

## **CONSENT TO PARTICIPATE IN RESEARCH**

### **Functional Imaging Studies of Shape Representation**

You are invited to participate in a research study conducted by Irving Biederman, Ph.D., Kenneth J. Hayworth and Mark Lescroart, of the Neuroscience Program, Jiye Kim, Xiaokun Xu, and Ori Amir of the Department of Psychology, University of Southern California. You have previously indicated that you do not have a pacemaker or any metal implants in your body. Your participation is voluntary, and you may withdraw at any time. Up to 300 subjects will participate in this experiment. You must be aged 18 or older to participate. You should read the information below, and ask questions about anything you do not understand, before deciding whether or not to participate. You may also decide to discuss it with your family or friends. If you decide to participate, you will be asked to sign this form. You will be given a copy of this form.

### **PURPOSE OF THE STUDY**

This study investigates brain activity associated with object perception. What are the brain regions that are engaged when passively viewing or actively differentiating between faces, objects, scenes, or shapes? You will be asked to either view or identify images that appear in the screen. The total duration of the experiment is approximately 90 minutes.

### **PROCEDURES**

#### **fMRI Brain Imaging Session**

The functional magnetic resonance imaging (fMRI) will be performed at the Dana and David Dornsife Cognitive Neuroscience Imaging Center at USC. The purpose of this study is not to provide medically relevant information as assessed by the MRI. The fMRI will allow us to monitor your brain activity while you view pictures on a screen.

The imaging testing session will take between one to two hours, but you will be in the imaging machine for approximately one hour. When you arrive at the imaging center, we will first review the tasks that you will be performing. Next, we will show you the imaging machine and other equipment. You will then empty your pockets and remove any jewelry, watches, belts or other metal objects. These possessions, together with your purse and any other personal items

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will be secured in a locked cabinet until the end of the testing session. You will lie on your back in the imaging machine and, when you are comfortable, the platform that you are lying on will be moved so that your head is inside a round, tunnel-like magnet. You will be instructed to remain still during the scan, which will take approximately 1 hour, and you may be asked to use a bite bar to stabilize your head should we deem it necessary. The magnet makes a loud noise during scanning, and you will be given earplugs to reduce the loudness of this sound.

During a portion of the scan you will perform the visual tests. You will be provided with a mirror that will allow you to see a screen we have placed outside the magnet. On this screen, you will be shown sequences of images and asked to focus your attention on each image that you see. Your eye movements may be monitored by video equipment during the experiment, and we will inform you of this if it is the case. In some instances, you will also be asked to make decisions about the images by keypress, using a handheld device.

### **POTENTIAL RISKS AND DISCOMFORTS**

There are currently no known health risks of a magnetic resonance scan. Because the imaging machine is narrow and noisy, you may experience claustrophobia or anxiety during the scanning. Please alert the investigators if you feel that you are exceptionally claustrophobic. We will terminate the scan at any point on your request.

There is no deception whatsoever in this experiment.

### **POTENTIAL BENEFITS TO SUBJECTS AND/OR TO SOCIETY**

You will not directly benefit from your participation. It is hoped that scientists may increase their our understanding of how the brain visually recognizes objects. Ultimately, this may have benefits in the diagnosis and treatment of various forms of brain damage that result in difficulties in visual recognition.

If you are interested, you may obtain a copy of the images taken of your brain.

### **PAYMENT FOR PARTICIPATION**

You will be compensated \$20 per hour for your time and effort. You will receive the payment at the end of your participation. If you do not complete the experiment, your payment will be pro-rated. For example, if your participation lasts half an hour, you will receive \$10.

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## **CONFIDENTIALITY**

Any information that is obtained in connection with this study and that can be identified with you will remain confidential and will be disclosed only with your permission or as required by law.

The brain images will be identified only by an identification number, not your name. When the results of the research are published or discussed in conferences, no information will be included that would reveal your identity.

The data coding is highly complex, specifying a particular trial type, response, and brain recordings for that trial for several hundred trials. General information as to age, gender, and handedness is stored with that data but the complexity of the data coding renders it nearly impossible for anyone to access the data in a meaningful way, even if they should want to do so (which has never happened in decades of running these experiments). Insofar as the information collected would not be considered to be intimate, the risks associated with disclosure, if it should ever happen, are minimal. Data will be stored for minimum of 3 years.

The magnetic resonance imaging (MRI) scan you will receive during the course of this study is for research purposes only. It is not a clinical scan intended for diagnostic or therapeutic purposes. The Dornsife Imaging Center is a research center. It is NOT a Clinical MRI facility in a hospital. There are no neuroradiologists at the Dornsife Imaging Center. Therefore the staff are unable to make any medical comments about your scan. Should you want to know if your scan is normal or abnormal, the staff will not be able to tell you. You will be given the data of the structural images on a CD. You may decline this offer. If you have any further questions or interests in the scan you can consult with your physician.

Please note that scans will be analyzed after you have left the Dornsife Imaging Center. Should the investigator subsequently encounter an image that he/she suspects to be abnormal, the investigator will request an expert opinion on the scan from a neuroradiologist at the Department of Radiology in the USC medical school, to clarify the researcher's suspicion. The structural scan will be sent to the Department of Radiology on a CD identified with your scan number only; no names will be used. The cost of the consultation on the scan will be borne by the Dornsife Imaging Center. Should there be a significant finding or cause for further medical investigation, as determined by the neuroradiologist, the investigator will inform you. The Dornsife Imaging center will not be responsible

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for any further medical or radiological investigation incurred as the result of such information.

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(subject's initials)

If you do not wish to receive such a follow up communication, you may decline by signing the statement below and Dornsife Imaging Center will not seek follow up consultation for your scan.

I hereby declare that I do not want to be informed of any incidental findings detected in my MRI and/or confirmed by consultation with the Department of Radiology at the USC Keck School of Medicine, regardless of their medical significance.

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(subject's signature)

## **PARTICIPATION AND WITHDRAWAL**

You can choose whether to be in this study or not. If you volunteer to be in this study, you may withdraw at any time without consequences of any kind. You may also refuse to answer any questions you don't want to answer and still remain in the study. The investigator may withdraw you from this research if circumstances arise which warrant doing so. Typically this would be because of noncompliance with the experimental procedures, for example, if you keep moving during the procedure.

## **IDENTIFICATION OF INVESTIGATORS**

If you have any questions or concerns about the research, please feel free to contact one of the investigators listed below:

Professor Irving Biederman  
[bieder@usc.edu](mailto:bieder@usc.edu)  
(213) 740-6094 (Office)

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[khayort@usc.edu](mailto:khayort@usc.edu)  
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*Address (for all investigators):*  
University of Southern California  
Hedco Neurosciences Bldg., Room 316,  
3641 Watt Way  
Los Angeles, CA 90089

### **RIGHTS OF RESEARCH SUBJECTS**

You may withdraw your consent at any time and discontinue participation without penalty. You are not waiving any legal claims, rights or remedies because of your participation in this research study. If you have questions regarding your rights as a research subject, contact the University Park IRB, Office of the Vice Provost for Research, Stonier Hall (STO), Room 224a, Los Angeles, CA 90089-1146, Tel: (213) 821-5272 or E-mail: upirb@usc.edu

### **SIGNATURE OF RESEARCH SUBJECT**

I understand the procedures described above. My questions have been answered to my satisfaction, and I agree to participate in this study. I have been given a copy of this form.

\_\_\_\_\_  
Name of Subject

\_\_\_\_\_  
Signature of Subject

\_\_\_\_\_  
Date

### **SIGNATURE OF INVESTIGATOR**

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I have explained the research to the subject and answered all of his/ her questions. I believe that he/she understands the information described in this document and freely consents to participate.

\_\_\_\_\_  
Name of Investigator

\_\_\_\_\_  
Signature of Investigator

\_\_\_\_\_  
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