

BMS 690: Computational Methods in Biology
Summer 2016

[Course description](#) [Syllabus \(pdf\)](#) [Sample Term Paper \(pdf\)](#)

Lecture	Lecturer	Topic	Assignment	Reading / Files
#1	Andre Khalil	Introduction	Assignment #1	Slides Recording 07:00 - 27:00 and 39:30 - 53:00
#2	David Hiebeler	Spatial Population Models	Assignment #2	Recording
#3, #4, #5, #6	Benjamin King	Theory of Computation	Assignment #3	Slides #1 Recording #1 Slides #2 & #3 Recording #2 Link to Ben's files Recording #3 Slides #4 Recording #4
#7, #8	Joerg Bewersdorf	Fluorescent Microscopy	Assignment #4	Slides #1 Lecture #1 Slides #2 Lecture #2
#9, #10, #11	Andre Khalil	Fractals and Wavelets	Assignment #5	Fractal Documentary #1 Fractal Documentary #2 Slides Recording Fractal Cancer Paper
#12, #13, #14	Alain Arneodo	Wavelet-Based Genome Sequence Analysis	Assignment #6	Slides #1 and #2 Slides #2 and #3 Recording #1 Recording #2 Recording #3 Physics Report Paper (2011)
#15, #16	Kevin Mills & Andre Khalil	Computational Analysis of Chromosome Territories	Assignment #7	Kevin's slides Andre's slides Recording #1 Recording #2 Khalil et al. (2007) Caddle et al. (2007)

- Survey of full-body imaging techniques
 - Nanopore sequencing
 - Gene ontology
- Gold nanoparticles in cancer research and therapy
 - Quantum computers and protein folding
 - Whole transcriptome analysis
- Computational analysis of bacterial profiles