

## Campus Correspondence

To: SVM Faculty, Advanced Studies Students, Professional Students, Post-Doctoral Researchers, and House Officers

From: Dr. Andrea Johnston, Phi Zeta, Tau Chapter President (2022-2023)

Date: January 17, 2023 Re: **CALL FOR ABSTRACTS PHI ZETA RESEARCH EMPHASIS DAY**

The Phi Zeta Research Emphasis Day will be held on **Wednesday, March 1<sup>st</sup>, 2023**. The organizing committee would like to invite all faculty, post-doctoral researchers, advanced studies students, and professional students to submit abstracts for this event. All presentations will be in poster format. ***Although summer scholars do not need to reformat their posters for Phi Zeta, they do need to submit an abstract.***

**Eligibility for Award Competition: SVM Graduate Students, Professional Students, Postdoctoral researchers or non-SVM students mentored by an SVM faculty member.**

Posters presented in-person by advanced studies students, professional students and postdoctoral researchers will be judged by a panel of scientists for monetary prizes [1<sup>st</sup> (\$150), 2<sup>nd</sup> (\$100), 3<sup>rd</sup> (\$75), 4<sup>th</sup> (\$50)] in the major categories:

(1) Dissertation (PhD) students (4 prizes)

(2a) Basic research for thesis (M.S.), house officers and residents (2 prizes)

(2b) Basic research for professional students (3 prizes)

(2c) Basic research for non-professional undergraduates (2 prizes)

(3a) Clinical research for thesis (M.S.), house officers, residents, and non-professional undergraduates (2 prizes)

(3b) Clinical research for professional students (2 prizes)

(3c) Clinical case reports for house officers and professional students (2 prizes)

(4) Post-doctoral researchers (2-3 prizes; based on number of presentations)

The clinical research category is relatively new and is defined as research that:

- *focuses on a question originating from clinical veterinary medicine*
- *is relevant to the animal species associated with the clinical question*
- *may use all available research methods (from the animal to the molecule)*

### **Category Winners (1<sup>st</sup> place) three-minute abstract presentation.**

As part of the scheduled events on Phi Zeta Research Day, following announcement of the first-place winner of each category, they will be asked to present their research poster in a 3-minute session at the awards ceremony. This timeline is brief and will be supplemented by a PowerPoint slide of their poster. The goal is to make an “elevator pitch” of their research to the attendees, to highlight their work. Therefore, every presenter in the competition should prepare a 3-minute talk, in advance.

The committee also encourages the participation of SVM faculty members. *Faculty wishing to display their posters only need to submit the names of the authors, abstract title(s) and the number of poster boards.*

This year abstracts should only be submitted online using <http://posterabstract.lsu.edu> hyperlink. You will receive a confirmation email upon submission.

This portal will open on **Friday January 20<sup>th</sup>** and the deadline for abstract submissions is 5:00 p.m., **Tuesday, February 14<sup>th</sup>**. Please note that, under any circumstance, abstracts submitted after the deadline will not be accepted. **Please read the Abstract Guidelines carefully before completing this form.** Submitted abstracts will be used to prepare an electronic Phi Zeta Research Emphasis Day Program that will be available ahead of the meeting online. Abstracts will be distributed to a panel of SVM and non-SVM scientists in advance of the poster presentation, which will consist of up to 10 minutes of in-person interaction with 2 judges.

This event is an exceptional opportunity for individuals in the SVM scientific community to present the results of their research efforts to other members of the SVM and LSU communities. It serves as an important showcase for SVM Research Enterprise. We anticipate the presence of the Provost and Vice Provost for Research and Economic Development from the main campus.

#### Important Dates to Remember

- **Abstracts: Due by 5:00 PM, 2/14/2023.**
- **Hang posters by 2/28/2023 by noon (1<sup>st</sup> floor central corridor)**
- **Wine and Cheese Reception 5:00 – 7:00 PM, 2/28/2023 by the posters.**
- **Phi Zeta Research Day: 8:00 AM – 2:00 PM, 03/01/2023**

Please do not hesitate to contact Dr. Johnston ([johnston1@lsu.edu](mailto:johnston1@lsu.edu)), Dr. Cremer ([jcremer@lsu.edu](mailto:jcremer@lsu.edu)), Dr. Sasaki ([emi@lsu.edu](mailto:emi@lsu.edu)) for additional information.

#### Guidelines for Abstract Preparation

- Advanced studies, professional, and undergraduate students as well as Post-doctoral researchers should submit abstracts under appropriate category and sub-category **on the online-abstract submission portal**. Faculty wishing to present posters should submit the author names, abstract title(s), and number of poster boards.
- The abstracts should be submitted as a **single-spaced document**. The font should be at least 10 characters per inch (font size 12) and the page should have a minimum of one-inch margins on all sides. **The abstract body is limited to 250 words** (Note that the 250-word limit does NOT include the title, authors, and departmental information). **Please copy and paste the abstract body from a Microsoft word document.** The abstract should contain the sections as described below (see examples on page 4):
  - **Title:** Adequately describe the study (**to be consistent, please capitalize the first letter of each word in your title. For example, “Guidelines for Abstract and Poster Preparation”**).
  - **Authors:** Include all authors. (**To be consistent, please list the authors’ names using the initials for the first name followed by the last name and list the participant’s name in bold, e.g, J. Smith**).
  - **Rationale:** State the rationale for the study and provide appropriate background information and hypothesis or objectives. Indicate the objective and purpose of the research, the hypothesis that was tested or a description of the problem being evaluated or analyzed.
  - **Methods:** Clearly describe the technique(s) and statistical analyses employed in this investigation. Describe the study duration/setting/location, study population, study design, data collection, and methods of analysis employed.
  - **Results:** Clearly presented and consistent with the experimental methods and design. Present as clearly and in as much detail as possible the observations/outcome of the study. Please summarize specific results.

- Conclusions: Accurate interpretation of results within the context of the original hypotheses/objective(s). Explain the significance of the findings/outcome of the study for prevention, treatment, care and/or support, and future implications of the findings.
  - Significance/Impact/Implications: Place the results and conclusions of the investigation within the context of our current knowledge of the subject area.
- **Abstracts are due by 5:00 P.M., 2/14/2023.**
  - **Your abstract is not successfully submitted until you receive confirmation e-mail after clicking the final submit button. If you do not receive confirmation e-mail in your inbox or junk folder, please contact us.**

#### **Guidelines for Poster Preparation:**

- The maximum size of each printed poster is **3 feet (36 inches)** high by **4 feet (48 inches)** wide.
- Poster printing is available at the LSU Print Desk, 3<sup>rd</sup> floor of LSU Library (main campus), Room 305.  
[https://www.lsu.edu/it\\_services/serv\\_op/service\\_mgmt/service-desk/printdesk.php](https://www.lsu.edu/it_services/serv_op/service_mgmt/service-desk/printdesk.php)
- To hang the posters in the designated location, please use 3M Command™ Poster strips on the back of the poster.
- **A PowerPoint file of the poster must be uploaded to the submission portal in anticipation of potential awards (i.e. for the 3 minute “elevator pitch presentation” by 1st place winners)**

#### **Guidelines for Poster Judging**

- A team led by Dr. Jeannette Cremer, will supervise the overall process of poster competition.
- Judges are chosen from members of both the scientific and veterinary practitioner community from across the entire state as well as the entire LSU system.
- Although judges participating in the research emphasis day will be identified as a group, the identity of judges responsible for reviewing specific posters will NOT be released.
- When possible, judges are assigned to posters using a computer random number generator. Judge assignments are then manually reviewed to make sure that no judge reviews their own (or their students’) posters.
- Judge assignments are also reviewed to make sure that the same judge does not review the same student multiple times, and that “pairs” of judges are not assigned to review multiple posters together.
- Judges will provide a numeric score of each poster. These scores will then be tallied electronically. The posters in each category will then be ranked and this ranking will be used to determine first, second, and third place posters.
- Specific written commentary is encouraged and may be provided by the reviewers. This will be made available to the poster presenters, although it will not itself factor into the ranking process.
- If a presenter wishes to see their raw score after the competition, they will be allowed to do so although the score alone may not convey much information. However, the presenters will NOT be allowed to view the scores of others.
- No more than one prize will be awarded to a presenter despite multiple presentations.

- Abstracts from previously published work will be disqualified prior to judging in the PhD student and postdoctoral categories.

Sample abstracts are enclosed for additional information.

### Template abstract 1 - Basic Science

#### **Differentiation of Canine Induced Pluripotent Stem Cells into Neural Progenitor Cells**

XXXX

Laboratory for XXX, Department of XXX, XXX University

**Background and Rationale:** New advances in stem cell technology, including induced pluripotent stem cells (iPSC), offers new hope for patients with neurological disease and spinal cord injuries. Therefore, we evaluated the ability of canine iPSC to be differentiated into neural progenitor cells (NPC) in vitro as a precursor to clinical trials in dogs with spinal cord injury.

**Approach:** iPSC were generated from canine fibroblasts and characterized based on phenotype, gene expression analysis, lineage differentiation, and teratoma formation. Canine iPSC were then induced to differentiate into NPC by culture in defined medium supplemented with specific growth factors. NPC were characterized by phenotype, flow cytometry, immunofluorescence, and gene expression analysis.

**Results:** Canine iPSC could be readily induced to differentiate into NPC following 2-3 weeks in culture. Specific culture conditions led to enrichment of NPC for cells with characteristics of oligodendrocytes, astrocytes and neurons. NPC did not form teratomas in mice, whereas the parental iPSC cells did.

**Conclusions/Implications:** Canine iPSC can be induced to form NPC in vitro by altering cell culture conditions, cell substrate, and addition of specific growth factors. These studies provide evidence that iPSC technology can be used to generate NPC for use in neural regeneration in dogs with neurological injuries.

### Template abstract 2 - Basic Science

#### **Key Role For Scavenger Receptor B-I In The Integrative Physiology Of Host Defense During Bacterial Pneumonia**

K.M. XXX, M.B. XXX,

Department of XXXXXXXXXXXXXXXX

**Rationale:** Scavenger Receptor B-I (SR-BI) is a multi-recognition receptor mostly studied in the arena of atherosclerosis due to its role in cellular uptake of cholesterol ester from high density lipoprotein (HDL). Recently, SR-BI has also been reported to play a role in clearance of lipopolysaccharide (LPS) from the plasma.

**Methods:** SR-BI<sup>+/+</sup> and SR-BI<sup>-/-</sup> mice were infected intratracheally with *Klebsiella pneumoniae* (Kp), or challenged with aerosolized LPS. Survival, leukocyte influx into the airspace, bronchoalveolar lavage fluid (BALF) cytokines, and bacterial CFUs in lung and blood were quantified. Bactericidal function of neutrophils (PMNs) was evaluated.

**Results:** Compared to SR-BI<sup>+/+</sup> counterparts, SR-BI<sup>-/-</sup> mice suffered markedly increased mortality during pneumonia, in conjunction with higher bacterial burden in lung and blood, deficient induction in the plasma of the stress glucocorticoid corticosterone, higher serum cytokines, and increased peripheral organ injury. SR-BI<sup>-/-</sup> mice had significantly enhanced PMN recruitment to the airspace as well as increased BALF TNF- $\alpha$ , G-CSF, and

CXCL5 after pulmonary exposure to either Kp or LPS. This was associated with defective clearance of LPS from the SR-BI<sup>-/-</sup> airway and increased cytokine production by SR-BI<sup>-/-</sup> macrophages. SR-BI<sup>-/-</sup> PMNs displayed decreased phagocytosis and a dramatic defect in intracellular bacterial killing.

**Conclusions:** SR-BI is central regulator of the integrated pulmonary host defense response through multiple interacting mechanisms, including modulation of alveolar cytokine induction, PMN recruitment, and PMN function.

### [Template abstract 1 - Translational/Clinical Science](#)

#### **Pharmacokinetics and Pharmacodynamics of an Extended Release Buprenorphine Formulation in Dogs**

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Department of XXX, College of Veterinary Medicine, XXX University,

**Rationale:** The options for effective and safe long-term post-operative analgesia in canine patients are very limited. The purpose of this study was to describe the pharmacokinetics and pharmacodynamics of an extended-release buprenorphine (ERB) formulation in healthy adult dogs. We hypothesized that plasma concentrations associated with therapeutic efficacy would be maintained for 72 hours after a single subcutaneous administration of ERB.

**Methods:** Six healthy mixed breed dogs were administered either ERB (0.2 mg/kg SQ) or intravenous buprenorphine (IVB, 0.02 mg/kg) in a prospective, randomized, blinded, positive control crossover study. Blood samples were collected and analyzed for plasma buprenorphine concentrations using ultra high pressure liquid chromatography/mass spectrometry. Thermal withdrawal latency, sedation scores, and vital signs were obtained at predetermined intervals for 6 days in each study period.

**Results:** Maximum plasma concentrations (median, range) of buprenorphine in dogs receiving ERB was 5 (4.3-11.0) ng/mL, which occurred at 8 (4-36) hours (T<sub>max</sub>). Therapeutic plasma concentrations (>1 ng/mL) occurred from 0.5 to 72 hours after administration in most (5/6) dogs. Thermal withdrawal latency was significantly prolonged for 48 hours in dogs after ERB administration and for up to 4 hours when dogs received IVB. Sedation scores were not significantly different in dogs receiving IVB or ERB, and no serious adverse effects were seen in either treatment group.

**Conclusions/significance:** These results suggest that a single dose of 0.2 mg/kg ERB is safe, provides consistent therapeutic plasma concentrations, and exhibits prolonged analgesia in healthy dogs.

### [Template abstract 2 - Translational/Clinical Science](#)

#### **Low Lung Injury Score Predicts Under-Recognition Of Acute Respiratory Distress Syndrome**

X.M. XXX, C.B. XXX,

Department of XXXXXXXXX

**Rationale:** Low-tidal volume ventilation (LTVV) has been shown to significantly reduce mortality in patients with acute respiratory distress syndrome (ARDS). We investigated the rate of clinician recognition of ARDS in a single center and sought to identify clinical factors associated with under-recognition of ARDS.

**Methods:** From a prospective cohort of 363 patients admitted from the emergency department to the intensive care unit (ICU), we identified 72 patients who met Berlin criteria for ARDS as determined by review of chest radiographs and clinical information from the first 5 days in the ICU. We then tested the association of clinician recognition of ARDS with patient-level clinical variables and used backward stepwise multivariable logistic regression to identify independent predictors of ARDS recognition.

**Results:** Within 7 days of meeting diagnostic criteria for ARDS, 40% of patients had clinical documentation of the diagnosis of ARDS; 51% had ARDS mentioned as part of a differential diagnosis; and 40% had discussion of LTVV strategies in the medical record. Overall, 53% of patients with ARDS had either recognition of ARDS or discussion of LTVV in their medical record. Clinician diagnosis of ARDS was associated with implementation of LTVV (<8 mL/kg IBW) within 2 days of meeting diagnostic criteria (mean TV 7.3 vs. 8.5 mL/kg IBW, p=0.03).

**Conclusions:** Clinician recognition of ARDS remains poor, with many cases going unrecognized. Severity of ARDS as measured by Lung Injury Score was the strongest predictor for clinician recognition of ARDS. Clinician recognition of ARDS was associated with use of LTVV strategies.