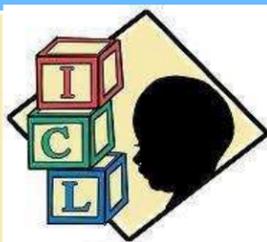




Texas A&M University

# Infant Cognition Lab



## A Note for Parents...

Welcome to the lab!

Welcome to the third edition of the Infant Cognition Lab Newsletter! We have just completed another successful semester thanks to the generous support and dedication of the parents (and infants!) who participated. With your help, we've learned more about what infants know about the world.

Our lab is interested in how babies think about and understand objects. In particular, we are investigating the kinds of information babies use to individuate objects. That is, when an object disappears from view and then reappears, what information do infants use to determine whether it is the same object or a different object than seen before? Traditionally, we have relied on violation-of-expectation (VOE) methods to study object individuation in infancy. In VOE studies, infants' duration of looking to an event is measured. Infants generally look longer at events they find surprising or unexpected. Using this method we can identify the kinds of object information to which infants attend, the expectation that infants hold for the objects as they move about in the world, and how this changes with age.

Thanks to technological advances, we are now able to examine infants' cognitive development through neuro-imaging and eye-tracking techniques. We are also interested in how babies interact with others and how this influences the way that they think about and act on objects. You can find out more about these individual techniques and our specific findings throughout this newsletter.



## Kids Corner

What's going on inside your baby's brain?



Over the last 25 years, infant researchers have learned a great deal about how infants perceive and think about objects. However, little is understood about the brain areas that are responsible for visual object processing in infants. Near-infrared spectroscopy (NIRS) is a noninvasive way to measure neural activation and has been used with infants in hospital for many years.

This technique is now being used in the experimental setting and can help bridge the gap between the brain and cognitive development. NIRS has been proven to be very safe and is much easier to use than other neuro-imaging techniques, and is now used in a number of research labs across the globe.

Our research, which has been supported by the National Institutes of Child and Health Development (NICHD) and the National Science Foundation (NSF), has identified areas in the infant brain that are important for the processing of shape and color information. Current research is exploring the parts of the infant brain important for processing the location and motion of objects.



## Current Studies

Throughout the course of the semester several different studies are being conducted by our staff. Here is a quick look into just a few of the studies we are currently

### Playing is learning... Action Lab Studies

We are interested in how parents help their babies to learn about new objects and sounds, as well as how they teach babies to discover new things about the world around them. Our studies have demonstrated that parents who are more sensitive to their infant's changing emotional and physical needs, and follow the infant's lead in toy choice, are more successful in guiding their infant to explore new toys.

More object exploration leads to greater learning about objects, which can change how infants perceive and think about their world. As infants gain new abilities they have richer play experiences; as infants and parents play together they have the opportunity to build a stronger relationship. Hence, parents play an important role in their baby's cognitive and social development.

## Ask the Parents >>>

Question #1: What was your baby's first word?

Question #2: What is your favorite part of baby lab?



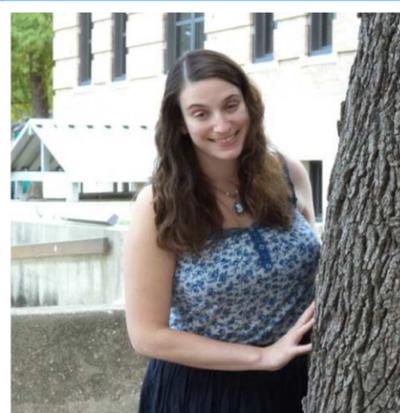
Set the stage >>>

# Meet our Grad Students...



### Laura Hawkins

Laura is from Cypress, Texas and did her undergraduate work at the University of Houston-Downtown. She is currently studying infant object processing; specifically individual differences in spatial reasoning. Her favorite part of baby lab is building relationships with the parents and infants and applying the research to the bigger picture of infant development.



### Amy Hirshkowitz

Amy is from Houston, Texas and did her undergraduate work at Trinity University in San Antonio, Texas. Her work has to do with form perception and apparent motion. And her favorite part of baby lab is the cooperation of the infants, parents and wonderful research assistants and supervisors of the ICL in conducting baby research.



### Marisa Biondi

Marisa hails from Wrightsville, NC and Boston, MA. She received her undergraduate from the University of Massachusetts in Boston. Her study examines how social information is processed in the infant brain, from faces and emotions to objects propelled by human or mechanical motion. Her favorite part of baby lab is the sweet parents!

Baby lab wouldn't be the same without our lovely grad students!



## Lab Manager

*Melissa Klapuch keeps our lab running smoothly!*

Melissa is originally from Bastrop, Texas. She did her undergraduate work here at Texas A&M University! One of her favorite things about baby lab is the opportunity to learn sign language from the babies who come in. Melissa helps all of us to stay on track and well organized!

Dr. Wilcox is the director of the Infant Cognition Lab. She received her undergraduate degree from Bethel University and her doctorate at the University of Arizona. When asked what the purpose of our studies in baby lab were she said, "Infants learn more in the first two years than they will at any other time in their lives. The purpose of the studies conducted in the Infant Cognition Lab is to figure out how this happens. We have many different studies going on in the lab, but most of them focus on how infants process physical and social objects. For example, we have studies that investigate infants' ability to keep track of objects as they move in and out of view and to recognize objects from different perspectives. We also have studies that explore infants' scanning of different facial expressions and their attention to events in which social objects 'help' or 'hinder' other objects. All together, these studies will help us better understand the changing mind of the infant." Her favorite part of baby lab is discovering what infants know about their world and learning what infants are thinking!



## Dr. Teresa Wilcox Lab Director

# Behind the Scenes: The Production of Studies



## Observers...The Ushers

Who are we?

Katie Finley  
Kelly Day  
Lauren Basye  
Lynee Herrera  
Sacha Garvin  
Shagufa Ali

What we do...

- Greet parents and welcome them into the lab
- Blind observers during the NIRS shows
- Record looking time during the live puppet shows

## Experimenters...The Actors

Who are we?

Abbey Stephan  
Emily Rosenhagen  
Melissa Klapuch

What we do...

- Set up and run the experiments
- Run our famous puppet show, "Ralph & Monkey"
- Monitor infants eye movements in a live eye-tracking display

## Recorders...Stage Managers

Who are we?

Jennifer Lange  
Alyssa Hoover  
Marisa Biondi  
Allison Gilmore  
Ashlynn Blessing  
Estefania Zapata

What we do...

- Assist with puppet show
- Behind the scenes making sure the show goes smoothly
- Run the computers during the different NIRS shows

## Supervisors...Directors

Who are we?

Amy Hirshkowitz  
Marisa Biondi  
Laura Hawkins  
Melissa Klapuch

What we do...

- Oversee the lab for each shift
- Monitors all shows, observers, experimenter, and recorders

## Phone Callers...Box Office

Who are we?

Shagufa Ali  
Allison Gilmore  
Emily Rosenhagen  
Katie Finley  
Alyssa Hoover

What we do...

- Contact parents about coming into lab
- Schedule appointments