



**AMERICAN COLLEGE**  
**of SPORTS MEDICINE**<sup>®</sup>  
**LEADING THE WAY**

# MARC-ACSM Annual Meeting

Register today at  
[marcacsm.org](http://marcacsm.org)

November 5-6, 2021  
Sheraton Harrisburg  
Hershey Hotel  
Harrisburg, PA



# Welcome



It has been stated recently that the best of our culture cannot be enjoyed entirely on-line! I would add that the same could be said about the best of our science. Accordingly, despite holding a highly successful virtual meeting last year, thanks to the tireless efforts of the members of our Executive Board, especially our Immediate Past President, Melissa Reed, it is my pleasure to welcome you "back" to the 44th meeting of the Mid-Atlantic Regional Chapter (MARC) of the American College of Sports Medicine. I am thrilled that we are able to offer our program face-to-face this Fall. In addition, some of our conference presentations will be recorded and posted on the MARC landing page so that you can continue to view our high-quality programming once the meeting ends.

We are fortunate to have Dr. Ross Arena deliver the keynote address. Dr. Arena is a professor and head of the Department of Physical Therapy at the University of Illinois at Chicago. He has published extensively in the areas of exercise testing and training in those with chronic disease and recently founded the Healthy Living for Pandemic Event Protection (HL-PIVOT) network, which is designed to promote human resilience and quality of life by increasing healthy living behaviors. Dr. Arena reminds us that while COVID-19 grabs much of our attention, noncommunicable diseases, such as cardiovascular disease, obesity and diabetes continue to have catastrophic effects on a global scale. Reversing these trends will require increasing health behaviors on a global level. The Past President's lecture will be given by Dr. Jim Roberts. Dr. Roberts is a professor, and former chair, in the Department of Health and Physical Education at Edinboro University. He has spoken nationally and internationally and we look forward to having him discuss his own experiences as a "Marathon Man".

Complimenting these two gentlemen will be over 40 invited speakers who will be covering a wide variety of topics that include exercise immunology, youth sports development, promoting optimal aging, cancer, ketogenic diets, biomechanics of running and fitness entrepreneurship. We will also feature a line of presentations associated with athletic care and clinical medicine for our Physician's Track. In addition, our program includes over 100 free communications and poster sessions, featuring the most dedicated students, professionals and clinicians from across the region.

In between sessions, please take some time to check out the vendors and reconnect with old friends. Moreover, please do not forget to support your favorite team when old rivalries resume at the College Bowl and Fitness Challenge on Friday night. Planning a face-to-face meeting amid so much uncertainty requires courage, teamwork and dedication. Thus, I extend my deepest thanks to each member of the Executive Board, particularly our Executive Director, Dr. Steve LoRusso and Associate Executive Director, Dr. Joohee Sanders for keeping us on task. Of course, this would not be possible without your continued support. On behalf of the MARC Executive Board, thank you for your attendance and participation.

Enjoy!

A handwritten signature in black ink, appearing to read "Steve LoRusso". The signature is written in a cursive, flowing style.

# Executive Board



**Stephen LoRusso, PhD**

Executive Director

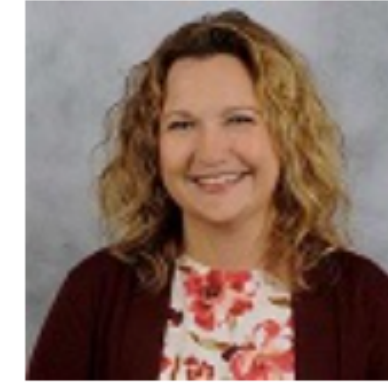
[executive@marcacsm.org](mailto:executive@marcacsm.org)



**Joohee Sanders, PhD**

Associate Executive Director

[website@marcacsm.org](mailto:website@marcacsm.org)



**Melissa Reed, PhD, ACSM C-CEP**

Past President



**Devon Dobrosielski, PhD, FACSM**

President

[president@marcacsm.org](mailto:president@marcacsm.org)



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President-elect



**Emily Sauers, PhD, FACSM**

Vice President



**Peter Hosick, PhD**

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**Andres E. Carrillo, PhD**

Member at Large



**Shannon Lennon, PhD**

Member at Large



**Rian Q. Landers-Ramos, PhD, CSCS**

Member at Large

[research@marcacsm.org](mailto:research@marcacsm.org)



**Casey Meizinger, MD**

Physician at Large



**Adam Susmarski, DO**

Physician at Large



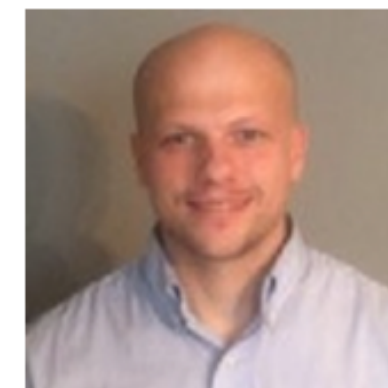
**Sara Campbell, PhD, FACSM**

ACSM Regional Representative



**Brittany Overstreet, PhD**

Secretary



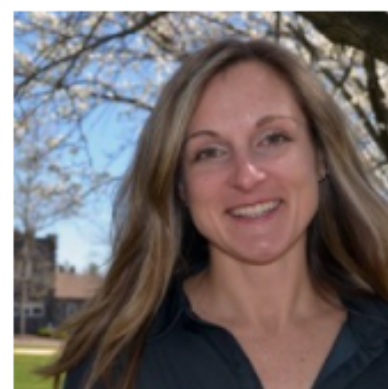
**John Guers**

New Jersey State Representative



**Yu Jen Chang, PhD**

West Virginia State Representative



**Deborah Fearheller, PhD, FACSM**

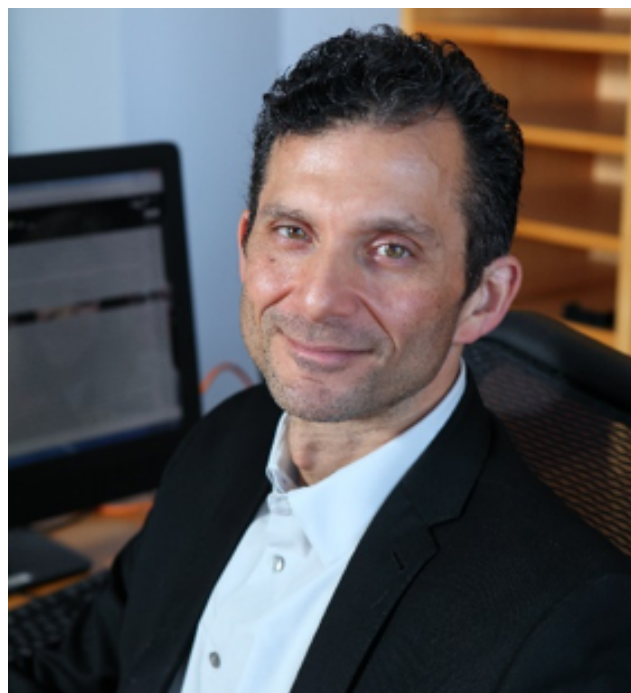
Pennsylvania State Representative



**Timothy Werner**

Maryland State Representative

# Speakers



## **Keynote Address**

The Global Path  
Forward: Healthy Living  
for Pandemic Event  
Protection

*Ross Arena*



## **Past-President's Lecture**

Marathon Man

*Jim Roberts*



## **Muscle Disuse in Modern Day Youth**

Dynapenia: It's Not  
Just for Grown-Ups  
Anymore

*Avery Faigenbaum*



## **Ketone Symposium Session**

Exogenous Ketones:  
Beyond Performance:  
Application for Health and  
Disease

*Andrew Koutnik*



## **Supplementation**

Dietary Nitrate  
Supplementation: What  
is it Good for? An  
Ergogenic Aid or  
Exercise Therapeutic?

*Jason Allen*



## **Ketone Symposium Session**

Impact of Ketogenic Diet  
on Athletic Performance

*Philip Prins*



## **Blood Flow Restriction: Practice Demonstration**

Considerations for  
Physique Athletes and  
Clinical Populations

*Nicolas Licameli*



## **Ketone Symposium Session**

Hold the Bread, Pass the  
Butter

*Parker Hydes*



## **Biomechanics Tutorial**

EMG Analysis: Set up  
and Demonstration

*Micah Josephson*



## **Coaching Across the Continuum: Connecting Physical Literacy, Physical Education and Performance**

Careers that Connect the  
Continuum in Sport and  
Physical Education

*Kristen Dieffenbach*

# Speakers



## **Coaching Across the Continuum: Connecting Physical Literacy, Physical Education and Performance**

Why Physical Education Matters for Longterm Athletic Development

*Lynn Pantuosco--Hensch*



## **Sports Performance Programming**

Offering a Sports Performance Program on a Budget: Is it Possible?

*Kellianne Milliner*



## **Coaching Across the Continuum: Connecting Physical Literacy, Physical Education and Performance**

The Continuum of Longterm Athletic Development

*Rick Howard*



## **Sports Performance Programming**

Offering a Sports Performance Program on a Budget: Is it Possible?

*Christine Karpinski*



## **Adapting Lab Instructional Models in a Pandemic Epoch**

*Evan Matthews*



## **Careers in Exercise Science The Path Forward**

The Clinical Revolution

*Brittany Overstreet*



## **Adapting Lab Instructional Models in a Pandemic Epoch**

*Swapan Mookerjee*



## **Careers in Exercise Science The Path Forward**

The Clinical Revolution

*Cemal Ozemek*



## **Sports Performance Programming**

Offering a Sports Performance Program on a Budget: Is it Possible?

*John Smith*



## **Careers in Exercise Science**

Embarking on a Career in Exercise Science

*Dave Diggan*

# Speakers



## Careers in Exercise Science

Embarking on a Career in Exercise Science

*Chris Harnish*



## Exercise Immunology

Lymphocyte Response to Acute and Chronic Exercise

*Emily LaVoy*



## Injury Biomechanics

Biomechanics Associated with Running-Related Injury

*Alexandra DeJong Lempke*



## Exercise Immunology

Immunometabolic Regulation and Innate Immunity in Aging, COVID and Exercise

*Brandt Pence*



## Injury Biomechanics

Running for Health: Does Running Prevent Age-Related Changes in Coordination or Muscle Function During Gait?

*Jocelyn Haferl*



## Promoting Optimal Aging

Influence of Body Composition on Mobility in Older Adults

*Odessa Addison*



## Injury Biomechanics

Fostering the Knee OA Risk from Long-Term Running

*Ross Miller*



## Promoting Optimal Aging

Nutritional Approaches to Promote Optimal Aging

*Elizabeth Parker*



## Exercise Immunology

Effects of Exercise on Respiratory Viral Infection and Vaccine Response

*Marian Kohut*



## Promoting Optimal Aging

Discussing Social and Economic Vulnerabilities in Sarcopenic Obesity

*Katie Dondero*

# Speakers



## **Animal Movement Exercise: Practical Demonstration**

Quadruple Movement  
Training: Activate,  
Mobilize, and Move with  
Animal Flow

*Jeff Buxton*



## **Exercise and Cancer**

Building an Exercise  
Oncology Program that  
Bridges the GAP: Physical  
Therapy and Exercise  
Physiology

*Nicole Stout*



## **Vascular Function**

Aortic Blood Pressure  
and Wave Reflection  
During Exercise

*Joseph Stock*



## **Exercise and Cancer**

Building an Exercise  
Oncology Program that  
Bridges the GAP: Physical  
Therapy and Exercise  
Physiology

*Dana DeJarnette*



## **Vascular Function**

Wave Reflection in the  
Hours after Exercise

*Jordan Patik*



## **Entrepreneurship in the Fitness Industry**

How to Run a Successful  
5-6 Figure Fitness  
Business Entirely Online  
without a Website or  
Social Media

*Mike T Nelson*



## **Vascular Function**

Exercise, Wave  
Reflection, Aortic Blood  
Pressure: Does Sex  
Matter?

*Jacqueline Augstine*



## **Electrodiagnostic and Ultrasound Assessment of Athletes**

*Matthew Miller*



## **Exercise and Cancer**

Building an Exercise  
Oncology Program that  
Bridges the GAP: Physical  
Therapy and Exercise  
Physiology

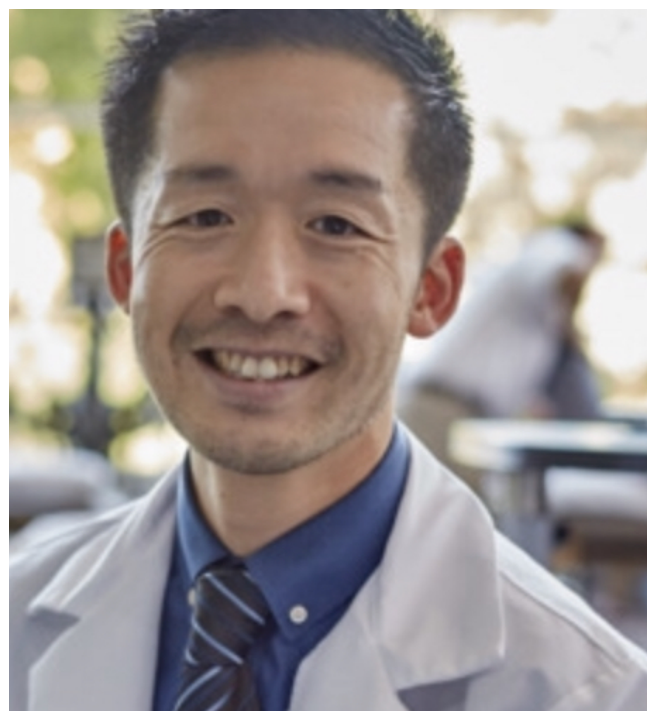
*Kathryn Schmitz*



## **Management of First Time Shoulder Dislocations**

*Lance LeClere*

# Speakers



## **My Experience Working with the International Olympic Committee**

*Kentaro Onishi*



## **COVID Cardiovascular Considerations in Athletes**

*Matthew Needleman*



## **Spinal Interventions in Athletics**

*Eric Helm*



## **Micro Doppler Radar: Practical Demonstration**

Evaluating Functional Movement

*Cayce Onks*

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Plan your experience by using our new interactive MARC-ACSM conference planner by scanning the QR code below.

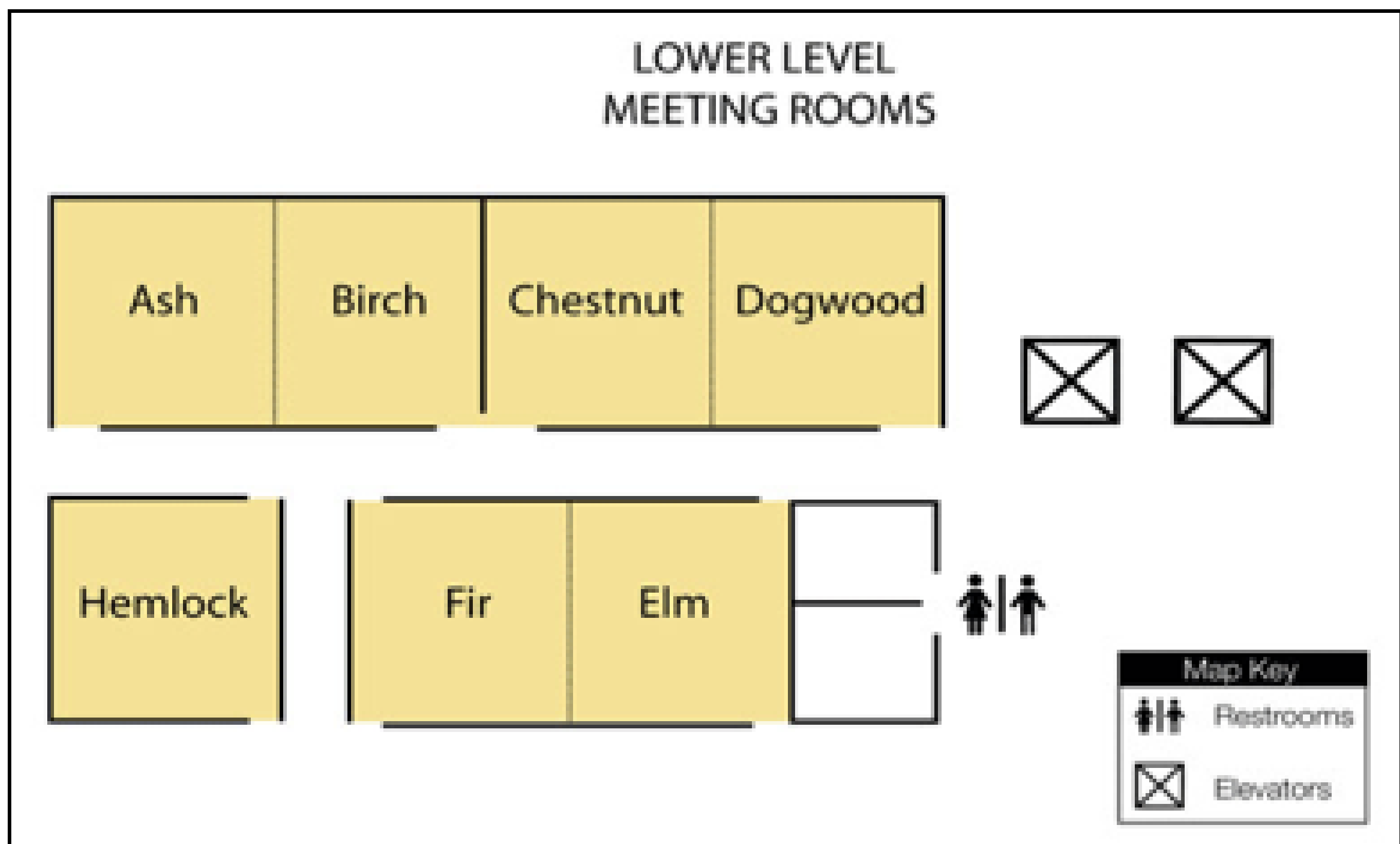
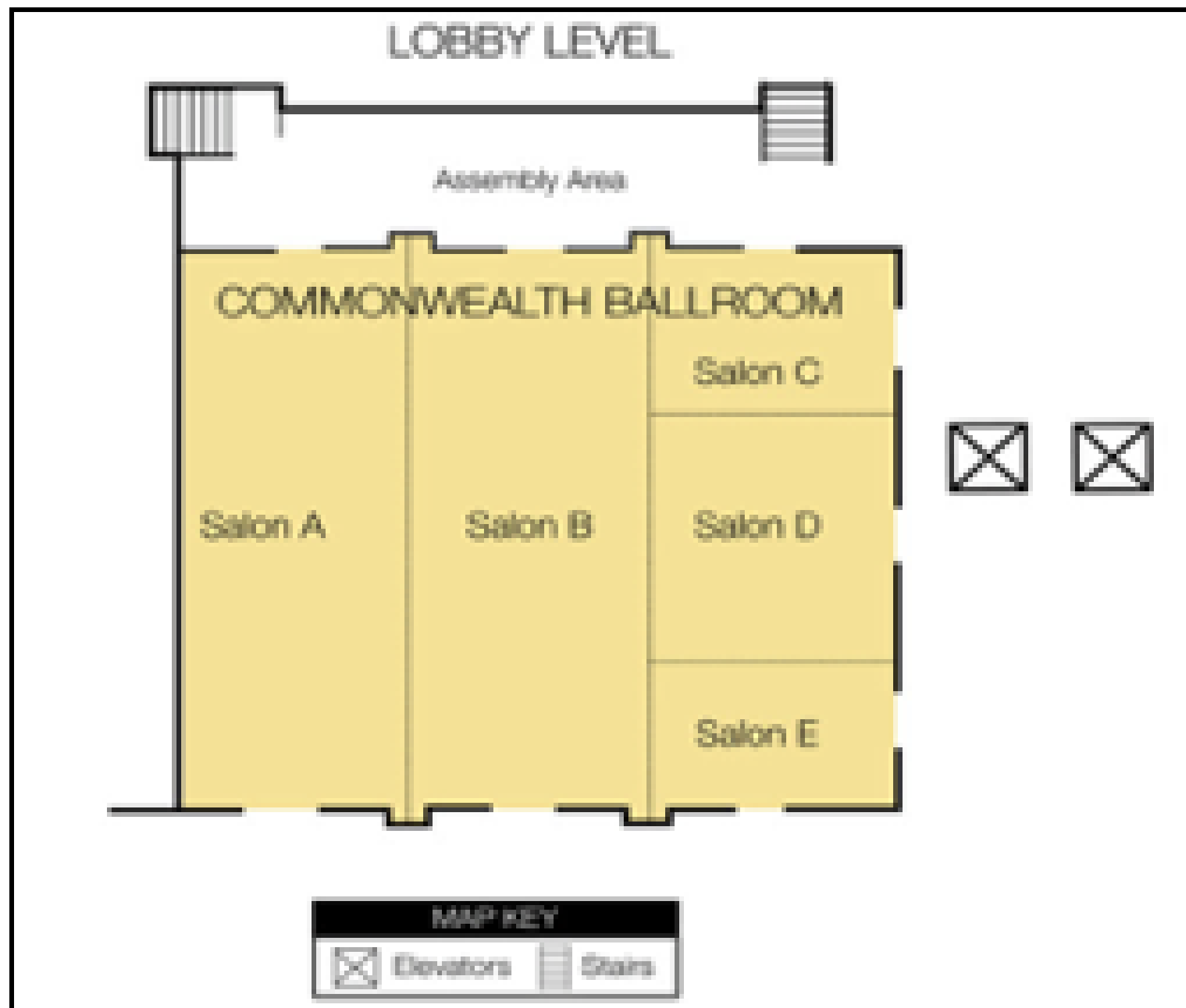


Over 125 abstracts will be presented at the meeting as posters, free communications or clinical case studies. See the full schedule and booklet of abstracts by scanning the QR code below.





## Sheraton Harrisburg-Hershey Hotel Meeting Rooms



# Program

## Friday, November 5th

### MARC-ACSM 2021 Conference Schedule

	Ballroom A	Ballroom B	Ballroom C,D,E	Pennsylvania	Chestnut/Dogwood	Ash/Birch	Elm/Fir
8:00 AM				<b>Welcome and Introduction</b> <b>Moderators:</b> Dr. Casey Meizinger, Dr. Adam Susmarski			Pre-Paid Registration Pick Up
8:30 AM			<b>Physician Session</b>				
9:00 AM	<b>Exercise Immunology</b> <b>Title:</b> "Effects of exercise on respiratory viral infection and vaccine response" <b>Presenter:</b> Marian Kohut	<small>Coaching Across the Continuum: Connecting Physical Literacy, Physical Education, and Performance</small> <b>Title:</b> "The continuum of long term athletic development" <b>Presenter:</b> Rick Howard	<b>Entrepreneurship in the Fitness Industry</b> <b>Title:</b> "How to run a successful 5-6 figure fitness business entirely online without a website or social media" <b>Presenter:</b> Mike Nelson	<b>Title:</b> "Electrodiagnostic and ultrasound assessment of athletes" <b>Presenter:</b> Matthew Miller			
9:30 AM	<b>Title:</b> "Lymphocyte response to acute and chronic exercise" <b>Presenter:</b> Emily Lavoy	<b>Title:</b> "Why physical education matters for long term athletic development" <b>Presenter:</b> Lynn Pantuosco-Hensch	<b>Careers in Exercise Science</b>	<b>Title:</b> "Management of first time shoulder dislocations" <b>Presenter:</b> Lance LeClere			
10:00 AM	<b>"Immunometabolic regulation of innate immunity in aging, COVID, and exercise"</b> <b>Presenter:</b> Brandt Pence	<b>Title:</b> "Careers that connect the continuum in sport and physical education" <b>Presenter:</b> Kristen Dieffenbach		<b>Title:</b> "My experience working with the international olympic committee" Presenter: Kentaro Onishi	<b>Practical Demonstration</b> <b>Title:</b> "Considerations for physique athletes and clinical populations" <b>Presenter:</b> Nicolas Licameli <b>Presenters:</b> Swapan Mookerjee and Evan Matthews		
11:30 AM	<b>Vascular Function</b> ----- Patik	<b>Promoting Optimal Aging</b> D'ondero <b>Title:</b> "Nutritional approaches to promote optimal aging" <b>Presenter:</b> Elizabeth Parker		<b>Title:</b> "Spinal"			
12:00 PM							
12:30 PM							

Lunch Break 12:00-1:00 PM

## Friday, November 5th

3:00 PM	<p>WHAT IS IT GOOD FOR An ergogenic aid or exercise therapeutic? <b>Presenter:</b> Jason Allen</p>	Helm, Dr. Jessica	<p>Communications: Doctoral Research Award Nominees Rotating every 15 minutes</p>	<p>Meet the Experts: Student Session Meet-and-Greet with invited speakers</p>
3:30 PM	<p>Sport Performance Programming</p> <p><b>Title:</b> "Offering a sports performance program on a budget: Is it possible?" <b>Presenters:</b> Christine Karpinski, KelliAnne Milliner, and John Smith</p>	<p>Poster Session II Rotating every 10 minutes</p>	<p>Clinical Case Studies Rotating every 15 minutes</p>	
4:00 PM				
4:30 PM				
5:00 PM	Dinner Break 5:00-7:15 PM			
5:30 PM				
6:00 PM				
6:30 PM				
7:00 PM				
	<p><b>Keynote Address</b></p> <p><b>Title:</b> "The Global Path Forward-Healthy Living for Pandemic Event Protection" <b>Presenter:</b> Ross Arena</p>			
	<p>Expo, College Bowl, Fitness Challenge</p>			

# Program

## Saturday, November 6th

### MARC-ACSM 2021 Conference Schedule

	Ballroom A	Ballroom B	Ballroom C,D,E	Pennsylvania	Chestnut/Dogwood	Ash/Birch	Elm/Fir	
8:00 AM	Animal Movement Exercise: Practical Demonstration  <b>Title:</b> "Quadruple Movement Training: Active, Mobilize, and Move with Animal Flow" <b>Presenter:</b> Jeff Buxton	<b>Microdoppler Radar: Practical Demonstration</b>  <b>Title:</b> "Evaluating Functional Movement" <b>Presenter:</b> Cayce Onks	Poster Session I Rotating every 10 minutes	Poster Session II Rotating every 10 minutes	Research Free Communications Rotating every 15 minutes	Research Free Communications: Undergraduate Research Award Nominees Rotating every 15 minutes	Research Free Communications Rotating every 15 minutes	
8:30 AM								
9:00 AM	Effect of Nutritional Ketosis on Human Performance, Health, and Disease <b>Title:</b> "Hold the Bread, Pass the Butter" <b>Presenter:</b> Parker Hydes	<b>Injury Biomechanics</b> <b>Title:</b> "Forecasting the knee OA risk from long-term running" <b>Presenter:</b> Ross Miller			Research Free Communications Rotating every 15 minutes			
9:30 AM	<b>Title:</b> "Exogenous Ketones- Beyond Performance Application for Health and Disease" <b>Presenter:</b> Andrew Koutnik	<b>Title:</b> "Running for Health: Does running prevent age-related changes in coordination or muscle function during gait?" <b>Presenter:</b> Jocelyn Hafer						
10:00 AM	<b>Title:</b> "Impact of ketogenic diet and ketone supplementation on athletic performance" <b>Presenter:</b> Philip Prins	<b>Title:</b> "Biomechanics associated with running-related injury" <b>Presenter:</b> Alexandra DeJong Lempke						
10:30 AM		<b>Biomechanics Tutorial</b>  <b>Title:</b> "EMG Analysis: Set up and Demonstration" <b>Presenter:</b> Micah Josephson						
11:00 AM		<b>Biomechanics Special Interest Group</b> Facilitated by Deborah King						
11:30 AM								
12:00 PM								
12:30 PM	Lunch Break 12:30-2:00 PM							
1:30 PM								

### Meet the Experts

Meet with experts in exercise science and sports medicine to discuss career advice and methods to acquire skills to build your CV and resume

#### College Bowl



Colleges/universities compete in an academic jeopardy style competition

#### Fitness Challenge



Teams of students compete in feats of strength, endurance, flexibility and mental acuity.

## Saturday, November 6th

### Scholarship and Award Recognition Luncheon

Research and Service Award Winners will be announced during the luncheon

## Student Awards

### **MARC-ACSM Matthew Kerner Undergraduate Student Investigator Award**

Eligible individuals are a current or recently graduated UG student who is not enrolled in a Master's level program. The purpose of this award is to recognize and support undergraduate student investigative research. The winner receives a plaque and \$250. All undergraduate students who submit an abstract for a Free Communications/Slide presentation at the MARC-ACSM Annual Meeting will be eligible for this award. The award is based on the quality of the submitted abstract and the presentation at the meeting. All abstracts will be evaluated, but only the top abstracts will have their presentations evaluated.

### **MARC-ACSM Master's Student Investigator Award**

Eligible individuals are any student who is currently enrolled in a Master's level program, even if the work was completed as an UG student. The purpose of this award is to recognize and support Master's level student investigative research. The winner receives a plaque and \$400. All undergraduate students who submit an abstract for a Free Communications/Slide presentation at the MARC-ACSM Annual Meeting will be eligible for this award. The award is based on the quality of the submitted abstract and the presentation at the meeting. All abstracts will be evaluated, but only the top abstracts will have their presentations evaluated.

### **MARC-ACSM Doctoral Student Investigator Award**

Eligible individuals are any student who is currently enrolled in a doctoral or medical program, even if the work was completed as a Master's student. The purpose of this award is to recognize and support graduate student investigative research. The winner receives a plaque and \$500 to be used to defray either travel costs to the National ACSM meeting or her/his research expenses. All graduate students who submit an abstract for a Free Communications/Slide presentation at the MARC-ACSM Annual Meeting will be eligible for this award. The award is based on the quality of the submitted abstract and the presentation at the meeting. All abstracts will be evaluated, but only the top abstracts will have their presentations evaluated.

The MARC-ACSM Research Committee screens all student abstracts that are submitted for an oral presentation using a rubric. The top five ranked abstracts for each academic category identified above present their research during an oral session with the other class finalists (i.e. there is an UG Award Nominee Session, MS Award Nominee Session, and a Ph.D. Award Nominee Session) during the MARC-ACSM Annual Meeting. These finalists are ranked by a sub-committee of the MARC-ACSM Research Committee to determine the award recipients.

The 2021 award winners (and honorable mentions) will be announced at the Business Meeting and Award Ceremony Luncheon on Saturday at 12:00 pm.

The Research Committee is chaired by Peter Hosick from the Montclair State University and Rian Landers-Ramos from Towson University.

The MARC-ACSM Executive Board would like to extend our thanks to those who served on the 2021 Research Committee. We appreciate your hard work and support!

## **Student Fund Raffle**

Each year the MARC-ACSM Student Representative conducts a raffle where a variety of prizes (e.g., textbooks, etc.) are awarded throughout the meeting. Tickets can be purchased outside of Ballroom (Salon) C, D, E. All proceeds from the student raffle are used to support our student representative's trip to the National ACSM Annual Scientific meeting.

## **Continuing Education Credits**

MARC-ACSM is an approved CEC provider for ACSM. Please be sure to pick up your CEC Certificate at the tables outside of Ballroom (Salon) C, D, E. The ACSM's Professional Education Committee certifies that this Continuing Education offering meets the criteria for 14 credit hours of ACSM Continuing Education Credit (CEC). MARC-ACSM is approved to offer 13 CECs and 3 CMEs, including the Keynote Speaker Address on Friday evening. Individuals with other certifications should also pick up a certificate of attendance that may be used to petition CEC's from their certifying organization; however, MARC-ACSM is not responsible for determining if such organizations will or will not approve CEC's from attending the MARC-ACSM meeting.

## **Evaluation Forms**

Evaluation forms will be provided at the registration desk throughout the conference, as well as during the Saturday afternoon Business Meeting/Award Ceremony Luncheon. Your feedback is extremely important, as this information will be used in the planning of future meetings and conferences. Please be sure to complete your evaluation form and return it (at the Registration Desk or Luncheon).

## **Speaker Ready Room**

The Speaker Ready Room will be in the Hemlock Room (last room on the first floor).

Friday Presentations: Please bring your jump drive to the speaker ready room before 10 AM on Friday November 4th, 2016 to have it loaded on the proper computer for your afternoon presentation.

Saturday Presentations: Please bring your disk or jump drive to the speaker ready room (next to the on-site registration table) before 3 PM on November 5th, 2016 to have it loaded on the proper computer for your presentation

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## Conference Sponsor

# Lebanon Valley College

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## Bag Sponsor

# SlipperyRock<sup>SM</sup> University of Pennsylvania

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## Session Sponsors

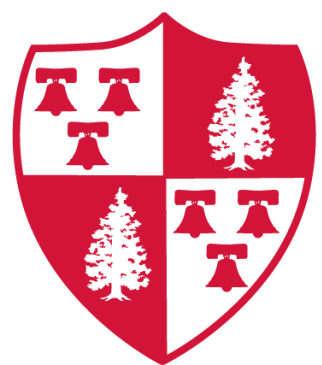


Master of Cancer Care

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## Booth Sponsors



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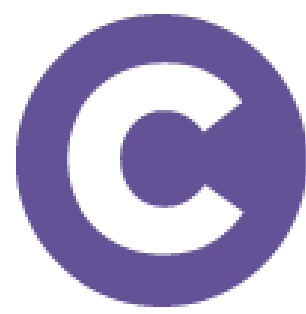
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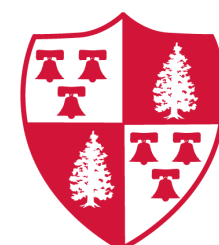
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UNIVERSITY

M.S. in Health and Human Performance

*Salisbury University in Salisbury, MD  
The Universities at Shady Grove in Rockville, MD*



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**GANNON UNIVERSITY**

Morosky College of Health Professions and Sciences

**WL** WEST LIBERTY UNIVERSITY  
GRADUATE STUDIES

# Registration

## To register online:

Use the MARC-ACSM website:

[www.marcacsm.org](http://www.marcacsm.org)

Pre-registration will be accepted through October 31, 2021. **No registrations by phone or mail.**

**Group registrations:** If you need to register a large number of students with a single form of payment, please contact [hturner@acsm.org](mailto:hturner@acsm.org). All group registration information & payment must be submitted by October 25, 2021.

**Cancellation Policy:** All conference registration cancellations must be requested in writing. A 50% refund may be obtained up to 10 business days prior to the event. No refunds will be granted within 10 days of the meeting. Send cancellation requests to [hturner@acsm.org](mailto:hturner@acsm.org).

**Image/Likeness/Voice Release:** I understand and agree that, as a result of participating in an ACSM conference, my image, likeness or voice may be recorded by photography, video or other medium. I hereby grant irrevocable and unrestricted permission to ACSM and its representatives or assignees to use my image, likeness or performance in any medium and for any purpose. I hereby waive any right to inspect or approve such use or materials. Submission of this form acknowledges acceptance of these terms.

## Registration Available through October 31st

### Professional Rates

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2 Day MARC Professional Member: \$115

2 Day MARC Professional New Member (includes chapter membership): \$150

2 Day Non-Member Professional: \$150

Saturday Only MARC Professional Member: \$85

Saturday Only MARC Professional New Member: \$120

Saturday Only Non-Member Professional: \$120

### Student Rates

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2 Day MARC Student Member: \$60

2 Day MARC Student New Member (includes chapter membership): \$75

2 Day Non-Member Student: \$80

Saturday Only MARC Student Member: \$45

Saturday Only MARC Student New Member (includes chapter membership): \$60

Saturday Only Non-Member Student: \$60

## Hotel Accommodations

Hotel reservations can be made at the QR code to the right. Group rate ends October 14th

