

The logo for DPF-PHENO 2024 features the text "DPF-PHENO 2024" in a bold, sans-serif font. The text is white and set against a blue background that has a subtle, light-colored cloud-like pattern. The overall design is clean and modern.

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## Generalized Global Symmetries and Nonperturbative Quantum Flavodynamics

*Thursday 16 May 2024 16:00 (15 minutes)*

Generalized global symmetries are present in theories of particle physics, and understanding their structure can give insight into these theories and UV completions thereof. We will identify non-invertible chiral symmetries in certain flavorful  $Z'$  extensions of the Standard Model, and this will lead us to interesting nonperturbative effects in theories of gauged non-Abelian flavor. For the leptons we will find naturally exponentially small Dirac neutrino masses. In the quark sector, a certain symmetry exists specially because we have the same numbers of colors and generations, and leads us to a massless down-type quarks solution to strong CP in color-flavor unification.

### Mini Symposia (Invited Talks Only)

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**Session Classification:** Quantum Field & String Theory

**Track Classification:** Quantum Field & String Theory