

Psychology Department Lab Preview  
September 7, 2016  
5:00pm - 7:00pm  
Schermerhorn 200B

Welcome to the Lab Preview. We believe that the chance to participate in research is one of the best opportunities that our department has to offer. By joining a lab, you will see how research projects are conducted. Depending on the lab, you may also see how projects are developed, how data is analyzed, and how presentations are put together for conferences and publication. If you are involved in a lab for the long term, you may even contribute to a project that enables you to be a published researcher yourself. After today's presentations, you may want to learn more about particular labs. You can do so at <http://www.columbia.edu/cu/psychology/research/facultyresearch/researchlabs.html>

### **Ways to be involved**

There are three ways to get involved in a research lab:

**1) Volunteer** – Many students volunteer in research labs. Some labs require that students volunteer for a period of time before becoming more “official” members of the lab.

**2) Register for Supervised Individual Research (PSYC 3950)** – Many students register for supervised research. You may register for up to 4 points of supervised research per term. In general, you should figure that you will be working in a lab for approximately 3 hours per week per credit. This is not set in stone and must be negotiated with the specific lab that you will be working in. Different labs have slightly different requirements. As part of your supervised research, you will be expected to do some independent academic work related to the lab work you are doing. This may be a paper or an oral presentation, depending on the lab.

**3) Work-study/Paid work** – Sometimes labs will hire undergraduates as work-study students to work in their labs. Occasionally non-work study positions are available for students with very special skills that are needed (e.g., programming). This must be arranged with a particular lab on an individual basis.

### **What we are doing today**

Today representatives from the psychology department research labs will talk with you about their labs and the role that you might play. Our presenters include faculty members, postdoctoral fellows, graduate students and lab managers. Contact information for these individuals is included below. As you hear about projects that interest you, be sure to make a note by the name of the person who you would like to speak to about the project. Towards the end of the session, you will have an opportunity to talk with our presenters about getting involved in their research projects. If you are unable to speak with someone today, use the contact information that we have provided to get in touch with them later. In general, the best

person to contact is the person who presented the project or the lab manager. If a graduate student presented the project, he or she is probably a better contact person than the faculty member who oversees the lab.

Some of our presenters will tell you about their labs even though they do not currently need any research assistants. If you are interested in the research in these labs, you may want to contact them before the spring semester to see if they are looking for research assistants at that time.

### Contact Information for Labs

In many cases, the best contact person for the lab is the lab manager or one of the graduate students listed below. For labs without a lab contact listed, you should contact the faculty member directly. Many of the graduate students and other contact people listed are presenting today. In most cases, labs that are not represented today are not currently looking for research assistants, though this may not be true in all cases.

(bus) indicates faculty affiliated with the business school.

Faculty	Research Lab	Lab Contact	Lab phone and faculty e-mail
Balsam, Peter	<a href="#">Adaptive Behavior Lab</a>	Matt Bailey mrb2225@columbia.edu	646-774-5219 balsam@columbia.edu
Bolger, Niall	The Couples Lab	Abdiel Flores AbdielFlores@psych.columbia.edu	212 854-0127 coupleslab@psych.columbia.edu
Champagne, Frances	Behavioral Neuroscience, Maternal Behavior, Epigenetics	Morgan Firestein mrf12138@columbia.edu	212-854-2490 fchampag@psych.columbia.edu
Curley, James	Social Neurobiology	Cait Williamson cmw2166@columbia.edu	jc3181@columbia.edu
Downey, Geraldine	Social Relations Lab	Mike Naft mjn2138@columbia.edu	212-854-6923 srlmgr1@gmail.com
Graham, Norma	Mathematical Models of Visual Processes	Norma Graham nvg1@columbia.edu	nvg1@columbia.edu

Hart, Carl	Human Behavioral Pharmacology	Kirsten Frazer kmf2143@columbia.edu	212-854-5313 clh42@columbia.edu
Heiphetz, Larisa	Social and Moral Cognition	Larisa Heiphetz (PI) and Davida Vogel (lab manager) columbiasamclab@gmail.com	
Higgins, E. Tory	Motivation and Social Cognition	McKenzie (Maya) Zundel cuhigginslab@gmail.com	212- 854-8464 tory@psych.columbia.edu
Hood, Donald	Physiological Bases of Visual Processes	Daiyan Xin xdaiyan@gmail.com	212-854-4234 dch3@columbia.edu
Weber, Elke	Center for Research on Environmental Decisions (CRED)	Naina Gupta ngupta@ei.columbia.edu	212-854-7031 euw2@columbia.edu
Matin, Leonard	Perception of Space and Form	Wenxun Li wl18@columbia.edu	212-854-4325 matin@columbia.edu
Metcalfe, Janet	Metacognition and Memory	Judy Xu metalab@psych.columbia.edu	212-854-4726 jmetcalfe@psych.columbia.edu
Morris, Michael (Columbia Business School)	Culture, Judgment and Decision Making, Organizational Psychology	Jackson Lu jackson.guannan.lu@gmail.com	212-854-2296 mwm82@columbia.edu
Ochsner, Kevin	SCAN Lab	Chelsea Boccagno <a href="mailto:ceb2214@columbia.edu">ceb2214@columbia.edu</a>	212-854-1860 ochsner@psych.columbia.edu
Purdie-Vaughns, Valerie	Intergroup Relations and Diversity Lab (LIRSM)	Paula Aguti pa2412@columbia.edu	212-851-5964 vpvaughns@psych.columbia.edu
Shohamy, Daphna	The Learning Lab	Eileen Hartnett eah2134@columbia.edu	212-851-2795 shohamy@psych.columbia.edu

Silver, Rae	Neurobiology of Behavior	Joseph LeSauter jlesaute@barnard.edu Rachel Kennedy-Smith rhk2117@columbia.edu	212-854-3909 qr@columbia.edu
Stern, Yaakov	Taub Institute Cognitive Neuroscience Division	Dan Barulli djb2168@columbia.edu	212-305-9712 ys11@columbia.edu
Tottenham, Nim	Developmental Affective Neuroscience Lab	Tricia Choy <a href="mailto:tcc2132@columbia.edu">tcc2132@columbia.edu</a>	212-854-3608 <a href="mailto:nlt7@columbia.edu">nlt7@columbia.edu</a>
Woolley, Sarah	Neural Basis and Behavior of Social Communication	Sarah Woolley sw2277@columbia.edu	212-851-0184 or -0185 sw2277@columbia.edu

### Current Lab Advertisements

The following list includes further descriptions of ongoing research in just some of the labs above, as well as listings for specific research positions. Not all positions have a listing. If a lab does not have a listing here, there may still be positions available.

#### Adaptive Behavior Lab

The Adaptive Behavioral Laboratory, under the direction of Peter Balsam, studies how animals learn the relationships between important events. Using classical and operant conditioning procedures in rodents, we are interested in the behavioral and neural mechanisms of learning and motivation. You can learn more about what we do on our lab website:

<http://www.columbia.edu/cu/psychology/balsam/index.html> The lab is not currently looking for research assistants.

#### Center for Research on Environmental Decisions

The Earth Institute's Center for Research on Environmental Decisions (CRED) is accepting applications for new research assistants and interns. RAs and interns support the research of the center through literature reviews, development of surveys and educational materials, data processing, and direct support to experimental games and interviews. Essential qualifications include experience or a strong interest in social science research, and interest in sustainable development, climate change, and decision science. Additional specialized qualifications (not required by all applicants) include: experience running behavioral experiments, strong statistical

ability, computer programming and/or web design, and fluency in foreign languages. To learn more about current CRED research visit [cred.columbia.edu](http://cred.columbia.edu). To submit your application for volunteer, work for credit, and hourly positions, visit [cred.columbia.edu/jobs](http://cred.columbia.edu/jobs)

### **The Couples Lab**

In the Columbia Couples Lab we study dyadic processes (i.e., interactions between two individuals), particularly during times of stress. Our primary line of research looks at how people support each other, both effectively and ineffectively. Support can have costly effects for both the giver and the receiver. We want to know how to maximize the effectiveness of a partner's supportive behaviors in a given scenario. We also have additional lines of work that focus not only on romantic couples, but also on friend pairs and unacquainted pairs of individuals; for example, some current directions examine social interactions occurring between individuals from different backgrounds who have never met before. We use intensive repeated-measures designs to study dyad members and their interactions and to explore how daily transactions of social support and stress affect processes such as satisfaction, self-regulation, self-efficacy, and overall psychological and physiological functioning. We use both lab-based experimental studies and naturalistic, longitudinal studies of daily experiences. Finally, we work with multilevel models, structural equation models, and dynamic process models that are suitable for the study of change processes in individuals and dyads, both between and within persons.

**Current Projects:** We are looking for RAs to assist us in running a few different studies that examine how various types of social interactions in the lab affect cardiovascular indices of stress (e.g., heart rate, blood pressure). The **Intergroup Values Affirmation Study** is interested in examining how individuals from different racial backgrounds interact as they complete various tasks (including the game Taboo!), and how these interactions affect cardiovascular reactivity. The **Regulatory Complementarity in Couples Study** investigates how couples talk about life events they experience together and how these discussions have different downstream consequences for their physiological responses.

**Requirements:** RAs will be expected to work on both studies, and will be thoroughly trained to apply physiological sensors to participants' bodies, operate the physiological equipment, guide participants through experimental paradigms, and complete essential administrative tasks (e.g., recruitment, data management). Applicants should be responsible, reliable, self-directed, work well in teams, and able to commit a minimum of 10 hours per week. Applicants who are able to commit to 15 or more hours per week for both Fall 2016 and Spring 2017 and/or who have some availability to work in the lab evenings and weekends will receive priority. **To apply, please email your CV, your ability to address the requirements outlined above, a brief message describing your interest in the project, and your \*\*completed availability form (see below)\*\* to Katherine Zee ([kzee@psych.columbia.edu](mailto:kzee@psych.columbia.edu)) and Abdiel Flores ([abdielflores@psych.columbia.edu](mailto:abdielflores@psych.columbia.edu)). Please feel free to get in touch with us if you have any questions or would like additional information. Please note that we do not offer RAs the opportunity to complete research for credit (Supervised Individual Research) during their first semester in our lab.**

\*\*You can access the availability form here:

<https://drive.google.com/open?id=0BwMoEb3rtoyINU9odl9jbTVSUnc>

Please **download** this form (by clicking on the down arrow in the upper right corner when you go to the link) and attach it as an .xls or .xlsx file to your email application. Please DO NOT send it as a link to the form in Google Drive.

## The Higgins Lab

We embrace a motivated social cognition framework in pursuing both basic and applied questions relating to self-regulation. We study the motivational underpinnings of perceptions, judgments, decisions, and behaviors, in a wide range of contexts, from romantic relationships to military training:

**Interpersonal Processes:** What makes people 'click'? What are the motivational processes underlying the development and maintenance of romantic relationships? How do we effectively provide and receive social support?

**Motivational Effectiveness & Performance:** What makes us likely to succeed, or likely to fail? What are the motivational underpinnings of performance in different contexts and across different cultures? How do the ways in which individuals engage in goal pursuit affect effectiveness?

**Self-Regulation & Emotion:** What are the emotional consequences of effectively managing or disastrously mismanaging ourselves in the pursuit of our goals? How does succeeding or failing at meeting our motivational needs influence our emotions?

Higgins Lab Research Assistants will be given the chance to work closely with graduate students and help out with different stages of projects, including research design, data collection, analysis and interpretation, thereby acquiring a variety of methodological skills.

We have *work-study, volunteer, and for-credit (SIR) positions open, each for a 10-hour/week commitment, at least 2 semesters*. Any interested students should contact Maya Rossignac-Milon at [cuhigginslab@gmail.com](mailto:cuhigginslab@gmail.com) and attach your resume, unofficial transcript, and a brief (~250-word) statement of interest. Applicants are evaluated on a rolling basis.

For more info, please see <http://www.columbia.edu/cu/psychology/higgins/index.html>.

## Laboratory of Intergroup Relations and the Social Mind (LIRSM) Dr. Valerie Purdie-Vaughns

Work on research exploring identity, diversity, and intergroup cooperation and how these processes affect individual performance and health. Gain valuable research skills using a variety of methods, from field studies to psychophysiological measures. Prepare yourself for graduate school with mentoring and journal discussions.

**Identity Threat, Health, and Intervention:** What is the effect of contending with negative stereotypes or other threats to identity on subjective stress, physiological stress, health outcomes, and intellectual performance? How can we intervene to mitigate these harmful effects?

**Structure of equality:** What structural factors influence racial and gender diversity, or lack thereof, in hiring? How do institutions influence the public's understanding of race-related events and perpetuate inequality?

**Intersectionality:** Do people ignore or pay closer attention to people with multiple stigmatized identities?

**Computational Social Science:** How can we best use computational methods to study questions about the social environment?

Volunteer, work study positions, and credit positions may be available. We are especially interested in candidates who have skills in **computer science or programming**. We also have an exciting new **fellowship program** open to CC undergraduates who have worked in the lab for at least one semester that awards research assistants with a year-round stipend.

Interested? Email Paula Aguti (aguti.paula@gmail.com) for an application!

A limited number of positions are available on a first-come, first-serve basis, so apply soon!

### **The Learning Lab Prof. Daphna Shohamy**

Our research is focused on the intersection between learning, memory and decision making. We are interested in characterizing when and how different brain systems for learning interact and whether this interaction is competitive or cooperative. We focus on two main brain systems for learning - one in the striatum and the other in the hippocampus. Traditionally, the striatum and hippocampus were thought to support independent and distinct learning systems. We have demonstrated that there is cross-talk between these systems during learning, raising questions about the nature of this interaction and its significance for learning and decision making. We are now investigating how this cross-talk is impacted by several key factors, including: motivation and feedback, social context of learning, aging, and genetic differences between learners. We study several populations, including: undergrads, Parkinson's Disease patients, older adults (50 - 85 years old), children, and adolescents. For more information, please see our lab website: <http://shohamylab.psych.columbia.edu/>

The current position will be responsible for a wide-range of tasks, including: recruitment, running subjects, and data entry. RA's would also be invited to attend lab meetings. With experience, qualified RAs may be eligible to take on projects with greater responsibility and autonomy. Ideally, RAs will commit to working 8 - 10 hours/week for a minimum of two semesters.

Interested candidates are encouraged to email Lucy Owen (lucywowen@gmail.com), attaching their resume.

**Mathematical Models of Visual Processes**  
**Dr. Norma Graham**

Flexible position involving tasks in research on visual perception. Depending on a person's interests and skills, these tasks might include data analysis and running mathematical models. (Familiarity with excel and Matlab as well as an interest in research on visual processing would be useful for these tasks, but previous knowledge is not required.) These tasks generally also include miscellaneous administrative and clerical tasks (e.g., scanning, proofreading, running errands). 5-15 hours per week, flexible hours. (Can be done through work-study or otherwise.) Contact: Prof. Norma Graham [nvg1@columbia.edu]

**Metacognition and Memory Lab**  
**Dr. Janet Metcalfe**

Metacognition refers to (a) our ability to monitor our own cognitive states (e.g., assessing how well we understand a text or how likely we are to remember a set of facts) and (b) the ways in which we use the output of this monitoring to make strategic decisions about how to study or what to study next.

We have two main lines of research in the lab:

1. Studying the metacognitive processes that contribute to effective self-guided learning in young adults, with emphasis on mind wandering and examining how/when one mind wanders.
2. Investigating the causes and consequences of the feeling of being in control of one's behavior and through it, effects in the environment.

RAs tasks include, but are not restricted to: recruitment, running subjects, attending lab meetings, and literature searches. More experienced RAs (typically those who have spent more than a year with us) may sometimes take on their own research project. Ideally, we hope that RAs can commit to working 5-10h weekly for two semesters.

If interested, please email us at [metalab@psych.columbia.edu](mailto:metalab@psych.columbia.edu).

**The Morris Lab**

- How do human beings learn about a new culture?
- Why do Chinese immigrants speak English less fluently upon looking at a Chinese face/vase?
- How do foreign experiences shape our behavior?
- Do people actually mix at networking events?
- Why do women perform worse than men in technical subjects in business schools?
- When a newcomer adapts to local customs like a chameleon, are you impressed or suspicious?
- What is the difference between multiculturalism and polyculturalism?

If you like to think about and study questions at the intersection of culture, gender, cognition, conflict, adaptation, acculturation, and policy, join the Morris Lab!

Morris Lab is open for RA application all year around. RAs will be working closely with other members of the laboratory (including other RAs, graduate students, and postdoctoral fellows) on one or more of our ongoing research projects. You may be involved in different stages of research projects, including literature review, study design, preparing stimuli and materials, scheduling and running studies, entering or coding data, and data analysis.

To apply for a research assistant position, please email Jackson Lu ([jackson.guannan.lu@gmail.com](mailto:jackson.guannan.lu@gmail.com)) with a brief CV and your availability (e.g., Mon, Wed: 8am – 3pm, Tue: after 4pm, Fri, whole day, etc.).

For more information about our lab's research, please visit:

<http://www.michaelwmorris.com/http://www.michaelwmorris.com/scientificpublications>

or

[https://scholar.google.com/citations?sortby=pubdate&hl=en&user=3A9Xo\\_YAAAAJ&view\\_op=list\\_works](https://scholar.google.com/citations?sortby=pubdate&hl=en&user=3A9Xo_YAAAAJ&view_op=list_works)

[https://scholar.google.com/citations?sortby=pubdate&hl=en&user=3A9Xo\\_YAAAAJ&view\\_op=list\\_works](https://scholar.google.com/citations?sortby=pubdate&hl=en&user=3A9Xo_YAAAAJ&view_op=list_works)

### **SCAN Lab**

Research in the Social, Cognitive and Affective Neuroscience lab examines the psychological and neural processes involved in extracting social, emotional, and cognitive meaning from the world. As a research assistant, your involvement may include gathering relevant articles, recruiting participants, running studies, and assisting in data analysis. The requested time commitment is about 10-15 hours per week.

Some current projects in our lab investigate: the cognitive up-regulation of positive emotion and motivation, the development of emotion regulation ability across childhood and adolescence, emotion experience and regulation in young versus elderly participants, emotion- and self-regulation in individuals suffering from depression and suicidal tendencies, the neural underpinnings of perspective-taking, self-regulation of food and alcohol cravings while distracted and in negative moods, social group analyses, consumer decision-making patterns, and psychological and brain-imaging paradigms to predict people's behavior and health outcomes. The dependent measures we collect include behavior, psychophysiology, and brain imaging (fMRI).

To apply for a research assistant position, please e-mail Chelsea Boccagno ([ceb2214@columbia.edu](mailto:ceb2214@columbia.edu)).

## **Social Relations Lab**

Led by Geraldine Downey, the Social Relations Lab studies several topics that allow us to discern the effects of situational factors on the individual, and the effects of individuals on their environment and their immediate situation. One of the lab's principal focuses has been rejection sensitivity, which is the disposition to anxiously expect, readily perceive, and intensely react to rejection. Current research studies cognitive, affective, and behavioral outcomes associated with disclosure of one's criminal record. We are also interested in development, behavior, and punishment with respect to both youth and aging populations. Finally, we are interested in drugs and behavior — studying, most recently, cognitive functioning of people who use cocaine. Our research teams reflect populations that are affected by our work — something we value highly. We collaborate with the Center for Justice at Columbia, of which Geraldine is the Director — which is committed to reducing the nation's reliance on incarceration and advancing alternative approaches to safety and justice through education, interdisciplinary research, and policy.

### **Cognitive Neuroscience Division, Dept of Neurology**

Research at the Cognitive Neuroscience Division in the Department of Neurology spans the gamut from investigating changes in the brain as the result of healthy aging using fMRI to exploring subtle neuropsychological deficits that result from pathologies like Alzheimer's disease. Volunteers in our lab are expected to make a substantial commitment to working with us, though we are flexible in schedules. Student volunteers are highly encouraged to pursue independent projects in addition to other lab duties, which often can include administering cognitive tasks to study participants. If you are interested in getting involved, please send an email to Daniel Barulli ([djb2168@columbia.edu](mailto:djb2168@columbia.edu)).

### **The neural basis of self-control, aggression, and depression Dr. Katherine Nautiyal (CUMC-Psychiatry)**

Self-control, aggression and depression....what do these 3 things have in common...the serotonin 1B receptor. Using mouse models to manipulate serotonin signaling, we study how the brain controls impulsive, aggressive and depressive behavior. Interestingly, one receptor can modulate these three very different behaviors by acting at different points during development and within different regions of the brain. We use operant behavior models to study self-control in a mouse model of gambling. We use optogenetics and in vivo calcium imaging to understand how individual neurons function during aggressive behavior. Finally the absence of these receptors in one brain region (the raphe pallidus) results in an anti-depressant-like response, potentially informing new ways to treat depression in humans.

No prior experience required. Knowledge of, or interest in, the neurobiology of behavior is important. At least 10h per week is preferred. Generally, students volunteer for 1-2 semesters in the lab to learn techniques and then begin credit or paid positions or fellowships.