

Introduction Bioinformatics Module

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Department Bioinformatics (BiGCaT) @ Maastricht University

Head of the Bioinformatics-BiGCaT department

Prof. dr. Chris Evelo



Assistant professors

Dr. Susan Steinbusch-Coort

Dr. Lars Eijssen

Dr. Egon Willighagen



PhD-students

Amadeo Garcia Muñoz, MSc.

Marvin Martens, MSc



Department Bioinformatics @ Maastricht University

- Website: www.bigcat.maastrichtuniversity.nl
- Main research areas
 - High-throughput data analysis (e.g. Microarray, sequencing, proteomics, metabolomics)
 - Pathway analysis
 - Network analysis
 - Tool development (e.g. arrayanalysis.org, PathVisio, WikiPathways.org, Cytoscape apps).
 - Nanotoxicity (ontology development, data analysis)
 - Micronutrients (data analysis)

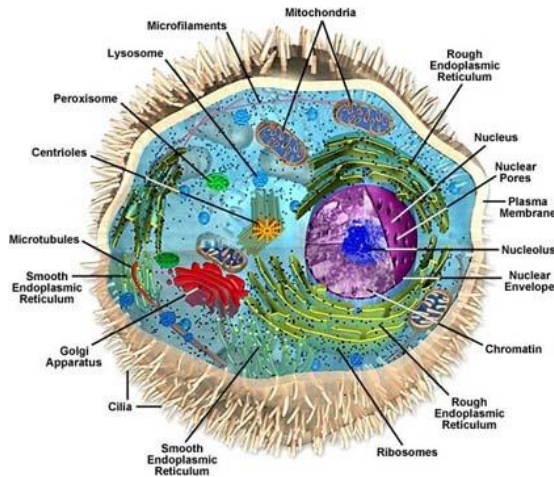
What is Bioinformatics?

Movie Intro-Bioinformatics

Bioinformatics needed for analysis
in biology and medicine

What is Bioinformatics

Biology



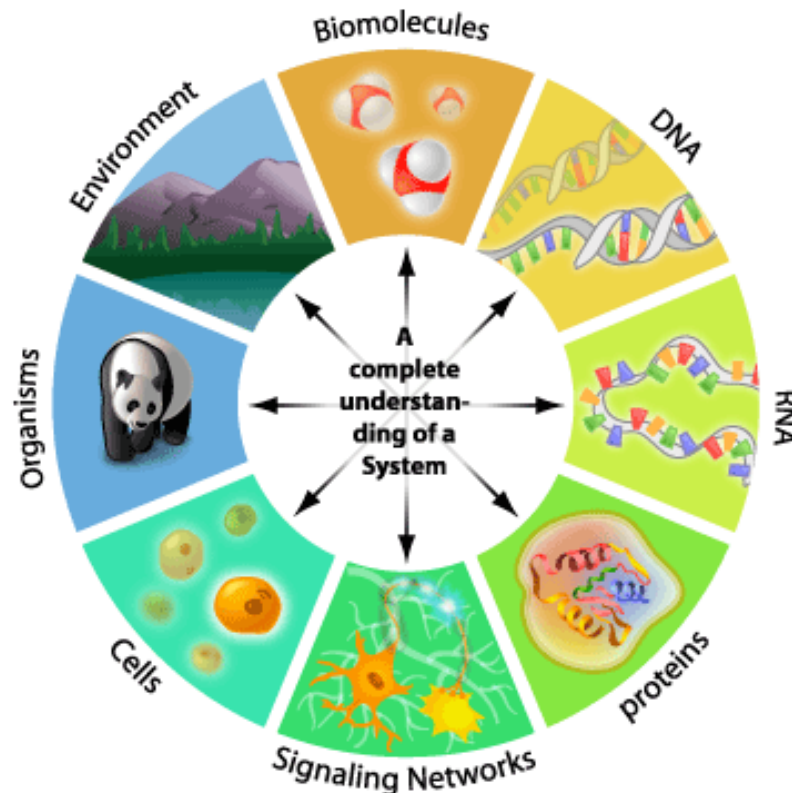
Computational Sciences

Bioinformatics



Bioinformatics is important

The *goal* of Bioinformatics is *to increase understanding of biological systems* using computationally intensive techniques and large databases with biological information.



Goals of bioinformatics module

- Learn how to find and interpret information in biological databases commonly used in bioinformatics.
- Learn how to compare sequences and to unravel protein structures.

Set-up

3 sessions: lecture & practical

- Monday May 15th, 2017: Introduction and biological databases
- Monday May 29th, 2017: Sequence alignment and BLAST
- Monday June 12th, 2017: Proteomics and protein structures

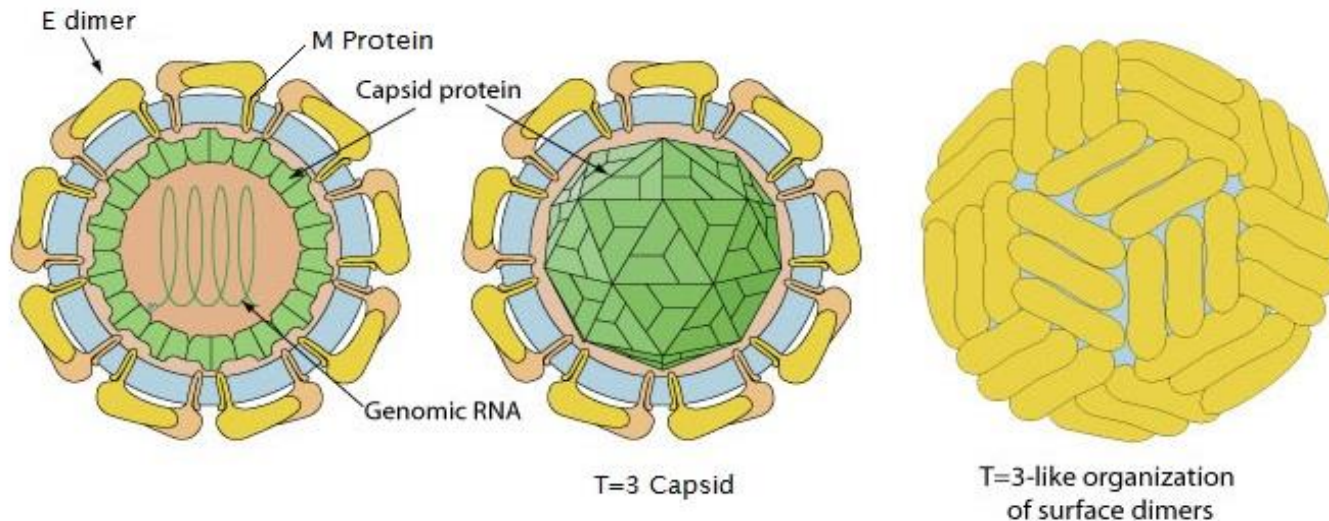
Assignment -> Assessment

- Available: Monday **June 12th**, 2017 at 18:00.
- Deadline handing in answers: Monday **June 19th**, 2017 at 18:00.
- Send you answers via email to:
susan.coort@maastrichtuniversity.nl

Credits: 2 EC

Assignment

- Questions based on knowledge and skills learned during the three bioinformatics sessions.
- Topic: An unexpected virus outbreak



Questions

