



OFFICE OF THE VICE PROVOST
FOR RESEARCH

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April 10, 2006

Mr. Edward Hammond
The Sunshine Project
PO Box 41987
Austin, TX 78704

Dear Mr. Hammond:

Attached please find the minutes for the University of Delaware Biosafety Committee meetings since May 1, 2003 as per your request received on March 16, 2006.

Sincerely,

A handwritten signature in cursive script, reading "Carolyn Thoroughgood".

Carolyn Thoroughgood
Vice Provost for Research

enc: UBC minutes

University of Delaware Biosafety Committee
Meeting Minutes- June 12, 2003

Members Present- Dr. Daniel Cha, Civil and Environmental Engineering
Ms. Robin Elliott, Occupational Health and Safety
Dr. Marlene Emara, Animal and Food Sciences
Mr. Norman Henry, DuPont Company
Dr. Richard Holsten, Office of Vice Provost for Research
Ms. Harriet Izenberg, University of Pennsylvania
Mr. Joseph Miller, Occupational Health and Safety
Dr. Eugene Mueller, Chemistry and Biochemistry
Ms. Krista Murray, Occupational Health and Safety
Dr. Conrad Pope, Animal and Food Sciences
Dr. Janine Sherrier, Delaware Biotechnology Institute

- I. Minutes from the January 14, 2003 meeting were approved.
- II. Committee Approval of Recombinant DNA Registrations
The list of projects approved from January 10, 2003 through June 11, 2003 was reviewed. Ms. Elliott asked if the UBC was responsible for considering the value of the research, as is the case with review of animal use or human subject protocols by their respective committees. Dr. Holsten, Ms. Murray, and Ms. Izenberg all agreed they have never seen reference to this subject. Ms. Elliott asked if, in the future, the summary of approved projects could include the committee member's name who reviewed the protocol. Ms. Murray stated this would be done in the future.

Discussion on protocols 03-009, Dr. Green's "Noncoding and Small Peptide-Coding RNAs: A Genomic and Proteomic Initiative for Cereals" and 03-016, Drs. Shapiro and Meyer's "Dissection of Signaling Networks Guided by Mathematical Models and Functional Genomics" took place. Because of concerns regarding survival of *Arabidopsis* in the environment, Dr. Sherrier suggested a further review and the possibility of increasing the work to Biosafety Level 2. The committee agreed to a conditional approval based on this review.

Discussion also took place regarding 03-012, Dr. Hopper's "Transformation of *Heliothis virescens* to Express GFP and RNAi Suppression of GFP Expression". Dr. Hopper works at Stearns Lab for the USDA, but they require IBC approval at the location where the work will be performed. The committee agreed they would like the Biosafety Officer to perform a site visit to verify containment capabilities since no one is very familiar with the facilities or work procedures at Stearns Lab. Dr. Sherrier suggested Ms. Murray contact Dr. Tallamy, Entomology & Applied Ecology, for his recommendations for containment of these caterpillars. The committee agreed to vote on this protocol, as well as the two previous, based on an e-mail summary of Ms. Murray's findings. The vote was unanimous in favor of acceptance of all the other protocols.

III. Program Summaries

a. Renovations

The Smith Lab renovations in Lewes are still ongoing. Renovations to the Animal Facility in Wolf/McKinly have been proposed beginning this fall. The plans are under way; animals will be moved into temporary facilities for part of the work. These renovations will be necessary if the university would like to gain AALAC accreditation in the future. Mr. Henry stated DuPont just went through AALAC accreditation. The team was especially concerned with occupational health and safety issues. Ms. Izenberg stated their accreditation reviewed both the research staff and the animal technicians, including medical monitoring, risk assessment, and other occupational health and safety concerns. These would all need to be considered prior to application for accreditation.

b. Infectious Waste Disposal

No new information to report since the last meeting.

c. Status of Biosafety Cabinets

The equipment was tested in May. Ms. Murray is working on compiling the results. The inspections this year included updating the hood classifications to the new NSF Standards.

d. Incident Reports

There were three bloodborne pathogens exposures since the last meeting. A medical technology student on clinical rotation was splashed in the face with a control specimen derived from human material; this was treated as potential blood exposure. Two nursing students received needlesticks; one was recapping a used needle, and the other was stuck with a suture needle. There was also an exposure to a human cell line as well as sodium hydroxide when a vacuum flask exploded. The student was splashed on the forehead with the chemical.

e. Other Announcements

Mr. Henry asked if the university provided autoclave safety training. Ms. Murray replied that it depended on the department. Some departments, such as DBI, do provide training on the use of their autoclaves. There is no training provided campus-wide through Occupational Health & Safety. Mr. Miller stated he would like to see Ms. Murray inventory all the autoclaves on campus. At this time there is no central list of the equipment. Ms. Izenberg stated that UPENN does not provide any more training or maintenance of inventory than UD does at this time. They are working on a web-based training module, however. Ms. Elliott asked if the committee should take a position on the use of autoclaves. She suggested that it be added into the approval forms. Mr. Miller said another item we should consider having the units checked by an outside contractor on a regular basis. Again, this is only done in some departments. He also suggested checking to see if someone on campus has already developed a training or use checklist on campus which could be used as a campus-wide model.

Dr. Sherrier stated DBI has a list of equipment which requires mandatory training prior to use. They maintain a list of authorized trainers for the equipment. The autoclave inventory and the training may need to be considered as two separate issues.

Dr. Holsten asked who oversees whether state licensure of autoclaves is in compliance. Certain sizes of autoclaves must be inspected when purchased and annually thereafter since they are pressure vessels. This can be a liability issue for the university. Mr. Miller believes this would be Facilities' responsibility. Ms. Elliott asked if this should be added to the inspection forms. Dr. Sherrier suggested the safety committees could assist in locating the equipment. It was also mentioned that fermenter units may need to be on the inventory as well since they are pressurized.

Mr. Miller moved that an inventory of autoclaves be performed, state licensure requirements be investigated, and examples of training options be collected prior to the next UBC meeting. The committee unanimously agreed. Ms. Murray will work on these items.

IV. Updates on Previous Items

a. Lab Coat Bags

The tyvek bags to contain lab coats being used for classes have arrived. DOHS will consider the best way to implement their use starting this fall.

b. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

V. New Business

a. SARS statement for the university

Concerns were raised on campus regarding SARS and what measures, if any, should be taken in regards to visitors from outbreak areas, or university members traveling to these areas. DOHS became involved and worked with Student Health and the Office of the Vice Provost for Academic Programs and Planning. A statement was released on UDaily. The university is following the CDC recommendations to not limit activities or preclude anyone from coming to campus as long as they do not have any symptoms of the disease. A copy of this statement was distributed to the UBC members.

b. Latex Minimization Proposed Policy

Ms. Elliott discussed the concern of latex use on campus. This issue was raised earlier this year when a latex sensitive student contacted the president asking what

measures were taken to make the campus safe for allergic students. The concern was passed to Dr. Siebold of Student Health, who contacted DOHS. Two latex-containing items of particular concern are latex balloons and gloves. At this point there is not a specific policy. A letter will soon be sent out with the recommendation to minimize the use of latex on campus.

c. Recombinant DNA Approval Procedures

Ms. Murray stated she had a discussion with Dr. Cary regarding recombinant DNA approvals. He had suggested that the approvals be done electronically, the way other approvals are performed and the electronic Blue Sheets are routed. Because Dr. Cary was not available at the meeting, Ms. Murray suggested this discussion be continued when he is available to explain his idea. Dr. Holsten said this would be a good suggestion, but at this time the electronic Blue Sheet would not be edited due to work load constraints in Information Technology. The committee will pursue this in the future.

Ms. Murray also stated she recently sent out a reminder to the DBI occupants on the procedures for recombinant DNA approvals. This included the fact that exempt work approvals can, and should, be written to include the work for the following year, and should be done as early as possible prior to grant submission to ensure adequate time for processing and review. She asked if the committee would like this reminder to be sent to all biological users. The committee agreed. Ms. Murray will send the reminder out electronically.

d. Arabidopsis Research Biosafety Level

Dr. Sherrier was researching biosafety classification of plants. If a plant can survive outside the greenhouse and can overwinter (survive the winter to sprout in the spring), it needs to be contained at Biosafety Level 2 (BSL2). Arabidopsis is a weed plant with very tiny seeds that is used frequently in plant research, and is used by several researchers in Plant & Soil Sciences. Based on some research, Arabidopsis may be able to overwinter in Delaware, which would place this research at BSL2. New policies may need to be developed to contain the seeds, particularly in transport around the building and from DBI to Fischer Greenhouse. Mr. Miller asked if a separate facility may be needed to contain these materials. Dr. Sherrier stated the renovations to Fischer Greenhouse include four isolation units which have been upgraded for this.

Dr. Sherrier also stated items have been completed that were noted during the USDA inspection at Fischer Greenhouse for Dr. Meyer's permit. Security issues were noted in particular, and these rooms have now been secured.

e. Other items

Ms. Elliott stated the DOHS will be undergoing a program review in December. This will include both internal and external auditors. If anyone on the committee has any biosafety issues they feel should be considered during the review they

should let her know. There is a webpage with information on the review as well as the schedule. Any input towards this review would be greatly appreciated.

VI. Adjournment

Ms. Elliott moved for adjournment, seconded by Ms. Murray, approved.

Respectfully submitted,



Krista L. Murray
Biosafety Officer

University of Delaware Biosafety Committee
Meeting Minutes- January 8, 2004

Members Present- Ms. Robin Elliott, Occupational Health and Safety
Dr. Marlene Emara, Animal and Food Sciences
Dr. Hugh Frick, Plant and Soil Sciences
Mr. Norman Henry, DuPont Company
Dr. Richard Holsten, Office of Vice Provost for Research
Ms. Harriet Izenberg, University of Pennsylvania
Dr. John McDonald, Biological Sciences
Mr. Joseph Miller, Occupational Health and Safety
Dr. Eugene Mueller, Chemistry and Biochemistry
Ms. Krista Murray, Occupational Health and Safety
Dr. Blake Meyer, Delaware Biotechnology Institute
Dr. Conrad Pope, Animal and Food Sciences
Dr. Florence Schmieg, Biological Sciences
Dr. Janine Sherrier, Delaware Biotechnology Institute

- I. Minutes from the June 12, 2003 meeting were approved.
- II. Committee Approval of Recombinant DNA Registrations
The list of projects from June 11, 2003 through January 5, 2004 was reviewed. Ms. Elliott moved to approve and accept all of the registrations as listed, and Mr. Henry seconded. The vote was unanimous in favor of acceptance.
- III. Program Summaries
 - a. Renovations
The Smith Lab renovations are being completed. The renovations to the Wolf/McKinly Animal Facility have been postponed. The university did not receive the grant for the renovations this time, so the application will be submitted again. This will postpone the renovations until 2005 most likely.
 - b. Infectious Waste Disposal
Ms. Murray will begin to prepare the infectious waste generator annual report that must be submitted to Delaware Department of Natural Resources and Environmental Control.
 - c. Status of Biosafety Cabinets
Certifications of the laminar flow equipment were completed the end of March/ beginning of April. There are now 139 units on campus. Of these, 5 units were not certified. Two units need new HEPA filters (the owners have been informed), one had no power running to the unit, one was installed after the testing, and there was no reason listed as to why the last unit was not certified.

Ms. Murray stated she is still finding out that units have been purchased without the Department of Occupational Health & Safety (DOHS) approving the purchase, as required by University policy. These units have even been purchased without the building managers' knowledge. She was also informed of a unit that will be relocated off campus soon which she never knew was here, and it was thus never certified.

d. Incident Reports

Ms. Murray reported that there were four needlesticks since the last UBC meeting. All of these involved nursing students at clinical affiliates. One received a needlestick when the patient moved during the procedure. One was stuck because the sharps container she was using to discard a needle was too full. One student was stuck while cleaning up materials after a procedure. The last needlestick was with a clean needle (no potentially infectious materials present).

e. Other Announcements

Ms. Elliott mentioned that at the last meeting we had discussed whether the value of the research should be considered when performing the protocol reviews. She attended an occupational health and safety director's roundtable recently where a similar topic was discussed. At this roundtable it was mentioned that this may need to be addressed in the future, particularly as the research relates to national security issues.

Ms. Izenberg stated the National Academies Press has a new document that suggests research oversight committees have additional considerations, including security concerns, the value of the research, and terroristic applications of the work. Ms. Elliott mentioned that one idea suggested was that researchers may need to have a license or approval card to do certain types of work. Dr. Sherrier asked if it should be the responsibility of the deans to consider whether the research is consistent with the unit's goals. Ms. Elliott said the UBC may need training to do this type of review in order to do it properly. Dr. Mueller asked if the committee should be reviewing scientific merit of the work. Ms. Izenberg stated it is not just the merit of the work, but whether the research could be used in a negative fashion, particularly against national security. Dr. Mueller asked if the university may need a separate committee to consider issues such as security, in which the members have expertise in the field. Ms. Izenberg stated the University of Pennsylvania is currently reviewing their biosafety committee's charge, and this may be one issue that is addressed. One solution may be to bring in outside experts when needed, such as for security issues. Dr. Emara stated that if these types of issues are included under the UBC's responsibility in the future the committee may need to meet more frequently.

IV. Updates on Previous Items

a. [REDACTED]
[REDACTED]
[REDACTED]

[REDACTED]

b. Autoclave Inventory and Training

Ms. Murray stated she has found 41 units to date. She still has eight buildings left to check in Newark, as well as the Lewes and Georgetown campuses. The buildings left in Newark contain chemistry, engineering, and physics labs. Ms. Murray will work with Facilities to ensure that the units have been licensed according to state regulations. Mr. Miller stated there are a number of units on campus which are not used for sterilization, but should still be on the list. He also recommended that other sterilizer units, such as a new ethylene oxide sterilizer, be included on the inventory.

In regards to training, Ms. Murray stated she searched on the web and only found manual sections regarding the topic. Ms. Izenberg suggested contacting one of the sales representatives; often they will provide training. She also mentioned that the CDC used to have a loaning library of videotapes. Ms. Murray will check into the options for the training.

c. Latex Allergies

Ms. Elliott stated the letter discouraging the use of latex on campus was sent out in the UpDate. The recommendations were written by Dr. Siebold, the director of the Student Health Service.

d. Forms on the Web

Ms. Elliott stated that many DOHS forms are being placed on the web, similar to the leave request forms used at the university. Ms. Murray stated that, at this time, the recombinant DNA forms are not being done since revisions to the forms have been discussed. Other forms, such as the biological registration form and inventory form are being coded, however. Dr. Holsten stated Information Technologies is still unable to edit the Blue Sheet to include the biological research questions. Dr. Mueller asked if DOHS could contact researchers prior to the recombinant DNA approvals expiring so that there wasn't a last-minute rush to renew their approvals. Ms. Murray stated that her goal is to update the forms and get everyone on a schedule such that renewals are done on an annual basis for the biohazard registration forms, inventories, and recombinant DNA approvals. Dr. Sherrier suggested that the departments may be able to assist with this process.

e. USDA Plant Permits

Ms. Elliott asked what the status was regarding the Arabidopsis issue. Dr. Sherrier stated she and Dr. Meyer would discuss and research the issue regarding the containment level required for this work. She also mentioned that the USDA permit for recombinant plant work still needs to be completed. Dr. Meyer mentioned that he has still not received his permit from APHIS to bring some of

his materials here; the process was initiated over a year ago. Dr. Pope mentioned the case in the news of a company bringing a virus into the United States for development of a vaccine without the proper permits. The company is facing criminal charges in this case. Dr. Sherrier suggested that she, Dr. Meyer, and Ms. Murray have a conference call with the USDA APHIS contact to discuss this issue again.

V. New Business

a. DOHS Program Review

Ms. Elliott stated DOHS is undergoing a program review. The site visit took place the beginning of December, following submission of a self-study report. DOHS also submitted a status report to the review committee. This compared the DOHS budget versus university expenditures and sponsored research. Approximately 70% of the DOHS work is in support of academic departments. Based on these comparisons DOHS is substantially underbudgeted. The committee was on campus for 1 ½ days. There were two internal reviewers, Mr. Philip Roach of CCM and Mr. Gerald Hendricks of Plant & Soil Sciences, and three external reviewers, including Dr. Donald Robinson of University of Massachusetts, Dr. David Drummond of University of Wisconsin- Madison, and Mr. Andy Garcia-Rivera of Cornell University. They met with deans, department chairs, department safety committee chairs, faculty, graduate students, and university safety committee chairs, including Dr. Emara on behalf of the UBC. The audit team had a closeout meeting with DOHS and then with the administration. A report is due in January.

b. Biosafety Program Audit

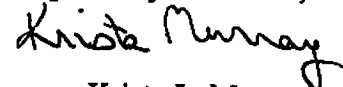
Ms. Murray stated that, per our committee charter, we are expected to do a biosafety program audit every two years. We were due to have an audit last year, but due to the changes in the program and regulations [REDACTED], the committee voted to postpone the audit one year. We are now due again for an audit. She also stated that, if an audit is to be performed, the committee needs to decide whether an external auditor should be used. Mr. Miller asked if we should postpone it again due to the changes still being implemented. Ms. Elliott felt it should be done now, even if all the changes are not complete. Mr. Henry stated DuPont performs annual audits in laboratories working at biosafety level 2 and above. He would be willing to help with ours. Dr. Sherrier suggested the autoclave inventory be completed prior to the audit. She felt the audit should still be done this year. Ms. Murray stated one of the benefits of the last audit was that the committee was able to identify the weaknesses and prioritize what needed to be done in the program. Ms. Izenberg suggested Esmeralda Prat perform the audit. She has had a lot of experience in plant biosafety and permitting with the USDA.

Dr. Sherrier motioned that the audit be performed and the report be completed prior to the next UBC meeting. Dr. Emara moved that an external auditor be used for this audit. Ms. Murray will work on scheduling the audit.

VI. Adjournment

Ms. Elliott moved for adjournment, seconded by Ms. Murray, approved.

Respectfully submitted,

A handwritten signature in cursive script that reads "Krista Murray".

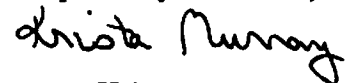
Krista L. Murray
Biosafety Officer

University of Delaware Biosafety Committee
Recombinant DNA Research Meeting
Minutes- June 8, 2004

Members Present- Dr. Daniel Cha, Civil and Environmental Engineering
Ms. Robin Elliott, Occupational Health and Safety
Dr. Marlene Emara, Animal and Food Sciences
Dr. Hugh Frick, Plant and Soil Sciences
Dr. Blake Meyer, Delaware Biotechnology Institute
Dr. Mary Miele, Medical Technology
Mr. Joseph Miller, Occupational Health and Safety
Ms. Krista Murray, Occupational Health and Safety
Dr. Conrad Pope, Animal and Food Sciences
Dr. Florence Schmieg, Biological Sciences
Dr. Janine Sherrier, Delaware Biotechnology Institute

- I. Introductions
Ms. Murray introduced Ms. Margaret Schillingford of Fraunhofer CMB. She acts as the biosafety officer for their organization and was interested in seeing how our UBC operates. Ms. Murray is a member of their Institutional Biosafety Committee (IBC).
- II. Minutes from the January 8, 2004 meeting were approved.
- III. Committee Approval of Recombinant DNA Registrations
The list of projects from January 5, 2004 through June 4, 2004 was reviewed. Dr. Schmieg moved to approve and accept all of the registrations as listed, and Dr. Miele seconded. The vote was unanimous in favor of acceptance.
- V. Adjournment
Ms. Elliott moved to adjourn the portion of the meeting pertaining to recombinant DNA research, seconded by Ms. Murray, approved.

Respectfully submitted,



Krista L. Murray
Biosafety Officer

University of Delaware Biosafety Committee
Recombinant DNA Research Meeting
Minutes- January 7, 2005

Members Present- Ms. Robin Elliott, Occupational Health and Safety
Dr. Hugh Frick, Plant and Soil Sciences
Mr. Norman Henry, Community Member
Dr. Richard Holsten, Office of the Vice Provost for Research
Ms. Harriet Izenberg, University of Pennsylvania
Dr. John McDonald, Biological Sciences
Dr. Mary Miele, Medical Technology
Mr. Joseph Miller, Occupational Health and Safety
Ms. Krista Murray, Occupational Health and Safety
Dr. Florence Schmieg, Biological Sciences
Dr. Janine Sherrier, Delaware Biotechnology Institute

I. Introductions

Ms. Murray introduced Mr. Douglas MacDonald. He is a Biosafety Specialist who is working for Occupational Health & Safety part-time for a one year appointment.

II. Minutes from the June 8, 2004 meeting were approved.

III. Committee Approval of Recombinant DNA Registrations

The list of projects with preliminary approvals from June 5, 2004 through January 6, 2005 was reviewed. Dr. Sherrier moved to approve and accept all of the registrations as listed, and Mr. Miller seconded. The vote was unanimous in favor of acceptance.

IV. NIH OBA Complaint

Ms. Murray reviewed the complaint filed with the NIH Office of Biotechnology Activities (OBA) against the University of Delaware by the Sunshine Project. The complaint was that the meeting minutes we had submitted per their request had extensive redactions. The University responded to OBA on October 8, 2004 explaining the redactions due to material being included in our meetings that did not pertain to recombinant DNA research, and other material that was a security concern if released. The University has not received any response from OBA. The Council on Government Relations just initiated a survey of those universities that had complaints filed against them by the Sunshine Project to evaluate the ramifications of these complaints. Ms. Murray submitted information for this survey, but has not heard anything further yet.

Dr. Sherrier asked if our project approvals are presented publicly, should we just submit the list of funded projects only, rather than including the projects that did not receive funding. Mr. Miller asked if responses to requests such as that by the Sunshine Project should be reviewed by legal counsel. Dr. Holsten stated this

was reviewed and approved. Ms. Elliott recommended that in the next meeting minutes, it be indicated that all of the protocols being reviewed at the meeting have received preliminary review by a committee member and the Biosafety Officer and have received provisional approval until the next meeting. This will be done.

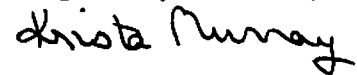
V. Letter from NIH OBA

Ms. Murray stated she received a letter from OBA stating that in the coming year NIH will be conducting site visits at selected institutions to gather more information about IBC compliance and to educate the institutions about the requirements for recombinant DNA research. Over the holidays, Ms. Murray received a call that OBA was reviewing our file and requested a copy of Ms. Elliott's curriculum vitae. Dr Holsten stated an individual from the NSF Inspector General Office recently inspected the university. Ms. Izenberg stated these OBA inspections may be for their education, as well as ours, in regards to what is actually occurring across the country.

IV. Adjournment

Ms. Elliott moved to adjourn the portion of the meeting pertaining to recombinant DNA research, seconded by Ms. Murray, approved.

Respectfully submitted,



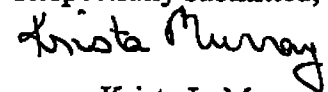
Krista L. Murray
Biosafety Officer

University of Delaware Biosafety Committee
Recombinant DNA Research Meeting
Minutes- June 10, 2005

Members Present- Ms. Robin Elliott, Occupational Health and Safety
Dr. Marlene Emara, Animal and Food Sciences
Dr. Hugh Frick, Plant and Soil Sciences
Mr. Norman Henry, Community Member
Dr. Richard Holsten, Office of the Vice Provost for Research
Ms. Harriet Izenberg, University of Pennsylvania
Dr. Adam Marsh, Marine Studies
Dr. Blake Meyers, Delaware Biotechnology Institute
Mr. Joseph Miller, Occupational Health and Safety
Dr. Eugene Mueller, Chemistry & Biochemistry
Ms. Krista Murray, Occupational Health and Safety
Dr. Conrad Pope, Animal and Food Sciences
Dr. Florence Schmieg, Biological Sciences

- I. Ms. Murray introduced Dr. Adam Marsh from the College of Marine Studies in Lewes. He was just appointed to the committee by the Provost.
- II. Minutes from the January 7, 2005 meeting were approved.
- III. Committee Approval of Recombinant DNA Registrations
The list of projects with preliminary approvals from January 6, 2005 through June 6, 2005 was reviewed. The committee discussed the trend towards work which is not exempt from the NIH *Guidelines*, and the start of work using lentiviral vectors. Dr. Emara moved to approve and accept all of the registrations as listed, and Ms. Elliott seconded. The vote was unanimous in favor of acceptance.
- IV. NIH OBA Complaint
Ms. Murray reviewed with the committee the circumstances surrounding the complaint made to the OBA regarding our UBC by the Sunshine Project. She stated that Occupational Health & Safety drafted a response to the complaint for the Research Office to submit. This was submitted, and no response was received for over 7 months. When OBA responded in May, they stated we had not submitted the unredacted minutes as requested. These were again requested, as well as minutes from the next two meetings. Again OHS crafted a response for the Research Office to submit; this was completed on May 26. We are awaiting further correspondence from OBA.
- V. Adjournment
Ms. Elliott moved to adjourn the portion of the meeting pertaining to recombinant DNA research, seconded by Ms. Murray, approved.

Respectfully submitted,

A handwritten signature in black ink that reads "Krista Murray". The signature is written in a cursive style with a large, stylized "K" and "M".

Krista L. Murray
Biosafety Officer

University of Delaware Biosafety Committee
Recombinant DNA Research Meeting
Minutes-October 11, 2005

Members Present- Mr. Thomas Boyle, Community Member
Ms. Robin Elliott, Occupational Health and Safety
Dr. Marlene Emara, Animal and Food Sciences
Dr. Hugh Frick, Plant and Soil Sciences
Mr. Norman Henry, Community Member
Mr. Joseph Miller, Occupational Health and Safety
Dr. Eugene Mueller, Chemistry & Biochemistry
Ms. Krista Murray, Occupational Health and Safety
Dr. Florence Schmieg, Biological Sciences
Dr. Janine Sherrier, Delaware Biotechnology Institute

I. Committee Changes

Ms. Murray announced that Ms. Izenberg has retired from the University of Pennsylvania and has resigned her position with our UBC. Ms. Murray introduced Mr. Thomas Boyle, who will be replacing her as our second community member. Mr. Boyle is the Biosafety Officer at the University of Pennsylvania. Ms. Murray also announced that Dr. Miele is leaving the University of Delaware to accept a position at Hershey Medical Center, and she too is resigning from our UBC. Ms. Murray will work on finding a new member to represent the College of Nursing.

II. Minutes from the June 10, 2005 meeting were approved.

III. Committee Approval of Recombinant DNA Registrations

The list of projects with preliminary approvals from June 6, 2005 through October 6, 2005 was reviewed. The list of exempt category research was reviewed by the committee. Dr. Mueller moved to approve all of the registrations as listed, and Mr. Boyle seconded. The vote was unanimous in favor of acceptance. The non-exempt research was reviewed next. Two protocols met this category. Both were reviewed as indicated on their Review Forms and approved unanimously.

IV. Discussion of Registration Procedures

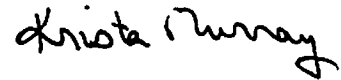
Ms. Murray discussed the status of the complaint investigation by the NIH OBA. All issues have been addressed adequately. The OBA has reminded the committee that any work can not be performed until the full committee has reviewed and approved the protocol. This was clarified on our rDNA registration form. Ms. Murray has also designed a Review Form to use with projects that are not exempt from the NIH Guidelines. This will ensure that we've discussed all pertinent issues according to the Guidelines. This form was placed in use at today's meeting. Ms. Murray will send the form out to the committee for their review and comments. It was then discussed that a notice should be sent to the recombinant DNA researchers reminding them of the information needed for a

complete review. One item Ms. Murray would like to stress is the need to provide a description of the work that includes the actual procedures which require approval- some descriptions received have hardly mentioned that recombinant work will be taking place. Dr. Mueller suggested including a statement in the email that if the protocol changes, they must complete a new registration form. It was also suggested that an item be added to the registration form as to whether the individuals listed on the protocol have been trained to the biosafety level of the project. This will be done. Ms. Murray will send a notice out to users to inform them of the revised form and the clarifications listed above.

V. Adjournment

Ms. Elliott moved to adjourn the portion of the meeting pertaining to recombinant DNA research, seconded by Ms. Murray, approved.

Respectfully submitted,



Krista L. Murray
Biosafety Officer

University Biosafety Committee Review Form
For Recombinant DNA Experiments Covered by the
NIH Guidelines

Principal Investigator: Dr. [REDACTED]

Department: Plant + Soil Sciences

Project Title: Rhizobial Lipopolysaccharide Structures Essential for Symbiotic Infection

Registration Number: DS-034

Description of procedures provided: Yes ☒ No ☐

Containment Level: 1

Appropriate facilities to be used: Yes ☒ No ☐

Procedures acceptable for containment: Yes ☒ No ☐

Work practices acceptable for containment: Yes ☒ No ☐

Training/ Experience of Personnel acceptable for work: Yes ☒ No ☐

Comments: _____

These items have been reviewed by the University Biosafety Committee and the committee has voted ☒ For ☐ Against approval of this project on this date. Experiments covered by this protocol can now be initiated.

UBC Representative: Krista Murray

Date: 10/11/05

University Biosafety Committee Review Form
For Recombinant DNA Experiments Covered by the
NIH Guidelines

Principal Investigator: Dr. [REDACTED] and [REDACTED]

Department: Plant + Soil Sciences

Project Title: Genome-wide Analysis of miRNAs and siRNAs Associated with Abiotic Stress in Arabidopsis

Registration Number: 05-036

Description of procedures provided: Yes ☒ No ☐

Containment Level: 2

Appropriate facilities to be used: Yes ☒ No ☐

Procedures acceptable for containment: Yes ☒ No ☐

Work practices acceptable for containment: Yes ☒ No ☐

Training/ Experience of Personnel acceptable for work: Yes ☒ No ☐

Comments: _____

These items have been reviewed by the University Biosafety Committee and the committee has voted ☒ For ☐ Against approval of this project on this date. Experiments covered by this protocol can now be initiated.

UBC Representative: Krista Murray


Date: 10/11/05

University of Delaware Biosafety Committee
Recombinant DNA Research Meeting
Minutes-January 6, 2006

Members Present- Dr. Daniel Cha, Civil and Environmental Engineering
Ms. Robin Elliott, Occupational Health and Safety
Dr. Marlene Emara, Animal and Food Sciences
Dr. Richard Holsten, Office of the Vice Provost for Research
Dr. Adam Marsh, Marine Studies
Dr. Blake Meyers, Delaware Biotechnology Institute
Mr. Joseph Miller, Occupational Health and Safety
Dr. Eugene Mueller, Chemistry & Biochemistry
Ms. Krista Murray, Occupational Health and Safety
Dr. Conrad Pope, Animal and Food Sciences
Mr. Michael Wendeler, Community Member

- I. Mr. Michael Wendeler was introduced as the new community member for the UBC.
- II. Minutes from the October 11, 2005 meeting were approved.
- III. Committee Approval of Recombinant DNA Registrations
The list of projects with preliminary approvals from October 6, 2005 through January 6, 2006 was reviewed. The list of exempt category research was reviewed by the committee. Dr. Mueller moved to approve all of the registrations as listed, and Dr. Meyers seconded. The vote was unanimous in favor of acceptance. The non-exempt research was reviewed next. It was decided that, when possible, the faculty member who performed the preliminary review will present these protocols to the committee. Five protocols met this category. One of these protocols, 05-042, was submitted by a faculty member who has since left the university. Her protocol was tabled until it is determined whether the work will continue in her absence through another faculty member. The other four protocols were reviewed as indicated on their Review Forms and approved unanimously.
- IV. Ms. Murray advised the committee that the membership of the UBC was approved by the NIH Office of Biotechnology Activity for the upcoming year.
- V. Adjournment
Ms. Elliott moved to adjourn the portion of the meeting pertaining to recombinant DNA research, seconded by Ms. Murray, approved.

Respectfully submitted,



Krista L. Murray
Biosafety Officer

University Biosafety Committee Review Form
For Recombinant DNA Experiments Covered by the
NIH Guidelines

Principal Investigator: Dr. [REDACTED]

Department: Biological Sciences / DBI

Project Title: TRPGR: Genome-Wide Analysis of Host Defense Response to Pathogens

Registration Number: 05-039

Description of procedures provided: Yes ☒ No ☐

Containment Level: 2

Appropriate facilities to be used: Yes ☒ No ☐

Procedures acceptable for containment: Yes ☒ No ☐

Work practices acceptable for containment: Yes ☒ No ☐

Training/ Experience of Personnel acceptable for work: Yes ☒ No ☐

Comments: _____

These items have been reviewed by the University Biosafety Committee and the committee has voted ☒ For ☐ Against approval of this project on this date. Experiments covered by this protocol can now be initiated.

UBC Representative: Krista Murray

Date: 1/6/06

University Biosafety Committee Review Form
For Recombinant DNA Experiments Covered by the
NIH Guidelines

Principal Investigator: Dr. [REDACTED]

Department: Animal + Food Sciences

Project Title: In vivo Selection of Recombinant Marek's Disease Viruses

Registration Number: 05-043

Description of procedures provided: Yes ☒ No ☐

Containment Level: 3

Appropriate facilities to be used: Yes ☒ No ☐

Procedures acceptable for containment: Yes ☒ No ☐

Work practices acceptable for containment: Yes ☒ No ☐

Training/ Experience of Personnel acceptable for work: Yes ☒ No ☐

Comments: _____

These items have been reviewed by the University Biosafety Committee and the committee has voted ☒ For ☐ Against approval of this project on this date. Experiments covered by this protocol can now be initiated.

UBC Representative: Krista Murray

Date: 1/6/06

University Biosafety Committee Review Form
For Recombinant DNA Experiments Covered by the
NIH Guidelines

Principal Investigator: Dr. [REDACTED]

Department: Animal + Food Sciences

Project Title: In vivo characterization of Recombinant Marek's Disease Virus

Registration Number: 05-044

Description of procedures provided: Yes ☒ No ☐

Containment Level: 3

Appropriate facilities to be used: Yes ☒ No ☐

Procedures acceptable for containment: Yes ☒ No ☐

Work practices acceptable for containment: Yes ☒ No ☐

Training/ Experience of Personnel acceptable for work: Yes ☒ No ☐

Comments: _____

These items have been reviewed by the University Biosafety Committee and the committee has voted ☒ For ☐ Against approval of this project on this date. Experiments covered by this protocol can now be initiated.

UBC Representative: Krista Murray

Date: 1/6/06

University Biosafety Committee Review Form
For Recombinant DNA Experiments Covered by the
NIH Guidelines

Principal Investigator: Dr. [REDACTED]

Department: Animal + Food Sciences

Project Title: Lymphotropic Herpesvirus Evolution of Virulence: The Marek's Disease Virus

Registration Number: 06-001

Description of procedures provided: Yes ☒ No ☐

Containment Level: 3

Appropriate facilities to be used: Yes ☒ No ☐

Procedures acceptable for containment: Yes ☒ No ☐

Work practices acceptable for containment: Yes ☒ No ☐

Training/ Experience of Personnel acceptable for work: Yes ☒ No ☐

Comments: need 2° containment when moving samples
from WOE → Allen

These items have been reviewed by the University Biosafety Committee and the committee has voted ☒ For ☐ Against approval of this project on this date. Experiments covered by this protocol can now be initiated.

UBC Representative: Krista Murray

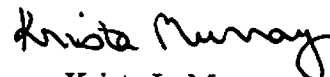
Date: 1/6/06

University of Delaware Biosafety Committee
Recombinant DNA Research Meeting
Minutes-January 26, 2006

Members Present- Ms. Robin Elliott, Occupational Health and Safety
Dr. Marlene Emara, Animal and Food Sciences
Mr. Joseph Miller, Occupational Health and Safety
Ms. Krista Murray, Occupational Health and Safety

- I. A special meeting of the UBC was called to review protocol 06-004 due to the anticipated start date being sooner than the next regular committee meeting.
- II. Committee Approval of Recombinant DNA Registrations
The project was reviewed according to the attached form. Dr. Emara moved to approve and accept the registration as listed, and Mr. Miller seconded. The vote was unanimous in favor of acceptance.
- III. Adjournment
Ms. Elliott moved to adjourn the meeting, seconded by Ms. Murray, approved.

Respectfully submitted,


Krista L. Murray
Biosafety Officer

University Biosafety Committee Review Form
For Recombinant DNA Experiments Covered by the
NIH Guidelines

Principal Investigator: Dr. [REDACTED]

Department: Animal + Food Sciences

Project Title: _____

Registration Number: 06-004

Description of procedures provided: Yes ☒ No _____

Containment Level: 2

Appropriate facilities to be used: Yes ☒ No _____

Procedures acceptable for containment: Yes ☒ No _____

Work practices acceptable for containment: Yes ☒ No _____

Training/ Experience of Personnel acceptable for work: Yes ☒ No _____

Comments: _____

These items have been reviewed by the University Biosafety Committee and the committee has voted ☒ For _____ Against approval of this project on this date. Experiments covered by this protocol can now be initiated.

UBC Representative: Krista Murray

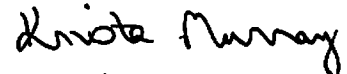
Date: 1/26/06

University of Delaware Biosafety Committee
Recombinant DNA Research Meeting
Minutes-February 16, 2006

Members Present- Dr. Marlene Emara, Animal and Food Sciences
Mr. Joseph Miller, Occupational Health and Safety
Ms. Krista Murray, Occupational Health and Safety
Dr. Florence Schmieg, Biological Sciences

- I. A special meeting of the UBC was called to review protocol 06-006 due to the anticipated start date being sooner than the next regular committee meeting.
- II. Committee Approval of Recombinant DNA Registrations
The project was reviewed according to the attached form. Dr. Emara moved to approve and accept the registration as listed, and Dr. Schmieg seconded. The vote was unanimous in favor of acceptance.
- III. Adjournment
Mr. Miller moved to adjourn the meeting, seconded by Ms. Murray, approved.

Respectfully submitted,



Krista L. Murray
Biosafety Officer

University Biosafety Committee Review Form
For Recombinant DNA Experiments Covered by the
NIH Guidelines

Principal Investigator: Drs. [REDACTED] + [REDACTED]

Department: Biological Sciences

Project Title: The use of Recombinant cDNA and Viral Vectors to Study Protein
Kinase C Signaling in Osteoblasts and Uterine Smooth Muscle Cells.

Registration Number: 06-006

Description of procedures provided: Yes ☒ No ☐

Containment Level: 2

Appropriate facilities to be used: Yes ☒ No ☐

Procedures acceptable for containment: Yes ☒ No ☐

Work practices acceptable for containment: Yes ☒ No ☐

Training/ Experience of Personnel acceptable for work: Yes ☒ No ☐

Comments: Verify training - Biosafety trng + bbp training
for lab staff. Once trained - have approval

These items have been reviewed by the University Biosafety Committee and the
committee has voted ☐ For ☐ Against approval of this project on this date.
Experiments covered by this protocol can now be initiated.

UBC Representative: Krista Murray

Date: 2/16/06