A Note From the Chair

*There are things known and there are things unknown, and in between are the doors of perception*…

William Blake, the 18th century artist and poet, famously stated that “if the doors of perception were cleansed everything would appear to man as it is, infinite.” (You might recognize that quote as the source of the name for The Doors music group.) That quote reflects the limitations of the human brain and sensory system— we can perceive certain stimuli (particular wavelengths of light or frequencies of sound), but not others (magnetic fields, ultrasound, gamma rays, etc.). That restricted sensory range is probably functional—it prevents us from being overwhelmed by information (Blake’s infinity). But our sensory limitations also limit our behavior. For example, as animals largely reliant on our visual sense, we humans don’t feel so comfortable outside in the dark, and we tend to avoid exploring the natural world at night. In the process, we miss a lot of interesting stuff! CONTINUED ON PAGE 4…

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Stay Connected!

Facebook & Bio Dept. Website
You already spend your day on FB, why not include some BIO to make you feel better about it? ‘Like’ us on FB and receive the most up-to-date news, job opportunities, & current events related to Biology. Search: Wright State University Dept. of Biological Sciences

You can also visit: wright.edu/biology for Dept. info!
Student Achievements

Research, Leadership and Scholarship—these students are going somewhere!

2011 Emerging Student Leader

The Office of Student Activities annually recognizes WSU student leaders. Ronak Ghiya is very involved with campus leadership activities including the Minority Association of Pre-medical Students (MAPS), Chemistry Club, Student Honors Association, PreMedical Society and Indian Students Dance Team. Ronak was also the 2010-2011 President of the Biology Club. Congratulations on this award Ronak!

2011 Distinguished Advanced Student Leader

This well-deserved award went to Christen Johnson for her work in various leadership roles across this campus & others. Christen is the President of both the Multicultural Association of Pre-Medical Students and Women Encouraging Each other. She is also President of the Village/University Park Community Council and voted onto the 2010 Homecoming Court. Christen enjoys her role as a UVC Peer Instructor and this summer she was proud to attend the Medical & Dental Education Program at Columbia University. Recently, Christen became the National Director for Women Encouraging Each other. Great job Christen!

2011 Brazil Research Experience

BIO students Amma Boakye, Orly Leiva and Isaac Voehringer traveled to Sao Paulo, Brazil in the spring to take part in an international research experience. They took classes and worked in a research lab, receiving degree credit for the experience. Amma said, “For me, the most memorable part was the experience of being a foreigner in another country...and to see beyond the scope of where I’ve lived all my life. The insight I got was priceless.”
Good Luck Spring & Summer 2011 Graduates!

Noor Al Shalal  Gerald Alcorn  Chelsey Housh  Thomas Hughes
Emily Brackett  Jessica Burt  Heather Hughes  Onome Ilenbiliuan
Samantha Hunt  Amanda Kehres  Jennifer Jurcsisin  Amber Justice
Renee Albers  Mallory Alexander  Ashley Karns  Joel Kaser
Shandra Basil  Jennifer Bauer  Sarah Kash  Amber Kasmer
Linda Baumert  Amber Braddock  Timothy Kawsky  Emily King
Rachel Brame  Kendra Brown  Sai Kollipara  Kyle Leggett
Annie Bui  Erica Carey  Kyle Lewis  Lisa Ling
Andrew Cline  Craig Cole  David Malesko  Erin Naas-Welbaum
Amanda Cowell  Jessica Cox  Roopsi Narayan  Kelsi Nutter
Caleb Dukeman  Jillian Frasier  Ashley Randolph  Brittany Reinert
Kelsey Fultz  Sarah Garing  Samantha Ritzler  Allison Schumacher
Norman Glover  Leilani Gray  Abigail Schwartz  Esra Shermadou
Sara Greene  Chris Hall  Christopher Seger  Bridgett Severt
Mohaned Hamayel  Colleen Harrington  Corrine Shepard  Stephen Short
Brittany Harper  Ashley Hastings  Elizabeth Swartzwelder  Steven Tamborski
Courtney Hauer  Kiel Hawk  Pon Ti Tsou  Robbie Weller
Sarah Heinig  Brittany Hillock  Ashleigh Wilson  Zachary Yahl

Welcome Clinical Lab Science

Class of 2011-2012

James Allen  David Jones  Brett Oetzel
Estefany Castro  Marina Lakner  James Powell
Bryan Dooley  Tai Lam  Amber Severt
Angela Hart  Christie LaVoy  Liz Wehri
Nate Johnson  Brian Metcalf
I was reminded of this several times this summer. Most recently, a “creature of the night” showed itself at my home. A night-blooming cereus that for many years had grown but never flowered, finally did its thing: for one (and just one night), its fantastic bloom opened, and the rich fragrance that it emits to attract pollinating moths filled the air on my back porch. The flower opened at 9:30 p.m., and by morning it was closed and drooping. No doubt, the nighttime air is full of chemical cues, many of which are beyond our sensory powers. Perhaps more obvious to us are the critters that communicate at night with sound, many of which I am enjoying as I write this essay. I happen to know that many of those sounds come from crickets and katydids. But to see those insects in action takes some effort. Have you ever gone “prospecting” for nighttime animals, exploring forest & field with flashlight in hand?

I did a midnight “swamp stomp” earlier this summer. In my lab, I study gray treefrogs; I am interested in how their physiology responds to dehydration and cold. To see these animals in the wild, I had to go looking for them. For most of the year, gray treefrogs are cryptic, up in the trees and silent. But in summer, especially after the rain, the frogs come down to ponds to breed- and as darkness sets in, the males vocalize to attract females. I managed to get a nice photo of one male in mid-call; what a display! To think that this goes on practically in our backyards, yet most of us will never see the show.

When the nighttime action occurs under water, it’s even harder to catch the action. This summer, Dr. Yvonne Vadeboncoeur and research team (including BIO undergrad Ryan Satchell, highlighted elsewhere in this newsletter) traveled to Tanzania, where they studied nutrient flow in this very large lake with its tremendously diverse fish community. I was interested to read in the blog: “The team has now gone diving and snorkeling at one of our main study areas at night on two occasions- and what a difference it has made! Whereas we had believed that zooplankton are scarce in this lake, we were amazed to find that on a nearly moonless night, the water along the coast was heaving with small shrimp, tiny copepod crustaceans, and larval sardines.” A major element of the food web in this lake had gone unseen, revealed only under the cloak of darkness.

As scientists, we work in many ways to develop good observational skills, and to expand our range of perception. We overcome some of our sensory limitations by designing tools-electron microscopes, Geiger counters, radiotelescopes-that help us to perceive otherwise undetectable signals. But sometimes, just changing our behavior, and finding new ways to look, is what’s needed. So, while the weather remains warm, grab a flashlight and head out for a nighttime walk in the woods. Or, as Jim Morrison might have stated it: Break on through to the other side!

*Quote attributed to Ray Manzarek and/or Jim Morrison

Dr. David Goldstein, Chair, Dept. of Biological Sciences
Faculty and Staff News

Research Funding

Dr. Kate Excoffon received a National Institutes of Health (NIH) R21 grant for her work titled “Molecular evolution of AAV vectors for anti-HIV gene therapy.” Dr. Paula Bubulya also recently received notification that her R15 grant from NIH titled, “Gene regulatory functions for the nuclear speckle scaffolding protein Son,” has been approved for funding. Both women also received funding through the Research Incentive program. Congratulations to both!

CLS in the Dayton Daily News

The DDN recently wrote about the healthcare industry with a focus on the field of Clinical Laboratory Sciences. Our CLS program director, Dr. Cheryl Conley was quoted in the article, “it’s a well-hidden profession- these are highly trained scientists and we have got to fill those positions with highly qualified individuals.” Demand for clinical lab scientists is strong and it will continue to grow. Read the article at: http://tinyurl.com/42mkhl3

Lake Tanganyika & Research Blog

Dr. Yvonne Vadeboncoeur and her team of research scientists spent their summer in East Africa working on the Lake Tanganyika Littorial Project. Included in Dr. Vadeboncoeur’s team was Ryan Satchell (pictured above right) who is a WSU Biology student. The team documented the experience in this blog: http://tanzania-lkenyon.blogspot.com/. The trip included scuba diving, boating and meeting Jane Goodall among other things. Science, culture, photography….you simply must read this blog- it is amazing!

New Office Staff Member

The Department of Biological Sciences would like to give a warm greeting to our new Administrative Support Coordinator Janet Franklin. When you see Jan at her desk in the front office be sure to say ‘hello’! Welcome to the Bio Department Jan!
2011-2012 Biology Club Officers

If you are a BIO major and looking to get connected with other BIO students and get more involved on campus, you must join the BIO Club!

President               Matt Johnson
                           johnson.828@wright.edu
Vice President          Arlene Maliekal
                           maliekal.2@wright.edu
Treasurer               David Jensen
                           jensen.24@wright.edu
Secretary               Jimmy Readler
                           readler.3@wright.edu
Events Coordinator      Samantha Young
                           young.240@wright.edu
House of Reps           Dan Hyman
                           hyman.6@wright.edu

Winter 2012 Class Offerings

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO 111</td>
<td>Human Biology</td>
</tr>
<tr>
<td>BIO 112</td>
<td>Cell/Molecular BIO</td>
</tr>
<tr>
<td>BIO 211</td>
<td>Genetics</td>
</tr>
<tr>
<td>BIO 213</td>
<td>Molecular Biology Lab</td>
</tr>
<tr>
<td>BIO 305</td>
<td>Animal Physiology</td>
</tr>
<tr>
<td>BIO 370</td>
<td>Bioethics</td>
</tr>
<tr>
<td>BIO 380</td>
<td>Conservation Biology</td>
</tr>
<tr>
<td>BIO 401</td>
<td>TBA</td>
</tr>
<tr>
<td>BIO 402</td>
<td>TBA</td>
</tr>
<tr>
<td>BIO 406</td>
<td>Evolutionary Biology</td>
</tr>
<tr>
<td>BIO 420</td>
<td>Designing Biological Expt.</td>
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<tr>
<td>BIO 442</td>
<td>Adv. Molecular Biology</td>
</tr>
<tr>
<td>BIO 443</td>
<td>Histology</td>
</tr>
<tr>
<td>BIO 447</td>
<td>Population Ecology</td>
</tr>
<tr>
<td>BIO 476/7</td>
<td>Human Parasitology</td>
</tr>
<tr>
<td>BIO 492</td>
<td>Various Titles &amp; Sections</td>
</tr>
<tr>
<td>EXB 451</td>
<td>Clinical Ex. Physiology II</td>
</tr>
</tbody>
</table>

Important Fall 2011 Dates

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
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</thead>
<tbody>
<tr>
<td>Sept. 26</td>
<td>Last day for all students to drop a class without a grade</td>
</tr>
<tr>
<td>Oct. 24</td>
<td>Last day for all students to drop a class with a grade of W</td>
</tr>
<tr>
<td>Nov. 11</td>
<td>Veteran’s Day; WSU Closed</td>
</tr>
<tr>
<td>Nov. 12</td>
<td>Last day of Fall Quarter classes</td>
</tr>
<tr>
<td>Nov. 14-18</td>
<td>Fall Quarter Final Exams</td>
</tr>
<tr>
<td>Nov. 19</td>
<td>Fall Commencement</td>
</tr>
<tr>
<td>Nov. 24-25</td>
<td>Thanksgiving; WSU Closed</td>
</tr>
<tr>
<td>Nov. 29</td>
<td>Inter session classes begin</td>
</tr>
<tr>
<td>Dec. 5</td>
<td>Last day to drop Inter session class with a grade of W</td>
</tr>
<tr>
<td>Dec. 7</td>
<td>Last day to submit application for Winter Quarter graduation</td>
</tr>
<tr>
<td>Dec. 22</td>
<td>Last day of Inter session classes</td>
</tr>
<tr>
<td>Dec. 23-26</td>
<td>Winter Break; WSU Closed</td>
</tr>
<tr>
<td>Jan. 3</td>
<td>First day of Winter Quarter</td>
</tr>
</tbody>
</table>
2011 Fall Departmental Seminars

<table>
<thead>
<tr>
<th>Date</th>
<th>Speaker</th>
<th>Host</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sept. 12, 2011</td>
<td>Dr. Don Cippollini, Wright State University</td>
<td>Host: Dr. Rooney</td>
<td>“Invasive species, at-risk plants and insects, and a trip to Costa Rica: reflections on a year”</td>
</tr>
<tr>
<td>Sept. 19, 2011</td>
<td>Dr. Akua Asa-Awuku, UC Riverside</td>
<td>Host: Dr. Excoffon</td>
<td>“Is there a silver lining in air quality? Understanding cloud droplet formation”</td>
</tr>
<tr>
<td>Sept. 26, 2011</td>
<td>Dr. Marvin Nieman, Case Western</td>
<td>Host: Dr. Bubulya</td>
<td>“Thrombin receptor dimerization: Implications for antiplatelet therapy development”</td>
</tr>
<tr>
<td>Oct. 3, 2011</td>
<td>Dr. Elizabeth Rhoads, University of Dayton</td>
<td>Host: Dr. Krane</td>
<td>“Landscape genetics of the small-mouthed salamander in Ohio fragmented forests”</td>
</tr>
<tr>
<td>Oct. 10, 2011</td>
<td>Dr. Leo Obitas-Acurio, University of Andidad-Cusco</td>
<td>Host: Dr. Rooney</td>
<td>“The role of natural history in tropical forest conservation”</td>
</tr>
<tr>
<td>Oct. 17, 2011</td>
<td>Dr. Brian Kaspar, Nat. Children’s Hospital</td>
<td>Host: Dr. Excoffon</td>
<td>“Gene targeting of cells involved in motor neuron disease”</td>
</tr>
<tr>
<td>Oct. 24, 2011</td>
<td>Dr. Brian McGill, University of Maine</td>
<td>Host: Dr. Bahn</td>
<td>“The effects of climate change on organisms”</td>
</tr>
<tr>
<td>Oct. 31, 2011</td>
<td>Dr. Caroline Turner, Michigan State</td>
<td>Host: Dr. Goldstein</td>
<td>“Interactions between ecology and evolution in a 50,000 generation experiment with E.coli”</td>
</tr>
<tr>
<td>Nov. 7, 2011</td>
<td>Dr. Andrew Hipp, Morton Arboretum</td>
<td>Host: Dr. Rooney</td>
<td>“A bug’s-eye view of oak evolution”</td>
</tr>
</tbody>
</table>

Seminars are at 1:30 p.m. and meet in 103 Biological Sciences Building I

Alumni Spotlight- Love in the Lab

As BIO majors, Deanne Duval and Bryan Jacobs knew that working in the WSU Freshman Bio Labs as lab preps would be a great experience. What they didn’t know is that it was where they would meet each other and fall in love. They were married this summer. Deanne and Bryan are both currently medical students at WSU’s Boonshoft School of Medicine. The Depart. of Biological Sciences wishes these two talented people the best. Congratulations Mr. & Mrs. Jacobs!
Semesters are coming!
In case you didn't know, WSU is transitioning to semesters in the Fall of 2012. There are numerous resources available for you to learn more about this.

Visit the following websites to stay informed:
www.wright.edu/semesters & http://www2.wright.edu/semesters-advising

One of your best resources is your academic advisor. Do not hesitate to meet with your academic advisor if you have questions about semesters!

Wright State University

Academic Advising
Please call the Advising Line at (937) 775-4226 to schedule an appointment with an advisor. When scheduling, be sure to include your major and/or concentration and describe your questions.

Undergraduate Degrees:
Jacqui Neal ~ Dr. Patti Roberts ~ Courtney Smith
Clinical Laboratory Sciences: Bev Schieltz ~ Dr. Cheryl Conley
Graduate Degrees: Laura Buerschen