

Lian Sidoroff represented along series of questions related to AI, in particular conscious AI. In this article I discuss the general questions and the questions specific to TGD. TGD based view relies on TGD inspired theory of consciousness and quantum biology and the TGD based mechanism of quantum biology allow to imagine what conscious computers and networks with collective levels of consciousness might be.

The first building block of the vision is the view of space-time as a 4-surface in $H = M^4 \times CP_2$ determined by holography = holomorphy (H-H) principle, which allows to solve classical theory exactly. The slight classical non-determinism forces to take Bohr orbit-like space-time surfaces as basic objects and the 4-D degrees of freedom related to non-determinism provide correlates of cognition.

Also the notion of gauge field generalizes. The notion of field body carrying phases of ordinary matter with a large value of effective Planck constant serving as a measure of algebraic complexity defining a kind of IQ. These phases behave like dark matter and are characterized by long range quantum coherence.

Number theoretical vision is a further notion and leads to a 4-D generalization of Langlands duality in which numbers in very general sense and even mathematical proofs have space-time surfaces as geometric representations. p-Adic number fields generalize to their function field counterparts. Also Boolean logic has fermionic representation.

Zero energy ontology (ZEO), which allows to solve the quantum measurement problem extends quantum measurement theory to a theory of consciousness and allows to understand the relationship between geometric time and subjective time. Macroscopic quantum coherence, Pollack effect and a universal realization of genetic code based on icosahedral tessellation of hyperbolic 3-space H^3 are central notions of the TGD inspired quantum biology and the conjecture is that also conscious computers could be based on them.