

# Hypothesis: network of RNAs and their influence on life

**Sohan Jheeta**

Chairman: NoR HGT & LUCA, 1 Scott Hall Crescent, Leeds LS7 3RB, UK

Δευτέρα, 9 Μαρτίου 2014., ώρα 13:30-14:30

Αίθουσα 101 στο κτίριο της

Σχολής Μηχανικών Μεταλλείων-Μεταλλουργών του Ε.Μ.Π.

**Πως το RNA επηρεάζει την ζωή στην γη, και πως μπορούμε να μελετήσουμε τον ρόλο του σε σχέση με τις κυτταρικές μορφές ζωής, των οποίων η οργάνωση ελέγχεται από το RNA και τις πρωτεΐνες.**

Διαλέξεις στα πλαίσια της επιστήμης της **Αστροβιολογίας**.

The continued unearthing of **new roles for RNAs** in the form of **activities pertaining to the non-coding portions of DNA**, is testified to by a spate of discoveries – for example snoRNAs, microRNAs, siRNAs, snRNAs, exRNAs, piRNAs, Xist, HOTAIR and spliceosomes. Such RNAs, in general, are involved in a **vast number of processes from DNA replication** (in the form of primer requirements), **coding, decoding, code translation, peptide bond formation, ribozymatic activities; control of gene expressions, cellular defence** against invading mobile genetic elements and even **self-processing**. This warrants a new postulation that **the overall control of cellular life forms may well reside in a 'network of RNAs'**, whilst the informational genetic code necessary for life's perpetuation still rests with DNA.

Nevertheless these **RNA networks would be passed on from one generation to the next**. It should not go unnoticed that RNA's full activity within a cell is **masked by an overwhelming presence of a vast diversity of proteins** and the fact that **we have not been able to assign a full role to the remaining non-coding DNAs**. To this effect it is now becoming clear that **there are no such things as 'junk' nucleic acids**; everything in the cell has a part to play and is sooner or later utilised.

In this presentation I shall highlight **RNA's influence on life on Earth** and suggest **how the role of RNA can be tested in favour of cellular life forms** being organised and controlled by RNA/protein.

Για περισσότερες πληροφορίες: Ηλίας Χατζηθεοδωρίδης, τηλ. 210 7722092, Σχολή ΜΜΜ/ΕΜΠ.