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**UNIVERSITY OF CALIFORNIA, IRVINE**
**IBC MINUTES 10/15/2025**

**I. QUORUM:** MET

**II. REVIEW MEETING MINUTES**: Meeting minutes from September 17, 2025 APPROVED

**III. OLD BUSINESS:** None at this time.

**IV. NEW BUSINESS**: None at this time.

**V. REVIEW OF PROTOCOLS – 8 FCR**

| **#BUA-R687** | **PI: Gelinas, Jennifer** | ***High spatiotemporal recording of hippocampal and cortical neural networks*** |
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| **NEW** | | **Dept: School of Medicine - Pediatrics** |

**Summary:** This study wants to investigate how different brain regions communicate and coordinate to generate learning, memory, decision-making, attention, and other cognitive functions. They will look at the physiological mechanisms responsible for cognitive function and dysregulation of neural networks that may occur in neuropsychiatric diseases (e.g. epilepsy, attention deficit disorder, and autism) as a means for improved diagnosis and therapies. They will purchase AAV ready to use and administer the vector in vivo for the expression of opsins to induce cell activation of specific neurons. Analysis will include large-scale recordings of neurons as well as observation of behavior and sleep.

**REVIEW COMMENTS:** The committee asked the PI to discuss the minimal risks associated with the stereotaxic injection of AAV into s and the actual infected s. Minor clarifications and document clean-up are also needed.

**IBC DETERMINATION:** All committee members voted to APPROVE after administrative updates are submitted. The listed agents below will be approved with the containment level and stipulations

| Agent/Material | Containment Level | NIH RG/CDC BSL | Stipulations | Special Hazards | NIH Guidelines |
|---|---|---|---|---|---|
| Purchased AAV modified to express fluorescence proteins and genes of interest, administered to in vivo models; tissue samples from transfected specimens | BSL-1<br>ABSL-1 | RG-1 | housing at ABSL-2 for 48 hours. | -- | III-D |

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| #BUA-R075 | PI: Borrelli, Emilia | *Unravelling the role of protein-protein interaction in dopamine D2 receptors Biology* |
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| **RENEWAL** | | **Dept: Psychological Sci – School of Social Ecology** |

**Summary:** Work in the laboratory focuses on unravelling the role of D2 receptors in vivo. Using these models, we will be evaluating the effect of D2 ablation in behavioral experiments aimed at studying motor functions, learning and memory and the rewarding system. AAV is purchased and used in Cre inducible models to fluorescently observe genes of interest.

**REVIEW COMMENTS: No** safety concerns were identified but minor clarifications and document clean-up are needed.

**IBC DETERMINATION: All** committee members voted to APPROVE after administrative updates are submitted. The listed agents below will be approved with the containment level and stipulations

| Agent/Material | Containment Level | NIH RG/CDC BSL | Stipulations | Special Hazards | NIH Guidelines |
|---|---|---|---|---|---|
| AAV purchased targeting modified human muscarinic receptors w/ Cre expressing neurons in the presence of Clozapine-N-Oxide ready to use in in vivo models. | BSL-1<br>ABSL-1 | RG-1 | Waste collected for the first 48 hours post inoculation | -- | III-D |
| Harvested tissues from transfected specimens | BSL-1 | -- | -- | -- | -- |

| #BUA-R171 | PI: Fleischman, Angela | *Molecular Pathogenesis of Myeloproliferative Neoplasm* |
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| **RENEWAL** | | **Dept:** School of Medicine - Hematology Oncology |

**Summary:** Myeloproliferative Neoplasm (MPN) is a chronic blood cancer marker. The lab studies mutations in genes of interest that cause mutant blood cells over normal cells. They use in vivo models and cell culture models using MSCV viral vectors to target genes of interest. They will also use human samples and cell lines to study stem cell and progenitor cell functions. Gut microbiome analysis will be done using human stool samples to explore differences in MPN patients.

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| **REVIEW COMMENTS: The** committee asked the PI to discuss the minimal risks associated with the retro-orbital injection of cells infected with MSCV. Minor clarifications and document clean-up are also needed.<br><br>**IBC DETERMINATION: All** committee members voted to APPROVE after administrative updates are submitted. The listed agents below will be approved with the containment level and stipulations |

| Agent/Material | Containment Level | NIH RG/CDC BSL | Stipulations | Special Hazards | NIH Guidelines |
|---|---|---|---|---|---|
| In vivo model transplanted with primary cells transduced using an ecotropic MSCV vector | ABSL-1<br>BSL-1 | RG-1 | -- | -- | III-D |
| Human stool samples for gut microbiome study | BSL-2 | -- | -- | -- | -- |
| Human established cell lines and primary cells | BSL-2 | -- | BSC. | -- | -- |
| bone marrow cells exposed to cigarette smoke extract | BSL-1 | -- | -- | -- | -- |
| Escherichia coli for cloning and plasmid expression | BSL-1 | RG-1 | -- | -- | III-F |

| #BUA-R240 | PI: Ranz, Jose | ***"Dissecting the phenotypic and functional consequences of sexual selection on sperm competition through a species-specific multigene family"*** |
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| **RENEWAL** | | **Dept: Ecology & Evolutionary Biology** |
| **Summary:** The lab studies the evolution of genomes at the structural and functional levels, with an emphasis on the effect of evolutionary change and male fitness. The project will characterize differences in expression breadth between genes of interest in fruit flies, to determine the influence of | | |

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3′UTRs on expression breadth, quantify expression differences among *Sdic* copies and *sw* in distinct tissues (testes, ovaries, and heads), compare expression levels of identical copies with and without their native 3′UTRs, and identify protein complex components associated with *Sdic* proteins.

**REVIEW COMMENTS:** No safety concerns discussed, minor clarifications and document clean-up are also needed.

**IBC DETERMINATION: The** committee members discussed the protocol, had no significant comments or concerns and voted to APPROVE. The listed agents below will be approved with the containment level and stipulations.

| Agent/Material | Containment Level | NIH RG/CDC BSL | Stipulations | Special Hazards | NIH Guidelines |
|---|---|---|---|---|---|
| Drosophila melanogaster inoculated with CRISPR/Cas9 to introduce the pT-STEP-SNAPf cassette for covalent labeling of *sw* (cytoplasmic dynein intermediate chain) and *Sdic* (sperm dynein intermediate chain), both tagged with fluorescent protein labels | ACL-1 | -- | Transgenic material must be collected and devitalized before disposal in the biowaste bins. | | III-D |
| Escherichia coli for cloning and plasmid expression | BSL-1 | RG-1 | | | III-F |

| #BUA-R84 | PI: Seiler, Magdalene | *Title: Visual Restoration After Retinal Transplantation* |
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| **RENEWAL** | | **Dept: School of Medicine - Ophthalmology** |

**Summary:** This proposed study will help to advance therapeutic treatments to prevent visual loss and improve vision, reconstruct the retina to restore vision, and provide a baseline for future cell therapies. Human embryonic stem cells (hESCs) or induced pluripotent stem cells (iPSCs) will be differentiated into retinal organoids and transplanted into immunodeficient rat models of retinal degeneration.

**REVIEW COMMENTS:** No safety concerns were identified but minor clarifications are needed.

**IBC DETERMINATION:** All committee members voted to APPROVE after administrative updates are submitted. The listed agents below will be approved with the containment level and stipulations

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| Agent/Material | Containment Level | NIH RG/CDC BSL | Stipulations | Special Hazards | NIH Guidelines |
|---|---|---|---|---|---|
| Human embryonic stem cells, iPSC derived progenitor tissue, hESC derived retinal organoids administered in vivo via sub retinal injection | BSL-2<br>ABSL-1 | -- | -- | -- | III-E |
| Human primary cells: eye and retinal tissues administered in vivo via sub retinal injection | BSL-2<br>ABSL-1 | -- | -- | -- | -- |
| Immunodeficient and transgenic in vivo models expressing fluorescently tagged genes of interest, Cre inducible | ABSL-1 | -- | -- | -- | III-D |

| #BUA-R66 | PI: Suetterlin, Christine | ***Organelle dynamics and regulation of during cell homeostasis and Chlamydia infection*** |
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| **RENEWAL** | | **Dept: Developmental & Cell Biology** |

**Summary:** Experimental approaches include RNAi-mediated knockdown, CRISPR-mediated gene editing, and overexpression in mammalian cell lines, with outcomes analyzed by biochemical assays and advanced microscopy. These studies aim to identify novel therapeutic targets for cancer and ciliopathies. The lab will perform infection studies of established tissue culture and primary cell lines with wild-type or genetically modified *Chlamydia* strains, followed by biochemical and microscopic analyses to investigate host–pathogen interactions. The analysis performed focuses on the host cell alterations in centrosome and cilia organization, ciliary function, and cell cycle progression, as well as bacterial processes, including the biphasic developmental cycle (transitions between infectious and non-infectious forms) and the role of membrane microdomains within the chlamydial compartment.

**REVIEW COMMENTS: The** committee asked the PI to describe the containment of the infectious samples during transportation to the Core Facilities, shipping and microscopy analysis. Minor clarifications and document clean-up are also needed.

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| **IBC DETERMINATION:** All committee members voted to APPROVE after administrative updates are submitted. The listed agents below will be approved with the containment level and stipulations | | | | | |
|---|---|---|---|---|---|
| **Agent/Material** | **Containment Level** | **NIH RG/CDC BSL** | **Stipulations** | **Special Hazards** | **NIH Guidelines** |
| Chlamydia species<br>C.pneumoniae<br>C.muridarum<br>C.caviae<br>Chlamydia trachomatis<br>Chlamydia trachomatis L2 (genetically modified) for protein overexpression and knockdown studies and developmental cycle analyses using siRNA | BSL-2 | RG-2 | BSC. | -- | III-D |
| Established rat and hamster cell lines transfected with mammalian expression vectors encoding for tagged centrosomal, ciliary, Golgi or chlamydial proteins | BSL-1 | -- | -- | -- | III-E |
| Established human cell lines transfected with CRISPR for generation of knockout cells transfection with mammalian expression vectors encoding tagged centrosomal, ciliary, Golgi or chlamydial proteins using lipofection + infected with the listed Chlamydia | BSL-2 | -- | BSC. | -- | III-E |
| E coli expression vector | BSL-1 | RG-1 | -- | -- | III-F |

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| #BUA-R12 | PI: Tan, Ming | *Gene regulation in Chlamydia* |
|---|---|---|
| **RENEWAL** | | **Dept: Microbiology & Molecular Genetics** |

**Summary:** Chlamydia causes genital, ocular, and respiratory infections. This lab will research how this bacterial pathogen is able to survive and replicate within a human cell during an infection by:

1. They will study how Chlamydia regulates the expression of its genes and conversion between developmental forms during its developmental cycle. Analysis includes DNA-seq, RNA-seq, and chromatin immunoprecipitation.
2. They will study how Chlamydia manipulates their host cell by altering and subverting normal cellular processes. Analysis includes western blots, immunofluorescence, and electron microscopy.

**REVIEW COMMENTS:** The committee asked the PI to confirm that 30 minutes contact time with 10% bleach will be used to deactivate infectious materials and upload the lab's SOP for human materials. Also, minor clarifications and document clean-up are needed.

**IBC DETERMINATION:** All committee members voted to APPROVE after administrative updates are submitted. The listed agents below will be approved with the containment level and stipulations

| Agent/Material | Containment Level | NIH RG/CDC BSL | Stipulations | Special Hazards | NIH Guidelines |
|---|---|---|---|---|---|
| E. coli used for protein expression | BSL-1 | RG-1 | -- | -- | III-F |
| siRNA modified Chlamydia trachomatis used expression and/or knockdown of transcriptional regulators (HrcA, EUO, sigma 28, sigma 54 and RsbW), effectors (CPAF), and cilia regulators (AurA and HDAC6), used in human cells | BSL-2 | RG-2 | BSC. | -- | III-D |

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| #BUA-R239 | PI: Wang, Wenqi | *Title: Study cancer progression and cancer therapy* |
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| **RENEWAL** | | **Dept: Developmental & Cell Biology** |

**Summary:** The lab investigates the signaling networks underlying tissue homeostasis and organ size control as well as the role of their dysregulation in cancer development and the impacts of alterations in the Hippo pathway. Lentiviral vectors will be created and propagated by the lab. Viral vectors are used to modify cancer cell lines which are then used to perform xenograft tumor growth experiments in vivo.

**REVIEW COMMENTS: The** committee asked the PI to discuss the risk of auto-inoculation should a person inject themselves with the lentiviral vector that KO tumor suppressors or overexpresses oncogenes. The PI was also instructed to describe the safety procedures in place when handling/housing s and performing analysis/necropsy after lentiviral vector transduction, The committee also asked the PI to specify which safer sharps will be used by the lab. Also, minor clarifications and document clean-up are needed.

**IBC DETERMINATION: All** committee members voted to APPROVE after administrative updates are submitted. The listed agents below will be approved with the containment level and stipulations

| Agent/Material | Containment Level | NIH RG/CDC BSL | Stipulations | Special Hazards | NIH Guidelines |
|---|---|---|---|---|---|
| E.coli expression systems | BSL-1 | RG-1 | -- | -- | III-F |
| Cancer and carcinoma cell lines, HEKs | BSL-2 | -- | BSC. | -- | III-E |
| Lentivirus: KO and overexpression of tumor suppressor, oncogenes and other genes of interest in signaling pathways to modify cancer cell lines | BSL-2 | RG-3 | BSC. Safer sharps and sharps minimization is required. | Modification of oncogenes and tumor suppressors | III-D |
| In vivo models including Athymic nude (nu/nu) and NSG (NOD SCID gamma) models, administered transduced cells | ABSL-1 | -- | housing at ABSL-2 for 48 hours. | -- | III-D |

**DESIGNATED MEMBER REVIEW – III-E / Infectious agents only**

1. BUA-R660 Baker, Nick — Amendment — Addition of Crispr/Cas9 modification of MEFs and established human cell lines

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**BIOSAFETY REVIEW- NIH Exempt**

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| 2. | BUA-R218 Acharya, Munjal | Amendment | Addition of xenotransplants in vivo |
| 3. | BUA -R685 Avalon, Nicole | New | E. coli, S. cerevisiae, cyanobacteria, Streptomyces |
| 4. | BUA-R150 Bunney, William | Renewal | Human materials |
| 5. | BUA-R536 Byun, Minji | Renewal | CRISPR/Cas9, human materials |
| 6. | BUA-R400 Plikus, Maksim | Renewal | E. coli, various bacteria |
| 7. | BUA-R286 Rodriguez Verdugo, Alejandra | Renewal | E. coli, Pseudomonas putida |
| 8. | BUA-R29 Tenner, Andrea | Renewal | addition cell lines |
| 9. | BUA-R678 Tiwari, Anil | New | S. aureus |
| 10. | BUA- R241 Tjenalooi, Stephanie | Renewal | Human blood samples |
| 11. | BUA-R100 Xu, Xiangmin | Amendment | Update locations and personnel |

## VI. ADJOURNMENT

The next scheduled IBC meeting is **Wednesday, November 19, 2025.** It will be held via Zoom. If no full committee review protocols are received by the next deadline date and there are no agenda items for full committee discussion, the meeting will be canceled. Members will be notified via e-mail of meeting cancellations one week before the scheduled meeting.