



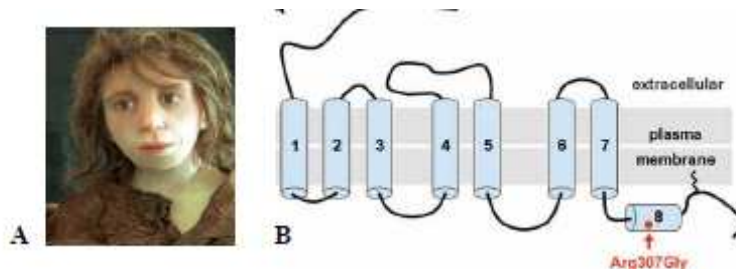
"Essays on human genetics"

LECTURER: Paweł Sachadyn Ph.D., Microbiology Department, Gdańsk University of Technology

Dr. Paweł Sachadyn has an extensive expertise in molecular cloning and DNA analysis. A considerable part of his research is focused on the application of MutS, mismatch repair protein, as a tool for mutation detection. Dr. Sachadyn's current research interests concentrate on regenerative medicine, in particular, the role of epigenetic regulation in regeneration and the pharmacological induction of regenerative response.

SYNOPSIS: "Make the trip of your life – the cruise around the human genome"

The lecture provides the fundamental knowledge on human genome and communicates the cutting-edge discoveries in human genetics. Beside presenting the essential information on genome structure, the inheritance of mental traits and the genetic variation in drug response, the lecture discusses as fundamental questions as the genetic basis of humanity and the Neanderthal contribution to the modern human genome. The idea of the lecture is not to provide a complete course of human genetics but to focus on the key questions of modern genetics.



A mutation in the MC1R mutation gene associated with fair complexion and red hair of the Neanderthal man.

A) Neanderthal child's face reconstruction

B) Arg307Gly mutation in the melanocortin receptor 1 gene (*MC1R*) associated with the fair complexion and red hair of Neanderthal man. The variant of the Neanderthal *MC1R* has not been detected in the modern man where other mutations Arg151Cys and Arg160Trp are responsible for red hair. (Carles Lalueza-Fox et al. (2007) Pigmentation Among Neanderthals A Melanocortin 1 Receptor Allele Suggests Varying, *Science* 318, 1453).



LECTURE PROGRAMME

1. Human genome – what makes us human?
2. Maternal inheritance and paternal leakage – mtDNA.
3. What makes us males: Y-chromosome?
4. What makes us women: X-chromosome.
5. Neanderthal grandfathers – Neanderthal contribution to the modern human genome.
6. Mendelian and non-Mendelian inheritance.
7. Lights and shadows of mutations.
8. Eye colour and multigenic traits.
9. Maternal care and suicide risk - epigenetic inheritance.
10. Somatic mosaicism in healthy human tissues - the plasticity of human genome.
11. Your genome in a few minutes? Next generation DNA sequencing.
12. Correcting genetic errors: gene therapy.
13. Genes and mind.
14. From genes to drugs.
15. Regenerative medicine – beyond the limitations.

TERMINY WYKŁADÓW			
<i>Aktualizacja 09.12.2011</i>			
Data	Dzień tygodnia	Godzina	Sala
03.11.2011	Czwartek	12.00-13.00	Chemia A - LUWR
10.11.2011	Czwartek	12.00-13.00	Chemia A - LUWR
24.11.2011	Czwartek	12.00-13.00	Chemia A - LUWR
01.12.2011	Czwartek	12.00-13.00	Chemia A - LUWR
08.12.2011	Czwartek	11.00-13.00	Chemia A - LUWR
05.01.2012	Czwartek	11.00-13.00	Chemia A - LUWR
12.01.2012	Czwartek	10.00-13.00	Chemia A - LUWR
19.01.2012	Czwartek	11.00-14.00	Chemia A - LUWR