The spectrum of addiction

Through its excellent panel of presenters, this conference explores the problem of addictive behavior in all its forms: chemical substances, gambling, pornography, sexual addiction, internet overuse, excessive video gaming and other compulsions. Traditional types of chemical abuse substances are explored, such as alcohol, nicotine, marijuana, cocaine, amphetamines, opiates and prescription drugs, as well as nontraditional addictions. New diagnostic approaches and treatment modalities are offered to supplement older, established methods including various supportive techniques. The effects of addiction on the brain are discussed, including adaptive changes, metabolism, blood flow, genetics, neurotransmitters and induction of permanent psychological and physical disease states in the patient and in unborn children. This speaker provides some definitions to outline the problem, statistics to describe its scope, justifications for diagnosis and treatment, comparisons of societal versus medical approaches to the addict, and touches on various ethical considerations. He alludes to cutting-edge research in this field at the biochemical, genetic, neural-cellular, organ and whole-person behavioral levels, including advanced nanotechnology and computer simulations.

Biography

Paul Frenger is a senior IEEE member, ACM life member and a practicing Physician. He began work in artificial intelligence in 1973. He published 150 bioengineering and computer papers, edited ACM’s SIGForth Newsletter (5 years), was associate editor for ACM Sigplan Notices (13 years) and has 3 computer patents. He has been Chair of the Houston Chapter of the IEEE Computational Intelligence Society (2007-2008, 2010-2011) and has been General Chair of the AIAA / IEEE Workshop on Automation and Robotics at NASA in Houston (2008-2011). He is active in artificial intelligence, robotics, prosthetics, bioengineering and space science.

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