After the success of last year’s IGP Day, improvement did not seem possible; but turnout was higher than ever this year. Eighty-three incoming IGP, CPB and IMSD students joined Cell and Developmental Biology faculty and students on Thursday, August 23, 2007 for our most successful IGP Day.

The CDB festivities began at 12:00 noon in 1220 MRB III with a delicious lunch from YUM!Catering and a brief overview of CDB by Dr. Susan R. Wente, followed by Dr. David Miller, CDB IGP faculty representative, and Dr. Kathy Gould, Director of Graduate Studies. The earlier start time afforded a relaxed introduction to each CDB faculty member present.

The positive atmosphere continued during the student-led Q&A session, when all faculty and staff left the room and selected CDB graduate students spoke and answered questions. After this discussion, CDB students distributed to each new student a pen, emblazoned with the CDB logo, and a Suzie’s Expresso gift certificate, before guiding them to MRB III 3rd and 4th floors for the annual poster session. A big thanks to Lindsay Bramson, Sabata Conestico, Jonathan Gephart, Ali Hanson, Xi Huang, Clay Spencer and Laura Terry for their able assistance with students, as well as to Curtis Thorne and Jud Schneider for their help in moving furniture.

During the poster session, new student interest was high and several posters had as many as 6 students gathered around asking questions. Interest in posters – and faculty research – continued for over an hour. The reception, which followed at 3:00 p.m., was such a success that new students were still talking with CDB faculty and students at 5:00 p.m. Much credit goes to Kim Kane, who was responsible for the reception set up, decorating and catering; and to Mike Ray and Ali Hanson for their invaluable assistance.

For the first lab rotation, 20% of new IGP students are rotating in a CDB lab, an indication that our IGP Day was a great success. We look forward to several students joining us in April 2008.

And, speaking of new students, the students listed in the chart at the right joined CDB this past April 2007. These students were honored at a reception on May 17, where they were formally introduced to the CDB faculty and received their personal copy of Molecular Biology of the Cell, Fourth Edition.

Finally, 12 students have defended their dissertation since our Fall 2006 issue: Scott Boyle, Nicole Ducharme, Rebecca Fox, Yina Li, Mi Miao, Yuki Ohi, Ryan Pooley, Josh Rosenberg, Travis Smith, Susanne Tranguch, JJ Westmoreland and Huimin Zhang. CONGRATULATIONS TO ALL!

<table>
<thead>
<tr>
<th>Student</th>
<th>Mentor</th>
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<tbody>
<tr>
<td>Al-Greene, Nicole</td>
<td>Dan Beauchamp</td>
</tr>
<tr>
<td>Broadus, Matthew</td>
<td>Kathy Gould</td>
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<tr>
<td>Carver, Billy</td>
<td>Anna Means</td>
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<tr>
<td>Cross, Emily</td>
<td>David Bader</td>
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<tr>
<td>Ehtesham, Nadia</td>
<td>Susan Wente</td>
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<tr>
<td>Hilliard, Valda</td>
<td>Brent Polk</td>
</tr>
<tr>
<td>Liu, Yang</td>
<td>Sandra Zinkel</td>
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<tr>
<td>Mackert, John</td>
<td>Charles Lin</td>
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<tr>
<td>Melville, David</td>
<td>Ela Knapik</td>
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<tr>
<td>Ostroff, Rachel</td>
<td>David Miller</td>
</tr>
<tr>
<td>Plank, Jennifer</td>
<td>Trish Labosky</td>
</tr>
<tr>
<td>Sparks, Erin</td>
<td>Stacey Huppert</td>
</tr>
<tr>
<td>Thomason, Rebecca</td>
<td>David Bader</td>
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</tbody>
</table>

December 8th for the CDB Family Holiday Bowling Party
Changes in Medical Education

Cont.

These two simultaneous changes — to a “systems” approach and to a modular curriculum — directly and indirectly impact the basic science departments in a variety of ways. The greatest immediate impact has been for course directors and lecturers who have spent years improving and teaching successful courses, who may now have to completely reorganize material and lectures, and sometimes reorganize entire courses. For some of the modules, this will be a major time-consuming undertaking. It is expected that it will take a significant amount of time — both in terms of the time commitment of individuals and of teams over the first few years — to work out the “bugs”. On the positive side, it has caused a close and critical look at the curriculum and what content is being taught. A major negative consequence, beyond the effort required to make this work, and one which impacts both faculty and students in the various departments, however, is that graduate students will no longer be able to take the medical school courses. This is not just related to whether graduate students are on a “semester” schedule or not, but is more related to the fact that there is in the new curriculum an increased “blurring” of subject lines within the modules, as well as assumptions about the acquisition of knowledge from other modules. To give a concrete example, the Medical Neurosciences course has typically had a large number of graduate students from many disciplines including Neuroscience, Biomedical Engineering, Physiology, and Pharmacology — any students interested in pursuing careers in Neuroscience — and who wished to understand how the brain is organized at gross and cellular levels. The course was entirely “self-contained” meaning that there were no prerequisites for taking the course, and all information which students were required to learn was taught in the course. In the new Neuroscience “module”, psychiatry, neuropathology, neuroparmacology, and neurophysiology will be “blended” so that a graduate student would not be able to simply attend the “anatomy” lectures to learn about the organization of the brain. They would also not be able to attend the module as such because they would lack the requisite knowledge that the module is required to build upon from previous modules. For example, neuropharmacology is to be taught in the Neuroscience module, but receptor kinetics would have been taught in a previous module. Therefore, graduate students would not be able to appreciate or understand the lectures on psychotropic drugs in the Neuroscience module since these lectures will assume an understanding of receptor kinetics. Moreover, if graduate students attended only selected lectures, they could not take the same exams with other students since questions on exams are to be integrated between the various disciplines within and between modules as well. This means that new courses will have to be designed and taught specifically for graduate students. The basic science faculty who are primarily engaged in the research enterprise have little time to devote to developing and teaching major courses for graduate students. Thus, the curricular changes in the medical school directly or indirectly affect all of the faculty in the medical school, whether our primary responsibility is to research or to teaching.

While curricular change can be stressful in many ways for both the teacher and the learner, it can also be very invigorating — and generally does result in some improvement by forcing us to examine what we have been teaching and how this might be improved. At this time, Cathy Pettepher has been very positive regarding the Molecular Mechanisms of Medicine module, saying that the medical students are doing well. We all join to wish her continued success. Gross Anatomy, Cell and Tissue Biology, and Physiology will soon commence their Structure/Function/Development module later this month.

### News Letter Credits

Susan R. Wente, Ph.D. — Professor & Chair
Angela Land-Dedrick — Copy Editor
Marc Wozniak — Editor

**Cell & Developmental Biology**
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Nashville, TN 37232-8240
(615)322-2134 , fax (615)343-4539

**Banner caption (P3):** -Hanks Lab

Merged fluorescent images of FAK/-/mouse embryo fibroblast expressing a gain-of-function FAK/Src chimeric protein. In normal integrin-mediated signaling FAK (focal adhesion kinase) acts as an auto-phosphorylating scaffold to recruit and activate the Src tyrosine kinase.

The chimera (with the FAK kinase domain replaced by the Src kinase domain) enhances steady-state tyrosine phosphorylation of major substrates of the FAK-Src complex, while giving rise to unusual large peripheral adhesions associated with prominent peripheral actin stress fiber bundles.

Adhesions are revealed by immunostaining with an anti-phosphocortactin antibody (green) and F-actin revealed using Alexa 594 Phalloidin (red).

### Polenta Mazatlan

-By Marc Wozniak

<table>
<thead>
<tr>
<th>6 cups water</th>
<th>1 can Rotel</th>
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<tbody>
<tr>
<td>1 tsp. salt</td>
<td>4 c. refried black beans</td>
</tr>
<tr>
<td>2 c. yellow corn grits</td>
<td>2 c. cheese for layering</td>
</tr>
<tr>
<td>1/2 tsp. cayenne</td>
<td>4 Roasted red peppers</td>
</tr>
<tr>
<td>3 cloves garlic</td>
<td>cilantro to taste</td>
</tr>
<tr>
<td>3 T. butter</td>
<td>4 c. salsa</td>
</tr>
<tr>
<td>1 c. grated M. Jack</td>
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</table>

In a large pan, bring water to a boil. Add salt, butter then gradually add grits, cayenne & garlic. Reduce heat and stir frequently until Polenta is very thick (30-35 min.). Mix Monterey Jack cheese and Rotel tomatoes. Oil loaf pans and pour in the Polenta. When cooled the loaves may be turned out and cut into slices like bread. Assemble in low baking dishes, layering as follows: refried beans, 1 c. cheese, Polenta slices. Cover with salsa, roasted red pepper slices and cilantro, top with remaining cheese and bake till heated throughly.

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**VCD BINARY**

**Polenta Mazatlan**

-By Marc Wozniak

The chimera (with the FAK kinase domain replaced by the Src kinase domain) enhances steady-state tyrosine phosphorylation of major substrates of the FAK-Src complex, while giving rise to unusual large peripheral adhesions associated with prominent peripheral actin stress fiber bundles.

Adhesions are revealed by immunostaining with an anti-phosphocortactin antibody (green) and F-actin revealed using Alexa 594 Phalloidin (red).
The Cell & Developmental Biology Distinguished Faculty Lecture Series

The Cell and Developmental Biology Distinguished Faculty Lecture Series is a recently established annual event in honor of the more than 80 years of excellence in research, teaching and service by the faculty of Vanderbilt University School of Medicine in the Cell and Developmental Biology Department. In November 2006, Marc W. Kirschner, Ph.D., gave the first such lecture.

We are honored to have Sir Paul Nurse, Ph.D., F.R.S., as the 2007 speaker. Dr. Nurse is the President of The Rockefeller University in New York, NY, as well as winner of the 2001 Nobel Prize in Medicine. His lecture is scheduled for Monday, November 12th at 4pm in 208 Light Hall, and is entitled “Controlling the Cell Cycle”. Dr. Nurse’s talk is also a part of the Discovery Lecture Series. Save the date!

We have just confirmed that Thomas M. Jessell, Ph.D. will be the third, 2008 CDB Distinguished Faculty Lecturer and will speak on November 6, 2008. Dr. Jessell is an HHMI Investigator and Professor of Biochemistry and Molecular Biophysics at Columbia University Medical Center, New York, NY. He is also a member of the Institute of Medicine and the National Academy of Sciences.

It is truly a privilege to have these esteemed scientists visit our department and take part in our annual lecture series.

Recruiting & Retaining Outstanding Faculty

Welcome to our newest CDB faculty members, Dr. Ryoma (Puck) Ohi and Dr. Melanie Ohi. Puck joined the faculty on June 1, 2007. His lab and office are located in 3120 MRB III. Puck studies the regulation of microtubule dynamics in the context of cell division and chromosome segregation. Melanie is a joint recruit with the Center for Structural Biology and arrived on July 1, 2007. Her office and main lab space are located in 3160 MRB III, with EM support space on the 4th floor of MRB III. Melanie’s research program focuses on exploring the structural and functional organization of two essential macromolecular machines: (i) the spliceosome, which regulates and executes pre-mRNA splicing; (ii) the anaphase promoting complex (APC), which regulates cell cycle transitions. We are thrilled to have them join us.

The CDB Faculty Recruiting Committee began a new search last month. This year, they are specifically focused on established investigators at the level of Associate or Full Professor. Special consideration will be given to those using C. elegans or Drosophila to investigate fundamental problems in neurobiology such as mechanisms of axon guidance and synapse assembly or function, in nuclear organization and dynamics, in vesicular trafficking, and in tissue differentiation. If you know of someone who might be interested, please encourage them to apply. The advertisement was posted in the September 21st issue of Science and can be found online at aas.sciencecareers.org. The deadline for receipt of full application materials is December 1, 2007.

In conjunction with this year’s faculty search, we have invited two candidates to present their work in mid-December. William Tansey, Ph.D., will give a seminar on December 17th. Dr. Tansey is a Professor at the Cold Spring Harbor Laboratory in New York. He works on understanding the mechanisms of transcription factor regulation by ubiquitin-mediated proteolysis. Krishna Bhat, Ph.D. will present a seminar on December 19th. Dr. Bhat is currently an Associate Professor at UTMB School of Medicine in Galveston, Texas. His research focuses on several different, but related themes, including: adult brain development, function and disease; Nogo-R-Nogo signaling in axon guidance and synaptic connections; and self-renewal and asymmetric division of neural precursor stem cells in the embryonic nerve cord. If you are interested in meeting with either of these candidates, please contact Angela Land-Dedrick at angela.land-dedrick@vanderbilt.edu.

Susan R. Wente, Ph.D. Professor & Chair

Vanderbilt IS Black, Gold…and Green?

By Kim Kane

Do you recycle your home’s paper, glass, plastic, and metal? Drive a hybrid? Use cloth totes for your groceries? Know the size of your carbon footprint…or even care? Long before ‘An Inconvenient Truth’ many of us were, in our own small ways, trying to lessen our impact on Mother Earth but had few, if any, options at work. Until now – and SustainVU!

SustainVU is a campus-wide ‘go green’ initiative that is still in its infancy but is already making a huge impact on how the Vanderbilt community conserves, recycles, and plans for the future. “Sustainability” can be broadly defined as meeting the needs of the present generation without compromising the ability of future generations to do the same. Led by Sustainability Coordinator Andrea George, Ph.D., and Recycling Coordinator Jennifer Hackett, SustainVU is involved with campus-wide waste reduction, recycling, environmentally friendly purchasing, energy conservation, bio-fuel creation, and green building, all of which translates into a vast reduction of Vanderbilt’s impact on the environment.

The University’s efforts to be a good steward of the environment are already paying off in big ways:

Last year, the University recycled more than 5 tons of plastic, 10 tons of aluminum, 283 tons of paper, and 433 tons of cardboard

Vanderbilt is the only university in Tennessee to be recognized for its first (but not last) “green” building - The Commons on Peabody’s Campus

Vanderbilt won the 2006 Governor’s Environmental Stewardship Award in Pollution for our innovative “Free Ride to Work” program

The Vanderbilt Biodiesel Initiative is turning used vegetable oil from Dining Services and the Hospital into fuel used by our fleet vehicles

These examples highlight just a few of the many ‘green’ success stories across campus. To read more about sustainability – and maybe even find some inspiration – visit the SustainVU website [www.vanderbilt.edu/sustainvu].

And don’t forget to use one of the new green bins in your area to recycle this paper after you are through with it!
ePAC - Electronic Personnel Action Changes

By James Slater & Cindy Young

On September 1, CDB began participating in the rollout of a new system called ePAC, electronic Personnel Action Changes. ePAC reduces paper and increases efficiency of processing payroll changes while improving Vanderbilt's compliance with federal regulations on effort reporting.

Until now Cindy obtained your signature for effort certification on paper PAFs (payroll action forms). You are now able to certify your effort distribution on your computer from your office, at home, or while traveling. ePAC will send you an email notification with a web link when you need to certify your effort. This will happen when a federal cost center changes on your effort distribution, when a retroactive correction is made to your effort distribution, or, at the end of the fiscal year (June 30), when there have been no federal effort distribution changes during the course of the year.

As with paper PAFs, you will use ePAC to approve your new effort distribution and to certify past effort. As before, we will initiate ePAC changes based on your grant proposals, confirmed budget plans, or any additional changes that you request from Cindy, Carol, and Jim. All payroll changes will continue to be maintained in our BA3 database and our BA3 will signal us when changes are ready for implementation in ePAC.

If you have any questions about a change you are being asked to certify, please contact Cindy, Carol, or Jim. Otherwise, ePAC allows you to reject any change if you provide a comment about your concerns. More information on ePAC is located at

https://finweb.mc.vanderbilt.edu/Support/VUOnly/Training/ePAC/ePAC.

If you need assistance with the effort reporting please contact your CDB administrative team or, from VUMC, Kim Smith @ 3-7072, Heather Roberts @ 3-4626, or Kathryn Hofeldt @ 3-5350.

Changes in Medical Education

By Jeanette Norden

This is the second in a series of articles written to inform members of the Cell and Developmental Biology Department about curricular changes occurring in the medical school, and to discuss briefly how these changes might impact our faculty.

As stated previously, the Department of Cell and Developmental Biology (formerly Anatomy or Cell Biology) was responsible for teaching the three anatomically based core courses of Gross Anatomy, Neuroanatomy, and Histology (Cell and Tissue Biology) to medical and graduate students. With the creation of the Cancer Biology Department, Cell and Tissue Biology became the responsibility of that department, with Cathy Pettepher as the course director. This did not negatively impact the teaching in our department or the integration of material in the three courses since Dr. Pettepher is also a major teacher in the Gross Anatomy course, and there has always been a fair amount of “cross-teaching” between these courses.

Multiple simultaneous changes are currently taking place, however, that do significantly impact the teaching of these courses. In this newsletter, I will focus only on two of these major changes. Beginning this year, individual courses (theoretically) are no longer being taught, with previous courses assigned to “systems” modules. For example, Gross Anatomy is no longer considered a stand-alone course, but is part of a Structure/Function/Development “module” in which Gross Anatomy, Cell and Tissue Biology, and Physiology are taught together by a “team” of individuals from the various departments. The rationale given for these changes is that this approach should increase integration of closely related subjects for the students. For example, when the kidney is discussed and dissected in the Gross Anatomy segment, Cell and Tissue Biology will be focused on the cellular structure of the kidney, and Physiology will be focused on the function of the kidney. I have indicated above that the “loss” of individual courses is really more theoretical than real, since the individuals teaching various subjects are still responsible for teaching specific content information. This is not to imply, however, that this does not require an enormous amount of work for the faculty involved, primarily related to reorganizing lectures and coordinating content with other faculty in other disciplines.

The correlation of Structure/Function/Development could theoretically have been achieved by the major courses simply coordinating their various lectures, which is largely how it is being accomplished in the “modular” format. The latter emphasis on a modular approach for teaching medical students, however, is an independent – yet simultaneous change from the way we have traditionally taught medical and graduate students and one which impacts our teaching in a different way. In the “traditional” curriculum, courses were taught in either the Fall or Spring semesters in the first or second years. In the new curriculum, courses are taught in “modules” of varying lengths. For example, whereas the Medical Neurosciences course has traditionally been taught as a 120 hr. Fall semester course (Aug – Dec) to second year medical and graduate students, it will now be part of a 200 hr. 10 wk “module” to be taught in the Spring of the second year. Thus, in Neurosciences, the amount of material to be taught increased significantly, but the overall time frame was reduced. Gross Anatomy, on the other hand, lost time when incorporated as part of the Structure/Function/Development module, yet the medical students must still learn the requisite knowledge about the anatomy of the body that will allow them to be responsible physicians. Cell and Tissue Biology, which was taught to first year medical students in the semester before they would enter Pathology, is now split between two modules, Molecular Foundations of Medicine (and linked with Biochemistry) and Structure/Function/Development (linked with Gross Anatomy and Physiology).

Continued on page 4.