

Abstract Submitted  
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**Multispace and Multistructure as a Theory of Everything** FLORENTIN SMARANDACHE, University of New Mexico — In a general definition, a multispace (also spelt multi-space) is a finite or infinite (countable or uncountable) union of many spaces that have various structures. The spaces may overlap. A such multispace can be used in physics for the Unified Field Theory that tries to unite the gravitational, electromagnetic, weak and strong interactions. Or in the parallel quantum computing and in the mu-bit theory, in multi-entangled states or particles and up to multi-entangles objects. It is believed that the multispace with its multistructure is the best candidate for 21<sup>st</sup> century Theory of Everything in any domain. It connects many knowledge fields. The multispace is a qualitative notion, since it is too large and includes both metric and non-metric spaces. The notion of multispace was introduced by the author in 1969 under the idea of hybrid mathematics: combining different fields into a unifying field, which is closer to our real life, since we don't have a homogeneous space, but many heterogeneous ones. As applications we also mention: the algebraic multispaces (multi-groups, multi-rings, multi-vector spaces, multi-operation systems and multi-manifolds, also multi-voltage graphs, multi-embedding of a graph in an n-manifold, etc.), geometric multispaces (combinations of Euclidean and Non-Euclidean geometries into one space as in Smarandache geometries), theoretical physics, including the relativity theory, the M-theory and the cosmology, then multi-space models for p-branes and cosmology, etc.

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