The Eighth Annual Meeting of the Arizona Physiological Society

A very successful eighth annual meeting of the Arizona Physiological Society (AzPS) was hosted by Midwestern University, during November 13-14, 2015. In attendance were 89 registrants, from five state-wide University campuses: University of Arizona-Tucson (UA-Tuc), University of Arizona-Phoenix (UA-Phx), Arizona State University (ASU), Northern Arizona University (NAU), and Midwestern University (MWU). Of those attending, 35/89 (41%) were faculty members, 8/89 (16%) were postdoctoral trainees, 33/89 (31%) were graduate students, 13/89 (12%) were undergraduate and medical students. A number of high quality abstracts (51 total) were submitted from; undergraduate students (11), graduate students (28), postdoctoral fellows (7), and regular members (5). The meeting was sponsored by; The American Physiological Society, Midwestern University Office of the President, Midwestern University Department of Physiology, University of Arizona-Tucson Department of Physiology and College of Medicine, Northern Arizona University, Arizona State University, with additional contributions from the following vendors: DMT and ADInstruments (both of whom also attended and participated in the meeting).

The meeting commenced with an introduction and welcome given by Society Immediate Past President, Layla Al-Nakkash (MWU) and Society President, Kiisa Nishikawa (NAU), and followed with the first session of the conference “Trainee Physiology Research Presentations-I”, chaired by Tobias Riede (MWU) and Johnnie Moore-Dotson (Post-doc, UA-Tuc). There were five talks in this session, with topics ranging from; “The kinetics of ligand interactions with the organic cation NBD-MTMA at OCT2” by Philip Sandoval, Grad. Student, UA-Tuc, to “An evaluation of eccentric contraction function during a stretch shortening cycle for muscles in mice”, by Anthony Hessel, Grad. Student, NAU.
The second session of the conference included two concurrent events, and attendees could participate in one of the two sessions and then swap after 30 min; (1) “Sim lab & teaching of health care professionals” by Jaqueline Spiegel, MS, PA-C, Director of Clinical Skills and Simulation Center (MWU) and Layla Al-Nakkash, Professor (MWU) – the session aimed to describe the potential uses of the Sim Center in healthcare education, and utilized the example of teaching respiratory lung compliance to medical students aiming to relate that to the clinical pneumothorax condition. Around 25-30 attendees/session were taken to the Sim Center to watch two simultaneous clinical scenario demonstrations (provided by 3 MWU MSII students/clinical exam room) of the treatment of a motor vehicle accident patient with pneumothorax, followed by a tour of the facility. (2) “Physiology Outreach” by Karen Sweazea, Associate Professor (ASU) and Cindy Rankin, Associate Professor (UA-TUC) - the session aimed to describe several key simple and applicable tools to describe to elementary/middle school children information relating to nutritional decisions (using various snacks in brown paper lunch bags to determine fat content on the paper bag) and use of various candies to ‘make’ a gastrointestinal tract. This session was repeated to allow attendees the opportunity to attend each event.

The third session of the conference “Trainee Physiology Research Presentations-II”, was chaired by Tom Broderick (MWU) and Megan Garlapow (Post-doc, ASU). The three talks in this session were given by MWU students; “Mild aerobic exercise improves aortic wall integrity and elasticity in a mouse model of Marfan syndrome” by Christine Gibson, MSI Student (mentor: M. Efandiarei), “Experience-dependent changes in vocal production in male rats”, by Chistine Hernandez, CVMII Student (mentor: T. Reide), and “A mouse model of diabetes: loss of CFTR expression contributes towards reduced jejunum chloride secretion”, by Faisal Masood, MSII (mentor: L. Al-Nakkash).

The keynote lecture, introduced by Kiisa Nishikawa (NAU), was given by Andrew Biewener (Lyman Professor of Biology, Director Concord Station, Department of Organismal & Evolutionary
Biology, Harvard University) and entitled “How do running animals achieve stability? The neuromechanical control of rapid locomotion”. This excellent talk by a well-respected leader in his field was followed by a reception and buffet dinner, and the return of the popular minute poster presentations (each poster presenter is given one minute of microphone time to “advertise who they are, and give a brief overview of the research poster they will shortly present”). The minute poster session was chaired by, Scott Boitano (UA-Tuc) and Christiane Danilo (Post doc, UA-Tuc), including research presentations by 28 graduate and medical student members. All graduate and medical students then presented their actual posters.

The second day of the meeting began with an opportunity for Post-docs to meet with Andrew Biewener over breakfast. The first session of the day was chaired by Tom Broderick (MWU) and Christiane Danilo (Post-doc, UA-Tuc), and was entitled “Trainee Physiology Research Presentations-III”. The four talks in this session were given by undergraduate students; “Age-related decline of anoxia tolerance in adult *drosophila melanogaster*” by James Sargent, ASU (mentor: J. Harrison), “Temporal expression of cyclooxygenase-2 following lateral fluid percussion injury in the male brain rat”, by Colleen Kerrigan, UA-Phx (mentor: R. Gonzales), “Effect of genistein diet on diabetic jejunum function and histology in the ob/ob mouse”, by RussL Altabtabaee, ASU/MWU (mentor: L. Al-Nakkash), and “Differential cardiovascular and penile responses to angiotensin II and bradykinin B1-receptor antagonism treatment in Sprague-Dawley rats”, by Brittney McCormick, UA-Phx (mentor: T. Hale).

Stan Lindstedt (NAU) then introduced this year’s Arizona Distinguished Lecturer, Eldon Braun (UA-Tuc), who gave a wonderfully engaging and animated lecture regarding “The comparative physiology of osmoregulation: lessons from avian studies”.

The second minute poster session was chaired by Layla Al-Nakkash (MWU) and Dennis Pollow (Grad. Student, UA-TUC), affording the remaining 23 poster presenters an opportunity to give a 1-minute spiel of their research prior to their poster presentations. During both minute poster sessions
attendees were treated to Starbucks gift cards, Jackets, pen and magnetic clip giveaways, generously
donated by VWR and Fisher. During the lunch hour, while judges of the poster categories met to discuss
the finalists of the posters sessions, the graduate students were invited to have lunch with Andrew
Biewener. The final oral communication session of the meeting, “Physiology Research in Arizona”, was
chaired by Steve Wright (UA-TUC) and Robert LeMoyne (Post-doc, NAU) and comprised four oral
presentations on such topics as; “A lymphedema-inducing mutation of CX47, R259C, alters growth
pattern and CX43 processing in rat insulinoma cells” by John Kanady (Post-Doc, UA-Tuc), and “Sex-
differences in cardiovascular responses to stress in adult rats prenatally exposed to dexamethasone” by
Taben Hale (UA-Phx).

The meeting concluded with the Business meeting chaired by Layla Al-Nakkash (MWU) and Kiisa
Nishikawa (NAU). The minutes of the 2014 business meeting were unanimously approved, and a
summary of the Chapter Advisory Committee meeting held at Experimental Biology in Boston April 2015
was discussed (attended by Layla Al-Nakkash and Taben Hale). Members of the executive council who
had completed their terms of service were thanked for their hard work and awarded a certificate of
appreciation; Dennis Pollow (Graduate Student Representative, UA-Tuc), and Johnnie Moore-Dotson
(Postdoctoral Representative, UA-TUC). Recognition was also given to incoming executive council
members that were recently voted into their positions: John Kanady (Postdoctoral Representative, UA-
TUC), and Uzma Tahir (Graduate Student Representative, NAU).

Subsequently, financial awards were given for poster presentations that represented $100 for
first place, $50 for second place and $25 for third place. Listed in Table 1 are the names and institutions
associated with the various awards. Select photographs from the 2-day meeting are described in the
figure legends of Table 2. Our 2-day Annual Chapter meeting continues to flourish in Arizona, bringing
together Physiologists from throughout the State. This meeting provides valuable support for our
trainees, and emboldens positive interactions between trainees and faculty alike. The ability to build and
foster new collaborations, share techniques and ideas, serves to improve Physiology research and teaching within Arizona.

### Table 1: Abstract Awardees

<table>
<thead>
<tr>
<th>Abstract Category</th>
<th>Postdoctoral Fellow</th>
<th>Graduate/Medical Student</th>
<th>Undergraduate</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>First place</strong></td>
<td>John Kanady (UA-Tuc)</td>
<td>Uzma Tahir (NAU)</td>
<td>Brittney McCormick (UA-Phx)</td>
</tr>
<tr>
<td><strong>Second place</strong></td>
<td>Manal Zein-Hammoud (UA-Phx)</td>
<td>Maura Cotter (UA-Tuc)</td>
<td>Julian Wagner (ASU)</td>
</tr>
<tr>
<td><strong>Third place</strong></td>
<td>Cheng-Yu Chen (UA-Tuc)</td>
<td>Puneet Raman (UA-Phx)</td>
<td>Russ Altabtabae (MWU)</td>
</tr>
</tbody>
</table>

### Table 2: Legends for the photographs

<table>
<thead>
<tr>
<th>Figure</th>
<th>Legend</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Sim lab 1: pneumothorax demonstration by Faisal Masood-MSII (lead), Omar Jawhar-MSII, and Trung Mylavarapu – MSII.</td>
</tr>
<tr>
<td>2</td>
<td>Sim lab 2: pneumothorax demonstration by Shawn Catmull-MSII (lead), Doug Gauffin-MSII, and Charisma Mylavarapu-MSI.</td>
</tr>
<tr>
<td>3</td>
<td>Poster presentation awardees - undergraduate, graduate student and post-doctoral trainees. From left to right: Kiisa Nishikawa (NAU), Cheng-Yu Chen (UA-TUC), Manal Zein-Hammoud (UA-Phx), Maura Cotter (UA-Tuc), John Kanady (UA-Tuc), Uzma Tahir (NAU), Julian Wagner (ASU), Brittney McCormick (UA-Phx).</td>
</tr>
<tr>
<td>4</td>
<td>The Arizona Distinguished Lecturer, Eldon Braun (UA-Tuc) receives a commemorative plaque from Kiisa Nishikawa (NAU).</td>
</tr>
<tr>
<td>5</td>
<td>A sample viewpoint of attendees at a talk session.</td>
</tr>
<tr>
<td>6</td>
<td>A sample viewpoint of one poster session</td>
</tr>
<tr>
<td>7</td>
<td>Christiane Danilo (Post-doc, UA-Tuc) presents her poster to Tom Pannabecker (UA-Tuc) and Johnnie Moore-Dotson (UA-Tuc)</td>
</tr>
<tr>
<td>8</td>
<td>Uzma Tahir (Graduate Student, NAU) presents her poster to Keynote Speaker, Andrew Biewener.</td>
</tr>
</tbody>
</table>