- Note Final PS

For question 2(a) the value of ‘k’ in the final equation (Eq. 3b) needs to be rescaled.’

- Tuesday Lecture will be for questions on the last problem set (Juan)

- No recitation on Wednesday

- Next Thursday will be the last lecture
  Topic “Modeling drosphilia development’

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**Systems Microbiology**

- the single cell as a well-stirred bio-reactor

**Systems Cell Biology**

- the importance of diffusion and gradients for cellular regulation in a single cell

**Systems Developmental Biology**

- How to build a multicellular organism from single cells
  Cell-Cell communication

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Quorum sensing in bacteria:

a tractable experimental system for cell-cell communication

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N-acyl-L-homoserine lactones (AHLs) are the main signalling molecules

<table>
<thead>
<tr>
<th>Structure</th>
<th>Abbreviation</th>
<th>Producing bacteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-oxo-C10-HSL</td>
<td>3-oxo C10-HSL</td>
<td>Pseudomonas fluorescens</td>
</tr>
</tbody>
</table>
Example of engineering cell-cell communication
[You et al. Nature 428, 868 (2004)]