

[Ken H Andersen](#) : **The marine size-spectrum: from individuals to ecosystem.** The size distribution of organisms in the world's oceans shows a remarkable regularity: if individuals are sorted by size in logarithmically spaced bins (e.g. from 1-10 g; 10-100 g; 100-1000 g etc.) the total biomass in each bin is approximately the same. I will show how this "size-spectrum" can be derived from simple individual-level processes. A large fraction of the marine size-spectrum, from 1 mg to about 100 kg, is dominated by fish. The most important trait of fish is their asymptotic size, and the "asymptotic size-spectrum" for fish is again determined by individual-level processes. The ensuing model complex is used for ecosystem-oriented fisheries management, and examples of applications will be given. The lecture will end with conjectures on the questions: Why are there no really big fish? and: Why are there no fish on land?