

**California Institute of Technology
Administrative Committee on Biosafety
Minutes of the Institutional Biosafety Committee (IBC)**

Date: April 7, 2026

Time: 2:35 PM

Location: Zoom Videoconference

Voting Members: R. Ismagilov, M. Doshi, L. Cai, L. Quenee, N. Siladke, A. Grossman, M. Barsever, N. Singh, C. Cortese, E. Hisserich, F. Chen, M. Coleman

Nonvoting: 2 attendees

Guests: 1 attendee

Other: 1 attendee

Called to order at 2:35 pm, with a quorum in attendance.

1. Announcements

A. Welcome Member: Nitin Singh

2. Old Business

A. Protocol - Approved Pending Modification, Modification Complete

The following protocol was previously approved pending implementation of additional IBC-required modifications at the March 3 meeting. The modifications have been completed/implemented and the protocol is approved:

Protocol:	24-384-A2	Amendment	Expiration Date:	12/12/2027
Title:	Gene regulation and genome stability			
PI Name:	Fianu			
Modifications Completion: 3/27/2026				

B. Protocols - Approved Pending Modifications, Modifications Pending

The following protocols were previously approved pending implementation of additional IBC-required modifications at the March 3 meeting. The labs are still working on completing the modifications:

Protocol:	26-361	De Novo	Expiration Date:	5/12/2026
Title:	Untangling complex microbial interactions in environmental ecosystems			
PI Name:	Karthikeyan			
Anticipated Completion: 5/5/2026				

Protocol:	23-214-A2	Amendment	Expiration Date:	6/12/2026
Title:	Understanding the neural basis of motivated behavior for homeostatic regulation			
PI Name:	Oka			
Anticipated Completion:	5/5/2026			

3. New Business

A. Approval of Minutes: March 3, 2026

The March 3 meeting minutes were approved by a majority of the IBC. There was 1 abstention from a member who was not present at the March 3 meeting.

B. Protocols – Full Committee Review

Protocol:	26-327	De Novo	Expiration Date:	5/12/2026
Title:	Molecular mechanism of protein biogenesis and quality control			
PI Name:	Shan			
Brief Description of Project:	The goal is to understand the molecular and cellular mechanisms of protein folding, localization, and quality control. Basic molecular biology, biochemistry, and biophysical methods are used.			
Biological Materials Review Summary:	<p><i>E. coli</i> and yeast (<i>Saccharomyces cerevisiae</i>) as hosts to clone, express, and purify the proteins of interest.</p> <p>Human cell lines including HEK293T, SH-SY5Y and DAOY cells.</p> <p>Amyloid proteins: αSyn and Aβ42.</p>			
NIH Guidelines:	III-E, III-F	Highest BSL Level:	BSL2	
Training:	This protocol requires the following biosafety training: Basic Principles of Biosafety (BSL1) or Comprehensive Biosafety (BSL2) and annual Bloodborne Pathogens Training. Personnel who have not completed the required training will not begin this work until all appropriate training has been completed and documented.			
Review Summary:	All facilities, procedures, and practices have been reviewed by the IBC and are considered appropriate and acceptable.			
IBC Action/Decision:	Approved			
	❖ The committee reviewed and unanimously approved this protocol subject to adherence to the standard stipulations.			

Protocol:	26-286	De Novo	Expiration Date:	6/12/2026
Title:	Physical Biology of the Cell			
PI Name:	Phillips			
Brief Description of Project:	Our current research focuses on broad questions of how genomes are organized both in sequence and space to regulate the expression of their genes and how the flow of energy through biological systems gives rise to their fidelity.			
Biological Materials Review Summary:	Our lab uses bacterial and insect cells for DNA, RNA, and protein expression. We introduce synthetic gene products (primers and plasmids) into these expression systems. Bacterial genomic RNA and DNA is extracted with standard protocols or kits for sequencing.			

Insect or mammalian proteins are expressed and purified from insect cell lines. Our lab also supports a collaboration project with <i>Pseudomonas aeruginosa</i> , but all <i>Pseudomonas</i> related experimental work is conducted in the collaborating lab.			
NIH Guidelines:	III-D, III-E, III-F	Highest BSL Level:	BSL2
Training: This protocol requires the following biosafety training: Basic Principles of Biosafety (BSL1) or Comprehensive Biosafety (BSL2) Training. Personnel who have not completed the required training will not begin this work until all appropriate training has been completed and documented.			
Review Summary: All facilities, procedures, and practices have been reviewed by the IBC and are considered appropriate and acceptable.			
IBC Action/Decision: Approved			
❖ The committee reviewed and unanimously approved this protocol subject to adherence to the standard stipulations.			

Protocol:	26-363	De Novo	Expiration Date:	6/12/2026
Title:	Effect of microgravity and microbes on <i>Caenorhabditis elegans</i>			
PI Name:	Gonzalez-Serricchio			
Brief Description of Project: This project investigates how simulated microgravity and environmental microbes affect the physiology and microbial colonization of <i>Caenorhabditis elegans</i> . The study uses non-pathogenic microorganisms, including GFP-labeled <i>Escherichia coli</i> . While all microorganisms used are non-pathogenic and consistent with Risk Group 1 / Biosafety Level 1 organisms, work involving recombinant bacteria and transgenic <i>C. elegans</i> is conducted under BSL-2 containment. All work is conducted at Caltech to support space biology research.				
Biological Materials Review Summary: This protocol involves the use of <i>Caenorhabditis elegans</i> (wild-type and transgenic), non-pathogenic <i>Escherichia coli</i> OP50 (wild-type and GFP-labeled), and non-pathogenic environmental microbes (<i>Bacillus pumilus</i> , <i>Naganishia</i> spp., and <i>Cystobasidium onofrii</i>) under BSL-2 conditions. These materials are used to investigate host-microbe interactions and stress responses in microgravity analog environments.				
NIH Guidelines:	III-D	Highest BSL Level:	BSL1	
Training: This protocol requires the following biosafety training: Basic Principles of Biosafety (BSL1) Training. Personnel who have not completed the required training will not begin this work until all appropriate training has been completed and documented.				
Review Summary: All facilities, procedures, and practices have been reviewed by the IBC and are considered appropriate and acceptable.				
IBC Action/Decision: Approved				
❖ The committee reviewed and unanimously approved this protocol subject to adherence to the standard stipulations.				

Protocol:	24-301-A2	Amendment	Expiration Date:	7/12/2027
Title:	Engineering biocatalysts for new-to-nature activities			
PI Name:	Arnold			
Brief Description of Project: This amendment is to include human cell lines to assess response to experimental compounds.				
Biological Materials Review Summary: Standard passaging and upkeep of immortal cells lines (HEK293				

or HeLa) and transfection of cell lines with pDNA using lipofectamine. Experiments will be conducted with BSL-2 containment.			
NIH Guidelines:	III-E	Highest BSL Level:	BSL2
Training: This amendment requires the following biosafety training: Comprehensive Biosafety (BSL2) and annual Bloodborne Pathogens Training. Personnel who have not completed the required training will not begin this work until all appropriate training has been completed and documented.			
Review Summary: All facilities, procedures, and practices have been reviewed by the IBC and are considered appropriate and acceptable.			
IBC Action/Decision: Approved with Stipulation			
<ul style="list-style-type: none"> ❖ The committee reviewed and unanimously approved the protocol subject to the adherence to the following special stipulation, along with all standard stipulations: <ul style="list-style-type: none"> ○ Individuals handling human materials must complete Comprehensive Biosafety (BSL2) and Bloodborne Pathogens Training. 			

C. Protocols - Expedited Review

Protocol:	25-270-A3	Amendment	Expiration Date:	5/12/2028
Title:	Adeno-associated viral (AAV) vectors in animals for visualizing host-microbe interactions in the brain and gut			
PI Name:	Mazmanian			
Brief Description of Project: To test effect of localized protein expression on PD-related phenotypes, we are including additional in vivo administration routes.				
Biological Materials Review Summary: This amendment includes additional administration routes for viral vectors in animals.				
NIH Guidelines:	III-D	Highest BSL Level:	BSL2	
Training: This protocol amendment requires the following biosafety training: Comprehensive Biosafety (BSL2), annual Bloodborne Pathogens, and Viral Vector Training. Personnel who have not completed the required training will not begin this work until all appropriate training has been completed and documented.				
Review Summary: All facilities, procedures, and practices have been reviewed by the IBC and are considered appropriate and acceptable.				
IBC Action/Decision: BSO Approved				
<ul style="list-style-type: none"> ❖ The BSO reviewed and approved the protocol subject to the adherence to the standard stipulations. 				

Personnel/Admin Amendments

- 23-288 Pachter (CLOSED)
- 23-292 Gao
- 23-329 Semlow
- 24-239 Lois
- 24-295 Hay
- 24-296 Mazmanian
- 24-299 Clemons
- 24-300 Rees
- 24-378 Nolan
- 25-317 Zernicka-Goetz
- 25-324 Zernicka-Goetz
- 25-347 Orphan
- 25-395 Datta

4. Other Business

A. IBC PAS

The BSO provided an update regarding the transition to the online IBC PAS system. IBC PAS is anticipated to begin with a soft rollout to PIs in June, a full rollout in July, and the first IBC meeting transitioned to the system to occur in September. IBC Member Training will be provided prior to the meeting transition.

B. Greenhouse

The BSO provided a brief overview regarding the final stages of the Greenhouse design. Construction is anticipated to begin soon and conclude in early 2027.

Next Meeting – May 5, 2026

Meeting adjourned at 3:16 pm

Approved by the IBC 5/5/26