

COMS meeting on 5/1/2026

Minutes

Location: ZOOM

Time: 10AM - 12PM

Harvard University Committee on Microbiological Safety (COMS)

COMS@hms.harvard.edu

Documentation of Quorum

Total Voting Members on Committee Roster: 30

Total Needed for Quorum: 16

Total Voting Members Present: 22

ATTENDEES PRESENT		
Committee Chair		Committee Vice Chair
• S. Helaine		• R. Rasmussen
Members		
• A. Baptista (IBC Member)	• R. Lee (IBC Member)	• A. Reid (Biosafety Officer)
• D. Barbeau (IBC Member)	• Y. Lu (IBC Member)	• S. Santra (IBC Member)
• S. Bhalchandra (IBC Member)	• M. Melisi (Biosafety Officer)	• J. Sixsmith (IBC Member)
• M. Dorf (IBC Member)	• B. Neugeboren (IBC Member)	• M. Super (IBC Member)
• L. Gamer (IBC Member)	• M. Nilsen (IBC Member)	• T. Winters (IBC Member)
• J. Kirby (IBC Member)	• J. Park (IBC Member)	• D. Tipper (Local Non-Affiliated Member)
• T. Kwan (Local Non-Affiliated member)	• R. Polak (IBC Member)	• C. Walsh (IBC Member)
• R. Colgrove (IBC Member)	• K. Pritchett-Corning (IBC Member)	
Ex-Officios (Non-Voting)		
• B. Corning	• M. Corrigan	• S. Estime
• S. Elwell	• E. Macleod	• M. Schatz
Guests and Members of Public (Non-Voting): 2		

Call to Order

The meeting was called to order at 10:00 AM.

Introduction of Guests

There were no guests to introduce.

Meeting Minutes for Approval

Meeting	Minutes Approved	Link to Minutes
COMS meeting on 2/27/2026	yes	Link

Scheduled Business

Type	COMS #	Title	PI	Institution	Motion
Appointed Review Protocols Involving	21-151-A10	Neurobiology of olfaction	Sandeep Datta	Harvard Medical School (HMS)	This amendment adds new viral vectors, gene targets, and human tissue to the protocol to study the olfactory system function in mice and human tissue. The amendment also adds a new replication deficient G-protein deleted rabies strain and human tissue. This work falls Section III-D of the NIH

Recombinant DNA					Guidelines, and will be conducted under BL2/BL2-N per COMS policies and institutional biosafety manuals. The committee had no other comments or questions about this protocol. A motion was made to approve the protocol. The committee voted. Approved: 20 Against: 0 Abstentions: 2
Appointed Review Protocols Involving Recombinant DNA	22-041-A06	The effects of antibiotics and engineered live biotherapeutics on gut homeostasis	James Collins	Wyss Institute	The lab studies the use of engineered normal gut microorganisms to diagnose and treat gut-associated diseases. This amendment includes the addition of one yeast species and work to engineer probiotic yeasts to express intestinal-cell targeting binding structures and immunomodulatory molecules associated with amelioration of those diseases. This work falls under sections III-E and III-F of the NIH Guidelines and will be conducted under BL2 and BL2-N per COMS policies and institutional biosafety manuals. The committee discussed the proposed use of the strain in biotechnology, with particular attention to the expression of immune modulators (cytokines). The BSO raised concerns that expression of these molecules may warrant increasing the containment level to BL2. The committee also considered the potential risks to immunocompromised individuals, including the possibility of invasive disease associated with both <i>Kluyveromyces marxianus</i> and <i>Saccharomyces boulardii</i>. Additionally, the committee noted that the PI is genetically modifying the organism to express traits that it would not naturally produce and discussed the implications of these modifications for the overall biosafety assessment. The approval letter will contain the following additional statement: The <i>K. marxianus</i> expressing the cytokine proteins must be handled at BL2 containment. The committee had no other comments or questions about this protocol. A motion was made to approve the protocol. The committee voted. Approved: 21 Against: 0 Abstentions: 1
Appointed Review Protocols Involving Recombinant DNA	22-044-A17	Use of Nontuberculous mycobacteria to study mycobacterial biology	Eric Rubin	Harvard T.H. Chan School of Public Health (HSPH)	A member associated with this study was placed in a zoom waiting room before the discussion. The lab investigates mycobacterial genetics in non-tuberculous mycobacteria. This amendment adds procedures to analyze lipoprotein localization through heterologous expression of genes derived from pathogenic mycobacterial strains in <i>Mycobacterium smegmatis</i> and <i>Mycobacterium abscessus</i>. The research involves cloning and expressing single loci of highly homologous targets (e.g., transport complexes and porins). It falls under Sections III-D of the NIH Guidelines and will be conducted under BL1 and BL2 per COMS policies and institutional biosafety manuals. The committee had no other comments or questions about this protocol. A motion was made to approve the protocol. The committee voted. Approved: 21 Against: 0 Abstentions: 0 A member associated with this study was brought back into the room.

Appointed Review Protocols Involving Recombinant DNA	25-013-A04	Decoding viral genomes	Shira Weingarten-Gabbay	Harvard Medical School (HMS)	The lab uses high-throughput methods to decode viral genomes. This amendment introduces the use of BL2 alphavirus-based platforms for high-level transient expression of individual proteins (fluorescent tags and surface receptors) as well as short, synthetic oligonucleotide libraries in mammalian cell lines. Only in vitro experiments are proposed. Stipulations apply to the use of pan-viral synthetic oligonucleotide libraries. This work falls under sections III-D and III-E of the NIH Guidelines and will be conducted under BL2 per COMS policies and institutional biosafety manuals. Following a summary provided by the BSO, the committee discussed the proposed cloning system. Reviewer concerns focused on improving protocol documentation, including clearly identifying amendments to the COMS protocol, describing how sequences of concern (SOCs) are identified and managed, addressing SOCs that may arise from large sequence libraries, and clarifying whether known virulence factors or toxins could constitute SOCs. The BSO informed the committee that the Framework for Nucleic Acid Synthesis Screening will apply to this and other applicable studies. Under the Framework, investigators receiving federal funding for this work are required to use approved vendors that attest to compliance with the Framework, obtain vendor attestations confirming that identified SOCs have been addressed prior to sequence delivery, and report any SOCs identified by the PI to COMS. The committee agreed that the biosafety containment levels specified in the protocol are appropriate. The BSO further clarified that the PI will receive inactivated viral lysates derived from previously inactivated RG3/4 materials. Validation data demonstrating successful inactivation has been provided to both the PI and the BSO and will accompany each future shipment. Because the materials have been validated as inactivated, they are not considered COMS Regulated Materials (CRMs). The committee had no other comments or questions about this protocol. A motion was made to approve the protocol. The committee voted. Approved: 21 Against: 0 Abstentions: 1
Appointed Review Protocols Involving Recombinant DNA	26-028	Exploring the cell & molecular origins of virus-driven inflammatory disease 2026	Jennifer Oyler-Yaniv	Harvard Medical School (HMS)	This is a 5 year rewrite. The lab continues to study virus induced inflammatory disease. The lab works with lentiviral vectors, human and non-human primate cells, transgenic mice, non-pathogenic Escherichia coli, Salmonella typhimurium, Herpes simplex virus, Lymphocytic choriomeningitis virus, Murine Stem Cell Virus (MSCV), influenza virus, and cell supernatant from containing inactivated viruses from a collaborator (Vaccinia and Mpox). Some of these organisms are genetically modified with fluorescent molecules. This work falls under Sections III-D, III-E, and III-F of the NIH guidelines and will be conducted at BL1/BL1-N, BL2/BL2-N, and BL2 with additional stipulations per COMS policies and institutional biosafety manuals. Some agents may require a consultation with occupational health be offered. The committee discussed the validation requirements for inactivated Mpox virus samples, noting that it is standard practice for the collaborating institution to provide validation data to both the PI and the BSO for review prior to shipment and receipt of samples. The committee further discussed the time and temperature requirements for viral inactivation, specifically if treatment at 56°C for 30 minutes is sufficient to ensure inactivation of Mpox virus. Members emphasized that

					confirmation of successful inactivation is critical before samples are received. The committee also considered the available data regarding the infectious dose of Mpox virus. The BSOs noted that the Health Canada Pathogen Safety Data Sheet does not identify a clear infectious dose. Additional published data were discussed, including findings in cynomolgus macaques estimating an aerosol infectious dose (ID₅₀) of approximately 200 plaque-forming units (PFU), with infectious doses via other exposure routes (e.g., intranasal and oral) generally ranging from 10 to 10,000 PFU. Finally, the committee recommended incorporating standard occupational health language into the approval documentation, and the BSO will update the draft approval letter accordingly. The committee had no other comments or questions about this protocol. A motion was made to approve the protocol. The committee voted. Approved: 21 Against: 0 Abstentions: 1
Standard Review Protocols Involving Recombinant DNA	22-003-A29	Infection in B7-deficient mice	Arlene Sharpe	Harvard Medical School (HMS)	The lab focuses on determining pathways involved in immune response, predominantly using mouse models. This amendment adds the use of new recombinant human cell lines in animal tumor studies. This falls under sections III-D and III-F of the NIH Guidelines and will be conducted under BL1, BL1-N, BL2, and BL2-N per COMS policies and institutional biosafety manuals. The committee had no other comments or questions about this protocol. A motion was made to approve the protocol. The committee voted. Approved: 22 Against: 0 Abstentions: 0
Standard Review Protocols Involving Recombinant DNA	23-009-A17	Plasmid delivery using polymeric and lipid nanoparticles	Natalie Artzi	Wyss Institute	The lab researches methods to optimally deliver effector biomolecules to cells. The lab routinely uses lipid nanoparticles (LNP) to deliver RNA to cells in vitro and this amendment is to now test using LNP to deliver RNA in mice. This work falls under section III-D of the NIH Guidelines and will be conducted under BL1 and BL1-N, per COMS policies and institutional biosafety manuals. The committee had no other comments or questions about this protocol. A motion was made to approve the protocol. The committee voted. Approved: 22 Against: 0 Abstentions: 0
Standard Review Protocols Involving Recombinant DNA	23-010-A10	Investigating apoptosis regulation in tissue homeostasis and disease	Kristopher Sarosiek	Harvard T.H. Chan School of Public Health (HSPH)	The lab aims to understand how apoptosis regulation in healthy and diseased cells influences their sensitivity to damage, particularly genotoxic stress from radiation or chemotherapy. This amendment adds the use of a new room, several genetically modified murine cancer cell lines, and human cell lines to the protocol. Recombinant work includes the use of a viral vector to target genes involved in the intrinsic mitochondrial apoptosis pathway. Work falls under sections III-D and III-F of the NIH Guidelines and will be conducted under BL1, BL1-N, BL2, BL2-N, and BL2 with additional stipulations per COMS policies and institutional biosafety manuals. The committee had no other comments or questions about this protocol. A motion was made to approve the protocol. The committee voted. Approved: 22

					Against: 0 Abstentions: 0
Standard Review Protocols Involving Recombinant DNA	24-011-A06	Comparison of signal processing between microbial species 2024	Michael Springer	Harvard Medical School (HMS)	This amendment adds previously approved materials and projects to this protocol. One project adds non-pathogenic <i>Escherichia coli</i>, plasmids, and purified proteins for downstream analysis. The other project studies gene knockouts of key virulence or biofilm production genes in <i>Nakaseomyces glabratus</i>. This work falls under Sections III-D and III-F of the NIH Guidelines and will be conducted at BL1 and BL2 per COMS policies and institutional biosafety manuals. The committee had no other comments or questions about this protocol. A motion was made to approve the protocol. The committee voted. Approved: 22 Against: 0 Abstentions: 0
Standard Review Protocols Involving Recombinant DNA	24-076-A02	Developmental biology and genetic manipulation of stem cells within the mammalian integumentary system III	Ya-chieh Hsu	Harvard Faculty of Arts and Sciences (FAS)	The lab uses the skin as a model organ to study stem cell behavior. This amendment adds murine cells, human skin, and mRNA lipid nanoparticles (LNP) to the protocol. This falls under sections III-D and III-F of the NIH Guidelines, and will be conducted under BL1, BL1-N, BL2, and BL2-N per COMS policies and institutional biosafety manuals. The committee had no other comments or questions about this protocol. A motion was made to approve the protocol. The committee voted. Approved: 22 Against: 0 Abstentions: 0
Standard Review Protocols Involving Recombinant DNA	25-137-A01	Use of novel biomaterials for developing cellular and molecular therapies against infectious and oncogenic diseases	David Mooney	Wyss Institute	The lab researches using different materials for optimizing the delivery and activity of various effector biomolecules for vaccine development and oncologic treatment. This amendment is to test various biomaterials for the delivery of mRNA encoding reporter molecules, antigenic molecules, or cytokines in mice. This work falls under section III-D of the NIH Guidelines, and will be conducted under BL1 and BL1-N, per COMS policies and institutional biosafety manuals The committee had no other comments or questions about this protocol. A motion was made to approve the protocol. The committee voted. Approved: 22 Against: 0 Abstentions: 0
Standard Review Protocols Involving Recombinant DNA	26-022	Neural mechanics of decision making in rodents 2026	Naoshige Uchida	Harvard Faculty of Arts and Sciences (FAS)	This is a 5-year rewrite for the lab. The lab studies how animals acquire and process sensory information and previous memories to guide flexible behaviors. Proteins that activate, inactivate, or ablate specific brain circuits will be delivered via various viral vectors. This falls under sections III-D, III-E, and III-F of the NIH Guidelines, and will be conducted under BL1, BL1-N, BL2, BL2-N, and BL2-N-72hrs per COMS policies and institutional biosafety manuals. The committee had no other comments or questions about this protocol. A motion was made to approve the protocol. The committee voted. Approved: 22 Against: 0 Abstentions: 0
Standard Review Protocols Involving	26-029	Principles and applications of neuroscience	Zeguan Wang	Harvard Faculty of Arts and Sciences (FAS)	This is a new protocol for a new PI. The lab will utilize zebrafish as a model organism to generate and analyze transgenic lines. Transgenic animals will be achieved through embryo microinjection of recombinant DNA constructs and CRISPR/CAS-9 genome editing reagents including guide

Recombinant DNA		technologies in vertebrates			RNAs, mRNA and/or protein components. Embryos and larvae will be used for downstream analysis including fluorescent-based imaging and microscopy. Adult zebrafish may undergo minor tissue sampling for genotyping purposes. Recombinant DNA plasmids will be constructed and propagated using non-pathogenic E. coli K12 strains; these plasmids will encode fluorescent proteins genetically encoded by sensors and optogenetic actuators (e.g., GFP, GCaMP and channelrhodopsin-2). The proposed activities fall under NIH Guidelines sections III-D, and III-F. The work can be safely conducted at BL1/BL1-N according to COMS policies and institutional biosafety manuals. The committee had no other comments or questions about this protocol. A motion was made to approve the protocol. The committee voted. Approved: 22 Against: 0 Abstentions: 0
Standard Review Protocols Involving Recombinant DNA	26-031	Study of stem and progenitor cell gene expression and protein production in repair and regeneration of cardiac, muscle and endothelial tissue in vertebrate development and disease 2026	Richard Lee	Harvard Faculty of Arts and Sciences (FAS)	A member associated with this study was placed in a Zoom waiting room for the discussion of this study. This is a 5-year renewal for the lab. They study gene expression in repair of cardiac, muscle, and endothelial tissue. The lab uses tissue from humans, rodents, and non-human primates, as well as human cells, and viral vectors carrying low-risk and reporter genes. This falls under sections III-D, III-E, and III-F of the NIH Guidelines and will be conducted under BL1, BL1-N, BL2, BL2-N, and BL2-N-72hrs per COMS policies and institutional biosafety manuals. The committee had no other comments or questions about this protocol. A motion was made to approve the protocol. The committee voted. Approved: 20 Against: 0 Abstentions: 1 A member associated with this study was brought back into the meeting after the vote.
Standard Review Protocols Involving Recombinant DNA	26-032	Structural basis of pheromone sensing in insects	Josefina del Marmol	Harvard Medical School (HMS)	This is a new protocol for the lab. Investigators will express insect odorant receptors in HEK293T cells using recombinant DNA constructs. Non-pathogenic strains of Escherichia coli (K12 and B strains) and will be used for cloning and production of recombinant DNA and expression plasmids. The lab will conduct behavioral assays using wild-type Manduca sexta adult moths obtained from commercial suppliers. These moths will not be exposed to recombinant DNA or genetically modified organisms. Behavioral experiments will be limited to assessing olfactory-driven behaviors, such as the extent to which males track female scent cues. Moths will be handled at the insectary. The work falls under sections III-E and III-F of the NIH Guidelines and will be conducted under BL1 and BL2 containment per COMS policies and institutional biosafety manuals. The committee had no other comments or questions about this protocol. A motion was made to approve the protocol. The committee voted. Approved: 22 Against: 0 Abstentions: 0

Standard Review Protocols Involving Recombinant DNA	26-033	Integrating chemistry and evolution to illuminate biology and enable novel therapeutics	David Liu	Harvard Faculty of Arts and Sciences (FAS)	This is a 5-year rewrite for the lab. They use human and mouse tissue and cells as well as viral vectors and Escherichia coli to study therapeutic proteins and gene-modifying agents. This falls under sections III-D, III-E, and III-F of the NIH Guidelines, and will be conducted under BL1, BL1-N, BL2, and BL2-N-72hrs per COMS policies and institutional biosafety manuals. The committee had no other comments or questions about this protocol. A motion was made to approve the protocol. The committee voted. Approved: 22 Against: 0 Abstentions: 0
Standard Review Protocols Involving Recombinant DNA	26-037	Investigation of mechanisms in cancer	Brian Liao	Harvard Faculty of Arts and Sciences (FAS)	This is a 5-year rewrite. The lab studies cancer cells and genes involved in cancer to discover new therapeutic targets. Work will be done in tissue culture in human, mouse, and insect cell lines with lentiviral and baculoviral vectors. Non-pathogenic bacteria will be used for cloning and protein over-expression. This falls under sections III-D, III-E, and III-F of the NIH Guidelines, and will be conducted under BL1, BL2, and BL2 with additional stipulations per COMS policies and institutional biosafety manuals. The committee had no other comments or questions about this protocol. A motion was made to approve the protocol. The committee voted. Approved: 22 Against: 0 Abstentions: 0
Standard Review Protocols Not Involving Recombinant DNA	25-046-A01	FUEL summer 2025 — Undergraduate summer program	Daniel Kahne	Harvard Faculty of Arts and Sciences (FAS)	This protocol is for an undergraduate summer program teaching basic microbiology and molecular biology techniques. The amendment adds the use of transgenic worms, Candida elegans, and a non-pathogenic Escherichia coli strain for feeding. The worms will be used to study response to environmental & internal state changes. This falls under sections III-D of the NIH Guidelines and will be conducted under BL1 per COMS policies and institutional biosafety manuals. The committee had no other comments or questions about this protocol. A motion was made to approve the protocol. The committee voted. Approved: 22 Against: 0 Abstentions: 0
Standard Review Protocols Not Involving Recombinant DNA	21-127-A02	DNA and RNA extraction from human stool and saliva, non-human environmental swabs, and cultured microorganisms	Curtis Huttenhower	Harvard T.H. Chan School of Public Health (HSPH)	The lab works with various samples to extract DNA and RNA for microbiome assays. This amendment adds a new room and additional BL1 bacterial strains for nucleic acid extraction as well as metabolomics analysis. This falls under no sections of the NIH Guidelines and will be conducted under BL1 per COMS policies and institutional biosafety manuals. The committee had no other comments or questions about this protocol. A motion was made to approve the protocol. The committee voted. Approved: 22 Against: 0 Abstentions: 0
Standard Review Protocols Not Involving	24-146-A01	The Immune response to pathogens 2024	Michael Starnbach	Harvard Medical School (HMS)	The lab studies host responses to bacterial pathogens. This amendment incorporates the use of Influenza A/PR/8/34 into existing in vitro and in vivo procedures to assess whether prior influenza immunity is modified by subsequent Borrelia burgdorferi infection. Virus infectious dose will be used as provided by source; no in vitro propagation or genetic

Recombinant DNA					modification of the virus will be performed in this lab. The work falls under no section of the NIH Guidelines and will be conducted under BL2/BL2-N per COMS policies and institutional biosafety manuals. The committee had no other comments or questions about this protocol. A motion was made to approve the protocol. The committee voted. Approved: 22 Against: 0 Abstentions: 0
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Personnel Training

The PI and laboratory staff are required to be trained in accordance with the COMS Training Policy. Current PI training was verified by the Institutional Biosafety Officer for all protocols discussed at today's meeting, and PIs are responsible for ensuring laboratory and agent-specific training for their staff.

Lab Inspections

The Institutional Biosafety Officer provided inspection dates for all protocols discussed at today's meeting. Facilities are considered appropriate for the proposed work and proposed containment levels. No significant findings/noncompliance were noted to the committee. The laboratories are working on any necessary corrective actions.

Public Comments

There were no public comments.

New Policies and Procedures

There were no new policies or procedures to discuss.

Reported Incidents

There were no incidents discussed.

Old Business

There was no old business to discuss at this meeting.

New Business

There was no new business discussed.

Adjournment

The meeting was adjourned at 11:10AM.