2015
BRIGHT IDEAS CONFERENCE
WEDNESDAY, APRIL 29
SUBMISSION FORM

Primary Presenter: Ms. Katelyn D. Defrates
Title (Dr., Ms., Mr.) First Name Last Name

Rank: Assistant Professor Dept: Biology

Faculty Co-Presenters:
Rebecca D. Parr

Graduate Student Co-Presenters:
Hannah N. Lockwood

Title of Exhibit:
Optimization of Fluorescent Detection of Rotavirus Protein NSP4 and Cellular Receptors in MA104 Cells

In the box below, please provide a 200-word, single-spaced abstract of your proposed Exhibit Presentation, including its importance to your field. ***All abstracts will appear in the conference proceedings.***

To develop a more time and cost effective immunoblot assay, the enhanced chemiluminescence (ECL) assay previously used in our experiments was redesigned to an ECL plex fluorescent detection system. An African Green Monkey cell line (MA104) was infected with rotavirus, and both rotavirus-infected and non-infected cell lysates were prepared and quantified using a protein micro-BCA assay. Two-fold dilutions of the cell lysates were added to nitrocellulose membranes in a slot blot apparatus. The concentration of both the antigen-specific primary (rabbit antibodies) and secondary (goat anti-rabbit) antibodies were held constant. Two secondary fluorophore-labeled antibodies, Alexa Fluor® 546 & 647 conjugated goat anti-rabbit antibodies, were examined for optimal signal to noise ratio using different emission and excitation spectras. The images were collected with the Typhoon 8600 laser scanner (GE Healthcare Life Sciences), and both Alexa fluor-conjugated secondary antibodies displayed high sensitivity and good dynamic ranges. Using the parameters determined above, we showed cannabionoid receptors are present on MA104 cells. This is an important discovery since these receptors bind to two natural products that we have shown have an antiviral effect on rv infections. This suggests a mechanism of action of small molecules extracted from plants with therapeutic potential.

Type of display/presentation: *(poster, tri-fold display, 3-D exhibit, etc. - describe below)*

Display/exhibit spaces are a 4' x 8' area - *Please check your anticipated requirements*

Display requirements:

☐ Lattice panel 4' wide x 8' tall
or
☐ Full cork board 6' wide x 4' tall
or
☒ Half cork board 3' wide x 4' tall (½ exhibit space - 4' deep x 4' wide)
or
☐ Easel – 2' x 6' (should hold up to 4' wide posters)

Additional options:

☐ Table - 3' deep x 8' long

☐ Access to power *(Limited - please request only if required.)*

☐ Other, please specify (e.g., screen, chairs, etc.)
Computers are not provided; security for exhibitor's computers or other equipment is not provided.

We will provide video and computer to play it.

If selected, I will be present with my Exhibit at one or more of the following times:
☐ 11 am – 12 ☐ 12 – 1 pm ☐ 1 – 2 pm ☑ 2 – 3 pm ☑ 3 – 4 pm

Submission Instructions:

- **E-mail your electronic submission form to your designated BIC college representative *no later than Friday, February 27, 2015***
- **Please consult your dean or college conference representative regarding college-specific submission requirements, if any.**

Call Andrew Ormsby at 468-7689 if you have any questions about exhibit space requirements.