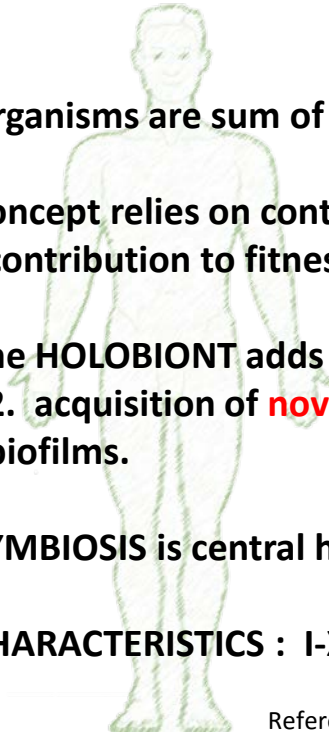


HOLOGENOME Concept of Evolution “DUAL CITIZENSHIP”

- Organisms are sum of their genomic parts: BOTH the host (**MACRO**) and its total microbiome (**MICRO**)
- Concept relies on continuity of “Dual Partnership” between **HOLOBIONT** generations including the microbiome contribution to fitness of HOLOBIONT generations
- The HOLOBIONT adds three genetic variations from the 1. **microbial amplification** (diet, temp, toxins. And ABX); 2. acquisition of **novel strains** from the environment; and 3. **Horizontal Gene Transfer** (HGT) promoted by biofilms.
- **SYMBIOSIS** is central hallmark of life on earth and not an exclusive limited process
- **CHARACTERISTICS : I-X**



References:

1. Rosenberg E. and I. Zilber – Rosenberg 2016 Bacterial Bleaching of Coral Leads to Hologenome Concept. *Microbe* 11(1): 27-31
2. Gilbert, SF, J. Sapp, and A.I. Tauber. 2012 A Symbiotic View of Life: We have never been individuals. *Quarterly Review of Biology* 87; 325-341