TOPOLOGY SEMINAR

An Elmendorf-Piacenza type Theorem for Actions of Monoids

By

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Abstract: In this talk I will describe a homotopy theory for actions of monoids that is built by analyzing their ``reversible parts''. Let M be a monoid and $G(M)$ be its group completion. I will show that the category of M-spaces and M-equivariant maps admits a model structure in which weak equivalences and fibrations are determined by the standard equivariant homotopy theory of $G(N)$-spaces for each $N\leq M$. Then, I will show that under certain conditions on M this model structure is Quillen equivalent to the projective model structure on the category of contravariant $\mathbf{O}(M)$-diagrams of spaces, where $\mathbf{O}(M)$ is the category whose objects are induced orbits $M\times_N G(N)/H$ for each $N\leq M$ and $H\leq G(N)$ and morphisms are M-equivariant maps. Finally, if time permits, I will state some applications.

Date: 1 November, 2021
Time: 16:30 UTC+3
Place: Zoom

To request the event link, please send a message to cihan.okay@bilkent.edu.tr