Quantum representations of mapping class groups and handlebody groups

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Mapping class groups of surfaces and handlebody groups are fundamental objects in low-dimensional topology. Their representation theory has connections to quantum algebra and mathematical physics, and every 3-dimensional topological quantum field theory yields a family of intricate finite-dimensional representations. In this talk, I will present a systematic approach (based on modular operads) to constructing, studying, and classifying representations of h andlebody groups that are local under cutting and gluing of handlebodies. Furthermore, I will also explore the extension of these representations to the mapping class groups and their general properties. The talk is based on joint work with Lukas Woike.
(joint work with Lukas Woike)