



DEPARTMENT OF BEHAVIORAL NEUROSCIENCE



SUMMER 2014 NEWSLETTER

Many thanks to all who contributed to this newsletter. Please send feedback to Kris Thomason: thomason@ohsu.edu.

GRADUATES



Krystina Sorwell successfully defended her PhD dissertation, "*Cognition and steroidogenesis in the Rhesus Macaque*" on November 15, 2013. Krystina continues to work with Dr. Urbanski and will soon start faculty positions at the University of Portland and Linfield College.



Marcia Ramaker successfully defended her PhD dissertation, "*The effect of a neuroactive steroid analog and an extrasynaptic GABAA receptor agonist on ethanol self-administration in mice*" on February 24, 2014. Marcia started a postdoctoral fellowship at the University of Chicago in Dr. Stephanie Dulawa's lab, qualified for the 2015 Boston Marathon in the Portland Marathon, and got engaged to Cassie Gamez.



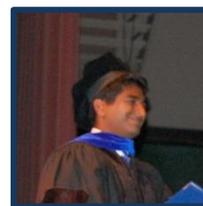
Travis Moschak successfully defended his PhD dissertation, "*The role of ethanol and neuroanatomical regions in sensitivity to delay and sensitivity to magnitude of reward*" on March 19, 2014. Travis accepted a postdoctoral fellowship at the University of North Carolina –

Chapel Hill.

GRADUATES (CONTINUED)



Noah Gubner successfully defended his PhD dissertation, "*The effects of nicotine and varenicline on ethanol reward and neuroadaptation*" on May 29, 2014. Noah started a postdoctoral fellowship at the University of California San Francisco Center for Tobacco Control Research & Education (CTCRE). He plans to work with human clinical populations to study epidemiological, genetic, and pharmacological factors that contribute to the co-abuse of tobacco and alcohol.



Antony Abraham successfully defended his PhD dissertation, "*The role of dopamine D1/5 receptors in fear and reward*" on June 2, 2014. Antony started a postdoctoral fellowship at the University of Washington in Dr. Charlie Chavkin's lab.



Yosef Berlow successfully defended his PhD dissertation, "*MRI assessment of brain ion content in methamphetamine users*" on July 30, 2014. Yossi will continue his MD studies at OHSU.

RECRUITMENT

Many thanks to the members of the Admissions/Advisory Committee!

Four students matriculated in Summer/Fall 2013. They all completed rotations and decided on the following mentors: Rebecca Hood (BS, Biochemistry, Georgia Institute of Technology, 2010) – Charles Meshul, Scott Jones (BS, Psychology and Biology, Kansas State U, 2012) – Bonnie Nagel, Julian “Bene” Ramirez (BA, Psychology, Bates College, 2010) – Damien Fair, and Amy Williams (BS, Biopsychology, UC Santa Barbara, 2012) – Matt Lattal

Four students matriculated/will matriculate in Summer/Fall 2014. They are: Brittany Alperin (BA, Psychology & Neuroscience, Hampshire College, 2011), Eileen Torres (BS, Neuroscience, UCLA, 2012), Andre Walcott (AB, Neuroscience, Bowdoin College, 2012), and Alfredo Zuniga (MS, Integrative Physiology, U of Colorado Boulder, 2014).

QUALIFYING EXAM

In our Summer 2013 newsletter we reported that graduate students Gabriela Alarcón, Kevin Murphy, and Monique Smith completed their qualifying exam and were waiting for results. We are pleased to report that all three successfully completed the exam and were advanced to candidacy. Kevin later withdrew from the program to pursue a PhD in Chemistry at Portland State University.

Daicia Allen, Brett Dufour, Brian Mills, Nicholas Miner, Christie Pizzimenti, and Vanessa Wakeling are scheduled to take the examination in September 2014. We wish them the best of luck!

NEW STUDENT ORIENTATION

This year's new student orientation session will be held at the Janowsky/Crabbe residence on Friday, September 19, 2014. Faculty and students are invited to attend a *Welcome to OHSU* BBQ in the afternoon.

BEHAVIORAL NEUROSCIENCE STUDENT AWARDS 2013/14 ACADEMIC YEAR

Amanda Barkley-Levenson (5th Year) Accepted to attend Gordon Research Conference, IBANGS Travel Award, Individual NRSA, and accepted to attend NIH National Graduate Student Research Conference.

Yosef Berlow (2014 Ph.D. Graduate) Educational stipend to attend ISMRM (unable to attend meeting), Individual NRSA, and OHSU Radiology Retreat Presentation Award.

Alexandre Colville (4th Year) RSA Student Merit Travel Award.

Brett Dufour (2nd Year) Oregon Society for Neuroscience Best Graduate Student Oral Presentation.

Emily Eastwood (5th Year) IBANGS Travel Award.

John Harkness (5th Year) Ashworth Graduate Training Award, IBANGS Travel Award, Invited Lecturer Western Washington University, Cold Spring Harbor Lab Scholarship, and Graduate Student Organization Travel Grant.

Leah Hitchcock (4th Year) OHSU Research Week Poster Printing Scholarship.

Rebecca Hood (1st Year) OHSU Research Week Presentation Award.

Scott Jones (1st Year) ARCS Foundation Scholarship.

Joshua Kaplan (5th Year) Behavioral Neuroscience Department Graduate School Paper of the Year, OHSU School of Medicine Paper of the Year, and Individual NRSA.

Lauren Kruse (4th Year) Ashworth Graduate Training Award, Individual NRSA, and RSA Student Merit Travel Award.

Megan McClintick (4th Year) American Psychological Association Dissertation Research Award, APAGS Convention Travel Award (declined), Ashworth Graduate Training Award, Collaborative Perspectives on Addiction Best Poster Award, HealthEmotions Research Institute Wisconsin Symposium on Emotion Travel Award, and RSA Student Merit Travel Award.

**BEHAVIORAL NEUROSCIENCE STUDENT AWARDS
2013/14 ACADEMIC YEAR (CONTINUED)**

Melanie Pina (4th Year) IUP Psychology Department Commencement Ceremony Speaker, NIAAA Training Grant Directors Meeting Representative, and Vertex Scholar Award.

Bene Ramirez (1st Year) Promising Scholars Award OHSU Center for Diversity and Inclusion.

Monique Smith (3rd Year) Excellence in Pain Graduate Student Award, Individual NRSA, OBI Neurobiology of Disease Fellowship, PARC Outreach Graduate Student Travel Award, RSA Student Merit Travel Award.

Vanessa Wakeling (2nd Year) OHSU Research Week Presentation Award and RSA Student Merit Travel Award

Amy Williams (1st Year) OHSU Research Week Poster Award.

Morgan Wirthlin (4th Year) NW Noggin Travel Award

STUDENT PUBLICATIONS

Abraham AD, Neve KA, Lattal KM. Dopamine and extinction: a convergence of theory with fear and reward circuitry. *Neurobiol Learn Mem.* 2014;108:65-7. PMID: PMC3927738. [Available on 2015/2/1]

Anacker AM, Ahern TH, Hostetler CM, **Dufour BD**, Smith ML, Cocking DL, et al. Drinking alcohol has sex-dependent effects on pair bond formation in prairie voles. *Proc Natl Acad Sci U S A.* 2014;111(16):6052-7. PubMed Central PMCID: PMC4000860. [Available on 2014/10/22]

Anacker AM, **Smith ML**, Ryabinin AE. Establishment of stable dominance interactions in prairie vole peers: Relationships with alcohol drinking and activation of the paraventricular nucleus of the hypothalamus. *Soc Neurosci.* 2014;9(5):484-94. PubMed PMID: 24963825.

Barkley-Levenson AM, Crabbe JC. High drinking in the dark mice: a genetic model of drinking to intoxication. *Alcohol.* 2014;48(3):217-23. PubMed Central PMCID: PMC4016107. [Available on 2015/5/1]

STUDENT PUBLICATIONS (CONTINUED)

Crabbe JC, Spence SE, Huang LC, Cameron AJ, Schlumbohm JP, **Barkley-Levenson AM**, et al. Ethanol drinking in withdrawal seizure-prone and -resistant selected mouse lines. *Alcohol.* 2013;47(5):381-9. PubMed Central PMCID: PMC3770535. [Available on 2014/8/1]

Cservenka A, Casimo K, Fair DA, Nagel BJ. Resting state functional connectivity of the nucleus accumbens in youth with a family history of alcoholism. *Psychiatry Res.* 2014;221(3):210-9. PubMed Central PMCID: PMC3943736. [Available on 2015/3/30]

Cservenka A, Fair DA, Nagel BJ. Emotional processing and brain activity in youth at high risk for alcoholism. *Alcohol Clin Exp Res.* 2014;38(7):1912-23. PubMed PMID: 24890898.

Dayger CA, Rosenberg JS, Winkler C, Foster S, Witkowski E, **Benice TS**, et al. Paradoxical effects of apolipoprotein E on cognitive function and clinical progression in mice with experimental autoimmune encephalomyelitis. *Pharmacol Biochem Behav.* 2013;103(4):860-8. PubMed PMID: 22671690.

Dobbs LK, Cunningham CL. The role of the laterodorsal tegmental nucleus in methamphetamine conditioned place preference and locomotor activity. *Behav Brain Res.* 2014;265:198-202. PubMed Central PMCID: PMC4020626. [Available on 2015/5/15]

Dufour BD, Smith CA, Clark RL, Walker TR, McBride JL. Intrajugular vein delivery of AAV9-RNAi prevents neuropathological changes and weight loss in Huntington's disease mice. *Mol Ther.* 2014;22(4):797-810. PubMed Central PMCID: PMC3982495. [Available on 2015/4/1].

Eastwood EC, **Barkley-Levenson AM**, Phillips TJ. Methamphetamine drinking microstructure in mice bred to drink high or low amounts of methamphetamine. *Behav Brain Res.* 2014;272C:111-20. PubMed PMID: 24978098.

Eastwood EC, Phillips TJ. Morphine intake and the effects of naltrexone and buprenorphine on the acquisition of methamphetamine intake. *Genes Brain Behav.* 2014;13(2):226-35. PubMed Central PMCID: PMC3976242. [Available on 2015/2/1]

STUDENT PUBLICATIONS (CONTINUED)

Eastwood EC, Phillips TJ. Opioid sensitivity in mice selectively bred to consume or not consume methamphetamine. *Addict Biol.* 2014;19(3):370-9. PubMed Central PMCID: PMC3796126. [Available on 2015/5/1].

Fonareva I, Oken BS. Physiological and functional consequences of caregiving for relatives with dementia. *Int Psychogeriatr.* 2014;26(5):725-47. PubMed Central PMCID: PMC3975665. [Available on 2015/5/1]

Fritz BM, **Cordero KA**, **Barkley-Levenson AM**, Metten P, Crabbe JC, Boehm SL. Genetic relationship between predisposition for binge alcohol consumption and blunted sensitivity to adverse effects of alcohol in mice. *Alcohol Clin Exp Res.* 2014;38(5):1284-92. PubMed Central PMCID: PMC3999212. [Available on 2015/5/1]

Herting MM, Colby JB, Sowell ER, Nagel BJ. White matter connectivity and aerobic fitness in male adolescents. *Dev Cogn Neurosci.* 2014;7:65-75. PubMed Central PMCID: PMC4020709. [Available on 2015/1/1]

Hitchcock LN, Cunningham CL, Lattal KM. Cue configuration effects in acquisition and extinction of a cocaine-induced place preference. *Behav Neurosci.* 2014;128(2):217-27. PubMed PMID: 24773441.

Holstein SE, Li N, Eshleman AJ, Phillips TJ. GABAB receptor activation attenuates the stimulant but not mesolimbic dopamine response to ethanol in FAST mice. *Behav Brain Res.* 2013;237:49-58. PubMed Central PMCID: [PMC3500454](#).

Joca L, Zuloaga DG, Raber J, **Siegel JA**. Long-term effects of early adolescent methamphetamine exposure on depression-like behavior and the hypothalamic vasopressin system in mice. *Dev Neurosci.* 2014;36:108-18. PubMed PMID: 24686407.

Kaplan JS, Mohr C, Rossi DJ. Opposite actions of alcohol on tonic GABA(A) receptor currents mediated by nNOS and PKC activity. *Nat Neurosci.* 2013;16(12):1783-93. PubMed Central PMCID: [PMC4022289](#).

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Milner LC, Shirley RL, Kozell LB, Walter NA, **Kruse LC**, Komiyama NH, et al. Novel MPDZ/MUPP1 transgenic and knockdown models confirm Mpdz's role in ethanol withdrawal and support its role in voluntary ethanol consumption. *Addict Biol.* 2013. PubMed Central PMCID: PMC3997615. [Available on 2015/4/10]

Miranda-Dominguez O, **Mills BD**, Grayson D, Woodall A, Grant KA, Kroenke CD, et al. Bridging the gap between the human and macaque connectome: a quantitative comparison of global interspecies structure-function relationships and network topology. *J Neurosci.* 2014;34(16):5552-63. PubMed Central PMCID: PMC3988411. [Available on 2014/10/16]

Mohr C, Kolotushkina O, **Kaplan JS**, Welsh J, Daunais JB, Grant KA, et al. Primate cerebellar granule cells exhibit a tonic GABAAR conductance that is not affected by alcohol: a possible cellular substrate of the low level of response phenotype. *Front Neural Circuits.* 2013;7:189. PubMed Central PMCID: [PMC3840389](#).

Moschak TM, Mitchell SH. Partial inactivation of nucleus accumbens core decreases delay discounting in rats without affecting sensitivity to delay or magnitude. *Behav Brain Res.* 2014;268:159-68. PubMed Central PMCID: PMC4084517. [Available on 2015/7/15]

Pina MM, Cunningham CL. Effects of dopamine receptor antagonists on the acquisition of ethanol-induced conditioned place preference in mice. *Psychopharmacology (Berl).* 2014;231(3):459-68. PubMed Central PMCID: PMC4007149. [Available on 2015/2/1]

Pina MM, Cunningham CL. Effects of the novel cannabinoid CB1 receptor antagonist PF 514273 on the acquisition and expression of ethanol conditioned place preference. *Alcohol.* 2014;48(5):427-31. PubMed PMID: 24954022.

STUDENT PUBLICATIONS (CONTINUED)

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Snelling C, Tanchuck-Nipper MA, Ford MM, Jensen JP, Cozzoli DK, **Ramaker MJ**, et al. Quantification of ten neuroactive steroids in plasma in Withdrawal Seizure-Prone and -Resistant mice during chronic ethanol withdrawal. *Psychopharmacology (Berl)*. 2014. PubMed PMID: 24871700.

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Tipps ME, **Moschak TM**, Mitchell SH. Behavioral disinhibition in mice bred for high drinking in the dark (HDID) and HS controls increases following ethanol. *Drug Alcohol Depend*. 2014;136:149-52. PubMed Central PMCID: PMC3956112. [Available on 2015/3/1]

Urbanski HF, **Sorwell KG**, Garyfallou VT, Garten J, Weiss A, Renner L, et al. Androgen supplementation during aging: development of a physiologically appropriate protocol. *Rejuvenation Res*. 2014;17(2):150-3. PubMed Central PMCID: PMC3995436. [Available on 2015/4/1]

Villasana L, Dayger C, Raber J. Dose- and ApoE isoform-dependent cognitive injury after cranial ⁵⁶Fe irradiation in female mice. *Radiat Res*. 2013;179(4):493-500. PubMed PMID: 23496055.

Zuloaga DG, **Siegel JA**, Acevedo SF, Agam M, Raber J. Developmental methamphetamine exposure results in short- and long-term alterations in hypothalamic-pituitary-adrenal-axis-associated proteins. *Dev Neurosci*. 2013;35(4):338-46. PubMed Central PMCID: [PMC3845800](https://pubmed.ncbi.nlm.nih.gov/PMC3845800/).

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UPDATES

Sandra Angeli-Gade (Ph.D. 1996) has been teaching the Addiction Pharmacology class at the local college, Umpqua Community College for the last seven years. The class is required for students interested in credentials for their CADCI (alcohol and addiction counseling). Recently, she became Human Services Program Coordinator and Coordinator for all Human Services Intern/Community Work students. She is still living the life in Roseburg, Oregon with one husband (Jay Gade), two teenage children (Matthew & Anna), and two dogs (Izzy & Winston).



Kamari Aykes (recent alum of the Fair Neuroimaging Lab) taped an episode of "Who Wants To Be A Millionaire" on June 27th. The episode will air during the upcoming 2014-2015 season, with new host Terry Crews. The air date is TBD.

Yossi Berlow (Ph.D. 2014) and his wife welcomed Hudson Reid Berlow into the world on March 10, 2014. He weighed 8 lbs, 11.5 oz and was 20.5 inches long. Pictured are Yossi, Hudson, and Hudson's sister Ava.



Submitted by **Rick Bernardi** (Ph.D. 2009)

UPDATES (CONTINUED)

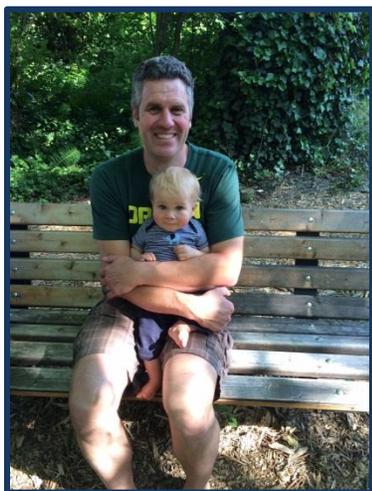
Dawn Cote (Research Associate, Ryabinin Lab) purchased a 40 acre farm in Woodburn, Oregon. If you are looking for a blueberry fix, the farm produces 3/4 acres each year.

Matthew Ford (Assistant Professor) and his wife, Windy, welcomed daughter Amelia Marie on June 5, 2014. The picture is of Amelia and her three year old sister, Louisa.



Rebecca Hammond (Ph.D., 2005) is expecting her second child on October 26, 2014. Sister-to-be, Freya, is going to be four on August 29, 2014. Becky joined Sage Therapeutics as associate director of pharmacology in March 2013 as employee #8. Sage is now up to 25 employees and just had a successful IPO on July 18, 2014. Sage is a drug discovery company working on treatments for seizure and other central nervous system disorders. It has been an insanely busy, and productive, year.

Josh Kaplan (Ph.D. Candidate) came in third place in the Milwaukee (WI) Marathon in the fall with a time of 2:34:10 – the best of his recent races. Head to the last page of this newsletter for heartstring-pulling account of his experience leading up to and including the 2014 Boston Marathon.



Mark Krause (Postdoc, J. Janowsky Lab, 2006-07) and Andrea welcomed Finn Darwin Kruse to the world on July 2, 2013. Mark served as interim department chair of the psychology department at Southern Oregon University and continues teaching courses in learning and memory and behavioral neuroscience. He is now starting a sabbatical to work on revisions for the 2nd edition of his general psychology textbook *Psychological Science: Modeling Scientific Literacy*

UPDATES (CONTINUED)

Whitney McGee (Ph.D. 2012) spent her birthday climbing to the summit of Mt. Whitney (the highest point in the lower 48 states) with some of her family. There wasn't even enough oxygen to light the birthday candle at the top!



David Roalf (Ph.D. 2010) will transition to Assistant Professor in Psychiatry at the University of Pennsylvania. David's K01, *Neurocognitive Variability in Schizophrenia and Youth-At-Risk for Psychosis*, was awarded in July 2014. The work proposed integrates brain and behavior measures aimed at probing inconsistency in cognitive performance in patients with schizophrenia and individuals at clinical risk for developing psychosis. Inconsistency in cognitive performance manifests during adolescence and its relation to structural and neurochemical alternations within the prefrontal cortex will be critical for the identification of clinically at-risk individuals and for the development of earlier and more effective treatments for psychosis.



The families of Dr. Roalf and Dr. **Keith Kohout** (M.S. 2007, M.D. Touro University) got together in beautiful Iowa City, IA to catch up and get the kids together.

The photo on the right is of Linus Kohout and Harlan Roalf



Trish Pruis (Ph.D. 2010) summited two mountains last year – South Sister in September 2013 and St. Helens in May 2014. She also had a recent backpacking adventure on Mt. Jefferson. Trish returned to OHSU to take a position as Business Development Associate in the Office of Technology Transfer & Business Development. Call Trish if you need help with commercialization and/or business development!

UPDATES (CONTINUED)

For the past two years, **Angela Scibelli Clute** (Ph.D. 2011) has been co-teaching a course called “The Economics of Addiction” at Colorado College in Colorado Spring, CO. Otherwise, she has been staying at home with son, Farley, and working on her homesteading skills. Angela is about to get some chickens and this year won some purple ribbons at the county fair for her baking. The photo is of her very muddy son after playing in the mud pit at the fair.



Peter Groblewski (Ph.D. 2011) finished his post-doc at University of Washington and published two papers that reflect his work there – “Repeated stress exposure causes strain-dependent shifts in the behavioral economics of cocaine in rats” (Addiction Biology) and “Excessive cocaine use results from decreased phasic dopamine signaling in the striatum” (Nature Neuroscience). In September 2013, Pete left University of Washington and is now a Scientist at The Allen Institute for Brain Science in Seattle.



Gwen (Schafer) Stinnett (Ph.D. 1998) is still thawing out from the extended winter and many Polar vortices that hit Michigan. On the science front, the lab she is in has gotten into alcohol research and connected with some great OHSU folks. In real life, Amelia turns 6 years old and will be starting first grade while Brady, newly 4 years old, will start pre-K and maybe learn how to stay out of timeouts all day long. The picture is at Lake Michigan and she thinks Brady saw a sea monster! Gwen’s family also started a garden for the first time ever; an experiment in progress. Gwen says, “I’m good at growing oversized zucchini but that’s about it”.

James Henry (Ph.D. 1994) has been continuously funded since 1995 to conduct numerous studies focusing on tinnitus clinical management. He currently has five funded projects and two more starting in the Fall. He is a Research Career Scientist with the National Center for Rehabilitative Auditory Research at the Portland VA Medical Center as well as a Research Professor in Otolaryngology at OHSU.

UPDATES (CONTINUED)

Bill Griesar (Ph.D. 2001) and his husband (Bob Duehmig, who works for the Office of Rural Health at OHSU) were among the original plaintiffs in a recent, successful lawsuit against the state which found Oregon's constitutional ban on marriage equality unconstitutional in federal court. Another OHSU employee, Janine Nelson, was co-plaintiff. And yet another OHSU employee, Chris Tanner, joined the lawsuit at a later date.

Eugene federal judge Michael McShane ruled in May that the religious prejudice added to the state constitution with the passage of Measure 36 in 2004 violated federal constitutional guarantees of equal protection under the law. So while they have been together for 26 years and were legally married in Vancouver, Canada in 2003, this year they are finally recognized as married by the state of Oregon.



(That's their youngest son, Jack, in the middle, holding the sign. He is surrounded by friends from school who joined Bill & Bob in Eugene)

Judge McShane wrote in his decision that...

"I believe that if we can look for a moment past gender and sexuality, we can see in these plaintiffs nothing more or less than our own families. Families who we would expect our Constitution to protect, if not exalt, in equal measure. With discernment we see not shadows lurking in closets or the stereotypes of what was once believed; rather we see families committed to the common purpose of love, devotion, and service to the greater community.

"Where will this all lead? I know that many suggest we are going down a slippery slope that will have no moral boundaries. To those who truly harbor such fears, I can only say this: Let us look less to the sky to see what might fall; rather, let us look to each other... and rise."

UPDATES (CONTINUED)



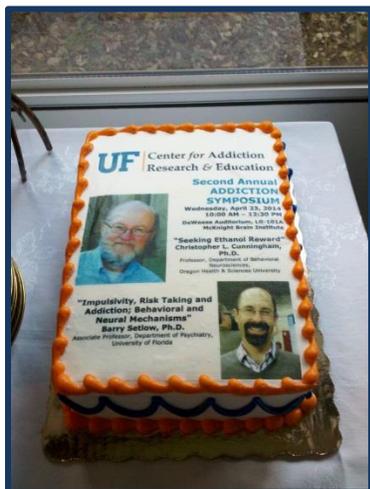
Amanda Roberts (Ph.D. 1993) completed the Vineman 70.3 Half Ironman Triathlon in Guerneville, CA!



Julia Chester (Ph.D. 1998) sent this photo of Chris Cunningham with his academic children from the 2014 Research Society on Alcoholism meeting in Bellevue, WA. Pictured from left to right are: Liana Matson, Julia Chester, Nicholas Grahame, Christa Houck, and Chris Cunningham.



UPDATES (CONTINUED)



As Co-Director of the Center for Addiction Research and Education (CARE) at the University of Florida and head organizer of the Second Annual CARE symposium, **Joanna Peris** (Ph.D. 1984) was pleased to have as a very special guest, her former Ph.D. mentor, Dr. Chris Cunningham. Joanna sent a picture of the cake at the reception. Joanna reports that Cindy may have used the knife to cut into Chris' head!

Abraham Palmer (Postdoc, Phillips Lab, 1999-2002) welcomed his second child, Samuel Solomon Palmer, on December 18, 2013. Abe was awarded a P50 center grant from NIDA to work on quantitative behavioral genetics in rats.



Lance Johnson (Postdoc, Raber Lab) received fellowships from both the National Science Foundation and the American Heart Association. Lance and Ryann welcomed Walker Glynn Johnson at 12:26 a.m. on Sunday November 10, 2013.

NEUROSCIENCE OUTREACH: OHSU GRADUATE STUDENTS TEACH KIDS ABOUT BRAINS NWNOGGIN.ORG

This summer our graduate students are busy, both in the lab - and in the community. Several are collaborating with graduates and undergraduates in neuroscience, psychology, and art from Portland State University, Washington State University in Vancouver, and the Pacific Northwest College of Art, and are currently designing and delivering multi-week instruction about the brain and behavior to over 200 middle and high school students in the Portland Public Schools!

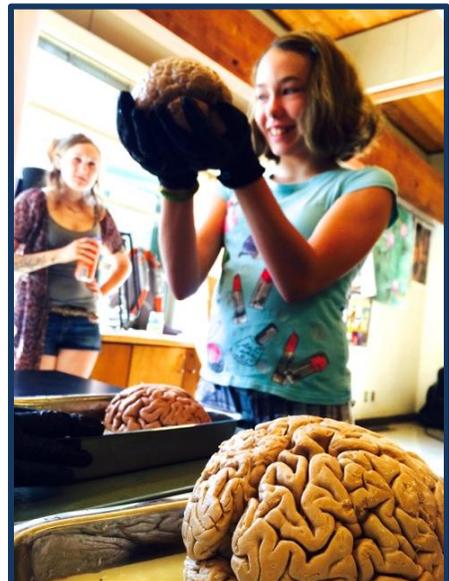
Our graduates are gaining invaluable experience explaining their federally funded research to undergraduates who are fascinated about neuroscience and want to pursue further study, and to students in grades 5 through 9, many considered “academic priority,” who become enthused and excited about the potential for learning more about their own brains. They also work with artists from PNCA, who generate creative and engaging activities that draw students in, and help make often complex concepts accessible to all...

And our graduates are also earning travel scholarships, thanks to generous support from the Portland Alcohol Research Center (PARC) at OHSU. The PARC also supplies art materials, sheep brains for dissection, and other items used in our summer classrooms. They are joining fellow institutional collaborators, like WSU-Vancouver, which also provides significant support for participants, and which funded five well-stocked outreach kits, complete with brain models, spiker boxes, and other educational supplies.

Many of our PPS students are also visiting the Oregon National Primate Research Center, for an introduction to primate research, a tour of the facilities, and the opportunity to meet with working scientists. Some are also heading to research labs on the Hill. It is exciting and rewarding to see kids ask informed questions, and deepen their understanding, appreciation and critical thinking about how scientists study the brain...

Graduate students (particularly those who are post-quals, and with PI permission) are always welcome to participate in outreach activities throughout the year, including undergraduate teaching during winter and spring terms at PSU and WSU-V, and during the summer through nwnoggin.org. More information is available at the website, or by contacting Bill Griesar at bgriesar@wsu.edu...

More pictures on the next page.



**NEUROSCIENCE OUTREACH: OHSU GRADUATE STUDENTS TEACH KIDS ABOUT BRAINS
NWNOGGIN.ORG**



BOSTON MARATHON 2014

By Josh Kaplan, Ph.D. Candidate

By surrounding myself with some of the most prominent addiction researchers in the world here at OHSU, I spend a lot of time thinking about tolerance and craving. Sitting at my desk, now in the VA Hospital, I stew over the influence that reciprocal connections between the cerebellum and the reward circuitry may have on these important components in the development of drug dependence. But before even stepping onto the tram for our unique morning commute, a craving blindly laces up my running shoes and sends me out the door to beat the sun. Some mornings I awaken beneath the stars, pushing faster, running farther. Cumulative miles had made me tolerant to the pain, the fatigue, but also to the euphoria. The “runner’s high” was a distant feeling, only reserved for the most beautiful trail runs, the toughest workouts or most hard-fought races. My running-evoked emotions are mostly blunted by years of training, which began when I moved to Portland in the summer of 2009 to begin our program. Perhaps running was becoming a little stale. I had far surpassed the feeble goals I had initially set for myself, incorrectly judging my potential’s boundary. Then the Boston bombing occurred.

I remember sitting at my desk on the 5th floor of Hatfield, toggling between analyzing the effects of alcohol on electrical currents in cerebellar granule cells and checking live updates of my friends as they raced through the city of Boston. I was jealous of my friends, including BEHN and NGP graduates Marcia and Jenna Ramaker, who were part of the 117th Boston Marathon. I ran Boston with my father in 2011, my first, his second. There’s something special about the event. It’s a similar feeling to standing in front of a Picasso painting. It may not be the prettiest, but the historical significance, the hype, the uniqueness of the painting is overwhelming. Here you are. I felt a tingling running through Boston, the oldest and most prestigious marathon in the world. But it’s really the crowds that make it special. Bostonians of all ages lined 26.2 miles of pavement from Hopkinton to downtown. Children will toe the course with their hands out, awaiting high-fives. The infamous women of Wellesley College are ready to kiss any sweaty runner willing to sacrifice a few seconds from their goal mile-split. The emotion of the city was palpable. Every year it’s that way. Hundreds of thousands of people, willing to spend their day off of work, screaming and clapping for hours as over twenty thousand runners traverse their home streets. At about 4 hours and 10 minutes into the marathon, I flipped over to CNN. The next 48 hours felt odd. I’m not from Boston. In fact, I’d only been there that one time in 2011. But the attack felt personal. It was a tragedy for a great city that left 3 dead and many others injured. They were spectators, 4 hours into a race that the winners finished long before, and yet, they were still there clapping. I’ve been reminded that 3 deaths, while sad, doesn’t compare to the devastation caused by daily gun violence in this country, and therefore, the public’s reaction is misplaced. Perhaps. But there was a personal element that reverberated with much of the country and greatly resounded in the running community. Many pledged to return to Boston in 2014, stronger than ever. I was in, and the gloves were coming off.

My training was reinvigorated and my mileage increased. I was accepted to the 118th Boston Marathon along with 10 other friends, my father, and my sister. I was getting faster, stronger, while enjoying the early months of married life, a successful NRSA submission, and the eventual acceptance of my first, first author paper. Smooth sailing. I entered the fall strong, running a personal best 2:34:10 in the Milwaukee (WI) Marathon moving up 5 spots over the last few miles to snag a 3rd place podium finish. Boston was months away, but I was feeling confident and excited again about running.

BOSTON MARATHON 2014 (CONTINUED)

Oh Icarus. I should have seen the signs. It's not as if we don't read about this stuff all the time in the addiction field. Small issues, minor pains, little inconveniences get overlooked or disregarded in search of the euphoria. We keep pushing and pushing, more, more! Why rest? It started in December, when we moved our lab from Hatfield to MRB. It wasn't the first time I threw my back out, but it was the first time I had to lay in a curled up fetal position for two days until the muscle relaxers finally took hold. After a week of endorphin withdrawal, I was back at it. Too much too fast. I feared losing the strength I had slowly accumulated as Boston loomed just over 3 months away. But I ignored my body's pleas and uncomfortable heal rubbing morphed into a full-blown Achilles injury that made walking, let alone running, unbearable. Game over. I was devastated. Not only was I letting myself down, but I felt like I was giving up on the city of Boston, on the victims. I needed to participate. Eight weeks of psychological turmoil, of trying to ignore doctors who wouldn't entertain a sliver of hope that participating in Boston would be feasible without risk of complete rupture. But the body isn't static. We heal and with a little help from cortisone, I was back on the road with 15 days to go. At this point, all hope of running a personal best was gone. Let's just finish this thing. About 6 weeks into my period of running abstinence, I told my sister I would try and run with her, pace her if I could to her personal best. Honestly, I was scared. No one wants to take a test that they haven't studied for.

The energy of the event, the city, the emotion of the weekend was palpable. It all happened so fast. A present but non-overbearing security force put everyone at ease. Other than garbage cans being locked along the finishing street (Boylston), there were no inconveniences. The day was warm, but the crowds quickly made you forget your discomfort. My sister and I started strong and she never let down. My residual fitness stormed back, stoked by the collective enthusiasm of the crowd, 10 people deep in parts. We're not a tall family (I'm 5'6", she's 5' even), but her quick little legs got her up the Newton Hills in the second half of the race in impressive fashion. After weaving around people over the final 10k, we bolted down Boylston Street, the site of tragedy just a year ago. With the crowd roaring, we crossed the finish line together with arms raised, a well-earned personal best for her. It was one of the happiest, most euphoric moments in the 5 years I've been running. The joy, the euphoria, the "runner's high" that had long ago deserted returned.