

# **Syllabus**

## **Infant Cognition**

PhD Research Course  
Department of Cognitive Science  
Central European University  
Fall 2019, 2 credits

**Class:** Wednesdays 11:00am to 12:40pm, in Room 103, Október 6. utca 7.

**Introductory session:** (including lab visit): 12:00 pm (!) on Wednesday, Sep 11

### **Instructors:**

Gergely Csibra  
György Gergely  
Ágnes Melinda Kovács  
Ernő Téglás

**Office hours:** by appointment

### **Description:**

This course introduces students to the ongoing research at the Cognitive Development Center. It provides an overview of contemporary theories and research techniques of cognitive development of human infants below 2 years of age, focusing on the domain of social cognition. The course also involves laboratory practice to familiarize students with research techniques including behavioral, eye-tracking and neuroimaging methods.

### **Learning Outcomes**

By the end of the course, students should

- be familiar with recent findings in the research of infant social cognition,
- understand the difficulties of research with human infants,
- have a basic grasp of the methods used with infants, and
- be able to choose appropriate methods for research questions.

### **Evaluation:**

Students will have to

- attend classes and lab practice,
- read the assigned papers for each class,
- present selected papers to the class, and
- write detailed Methods sections for two studies running in the CDC labs (submission deadline: Dec 16).

## Schedule and literature:

Sep 18

### **Object tracking, object individuation**

Wynn, K. & Chiang, W-C. (1998). Limits to infants' knowledge of objects: The case of magical appearance. *Psychological Science*, 9(6), 448-455.

Sep 25

### **Recognizing communicative and referential intentions**

Farroni, T., Csibra, G., Simion, F., & Johnson, M. H. (2002). Eye contact detection in humans from birth. *PNAS*, 99, 9602-9605.

Oct 2

### **Turn-taking contingent reactivity and ostensive communication**

Tauzin, T. & Gergely, G. (2018). Communicative mind-reading in preverbal infants. *Scientific Reports*, 8, 9534.

Oct 9

### **Acquiring linguistic structure**

Marcus, G. F., Fernandes, K. J., & Johnson, S. P. (2007). Infant ruke learning facilitated by speech. *Psychological Science*, 18(5), 387-391.

Oct 16

### **Bilingual language acquisition**

Lieberman, Z., Woodward, A. L., Keysar, B., & Kinzler, K. D. (2017). Exposure to multiple languages enhances communication skills in infancy. *Developmental Science*, 20, e12420.

Oct 30

### **Action understanding**

Liu, S., Ullman, T. D., Tenenbaum, J. B., & Spelke, E. S. (2017). Ten-month-old infants infer the value of goals from the costs of actions. *Science*, 358, 1038-1041.

Nov 6

### **Intentional and communicative agency**

Gergely, G., & Jacob, P., (2012). Reasoning about instrumental and communicative agency in human infancy. In J. B. Benson (Serial Ed.) & F. Xu & T. Kushnir (Vol. Eds.), *Rational Constructivism in Cognitive Development* (pp. 59–94). Elsevier Inc.: Academic Press. Advances in Child Development and Behavior, Volume 43 ISSN 0065-2407.

Nov 13

### **Early ToM competencies**

Király, I., Oláh, K., Csibra, G., & Kovács, Á.M. (2018). Retrospective attribution of false beliefs in 3-year-old children. *Proceedings of the National Academy of Sciences of the United States of America*, 115(45), 11477-11482.

Nov 20

### **Representing social interactions**

Tatone, D., Hernik, M., & Csibra, G. (2019). Minimal cues of possession transfer compel infants to ascribe the goal of giving. *Open Mind*, 2019, 31-40.

Nov 27

### **Understanding artefacts**

Futó, J., Téglás, E., Csibra, G., & Gergely, G. (2010). Communicative function demonstration induces kind-based artifact representation in preverbal infants. *Cognition*, 117, 1-8.

Dec 4

### **Infant logic**

Cesana-Arlotti, N., Martín, A., Téglás, E., Vorobyova, L., Cetnarski, R., & Bonatti, L.L. (2018). Precursors of logical reasoning in preverbal human infants. *Science*, 359(6351), 1263-1266.