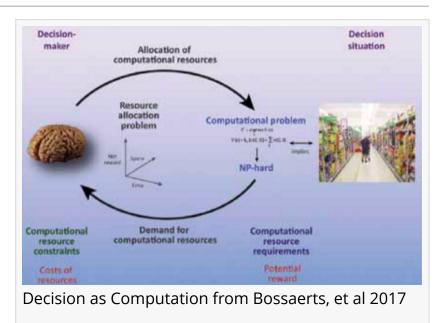


Cancer's Intelligence | Signposts and Recommendations for New Cancer Research

BALTIMORE, MARYLAND, UNITED STATES, December 23, 2020 /EINPresswire.com/ -- Dr. J. James Frost and <u>The International Journal of</u> <u>Unconventional Computing</u> will soon be publishing "Cancer's Intelligence" which reports that Cancer can be analyzed as an intelligent system of collaborating and computing cells. The limitations of the current regime of cancer research and treatment are addressed, and the resultant need for new paradigmatic thinking is presented. Features of intelligence pervade the natural world from



humans to animals of all sizes and complexity to microorganisms. Yet, cancer has hitherto not been investigated as acting with intelligence as it evades the body and the oncologist's failed attempts to eradicate it.

In this analysis, concepts of computation, including self computation and the limits of computation; game playing; ε-machine analysis; self-aware systems; P and NP-hard problems; and Boolean networks are addressed and related to features of cancer that can be described as intelligent.

Dr. J. James Frost a retired Johns Hopkins University Professor said, "The grim plight of cancer continues to endure in the face of legions of targeted drugs, reams of cancer gene data, and multitudes of physicists and mathematicians on the attack."

A few of the many examples are the National Cancer Intelligence Network; "intelligent drug delivery"; Watson's Artificial Intelligence System for Cancer Care; artificial intelligence in image analysis; the "intelligent knife" for cancer surgery; and – last but not least – the intelligent mind of the oncologist.

Rather, this article addresses the obverse problem: cancer's own intelligence.

From currently available game-theoretical approaches for understanding and treating cancer to computation on Boolean networks as a mechanism for measuring the computation capability of cancer and its pathways, Dr. J. James Frost expands the discussion of intelligence as applied to cancer; computation and its limits and develops a new approach to advanced personalized oncology where elucidation of the patient's intrinsic cancer computational machine and its gameplay strategies, coupled to recent developments in AI human gameplay, including bluffing and deception, can lead to vastly improved strategies for the oncologist to defeat the patient's cancer.

Dr. Frost concludes in their OCP Research Paper, "The concepts summarized in this article squarely juxtapose the current cancer paradigm and the conditions for progress to a foundational level of understanding cancer and its intelligence. This new knowledge would necessarily lead to the development of novel measures to disrupt or reverse the cancer process. The road will be long and broad, requiring many disciplines to seamlessly stream together. It cannot be bypassed. The stakes are too high."

For more information on cancer, intelligence, computation, game theory, Boolean network, please view the <u>FULL TEXT HERE</u>.

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