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April 12, 2011 Tech Bunch for Lunch



Dr. Rolf Mueller will present Bioinspiration from Biodiversity in Sensor Design. Dr. Mueller directs the Bio-Inspired Technology Lab at the Institute for Advanced Learning and Research where his main research goal is the development of bio-inspired technology, furthering his work developing robots inspired by bats. He has been conducting interdisciplinary research that bridges gaps between engineering and the disciplines of physics, computer science and biology.

ABSTRACT

In the process of biological evolution and adaptive radiation in particular, common functional principles have been adapted to suit a multitude of tasks and constraints. The resulting biodiversity can hence be regarded as a source for inspiration on how a single functional principle can be adapted to suit the requirements of different applications. The biosonar systems of bats are an example for a biological sensing principle that has been adjusted to fit a multitude of sensing tasks. The unique combination of biosonar sensing and flight has allowed bats to settle almost the entire land surface of the earth and exploit a wide range of food sources that range from airborne insect prey to terrestrial vertebrates. The geometries of the mechanical baffles that surround the sides of sound emission and reception are a conspicuous correlate of this diversification in the uses of biosonar. Recent insights into the functional principles of biosonar and ways to extract engineering knowledge from the biodiversity in this system will be discussed.

Date: Tuesday, April 12, 2011

Time: 12:00pm - 1:00pm

Location: Institute Conference Center (The Institute for Advanced Learning & Research), 150 Slayton Avenue, Danville, VA 24540 [directions](#)

There is no fee to attend. Box lunches are \$12.00 including beverage.

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