



# SC<sup>3</sup>BP Newsletter

Spring 2008 (April/May/June)

Volume 4, Number 4

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## Featured Local Biotech:

- Fate Therapeutics  
[www.fatetherapeutics.com](http://www.fatetherapeutics.com)
- PhaseRX, Inc.  
[www.phaserx.com](http://www.phaserx.com)

## Program Contact:

Web Site:

[www.seattlecentral.edu/learn/biotech](http://www.seattlecentral.edu/learn/biotech)

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If you are on this mailing list and no longer wish to receive the SC<sup>3</sup>BP Newsletter, please contact the Program Coordinator.

## Previous Newsletters:

Archived on the Biotech Website:

[www.seattlecentral.edu/learn/biotech/newsletter.htm](http://www.seattlecentral.edu/learn/biotech/newsletter.htm)

## Greetings!

Well, I guess it is Spring, though the weather would indicate otherwise! Exciting things are happening in biotechnology and the biotech program, so let that warm you even though the sun is not.

We had a great TAC (Technical Advisory Committee) meeting this quarter and this group is bringing a lot of wisdom and energy to the program! This up-coming year is going to be a time of reflection and assessment for the Program. We are planning on installing systems to ensure the program stays strong and runs efficiently.

It is important to keep a positive attitude in times like these. As economy is going through a "correction", we have seen some down-sizing in the industry - layoffs and closings. This is also a great opportunity for people who previously worked for established firms to start their own, so keep an eye on Craig's List and NWJobs if you are looking for a position. Also John has started experimenting with alumni groups on LinkedIn - a professional networking site. Check it out and sign up at: [www.linkedin.com](http://www.linkedin.com).

Finally I've started a TEAM at FolidIt - hop on line at [fold.it/portal/adobe\\_main](http://fold.it/portal/adobe_main)! "Solve Puzzles for Science" is their theme and you'll be looking at solving protein folding problems. It is awesome! Check it out!

There is much news to share so take a look at the next sections for the updates on our exciting CERTIFICATES, as well as the summary of the annual meeting.

## Annual Meeting Summary/Program Updates:

### New Items & Current Projects:

#### Common Course Numbering (CCN)

- Seattle Central Community College will be changing course numbers to match a state-wide initiative called Common Course Numbering. The purpose is to reduce transfer confusion by assigning the same number designation to similar courses. Most of the Biotech specific coursework numbers will NOT change, but much of the background courses will i.e. Bio101 = BIOL&160, Bio201 = BIOL&211, Che101, 102, 103 = CHEM& 121, 122, 123. Go to [www.seattlecolleges.com/commoncoursenumbering.aspx](http://www.seattlecolleges.com/commoncoursenumbering.aspx) for a complete list of new numbers.

### Certificates:

Three certificates were proposed to the District for approval. Two have been approved and can be applied for immediately! Contact the Registrars office (e-mail [SCCCRegistration@sccd.ctc.edu](mailto:SCCCRegistration@sccd.ctc.edu) and CC: [mainsworth@sccd.ctc.edu](mailto:mainsworth@sccd.ctc.edu) on the e-mail), or drop by personally and ask for the forms. Let me know how it goes!

- Reagent Preparation & Microbial Manipulation Certificate: requires BIOL195 (Biotech Seminar I), BIOL282 (Media and Solution Prep), BIOL285 (Biotech Lab I: Recombinant DNA), and BIOL290 (Genetics). Total of 14 credits, all with GP of 2.0 or better.
- Cell culture and Immunological Techniques Certification: requires BIOL196 (Biotech Seminar II), BIOL287 (Biotech Lab III), BIOL295 (Immunology). Total of 12 credits, all with a GP of 2.0 or better.

We submitted a "Biotechnology Techniques" Certificate as well, which included Biotech Labs I, II, and III. Unfortunately, it was rejected as a certificate because these classes require too many contact hours. We are in the process of resubmitting this group as a Degree "Option". This requires significantly more paperwork and review by the State Board, so it will be some months before this is in place.

### Program Review:

As our new TAC learns about the program, they are providing excellent suggestions to improve the curriculum and logistics of the program. We are working on equipment maintenance and replacement schedules, equipment wish lists (RT-PCR, small bioreactor, robotics, etc.), as well as looking at bringing an introduction to biomanufacturing and automation into the curriculum. John and I will be reviewing the Core Lab Series as a whole this summer and working with the TAC on changes.

### On-line Environment:

The revamped Web Site was launched last summer. All the work on that site was done by John Wiseley! Thanks John! There are some loose ends that still need to be cleaned up on the web site, but the idea is to complete that site as a marketing tool. The primary audience would be prospective students or employers. That being said, I would like to create an additional on-line resource center for current students and alumni. The site could be a repository for TAC meeting minutes, academic primers, worksheets, work updates, and potentially a mechanism for alumni/students to post and communicate with each other. Discussion at the annual meeting on this topic yielded several suggestions: Google Groups, Yahoo Groups, some type of forum, etc. I am working on this currently and certainly open to further direction and suggestions.

## Staying Current:

As always there is a ton of exciting research going on. Check out the following links for fun stuff! These are particularly relevant to me, as I am experimenting with the idea of bringing a "sustainability" and biofuel based example into the biotech lab.

Title: Engineered Cyanobacteria: New Source for Biofuels

[http://www.biotech-weblog.com/50226711/engineered\\_cyanobacteria\\_new\\_source\\_for\\_biofuels.php](http://www.biotech-weblog.com/50226711/engineered_cyanobacteria_new_source_for_biofuels.php)

Cloth-Eating Fungus Could Make Fuel

<http://www.sciam.com/podcast/episode.cfm?id=C8ED057F-D32E-34B5-4DF78025550EB35B&SID=mail&sc=emailfriend>

And if you missed it in the Intro, go to fold some proteins! [fold.it/portal/adobe\\_main](http://fold.it/portal/adobe_main)

## Review Questions:

From the last Issue:

- What is "drug repositioning"?

*Answer: Drug repositioning (known as DR); "In broad terms, DR strategies are classified into two basic approaches: new indications and new formulations/drug delivery for approved drugs. The formulation/delivery approach is the most common DR strategy," to quote a great short article on this from Drug Discovery ([www.touchbriefings.com/pdf/2287/yost.pdf](http://www.touchbriefings.com/pdf/2287/yost.pdf)). This way new value can be added to patents and potentially new markets tapped for a therapeutic in which the investment has already been made.*

- Understanding diffusion is essential to understanding how life works. Define diffusion. What drives diffusion i.e. why does diffusion happen?

*In simple terms diffusion is the movement of a substance from a region of higher concentration to a region of lower concentration. In introductory biology classes we generally don't talk much more about why diffusion happens, but it goes back to the Second Law of Thermodynamics. The Second Law can be stated several different ways, but the idea is that any system will move toward increased disorder (entropy). With regard to diffusion, you can think of it as a bunch of molecules that are crowded/stacked together having more "order" than a bunch of molecules randomly filling the system. The irony of this is Life uses energy to constantly fight entropy. How is that energy generated? ATP, the energy currency of the cell, is generated as protons move down their concentration gradient (diffusion) and in the process power the ATP synthases to make ATP. Crazy stuff when you really think about it!*

For next Issue:

- How many transformation techniques do you know for bacterial cells?
- What is the function of the Golgi Apparatus?