IBC IUB Committee Meeting
IBC Meeting Minutes

Thursday, July 03, 2025
VIRTUAL
01:00 p.m. – 2:00 p.m.

Members Present: Peter Hollenhorst (Chair), Ryan Cushman, Tania Daffron, Barbara Hocevar, Elizabeth Kramer, Smitha Rayadurg, Randalyn Shepherd, Jo Anne Tracy

Guests Present: Holly Moore, Emily Winters

The July IU Bloomington IBC meeting was called to order by Peter Hollenhorst at 1:00 p.m.

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1. The committee reviewed and approved the meeting minutes from the June 05, 2025 IBC meeting.

2. News & Updates
    a. Committee Appointment Update:
        i. Dr. Rowe-Magnus is leaving the committee after 20 years of service.
        ii. Dr. Ragsdale is leaving the committee after 3 years of service.
    b. RSCO is looking for new members and will review the IUB IBC research portfolio to assess which areas of expertise are needed.

3. The committee review the items reviewed and approved outside of full committee. There were no questions or concerns.

4. Submissions for Review:

Non-Exempt Reviews (III-A – III-E)

Major Amendments:

#1357 (Fuqua, Clay) *Synthesis and function of a unipolar polysaccharide by Agrobacterium* (**Primary:** Pikaard; **Biosafety:** Kramer)

- **The committee unanimously provisionally approved this submission at BSL-1, pending revision.**
- **Types of manipulations planned:** Adding (i) use of E. coli BL21, (ii) use of CRISPR-Cas systems for gene expression control in bacteria, (iii) use of integrating vectors for Agrobacterium tumefaciens, (iv) future use of transgenes RUBY and GUS (Beta-glucuronidase) for scoring T-DNA transfer, (v) more detail in the Research description for tumorigenesis assays.
- **Transgenic animals:** n/au
- **Recombinant DNA:**

SOURCE SPECIES	PLASMID AND/OR VECTOR	HOST TO BE USED	GENE OR TRANSCRIPTION PRODUCT	KNOWN HARM

Agrobacterium tumefaciens	Plasmids: pTOPO, pGEM, pET, pMAL, pRSET, pBBR1, pSRK, pRA3000, pNPTS	Agrobacterium tumefaciens; Escherichia coli	Regulators and genes for polysaccharide biosynthesic, processing and cellular attachment	No
Tn7 Integrating Vectors	Nonreplicative plasmids that enable integration of foreign genes into the Tn7 att site in the bacterial chromosome	E. coli, Agrobacterium tumefaciens	Carry natural or modified genes from Agrobacterium, E. coli, or standard sources (eg. GFP)	No
Streptococcus pyogebes	CRISPR dCas9 gene	E. coli, A. tumefaciens	Cas9 recombinase that is catalytically inactive so uses guide RNA to bind to DNA but does not cleave - used to repress experession of specific genes	No

- **Recommended containment conditions:** BSL-1
- **Section of the NIH guidelines selected by the investigator:**
  - III-E. ALL experiments not included in Sections III-A, III-B, III-D, III-F, and their subsections are non-exempt from the NIH Guidelines and fall under Section III-E. All Such experiments may be conducted at BL-1. The IBC reviews and approves all such proposals, but IBC review and approval prior to initiation of the experiments is not required.
  - III-E-2: Experiments involving whole plants at BL-1 or BL-2.
  - III-F-8: Those that do not present a significant risk to health or the environment, as determined by the NIH Director, with the advice of the RAC, and following appropriate notice and opportunity for public. (You MUST check one of the Appendix C exemptions below)
  - Appendix C-II: Escherichia coli K-12 Host-Vector Systems*

5-year Renewals:

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*This submission was moved to the end of the agenda and Dr. Hollenhorst departed the meeting at 1:42 p.m. before the discussion of IBC 1269.

#1269 (Hollenhorst, Peter) *Specificity of oncogenic ETS transcription factors* (**Primary:** Hocevar; **Vet:** Shepherd; **Biosafety:** Kramer)

- **The committee unanimously provisionally approved this submission at BSL-2/ABSL-2, pending revision.**
- **Types of manipulations planned:**
  - Administrative Updates, no changes to approved work
- **Transgenic animals:** Mouse
- **Recombinant DNA:**

SOURCE SPECIES	PLASMID AND/OR VECTOR	HOST TO BE USED	GENE OR TRANSCRIPTION PRODUCT	KNOWN HARM
human	puc19, pet28a, pGL3, pRL, pQCXIH, pQCXIP, pLPCX, pLHCX, pLNCX2, pRevTet-Off, pREVTRE, pPUR, pBABE, CMV d8.2, pHCMV-G, pWZL-zeo, pBluescript, pGL4, pCMVHA, PGEX, pMKO.1, pSpCas9n(BB), lentiCRISPRv2, pFastBac	DH5alpha and BL-21 E coli and human cell lines, SF9 insect cells	All 28 ETS transcription factors. All AP-1 transcription factors. Signaling proteins including KRAS, MEK, ERK, p38, JNK, AKT, PI3K. EWSR1, EZH2, CBP, p300, ZNF143. Enhancer and promoter sequences. shRNA sequences for knockdowns. CAS9 targeting sequences.	Yes Oncogenic
Jellyfish	pWZL-zeo	DH5alpha E coli and human cell lines	eGFP	No

Herpes simplex virus	pLPCx, pQCXIH	DH5alpha E coli and human cell lines	VP16 activation domain	No
Strep Pyogenes	lentiCRISPRv2, pSpCas9n(BB)	DH5alpha E coli, and human cell lines	Cas9	No

- Recommended containment conditions: BSL-2/ABSL-2
- Section of the NIH guidelines selected by the investigator:
  - III-D-1: Experiments using Risk Group 2 (RG2), Risk Group 3 (RG3), Risk Group 4 (RG4), or Restricted Agents as Host-Vector Systems (See Section II-A, Risk Assessment, of the NIH Guidelines)
  - III-D-2: Experiments in which DNA from RG2, RG3, RG4, or Restricted Agents is Cloned into Nonpathogenic Prokaryotic or Lower Eukaryotic Host-Vector Systems
  - III-D-4: Experiments With Whole Animals Involving Recombinant or Synthetic Nucleic Acid Molecules
  - Experiments with recombinant or synthetic nucleic acid molecules in an animal (transgenic or otherwise)
  - III-E. ALL experiments not included in Sections III-A, III-B, III-D, III-F, and their subsections are non-exempt from the NIH Guidelines and fall under Section III-E. All Such experiments may be conducted at BL-1. The IBC reviews and approves all such proposals, but IBC review and approval prior to initiation of the experiments is not required.
  - III-E-1: Experiments involving the formation of recombinant or synthetic nucleic acid molecules containing no more than 2/3 of the genome of any Eukaryotic virus.
  - III-F-1: Uses synthetic nucleic acids that: A) Can neither replicate nor generate nucleic acids that can replicate in any living cell, and B) Are not designed to integrate into DNA, and C) Do not produce a toxin that is lethal for vertebrates at an LD50 of less than 100 nanograms per kilogram of body weight.
  - III-F-2: Those that are not in organisms, cells, or viruses and that have not been modified or manipulated to render them capable of penetrating cellular membranes
  - III-F-8: Those that do not present a significant risk to health or the environment, as determined by the NIH Director, with the advice of the RAC, and following appropriate notice and opportunity for public. (You MUST check one of the Appendix C exemptions below)
  - Appendix C-I: Experiments involving the formation of recombinant or synthetic nucleic acid molecules containing no more than ½ of the genome of any Eukaryotic viral genome that are propagated and maintained in cells in tissue culture
  - Appendix C-II: Escherichia coli K-12 Host-Vector Systems*
  - Appendix C-VII: The purchase or transfer of transgenic rodents at BL-1

#1257 (Bonanno, Joseph) *Molecular and Cell Biology of the Corneal Endothelium* (Primary: Hollenhorst; Vet: Shepherd; Biosafety: Kramer)

- The committee unanimously provisionally approved this submission at BSL-2/ABSL-2, pending revision.
- Types of manipulations planned:
  - Administrative Updates, no changes to approved work
- Transgenic animals: Mouse
- Recombinant DNA:

SOURCE SPECIES	PLASMID AND/OR VECTOR	HOST TO BE USED	GENE OR TRANSCRIPTION PRODUCT	KNOWN HARM
Synthetic Cat	pPACKH1-Lentivirus	Mouse	shRNA for MCT1, MCT2 or MCT4; Sod2; Slc4a11; CD147	No
Synthetic jellyfish lactate binding + fluorescent protein Addgene (addgene.org)	Laconic pcDNA 3.1 AAV9	mouse	Laconic, Fluorescent reporter for Lactate	No
Synthetic jellyfish: mitochondrial signal peptides + fluorescent protein Addgene (addgene.org)	MitoSyPher AAV9	mouse	MitoSyPher AAV9	No

Synthetic jellyfish: fluorescent reporter for reactive oxygen species Addgene (addgene.org)	pC1-HyPer-Red AAV9	mouse	fluorescent reporter for reactive oxygen species	No

- **Recommended containment conditions:** BSL-2 ABSL-2
- **Section of the NIH guidelines selected by the investigator:**
  - III-D-1: Experiments using Risk Group 2 (RG2), Risk Group 3 (RG3), Risk Group 4 (RG4), or Restricted Agents as Host-Vector Systems (See Section II-A, Risk Assessment, of the NIH Guidelines)
  - III-D-4: Experiments With Whole Animals Involving Recombinant or Synthetic Nucleic Acid Molecules
  - Experiments with Transgenic Animals
  - Experiments with recombinant or synthetic nucleic acid molecules in an animal (transgenic or otherwise)
  - III-F-8: Those that do not present a significant risk to health or the environment, as determined by the NIH Director, with the advice of the RAC, and following appropriate notice and opportunity for public. (You MUST check one of the Appendix C exemptions below)
  - Appendix C-VIII: Generation of BL1 transgenic rodents via breeding

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#1287 (Wellman, Cara) *Does BDNF mediate the sex-dependent effects of stress on medial prefrontal cortex?* (**Primary:** Hocevar; **Vet:** Shepherd; **Biosafety:** Kramer)

- **The committee unanimously provisionally approved this submission at BSL-2/ABSL-1, pending revision.**
- **Types of manipulations planned:**
  - Administrative Updates, no changes to approved work
- **Transgenic animals:** n/a
- **Recombinant DNA:**

SOURCE SPECIES	PLASMID AND/OR VECTOR	HOST TO BE USED	GENE OR TRANSCRIPTION PRODUCT	KNOWN HARM
Synthetic, mouse	pAAV-IRES-hrGFP-Bdnf	rats	Murine Bdnf overexpression	No
Synthetic, mouse	pAAV-IRES-hrGFP (empty vector control)	rats	Control for murine Bdnf overexpression	No
Synthetic	pAAV-U6-GFP-shBDNF	rats	Bdnf shRNA; plasmid map provided (see attachment)	No
Synthetic	pAAV-U6-GFP-Scrambled	rats	Scrambled shRNA; plasmid map provided (see attachment)	No

- **Recommended containment conditions:** BSL-2/ABSL-1
- **Section of the NIH guidelines selected by the investigator:**
  - III-D-4: Experiments With Whole Animals Involving Recombinant or Synthetic Nucleic Acid Molecules
  - Experiments with recombinant or synthetic nucleic acid molecules in an animal (transgenic or otherwise)
  - III-E-1: Experiments involving the formation of recombinant or synthetic nucleic acid molecules containing no more than 2/3 of the genome of any Eukaryotic virus.

#1264 (Mackie, Ken) *Neuronal Cannabinoids* (**Primary:** Hocevar; **Vet:** Shepherd; **Biosafety:** Kramer)

- **The committee unanimously provisionally approved this submission at BSL-2/ABSL-1, pending revision.**
- **Types of manipulations planned:**
  - Administrative Updates, no changes to approved work
- **Transgenic animals:** Mouse
- **Recombinant DNA:**

SOURCE SPECIES	PLASMID AND/OR VECTOR	HOST TO BE USED	GENE OR TRANSCRIPTION PRODUCT	KNOWN HARM
Human, mouse, rat, zebra finch	pcDNA3, pEF4, pEF6, pTre, pTet-off, pTet-on, pTracer, pCAG, pGEM	Various mammalian cell lines (AtT20, N18, NG108-15, MN9D, COS7, SY-SY5Y,	Various components of the endocannabinoid system, various eukaryotic proteins involved in signal transduction,	No

		HEK293, and BV2); mouse cells; rat cells	various shRNAs to suppress expression of proteins, and assorted GPCRs	
Human, mouse, rat, zebra finch	pGEX series, pET series, pinpoint series, pQE	E. coli	Various components of the endocannabinoid system	No
Various invertebrates	pcDNA3, pEF4 pEF6, pTre, pTet-off, pTet-on, pTracer, pCAG	Various mammalian cell lines (AtT20, N18, NG108-15, MN9D, COS7, SY-SY5Y, HEK293, and BV2); mouse cells; rat cells	Various fluorescent proteins and light-activated ion channels	No
Human and Discosoma	pAAV-S5E2-Gq-P2A-dTomato	Mouse	Gq-coupled GPCR activated by CNO and other clozapine analogs and tdTomato, fluoroscent protein	No

- **Recommended containment conditions:** BSL-2/ABSL-1
- **Section of the NIH guidelines selected by the investigator:**
  - III-D-1: Experiments using Risk Group 2 (RG2), Risk Group 3 (RG3), Risk Group 4 (RG4), or Restricted Agents as Host-Vector Systems (See Section II-A, Risk Assessment, of the NIH Guidelines)
  - III-D-2: Experiments in which DNA from RG2, RG3, RG4, or Restricted Agents is Cloned into Nonpathogenic Prokaryotic or Lower Eukaryotic Host-Vector Systems
  - III-D-4: Experiments With Whole Animals Involving Recombinant or Synthetic Nucleic Acid Molecules
  - Experiments with recombinant or synthetic nucleic acid molecules in an animal (transgenic or otherwise)
  - III-E. ALL experiments not included in Sections III-A, III-B, III-D, III-F, and their subsections are non-exempt from the NIH Guidelines and fall under Section III-E. All Such experiments may be conducted at BL-1. The IBC reviews and approves all such proposals, but IBC review and approval prior to initiation of the experiments is not required.
  - III-E-3: Experiments involving transgenic rodents: involving the generation of rodents in which the animal's genome has been altered by stable introduction of recombinant or synthetic nucleic acid molecules, or nucleic acids derived therefrom, into the germ-line. Only experiments that require BL1 containment are covered under this section; experiments that require BL2 or higher containment fall under section III-D-4 above.
  - III-F-1: Uses synthetic nucleic acids that: A) Can neither replicate nor generate nucleic acids that can replicate in any living cell, and B) Are not designed to integrate into DNA, and C) Do not produce a toxin that is lethal for vertebrates at an LD50 of less than 100 nanograms per kilogram of body weight.
  - III-F-2: Those that are not in organisms, cells, or viruses and that have not been modified or manipulated to render them capable of penetrating cellular membranes
  - III-F-3: Those that consist solely of the exact recombinant or synthetic nucleic acid sequence from a single source that exists contemporaneously in nature
  - III-F-8: Those that do not present a significant risk to health or the environment, as determined by the NIH Director, with the advice of the RAC, and following appropriate notice and opportunity for public. (You MUST check one of the Appendix C exemptions below)
  - Appendix C-II: Escherichia coli K-12 Host-Vector Systems*
  - Appendix C-VII: The purchase or transfer of transgenic rodents at BL-1
  - Appendix C-VIII: Generation of BL1 transgenic rodents via breeding

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#1235 (Michaels, Scott) *Molecular Analysis of the Autonomous Pathway* (**Primary:** Pikaard; **Biosafety:** Kramer)

- **The committee unanimously approved this submission at BSL-1.**
- **Types of manipulations planned:**
  - Administrative Updates, no changes to approved work
- **Transgenic animals:** n/a
- **Recombinant DNA:**

SOURCE SPECIES	PLASMID AND/OR VECTOR	HOST TO BE USED	GENE OR TRANSCRIPTION PRODUCT	KNOWN HARM
Arabidopsis	pPZP, pCAMBIA	Arabidopsis	Flowering time genes	No
Arabidopsis	pPZP, pCAMBIA	Agrobacterium (HB101)	Flowering time genes	No
Arabidopsis	pPZP, pCAMBIA, pENTR	E. coli (TOP10)	Flowering time genes	No
Rice	The only transgenic rice we will use was generated by a company with proprietary technology. Thus I do not know the details of the vector used. We will not make any transgenic rice in our own lab.	Rice	The line contains knock outs of the two BDR gene homologs in rice.	No

- Recommended containment conditions: BSL-1
- Section of the NIH guidelines selected by the investigator:
  - III-E. ALL experiments not included in Sections III-A, III-B, III-D, III-F, and their subsections are non-exempt from the NIH Guidelines and fall under Section III-E. All Such experiments may be conducted at BL-1. The IBC reviews and approves all such proposals, but IBC review and approval prior to initiation of the experiments is not required.
  - III-E-2: Experiments involving whole plants at BL-1 or BL-2.

#1281 (Dalia, Ankur) *Mechanisms underlying Vibrio cholerae evolution and waterborne transmission* (Primary: van Kessel; Biosafety: Kramer)

- The committee unanimously provisionally approved this submission at BSL-2, pending revision.
- Types of manipulations planned:
  - Removing work with attenuated Vibrio cholerae isolate.
  - Administrative Updates, no other changes to approved work
- Transgenic animals: n/a
- Recombinant DNA:

SOURCE SPECIES	PLASMID AND/OR VECTOR	HOST TO BE USED	GENE OR TRANSCRIPTION PRODUCT	KNOWN HARM
Vibrio cholerae	pMMB, pGex, pHis, pMal-C2, pUC19, pTOPO2.1	E. coli, A. baylyi	Genes involved in natural transformation of V. cholerae (e.g. type IV competence pilus, DNA transporters, DNA-binding transcriptional regulators, DNases, DNA repair proteins, etc.)	No
Vibrio splendidus	pMMB, pGex, pHis, pMal-C2, pUC19, pTOPO2.1	V. cholerae, A. baylyi	Genes involved in natural transformation will be moved into V. cholerae and A. baylyi to assess their activity	No
Vibrio harveyi	pMMB, pGex, pHis, pMal-C2, pUC19, pTOPO2.1	V. cholerae, A. baylyi	Genes involved in natural transformation will be moved into V. cholerae and A. baylyi to assess their activity	No
Acinetobacter baumanii	pMMB, pGex, pHis, pMal-C2, pUC19, pTOPO2.1	V. cholerae, A. baylyi	Genes involved in natural transformation will be moved into V. cholerae and A. baylyi to assess their activity	No
Haemophilus influenzae	pMMB, pGex, pHis, pMal-C2, pUC19, pTOPO2.1	V. cholerae, A. baylyi	Genes involved in natural transformation will be moved	No

			into V. cholerae and A. baylyi to assess their activity	
Acinetobacter baylyi	pMMB, pGex, pHis, pMal-C2, pUC19, pTOPO2.1	V. cholerae, A. baylyi	Genes involved in natural transformation will be moved into V. cholerae and A. baylyi to assess their activity	No

- **Recommended containment conditions:** BSL-2
- **Section of the NIH guidelines selected by the investigator:**
  - III-D-1: Experiments using Risk Group 2 (RG2), Risk Group 3 (RG3), Risk Group 4 (RG4), or Restricted Agents as Host-Vector Systems (See Section II-A, Risk Assessment, of the NIH Guidelines)
  - III-D-2: Experiments in which DNA from RG2, RG3, RG4, or Restricted Agents is Cloned into Nonpathogenic Prokaryotic or Lower Eukaryotic Host-Vector Systems
  - III-E. ALL experiments not included in Sections III-A, III-B, III-D, III-F, and their subsections are non-exempt from the NIH Guidelines and fall under Section III-E. All Such experiments may be conducted at BL-1. The IBC reviews and approves all such proposals, but IBC review and approval prior to initiation of the experiments is not required.
  - III-F-3: Those that consist solely of the exact recombinant or synthetic nucleic acid sequence from a single source that exists contemporaneously in nature
  - III-F-4: Those that consist entirely of nucleic acids from a prokaryotic host, including its indigenous plasmids or viruses when propagated only in that host (or closely related strain of the same species), or when transferred to another host by well-established physiological means
  - III-F-6: Those that consist entirely of DNA segments from different species that exchange DNA by known physiological processes, though one or more of the segments may be a synthetic equivalent
  - III-F-8: Those that do not present a significant risk to health or the environment, as determined by the NIH Director, with the advice of the RAC, and following appropriate notice and opportunity for public. (You MUST check one of the Appendix C exemptions below)
  - Appendix C-II: Escherichia coli K-12 Host-Vector Systems*

New Protocols:

- None

Other Business

Reportable Events:

NIH Reportable

- None

Non-NIH Reportable

- Bonanno Lab: On June 11, 2025 while practicing animal handling for colony maintenance, after being trained on mouse handling and restraint, a staff researcher in Dr. Bonanno's lab was bitten on the index finger of the left hand by a knockout mouse. The bite did break the skin and cause minor bleeding. The individual sought medical attention. After the incident, the individual was shown the location of bite resistant gloves should they prefer to wear them. Since this was an accident and the individual has undergone further one on one training by a LAR veterinary technician, no further corrective actions are required. The mouse involved in this incident is exempt from the NIH Guidelines and this does not require a report.

Non-Compliances:

- None

Other Business:

- New Clinical Trials Guidance Website: https://research.iu.edu/compliance/biosafety/submissions/clinical-trials.html
- New IBC Meeting Minutes Website: https://research.iu.edu/compliance/biosafety/ibc-meeting-minutes.html
    - The committee discussed the addition of instructions for the rDNA section of the protocol form informing PIs to note when proprietary information is being described so that it can be redacted or left out of the meeting agendas and minutes.

Next Meeting

Thursday, August 07, 2025, 9:30 – 11:30 a.m., Virtual Meeting

The meeting adjourned at approximately 1:47 p.m.