

LABORATORY FOR ELEMENTARY-PARTICLE PHYSICS (LEPP) Theory Seminar

## Max Ruhdorfer TU Munich Effective Field Theory of Gravity to All Orders



We construct the general effective field theory of gravity coupled to the Standard Model of particle physics, which we name GRSMEFT. Our method allows the systematic derivation of a nonredundant set of operators of arbitrary dimension with generic field content and gravity. We explicitly determine the pure gravity EFT up to dimension ten, the EFT of a shift-symmetric scalar coupled to gravity up to dimension eight, and the operator basis for the GRSMEFT up to dimension eight. Extensions to all orders are straightforward.

## Wednesday, October 2, 2019 2:00pm 401 Physical Sciences Building

LEPP, the Cornell University Laboratory for Elementary-Particle Physics, and CHESS resources have merged and a new lab, (CLASSE), has formed. LEPP's primary source of support is the National Science Foundation. Visit us at www.lepp.cornell.edu