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SUMMARY OF INVITED PRESENTATIONS

- **Keynote Speakers** ...........................................................................................................
  - Andrew Lovering, Ph.D.
  - Brent Ruby, Ph.D., FACSM

- **MSPS and IPS Invited Speakers** ..................................................................................
  - Rebekah Gundry, Ph.D.
  - Daniel Christian, Ph.D.

- **Exhibitor Presentations** ...............................................................................................
  - Kristiina Aasa, Ph.D.
  - Steve Festin, Ph.D.
  - Wyatt Kern
  - Shawn Sternisha, Ph.D.
  - Gus Kalogeros, Ph.D.

SYNCHRONOUS MEETING AGENDA

**Day 1, Friday, October 30, 2020** ....................................................................................

**Day 2, Saturday October 31, 2020** ..................................................................................

ASYNCHRONOUS MEETING VIDEO POSTERS

**Undergraduate** .............................................................................................................

**Graduate** ..................................................................................................................

**Post-Doctoral and Faculty** ..........................................................................................

MEETING ABSTRACTS

**In Numerical Order (#3-#59)** .....................................................................................
Invited Presentations

**Keynote Speakers:**
Dr. Andrew Lovering, *University of Oregon*
Title: Getting to the Heart of the Matter: The "Hole" Story of Environmental Physiology and Medicine?

Dr. Brent Ruby, *University of Montana*
Title: Normal Humans Demonstrating Big Physiology: Energy and Fluid Demand Extremes

**Invited Speakers:**
Dr. Rebekah Gundry, *University of Nebraska Medical Center*
Title: An Analytical Chemist’s Approach to Cardiac Systems Physiology

Dr. Daniel Christian, *Des Moines University|Medicine and Health Sciences*
Title: Increased NMDA Receptor Function during Protracted Withdrawal from Chronic Intermittent Ethanol Exposure

**Exhibitor Presentations:**
Dr. Kristiina Aasa, *FujiFilm VisualSonics*
Title: Small Animal Cardiac Physiology with VisualSonics High-Frequency Ultrasound

Dr. Steve Festin, *Charles River*
Title: New at RMS 2020

Wyatt Kern, *Data Sciences International*
Title: Advance Your Research with DSI Preclinical Physiologic Monitoring

Dr. Shawn Sternisha, *Beckman Coulter*
Title: Mechanistic Origins of Activation in Glucokinase Variants Responsible for Hyperinsulinism

Dr. Gus Kalogeros, *Scintica Instrumentation*
Title: From whole animal imaging to cellular function: Choosing the right tools for your research
### Schedule, Friday October 30, 2020

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<tr>
<th>Time</th>
<th>Session</th>
<th>Details</th>
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<tr>
<td>12:30 PM - 01:00 PM</td>
<td><strong>Speaker Check-In (all presenters)</strong></td>
<td>All Speakers are asked to arrive early to ensure all equipment/presentations are in proper working order</td>
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<tr>
<td>01:00 PM - 01:10 PM</td>
<td><strong>Welcome/Keynote Introduction (IPS President)</strong></td>
<td>Noah J. Marcus, Ph.D.</td>
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<td>01:10 PM - 02:00 PM</td>
<td><strong>Keynote Presentation</strong></td>
<td>Andrew Lovering, Ph.D. Getting to the Heart of the Matter: The &quot;Hole&quot; Story of Environmental Physiology and Medicine?</td>
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<tr>
<td>02:00 PM - 02:10 PM</td>
<td><strong>Questions/Discussion</strong></td>
<td>Andrew Lovering, Ph.D. Getting to the Heart of the Matter: The &quot;Hole&quot; Story of Environmental Physiology and Medicine?</td>
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<tr>
<td>02:10 PM - 02:20 PM</td>
<td><strong>Abstract #26 Graduate Student Presentation</strong></td>
<td>Kalaj Karama, Novel mechanism of neural control of breathing in Acute Lung Injury (ALI)</td>
</tr>
<tr>
<td>02:20 PM - 02:25 PM</td>
<td><strong>Questions/Discussion</strong></td>
<td>Kalaj Karama, Novel mechanism of neural control of breathing in Acute Lung Injury (ALI)</td>
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Schedule, Friday October 30, 2020

02:25 PM - 02:35 PM

Abstract #59 Graduate Student Presentation

Kelsey Schwartz
Reproducibility of Laser Doppler Flowmetry and Laser Speckle Contrast Imaging During Whole-Body Cooling

02:25 PM - 02:35 PM

02:35 PM - 02:40 PM

Questions/Discussion

Kelsey Schwartz
Reproducibility of Laser Doppler Flowmetry and Laser Speckle Contrast Imaging During Whole-Body Cooling

02:35 PM - 02:40 PM

02:40 PM - 02:50 PM

Exhibitor Presentation (FUJIFILM VisualSonics)

Kristina Asaa
Small Animal Cardiac Physiology with VisualSonics High-Frequency Ultrasound

02:40 PM - 02:50 PM

02:50 PM - 03:00 PM

Break

03:00 PM - 03:10 PM

Abstract #23 Graduate Student Presentation

Sumit Ker
Hydrogen Sulfide Protects the Heart against Ferroptosis in Diabetic Cardiomyopathy

03:00 PM - 03:10 PM

03:10 PM - 03:15 PM

Questions/Discussion

Sumit Ker
Hydrogen Sulfide Protects the Heart against Ferroptosis in Diabetic Cardiomyopathy

03:10 PM - 03:15 PM
Schedule, Friday October 30, 2020

03:15 PM - 03:25 PM

Abstract #43 Graduate Student Presentation
Patrick Walab
Dysfunction of Renal Glucose Handling is Restored by Central Leptin Receptor Blockade in Model of Estrogen Deficiency.
03:15 PM - 03:25 PM

03:25 PM - 03:30 PM

Questions/Discussion
Patrick Walab
Dysfunction of Renal Glucose Handling is Restored by Central Leptin Receptor Blockade in Model of Estrogen Deficiency.
03:25 PM - 03:30 PM

03:30 PM - 03:45 PM

Abstract #10 Post-Doctoral Scholar Presentation
Cragi Workman
Dorsolateral Prefrontal Cortex tDCS Does Not Immediately Affect Cerebral Blood Flow in People with Multiple Sclerosis
03:30 PM - 03:45 PM

03:50 PM - 04:05 PM

Abstract #58 Post-Doctoral Scholar Presentation
Maia Kelly, Ph.D.
Glycan signatures as mechanistic markers of beta cell injury in diabetes
03:50 PM - 04:05 PM

04:05 PM - 04:10 PM

Questions/Discussion
Maia Kelly, Ph.D.
Glycan signatures as mechanistic markers of beta cell injury in diabetes
04:05 PM - 04:10 PM

04:10 PM - 04:20 PM

Exhibitor Presentation (Charles River)
Steve Fostin, Ph.D.
New at RMS 2020
04:10 PM - 04:20 PM
Schedule, Saturday October 31, 2020

04:20 PM - 04:45 PM

Day 1 Awards/Closing
- Noah J. Marcus, Ph.D.
  04:20 PM - 04:30 PM
- Dustin Silvka, Ph.D.
  04:30 PM - 04:40 PM

08:00 AM - 08:30 AM | Zoom

Speaker Check-In (all presenters)
All Speakers are asked to arrive early to ensure all equipment/presentations are in proper working order

08:30 AM - 08:35 AM | Zoom

Welcome (MSPS President)
- Dustin Silvka, Ph.D.
  08:30 AM - 08:35 AM

08:35 AM - 08:55 AM | Zoom

Invited Presentation (MSPS)
- Rebecca Gundry, Ph.D.
  08:35 AM - 08:55 AM

An Analytical Chemist's Approach to Cardiac Systems Physiology

08:55 AM - 09:00 AM | Zoom

Questions/Discussion
- Rebecca Gundry, Ph.D.
  08:55 AM - 09:00 AM

An Analytical Chemist's Approach to Cardiac Systems Physiology
Schedule, Saturday October 31, 2020

09:00 AM - 09:20 AM | Zoom

Invited Presenter (IPS)
Daniel Christian, Ph.D.
09:00 AM - 09:20 AM

Increased NMDA Receptor Function during Protracted Withdrawal from Chronic Intermittent Ethanol Exposure

09:20 AM - 09:25 AM | Zoom

Questions/Discussion
Daniel Christian, Ph.D.
09:20 AM - 09:25 AM

Increased NMDA Receptor Function during Protracted Withdrawal from Chronic Intermittent Ethanol Exposure

09:25 AM - 09:35 AM

Exhibitor Presentation (Data Sciences International)
Wyatt Kern
09:25 AM - 09:35 AM

Advance Your Research With DSI Preclinical Physiologic Monitoring

09:35 AM - 09:40 AM

Break

06:40 AM - 06:47 AM | Zoom

Abstract #21 Undergraduate Presenter
Cody Anderson
09:40 AM - 09:43 AM

Effects of Heated-Water-Based versus Land-Based Exercise Training on Vascular Function in Individuals with Peripheral Artery Disease

09:47 AM - 09:50 AM | Zoom

Questions/Discussion
Cody Anderson
09:47 AM - 09:50 AM

Effects of Heated-Water-Based versus Land-Based Exercise Training on Vascular Function in Individuals with Peripheral Artery Disease
Schedule, Saturday October 31, 2020

09:50 AM - 09:57 AM | Zoom

Abstract #28 Undergraduate Presenter
Kayla Olinski
Protective Effects of Low-dose Metformin Treatment in a Mouse Model of Diabetic Kidney Disease
09:50 AM - 09:57 AM

09:57 AM - 10:00 AM | Zoom

Questions/Discussion
Kayla Olinski
Protective Effects of Low-dose Metformin Treatment in a Mouse Model of Diabetic Kidney Disease
09:57 AM - 10:00 AM

10:00 AM - 10:07 AM | Zoom

Abstract #54 Undergraduate Presenter
Madeleine Nelson
Impact of Synthetic Cannabinoids on Cardiovascular Health.
10:00 AM - 10:07 AM

10:07 AM - 10:10 AM | Zoom

Questions/Discussion
Madeleine Nelson
Impact of Synthetic Cannabinoids on Cardiovascular Health.
10:07 AM - 10:10 AM

10:10 AM - 10:17 AM | Zoom

Abstract #52 Undergraduate Presenter
Manar Yaseen
Effects of Playing Breath-Controlled Instruments on Heart Rate and Mean Arterial Pressure
10:10 AM - 10:17 AM

10:17 AM - 10:20 AM | Zoom

Questions/Discussion
Manar Yaseen
Effects of Playing Breath-Controlled Instruments on Heart Rate and Mean Arterial Pressure
10:17 AM - 10:20 AM
Schedule, Saturday October 31, 2020

10:20 AM - 10:30 AM | Zoom

**Exhibitor Presentation (Beckman Coulter)**

Shawn Sternini, Ph.D.

Mechanistic Origins of Activation in Glucokinase Variants Responsible for Hyperinsulinism

10:20 AM - 10:30 AM

10:30 AM - 10:40 AM

Break

10:40 AM - 11:30 AM | Zoom

**Keynote Presentation**

Brent Ruby, Ph.D., FACSM

Normal Humans Demonstrating Big Physiology: Energy and Fluid Demand Extremes

10:40 AM - 11:30 AM

11:30 AM - 11:40 AM

**Questions/Discussion**

Brent Ruby, Ph.D., FACSM

Normal Humans Demonstrating Big Physiology: Energy and Fluid Demand Extremes

11:30 AM - 11:40 AM

11:40 AM - 11:50 AM | Zoom

**Exhibitor Presentation (Scintica Instrumentation)**

Gus Kalogeris, Ph.D.

From whole animal imaging to cellular function: Choosing the right tools for your research

11:40 AM - 11:50 AM

11:50 AM - 12:00 PM | Zoom

**Awards/Closing Remarks**

Dustin Slyka, Ph.D.

11:50 AM - 11:55 AM

Eric Bogaert, Ph.D.

11:55 AM - 12:00 PM