

# Einladung

zu einem Vortrag von

**Prof. Marcel Weber (University of Geneva)**

zum Thema

**“Biological Reduction Revisited”**

**Zeit** Dienstag, 26. März 2019, 15 Uhr c.t.

**Ort** HS 301 (Franziskanergasse 1, Wallistrakt)

**Abstract:** The question of whether classical genetics or classical experimental embryology have been reduced to molecular biology is among the oldest in anglophone philosophy of biology. Most authors have looked for some classical theories and a molecular counterpart and then investigated the relationship between the two with logical means. They typically found that the relationship is complex and certainly not representable by logical entailment, as the standard account of scientific reduction would have it. A more promising approach is to ask if there are functional definitions (in Jaegwon Kim’s sense) of theoretical entities such as classical genes or organizing centers in developmental biology, e.g., the legendary Spemann-Mangold organizer found in amphibian embryos in the early 20th Century, that could be reductively linked to molecular realizers (DNA, proteins). In this talk, I show that this cannot work either because there simply aren’t any functional definitions of such biological entities. The relevant scientific practices contain only operational definitions, i.e., criteria for experimentally identifying genes or organizing centers, no definitions of what genes or organizers are nor generally accepted accounts of what their causal role in the organism is. This is why there is no reduction at the theoretical level. However, there are reductive relations at the level of experimental practice, which involve precisely these operational definitions. I show that these relations were crucial for the advancement of molecular biology.

Der Vortrag ist für die Öffentlichkeit frei zugänglich!