in the central North Pacific. *Deep-Sea Research* **21**: 185-209.
3. Jumars, P.A. 1974. A generic revision of the Dorvilleidae (Polychaeta), with six new species from the deep North Pacific. *Zoological Journal of the Linnean Society* **54**: 101-135.
4. Jumars, P.A. 1974. Two pitfalls in comparing communities of differing diversities. *American Naturalist* **108**: 389-391.
5. Jumars, P.A. 1975. Methods for measurement of community structure in deep-sea macrobenthos. *Marine Biology* **30**: 245-252.
6. Jumars, P.A. 1975. Environmental grain and polychaete species diversity in a bathyal benthic community. *Marine Biology* **30**: 253-266.
7. Jumars, P.A. 1975 Target species for deep-sea studies in ecology, genetics, and physiology. *Zoological Journal of the Linnean Society* **57**: 341-348.
8. Jumars, P.A. 1976. Deep-sea species diversity: does it have a characteristic scale? *Journal of Marine Research* **34**: 217-246.
9. Newman, W.A., P.A. Jumars and A. Ross. 1976. Diversity trends in coral-inhabiting barnacles (Cirripedia, Pyrgomatinae). *Micronesica* **12**: 69-82.

10. Carlucci, A.F., S.L. Shimp, P.A. Jumars and H.W. Paerl. 1976. *In situ* morphologies of deep-sea and sediment bacteria. *Canadian Journal of Microbiology* **22**: 1667-1671.
11. Jumars, P.A. and R.R. Hessler. 1976. Hadal community structure: Implications from the Aleutian Trench. *Journal of Marine Research* **34**: 547-560.
12. Hessler, R.R. and P.A. Jumars. 1977. Abyssal communities and radioactive waste disposal. *Oceanus* **20**: 41-46.
13. Jumars, P.A., D. Thistle and M.L. Jones. 1977. Detecting two-dimensional spatial structure in biological data. *Oecologia* **28**: 109-123.
14. Jumars, P.A. and K. Fauchald. 1977. Between-community contrasts in successful polychaete feeding strategies. Pp. 1-20 in B.C. Coull, Ed., *Ecology of Marine Benthos*. University of South Carolina Press, Columbia, South Carolina.
15. Jumars, P.A. 1978. Deep-sea fauna. Pp. 134-136 in *McGraw-Hill Yearbook of Science and Technology*. McGraw-Hill Book Co., New York.
16. Bernstein, B.B., R.R. Hessler, R. Smith and P.A. Jumars. 1978. Spatial dispersion of benthic Foraminifera in the abyssal central North Pacific. *Limnology and Oceanography* **23**: 401-416.
17. Taghon, G.L., R.F.L. Self and P.A. Jumars. 1978. Predicting particle selection by deposit feeders: a model and its implications. *Limnology and Oceanography* **23**: 752-759.
18. Jumars, P.A. 1978. Spatial autocorrelation with RUM (Remote Underwater Manipulator): vertical and horizontal structure of a bathyal benthic community. *Deep-Sea Research* **25**: 589-604.
19. Self, R.F.L. and P.A. Jumars. 1978. New resource axes for deposit feeders? *Journal of Marine Research* **36**: 627-641.
20. Armstrong, J.W. and P.A. Jumars. 1979. Branchiate Dorvilleidae (Polychaeta) from the North Pacific. *Bulletin of the Southern California Academy of Sciences* **77**: 133-138.
21. Fauchald, K. and P.A. Jumars. 1979. The diet of worms: a study of polychaete feeding guilds. *Oceanography and Marine Biology, an Annual Review* **17**: 193-284.
22. Hessler, R.R. and P.A. Jumars. 1979. The relation of benthic communities to radioactive waste disposal in the deep sea. *Ambio Special Report* **6**: 93-96.
23. Feller, R.J., G.L. Taghon, E.D. Gallagher, G.E. Kenney and P.A. Jumars. 1979. Immunological methods for food-web analysis in a soft-bottom benthic community. *Marine Biology* **54**: 61-74.
24. Taghon, G.L., A.R.M. Nowell and P.A. Jumars. 1980. Induction of suspension feeding in spionid polychaetes by high particulate fluxes. *Science* **210**: 562-564.
25. Jumars, P.A. 1980. Rank correlation and concordance tests in community analysis: an inappropriate null hypothesis. *Ecology* **61**: 1553-1554.
26. Jumars, P.A. 1981. Limits in predicting and detecting benthic community response to manganese nodule mining. *Marine Mining* **3**: 213-229.
27. Nowell, A.R.M., P.A. Jumars and J.E. Eckman. 1981. Effects of biological activity on the entrainment of marine sediments. *Marine Geology* **42**: 155-172.
28. Eckman, J.E., A.R.M. Nowell and P.A. Jumars. 1981. Sediment destabilization by animal tubes. *Journal of Marine Research* **39**: 361-374.
29. Jumars, P.A., A.R.M. Nowell, and R.F.L. Self. 1981. A simple model of flow-sediment-organism interaction. *Marine Geology* **42**: 155-172.
30. Jumars, P.A. and E.D. Gallagher. 1982. Deep-sea community structure: three plays on the benthic proscenium. Pp. 217-285 in W.G. Ernst and J.G. Morin, Eds., *The Environment of the Deep Sea*. Prentice-Hall, Inc., Englewood Cliffs, New Jersey.
31. Jumars, P.A., R.F.L. Self and A.R.M. Nowell. 1982. Mechanics of particle selection by tentaculate deposit feeders. *Journal of Experimental Marine Biology and Ecology* **64**: 47-70.
32. Nowell, A.R.M., C.D. Hollister and P.A. Jumars. 1982. High Energy Benthic Boundary Layer Experiment: HEBBLE. *EOS* **63**: 594-595.
33. Jumars, P.A. and J.E. Eckman. 1983. Spatial structure within deep-sea benthic communities. Pp. 399-452 in G.T. Rowe, Ed., *The Sea*, **Vol. 8**: 399-452. Wiley-Interscience, New York.
34. Gallagher, E.D., P.A. Jumars and D.D. Trueblood. 1983. Facilitation of soft-bottom succession by tube builders. *Ecology* **64**: 1200-1216.

35. Jumars, P.A. 1983. Tau as an index of similarity in community comparisons: the inaccuracy of its nominal confidence limits. *Canadian Journal of Zoology* **61**: 2634-2635.
36. Hollister, C.D., A.R.M. Nowell and P.A. Jumars. 1984. The dynamic abyss. *Scientific American* **250**: 42-53.
37. Taghon, G.L., A.R.M. Nowell and P.A. Jumars. 1984. Transport and breakdown of fecal pellets: biological and sedimentological consequences. *Limnology and Oceanography* **29**: 64-72.
38. Jumars, P.A. and A.R.M. Nowell . 1984. Fluid and sediment dynamic effects on benthic community structure. *American Zoologist* **24**: 45-55.
39. Taghon, G.L. and P.A. Jumars. 1984. Variable ingestion rate and its role in optimal foraging behavior of marine deposit feeders. *Ecology* **65**: 549-558.
40. Jumars, P.A., R.C. Nowell, M.V. Angel, S.W. Fowler, S.A. Poulet, G.T. Rowe and V. Smetacek. 1984. Detritivory. Pp. 583-593 in M.J. Fasham, Ed., *Flows of Energy and Materials in Marine Ecosystems: Theory and Practice*. Plenum Press, New York.
41. Nowell, A.R.M., P.A. Jumars and K. Fauchald. 1984. The foraging strategy of a subtidal and deep-sea deposit feeder. *Limnology and Oceanography*. **29**: 645-649.
42. Jumars, P.A. and A.R.M. Nowell. 1984. Effects of benthos on sediment transport: difficulties with functional grouping. *Continental Shelf Research* **3**: 115-130.
43. Nowell, A.R.M. and P.A. Jumars. 1984. Flow environments of aquatic benthos. *Annual Review of Ecology and Systematics* **15**: 303-328.
44. Miller, D.C., P.A. Jumars and A.R.M. Nowell. 1984. Effects of sediment transport on deposit feeding: scaling arguments. *Limnology and Oceanography* **29**: 1202-1217.
45. Penry, D.L., and P.A. Jumars. 1986. Chemical reactor analysis and optimal digestion. *BioScience* **36**: 310-315.
46. Jumars, P.A., and R.F.L. Self. 1986. Gut-marker and gut-fullness methods for estimating field and laboratory effects of sediment transport on ingestion rates of deposit feeders. *Journal of Experimental Marine Biology and Ecology* **98**: 293-310.
47. Miller, D.C., and P.A. Jumars. 1986. Pellet accumulation, sediment supply and crowding as determinants of surface deposit-feeding rate in *Pseudopolydora kempji japonica* Imajima and Hartman (Polychaeta: Spionidae). *Journal of Experimental Marine Biology and Ecology* **99**: 1-17.
48. Smith, C.R., P.A. Jumars and D.J. DeMaster. 1986. In situ studies of megafaunal mounds indicate rapid sediment turnover and community response at the deep-sea floor. *Nature* **323**: 251-253.
49. Penry, D.L., and P.A. Jumars. 1987. Modeling animal guts as chemical reactors. *American Naturalist* **129**: 69-96.
50. Nowell, A.R.M., P.A. Jumars and J.H. Kravitz. 1987. Sediment Transport Events on Shelves and Slopes (STRESS) and Biological Effects of Coastal Ocean Sediment Transport (BECOST). *EOS* **68**: 722-724.
51. Nowell, A.R.M., and P.A. Jumars. 1987. Flumes: theoretical and experimental considerations for simulation of benthic environments. *Oceanography and Marine Biology, an Annual Review* **25**: 91-112.
52. Wheatcroft, R.A., and P.A. Jumars. 1987. Statistical re-analysis for size dependency in deep-sea mixing. *Marine Geology* **77**: 157-163.
53. The Boulder Group (includes P.A. Jumars). 1987. Coastal physical oceanography: the next decade. *EOS* **68**: 1581-1591.
54. Hill, P.S., A.R.M. Nowell and P.A. Jumars. 1988. Flume evaluation of the relationship between suspended sediment and excess shear. *Journal of Geophysical Research* **93**: 12499-12509.
55. Self, R.F.L., and P.A. Jumars. 1988. Cross-phyletic patterns of particle selection by deposit feeders. *Journal of Marine Research* **46**: 119-143.
56. Ertman, S.C., and P. A. Jumars. 1988. Effects of bivalve siphonal currents on the settlement of inert particles and larvae. *Journal of Marine Research* **46**: 797-813.
57. Gallagher, E.D., P.A. Jumars and G.L. Taghon 1988. The production of monospecific antisera to soft-bottom benthic taxa. Pp. 74-98 in C.M. Yentsch, F.C. Mague and P.K. Horan, Eds., *Immunochemical Approaches to Coastal, Estuarine and Oceanographic Questions*. Springer-Verlag, NY.

58. Jumars, P.A., and K. Banse. 1989. Benthos and its interaction with bottom boundary layer processes. pp. 349-365 in M.R. Landry and B.M. Hickey, Eds. *Coastal Oceanography of Washington and Oregon*. Elsevier, Amsterdam.
59. Wheatcroft, R.A., C.R. Smith and P.A. Jumars. 1989. Dynamics of surficial traces in the deep sea. *Deep-Sea Research* 36: 71-91.
60. Jumars, P.A., and R.A. Wheatcroft. 1989. Responses of benthos to changing food quality and quantity, with a focus on deposit feeding and bioturbation. Pp. 235-253 in W.H. Berger, V.S. Smetacek and G. Wefer, Eds. *Productivity of the Ocean: Present and Past*. Wiley, Chichester.
61. Jumars, P.A., A.V. Altenbach, G.J. De Lange, S.R. Emerson, B.T. Hargrave, F.G. Prah, C.E. Reimers, T. Steiger, and E. Suess. 1989. Transformation of seafloor-arriving fluxes into the sedimentary record. Pp. 291-311 in W.H. Berger, V.S. Smetacek and G. Wefer, Eds. *Productivity of the Ocean: Present and Past*. Wiley, Chichester.
62. Self, R.F.L., A.R.M. Nowell and P.A. Jumars. 1989. Factors controlling critical shears for deposition and erosion of individual grains. *Marine Geology* 86: 181-199.
63. Jumars, P.A. and D.L. Penry. 1989. Digestion theory applied to deposit feeding. Pp. 114-128 in G.R. Lopez, G.L. Taghon, and J.S. Levinton, Eds. *Ecology of Marine Deposit Feeders*. Springer-Verlag, NY.
64. Nowell, A.R.M., P.A. Jumars, R.F.L. Self and J.B. Southard. 1989. The effects of sediment transport and deposition on infauna: Results obtained in a specially designed flume. Pp. 247-268 in G.R. Lopez, G.L. Taghon and J.S. Levinton, Eds. *Ecology of Marine Deposit Feeders*. Springer-Verlag, NY.
65. Jumars, P.A., D.L. Penry, J.A. Baross, M.J. Perry, and B.W. Frost. 1989. Closing the microbial loop: Dissolved carbon pathway to heterotrophic bacteria from incomplete ingestion, digestion and absorption in animals. *Deep-Sea Research* 36: 483-495.
66. Plante, C.J., P.A. Jumars and J.A. Baross. 1989. Rapid bacterial growth in the hindgut of a marine deposit feeder. *Microbial Ecol.* 18: 29-44.
67. Smith, C.R., H. Kukert, R.A. Wheatcroft, P.A. Jumars, and J.W. Deming. 1989. Vent fauna on whale remains. *Nature* 341: 27-28.
68. Gambi, M.C., A.R.M. Nowell and P.A. Jumars. 1990. Flume observations on flow dynamics in *Zostera marina* L. (eelgrass) beds. *Marine Ecology Progress Series* 61: 159-169.
69. Penry, D.L., and P.A. Jumars. 1990. Gut architecture, digestive constraints and feeding ecology of deposit-feeding and carnivorous polychaetes. *Oecologia* 82: 1-11.
70. Dade, W.B., P.A. Jumars and D.L. Penry. 1990. Supply-side optimization: maximizing absorptive rates. Pp. 531-556 in R.N. Hughes, Ed. *Behavioural Mechanisms of Food Selection*. Springer-Verlag, Berlin.
71. Wheatcroft, R.A., P.A. Jumars, A.R.M. Nowell and C.R. Smith. 1990. A mechanistic view of the particulate biodiffusion coefficient: Step lengths, rest periods and transport directions. *Journal of Marine Research* 48: 177-207.
72. Plante, C.J., P.A. Jumars and J.A. Baross 1990. Digestive associations between marine detritivores and bacteria *Annual Review of Ecology and Systematics* 21: 93-127.
73. Gallagher, E.D., G.B. Gardner and P.A. Jumars. 1990. Competition among the pioneers in a seasonal soft-bottom benthic succession: field experiments and analysis of the Gilpin-Ayala model. *Oecologia* 83: 427-442.
74. Jumars, P.A., L.M. Mayer, J.W. Deming, J. A. Baross, and R.A. Wheatcroft. 1990. Deep-sea deposit-feeding strategies suggested by environmental and feeding constraints. *Philosophical Transactions of the Royal Society of London A* 331: 85-101.
75. Dade, W.B., A.R.M. Nowell and P.A. Jumars 1991. Mass arrival mechanisms and clay deposition at the seafloor. Pp. 161-165 in R. H. Bennett, W.R. Bryant and M.H. Hulbert, Eds. *Microstructure of Fine-Grained Sediments — from Mud to Shale*. Springer-Verlag, NY.
76. Shimeta, J.S. and P.A. Jumars. 1991. Mechanisms of particle encounter by suspension feeders. *Oceanography and Marine Biology, an Annual Review* 29: 191-257.
77. Dade, W.B., A.R.M. Nowell and P.A. Jumars. 1992. Predicting the erosion resistance of muds. *Marine Geology* 105: 285-297.
78. Plante, C. J., and P.A. Jumars 1992. Microbial microenvironments of marine deposit-feeder guts characterized via microelectrodes. *Microbial Ecology* 23: 257-277.

79. Hill, P.S., A.R.M. Nowell, and P.A. Jumars. 1992. Encounter rate by turbulent shear of particles similar in diameter to the Kolmogorov scale. *Journal of Marine Research* **50**: 643-668.
80. Jumars, P.A. 1993. Gourmands of mud: Diet selection in marine deposit feeders. pp. 124-156 in R.N. Hughes, Ed. *Mechanisms of Diet Choice*, Blackwell Scientific Publishers, Oxford.
81. Yager, P.L., A.R.M. Nowell and P.A. Jumars. 1993. Enhanced deposition to pits: A local food source for benthos. *Journal of Marine Research* **51**: 209-236.
82. Jumars, P.A. 1993. *Concepts in Biological Oceanography: An Interdisciplinary Primer*. Oxford Univ. Press, NY, 348 pp.
83. Plante, C.J., and P.A. Jumars. 1993. Immunofluorescence assay for effects on field abundance of a naturally occurring pseudomonad during passage through the gut of a marine deposit feeder, *Abarenicola pacifica*. *Microbial Ecology* **26**: 247-266.
84. Mayer, L.M., P.A. Jumars, G.L. Taghon, S. Macko and S. Trumbore. 1993. Low-density particles as potential nitrogenous foods for benthos. *Journal of Marine Research* **51**: 373-389.
85. Jumars, P.A., J.W. Deming, P.S. Hill, L. Karp-Boss, P.L. Yager and W.B. Dade. 1993. Physical constraints on marine osmotrophy in an optimal foraging context. *Marine Microbial Food Webs* **7**: 121-159.
86. Hentschel, B.T., and P.A. Jumars. 1994. In situ chemical inhibition of benthic diatom growth and the response of recruiting permanent and temporary meiofauna. *Limnology and Oceanography* **39**: 816-838.
87. Mayer, L.M., L.L. Schick, T. Sawyer, C.J. Plante, P.A. Jumars and R.F.L. Self. 1995. Bioavailable amino acids in sediments: A biomimetic, kinetics-based approach. *Limnology and Oceanography* **40**: 511-520.
88. Shimeta, J., P.A. Jumars and E.J. Lessard. 1995. Influences of turbulence on suspension feeding by planktonic protozoa; experiments in laminar shear fields. *Limnology and Oceanography* **40**: 845-859.
89. Self, R.F.L., P.A. Jumars and L.M. Mayer. 1995. In vitro amino acid and glucose uptake rates across the gut wall of a surface deposit feeder. *Journal of Experimental Marine Biology and Ecology* **192**: 289-318.
90. Dade, W.B., R.L. Self, N.B. Pellerin, A. Moffet, P.A. Jumars and A.R.M. Nowell. 1996. The effects of bacteria on the flow behavior of clay-seawater suspensions. *Journal of Sedimentary Research* **66**: 39-42.
91. Mayer, L.M., Z. Chen, R.H. Findlay, R.H. Fang, S. Sampson, R.F.L. Self, P.A. Jumars, C. Quérel and O.F.X. Donard. 1996. Bioavailability of sedimentary contaminants subject to deposit-feeder digestion. *Environmental Science and Technology* **30**: 2641-2645.
92. Karp-Boss, L., E. Boss and P.A. Jumars. 1996. Nutrient fluxes to planktonic osmotrophs in the presence of fluid motion. *Oceanography and Limnology, an Annual Review* **34**: 71-107.
93. Jumars, P.A., D.R. Jackson, T.F. Gross and C. Sherwood. 1996. Acoustic remote sensing of benthic activity: A statistical approach. *Limnology and Oceanography* **41**: 1220-1241.
94. Mayer, L.M., L. Schick, R. Self, P. Jumars, R. Findlay, Z. Chen and S. Sampson. 1997. Digestive environments of benthic macroinvertebrate guts: enzymes, surfactants and dissolved organic matter. *Journal of Marine Research* **55**: 785-812.
95. Vetter, Y.A., J.W. Deming and P.A. Jumars. 1998. Microbial foraging by means of freely-released extracellular enzymes: consequences of diffusive solute transport. *Microbial Ecology* **36**: 75-92.
96. Schmidt, J.L., J.W. Deming, P.A. Jumars and R.G. Keil. 1998. Constancy of bacterial abundance in marine sediments. *Limnology and Oceanography* **43**: 976-982.
97. Karp-Boss, L., and P.A. Jumars. 1998. Motion of diatom chains in steady shear. *Limnology and Oceanography* **43**: 1767-1773.
98. Ferner, M.C., and P.A. Jumars. 1999. Responses of deposit-feeding spionid polychaetes to dissolved chemical cues. *Journal of Experimental Marine Biology and Ecology* **236**: 89-106.
99. Jumars, P.A., and C. Martínez del Río. 1999. The tau of continuous feeding on simple foods. *Physiological and Biochemical Zoology* **72**: 633-641.
100. Jumars, P.A. 1999. Out far and in deep: Shifting perspectives in ocean ecology. In: J.H. Steele, Ed., *Fifty Years of Ocean Discovery*, National Academy of Sciences Press, Washington, D.C. pp. 184-191.
101. Jumars, P.A. 2000. Animal guts as ideal chemical reactors: maximizing absorption rates. *American Naturalist* **155**: 527-543.

102. Jumars, P.A. 2000. Animal guts as non-ideal chemical reactors: partial mixing and axial variation in absorption kinetics. *American Naturalist* **155**: 544-555.
103. Karp-Boss, L., E. Boss and P.A. Jumars. 2000. Effects of shear on swimming by dinoflagellate individuals and chains. *Limnology and Oceanography* **45**: 1594-1602.
104. Chen, Z., L.M. Mayer, C. Quétel, O.F.X. Donard, R.F.L. Self, P.A. Jumars, and D.P. Weston. 2000. High concentrations of complexed metals in the guts of deposit-feeders. *Limnology and Oceanography* **45**: 1358-1367.
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106. Jumars, P.A., J.E. Eckman and E. Koch. 2001. Animals and plants in benthic flows. pp. 320-347 in B. Boudreau and B.B. Jørgensen, Eds. *The Benthic Boundary Layer: Transport Processes and Biogeochemistry*. Oxford Univ. Press, NY.
107. Self, R.F.L., P. A'Hearn, P.A. Jumars D.R. Jackson, M.D. Richardson and K.B. Briggs. 2001. Effects of macrofauna on acoustic backscatter from the seabed: field manipulations in West Sound, Orcas Island, WA, USA *Journal of Marine Research* **59**: 991-1020.
108. Mayer, L.M., P.A. Jumars, M. J. Bock, Y.-A. Vetter and J. L. Schmidt. 2001. Two roads to Sparagmos: Extracellular digestion of sedimentary food by bacterial infection vs. deposit feeding. pp. 335-347 in: J.Y. Aller, S.A. Woodin and R.A. Aller, eds. *Organism-Sediment Interactions*. Univ. of South Carolina Press, Columbia.
109. Murray, J.L.S. and P. A. Jumars. 2002. Clonal fitness of bacteria predicted by analog modeling. *BioScience* **52**: 343-355.
110. Lau, W.L., P.A. Jumars and E.V. Armbrust. 2002. Genetic diversity of attached bacteria in the hindgut of the deposit-feeding shrimp *Neotrypaea* (formerly *Callinassa*) *californiensis* (Decapoda: Thalassinidae). *Microbial Ecology* **43**: 455-466.
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