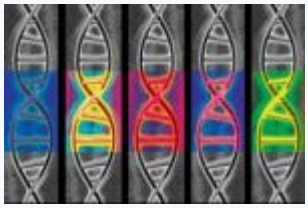
Revolution in Evolution?

A new Current Themes Symposium

September 18, 2009

Introduction | Location and programme | Organisation | Home



Revolution in Evolution? Epigenetics in Ecology and Evolution

Genetic inheritance is at the heart of evolutionary thinking. Traits are inherited via their genes, and genetic variation allows populations to adapt to changing environments. However, heritable variation is not only based on DNA sequence differences. Superimposed on the DNA code is an epigenetic code that controls which genes are active and which are not, and part of this epigenetic code can be stably inherited as well. Thus, via epigenetic mechanisms parents may not only transmit their genes to offspring but also their genes' activity status, potentially resulting in heritable trait differences in the absence of DNA sequence variation. Moreover, it is becoming increasingly clear that the epigenetic code can be modified by environmental stress. From an ecological and evolutionary perspective, this raises challenging questions. Does epigenetic inheritance provide a way to quickly generate heritable variation during times of stress? Does it allow parents to prepare offspring to deal with prevailing environmental stresses? This has a distinct Lamarckian flavour, but how relevant is epigenetic inheritance for adaptation and evolution?

In this symposium, we bring together international experts to explore the role/relevance of epigenetics in ecology and evolution and to provide a perspective on its future looking at the issue from a plant- and animal ecology, molecular biology, evolutionary biology or medical science perspective.

Organisation

Organisation:
Dr. Joop Ouborg Molecular Ecology group, Radboud University.
Dr. Koen Verhoeven, Netherlands Institute of Ecology.

Dr. Claudius van de Vijver, Secretary Netherlands Ecological Research Network.

Advice and overview:
Prof. Hans de Kroon , Experimental Plant Ecology, Radboud University Nijmegen, The Netherlands.

Logistics: Edith Kok , Netherlands Institute of Ecology .

Web design: Johan van de Koppel , Netherlands Institute of Ecology .

For practical questions:
currentthemes@nioo.knaw.nl

Location of the Revolution in Evolution Symposium

Date: September 18, 2009
Admission, including lunch: € 50,- (Students & PhDs: € 30,-)
Starting time: 10.00 hrs.
Registration: Click here to register

Address and route to The Trippenhuis, Royal Dutch Academy of Sciences, Amsterdam.

Programme

Print version

10.00 – 10.25	Registration and coffee
10.25 – 10:30	Introduction by the organisers.
10.30 – 11.15	**Prof. Eva Jablonka**, Tel Aviv University, Israel The epigenetic turn: evolutionary implications.
11.15 – 11.55	**Dr. Vincent Colot**, Departement of Biologie, ENS Paris Epigenetics across generations: the hidden side of Genetics?
11.55 – 12.30	**Dr. Koen Verhoeven** (NIOO,NL) and Dr. Philippine Vergeer (Radboud University, NL) Case studies in plant ecological epigenetics.
12.30 – 13.30	Lunch
13.30 – 14.10	**Dr. Fred van Leeuwen**, Netherlands Cancer Institute, Amsterdam Epigenetics from yeast to cancer.
14.10 – 14.50	**Prof. Ritsert Jansen** (Groningen Bioinformatics Centre) and Prof. Theunis Piersma (Centre for Ecological and Evolutionary Studies, University of Groningen / Royal Netherlands Institute for Sea Research, NIOZ, NL) Can shorebirds do without epigenetics?
14.50 – 15.20	Tea
15.20 – 16.00	**Dr. Patsy Haccou**, Leiden University, NL Evolution and consequences of epigenetic inheritance.
16.00 – 16.40	**Dr. Oliver Bossdorf**, University of Bern, Switserland An ecologists perspective on epigenetics.
16.40	End.