Topology Seminar

Søren Galatius

of Stanford University will be speaking on

Homological stability for moduli spaces of high dimensional manifolds

on September 10 at 4:30 in
MIT Room 2-131

I will discuss recent joint work with Oscar Randal-Williams concerning the manifolds W_g^{2n} obtained as the connected sum of g copies of $S^n \times S^n$. For $n = 1$ this is a genus g surface, and there is a moduli space M_g parametrizing smooth surface bundles with genus g fibers. For higher n there is an analogous moduli space M_g^n parametrizing smooth fiber bundles with fibers W_g (although for $n > 1$ it is no longer finite dimensional). We prove that for $n > 2$ the cohomology groups $H^k(M_g^n)$ are independent of g as long as $g >> k$, generalizing a result of John Harer and others for $n = 1$.