BK Special Lecture Series in Geometry

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5월 10일(수) / 과학관 B102호

Lecture 1. (13:30 - 15:00)
Equivariant operations in symplectic topology

Operations on Floer-theoretic invariants are defined by using counts of *J*-holomorphic curves as structure constants. When the domain curve has extra symmetry, one can exploit the symmetry to define equivariant analogues of the ordinary operations. I will survey the basic construction of such equivariant operations, and introduce quantum Steenrod operations which deform the classical Steenrod operations on mod p singular cohomology.

Lecture 2. (15:15 - 16:45)
Quantum Steenrod operations and equivariant mirror symmetry

Quantum Steenrod operations are Z/p-equivariant operations defined on mod p quantum cohomology. We review their basic properties, in particular their flatness with respect to the (small) quantum connection. The flatness property determines the operations in low degree in terms of classical Steenrod operations and ordinary Gromov-Witten invariants. We will explain the first nontrivial computation that goes beyond the scope of flatness property, and explain its relationship to enumerative mirror symmetry in positive characteristic.