

**METHODS OF CAUSAL INFERENCE AND
SCIENTIFIC REPRESENTATION (MCISR) SEMINAR**

SEMINARIO SOBRE MÉTODOS DE INFERENCIA CAUSAL Y
REPRESENTACIÓN CIENTÍFICA (MICRC)

MONDAY 7 MAY 2018

LUNES 7 DE MAYO DE 2018

Venue to be determined / Localización por determinar

11:00 – 13:00 Christopher J. Austin (Sutton Grammar School): “**Essence in the Age of Evolution**”

For further info / información: msuarez@filos.ucm.es

Directions / Dirección: Faculty of Philosophy, Complutense University of Madrid
Metro: Ciudad Universitaria
Google map: <https://goo.gl/Kc8kqH>

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U N I V E R S I D A D
COMPLUTENSE
M A D R I D

RESUMEN: **Essence in the Age of Evolution**

Christopher J. Austin (Sutton Grammar School)

The subject of my talk is a highly contested theory in the philosophy of biology: natural kind essentialism. That theory is today widely rejected due to its supposedly positing a metaphysical framework which is fundamentally incompatible with the principles of contemporary evolutionary biology. According to its opponents, natural kind essentialism is committed to a view about ontological fundamentality which is, by the lights of evolutionary theory, essentially backwards. That view, encapsulated in the so-called 'natural state model', is one which designates stability, or invariance, rather than variation, as the operative principle "at the ground floor" of the biological realm. For according to natural kind essentialism, the morphological variation among the organisms which populate the natural world is a principally derivative phenomenon, one which is to be explained by reference to those organisms' possession of unchanging sets of kind-defining properties which constitute the causal architecture responsible for their ontogenesis. In this talk, I examine this central aspect of natural kind essentialism from a variety of angles both scientific and philosophical. By utilising recent advances in both systems biology and evolutionary developmental biology (evo-devo) to outline a neo-Aristotelian form of that theory, I will make the case that, properly understood, 'essence' belongs in the "age of evolution".

This talk has three parts. In the first part, after offering a three-pronged definition of natural kind essentialism, I discuss two common objections to the theory which stem from its first component: the mind-dependent status of the taxonomic tree, and the extrinsic and relation-based nature of species concepts. I then introduce the 'natural state model': its definition, its theoretical commitments, and its intersection with evolutionary biology. In the second part, I distinguish three central conflicts between natural kind essentialism and an 'evolutionary ontology' that concern the former's commitment to metaphysical 'invariance': the reality of teleological norms, the unchanging ground of variation, and the homogeneity of property possession. In addressing each of these areas, I flesh-out a neo-Aristotelian form of natural kind essentialism by offering an examination of organismal ontogenesis via genetic regulatory networks and dynamical systems theory, discussing the theoretical implications of the phenomenon of phenotypic plasticity, and taking a closer look at 'genetic reductionism'. In the last part of the talk, I conduct a summary "big picture" survey of this neo-Aristotelian form of natural kind essentialism's relationship with the principles of evo-devo, the reality of Darwinistic design, and the requirements of adaptive evolution via natural selection.