

Prof. Jussi Kukkonen, List of Publications

Academic Thesis

- TH-1 Syventävien opintojen tutkielma (MSc Thesis): Kasviplanktonin perustuotanto humuspitoisuudeltaan erilaisissa järvissä. Joensuun yliopisto, biologian laitos. Hyväksytty 25.9. 1985 arvosanalla *eximia cum laude approbatur* (3-/3).
- TH-2 Licensiaattitutkielma (Phil.Lic. Thesis): Liuenneen orgaanisen materiaalin vaikutus orgaanisten ympäristömyrkköjen sitoutumiseen ja biosaataavuuteen luonnonvesissä. Joensuun yliopisto, biologian laitos. Hyväksytty 19.12. 1990 arvosanalla *laudatur* (3/3).
- TH-3 Väitöskirja (PhD Thesis): Effects of Dissolved Organic Material in Fresh Waters on the Binding and Bioavailability of Organic Pollutants. University of Joensuu, Department of Biology. Accepted Jan. 10, 1992, with grade *eximia cum laude approbatur* (3-/3).

Peer Reviewed Articles in Journals and Books

- SA-1 **Kukkonen J.** and Oikari A. 1987: Effects of aquatic humus on accumulation and acute toxicity of some organic micropollutants. *Science of the Total Environment* 62: 399-402.
- SA-2 Oikari A. and **Kukkonen J.** 1988: Acclimatization of Roach, *Rutilus rutilus* (L.), to toxic components of kraft pulp mill effluents. *Ecotoxicol. Environ. Safety* 15: 282-288.
- SA-3 **Kukkonen J.** and Oikari A. 1988: Sulphate conjugation is the main route of pentachloro-phenol metabolism in *Daphnia magna*. *Comp. Biochem. Physiol.* 91C: 465-468.
- SA-4 Oikari A., Lindström-Seppä P. and **Kukkonen J.** 1988: Subchronic metabolic effects and toxicity of a simulated pulp mill effluent on juvenile lake trout, *Salmo trutta m. lacustris*. *Ecotoxicol. Environ. Safety* 16: 202-218.
- SA-5 **Kukkonen J.**, Oikari A., Johnsen S. and Gjessing E. 1989: Effects of humus concentrations on benzo(a)pyrene accumulation from water to *Daphnia magna*: comparison of natural waters and standard preparations. *Science of the Total Environment* 79: 197-207.
- SA-6 Johnsen S., **Kukkonen J.** and Grande M. 1989: Influence of natural aquatic humic substances on the bioavailability of benzo(a)pyrene to atlantic salmon. *Science of the Total Environment* 81/82: 691-702.
- SA-7 **Kukkonen J.**, McCarthy J.F. and Oikari A. 1990: Effects of XAD-8 fractions of dissolved organic carbon on the sorption and bioavailability of organic micropollutants. *Arch. Environ. Contam. Toxicol.* 19: 551-557.
- SA-8 Oikari A. and **Kukkonen J.** 1990: Bioavailability of benzo(a)pyrene and dehydroabietic acid from a few lake waters containing varying dissolved organic carbon concentration to *Daphnia magna*. *Bull. Environ. Contam. Toxicol.* 45: 54-61.
- SA-9 **Kukkonen J.** 1991: Effects of pH and natural humic substances on the accumulation of organic pollutants into two freshwater invertebrates. In: B. Allard, H. Borén and A. Grimvall (eds.): *Humic Substances in the Aquatic and Terrestrial Environment*. Springer-Verlag, Berlin, Germany. Lecture Notes in Earth Sciences 33: 413-422.
- SA-10 **Kukkonen J.** and Oikari A. 1991: Bioavailability of organic pollutants in boreal waters with varying levels of dissolved organic material. *Water Research* 25:455-463.
- SA-11 **Kukkonen J.**, McCarthy J.F. and Oikari A. 1991: Binding and bioavailability of organic micropollutants in natural waters: Effects of the quality and quantity of dissolved organic material. In: R. Baker (ed.): *Organic Substances and Sediments in Water: Volume 3, Biological*. Lewis Publishers Inc., Chelsea MI. p. 111-127.

- SA-12 Mäkelä T.P., Petänen T., **Kukkonen J.** and Oikari A.O.J. 1991: Accumulation and depuration of chlorinated phenolics in the freshwater mussel (*Anodonta anatina* L.). *Ecotoxicol. Environ. Safety* 22: 153-163.
- SA-13 Oikari A., **Kukkonen J.** and Virtanen V. 1992: Acute toxicity of chemicals to *Daphnia magna* in humic waters. *Sci. Total Environ.* 117/118: 367-377.
- SA-14 **Kukkonen J.** and Oikari A. 1992: Effects of kraft lignin and chlorolignin on the bioavailability of benzo(a)pyrene to *Daphnia magna* Straus. *Bull. Environ. Contam. Toxicol.* 48: 781-788.
- SA-15 **Kukkonen J.** 1992: Effects of lignin and chlorolignin in pulp mill effluents on the binding and bioavailability of hydrophobic organic pollutants. *Water Research* 26: 1523-1532.
- SA-16 Pellinen J., **Kukkonen J.**, Herb A., Mäkelä P. and Oikari A. 1993: Bioaccumulation of pulp mill effluent-related compounds to aquatic animals. *Sci. Total Environ.* (Suppl. 1993): 499-510.
- SA-17 **Kukkonen J.** and Pellinen J. 1994: Binding of organic xenobiotics to dissolved macromolecules: Comparison of analytical methods. *Sci. Total Environ.* 152: 19-29.
- SA-18 Suffet I.H., Jafvert C.T., **Kukkonen J.**, Servos M.R., Spacie A., Williams L.L. and Noblet J.A. 1994: Influence of particulate and dissolved material on the bioavailability of organic compounds. In: J.L. Hamelink, P.F. Landrum, H.L. Bergman and W.H. Benson (eds.): *Bioavailability: Physical, Chemical, and Biological Interactions*. Lewis Publishers, Ann Arbor, USA. pp. 93-108.
- SA-19 Harkey G., Lydy M.J., **Kukkonen J.** and Landrum P.F. 1994: Feeding selectivity and assimilation of PAH and PCB in *Diporeia* spp. *Environ. Toxicol. Chem.* 13: 1445-1455.
- SA-20 **Kukkonen J.** and Landrum P.F. 1994: Toxicokinetics and toxicity of sediment-associated pyrene to *Lumbriculus variegatus* (Oligochaeta). *Environ. Toxicol. Chem.* 13: 1457-1468.
- SA-21 Landrum P.F., Dupuis W.S. and **Kukkonen J.** 1994: Toxicokinetics and toxicity of sediment-associated pyrene and phenanthrene in *Diporeia* spp.: Examination of equilibrium partitioning theory and residue based effects for assessing hazard. *Environ. Toxicol. Chem.* 13: 1769-1780.
- SA-22 **Kukkonen J.** and Landrum P.F. 1995: Effects of sediment-bound polydimethylsiloxane on the bioavailability and distribution of benzo(a)pyrene in lake sediment to *Lumbriculus variegatus*. *Environ. Toxicol. Chem.* 14: 523 - 531.
- SA-23 Penttinen S., **Kukkonen J.** and Oikari A. 1995: The kinetics of cadmium in *Daphnia magna* as affected by humic substances and water hardness. *Ecotoxicol. Environ. Safety* 30: 72-76.
- SA-24 Soimasuo R., Jokinen I., **Kukkonen J.**, Petänen T., Ristola T. and Oikari A. 1995: Biomarker responses along a pollution gradient: Effects of pulp and paper mill effluents on caged whitefish. *Aquat. Toxicol.* 31: 329-345.
- SA-25 **Kukkonen J.** and Landrum P.F. 1995: Measuring assimilation efficiencies for sediment-bound PAH and PCB congeners by benthic organisms. *Aquat. Toxicol.* 32: 75-92.
- SA-26 **Kukkonen J.** 1995: The role of natural organic material on the fate and toxicity of xenobiotics in aquatic environment. In: M. Munawar and M. Luotola (eds.): *The Contaminants in the Nordic Ecosystem: Dynamics, Processes & Fate*. Ecovision World Monograph Series. pp. 95 - 108.
- SA-27 Penttinen O.-P., **Kukkonen J.** and Pellinen J. 1996: Preliminary study to compare body residues and sublethal energetic responses in benthic invertebrates exposed to sediment-bound 2,4,5-trichlorophenol. *Environ. Toxicol. Chem.* 15: 160-166.
- SA-28 Landrum P.F., Harkey G.A. and **Kukkonen J.** 1996: Evaluation of organic contaminants exposure to aquatic organisms: The significance of bioconcentration and bioaccumulation. In: M.C. Newman and C.H. Jagoe (eds.): *Ecotoxicology: A Hierarchical Treatment*. Lewis Publishers, Ann Arbor, MI, USA, pp. 85-131.
- SA-29 Mackay D., Southwood J.M., **Kukkonen J.**, Shiu W.Y., Tam D.D., Varhaní kova D. and Lun R. 1996: Modelling the fate of 2,4,6-trichlorophenol in pulp and paper mill effluent in Lake Saimaa, Finland. In:

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- SA-30 **Kukkonen J.** and Landrum P.F. 1996: Distribution of organic carbon and organic xenobiotics among different particle size fractions in sediments. *Chemosphere* 32: 1063-1076.
- SA-31 Ristola T., Pellinen J., Leppänen M. and **Kukkonen J.** 1996: Characterization of Lake Ladoga sediments. I. Toxicity to *Chironomus riparius* and *Daphnia magna*. *Chemosphere* 32: 1165-1178.
- SA-32 Ristola T., Pellinen J., Van Hoof P.L., Leppänen M. and **Kukkonen J.** 1996: Characterization of Lake Ladoga sediments. II. Toxic chemicals. *Chemosphere* 32: 1179-1192.
- SA-33 **Kukkonen J.V.K.**, Eadie B.J., Oikari A., Holmbom B. and Lansing M.B. 1996: Chlorophenolic and isotopic tracers of pulp mill effluent in sedimenting particles collected from Southern Lake Saimaa, Finland. *Sci. Total Environ.* 188: 15-27.
- SA-34 Vuori K.-M. and **Kukkonen J.** 1996: Metal concentrations in *Hydropsyche pellucidula* larvae (Trichoptera, Hydropsychidae) in relation to the anal papillae abnormalities and age of exocuticle. *Water Research* 30: 2265-2272.
- SA-35 Heinonen J., **Kukkonen J.**, Penttinen O.-P. and Holopainen I.J. 1997: Effects of hypoxia on valve-closure time and bioaccumulation of 2,4,5-trichlorophenol by the freshwater clam *Sphaerium corneum* [L.]. *Ecotox. Environ. Safety* 36: 49-56.
- SA-36 De Paolis F. and **Kukkonen J.** 1997: Binding of organic pollutants to humic and fulvic acids: influence of pH and structure of humic material. *Chemosphere* 34: 1693-1704.
- SA-37 Landrum P.F., Gossiaux D.C. and **Kukkonen J.** 1997: Sediment characteristics influencing the bioavailability of nonpolar organic contaminants to *Diporeia* spp. *Chem. Speciat. Bioavail.* 9: 43-55.
- SA-38 Sasaki E.K., Mikkola R., **Kukkonen J.V.K.** and Salkinoja-Salonen M.S. 1997: Bleached kraft pulp mill discharged organic matter in recipient lake sediment: Environmental and molecular properties. *ESPR - Environ. Sci. Pollut. Res.* 4: 194-202.
- SA-39 Lyytikäinen M., Pellinen J., Ruokolainen M., Suominen K., Uotila J. and **Kukkonen J.V.K.** 1997: Determination of chlorinated phenolics in freshwater sediments. *Toxicol. Environ. Chem.* 63: 199-214.
- SA-40 Nuutinen S. and **Kukkonen J.V.K.** 1998: The effect of selenium and organic material in lake sediments on the bioaccumulation of methylmercury by *Lumbriculus variegatus* (Oligochaeta). *Biogeochemistry* 40: 267-278.
- SA-41 Penttinen O.-P. and **Kukkonen J.** 1998: Chemical stress and metabolic rate in aquatic invertebrates: Threshold, dose-response relationships and mode of toxic action. *Environ. Toxicol. Chem.* 17: 883-890.
- SA-42 Leppänen M.T. and **Kukkonen J.V.K.** 1998: Relative importance of ingested sediment and pore water as bioaccumulation routes for pyrene to oligochaete (*Lumbriculus variegatus*, Müller). *Environ. Sci. Technol.* 32: 1503-1508.
- SA-43 **Kukkonen J.V.K.** and Landrum P.F. 1998: Effect of particle-xenobiotic contact time on bioavailability of sediment-associated benzo(a)pyrene by benthic amphipod, *Diporeia* spp. *Aquatic Toxicology* 42: 229-242.
- SA-44 Koponen K., **Kukkonen J.V.K.** and Lindström-Seppä P. 1998: Chemical accumulation and biotransformation enzyme activities of rainbow trout embryos in waterborne exposure to PCB-77. *Mar. Environ. Res.* 46: 475-478.
- SA-45 Leppänen M.T. and **Kukkonen J.V.K.** 1998: Relationship between reproduction, sediment type and feeding activity of *Lumbriculus variegatus* (Müller): Implications for sediment toxicity testing. *Environ. Toxicol. Chem.* 17: 2196-2202.
- SA-46 Leppänen M.T., Postma J.F., Groenendijk D., **Kukkonen J.V.K.** and Buckert-de Jong M.C. 1998: Feeding activity of a midge larvae (*Chironomus riparius*, Meigen) in metal polluted river sediments. *Ecotox. Environ. Safety* 41: 251-257.

- SA-47 Leppänen M.T. and **Kukkonen J.V.K.** 1998: Factors affecting feeding rate, reproduction and growth of an oligochaete *Lumbriculus variegatus* (Müller). *Hydrobiologia* 377: 183-194.
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- SA-49 Huuskonen S.E., Ristola T.E., Tuvikene A., Hahn M.E., **Kukkonen J.V.K.** and Lindström-Seppä P. 1998: Comparison of two bioassays, a fish liver cell line (PLHC-1) and a midge (*Chironomus riparius*), in monitoring freshwater sediments. *Aquatic Toxicology* 44: 47-67.
- SA-50 Ristola T., Pellinen J., Ruokolainen M., Kostamo A. and **Kukkonen J.V.K.** 1999: Effect of sediment type, feeding level and larval density on growth and development of a midge (*Chironomus riparius*). *Environ. Toxicol. Chem.* 18: 756-764.
- SA-51 Heinonen J., **Kukkonen J.V.K.** and Holopainen I.J. 1999: The effects of parasites and temperature on the accumulation of xenobiotics in a freshwater clam. *Ecol. Applicat.* 9: 475-481.
- SA-52 Oikari A., **Kukkonen J.V.K.**, Vuorikari P. 1999: Can biliary chlorophenolics represent their tissue residues in fish? *Toxicol. Environ. Chem.* 69: 49-60.
- SA-53 Ristola T., **Kukkonen J.V.K.** and Pellinen J. 1999: Body residues and responses of the midge *Chironomus riparius* to sediment-associated 2,4,5-trichlorophenol in subchronic and chronic exposures. *Arch. Environ. Contam. Toxicol.* 37: 42-49.
- SA-54 **Kukkonen J.V.K.** 1999: Toxicity and bioavailability of contaminants. In: J. Keskitalo and P. Eloranta (eds.): *Limnology of Humic Waters*. Backhuys Publishers, Leiden. pp: 117-129.
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- SA-56 Nikkilä A., Penttinen S. and **Kukkonen J.V.K.** 1999: UV-B-induced acute toxicity of pyrene to the waterflea *Daphnia magna* in natural freshwaters. *Ecotox. Environ. Safety* 44: 271-279.
- SA-57 **Kukkonen J.V.K.**, Punta E., Koponen P., Paranko J., Leppänen H., Holopainen I.J. and Hyvärinen H. 1999: Biomarker responses by crucian carp (*Carassius carassius*) living in a pond of secondary treated pulp mill effluent. *Water Sci. Technol.* 40(11-12): 123-130.
- SA-58 Koponen K., Lindström-Seppä P. and **Kukkonen J.V.K.** 2000: Accumulation pattern and biotransformation enzyme induction in rainbow trout embryos exposed to sublethal aqueous concentrations of 3,3',4,4'-tetrachlorobiphenyl. *Chemosphere* 40: 245-253.
- SA-59 Leppänen H., **Kukkonen J.V.K.** and Oikari A.O.J. 2000: Concentration of retene and resin acids in sedimenting particles collected from a bleached kraft mill effluent receiving lake. *Water Research* 34: 1604-1610.
- SA-60 Kostamo A., Medvedev N., Pellinen J., Hyvärinen H. and **Kukkonen J.V.K.** 2000: Analysis of organochlorine compounds and extractable organic halogen in three subspecies of ringed seal from Northeast Europe. *Environ. Toxicol. Chem.* 19: 848-854.
- SA-61 **Kukkonen J.V.K.** 2000: Fate of organic xenobiotics in sediments: Bioavailability and toxicity. In: P. Heinonen, G. Ziglo and A. Van der Beken (eds.): *Hydrological and Limnological Aspects of Lake Monitoring*. John Wiley & Sons Ltd. pp. 185-193.
- SA-62 Leppänen M.T. and **Kukkonen J.V.K.** 2000: Fate of sediment-associated pyrene and benzo[a]pyrene in the freshwater oligochaete *Lumbriculus variegatus* (Müller). *Aquatic Toxicology* 49: 199-212.
- SA-63 Leppänen M.T. and **Kukkonen J.V.K.** 2000: Effects of sediment-chemical contact time on availability of sediment-associated pyrene and benzo[a]pyrene to oligochaete worms and semipermeable membrane devices. *Aquatic Toxicology* 49: 227-241.
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- SA-66 Heinonen J., **Kukkonen J.V.K.** and Holopainen I.J. 2000: Toxicokinetics of 2,4,5-trichlorophenol and benzo(a)pyrene in the clam *Pisidium amnicum*: Effects of seasonal temperatures and trematode parasites. *Arch. Environ. Contam. Toxicol.* 39: 352-359.
- SA-67 Lyytikäinen M., Sormunen A., Ristola T., Juvonen R. and **Kukkonen J.V.K.** 2001: Toxicity of freshwater sediments in the vicinity of an old sawmill: Application of three bioassays. *Arch. Environ. Contam. Toxicol.* 40: 318-326.
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- SA-72 Lyytikäinen M., Sormunen A., Peräniemi S. and **Kukkonen J.V.K.** 2001: Environmental fate and bioavailability of wood preservatives in freshwater sediments near an old sawmill site. *Chemosphere* 44: 341-350.
- SA-73 Häkkinen J., Pasanen S. and **Kukkonen J.V.K.** 2001: The effects of solar UV-B radiation on embryonic mortality and development in three boreal anurans (*Rana temporaria*, *Rana arvalis* and *Bufo bufo*). *Chemosphere* 44: 441-446.
- SA-74 Van Hoof P.L., **Kukkonen J.V.K.** and Landrum P.F. 2001: Impact of sediment manipulation on the bioaccumulation polycyclic aromatic hydrocarbons from field-contaminated and laboratory-dosed sediments by an oligochaete. *Environ. Toxicol. Chem.* 20: 1752-1761.
- SA-75 Ristola T., Parker D. and **Kukkonen J.V.K.** 2001: Life-cycle effects of sediment-associated 2,4,5-trichlorophenol on two groups of the midge *Chironomus riparius* with different exposure histories. *Environ. Toxicol. Chem.* 20: 1772-1777.
- SA-76 Honkanen J.O., Heinonen J. and **Kukkonen J.V.K.** 2001: Toxicokinetics of waterborne bisphenol A in landlocked salmon (*Salmo salar* m. *sebago*) eggs at various temperatures. *Environ. Toxicol. Chem.* 20: 2296-2302.
- SA-77 Akkanen J. and **Kukkonen J.V.K.** 2001: Effects of water hardness and dissolved organic material on bioavailability of selected organic chemicals. *Environ. Toxicol. Chem.* 20: 2303-2308.
- SA-78 Akkanen J., Penttinen S., Haitzer M. and **Kukkonen J.V.K.** 2001: Bioavailability of atrazine, pyrene and benzo(a)pyrene in European river waters. *Chemosphere* 45: 453-462.
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- SA-80 Heinonen J., **Kukkonen J.V.K.** and Holopainen I.J. 2001: Temperature and parasite-induced changes in toxicity and lethal body burdens of pentachlorophenol in the freshwater clam *Pisidium amnicum*. *Environ. Toxicol. Chem.* 20: 2778-2784.
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- SA-85 Kostamo A., Hyvärinen H., Pellinen J. and **Kukkonen J.V.K.** 2002: Organochlorine concentrations in the Saimaa ringed seal (*Phoca hispida saimensis*) from Lake Haukivesi, Finland, 1981 to 2000 and, its diet today. Environ. Toxicol. Chem. 21: 1368-1376.
- SA-86 Heinonen J., Honkanen J., **Kukkonen J.V.K.** and Holopainen I.J. 2002: Bisphenol A accumulate to freshwater clam *Pisidium amnicum* at low temperatures. Arch. Environ. Contam. Toxicol. 43: 50-55.
- SA-87 Nieminen P., Lindström-Seppä P., Juntunen M., Asikainen J., Mustonen A.-M., Karonen S.-L., Mussalo-Rauhamaa H. and **Kukkonen J.V.K.** 2002: *In vivo* effects of bisphenol A on the polecat (*Mustela putorius*). J. Toxicol. Environ. Health A 65: 933-945.
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- SA-89 **Kukkonen J.V.K.** 2002: Lethal body residue of chlorophenols and mixtures of chlorophenols in benthic organisms. Arch. Environ. Contam. Toxicol. 43: 214-220.
- SA-90 Mäenpää K.A., **Kukkonen J.V.K.** and Lydy M.J. 2002: Remediation of heavy metal contaminated soils using phosphorus: Evaluation of bioavailability using an earthworm bioassay. Arch. Environ. Contam. Toxicol. 43: 389-398.
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- SA-92 Heinonen J., Penttinen O.-P., Holopainen I.J. and **Kukkonen J.V.K.** 2003: Sublethal energetic responses in *Pisidium amnicum* exposed to pentachlorophenol at two temperatures. Environ. Toxicol. Chem. 22: 433-438.
- SA-93 Petänen T., Lyytikäinen M., Lappalainen J., Romantschuk M. and **Kukkonen J.V.K.** 2003: Assessing sediment toxicity and arsenite concentration with bacterial and traditional methods. Environ. Poll. 122: 407-415.
- SA-94 Nikkilä A., Halme A. and **Kukkonen J.V.K.** 2003: Toxicokinetics, toxicity and lethal body residues of two chlorophenols in the oligochaete worm, *Lumbriculus variegatus*, in varying sediments. Chemosphere 51: 35-46.
- SA-95 Akkanen J. and **Kukkonen J.V.K.** 2003: Measuring the bioavailability of two hydrophobic organic compounds in the presence of dissolved organic matter. Environ. Toxicol. Chem. 22: 518-524.
- SA-96 Nieminen P., Mustonen A.-M., Lindström-Seppä P., Kärkkäinen V., Mussalo-Rauhamaa H. and **Kukkonen J.V.K.** 2003: Phytosterols affect endocrinology and metabolism of the field vole (*Microtus agrestis*). Exp. Biol. Med. 228: 188-193.
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- SA-99 Akkanen J. and **Kukkonen J.V.K.** 2003: Biotransformation and bioconcentration of pyrene in *Daphnia magna*. *Aquatic Toxicology* 64: 53-61.
- SA-100 Kostamo A. and **Kukkonen J.V.K.** 2003: Removal of resin acids and sterols from pulp mill effluents by activated sludge treatment. *Water Research* 37: 2813-2820.
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