



NORTHWESTERN INSTITUTE
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NORTHWESTERN
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**Northwestern Institute on Complex Systems
invites you to its
Weekly Seminar**



Email:
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Speaker: Marta Sales, Ph.D., Research Associate

Title: Hierarchies in complex systems: From protein families and evolution to the organization of complex networks

When: Wednesday, November 8, 2006

Where: Chambers Hall, 600 Foster Street, Lower Classroom Level

Time: 12:00 – 1:00

NICO Coffee Hour will follow for questions, networking, and collaboration

Abstract

Many biological systems at any scale are known to be modular and organized in a hierarchical fashion, for instance one can think of the various ecosystems in which life on the earth is organized or the different organs that constitute our body. However, very little is known about the dynamical interactions leading to such organization. The growing amounts of biological data promise to help us assess the deep organization of biological systems, however extracting meaning from all that information is one of the greatest scientific challenges facing us.

In this talk, I am going to address two different aspects of hierarchies in complex systems: First, I will talk about how the large scale analysis of genomes can help us elucidate which are the relevant dynamic features of evolutionary processes leading to the organization of species in a tree of life; and, second, I will describe a method to extract the hierarchical organization of complex networks.