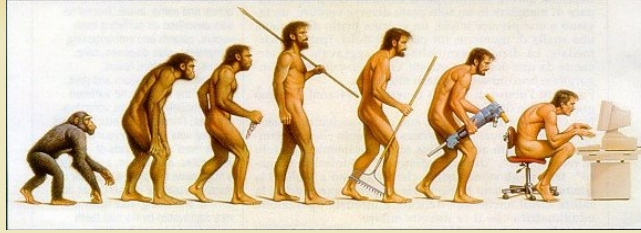
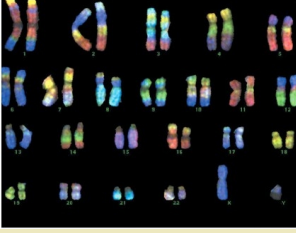


# Biologically Inspired Computing



## Lessons from Nature

*Biologically Inspired Computing* (Biocomputing) is an interdisciplinary research area in which ideas and principles from biology are used to design and implement new and improved computing methods. Traditional computer technologies and techniques have their drawbacks and limitations. However, by looking at how biological (“complex”) systems perform computations, process information, and make decisions, we can learn new and interesting ways of overcoming these limitations and make computers smarter, more robust, and more flexible.

This lecture provides an introductory-level overview of Biologically Inspired Computing and some of its methods, such as Evolutionary Computation (using evolution to solve hard optimization problems) and Neural Networks (using ideas from how the brain works to make computers learn). After an introduction to the difference between “easy” problems and “hard” problems in computer science, it is then explained how Nature “computes”, how some of these Biocomputing methods are inspired by biology, and to which kinds of problems these methods can be applied. The lecture is suitable for a general audience (no particular knowledge of science, biology, or computing is necessary), and includes several fun and visual examples (avoiding technical details).

## Further information

The duration of this lecture is one hour. Please do not hesitate to contact me for any further information, or if you wish to have this lecture presented somewhere. The information about this and other lectures can also be found online at:

[www.WorldWideWanderings.net/Lectures.html](http://www.WorldWideWanderings.net/Lectures.html)

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