



ANIMAL BEHAVIOR BULLETIN

SUMMER/FALL 2013

LETTER FROM THE DIRECTOR

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Call for Stories

Do you have news you want to share with the CISAB community?

Contact us at cisab@indiana.edu!



Dear CISAB Members and Friends,

The summer shot by and fall is here! I hope that all of you are off to a productive academic year and have also had a chance to enjoy the amazing fall weather in Bloomington.

The CISAB Core Lab debuted in our newly renovated space on the third floor of Jordan Hall. The new lab gives us more space and is well-configured both for research and for teaching techniques. A hearty thanks goes out to the College of Arts and Sciences for funding the renovation, to Virginia Vitzthum, whose Evolutionary Anthropology (EVA) lab is integrated into the CISAB lab, and especially to Rose Stewart, who was instrumental both in the design of the new lab and in setting it up. Many thanks also go to Charli Taylor, who did an outstanding job of maintaining the lab and getting us ready for the move while Rose was on leave. If you have not yet visited the lab, please stop by to see how it can help advance your research program.

The Animal Behavior Internship Program and Course (ABEH A495) continues to grow. This summer, we had our largest class of A495 undergraduate interns ever. We have also added several new internship sites as partners in the internship program, including Potawatomie Zoo in South Bend, Mad4MyDog training in Ellettsville, and Big Star Stables. We continue to seek new partnerships with additional internship sites to provide our

Animal Behavior Conference 2014

Please join us on **April 24-26, 2014** for the 21st Annual Animal Behavior Conference at Indiana University in beautiful Bloomington, Indiana.

This year's keynote speaker is Mark Blumberg from the University of Iowa, who will be speaking about his exciting research on sleep!



Also join us for the satellite symposium on **April 26th**: "*Sex: from codons to condoms: the mechanisms and consequences of sexual behavior*", featuring keynote speaker Jim Pfaus from Concordia University.

Letter from the director, continued.

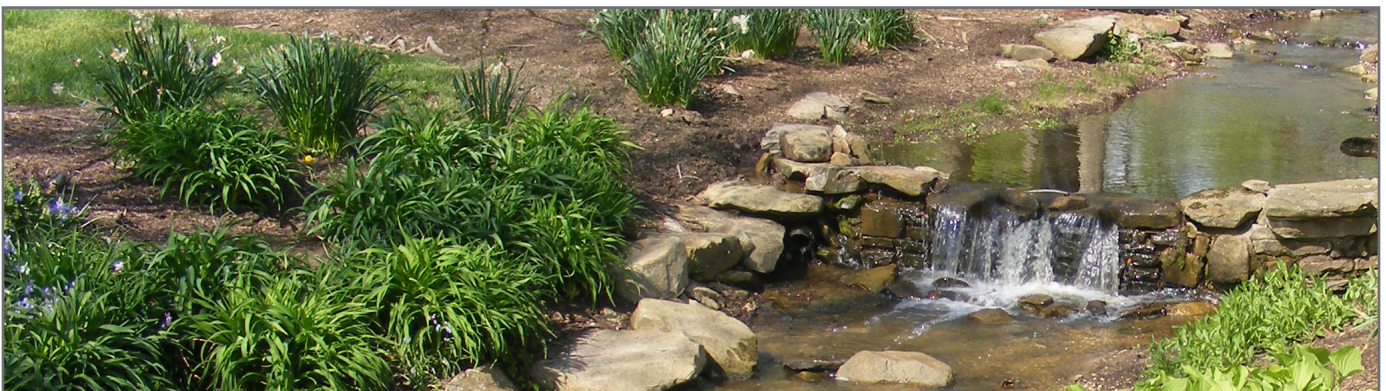
provide our undergraduates with more and diverse opportunities to gain practical experience in studying and applying their knowledge in animal behavior. If you know of organizations that would like to participate in our internship program, please contact me.

Despite being delayed by a week, the CISAB Open House on Sept. 18 was a great success. It was wonderful to yet again see so many students and faculty members from different departments interact at the house.

We have already begun making plans for the spring 2014 Animal Behavior Conference. The Conference will be held in the Indiana Memorial Union on April 24-26. The meeting will open on Thursday, April 24 with a talk from last year's Exemplar Awardee, Emilia Martins. We will have a poster session Thursday evening and talks on Friday, April 25. Our keynote speaker is Mark Blumberg from the University of Iowa. Mark has done wonderfully integrative work studying the developmental physiology of sleep in rodents. Come to the meeting to find out why we twitch when we sleep! He has also written several books, including *Freaks of Nature*, a fascinating book that examines how developmental anomalies inform us about biological processes. Leah Wilson and Lauren Rudolph are also organizing a satellite symposium to the meeting for Saturday, April 26. The topic of the satellite symposium is "Sex: from codons to condoms, the mechanisms and consequences of sexual behavior." Their keynote lecture for the satellite symposium will be Jim Pfaus from Concordia University. Jim's fascinating research focuses on understanding the neurochemistry of sexual reward and desire in both humans and non-human animal models. I hope you will all be able to attend what promises to be another exciting and enlightening meeting!

One disturbing development to share with you is that Indiana University is planning to demolish the CISAB house and several neighboring houses as part of a plan to move the Phi Gamma Delta fraternity to North 8th St. The CISAB house has served as our core meeting place since CISAB was formed, and many of us are shocked that we may lose the space that helped establish IU as a beacon of excellence in animal behavior. I am working with the College and university both to try to convince them that CISAB should not be displaced and to secure at least comparable space for us in the event that they do pursue this misguided plan. The College is making efforts to find us another space that will fulfill our needs, and I will keep you posted on these developments. I will be soliciting the help of the CISAB community in making our case that both the location and the configuration of the CISAB house is critical to the success that we have had over the last twenty years. I hope that you will join me in this effort.

-Troy Smith



CISAB LAB HIGHLIGHTS



THE CISAB LAB HAS MOVED

The CISAB Lab has moved to a newly renovated research facility in Jordan Hall 348! We are grateful to all who assisted with the move, including CISAB staff members, Biology Services and IU Environmental Health and Safety. A special thanks goes to Charli Taylor, lab assistant extraordinaire, who was instrumental in helping to coordinate the move and welcomed baby Sienna just three weeks later. On October 3, we celebrated this new beginning with a joint Open House with the Evolutionary Anthropology (EVA) Lab. We had a great turnout and wonderful treats to snack on (outside of the lab, of course!)- thank you to all who stopped by!

The new lab features a central laboratory bench with 10 workspaces and ample countertops around the perimeter to house research equipment. Other features include two state-of-the-art chemical safety hoods, a dedicated gel/cryostat room, and a lab manager's office. The space was designed to maximize efficient workflow and allow flexibility for both everyday research use and specialized training courses.

Existing users should contact Rose Stewart (stewarra@indiana.edu) if they have not obtained a proximity card to gain access to the CISAB Lab. New or interested users also are encouraged to contact Rose to set up a time to tour the new lab and learn about research and training opportunities.



CISAB Lab Usage Fees

We are currently working to revise our billing structure and usage policies to ensure the lab's long-term financial stability. As you may know, the CISAB Lab operates as a non-profit and we do not receive support from the College for equipment repair and maintenance. Historically we have relied on funds from users who are billed for supplies and reagents (plus a nominal, built-in lab maintenance fee). However, in recent years we have had an increase in users who use our equipment and space but bring in their own supplies/reagents, making it difficult to fully recoup maintenance fees. We have also acquired more equipment, which has been a significant benefit to CISAB members but has increased our general operation costs. This billing structure will be proposed to the CISAB community later in the Fall semester and will be open for comments and suggestions. We anticipate that the new fee structure will become effective on July 1, 2014.



A495 SUMMER INTERNSHIPS

Each year, students from Indiana University interested in animal behavior can elect to participate in an internship for academic credit. Summer 2013 saw eight students participate in the A495 internship program. Coming from various academic disciplines, students worked at locations throughout Indiana, but the common theme among the interns was a deep interest in animals and animal behavior.

Interested in the A495 Internship Program?

For more information on the program, applying, and internship sites, visit us online at:

<http://www.indiana.edu/~animal/academics/internships.php>



About her internship at the Potawatomi Zoo, **Kim Bell**, who is earning a BS in Biology with an Animal Behavior Certificate, wrote:

On a daily basis I work with the keepers directly to get exhibits ready for the day – we check that the enclosures are secure, safe and clean. Once prepared, we feed out the appropriate diets and allow the animals to have access to the exhibit. Once on exhibit we clean the inside enclosures and leave some form of enrichment. I work with the keepers to come up with new enrichment and to aid in the training of the animals. I work with different keepers in different areas every day so that I am able to have experience in all areas throughout the zoo.

As my project I am working with North American River Otters to train them a new behavior that will be beneficial to the primary keeper for medical examinations. The behavior I am currently working on is “turn.” The otters are doing a great job and I have learned a lot in regards to otter behavior.



John Idling, completing a major in East Asian Languages and Cultures and an Animal Behavior Certificate (Spring 2014) told us about his internship:

I am interning at WildCare Inc, where I assist in rehabbing injured and orphaned wildlife in hopes of returning them to the wilderness. Daily responsibilities include feeding, cleaning and medicating animals. My actual project has been researching the aggressive behavior of opossums, and if the factors of age and group size affect the aggressive behaviors displayed in the opossums.

(A495 Internships, continued.)

Biology major **Crystal Matt** explained:

For my animal behavior internship, I volunteered at Wildcare, Inc. I worked there at least four days a week (often more) for over 20hrs/week. One day a week I had a shift cleaning/feeding/socializing all of our education ambassadors at the center, which included a wide variety of both native and domestic/exotic animals. On another day, I had a shift caring for all of the animals in rehabilitation at the center. This includes all sorts of native Indiana wildlife, from the common ones like songbirds and squirrels, to the rarer ones like herons, bald eagles, and beavers. This involved mostly cleaning, feeding, and preparing food. Though that may not sound interesting to some, the more unpleasant tasks are more than balanced out by the more enjoyable ones, like hand-feeding baby birds.

The best part of my internship, however, was training. I am the head trainer for the Wood Duck ambassador, and an assistant trainer for the Red-Tailed Hawk ambassador. Being able to train these incredible birds was the best part of my week. I train the Wood Duck four days every week, and the Red-Tailed Hawk three. I've learned so much about training animals (and animal behavior in general) from working with these birds, and I feel like I will be able to apply this knowledge to my future career (ideally as a zoo veterinarian) as well as to my own pets at home.

For my project itself, I wrote up a program for the Wood Duck that we can use when we take her on education outreach programs. When an animal is nonreleasable, we are occasionally able to keep them as ambassadors for their species, train them, and bring them to classrooms/boy scout troops/parties/etc to teach people about the animals and about living with wildlife. I did some research and came up with a script of what we would say and teach people about River, our Wood Duck ambassador.

For the Wood Duck (which are actually far more intelligent than most people think), we trained her to get in and out of a travel crate, get in and out of a pool, touch a ball when prompted, and ring a bell (either blue or green, she had to distinguish based on the command) when we told her to.

Potawatomi Zoo

~South Bend, Indiana

As Indiana's oldest zoo, the Potawatomi Zoo is little known, but still a significant hub for animal enthusiasts in the state. Home to over 400 animals, the 23 acre zoo sees more than 200,000 guests each year. Because of its relatively small size compared to zoos in larger cities, CISAB encourages students interested in zookeeping and our A495 internship program to contact the Potawatomi Zoo as a potential internship site!



Logo and information from:
<https://potawatomizoo.org/>

The Summer 2013 animal behavior A495 interns were:

Kim Bell

– Potawatomi Zoo, South Bend, Indiana

Josie Mundell

– Mad4MyDog, Ellettsville, Indiana

Abby McClain

– Big Star Stables, Bloomington, Indiana

Betsy Winters, John Idling, Tasha Zobel, Crystal Matt, Michelle Gaona

– WildCare Inc., Bloomington, Indiana



INTERNSHIP SITE SPOTLIGHT

FEATURING: MAD 4 MY DOG TRAINING, LLC.



While work at zoos, museums, and academia is often mentioned to prospective animal behavior students, becoming a professional dog trainer is a lesser-known career path for those wanting to work in a hands-on environment with animals in their communities. For IU – and CISAB – graduate Madalyn Moorman, a love of dogs and animal behavior led her to establish Mad 4 My Dog Training LLC.

Founded on the principle that proper communication between dogs and people is the cornerstone of effective training, Mad 4 My Dog Training is excited to support the

CISAB A495 internship program by being a potential internship site for interested students. Because the professional pet dog training industry is multifaceted, an internship at Mad 4 My Dog would be an excellent way for a student to gain valuable experience and knowledge in the field. Madalyn's aim is to immerse interns in all aspects of not only dog training, but also of running a small business. The diversity of tasks that interns perform at Mad 4 My Dog include: assisting clients, sales tasks, administrative duties, business and building upkeep, and assisting trainers during classes.



In short: participating in an internship at Mad 4 My Dog, LLC. is a great opportunity to apply your animal behavior knowledge, while learning about the exciting career opportunities available in the professional dog training industry!

Interested in being an intern at Mad 4 My Dog Training, LLC?

Follow the steps outlined at:

<http://www.indiana.edu/~animal/academics/internships.php>

Questions about internships at Mad 4 My Dog should be directed to Madalyn Moorman:

Email: mad4mydog@gmail.com

Phone: 812-876-8134

Website: mad4mydog.com



SUMMER 2013 REU PROGRAM

Summer 2013 brought ten talented interns to Indiana University for this year's Research Experience for Undergraduates program in Animal Behavior. Interns came from various universities around the country to advance their understanding of animal behavior and gain valuable research experience in animal behavior-related labs around campus. Each intern worked closely with a mentor who helped them through the research process for ten intense weeks. On the last day of the program, each intern presented their research to fellow interns, mentors, and others interested in animal behavior. Apart from research, the REU interns attended seminars and GRE prep classes. But the program was not all academic; much needed breaks were taken to travel as a group to the Indianapolis Zoo, the Exotic Feline Rescue Center, and Lake Monroe!



Research Topics & Experiences



- Dominique A. Jackson, Syracuse University

"The Effects of Host-Pathogen Coevolution on the Evolution of Mating Propensity of Androdioecious Host."

Mentors: Samuel Slowinski, Ray Parrish II, Levi Morran, Curtis Lively, Department of Biology

- Kelly M. Moench, Carthage College

"The Effects of Acute Stress and Daz Conditioning on Spine Density in Rat Medial Prefrontal Cortex"

Mentor: Cara L. Wellman, Dept. of Psychological & Brain Sciences

"My experience in the CISAB REU program this summer was more than I ever could have expected or asked for. The program offered a great balance of being immersed in research while also allowing time to explore Bloomington and build friendships with the other interns. Before this summer I was not very familiar with animal behavior research outside of the field of neuroscience. By hearing lab updates from my fellow interns and faculty talks at our weekly meetings at CISAB I was able to learn about the vast expanse of research being done in animal behavior.

The most influential part of the summer for me was the lab dynamic that I was a part of. I had the pleasure of working with Dr. Wellman who was a fantastic mentor. She took time out to teach me the techniques I used during the summer and was very available when I had questions, which I really appreciated. Dr. Wellman's lab technician, Sarah, was also a great help to me throughout the summer. Not only did she answer the many questions I had related to my project, but she also gave me a lot of good advice about applying to graduate school and going through the interview process, as she had just finished this process herself. I now have a much better picture of the type of lab that I would like to work in during graduate school as well as the confidence needed to be successful."

-Kelly M. Moench

○ Matthew L. Mendoza, University of North Texas

"Use of a Novel Whole-brain In Vitro Preparation to Study Electric Communication in *Apteronotus leptorhynchus*."

Mentor: G. Troy Smith, Department of Biology

○ Ashlyn C. Mannery, Washington & Jefferson College

"Evidence for Source Memory in a Rat Model (*Rattus norvegicus*)"

Mentor: Jonathon D. Crystal, Dept. of Psychological & Brain Sciences

"As a rising senior at a small college in Pennsylvania, I knew I wanted to participate in research, and because my home institution was not well equipped for it, I had to seek a summer internship that allowed me to gain experience in a lab. I can say with confidence that deciding to apply to the REU program at Indiana University-Bloomington was the best decision. I had prior experience working with animals, and knew that animal behavior was something I was interested in and could see myself doing for the summer. Almost instantly, I felt like I belonged in the CISAB community. The PIs, program coordinators, and other REU interns made the experience more than I could have hoped, and welcomed me with open arms. I not only gained the research experience, but I gained advice on applying to graduate school, options of what to do post-graduate school, and friendships that will last.

To me, the relationships were the most essential part of the program. My labmates were always available when I had questions or concerns and were there to answer questions about the graduate school process. My PI allowed me to take control of the project and truly get the hands on experience I was looking for. The program coordinators took the time to get to know me as an individual and made sure that I had the best experience possible, not only in the lab but during my free time. The trips to the Indianapolis Zoo and Lake Monroe made the program much more enjoyable. It was the time to spend quality time with the other interns and take a break from the research. Finally, the relationships I gained with the interns made this experience one to remember. We all got so close and found time to go to dinners, bowling, laser tag and other fun activities that Bloomington had to offer. I loved getting to know everyone, and would recommend this program to anyone interested in animal behavior and a life changing research experience."



-Ashlyn C. Mannery

Alexis R. Alcaraz, Loyola Marymount University

○ "Regulating CB1 Receptor Internalization Using Allosteric Modulators."

Mentors: James Wager-Miller, Lindsay Knight, Kenneth Mackie,
Dept. of Psychological & Brain Sciences



Nicolas J. Berry, University of California, Davis

○ "Intruder Out of the Blue: The Significance of Blue Belly Patch Size in Agonistic Encounters of the Eastern Fence Lizards (*Sceloporus undulatus*)."

Mentors: Alison G. Ossip-Klein, Emília P. Martins

"After considering all possible options for summer research, I chose the REU program at Indiana University because my research interests more closely matched Dr. Emília Martins' than any other program I applied, and I believed that I would have well-rounded educational and professional experiences here. CISAB definitely proved me right about that belief! CISAB arranged for us to visit the Exotic Feline Rescue Center and the Indianapolis Zoo, which were both very exciting and stimulating, and they put us through a GRE prep course so that we could take the test with confidence!

My summer at IU could be quickly recounted as eye-opening, edifying, inspirational, and highly enjoyable. Indeed, this summer I have made great gains in experience with scientific research and professional development. My mentor, Alison Ossip-Klein, was extremely helpful with designing a research project, managing the details of that project, and organizing my thoughts for a post-project oral presentation. I thoroughly enjoyed going out into the field and catching lizards with her, but I also enjoyed the time we spent in the lab analyzing data and solidifying our project design.

The other REU interns were impressively intelligent and also a lot of fun to get to know and hang out with. If we weren't working on research or practicing the GRE, we were likely hanging out or making plans to hang out. It seems needless to say from me to them that I had an amazing time with them, and the day we said goodbye was not the last time I have communicated with them.

In conclusion, I highly recommend this program to anyone who is considering graduate school or just wants to learn to be a better researcher. Thank you for everything, CISAB!"



-Nicolas J. Berry

○ Karen M. Ocasio, Universidad del Turbado

"Are Two Heads Better than One?: Differences Between Individual and Group Responses to Water Currents."

Mentors: Delia S. Shelton, Emília P. Martins, Department of Biology

○ Michael D. Rivera, The University of Arizona

"Offspring Modulate Maternal Behavior: Implications for Phenotype Development in Knockout Mice Strains."

Mentors: Paul Meyer, Jeffrey Alberts, Dept. of Psychological & Brain Sciences

"My purpose for coming to the CISAB REU program was to broaden my understanding of animal behavior. Through discussion with my fellow interns, presentations, meetings with facility members, and my own summer research, I was exposed to research being done on all levels: from neural and molecular mechanisms to the organism. Having this glimpse into the cutting edge of many of these field will help my in the future when I begin to look at graduate programs.

In addition to the research opportunities, the program and Bloomington offered great ways to take a break from the research. While the program was intense at times, these breaks provided the perfect opportunity to connect with the REU group and enjoy all that Bloomington has to offer. I would recommend this program to anyone looking to spend their summer doing awesome research and having a blast doing it! "

-Michael D. Rivera

○ Chima Amadi, Cornell University

"The Influence of Photoperiod on Siberian Hamster (*P. sungorus*)"

Mentors: Gregory Demas, Laura M. Hurley, Nikki Rendon,
Sarah Keesom, Department of Biology



○ Alexandra O. Myhal, University of Minnesota

"Is the Production of Anti-competitor Toxins by Bacteria Costly to their Nematode Symbionts?"

Mentor: Farrah Bashey-Visser, Department of Biology

"I originally was not planning on coming to IU for the CISAB REU internship but I am so glad I did. The best part of the program was meeting new friends and studying research that I previously knew nothing about. My lab mates in the Bashey lab were amazing! We worked hard in lab while having a lot of fun. I enjoyed exploring Bloomington and hanging out with the other brilliant interns from all over the United States. During my internship I was able to work closely with my mentor on a daily basis and this made my research experience better.

Now that I have left IU I miss my fellow interns and the research. I would recommend the CISAB REU program to any student looking for a summer filled with hard work and fun!"

-Alexandra O. Myhal



INTERESTED IN LEARNING MORE ABOUT THE CISAB REU PROGRAM?

VISIT US ONLINE AT: [HTTP://WWW.INDIANA.EDU/~ANIMAL/REU/](http://www.indiana.edu/~animal/reu/)



Thank you to all of our REU interns for the fantastic summer!

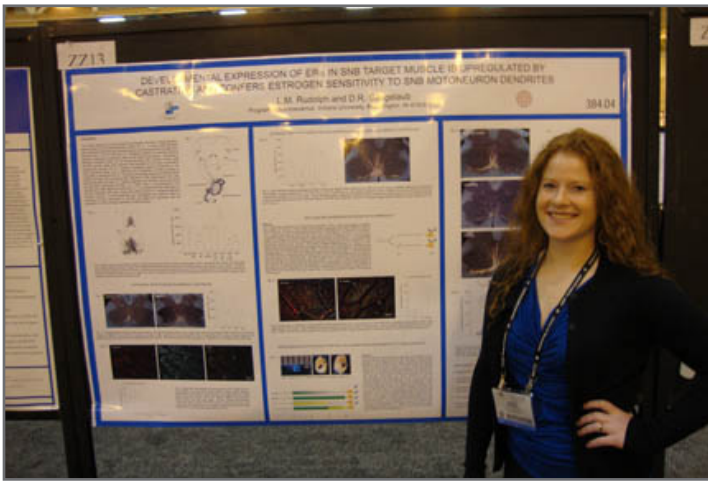
CISAB TRAVEL AWARDEES

IN THEIR OWN WORDS

LAUREN RUDOLPH

Poster Title: Developmental expression of ER α in SNB target muscle is upregulated by castration and confers estrogen-sensitivity to SNB motoneuron dendrites (Co-Author: D. Sengelaub)

Conference: Neuroscience 2012 in New Orleans, LA



Lauren with her award-winning poster at Neuroscience 2012.

Research Summary: The work I presented at Neuroscience 2012 details a new finding in the story of how gonadal hormones influence the dendritic development of SNB motor neurons. The growth of SNB dendrites in response to estrogen occurs during a critical period when estrogen receptor alpha (ER α) expression in the SNB target muscle is high. Outside of the early postnatal period, ER α levels decrease, and SNB dendrites fail to grow in response to estrogen. The data I presented demonstrate that gonadal hormones are responsible for this developmental down-regulation of ER α , as removal of gonadal

hormones prevents the typical decrease in ER α expression in the SNB target muscle. When ER α is not downregulated in the muscle (after castration), SNB motor neurons retain their estrogen sensitivity and grow in response to estrogen treatment, further suggesting that ER α expression in the muscle is the mechanism for estrogen-dependent SNB dendrite growth. This work demonstrates that the timing of sensitive periods during sexual differentiation can be regulated by gonadal hormones.

Meeting Highlights: Presenting my poster was the highlight of the meeting for me. It is exciting to share my research with other interested scientists, and explaining my results helps me come up with future studies and discussion points for publications. My poster featured images of labeled SNB motor neurons and immunofluorescent ER α staining in muscle, and was selected for an image award by 89 North Chroma, a microscopy company. Outside the meeting, I enjoyed the local cuisine, indulging in plates of fresh cajun-style seafood and a few signature New Orleans cocktails. Thanks to CISAB, I had a productive and fun conference and was proud to represent my lab, Indiana University, and CISAB.

CAROLINE DEIMEL

Poster Title: The banana effect: Are past and/or present lifestyles associated with ovarian hormone differences in women from the two Germanys? (Co-Authors: V. Vitzthum, F. Schaebs and T. Deschner)

Conference: 2012 Annual Meeting of the Human Biology Association in Portland, OR

Research Summary: High ovarian hormone levels in industrialized populations are associated with elevated risks for several diseases. The determinants of these high hormone levels are still unclear, but energy-rich diets have been suggested as a major factor. The division of Germany during the cold war provides a “natural experiment” for the testing hypotheses regarding how variation in environmental factors during development and in adulthood affects ovarian hormone levels. When the Berlin Wall fell in 1989, West Germans welcomed East Germans with bananas, a rare and high-priced food in the former East. This fruit is still a symbol of the well-documented and long-term differences in economies and lifestyles of the two Germanys. We compared urinary progesterone-metabolite (PdG) levels between healthy German women born and raised in the former East- and West-Germany. Contrary to an expectation that the wealthier West Germans would have higher ovarian hormone levels, we found that East-German had significantly higher mean peak PdG levels in ovulatory cycles. While further research is needed to determine the source(s) of the hormonal differences between East and West Germans, it can no longer be assumed that energy intake/expenditure is the principal factor generating inter- and intra-population variation in ovarian hormone levels.

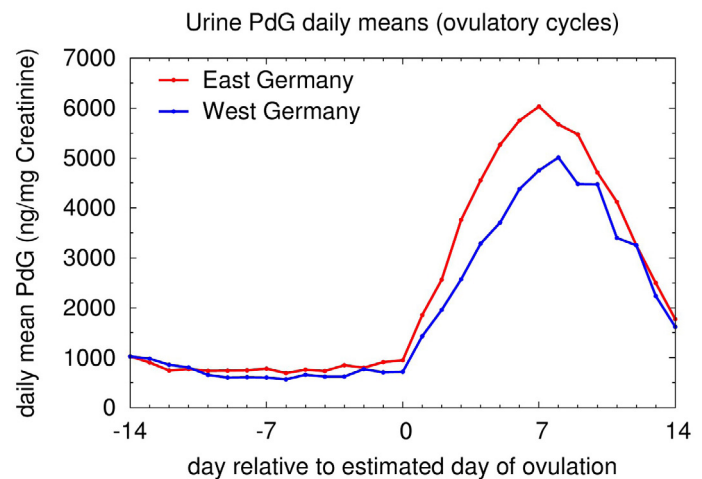


Figure from Caroline's poster, demonstrating the difference in urinary PdG levels between East and West German women across their menstrual cycle.

Meeting Highlights: Every year, The Human Biology Association (HBA), the American Association of Physical Anthropology (AAPA) and the Paleopathology Association (PPA) hold their annual meetings at the same venue. This gives scientists from a range of fields the opportunity to broaden their view on human biology and evolution, as well as presenters the chance to present their work to a greater audience. The joint AAPA/HBA symposium “Not by Bread Alone: Non-caloric Determinants of Life History Strategies”, co-organized by CISAB member and IU professor Virginia Vitzthum, was one of my personal highlights. It featured interesting talks and speakers not just from a human perspective, but also from non-human primates. As a trained primatologist, this comparative perspective made the symposium even more interesting.

NIKKI RENDON

Poster Title: Male, but not female, Siberian hamster (*Phodopus sungorus*) volatile compounds vary seasonally in relation to aggression and changes in reproductive status (Co-authors: H. Soini, M. Scotti, M. Novotny and G. Demas)

Conference: 2013 Society for Behavioral Neuroendocrinology Annual Meeting in Atlanta, GA

Research Summary: I presented a collaborative project that mapped pheromonal communication in male and female Siberian hamsters onto known seasonal variation in aggression and physiology. Using an in situ bar sampling method developed by the Novotny lab at IU, we were able to show pheromonal profile changes during an aggressive interaction by identifying and quantifying individual pheromones. We found that both males and females have sex-specific pheromones and diverse pheromonal profiles spanning seven chemical classes. These data suggest that pheromones may be an important mode of communication in this species. The sexes differed in how pheromones mapped onto season and context. Male pheromonal profiles differed across seasons, were different in response to an aggressive interaction and were associated with testosterone. By applying this quantitative chemical analysis, we have identified specific chemical classes that may be important for signaling during aggression. This work has provided an exciting avenue for future collaborative studies to examine the role that specific pheromones and pheromone classes have on modifying the intensity of aggression and to determine the role of steroid hormones in metabolizing those specific pheromones.

Meeting Highlights: What makes conferences so enjoyable to me is the reminder of the humanness of science. Through talks and one-on-one conversations you get to know the personality of scientists, and both share and get excellent feedback on your work from experts within and outside of your research niche. This humanness really comes out during talks given by award recipients: these talks fulfill the science intrigue and are motivating at any stage of your career. My favorite symposium was the "Neuroendocrine Mechanisms of Vertebrate Social Diversity" symposium, which true to its name, highlighted paradigm shifting work at multiple levels of analysis on the diverse array of mechanisms spanning a range of vertebrates. I also enjoyed the networking opportunities, including "Meet the Professor", "Speed Mentoring", and a "Teaching Neuroendocrinology" workshop. The conference was memorable, and I was truly shown some great southern hospitality.

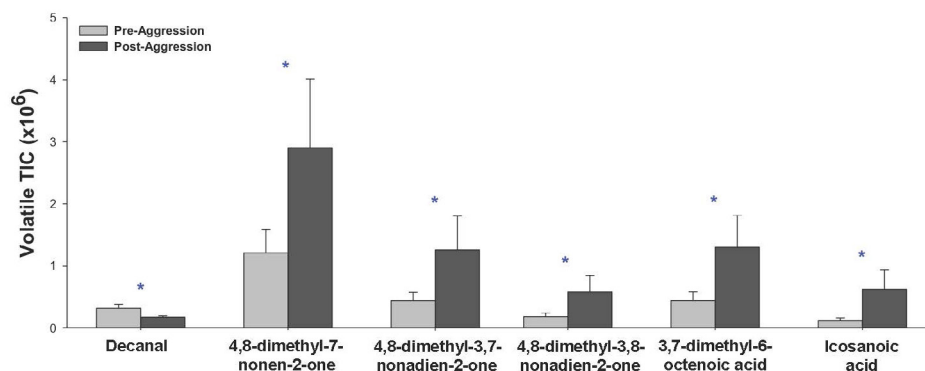


Figure from Nikki's poster, demonstrating aggression-induced changes in pheromones in highly aggressive, non-breeding male Siberian hamsters.

MIKUS ABOLINS-ABOLS

Poster Title: Poster Title: Divergence in interaction between HPA and HPG axes following colonization of urban environment (Co-author: E. Ketterson)

Conference: 2013 Society for Integrative and Comparative Biology Annual Meeting in San Francisco, CA

Research Summary: I am interested in how life history trade-offs and the underlying mechanisms change as animals move to urban environments. In this conference I presented my research on the mechanisms underlying the trade-off between stress response and reproduction. Specifically, I asked how the interaction between hypothalamic-pituitary-adrenal (HPA; mediates stress response) and hypothalamic-pituitary-gonadal (HPG; mediates reproduction) axes in wild juncos (small sparrows) changes as birds move from a pristine mountain to an urban habitat. I showed that in the mountains, HPA axis negatively affects the activity of HPA axis, but this interaction is not present in the urban population. These findings suggest that the mechanisms that underlay the trade-off between stress and reproduction have changed as populations invade urban habitats, facilitating a change in the allocation of resources between these life history functions.

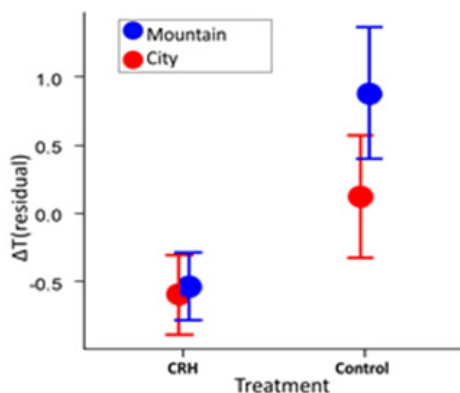


Figure from Mikus' poster, showing the population-level interaction between HPA and HPG axes.

Meeting Highlights: This was the most productive meeting I have attended. My poster was extremely well attended, and I talked to countless renowned scientists extensively about my research and its place in the broader context of life history theory, evolution, and ecology. SICB is one of the most diverse societies, with its members studying a broad range of topics. This meeting therefore provided a very rich assortment of presentations, providing both opportunities to hear talks in my area of expertise as well as learn interesting things about completely novel issues and organisms.

Students wanting to apply for a CISAB travel award should visit:

http://www.indiana.edu/~animal/funding/travel_app.php





NEW CTRD TRAINEE



CISAB WELCOMES TIERNEY LORENZ



Dr. Tierney Lorenz is the new CTRD postdoctoral research fellow based at the Kinsey Institute. Her research focuses on sex behavior, mood disorders and immune function.

Tierney received a B.S. in Biopsychology from Duke University and a Ph.D. in Clinical Psychology from the University of Texas at Austin. Her doctoral work, conducted in the laboratory of Dr. Cindy Meston, focused on the psychophysiology of human sexual response. Using a multidisciplinary approach, she examined biological, social, psychological and psychopharmacological factors influencing sex behavior of women with mood disorders. She also studied sexual side effects of antidepressant use and the relationship between sympathetic nervous system activity and the female sex response.

After completion of her doctoral work, Tierney received a NRSA Fellowship to work in the laboratory of Dr. Sari van Anders at the University of Michigan, where she investigated immune markers such as salivary IgA and sex behavior in depressed individuals.

Tierney's postdoctoral work will compare immune function profiles and menstrual cycle traits in sexually active versus abstinent healthy women. She hopes this work can ultimately be expanded to include similar investigations of depressed women in the future, which holds obvious immune and sexual health implications. We are happy to welcome Tierney to the CISAB community and look forward to following her work.

New CISAB Staff



Robert Conrick is CISAB's new web and graphic designer. He has many years of experience in web development and is excited to have joined the CISAB team. Robert is currently pursuing a BS in Geography with a concentration in Atmospheric Science and minors in Computer Science, Mathematics, and German from IUB.



Center for the Integrative Study of Animal Behavior

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