



Morton A. Barlaz, Ph.D., P.E.

Dept. of Civil, Construction,
and Environmental Engineering
North Carolina State University
Box 7908
Raleigh, NC 27695-7908
(919)-515-7676 office
(919)-515-7908 (fax)

Birthdate: October 26, 1956
Marital Status: Married, 3 children
U. S. Citizen
(919)-676-2334 home
barlaz@eos.ncsu.edu
<http://people.engr.ncsu.edu/barlaz/>

Education Ph.D., Civil and Environmental Engineering, Univ. of Wisconsin - Madison, 1988.
M. S., Civil and Environmental Engineering, Univ. of Wisconsin - Madison, 1985.
B. S., Chemical Engineering, Univ. of Michigan - Ann Arbor, 1978.

Employment 2006 – present, Professor, Civil Engineering, North Carolina State Univ.
2000-2006, Prof. and Assoc. Head, Civil Engineering, North Carolina State Univ.
1998 - 2000, Assoc. Head, Civil Engineering, North Carolina State Univ.
1994 - present, Assoc. Prof. of Civil Engineering, North Carolina State Univ.
1989 - 1994, Asst. Prof. of Civil Engineering, North Carolina State Univ.
1988 - 1989, Visiting Scientist, R. S. Kerr Laboratory for Environmental
Research, Ada, OK, by cooperative agreement with Dept. of Soil Science,
Oregon State University
1981 - 1982, Environmental Engineer, Israeli Environmental Protection
Service, Jerusalem, Israel
1978 - 1981, Environmental Eng., Union Carbide Corp., So. Charleston, W.Va.

Research
Interests Chemical and biological processes as they apply to decomposition in landfills,
the application of life-cycle analysis to solid waste management

Teaching	Solid Waste Management and Engineering, Chemical Principles of Environmental Engineering
Awards	Kappe Lecturer, American Academy of Environmental Engineers, 2010 Distinguished Service Award, Assc. Env. Eng & Sci. Prof., 2009 Distinguished Individual Achievement Award, SWANA, 2004 Distinguished Service Award, Assc. Env. Eng & Sci. Prof., 2003 Outstanding Paper - 7 th Intl. Waste Mngmnt. & Landfill Symp., Cagliari, Italy, 1999 Samuel Arnold Greeley Award, ASCE, 1997 National Science Foundation Presidential Faculty Fellow, 1992 - 97 Department of Energy Junior Faculty Enhancement Award, 1992 American Chemical Society Graduate Student Award, 1987 General Electric Forgivable Loan for Ph.D. students, 1985 Getty Synthetic Fuels Scholarship for Excellence in Landfill Research, 1985
Registration	Registered Professional Engineer in North Carolina
Professional Memberships	American Society of Civil Engineers, American Society for Microbiology, Sigma Xi, Association of Environmental Engineering and Science Professors, International Solid Waste Management Association, Solid Waste Association of North America, American Chemical Society

Refereed Journals

1. Barlaz, M. A., Ham R. K. and M. W. Milke, 1987, "Gas Production Parameters in Sanitary Landfill Simulators," Waste Management and Research, 5, p. 27 - 39.
2. Barlaz, M. A., Schaefer, D. M. and R. K. Ham, 1989, "Bacterial Population Development and Chemical Characteristics of Refuse Decomposition in a Simulated Sanitary Landfill," Appl. Env. Microbiol., 55, 1, p. 55 - 65.
3. Barlaz, M. A., Schaefer, D. M. and R. K. Ham, 1989, "Effects of pre-Chilling and Sequential Washing on the Enumeration of Microorganisms from Refuse," Appl. Env. Microbiol., 55, 1, p. 50 - 54.
4. Barlaz, M. A., Ham, R. K. and D. M. Schaefer, 1989, "Inhibition of Methane Formation from Municipal Refuse in Laboratory Scale Lysimeters," Appl. Biochemistry and Biotechnology, 20/21, p. 181 - 205.
5. Barlaz, M. A., Ham, R. K. and D. M. Schaefer, 1989, "Mass Balance Analysis of Decomposed Refuse in Laboratory Scale Lysimeters," Journal of Environmental Engineering, ASCE, 115, 6, p. 1088 - 1102.

6. Barlaz, M. A., Ham, R. K. and D. M. Schaefer, 1990, "Methane Production from Municipal Refuse: A Review of Enhancement Techniques and Microbial Dynamics," *CRC Critical Reviews in Environmental Control*, 19, 6, p. 557 - 584.
7. Barlaz, M. A., Ham, R. K. and D. M. Schaefer, 1992, "Microbial, Chemical and Methane Production Characteristics of Anaerobically Decomposed Refuse With and Without Leachate Recycle," *Waste Management and Research*, 10, 3, p. 257 - 67.
8. Barlaz, M. A., Haynie, F. H. and M. F. Overcash, 1993, "A Framework for Assessment of Recycling Potential: Plastics Recycling in North Carolina," *Journal of Environmental Engineering, ASCE*, 119, 5, p. 798 - 810.
9. Barlaz, M. A., Eleazar, W. E. and D. J. Whittle, 1993, "Potential to Utilize Waste Tires as Supplemental Fuel in Pulp and Paper Mill Boilers and Cement Kilns and in Road Pavement," *Waste Management and Research*, 11, p. 463 - 80.
10. Thorneloe, S., Barlaz, M. A., Peer, R. L., Huff, L. C., Davis, L. and J. Mangino, 1993, "Waste Management," in *Atmospheric Methane: Sources, Sinks and Role in Global Change*, M. A. K. Khalil ed., Springer-Verlag ASI Series, New York, p. 362 - 98.
11. Wang, Y.-S., Byrd, C. S. and M. A. Barlaz, 1994, "Anaerobic Biodegradability of Cellulose and Hemicellulose in Excavated Refuse Samples," *Journal of Industrial Microbiology*, 13, p. 147 - 53.
12. Boersma, L., Lindstrom, F. T. and M. A. Barlaz, 1994, "Dispersion at the Field Scale Resulting from Spatial Variability of the Hydraulic Conductivity Field," *Journal of Hydrology*, 159, p. 145 - 67.
13. Malone, J. M., St. John, T., Barlaz, M. A. and R. H. Borden, 1995, "Methods to Evaluate the Environmental Impacts of Sodium Silicate Chemical Grouts," *Geoenvironment 2000*, ASCE Specialty Conference, New Orleans, LA, Feb. 14 - 16.
14. Rhew, R. and M. A. Barlaz, 1995, "The Effect of Lime Stabilized Sludge as a Cover Material on Anaerobic Refuse Decomposition," *Journal of Environmental Engineering, ASCE*, 121, 7, p. 499 - 506.
15. Qian, X. and M. A. Barlaz, 1996, "Enumeration of Anaerobic Refuse Decomposing Microorganisms on Refuse Constituents," *Waste Management and Research*, 14, 2, p. 151 - 61.
16. Johnson, J. J., Borden, R. C. and M. A. Barlaz, 1996, "Anaerobic Biodegradation of Hazardous Organics in Groundwater Down Gradient of a Sanitary Landfill," *Journal of Contaminant Hydrology*, 23, 4, p. 263 - 283.
17. Wang, Y.-S., Odle, W., Eleazar, W. E. and M. A. Barlaz, 1997, "Methane Potential of Food Waste and Anaerobic Toxicity of Leachate Produced During Food Waste Decomposition," *Waste Management and Research*, 15, 2, p. 149 - 67.

18. Barlaz, M. A., 1997, "Microbial Studies of Landfills and Anaerobic Refuse Decomposition," Manual for Environmental Microbiology, Am. Soc. for Microbiol., Washington, D.C.
19. Malone, J. M., St. John, T. W., Barlaz, M. A. and R. H. Borden, 1997, "Potential Toxicity and Aerobic Biodegradability of Sodium Silicate Chemical Grout Leachate," *Env. Chem. Toxicol.*, 16, 3, p. 442 - 6.
20. Eleazer, W. E, Odle, W. S., Wang, Y.-S. and M. A. Barlaz, 1997, "Biodegradability of Municipal Solid Waste Components in Laboratory-Scale Landfills," *Env. Sci. Technol.*, 31, 3, p. 911 - 17.
21. Ladapo, J. A. and M. A. Barlaz, 1997, "Isolation and Characterization of Refuse Methanogens," *Journal of Applied Microbiology*, 82, 6, p. 751 - 8.
22. Hunt, M. J., Shafer, M. B., Barlaz, M. A. and R. C. Borden, 1997, "Anaerobic Biodegradation of Alkylbenzenes in Laboratory Microcosms Representing Ambient Conditions," *Bioremediation Journal*, 1, 1, p. 53-64.
23. Hunt, M. J., Borden, R. C., and M. A. Barlaz, 1998, "Determining Anaerobic BTEX Decay Rates in a Contaminated Aquifer," *Journal of Hydrologic Engineering, ASCE*, 3, 4, p. 285-293.
24. Fairweather, R. J. and M. A. Barlaz, 1998, "Hydrogen Sulfide Production During Decomposition of Landfill Inputs," *Journal of Environmental Engineering, ASCE*, 124, 4, p. 353 - 61.
25. Ress, B. B., Calvert, P. P., Pettigrew, C. A. and M. A. Barlaz, 1998, "Testing Anaerobic Biodegradability of Polymers in a Laboratory-Scale Simulated Landfill," *Env. Sci. Technol.*, 32, 6, p. 821 - 7.
26. Wang, Y-S. and M. A. Barlaz, 1998, "Anaerobic Biodegradability of Alkylbenzenes and Phenols by Landfill-Derived Microorganisms," *FEMS Microbiology Ecology*, 25, p. 405-18.
27. Barlaz, M. A., 1998, "Carbon Storage During Biodegradation of Municipal Solid Waste Components in Laboratory-Scale Landfills," *Journal of Global Biogeochemical Cycles*, 12, 2, p. 373-80.
28. Thomas, C. L. and M. A. Barlaz, 1999, "Production of non-methane organic compounds during refuse decomposition in a laboratory-scale landfill," *Waste Management and Research*, 17, 3, p. 205-11.
29. Kota, S., Borden, R. C. and M. A. Barlaz, 1999, "Influence of Protozoan Grazing on Contaminant Biodegradation," *FEMS Microbiol. Ecol.*, 29, p. 179-89.

30. Hilger, H. A., Cranford, D. F. and M. A. Barlaz, 2000, "Methane Oxidation and Microbial Exopolymer Production in Landfill Cover Soil," *Soil Biology and Biochemistry*, 32, 4, p. 457-67.
31. Hilger, H. A., Liehr, S. K and M. A. Barlaz, 2000, "Exopolysaccharide Control of Methane Oxidation in Landfill Cover Soil," *Journal of Environmental Engineering, ASCE*, 125, 12, p. 1113 - 23.
32. Weitz, K., Barlaz, M., Ranjithan, R., Brill, D., Thorneloe, S. and R. Ham, 1999, "Life Cycle Management of Municipal Solid Waste," *Int. Journal of Life Cycle Assessment*, 4, 4, p. 195-201.
33. Hilger, H. A., Wollum, A. G. and M. A. Barlaz, 2000, "Landfill Methane Oxidation Response to Vegetation, Fertilization and Liming," *J. of Environ. Qual.*, 29, 1, p. 324-34.
34. Sanin, F. D., Knappe, D. R. U. and M. A. Barlaz, 2000, "Biodegradation and Humification of Toluene in a Simulated Landfill," *Water Research*, 34, 12, p. 3063-74.
35. Harrison, K. W., Dumas, R. D., Nishtala, S. R and Morton A. Barlaz, 2000, "A Life-Cycle Inventory Model of Municipal Solid Waste Combustion," *J. Air & Waste Mngmnt. Asscn.*, 50, p. 993-1003.
36. Camobreco, V., Ham, R., Barlaz, M., Repa, E., Felker, M., Rousseau, C. and J. Rathle, 1999, "Life-Cycle Inventory of a Modern Municipal Solid Waste Landfill," *Waste Management and Research*, 17, 6, p. 394-408.
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38. Harrison, K.W., Dumas, R. D., Solano, E., Barlaz, M. A., Brill, E. D. and S.R. Ranjithan, 2001, "Decision Support Tool for Life-Cycle-Based Solid Waste Management," *Journal of Computing in Civil Engineering*, Vol. 15, No. 1, p. 44-58.
39. Hilger, H. H. and M. A. Barlaz, 2001, "Anaerobic Decomposition of Refuse in Landfills and Methane Oxidation in Landfill Cover Soils," *Manual of Environmental Microbiology*, 2nd Edn., Am. Soc. Microbiol., Washington, D. C., p. 696-718.
40. Kao, C. M., Kota, S., Ress, B, Barlaz, M. A. and R. C. Borden, 2001, 'Effects of Subsurface Heterogeneity on Natural Bioremediation at a Gasoline Spill Site,' *Water Sci. Technol.*, 43, 5, p. 341-8.
41. Wu, B, Taylor, C.M., Knappe, D. R. U., Nanny, M. A., and Barlaz, M.A., 2001, "Factors Controlling Alkylbenzene Sorption to Municipal Solid Waste," *Env. Sci. Technol.*, 35, 22, p. 4569-4576.

42. Mehta, R., Barlaz, M. A., Yazdani, R., Augenstein, D., Bryars, M. and Sinderson, L., 2002, "Refuse Decomposition in the Presence and Absence of Leachate Recirculation," *J. Env. Eng.*, 128, 3, 228-236.
43. Solano, E., S. Ranjithan, M. A. Barlaz, and E. D. Brill, 2002, "Life Cycle-Based Solid Waste Management - 1. Model Development," *J. Environ. Engr.*, 128, 10, p. 981-92.
44. Solano, E., R. D. Dumas, K. W. Harrison, S. Ranjithan, M. A. Barlaz, and E. D. Brill, 2002, "Life Cycle-Based Solid Waste Management - 2. Illustrative Applications," *J. Environ. Engr.*, 128, 10, p. 993-1005.
45. Zenker, M. J., Borden, R. C., and M. A. Barlaz, 2002, "Modeling Cometabolism of Cyclic Ethers: Parameter Estimation," *Environ. Eng. Sci.*, 19, 4, p. 215-28.
46. Federle, T. W., Barlaz, M. A., Pettigrew, C. A., Kerr, K. M., Kemper, J. J., Nuck, B. A. and L. A. Schechtman, 2002, "Anaerobic Biodegradation of Aliphatic Polyesters: Poly(3-hydroxybutyrate-co-3-hydroxyoctanoate) (PHBO) and Poly(ϵ -caprolactone) (PCL)," *Biomacromolecules*, 3, 4, p. 813-22.
47. Vavilin, V. A., Rytov, S. V., Lokshina, L. A., Pavlostathis, S. G. and M. A. Barlaz, 2003, "Distributed Model of Solid Waste Anaerobic Digestion: Effects of Leachate Recirculation and pH Adjustment," *Biotechnol. and Bioeng.*, 81,1, p. 66-73.
48. Kjeldsen, P., Barlaz, M. A., Rooker, A. P., Baun, A., Ledin, A. and T. H. Christensen, 2002, "Present and Long Term Composition of MSW Landfill Leachate – A Review," *Critical Reviews in Environmental Science and Technology*, 32, 4, p. 297-336.
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50. Zenker, M. J., Borden, R. C., and M. A. Barlaz, "Occurrence and Treatment of 1,4-Dioxane in Aqueous Environments," *Env. Eng. Sci.*, 20, 5, p. 423 – 31.
51. Hossain, M. S., Gabr, M. A. and M. A. Barlaz, 2003, "Relationship of Compressibility Parameters to Municipal Solid Waste Decomposition," *Journal of Geotechnical and Geoenvironmental Engineering*, 129, 12, p. 1151 – 8.
52. Zenker, M. J., Borden, R. C., and M. A. Barlaz, "Biodegradation of Cyclic and Alkyl Ethers Using Attached Growth Reactors," *J. of Environ. Eng.*, 130, 9, p. 926 - 31.
53. Price, G. A., Barlaz, M. A. and G. R. Hater, 2003, "Nitrogen Management in Bioreactor Landfills," *Waste Management*, 23, 7, p. 675 - 88.
54. Chen, Y., Knappe, D. R. U. and M. A. Barlaz, 2004, "The Effect of Cellulose/Hemicellulose and Lignin on the Bioavailability of Toluene Sorbed to Waste Paper," *Environ. Sci. & Technol.*, 38, p. 3731 – 6.

55. Barlaz, M. A., Green R., Chanton, J. P., Goldsmith, C. D. and G. R. Hater, 2004, "Evaluation of a Biologically Active Cover for Mitigation of Landfill Gas Emissions," *Environ. Sci. & Technol.*, 38, 18, p. 4891 – 9.
56. Kaplan, P. O, Barlaz, M. A. and S. R. Ranjithan, 2004, "Life-Cycle-Based Solid Waste Management Under Uncertainty," *J. of Industrial Ecology*, 8, 4, p. 155 – 72.
57. Harris, J. M., Shafer, A. L., DeGrogg, W., Hater, G. R., Gabr, M. and M. A. Barlaz, 2006, "Shear Strength of Degraded Reconstituted Municipal Solid Waste," *Geotechnical Testing Journal*, 29, 2, 141 – 8.
58. Barlaz, M. A., 2006, "Forest Products Decomposition in Municipal Solid Waste Landfills," *Waste Management*, 26, 4, p. 321 – 33.
59. Loughlin, D. H and M. A. Barlaz, 2006, "Policies for Strengthening Markets for Recyclables: A Worldwide Perspective," *Crit. Rev. in Env. Sci. & Technol.*, 36, p. 287 – 326.
60. Hilger, H. H. and M. A. Barlaz, 2006, "Anaerobic Decomposition of Refuse in Landfills and Methane Oxidation in Landfill Cover Soils," *Manual of Environmental Microbiology*, 3rd Edn., Am. Soc. Microbiol., Washington, D. C. (note that this is an update of items 18, 39).
61. Benson, C. H., Barlaz, M. A., Lane, D. T. and J. M. Rawe, 2007, "Bioreactor Landfills in North America: Review of the State-of-the Practice," *Waste Management*, Vol. 27, 1, p. 13 – 29.
62. Bartelt-Hunt, S. L., Barlaz, M. A., Knappe, D. R. U. and P. Kjeldsen," 2006, Fate of Chemical Warfare Agents and Toxic Industrial Chemicals in Landfills," *Environ. Sci. & Technol.*, 40, 13, p. 4219 – 25.
63. Staley, B. F., Xu, F., Cowie, S. J., Barlaz, M. A. and G. R. Hater, 2006, "Release of Trace Organic Compounds During the Decomposition of Municipal Solid Waste Compounds," *Environ. Sci. & Technol.*, 40, 19, p. 5984 – 91.
64. Gabr, M. A., Hossain, M. S. and M. A. Barlaz, 2006, "Shear Strength Parameters of Municipal Solid Waste with Leachate Recirculation," *J. Geotechnical and Geoenvironmental Engineering*, 133, 4, p. 478-84.
65. Saikaly, P. E., Barlaz, M. A., and F. L. de los Reyes, III, 2007, "Development of Quantitative Real-Time PCR Assays for the Detection and Quantification of Surrogate Biological Warfare Agents in Building Debris and Leachate," *Appl. Env. Microbiol.*, 73, 20, p. 6557 – 65.

66. Bartelt-Hunt, S. L., Knappe, D. R. U, and M. A. Barlaz, 2008, "Evaluation of Chemical Warfare Agent Simulants for Environmental Applications," *Crit. Rev. in Env. Sci. & Technol.*, 38, p. 112 - 36.
67. Lowry, M., Bartelt-Hunt, S. L., Beaulieu, S. M. and M. A. Barlaz, 2008, "Development of a Coupled Reactor Model for Prediction of Organic Contaminant Fate in Landfills," *Environ. Sci. & Technol.*, 42, 19, p. 7444 – 51.
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69. Kaplan, P. O., Ranjithan, S.R. and M.A. Barlaz, 2009, "Use of Life-Cycle Analysis to Support Solid Waste Management Planning for Delaware," *Environ. Sci. & Technol.*, 43, 1264 – 70.
70. Emma L. Teuten, E. L., Saquing, J. M., Knappe, D. R. U., Barlaz, M. A., Jonsson, S., Björn, A., Rowland, S. J., R. C. Thompson, Galloway, T. S., Yamashita, R., Ochi, D., Watanuki, Y., Moore, C., Viet, P. H., Tana, T. S. Prudente, M., Boonyatumanond R., Zakaria, M. P., Ogata, Y., Hirai, H., Iwasa, S., Mizukawa, K., Hagino, Y., Imamura, A., Saha, M., and H. Takada, "Transport and Release of Chemicals from Plastics to the Environment and to Wildlife," 2009, "Transport and Release of Chemicals from Plastics to the Environment and to Wildlife," *Phil. Trans. R. Soc. B*, 364, p. 2027–2045.
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74. Barlaz, M. A., Chanton, J.P. and G. R. Hater, 2009, "Controls on Landfill Gas Collection Efficiency: Instantaneous and Lifetime Performance," *J. Air and Waste Management Assn*, 59, p. 1399-1404.
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81. De la Cruz, F. B. and M. A. Barlaz, 2010, "Estimation of Waste Component Specific Landfill Decay Rates Using Laboratory-Scale Decomposition Data," *Env. Sci. Technol.*, 44, 4722 – 28.
82. van Haaren, R., Themelis, N. J. and M. A. Barlaz, 2010, "LCA Comparison of Windrow Composting of Yard Wastes with use as Alternative Daily Cover (ADC)," *Waste Management*, 30, p. 2649 – 56.
83. Saquing, J. Saquing, C. D., Knappe, D. R. U. and M. A. Barlaz, 2010, "Impact of Plastics on Fate and Transport of Organic Contaminants in Landfills," *Env. Sci. Technol.*, 44, 16, p. 6396 – 402.
84. Levis, J. W., Barlaz, M. A., Tayebali, A. and S. R. Ranjithan, "A Life-Cycle Assessment of Alternatives for the Management of Waste Hot Mix Asphalt," accepted, *Road Materials and Pavement Design*.
85. Staley, B. F., Saikaly, P. E., de los Reyes, F. L., and M. A. Barlaz, 2011, "Critical Evaluation of Solid Waste Sample Processing for DNA-based Microbial Community Analysis," *Biodegradation*, 22, p. 189 – 204.
86. Chanton, J., Abichou, T., Langford, C., Spokas, K., Hater, G., Goldsmith, D and M. A. Barlaz, 2011, "Observations on the Methane Oxidation Capacity of Landfill Soils," *Waste Management*, 31, p. 914 – 25.
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88. Gentil, E. C., Damgaard, A., Hauschild, M., Finnveden, G., Eriksson, O., Thorneloe, S., Kaplan, P. O., Barlaz, M., Muller, O., Matsui, Y., Ii, R. and T. H. Christensen, 2010,

Models for Waste Life Cycle Assessment: Review of Technical Assumptions,” Waste Management, 30, p. 2636 – 48.

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90. Morris, J. W. F. and M. A. Barlaz, 2011, “A Performance-Based System for the Long-Term Management of Municipal Waste Landfills,” Waste Management, 31, 649 – 62. .
91. Carin A. Huset, C. A., Barlaz, M. A., Barofsky, D. F. and J. A. Field, Quantitative Determination of Fluorochemicals in Municipal Landfill Leachates, accepted for publication, Chemosphere.
92. Staley, B. F., de los Reyes, F. L., and M. A. Barlaz, 2011, “Effect of spatial differences in microbial activity, pH and substrate levels on methanogenesis initiation in refuse,” Appl. Env. Microbiol., 77, 7, p. 2381 – 91.

ASTM Standard

1. Barlaz, M. A., 2002, Standard Method for Determining Anaerobic Biodegradability Of Radiolabeled Test Materials in a Laboratory-Scale Simulated Landfill Environment, Designation D 6776-02.

Submitted for Publication

1. Bareither, C. A., Benson, C. H., Edil, T. B. and M. A. Barlaz, “Abiotic and Biotic Mechanisms of Municipal Solid Waste Settlement.”
2. Levis, J. M. and M. A. Barlaz, “What s the Most Environmentally Beneficial Way to Treat Commercial Food Waste?”
3. Levis, J. M. and M. A. Barlaz, “Is biodegradability a desirable attribute for discarded solid waste? Perspectives from a national landfill greenhouse gas inventory model.”
4. Staley, B. F., de los Reyes, F. L., and M. A. Barlaz, “Comparison of *Bacteria* and *Archaea* Communities in Municipal Solid Waste, Individual Refuse Components, and Leachate.”
5. Bareither, C. A., Breitmeyer, R. J., Benson, C. H., Barlaz, M. A. and T. B. Edil, , Deer Track Bioreactor Experiment: A Field-Scale Evaluation of Municipal Solid Waste Bioreactor Performance.”

Conference Publications and Presentations

1. Barlaz, M. A., Ham R. K. and M. W. Milke, "Investigation of Parameters Affecting the Production of Methane in Sanitary Landfills," Proc. Eighth Annual Madison Waste Conference, Dept. of Engineering Professional Development, University of Wisconsin, Madison, Sept. 18 - 19, 1985.

2. Barlaz, M. A., Ham R. K. and M. W. Milke, "Parameters Affecting Refuse Methanogenesis and the Solids Composition of Anaerobically Degraded Refuse," Proc. Ninth Annual Madison Waste Conference, Dept. of Engineering Professional Development, University of Wisconsin, Madison, Sept. 9 - 10, 1986.
3. Ham, R. K. and M. A. Barlaz, "Measurement and Prediction of Landfill Gas Quality and Quantity," Proc. International Solid Waste Assn. Symposium on Process, Technology and Environmental Impact of Sanitary Landfills, Cagliari, Sardinia, Italy, Oct. 20 - 23, 1987.
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114. Staley, B. F., So, M.J.S., de los Reyes, F.L. and M.A. Barlaz, 2008, "Microbial Function and Resilience During Shock Loading of Highly Degradable Substrates into Solid Waste," American Society for Microbiology 108th General Meeting, June 1 – 5, Boston, MA.
115. Staley, B. F., de los Reyes, F.L., and M.A. Barlaz, 2008, "The Effect of Environmental Selection Mechanisms on Microbial Ecological Succession During Refuse Decomposition," American Society for Microbiology 108th General Meeting, June 1 – 5, Boston, MA.
116. Reale-Levis, J. W., Barlaz, M. A. and S. R. Ranjithan, 2008, "A Life-Cycle Inventory of Alternatives for the Management of Commercial Food Waste," Proc. Global Waste Management Symposium, Copper Mtn. Co. Sept. 8-10.
117. Saquing, J. M., Knappe, D. R. U. and M. A. Barlaz, 2008, "Estimating Sorption Equilibrium and Kinetic Parameters for Organic Contaminants in Landfills," Proc. Global Waste Management Symposium, Copper Mtn. Co. Sept. 8-10.
118. Padgett, J. M., Breitmeyer, R. J., Bareither, C. A., Barlaz, M. A., and C. H. Benson, 2008, "Biodegradability of Forest Products Under Laboratory and Bioreactor landfill Conditions," Proc. Global Waste Management Symposium, Copper Mtn. Co. Sept. 8-10.
119. Bareither, C. A., Breitmeyer, R. J., Erses, S., Benson, C. H., Edil, T. B., and M. A. Barlaz, 2008, "Relative Contributions of Moisture and Biological Activity on Compression of Municipal Solid Waste in Bioreactor Landfills," Proc. Global Waste Management Symposium, Copper Mtn. Co. Sept. 8-10.
120. Breitmeyer, R. J., Bareither, C. A., Benson, C. H., Edil, T. B., and M. A. Barlaz 2008, "Field-Scale Lysimeter Experiment to Study Hydrologic and Mechanical Properties of Municipal Solid Waste," Proc. Global Waste Management Symposium, Copper Mtn. Co. Sept. 8-10.
121. Goldsmith, C. D., Green, R., Abichou, T., Barlaz, M. A. and J. C. Chanton, 2008, "Comparison of Optical Remote Sensing with Static Chambers for Quantification of Landfill Methane Emission," Proc. Global Waste Management Symposium, Copper Mtn. Co. Sept. 8-10.
122. Augenstein, D., Yazdani, R., Imhoff, P., Bentley, H., Barlaz, M. A. and Benemann, J., 2008, "Variable Landfill Gas Recovery for Peaking Energy, Proc. Global Waste Management Symposium, Copper Mtn. Co. Sept. 8-10.
123. DeLa Cruz. F. B. and M. A. Barlaz, 2008, "A Method to Estimate Carbon Sequestration from Excavated Refuse Samples," Intercontinental Landfill Research Symposium, Copper Mtn. Co. Sept. 10-12.
124. Barlaz, M. A., Sadri, A., von Pein, R. and S. Luetlich, 2008, "Refuse Decomposition at Elevated Temperature: An Analysis of Biological Processes at the Waimanalo Gulch

- Sanitary Landfill,” Intercontinental Landfill Research Symposium, Copper Mtn. Co. Sept. 10-12.
125. Staley, B. F., de los Reyes, F.L., and M.A. Barlaz, 2008, “Evaluation of Factors Affecting the Initiation of Methanogenesis in Solid Waste,” Proc. Global Waste Management Symposium, Copper Mtn. Co., Sept. 8-10.
 126. DeLa Cruz. F. B. and M. A. Barlaz, 2009, A Method to Estimate Carbon Sequestration from Excavated Refuse Samples, First International Greenhouse Gas Measurement Symposium, Air and waste Management Association, San Francisco, CA., March 22 – 25.
 127. Staley, B. F. and M. A. Barlaz, 2009, “Estimating Carbon Sequestration and Gas Production in Solid Waste Using Waste Composition,” AEESP Frontiers Conference, July 26 – 28, Iowa City, Iowa.
 128. Barlaz, M. A. and De la Cruz, F. B, 2010, “Landfill Gas Modelling: Estimation of Landfill Gas Decay Rate Constants and Yields for Individual Waste Components,” Landfill Methane Outreach Program Annual Meeting, U.S. EPA, Baltimore, MD, Jan. 11 – 13.
 129. Barlaz, M. A. and De la Cruz, F. B, 2010, “Development of a Carbon Footprint Model for Landfill Disposal of Solid Waste,” American Chemical Society Annual Meeting, San Francisco, CA, March, 21 – 25.
 130. Barlaz, M. A., 2010, “Is Biodegradability a Desirable Attribute in Material Design?,” American Chemical Society Annual Meeting, San Francisco, CA, March, 21 – 25.
 131. Padgett, J., and Barlaz, M. A., Biodegradability of Forest Products under Simulated Landfill Conditions. *Proc. Global Waste Management Symposium 2010*, October 3 – 6. San Antonio, TX. Penton Media.
 132. De La Cruz., F. and Barlaz, M. A. Determination of Sources of Organic Matter in Landfill by Analysis of CuO Oxidation Products of Lignin. *Proc. Global Waste Management Symposium 2010*, October 3 – 6. San Antonio, TX. Penton Media.
 133. De La Cruz., F. and Barlaz, M. A. Development of a Model to Assess the Relative Sensitivity of Variables Controlling the Carbon Footprint of a Landfill. *Proc. Global Waste Management Symposium 2010*, October 3 – 6. San Antonio, TX. Penton Media
 134. Levis, J. W. and Barlaz, M. A. Cost Effective Solid Waste Management Decision Making in Consideration of Climate Change Policy. *Proc. Global Waste Management Symposium 2010*, October 3 – 6. San Antonio, TX. Penton Media.

Invited Lectures

1. Barlaz, M. A., "Microbial and Chemical Characteristics of Refuse Decomposition Under Methane Producing and Inhibited Conditions," presented at the Workshop on Landfill Microbiology, Oregon Graduate Center, Beaverton, OR, Aug. 9 - 10, 1989.
2. Barlaz, M. A., "The Use of Mass Balances for Calculation of the Methane Potential of Fresh and Anaerobically Decomposed Refuse," Proc. of the Landfill Gas Symposium sponsored by GRCDA, Chicago, IL, March 27 - 29, 1990.
3. Barlaz, M. A., "Bacterial Population Development During Refuse Methanogenesis," presented at the 11th Annual meeting of the Society for Environmental Toxicology and Chemistry, Arlington, VA, Nov. 11 - 15, 1990.
4. Barlaz, M. A., "Microbial and Chemical Characteristics of Methane Production from Refuse," presented at the 91st Annual Meeting of the American Society for Microbiology, Dallas, TX, May 5 - 9, 1991.
5. Barlaz, M. A., "Biodegradation of Individual Components of Municipal Solid Waste in Landfills: Enhancement Opportunities and Research Needs," Waste Management Incorporated Technology Conference, Oak Brook, IL, Sept. 28 - 30, 1992.
6. Barlaz, M. A., "Anaerobic Refuse Decomposition in a Simulated Sanitary Landfill," Environmental and Water Resources Engineering Program, University of Michigan, Ann Arbor, MI, Apr. 23, 1993.
7. Barlaz, M. A., "Laboratory-Scale Assessment of the Fate of Polymers in Sanitary Landfills," Environmental and Waste Management Conference, INDA, Arlington, VA, June 16 - 17, 1993.
8. Barlaz, M. A. and E. D. Brill, "Alternatives for Mass Flow in Integrated Solid Waste Management," Center for Plastics Recycling Research Technical Seminar VIII, Rutgers University, New Brunswick, NJ, Oct. 20 - 21, 1993.
9. Barlaz, M. A., "Methane Potential of Individual Waste Components," Dept. of Energy - Energy Information Administration Workshop on Landfill Gas, Washington, DC, Apr. 26, 1994.
10. Nishtala, S., Kaneko, A., Ranjithan, R., Barlaz, M. A. and E. D. Brill, "Alternatives for Mass Flow in Integrated Solid Waste Management," Center for Plastics Recycling Research Technical Seminar IX, Rutgers University, New Brunswick, NJ, Oct. 27, 1994.
11. Barlaz, M. A., "Methane Generation and Release from Landfill Sites," Society for General Microbiology Golden Jubilee Meeting, Symposium on Microbial Contributions to Global Methane Flux, Bath, United Kingdom, Apr. 3 - 6, 1995.
12. Barlaz, M. A., "Life-Cycle Inventory of Municipal Solid Waste Alternatives: Project Overview and System Boundaries," Life Cycle Assessment '95, Brussels, Belgium, Nov. 6 - 7, 1995.

13. Barlaz, M. A. and R. C. Borden, "Natural Bioremediation of Petroleum Hydrocarbons," Bioremediation in the Saturated Subsurface, University of New Hampshire, Durham, NH, Feb. 5, 1996.
14. Barlaz, M. A., "Measurement of Polymer Biodegradability Under Anaerobic Conditions," International Symposium on Bacterial Polyhydroxyalkanoates '96, Davos, Switzerland, Aug. 18 - 23, 1996. (9 page manuscript in conf. proc.)
15. Barlaz, M. A., "Current Estimates of Global Methane Emissions from Landfills," Joint North American-European Workshop on Measurement and Modeling of Methane Fluxes from Landfills, Argonne National Laboratory, Chicago, IL, Oct. 21 - 24, 1996.
16. Barlaz, M. A., "Biodegradation in Landfills: Municipal Solid Waste and Polymers," Annual Meeting of the Bio/Environmentally Degradable Polymer Society, Boston, MA, Aug. 19-22, 1998.
17. Pettigrew, C. A., Federle, T. W., Schechtman, L. A. and M. A. Barlaz, "Polyester Applications: Disposal and Biodegradation," International Symposium on Bacterial Polyhydroxyalkanoates '98, Japan, Sept., 1998, (given by C. A. Pettigrew)
18. Barlaz, M. A., "Development of Alternative Solid Waste Management Options Using a Life-Cycle Approach ", WasteTech99, Environmental Industries Asscn., New Orleans, LA, Feb. 1-3, 1999.
19. Barlaz, M. A., "Assessment of the Anaerobic Biodegradation of Polymers in Simulated Landfills," Industrial Partnership for Research in Interfacial and Materials Engineering, U. of Minn., Minneapolis, MN May 15-18, 2000.
20. Barlaz, M. A., "Monitoring Solids Decomposition and Solids Loss," US EPA Workshop on Landfill Bioreactors, Arlington, VA, Sept. 6-7, 2000.
21. Barlaz, M. A., "Biological and Chemical Transformations of Hazardous Organics During Refuse Decomposition," Dept. of Microbiology, NC State Univ., Sept. 14, 2000.
22. Barlaz, M. A., Mehta, R., Yazdani, R. and D. Augenstein, "Comparative Assessment of Solids Excavated from Leachate Recycle and Control Test Cells at the Yolo County, California Landfill," Annual Meeting of the NC Division of SWANA, Wilmington, NC, Sept. 19-22, 2000.
23. Barlaz, M. A. and M. Gabr, "Closing the Gaps in the Regulation of Municipal Solid Waste Landfills," Annual Meeting of the NC Division of SWANA, Wilmington, NC, Sept. 19-22, 2000.
24. Barlaz, M. A., "A Critical Evaluation of Factors Required to Terminate the Post-Closure Monitoring Period at Solid Waste Landfills," South African Inst. of Civil Engr., Env. Engr. Div., Johannesburg, South Africa, Sept. 5-6, 2001.

25. Barlaz, M. A., "A Critical Evaluation of Factors Required to Terminate the Post-Closure Monitoring Period at Solid Waste Landfills," SWANA Applied Research Foundation Project Planning Meeting, West Palm Spring, FL, Jan. 16-17, 2002.
26. Barlaz, M. A., "Comparing the Environmental Performance of Bioreactor and Traditional Landfills Using Life-Cycle Analysis," SWANA Applied Research Foundation Project Planning Meeting, West Palm Spring, FL, Jan. 16-17, 2002.
27. Barlaz, M.A., "Methane Emissions from Municipal Solid Waste," North American Carbon Program, U. New Hampshire, Durham, NH, Sept. 10-12, 2002.
28. Barlaz, M.A., "Landfill Chemistry and Microbiology" and "End of Post-Closure," US EPA Workshop on Bioreactor Landfills, Arlington, VA, Feb. 27-8, 2003.
29. Barlaz, M. A., 2004, "Bioreactor Landfills for Refuse Decomposition," Workshop Comparing Bioreactor Landfills and Anaerobic Digestion, Anaerobic Digestion 10th World Conference, Aug. 29 – Sept. 2, Montreal, CA.
30. Barlaz, M. A., 2004, "The Application of a Life-Cycle Analysis Decision Support Tool to Integrated Waste Management Planning in the United States," Strategic Solid Waste Management for a Sustainable Society," Nov. 26, Tokyo, Japan
31. Barlaz, M. A., 2004, "The Application of Life-Cycle Analysis to Integrated Solid Waste Management Planning," Okayama University, Nov. 26, Okayama, Japan.
32. Barlaz, M. A., 2004, "Research Needs for Sustainable Solid Waste Management: A Perspective from North America," Hokkaido University, Nov. 26, Sapporo, Japan.
33. Barlaz, M. A., Ranjithan, S. R. and P. O. Kaplan, 2006, "The Application of Life-Cycle Analysis to Integrated Solid Waste Management," Planning for the State of Delaware," Delaware Solid Waste Commission, March 6, Wilmington, DE.
34. Barlaz, M. A., 2006, "Development of Aerobic and Anaerobic Bioreactors in the United States of America," Seminar on New Technologies for the Final Disposal of Solid Wastes, Institute Nacional de Ecologia, Sept. 26, Mexico City.
35. Barlaz, M. A., "Release of Trace Organic Compounds During MSW Decomposition and Environmental Implications of Waste Management Using Landfills and Waste-to-Energy," "Waste-to-Energy Research and Technology Council 2006 Annual Meeting, Oct. 19 – 20, Columbia Univ., New York.
36. Barlaz, M.A., "The Application of Life-Cycle Analysis to Integrated Solid Waste Management Planning for the State of Delaware," Life Cycle Assessment & Solid Waste Management Workshop, Edmonton Waste Management Center of Excellence, Feb. 28, 2007, Edmonton, Alberta, Canada.

37. Barlaz, M. A., 2007, "Physical Containment and Survival in Landfills," Disposal of Food Products Contaminated by Biological Threat Agents, UW Food Research Institute, U.S Environmental Protection Agency and Wisconsin Technology Council May 2-3, Madison, WI.
38. Barlaz, M. A., 2007, Leachate Quality and Gas Generation at Bioreactor Landfills, World Bank, Washington, D.C.
39. EPA Organics Workshop, May 13-14, Washington D.C. This is a small group invited to discuss the manner in which composting and landfill process are modeled in life-cycle analysis studies.
40. Barlaz, M.A., 2008, "The Fate of Carbon in Municipal Waste Landfills: Methane, Carbon Dioxide and Carbon Sequestration,". This lecture was presented in Brisbane, Perth, Adelaide, Melbourne, Sydney, and Hobart, Australia as part of a lecture tour sponsored by the Waste Management Association of Australia.
41. Barlaz, M. A., 2008, "Methane Production, Collection and Management in Municipal Waste Landfills," University of Queensland, Brisbane, Australia.
42. Barlaz, M.A., 2009, "A Landfill Carbon Balance: Gas Production and Control, and Carbon Sequestration," ISWA Annual Meeting, Copenhagen, Denmark, December 3-4.
43. Barlaz, M.A., 2009, "Criteria to Terminate Post-Closure Monitoring at MSW landfills," Vienna University of Technology, Austria, December 7.

Books

1. Barlaz, M. A. and R. K. Ham, 1993, "Leachate and Gas Generation," in Geotechnical Practice for Waste Disposal, D. E. Daniel, ed., Chapman and Hall, London, p. 113 - 36.
2. Palmisano, A. C. and M. A. Barlaz, 1996, "Introduction," in Solid Waste Microbiology, A. C. Palmisano and M. A. Barlaz, ed., CRC Press, Boca Raton, FL, p. 1 - 30.
3. Barlaz, M. A., 1996, "The Microbiology of Municipal Solid Waste Landfills," in Solid Waste Microbiology, A. C. Palmisano and M. A. Barlaz, ed., CRC Press, Boca Raton, FL, p. 31 - 70.
4. Staley, B. F., de los Reyes, F.L., and M.A. Barlaz, 2008, "Anaerobic Biodegradation of Solid Waste," in Environmental Microbiology, Wiley, Ralph Mitchell, ed., accepted for publication.

Reports

1. Barlaz, M. A., 1982, "An Assessment of Hazardous Waste Generation and Disposal Practices in Israel," prepared for the Israeli Environmental Protection Service.

2. Lindstrom, F. T., Boersma, L., Myrold, D. and M. A. Barlaz, 1991, "Denitrification in Nonhomogeneous Laboratory Scale Aquifers: 4. Hydraulics, Nitrogen Chemistry, and Microbiology in a Single Layer," EPA/600/S2-91/014.
3. Eleazer, W. E., Barlaz, M. A. and D. J. Whittle, 1992, "Resource Recovery Alternatives for Waste Tires in North Carolina," Dept. of Civil Eng., North Carolina State University.
4. Johnston, J. N., Barlaz, M. A. and R. C. Borden, 1994, "Anaerobic Biodegradation of Hazardous Organics in Groundwater Down Gradient of a Sanitary Landfill," Water Resources Research Institute of the University of North Carolina Technical Report.
5. Barlaz, M. A., Rubin, A. R. and A. Amoozegar, 1995, "Use of Lime Treated Wastewater Sludge-Soil Mixtures For Daily Cover in Solid Waste Landfills," Water Resources Research Institute of the University of North Carolina Technical Report.
6. Doorn, M. R. J., Stefanski, L. A. and M. A. Barlaz, 1994, "Estimate of Methane Emissions from U.S. Landfills," EPA-600/R-94-166, Office of Research and Development, Washington, DC.
7. Doorn, M. R. J and M. A. Barlaz, 1995, "Estimate of Global Methane Emissions from Landfills and Open Dumps," EPA-600/R-95-019, Office of Research and Development, Washington, DC.
8. Barlaz, M. A., Bonner, B. A. and P. P. Calvert, 1996, "Evaluation of the Anaerobic Biodegradability of Radiolabeled Test Materials in a Laboratory-Scale Simulated Landfill," Institute for Scientific Research, ASTM, Phil. PA.
9. Borden, R. C., Hunt, M. J., Shafer, M. B. and M. A. Barlaz, 1997, "Anaerobic Biodegradation of BTEX in Aquifer Material," EPA Project Summary, in press.
10. Barlaz, M. A., Eleazer, W. E., Odle, W. S., Qian, X. and Y-S Wang, 1997, "Biodegradative Analysis of Municipal Solid Waste in Laboratory-Scale Landfills," US Environmental Protection Agency Report #EPA 600/R-97-071, National Risk Management Research Laboratory, Research Triangle Park, NC.
11. Kota, S., Hunt, M. J., Barlaz, M. A. and R. C. Borden, 1997, "Factors Limiting Intrinsic Bioremediation of Gasoline-Contaminated Aquifers," Water Resources Research Institute of the University of North Carolina Technical Report.
12. Camobreco, V., Repa, E., Ham, R. K., Barlaz, M. A., Felker, M., Rousseau, C., Clark-Balbo, M., Rathle, J., Thorneloe, S., Life Cycle Inventory of a Modern Municipal Solid Waste Landfill, Environmental Research and Education Foundation, Washington, D.C., June, 1999.
13. Kusa, J., Barlaz, M. A., Brill, E. D., Green, B., Knoeber, C. R. and Palmquist, R. B., 2001, "An Assessment of Price Volatility in Recyclables Markets and Market Mechanisms to Stabilize Prices," Environmental Research and Education Foundation, Washington, D.C.

14. Barlaz, M.A., 2004, "Critical Review of Forest Products Decomposition in Municipal Solid Waste Landfills," Technical Bulletin 872, National Council for Air and Stream Improvement, RTP, NC.
15. Benson, C. H, Barlaz, M.A., Lane, D. T. Lane and J. M. Rawe, 2004, "State-of-The Practice Review of Bioreactor Landfills," prepared for the U.S. Environmental Protection Agency, Cincinnati, OH.
16. Loughlin, D. L. and M. A. Barlaz, 2004, "Policies for Strengthening Markets for Recyclables: A Worldwide Perspective," prepared for the Environmental Research and Education Foundation.
17. Kaplan, P. O., Ranjithan , S. R and M. A. Barlaz, 2006, "The Application of Life-Cycle Analysis to Integrated Solid Waste Management Planning for the State of Delaware," final report prepared for the Delaware Solid Waste Authority.
18. Sadri, A., Staley, B.F., de los Reyes, F., and M.A. Barlaz, "Characterization of Biological Activity in Refuse Samples Excavated from the Waimanalo Gulch Sanitary Landfill," Waste Management of Hawaii.
19. Reale-Levis,, J. L., Barlaz, M. A. and S. R. Ranjithan, 2009, "A Life-Cycle Analysis of Alternatives for the Management of Construction and Demolition Waste," final report prepared for the Delaware Solid Waste Authority.
20. Reale-Levis,, J. L., Barlaz, M. A. and S. R. Ranjithan, 2009, "A Life-Cycle Analysis of Alternatives for the Management of Waste Hot Mix Asphalt," final report prepared for the Delaware Solid Waste Authority
21. Reale-Levis,, J. L., Barlaz, M. A. and S. R. Ranjithan, 2009, "Life-Cycle Inventory Model for Commercial and Industrial Food Waste Management," final report prepared for the Delaware Solid Waste Authority.

Other

1. Barlaz, M. A., Kaplan, P. O and S. R. Ranjithan, "Using Life-Cycle Analysis To Compare Solid Waste Management Alternatives Involving Recycling, Composting And Landfills," MSW Management, 13, 3, p. 42-3.
2. Barlaz, M. A., Kaplan, P. O, S. R. Ranjithan and R. Rynk, 2003, "Evaluating Environmental Impacts of Solid Waste Management Alternatives, Part I" Biocycle, Sept., p. 60 - 66.
3. Barlaz, M. A., Kaplan, P. O, S. R. Ranjithan and R. Rynk, 2003, "Evaluating Environmental Impacts of Solid Waste Management Alternatives, Part II" Biocycle, Oct., p. 52 - 56.
8. Hater, G, Roger Green, R., Goldsmith, D., Barlaz, M., Abichou, T. and Chanton, J., 2007, "Greenhouse Gas Inventories for the Waste Industry: The Importance of Measuring Landfill Gas Total Emissions," MSW Management, 17, 4.

9. Barlaz, M. A., Banister, A, Hater, G., Chanton, J. and Green, R., 2007, "Money from Old Rope? Tracking the Carbon in Landfill Management," Waste Management World, Vol. 8, 4, p. 127-31.
10. Barlaz, M.A., 2009, "Landfill Gas Recovery," Env. Sci. Technol., 43, 9, p. 2995 (letter to editor).

Short Courses

1. Barlaz, M. A., "The Application of Life-Cycle Assessment to Waste Management," Johannesburg, South Africa, Sept. 4, 2001. (This was an 8 hour workshop and I was the only instructor.)
2. Barlaz, M. A., "Designing and Operating Bioreactor Landfills," Madison, WI, June 4-5, 2002. (This is a 2.5 day workshop in which I was responsible for about 5 hours.)