# APCTP SEMINAR

## Mass hierarchies from complex fixed points


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**Nov. 26th (Fri.) 17:00 (KST)**

**Online via ZOOM**


Our fundamental description of the Universe is filled with hierarchies and it is an important theoretical question to understand their origin. An elegant mechanism to generate large hierarchies is that of Fixed Point Annihilation (FPA), in which a pair of fixed points of the Renormalization Group merge and migrate to the complex plane. This is believed to be responsible for the walking behavior of some gauge theories or the appearance of weak first-order transitions in condensed-matter models. In this talk we will discuss the physics of these complex fixed points, the possibility of defining complex Conformal Field Theories (CFTs) associated to them and how the presence of several complex conjugate pairs can have a substantial impact on the generated hierarchies. We will present weakly coupled field-theory examples and propose a gravitational dual to FPA, the resulting complex fixed points and their related complex CFTs at strong coupling.


■ **ZOOM Webinar**

1) Please register through this ZOOM link
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The APCTP is supported by the Korean Government through the Science and Technology Promotion Fund and Lottery Fund and strives to maximize social value through its various activities.
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