During the 2014 summer I have been mainly involved with a project to model the distribution of RomR protein in Myxococcus Xanthus cells and its correlation with the bacteria movement reversals.

In preparation for this project and other projects I am involved in, I have been reading papers on GPU programming, Biological and Computational models for bacteria (Myxococcus) and cancer (Ovarian cancer), and on solving PDE with Numerical Algebraic Geometry techniques and related software (Bertini).

I have also attended a Synthetic and System Biology Summer School:

**International Synthetic & Systems Biology Summer School SSBSS’14**
**Biology meets Engineering and Computer Science**
**Taormina - Sicily, Italy, June 15-19, 2014**
http://www.taosciences.it/ssbss2014/
ssbss2014@dmi.unict.it

In this last event I was particularly interested in two talks both from MIT professors:

**Mammalian synthetic biology: scientific and therapeutic applications**
Ron Weiss, MIT, USA

**Analog Synthetic and Systems Biology**
Rahul Sarpeshkar, MIT, USA

Both of these talks included subjects present in my research interests, Ovarian cancer and bacteria simulation, both from a biological engineering and bioinformatics prospective respectively. Because of that I will ask my advisor (Dr. Alber) to invite both of them to our department to give a talk on these topics.