Biological Chemistry II Spring 2019

Part 1. Molecular Diagnostics J. Rusling

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| **Date** | **Activity** | **Presenter** |
| Jan 22 | Course organization; Echem. review | J. Rusling |
| Jan 24 | Biosensors for Diagnostics | J. Rusling |
| Jan 29 | Paper-based bioanalysis | Student talks – |
| Jan 30 | Department Seminar 2:30 PM  Analysis at Point-of-Care Using Paper-Based Devices | Prof. Charlie Mace  Chemistry Dept., Tufts Univ. |
| Jan 31 | Detecting Protein Biomarkers for Cancer | J. Rusling |
| Feb 5 | Sensors/Array for molecular diagnostics | Student talks |
| Feb 7 | In class seminar  Detection of Breast Cancer Biomarker on a disposable sensor platform | Prof. Colleen Krause  Chemistry Dept., Univ. Hartford |
| Feb 12 | CRISPR and diagnostics | Student talks |
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Student talks – each registered student will present one mini-talk; topics on Jan 29, Feb. 5, Feb. 12

~ 10 min each. You grade depends on quality of your talks and you participation in class discussions.

Now there are 15 students, so we will need to get our first 5 assignments fixed on the first day.

**Jan 29**…1 ea on Reviews on paper methods, 2 others Charlie papers, one recent paper on paper-based analysis

**Feb 5**….Chose a recent paper 2006-2009 on a molecular diagnostics method that measures proteins, DNA, or miRNA biomarkers for a particular disease

Feb. 12… read paper “Next generation diagnostics with CRISPR”. We will choose topic from this paper or elsewhere to cover.

1. What is CRISPR and it structure and native function
2. What are the details of gene editing with CRISP
3. Find papers and give talks on molecular diagnostic applications of CRISPR so far (3).