Minutes for Bucknell IBC Meeting
October 16, 2025

Meeting called to order by the IBC Chair at 3:00p on Zoom.

Discussion of a new protocol submitted by Christian Agatemor describing work with human cell lines.

The IBC Chair introduced this new protocol by pointing out that Prof. Agatemor is a new faculty member in the Chemistry Department who will be working with five different human cell lines, all of which will be obtained from ATCC. They reminded everyone that Bucknell IBC policy is that all work with human cell lines, tissues or body fluids must be carried out using BSL2 precautions, even if ATCC indicates that a cell line can be worked with using BSL1 precautions. Four of the cell lines Prof. Agatemor will be using are listed by ATCC as requiring BSL1 precautions. However, one of them is listed as requiring BSL2 precautions, which is exactly why we have this uniform policy so that undergraduate research students do not have to follow different procedures for a subset of cell lines. This work will be carried out by Prof. Agatemor and his undergraduate research students using either the established BSL2 facility in 217A Biology Bldg. or Prof. Agatemor's research lab in 322 Rooke Chemistry. A new BSL2 facility is also under construction on the third floor of Rooke Chemistry. Prof. Agatemor will be using this new BSL2 facility once construction is complete.

Concerns Discussed by the Committee:
The committee discussed the need for the protocol to include statements that make it clear the specific room(s) in which each procedure will be carried out as well as whether the human cells will be fixed at any point during each procedure or if they will remain unfixed/viable.

The committee discussed the use of specialized equipment in Prof. Agatemor's research lab in 322 Rooke Chemistry for work with potentially unfixed human cell lines outside a biosafety cabinet. Since this research lab is not currently approved as a BSL2 space, the committee discussed the precautions that would need to be implemented in order for this work to be conducted in this research lab. Several committee members expressed concern that Prof. Agatemor's research lab does not have 24/7 restricted entry and could also be used by research students working on a different project who may not have received appropriate biosafety training. The committee concluded that they need additional information regarding the procedures that will be carried out in 322 Rooke Chemistry including whether the human cells are still viable, a description of the specialized equipment that will be used to take measurements of the human cell lines, how the specialized equipment will be decontaminated after use as well as how the human cells will be prepared and loaded into the specialized equipment including whether the human cells will remain in their original plates (with or without a lid) and, if the human cells need to be removed from their original plates, a description of how and where this will be carried out.

The IBC Chair moved that Prof. Agatemor be asked to provide a revised copy of the protocol that addresses the concerns they discussed so that the committee can review this revised protocol

at their Spring 2026 meeting. The motion was seconded. All members voted in favor of the motion.

Discussion of a new protocol from Sarah Smith describing work with human serum.

The IBC Chair introduced this new protocol by pointing out that Prof. Smith plans to use human serum purchased from Sigma. Since this work is using human serum, it must be carried out using BSL2 precautions. This work will only be carried out by Prof. Smith using the BSL2 facility in 217A Biology Bldg.

Concerns Discussed by the Committee:
The committee discussed the need for clarification on how any left over human serum will be inactivated and disposed of. Specifically, the current protocol does not specify that the inactivated human serum will be disposed of by pouring it down the sink.

The IBC Chair moved that Prof. Smith's protocol be approved pending the receipt of a revised protocol that addresses the discussed revision. The motion was seconded. All members voted in favor of the motion.

Discussion of a new protocol from Emily Stowe describing a lab activity for BIOL 302-Microbiology using environmental soil samples.

The IBC Chair introduced this new protocol. It is a lab activity for BIOL 302-Microbiology, which is an upper division course taught by Prof. Stowe and taken by junior and senior biology and biology-related majors. This lab activity involves plating soil samples collected from sites on Bucknell's campus, then counting and visually inspecting the resulting bacterial colonies without opening the plates. While this lab activity is using environmental soil samples, since the plates will never be opened by the students, this lab activity can be carried out using BSL1 precautions.

Concerns Discussed by the Committee:
After a brief discussion, the committee did not express any concerns regarding this protocol.

The IBC Chair moved that Prof. Stowe's protocol be approved. The motion was seconded. All members voted in favor of the motion.

Discussion of a new protocol from Marie Pizzorno describing a lab activity for non-majors biology course, BIOL 136, analyzing levels of coliform bacteria in local water samples.

The IBC Chair introduced this new protocol. It is a lab activity for BIOL 136-Introduction to Infectious Diseases, which is taught by Prof. Pizzorno and taken by non-majors. For this lab activity, water samples from local creeks and streams will be collected by Prof. Pizzorno. Students will then add 1 ml of these water samples to Compact Dry Microbiology Media plates from Hardy Diagnostics. After incubation, Prof. Pizzorno will tape the plates shut and allow the

students to count the colonies of coliform bacteria on each plate. Since the plates will never be opened by the students, this lab activity can be carried out using BSL1 precautions.

The IBC Chair asked that Prof. Pizzorno recuse herself from voting on this protocol. She agreed. The IBC Chair allowed Prof. Pizzorno to be present during the discussion of the protocol to answer any questions the committee may have. The IBC Chair requested that the other committee members let the IBC Chair know if at any point in the discussion, they would prefer that Prof. Pizzorno leave the meeting and the IBC Chair will then send Prof. Pizzorno to a breakout room.

Concerns Discussed by the Committee:
The committee discussed that the protocol contained references to specific dates and agreed that these should be removed so that the protocol would not need to be updated every year.

The committee discussed disposal of the gloves worn to collect the water samples. The committee concluded that the protocol should be revised to specify that these gloves will be disposed of in a red bag-lined biohazard waste box upon return to Bucknell.

The IBC Chair moved that Prof. Pizzorno's protocol be approved pending the receipt of a revised protocol that addresses the discussed revisions. The motion was seconded. All members voted in favor of the motion.

Discussion of a new protocol from Meredith Seiler describing a lab activity for a non-majors biology course, BIOL 121/122, using bacteria collected from the environment.

The IBC Chair introduced this new protocol. It is a lab activity for BIOL 121/122-Biology for non-majors. Prof. Seiler is the Lab Director for these Non-major courses. For this lab activity, students will select a surface or object to swab before and after cleaning with disinfectant of their choice. The students will then use each swab to inoculate an agar plate. The inoculated plates will be allowed to grow at room temperature for a week, after which the students will characterize and count the colonies that grow without opening the plates. Since students will not be allowed to swab any bathroom surfaces and the plates will never be opened, this lab activity can be carried out using BSL1 precautions.

Concerns Discussed by the Committee:
The committee discussed concerns that the protocol does not include several safety measures that are contained in the student lab handouts. They concluded that the protocol needs to be revised to contain all pertinent safety measures. Specifically, the protocol needs to include that the students will wash their hands after inoculating and handling the plates as well as an explicit statement that the plates will never be opened by the students. The committee also discussed that the protocol uses several different terms to describe where biohazard waste materials will be disposed of. There are three possible containers that can be used to dispose of biohazard waste materials, red bag-lined biohazard waste boxes and benchtop, red bag-lined biohazard containers and benchtop biohazard sharps containers. The committee concluded that the protocol should be

revised to make it clear which of these containers are being used for each type of biohazard waste generated during this lab activity.

The IBC Chair moved that Prof. Seiler's protocol be approved pending the receipt of a revised protocol that addresses the discussed revisions. The motion was seconded. All members voted in favor of the motion.

Discussion of a new protocol from Hannah Yocum describing recombinant DNA work using Yarrowia lipolytica PO1f as a host.

The IBC Chair introduced this new protocol. Prof. Yocum will be conducting work with recombinant DNA using Yarrowia lipolytica PO1f as a host with the goal of expressing three enzymes, PhaA, PhaB and PhaC from the bacterium Cupriavidus necator. Yarrowia lipolytica PO1f is a Risk Group 1 agent that is not exempt from the NIH Guidelines, but can be handled using BSL1 precautions. This work will be carried out by Prof. Yocum and her undergraduate research students.

Concerns Discussed by the Committee:
The committee discussed Prof. Yocum's use of the term "opportunistic emerging pathogen" when describing Yarrowia lipoyltica. They concluded that Prof. Yocum needs to provide a definition of this term including a description of the individuals who are at risk of infection.

The committee discussed the need for the protocol to provide additional information including the catalog number for the specific plasmids that will be used, a brief description of how the plasmid(s) will be introduced into these yeast cells and the specific rooms where this work will take place.

The committee discussed their concerns that the protocol contains an incomplete description of how biohazardous material and PPE will be disposed of. The committee concluded that the protocol needs to be revised to make it clear that solid waste and gloves will be disposed of in a red bag-lined biohazard box and that gloves will be disposed of before leaving the lab room.

The committee discussed the need for the protocol to specify the type of lab coats that will be used and how they will be disposed of or cleaned.

The IBC Chair moved that Prof. Yocum's protocol be approved pending the receipt of a revised protocol that addresses the discussed revisions. The motion was seconded. All members voted in favor of the motion.

Discussion of a new protocol from Sarah Smith describing recombinant DNA work using BL21 cells derived from E. coli B as a host.

The IBC Chair introduced this new protocol. Prof. Smith will be conducting work with recombinant DNA using BL21(DE3) cells as a host to express proteins or antimicrobial peptides.

BL21(DE3) cells are derived from E. coli B, which is a Risk Group 1 agent that is not exempt from the NIH Guidelines, but can be handled using BSL1 precautions. This work will be carried out by Prof. Smith and her undergraduate research students.

Concerns Discussed by the Committee:
The committee discussed the procedure for cleaning up a spill included in this protocol. They concluded that the protocol was incomplete and asked the IBC Chair to provide Prof. Smith with guidance on what needs to be added to this procedure. The committee also expressed concern that the spill cleanup is presented in paragraph form and that they would like to see it converted into a numbered list that students could easily follow in the event of a spill.

The committee discussed the need for the protocol to include the specific names of the proteins that will be expressed using the BL21(DE3) cells or the general functions they carryout to ensure that these proteins will not alter the pathogenicity of these bacteria.

The committee discussed the need for the protocol to include a clear statement that when the frozen BL21(DE3) cells are transported to the lab, they will be placed into a secondary container on ice.

The IBC Chair moved that Prof. Smith's protocol be approved pending the receipt of a revised protocol that addresses the discussed revisions. The motion was seconded. All members voted in favor of the motion.

Discussion of a new protocol from Rebecca Switzer describing recombinant DNA work using BL21 cells derived from E. coli B as a host.

The IBC Chair introduced this new protocol. Prof. Switzer will be conducting work with recombinant DNA using BL21(DE3) cells as a host to express DNA methyltransferases. BL21(DE3) cells are derived from E. coli B, which is a Risk Group 1 agent that is not exempt from the NIH Guidelines, but can be handled using BSL1 precautions. This work will be carried out by Prof. Switzer and her undergraduate research students.

The IBC Chair asked that Prof. Switzer recuse herself from voting on this protocol. She agreed. The IBC Chair allowed Prof. Switzer to be present during the discussion of the protocol to answer any questions the committee may have. The IBC Chair requested that the other committee members let the IBC Chair know if at any point in the discussion, they would prefer that Prof. Switzer leave the meeting and the IBC Chair will then send Rebecca to a breakout room.

Concerns Discussed by the Committee:
After a brief discussion, the committee did not express any concerns regarding this protocol.

The IBC Chair moved that Prof. Switzer's protocol be approved. The motion was seconded. All members voted in favor of the motion.

Re-review of a previously approved, active protocol that was last reviewed in 2014 from Ken Field and DeeAnn Reeder describing work with North American Bats.

The IBC Chair mentioned that after looking over the IBC records of active protocols, they noticed several that had last been reviewed by the IBC more than 10 years ago. So, they decided to implement a new policy requiring active protocols to be re-reviewed by the full IBC every 10 years. The first of these protocols is one submitted by Ken Field and DeeAnn Reeder describing their work with North American bats. The primary biosafety concern raised by this work is that North American bats are known to harbor rabies. This work is being carried out using BSL1 precautions with specific additional steps to mitigate the rabies risk.

Concerns Discussed by the Committee:
The committee discussed that the protocol refers to "injection of immunologically challenging substances (vaccines, antigens, etc) to live bats" but does not provide any specific information regarding the specific substances being injected. The committee concluded that they need additional information regarding these substances in order to adequately assess the potential risks posed by this work. This should include a list of the "substances" that are being injected into bats including their characteristics, whether they are capable of infecting human cells, as well as how they are obtained/made, stored, handled and disposed of. After discussion, the committee concluded that this information could be provided either within a general protocol or as a separate, more specific protocol that is focused on experiments that involve injecting substances into bats.

The committee discussed the use of Pseudogymnoascus destructans described in the protocol and concluded that additional information needs to be provided including the characteristics that ensure that P. destructans is not a human pathogen, how it is obtained, stored, handled and disposed of. The IBC Chair pointed out that previously, this information was contained in other IBC-approved protocols. However, currently, there are no active IBC-approved protocols that include this information for P. destructans.

The committee discussed the procedures described to mitigate risk of rabies infection. Several committee members expressed concern that some of these procedures may be out of date, especially considering the administrative changes that have occurred at Bucknell Student health since this protocol was last reviewed. The committee concluded that these procedures should be reviewed and updated by Profs. Field and Reeder.

The IBC Chair moved that Profs. Field and Reeder be asked to provide an updated protocol that addresses the concerns they discussed so the committee can review the updated protocol during their Spring 2026 meeting. The motion was seconded. All members voted in favor of the motion.

Meeting adjourned by the IBC Chair at 4:00p.