Nanorobot for Nanonetworks

Adriano Cavalcanti[1], Stephen F. Bush[2]

1 Robotics Laboratory, Department of Computer Science, Central Washington University, Ellensburg, WA 98926 USA
2 Global Research Center, General Electric, Niskayuna, NY 12309 USA

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References:

Our work addresses the control and the architecture design for developing practical molecular machines. Advances in nanotechnology are enabling manufacturing nanosensors and actuators through nanobioelectronics and biologically inspired devices. Analysis of integrated system modeling is one important aspect for supporting nanotechnology in the fast development towards one of the most challenging new fields of science: molecular machines. The use of 3D simulation can provide interactive tools for addressing nanorobot choices on sensing, hardware architecture design, manufacturing approaches, and control methodology investigation. -- https://iopscience.iop.org/article/10.1088/0957-4484/19/01/015103

A safe and reliable *in vivo* nanoscale communication network will be of great benefit for medical diagnosis and monitoring as well as medical implant communication. While there are many *in vivo* communication mechanisms that can be leveraged, for example, forms of cell signaling, gap junctions, calcium and ion signaling, and circulatory borne communication, we examine two in particular: molecular motor transport and neuronal information communication. The goal is to assemble efficient nanoscale and molecular communication channels while minimizing disruption to the host organism. -- https://link.springer.com/article/10.1007/s11704-011-0116-9