PostGenetics: Genetics beyond Genes. The journey of discovery of the function of "junk" DNA

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“Junk DNA” is Gone! A New Science Is Born; An Understanding Of DNA (coverage in the Hungarian language “A New Science Is Born; In Hungary”) http://www.junkdna.com/origo/elso.htm

References in English: http://www.junkdna.com/origo


For Full ABSTRACT PDF, see below
INTERNATIONAL CONFERENCE OF IMMUNOGENOMICS AND IMMUNOMICS

A joint meeting of
2nd Basic and Clinical Immunogenomics
and
3rd Immunoinformatics (Immunomics)
Conferences

PROGRAMME AND ABSTRACT BOOK

October 8–12, 2006
Budapest, Hungary
14:30-18:00 Thursday, 12 October – Bartók Hall

SATELLITE EUROPEAN INAUGURAL OF THE INTERNATIONAL POSTGENETICS SOCIETY

Chairpersons: Malcolm Simons and Andras Pellionisz

14:30-14:35 Welcoming notes
14:35-15:00 Beyond frontiers (address by IPGS originator)
   SAT-01 Andras J. Pellionisz (Sunnyvale, CA, USA) PostGenetics: Genetics beyond genes. The journey of discovery of the function of “junk” DNA
   SAT-02 Malcolm J. Simons (Geelong, Victoria, Australia) From gene diploidy to genomic haploidy: A major challenge of the post-gene 2nd century, exemplified by HLA and KIR immunogenes

15:00-15:25 From Immunology to PostGenetics (address by Honorary President)
   SAT-03 Durdica Ugarkovic (Zagreb, Croatia) Functional elements in non-coding satellite DNAs

15:25-15:45 SAT-04 Marta Szell et al. (Szeged, Hungary) Identification and characterization of a novel, psoriasis-susceptibility-related non-coding RNA gene, PRINS

16:15-16:30 SAT-05 Sonja Vogl et al. (Vienna, Austria) Walter Battistutti (Cambridge, UK) Introns and their cross-talk on the post-transcriptional level, and their impact on treatment for muscular dystrophy

16:45-17:00 SAT-06 Andras Falus et al. (Budapest, Hungary) Micro RNA pattern in melanoma suggests a role of non-coding genome in melanoma spreading and metastases

17:00-17:15 SAT-07 Francois Strauss and Claire Gaillard (Paris, France) Genome organization in higher eukaryotes: encoding of genetic information by non-protein-coding DNA

17:15-17:30 SAT-08 Tamas Aranyi (Budapest, Hungary) The constant variation: DNA methylation changes during preimplantation development

17:30-17:45 SAT-09 Christian Schoenbach (Nanyang Technical University, Singapore) Canonical and non-canonical mechanisms in generating protein diversity

17:45 CLOSING REMARKS, Q&A, DISCUSSIONS AIMED AT ORGANIZATIONAL ISSUES OF IPGS

15:45-16:10 COFFEE BREAK
POSTGENETICS: GENETICS BEYOND GENES. THE JOURNEY OF DISCOVERY OF THE FUNCTION OF “JUNK DNA”

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FractoGene (FG, Pellionisz 02,03;) suggests a structural basis (platform) and iteration (process) for the functional algorithmic interpretation of DNA-governed reverberative protein-synthesis. Back-ground of PostGenetics, surpassing the misnomer of “Junk” DNA, is outlined in the support of “Fugu prediction of FG” (Simons 06;). Recently, “FG Methylation prediction” was indirectly confirmed (Meyer 06;). Here, a verifiable FractoGem (Fig.1) of a whole DNA (Venter 95;) further substantiates FG, as it searches self-similar repetitions, serving as the material basis of the iterative process of growth. Fig.1. shows a precious iterative assortment of FractoSet-s, containing strictly ordered non-overlapping Pyknon-s (Rigoutsos 06;), denoted with arbitrary but unique, colored alphanumerical characters, to visualize a retained iterative pattern. In FractoSet-s, Pyknon-s are interspaced with non-Pyknon bases (small-font). FractoGem thus reveals “patterns within patterns” – the root of the fractal concept. FractoGem/PostGene discovery leads to functional explanation by FG, from visualization to algorithmic resolution of enigmas as c-Value Paadox, Ultraconserved Elements, Methylation, mRNA-based Regulation, to interpretation of Pyknon, FractoSet and FractoGem findings – noting also their impact on PostGenetic Medicine and Nanotechnology (Venter 95; Pellionisz 02; Haussler, Mattick 04; Rothemund 04; Banfi, 04; Rigoutsos 06).

REFERENCES:
Rigoutsos, I. et al. (2006) Short blocks from the noncoding parts of the human genome, PNAS 103(17) pp. 6605-6610

Figure 1 – FractoSet structure, containing Pyknon of a FractoGem of a whole DNA

REFERENCES: