in the Analysis of Bioaccumulative Chemicals," *Anal. Chem.* **1998**, *70*, 526–533)

Metals

Historic record of metal contamination. Measurements of metal concentrations in peat show that the concentrations of titanium, lead, and lead enrichment factors closely follow changes in land use history extending back thousands of years. (Kempter, H.; Gorres, M.; Frenzel, B. "Ti and Pb Concentrations in Rainwater-Fed Bogs in Europe as Indicators of Past Anthropogenic Activities," *Water, Air, Soil Pollut.* **1997**, *100*(3–4), 367–377)

Impact of mercury on wildlife. The toxicity of mercury to birds and mammals, mercury measurement techniques, mechanisms of mercury toxicity, and interpretation of residue data are reviewed. (Wolfe, M. F.; Schwarzbach, S.; Sulaiman, R. A. "Effects of Mercury on Wildlife: A Comprehensive Review," *Environ. Toxicol. Chem.* **1998**, *17*(2), 146–160)

Modeling

Water quality models. The use of a genetic algorithm as an optimization tool to estimate water quality model parameters in a calibration scenario is demonstrated. (Mulligan, A. E.; Brown, L. C. "Genetic Algorithms for Calibrating Water Quality Models," *J. Environ. Eng.* **1998**, *3*, 202–211)

Pesticides

Carbendazim detection. A novel method is described for direct analysis of carbendazim, a commonly used pesticide, in agricultural samples. (Orea, J. M.; Bescós, B.; Montero, C.; Ureña, A. G. "Analysis of Carbendazim in Agricultural Samples by Laser Desorption and REMPI Time-of-Flight Mass Spectrometry," *Anal. Chem.* **1998**, *70*, 491–497)

Indoor pest control. The fate of indoor pest control agents was studied in a model house. (Berger-Preiß, E.; Preiß, A.; Sielaff, K.; Raabe, M.; Ilgen, B.; Levsen, K. "The Behavior of Pyrethroids Indoors: A Model Study," *Indoor Air* **1997**, *7*, 248–261)

Remediation

Dioxin destruction. Use of white-rot fungi augmented the mineralization of dioxins. The extent of reaction differed, depending on soil composition. (Rosenbrock, P.; Martens, R.; Buscot, F.; Zadrazil, F.; Munch, J. C. "Enhancing the Mineralization of [^{14}C]dibenzo-*p*-dioxin in Three Different Soils by Addition of Organic Substrate or Inoculation With White-Rot Fungi," *Appl. Microbiol. Biotechnol.* **1997**, *48*(5), 665–670)

Water dechlorination. Palladium on carbon catalysts has been used to dehalogenate trichloroethylene in tests carried out in batch and continuous flow treatment configurations. (Perrone, L.; Prati, L.; Rossi, M. "Removal of Chlorinated Organic Compounds From Water by Catalytic Dehydrohalogenation," *Appl. Catal., B* **1998**, *15*(3–4), 241–246)

Sediment pore water sampling

Peepers are simple multichambered dialyzers that are used for in situ collection and analysis of sediment pore water composition. Chemical species collected in the peepers must be allowed to equilibrate with the surrounding sediment pore water. I. Webster and coworkers used a mathematical model to evaluate peeper equilibration times. For modeled conditions, chamber size and diffusivity of the diffusing chemical species were shown to be key parameters. Equilibration was achieved most rapidly for species of largest diffusivity in the smallest chambers. Criteria are reported for testing the importance of incomplete mixing within the chambers. (*Environ. Sci. Technol.*, this issue, pp. 1727–1733)

Risk

Improving risk assessment schemes. An examination of models used to establish the environmental concentration of chemical substances indicates their adequacy and opportunities for improvement of risk assessments. (Diderich, R. "EU Approach for Environmental Exposure Assessment: Actual Status and Future Needs," *SAR QSAR Environ. Res.* **1997**, *6*(1–2), 19–28)

Noncancer risk assessment. A noncancer risk assessment paradigm and its application are described. The paradigm incorporates mechanistic and delivered-dose information using a physiological-based pharmacokinetic model and quantitative dose–response information using the benchmark dose method. (Clewell, H. J., III; Gentry, P. R.; Gearhart, J. M. "Investigation of the Potential Impact of Benchmark Dose and Pharmacokinetic Modeling in Noncancer Risk Assessment," *J. Toxicol. Environ. Health* **1997**, *52*(6), 475–515)

Sediments

PAHs in sediments. Similar PAH profile variations in sediments collected at four Norwegian fjords could not be adequately explained by analyzed environmental variables. (Naes, K.; Oug, E. "The Distribution and Environmental Relationships of Polycyclic Aromatic Hydrocarbons (PAHs) in Sediments From Norwegian Smelter-Affected Fjords," *Chemosphere* **1997**, *36*(3), 561–576)

Pollutant mobility. The current understanding of contaminant mobility in sediments is reviewed and analyzed. (Humez, N.; Humez, A-L.; Juste, C.; Prost, R. "A New Assessment of Mobility of Elements in Sediments and Wastes," *Chem. Speciation Bioavailability* **1997**, *9*(2), 57–65)

Waste

Pollution prevention review. Facility-level data are investigated concerning actions intended to reduce generation of hazardous wastes as reported by facility personnel under the Biennial Reporting System between 1987 and 1993. (Duke, L. D.; Masek, B. "Evaluating Progress in Toxic Pollution Prevention for Two Industrial Sectors, 1987–1993," *Environ. Eng. Sci.* **1997**, *14*(2), 81–95)

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