

Rutgers University
Institutional Biosafety Committee (IBC) – Central Campus
Meeting for NIH Guidelines Materials
Minutes of June 3, 2026

1. ATTENDEES

☐ Nada Boustany	☐ Milind Shah	☒ Robert Adcock - REHS
☒ Jeffrey Boyd	☐ Matthew Ferguson – Local Non-Affiliated	☒ Jacquelyn Vidal - REHS
☒ Qian Cai	☐ Ellen Welch – Local Non-Affiliated	☒ Sophia Cheng - REHS
☒ Julie Caruth	☒ Thomas Boyle – Local Non-Affiliated	☒ Roseann Kehoe
☒ Richard Ebright	☐ James Clancy – Local Non-Affiliated	☐
☒ Zhaohui Feng	☐ Jeetendra Eswaraka – Ex Officio	☐
☒ John Hershey	☐ Alejandro Ruiz – Ex Officio	☐
☒ Peng Jiang	☐ Bryan Bocco – Ex Officio	☐
☒ Eric Klein	☒ Ron Hart – Co- Chair	☐
☐ John McLaughlin	☒ Brian Eggert - REHS	☐
☐ Latisha Moody	☒ Marija Borjan - REHS	☐
☒ Donald Schaffner	☒ Blas Peixoto - REHS	☐

2. MEETING LOGISTICS

CURRENT MEETING		
Called to Order: 12:02 PM	Adjourned: 12:27 PM	Location: WebEx
PREVIOUS MEETING		
Minutes from April 1, 2026		Approved (12:0:0)^{1, 2}
NEXT MEETING		
Date: August 5, 2026	Time: 12:00 PM	Location: WebEx

CONFLICT OF INTEREST STATEMENT

Committee members with a conflict of interest related to the review of a specific registration may not be involved in the review or approval of a project in which he or she has been or expects to be engaged or has a direct financial interest.

3. PRE-AGENDA

TOPIC	SUMMARY
New Business: REHS Staff Update	Sivarchana Boada left Rutgers to pursue other opportunities.

The following protocols were reviewed according to the risk assessment guidelines published in the *NIH Guidelines for Research Involving Recombinant or Synthetic Nucleic Acid Molecules* and the CDC/NIH publication *Biosafety in Microbiological and Biomedical Laboratories*. The risk assessment is documented in the REHS Biosafety Protocol Management System and includes a review of the engineering controls, work practices, safety training, and medical surveillance of project personnel. Individual protocols are evaluated on the following matters as appropriate: the proposed biosafety level and safety practices, agent characteristics, source and nature of agents or recombinant/synthetic nucleic acid sequences and resulting effects of expressed proteins, host animals/ cells, and cloning vectors to be used, and the type of manipulations planned.

Note: Protocols were not necessarily reviewed in the order they appear below.

1. ADMINISTRATIVE APPROVALS

PROTOCOL	PI	MATERIAL(S) OF INTEREST	BSL
12-158	Zaratiegui Biurrun, Miguel	Renewal with changes – housekeeping edits and answered new questions in Addendum A and K	2
19-037	Zhou, Zhongren	Renewal with changes – adding human esophageal specimens (formalin fixed)	2
14-106	Gallavotti, Andrea	Amendment – updating personnel and USDA-APHIS permit	1
12-219	Gao, Nan	Renewal with changes – housekeeping edits	2
21-030	Payne, Kyle	Amendment – adding 2 lab rooms	2
12-190	Verzi, Michael	Amendment – adding human colon tissue	2
13-589	Gu, Guoping	Renewal without changes	2
23-006	Martinez Zamudio, Ricardo	Renewal without changes	2
20-059	Navarro-Hilfiker, Sabine	Amendment – adding 2 cell lines and updating personnel	2

2. ADMINISTRATIVE TERMINATIONS

PROTOCOL	PI	TITLE OF PROTOCOL	EXPIRY DATE
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None			
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3. BIOSAFETY OFFICER REPORT (BSO) Approved (12:0:1) ^{1, 2}			
PROTOCOL	PI	TITLE & MATERIAL(S) OF INTEREST	BSL / GUIDELINES
17-005	Parekkadan, Biju	Title: Engineering and testing of blood products Materials: rDNA, AAV, Mice, Human cells Submission Summary: This amendment adds studies examining the impact of parathyroid hormone (PTH) on bone stability using hypoparathyroid mouse models. Similar to in vitro AAV experiments previously approved in this protocol, human cells (HEK cells from ATCC) will be transfected with AAV-2 vector plasmids (containing the AAV backbone previously approved), to generate AAV-2 vectors expressing the PTH gene (which is in the previously approved group of hematopoietic signaling molecule genes). Vectors will be injected intravenously into hypoparathyroid mice via tail vein. Blood will be collected from mice weekly to assess PTH levels and bone biomarkers. All vector handling procedures will be performed under BSL-2 containment within a biosafety cabinet using established injection and animal handling methods already approved for this group. The viral vector is replication-incompetent, and no new biosafety risks beyond those of existing approved AAV and human cell line work are introduced. Waste and carcasses will be decontaminated by chemical disinfection or autoclaving prior to regulated medical waste disposal. Occupational Health: In Place Training: In Place BioAudit: Facilities are Acceptable	2 / III-D-1, III-D-4
14-115	Hart, Ronald	Title: Neurogenesis in iPSC models of human mental health disorders Materials: rDNA, Human blood, Sendai virus Submission Summary: The previously-approved protocol includes reprogramming of human lymphocyte cultures into induced pluripotent stem	2 / III-D-1

		cells (iPSC). The amendment adds the acquisition of human blood samples (RG-2) and our processing of blood to prepare lymphocytes. Blood samples are drawn by staff of the Alzheimer's Center under IRB protocol Pro2023002375, "The South Asian middle age risk tracking for brain health study (SAMARTH)," approved 3/9/2026. Samples are either delivered to us or we pick them up from locations on campus. All handling of open blood samples will be performed in a certified BSL2 cabinet. Centrifugation is performed using aerosol-tight buckets, which are loaded and unloaded inside the BSL2 cabinet. All waste is decontaminated and disposed as RMW. Personnel use lab coats, gloves, and eye protection during all procedures. Further culture and reprogramming of lymphocytes are covered under the previously-approved protocol. Occupational Health: In Place Training: In Place BioAudit: Facilities are Acceptable	
23-003	Hsu, Chun-chieh	Title: BSL-3 viruses Materials: rDNA, SARS-CoV-2 Submission Summary: The goal of this project is to investigate the mechanisms by which RNA modifications regulate SARS-CoV-2 replication, translational control, and viral immune evasion. Our preliminary data demonstrate that SARS-CoV-2 genomic RNA is m7G modified and that viral proteins, such as NSP14, mediate this process. However, a better understanding of how these modifications impact viral fitness and host translational regulation is required. To address this, human cell lines and mouse models (including wild-type, viperin^{-/-}, and cmpk2^{-/-}) will be infected with wild-type, mouse-adapted, and recombinant SARS-CoV-2 mutant strains—generated via reverse genetics—to evaluate viral replication, pathogenesis, and the efficacy of a synthetic ddhC-prodrug. Key agents include SARS-CoV-2 (a Risk Group 3 respiratory pathogen that is moderately environmentally stable and causes illness ranging from mild respiratory symptoms to severe disease) and third-generation lentiviral vectors (Risk Group 2). Risks include potential laboratory-acquired infection via aerosol inhalation or mucous	3 / III-D-1, III-D-3

		membrane exposure and accidental insertional mutagenesis. To mitigate these risks, measures that go beyond standard requirements include the use of locking safety cups for centrifugation and the immediate chemical inactivation (via Trizol, 10% NBF, 4% PFA, or 50% acetonitrile) of all samples within the BSC before removal from BSL-3. Nucleic acid sources include commercial plasmids, synthetic sequences, and SARS-CoV-2 genomic RNA. Modifications to the SARS-CoV-2 genome (such as mutations to NSP14) are designed to attenuate function and are not expected to increase virulence, fitness, or tropism compared to the wild-type strain, as supported by sequence conservation and published literature (PMC8670481). Experimental manipulations include molecular cloning, lentiviral transduction, CRISPR gene editing, and in vivo infection of wild-type and knockout mice via intranasal or intracheal administration. Endpoints and methods include monitoring clinical disease progression (up to 14 days post-infection), viral plaque assays, host immune response profiling, and metabolomic analysis via LC-MS/MS on harvested tissues (lungs, spleen, serum, and urine), with the humane endpoint defined as >25% weight loss. All manipulations of infectious cultures and tissues are performed within a certified biosafety cabinet, in accordance with institutional biosafety and hazardous-waste-disposal procedures. Occupational Health: In Place Training: In Place BioAudit: Facilities are Acceptable	
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4. AD HOC MEETING APPROVALS			
PROTOCOL	PI	TITLE & MATERIAL(S) OF INTEREST	BSL
None			

5. NEW PROTOCOLS			
PROTOCOL	PI	TITLE & MATERIAL(S) OF INTEREST	BSL / GUIDELINES

26-010	Lin, Zongtao	Title: Recombinant and synthetic genetic material for cell transfection Materials: rDNA, E. coli, Human cells Submission Summary: The main goal of this project is to investigate the regulation of protein arginylation in human cell cultures. This is a new protocol submission for protein overexpression in E. coli and in cell cultures to discover arginylation and associated regulatory pathways controlling protein degradation and function. This submission includes E. coli culturing to express recombinant proteins, specifically, the protocol is requesting approval to perform inoculation, induction, and culturing of E. coli to purify proteins used in arginylation assays. These bacteria are Biosafety Level 1 organisms that are commonly used in research labs. This submission also includes cell culture transfection by plasmids, specifically, the protocol is requesting approval to perform plasmid transfection in cells to overexpress proteins and detect their protein modification and cellular functions. Cells will be incubated with addition of plasmid and transfection agents. Cells will be collected in a week, lysed in buffers for immunoprecipitation pulldown experiments. Additional experiments include assessment of protein abundances by Western blotting and gel staining. Biosafety level 2 (BSL2) containment practices will be followed. Biological waste materials, including E. coli and cell culture-related materials, will be autoclaved before disposal. Spills will be decontaminated with 70% ethanol and 10% bleach for disinfection. IBC Vote: Tabled	2 / III-E
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6. AMENDMENTS			
PROTOCOL	PI	TITLE & MATERIAL(S) OF INTEREST	BSL / GUIDELINES
24-015	Wong, Alex	Title: Wong Laboratory Materials: Staphylococcus aureus, Escherichia coli (UPEC strain CFT073 / ATCC 700928), Mice Submission Summary: This amendment adds experiments using two non-recombinant bacterial	2

		pathogens, <i>Staphylococcus aureus</i> (<i>S. aureus</i>) and pathogenic <i>Escherichia coli</i> (<i>E. coli</i>), to evaluate the antimicrobial efficacy of hydrogel-based coatings. No recombinant material is used with these organisms. Hydrogels loaded with gentamicin or vancomycin will be dip-coated onto surgical implants. In vitro studies will assess bacterial growth inhibition by exposing hydrogel-coated implants to <i>S. aureus</i> or <i>E. coli</i> cultures, quantified by colony forming units (CFU) on agar plates. In vivo studies will involve surgically placing an inoculated implant (dipped in either <i>S. aureus</i> or <i>E. coli</i> suspension, $\sim 1 \times 10^8$ CFU/mL) to establish a local infection model in mice and rats, followed by placement of a hydrogel-coated implant (gentamicin or vancomycin) to assess therapeutic efficacy. Animals will be monitored post-operatively per IACUC-approved protocols and euthanized at study endpoints for bacterial quantification. Bacterial cultures will be handled in a biosafety cabinet under BSL2 conditions. Biological waste, including bacterial cultures and contaminated materials, will be autoclaved prior to disposal. Work surfaces will be decontaminated with 10% bleach after each use. All personnel working with these agents will follow standard BSL2 practices and wear appropriate PPE (gloves, lab coat, eye protection). Occupational Health: In Place Training: In Place BioAudit: Facilities are Acceptable IBC Vote: Conditionally Approved (14:0:0)^{1, 2} Conditions for approval: 1. Edits are needed in the lay language summary of the Project Description	
20-083	Hinrichs, Christian	Title: Engineered T-cell Therapy for Human Cancers-Hinrichs Lab Materials: rDNA, Lentivirus vector, CRISPR-Cas9, Human Cells, Mice Submission Summary: Hinrichs protocol 20-083 focuses on the development of gene-engineered T cell therapies for cancer. Previously approved work includes the use of human and mouse cells, whole animal studies, MSCV-based retroviral vectors, and lentiviral sgRNA vector systems for genetic	2 / III-D-1, III-D-4

		engineering applications. Prior amendments expanded the protocol to include engineered cytokine constructs, EBV-transformed lymphoblastoid cell lines for immune assays, tumor infiltrating lymphocytes (TILs), and PD-L1 chimeric receptor engineered T cells. The April 2026 amendment adds studies involving engineered protein-based therapies targeting HPV16-associated cancers. Proposed work includes using the engineered protein for in vitro immune assays, and preclinical tumor studies to evaluate HPV16-targeting molecules designed to enhance tumor cell recognition and reduce immune escape. The amendment also includes the LentiCRISPRv2 system for genome engineering applications. No new organisms or animal hosts are introduced. All work will continue under Biosafety Level 2 (BSL-2) containment and institutional biosafety practices. Occupational Health: In Place Training: In Place BioAudit: Facilities are Acceptable IBC Vote: Approved (14:0:0)¹	
19-061	Alland, David	Title: Investigation of mechanisms of bacterial and virus pathogens Materials: rDNA, Mycobacterium tuberculosis, CRISPR-Cas9 Submission Summary: The goal for this IBC protocol is to develop a user-friendly assay system that is appropriate for point-of-care detection of common pathogenic bacteria, discovery of new compounds active against bacteria and virus & to study molecular mechanisms of antibiotic resistance in bacteria and viruses. The protocol was previously approved for work with Cas9 in CRISPRi systems and this amendment proposes to expand the genetic engineering toolkit to include three additional plasmid-based systems: Salicola Phage TasH -a phage-derived nuclease platform, M. grossiae Retron- a recombineering system employing a bacterial reverse transcriptase from Mycobacterium grossiae to generate single-stranded DNA in vivo and IS2112 Bridge	2e / III-D-1

		Recombinase- a programmable platform using IS2112 from <i>Rhodococcus erythropolis</i> to enable scarless genomic knockouts, insertions, and inversions of defined sequences. Additionally, we propose to introduce a lateral flow immunoassay to detect MTB lipoarabinomannan (LAM) in urine specimens. The primary objective is to evaluate the sensitivity and specificity of this assay. Detailed experimental protocols are available in the file cabinet under "LAM Urine Detection." Occupational Health: In Place Training: In Place BioAudit: Facilities are Acceptable IBC Vote: Conditionally Approved (13:0:0)^{1, 3} Conditions for Approval: 1. Update plasmid information 2. Update gene targets 3. Update risk assessment to include more details 4. Update the lay language summary (in Project Description) to include more detail	
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¹ Voting Decision (Yay: Nay: Abstain)

² Member(s) joined the meeting

³ Member(s) left the meeting