

Message from the Chair



Those of you who attended the inaugural American Physiological Summit this year will certainly agree with me that the meeting was a success and an excellent start for a new chapter in APS history.

I invite you to join me at the next year's meeting so we can have another successful gathering. Autonomic regulation will be well represented at the American Physiological Summit 2024 meeting through NCAR program as well as the many cross-sectional sessions focused on a myriad of physiological and pathological conditions. In addition, there will be many opportunities for scientific exchange, networking and collaboration.

Congratulations to Dr. Javier Stern who was selected to present the 2024 Carl Ludwig Distinguished Lecture. Dr. Stern's groundbreaking research has significantly advanced our understanding of autonomic regulation. I also want to bring to your attention the multiple NCAR awards for junior and established investigators as well as trainees.

Kamal Rahmouni, PhD

Chair | NCAR Section
kamal-rahmouni@uiowa.edu

FUTURE EVENTS OF INTEREST

November 11th - 15th, 2023 Society for Neuroscience Annual Conference, Washington DC

November 15th - 18th, 2023 American Autonomic Society 34th International Symposium on the Autonomic Nervous System, San Juan, Puerto Rico

January 27th - February 1st, 2024 Winter Conference on Brain Research, Breckenridge, Colorado

April 4th - 7th, 2024 APS Summit, Long Beach, California

July 22nd - 25th, 2024 American Heart Association Basic Cardiovascular and Sciences Scientific Sessions, Chicago, Illinois

July 23rd - 27th, 2024 International Society for Autonomic Neuroscience, University of Oxford and University of Birmingham, UK

IN THIS ISSUE

02 **LEADERSHIP**
NCAR Steering Committee

03 **HIGHLIGHTS**
APS Summit 2023 Recap

06 **APS SUMMIT 2024**
Programming
NCAR sponsored awards
APS sponsored awards

09 **AJP-REGU**
Message from Editor-in-Chief

10 **TRAINEES**
Data NCARNATION

11 **NCARSPOTLIGHT**
Dr. Javier Stern

12 **NCARTOWN**
Get to know Dr. Julia Shanks & Dr. Paul Marvar

Log in to My APS Hubs
to subscribe to section, committee
and group announcements.

NCAR STEERING COMMITTEE



Kamal Rahmouni, PhD
Chair
University of Iowa
kamal-rahmouni@uiowa.edu



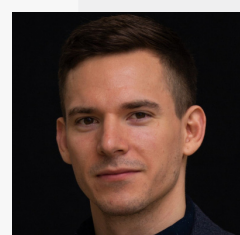
Carie Boychuk, PhD
Secretary/Treasurer
University of Missouri - Columbia
boychukc@missouri.edu



Manda Keller-Ross, P.T., D.P.T., PhD
Committee-on-Committee Representative
University of Minnesota
kell0529@umn.edu



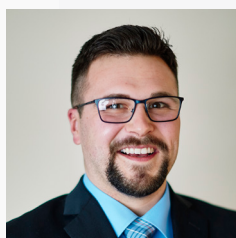
Paul Marvar, PhD
Program Working Group
George Washington University
pmarval@email.gwu.edu



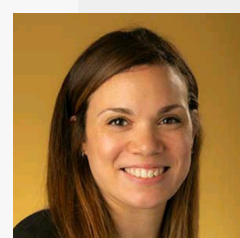
Christopher Banek, PhD
Awards Committee
University of Arizona
cbanek@arizona.edu



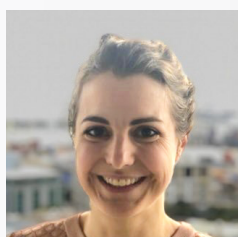
Lauro Vianna, PhD
International Representative
University of Brasilia
lcvianna@unb.br



Ian Greenlund, PhD
Trainee Advisory Committee
Mayo Clinic
greenlund.ian@mayo.edu



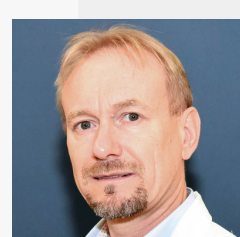
Karla Haack, PhD
Diversity & Inclusion Committee Liaison
Merck & Co
karla.haack@gmail.com



Julia Shanks, PhD
Women in Physiology Liaison
University of Auckland
julia.shanks@auckland.ac.nz



Vagner Antunes, PhD
Member-at-Large
University of Sao Paulo
antunes@icb.usp.br



Eric Lazartigues, PhD
Membership and Fellows
Louisiana State University Health Science Center
elazar@lsuhsc.edu



Lawrence Schramm, PhD FAPS
APS Fellow Committee Representative
John Hopkins University
lawrence-schramm@gmail.com



Mark Knuepfer, PhD
Past Chair
Saint Louis University
mark.knuepfer@health.slu.edu

JOIN US

We will have a number of vacancies on the steering committee

Please consider applying for
Chair of the Awards Committee,
Membership and Fellows, and
APS Fellows Committee rep.

We did it!

APS Summit 2023 was a blast for NCAR.
Thanks to all who participated and shared
your science. We cannot wait to see you again
in Long Beach in 2024

by **Carie R. Boychuk**



Kamal Rahmouni, PhD and Carl Ludwig Distinguished Lectureship Awards recipient, Ana Domingos, PhD at APS Summit 2023



From top to bottom. Kamal Rahmouni, PhD and Ian Greenlund, PhD. with: Data NCARnation Postgraduate Award recipient Chen Ran, PhD ; Data NCARnation Graduate Student Award recipient Michael Plunkett, B.S.



Top right: Kamal Rahmouni, PhD and Carie Boychuk, PhD with Linda F. Hayward Achievement Award recipient, Jeanie Park, PhD. Bottom left: Michael J. Brody Award recipient, Katherine Blackmore, PhD. Bottom right: Kamal and NCAR New Investigator Award recipient, Diana Martinez, PhD.





From top to bottom. Kamal Rahmouni, PhD with:
Committee-on-Committee Award recipient
Yumei Feng Earley, PhD
Steven M. Hovarth Research Recognition Award recipient
Jeann Sabino-Carvalho, PhD;
Outstanding Graduate Student Award recipient
Jeremy Bilgake, B.S.
Speth Undergraduate Researcher Award recipient
Grace George

Download your photos here
and Tag Us on social media!



Research Recognition



Research Recognition Awards Recipients. From top to bottom. Left: Sara Almarabeth, PhD, Misty Malamakal, PhD, Yasmine Coovadia, B.S., Andrew D'Souza, B.S. Right: Amanda Miller, PhD, Tatlock Lauten, B.S., Neil McMillan, B.S., Claire Trotter, B.S.

APS Summit 2023

American Physiology Summit 2024

Long Beach, California | 4 - 7 April 2024

MAJOR SUMMIT DEADLINES

Abstract submission is now open!

Due : **November 3, 2023**

Click **here** to start your submission

Information for Abstract Submission can be found **here**

Registration opens December 11, 2023

Early bird registration deadline : January 17, 2024

Information for Registration can be found **here**

PROGRAMMING

NCAR FSS APS SUMMIT 2024

NCAR-001

Carl Ludwig Distinguished Lectureship of the APS Neural Control and Autonomic Regulation Section | *Dr. Javier Stern*

NCAR-027

The CNS Regulation of Glucose Homeostasis: The Highs and Lows on the Road to Pathophysiology | *Chaired by Dr. Yumei Feng Earley*

NCAR-162

Peripheral glia take center stage in autonomic functions | *Chaired by Dr. Brian Gulbransen*

NCAR pre-conference session

DATANCARNation – Thursday April 4th, 2024

ABSTRACT TOPIC SUBMISSION CATEGORIES

30.04 Autonomic balance: sympathetic and parasympathetic

30.05 Autonomic circuitry in thermoregulation or metabolism

30.06 Baroreflex and chemoreflex control of autonomic regulation

30.07 Central control of autonomic physiology

30.08 Enteric nervous system, digestion and metabolic function

30.09 Inflammation, immune system and autonomic regulation

30.10 Parasympathetic physiology and pathophysiology

30.11 Sympathetic physiology and pathophysiology

30.12 Neural control of autonomic physiology: other

New additional abstract submission categories:

1. New advances in autonomic physiology technology
2. New advances in autonomic physiology therapeutics

NCAR supported awards

CARL LUDWIG AWARD

We will be requesting nominations and self-nominations for the 2024 Carl Ludwig Lecture using revised guidelines. In addition to mentoring trainees in autonomic physiology, the ideal Ludwig awardee will reflect some or all of the qualifications below:

- Innovation in paradigm, models, targets, and approaches
- Identification of fundamental new insights in our field
- Trailblazers in the field of autonomic physiology as it relates to gender or race/ethnicity

These updated criteria are designed to recognize innovation and excellence in autonomic regulation and commitment to our discipline.

Due Date: May 19th, 2024

NCAR NEW INVESTIGATOR AWARD

NCAR New Investigator Award recognizes an outstanding investigator in the early stages of their independent career. Winner receives \$1000 monetary prize award and reimbursement of advanced registration to Physiological Summit 2023. They will also be a featured presentation in the NCAR Carl Ludwig Lecture Session at Physiological Summit 2023.

Due Date: November 10th, 2023

Who should apply: Investigators in the early stages of their career conducting NCAR-related research.

LINDA F. HAYWARD ACHIEVEMENT AWARD

Linda F. Hayward Award recognizes a distinguished mid-career physiologist, who self-identifies as a woman, for their promising research in physiology regulated by the autonomic nervous system and related diseases. Winner receives \$500 monetary prize award and reimbursement of advanced registration to Physiological Summit.

Due Date: November 10th, 2023

Who should apply: Investigators holding associate professor or higher. Must be conducting NCAR-related research.

MICHAEL J. BRODY AWARD

Michael J. Brody Award, made possible by ADInstruments, recognizes a promising young investigator who has made significant research contributions to the field of neural control and autonomic regulation. Winner receives travel support for Physiological Summit 2023 and \$1000 monetary prize award and reimbursement of advanced registration to Physiological Summit. Winner will present their research at the NCAR Carl Ludwig Lecture Session at Physiological Summit 2023.

Due Date: November 10th, 2023

Who should apply: Graduate students working towards a Ph.D. (post-candidacy exams) and postdoctoral/clinical fellows or equivalent within 3 years from degree (month/year) to the date of award application deadline. Must be conducting NCAR-related research.

DATA SCIENCES OUTSTANDING GRADUATE STUDENT

The Outstanding Graduate Student Award provides travel support to one graduate student to present meritorious research at the annual Physiological Summit Meeting. Winner receives \$500 monetary prize award and reimbursement of advanced registration to Physiological Summit. Winner will present at the NCAR Carl Ludwig Lecture Session at Physiological Summit 2023.

Due Date: November 10th, 2023

Who should apply: Graduate students working towards a PhD degree (post-candidacy exams) conducting NCAR-related research.

RESEARCH RECOGNITION AWARDS

NCAR Research Recognition Awards recognize outstanding research by graduate students and postdoctoral fellows who present a first-author abstract at the Physiological Summit Meeting. Winners receive \$500 monetary prize award and reimbursement of advanced registration to Physiological Summit. They may also be selected for presentation at the NCARnation at Physiological Summit 2023.

Due Date: November 10th, 2023

Who should apply: Graduate students working towards a PhD degree (post-candidacy exams) and postdoctoral fellows conducting NCAR-related research.

NCAR AMERICAN PHYSIOLOGY SUMMIT TRAINEE AWARD

Funded through donations and corporate sponsors, NCAR created the NCAR American Physiology Summit Trainee Award. This award provides travel support to a graduate student or postdoctoral research fellow to present meritorious research at the American Physiology Summit. Award winners will be selected from the applications received for the Research Recognition Award, therefore there is no separate application required. Winner receives \$500 monetary prize award.

Due Date: November 10th, 2023

Who should apply: Graduate student or Postdoctoral fellow who is a member in good standing with primary affiliation in NCAR.

NCARnation TRAINEE PRESENTATION AWARDS

NCARnation trainee awards allow trainees the opportunity to showcase their work through an oral presentation at Physiological Summit. Speakers are selected from abstracts submitted to NCAR-related topics, therefore no separate application is required. Best oral presentations by a graduate student and postdoctoral fellow will then receive a \$250 monetary prize.

Due Date: November 10th, 2023

Who should apply: Graduate students working towards a PhD degree (post-candidacy exams) and postdoctoral fellows conducting NCAR-related research.

SPETH UNDERGRADUATE RESEARCHER AWARD

Dr. Robert and Mrs. Janet Speth support this award to encourage aspiring undergraduates to engage in studies on neural control and autonomic regulation. This awards an undergraduate student who has submitted an abstract to a NCAR topic for presentation at Physiological Summit. Winner will receive \$500 and reimbursement of advanced registration to Physiological Summit.

Due Date: November 10th, 2023

Who should apply: Undergraduate students conducting NCAR-related research.

APS supported awards

MARTIN FRANK DIVERSITY AWARD

The Martin Frank Diversity Travel Award program is intended to increase active participation in and networking at scientific meetings among trainees and early career faculty who are from groups underrepresented in the physiological sciences. The program provides travel awards plus mentoring and networking opportunities to underrepresented diverse groups of graduate students, postdoctoral fellows and early career faculty members (within 5 years of obtaining a PhD) to attend the American Physiology Summit, and APS conferences.

Due Date: December 8th, 2023

Who should apply: Graduate student, postdoctoral fellow, or early career faculty from an underrepresented racial or ethnic group or with disabilities.

BARBARA A. HORWITZ & JOHN M. HOROWITZ UNDERGRADUATE RESEARCH AWARDS

These awards are presented annually to undergraduate students who are presenting research prior to the APS annual meeting. Awards are for 1) Outstanding abstract and 2) Excellence in research. For more information, click here.

Due Date: November 24th, 2023

Who should apply: Undergraduate students presenting a first authored abstract

INTERNATIONAL EARLY CAREER PHYSIOLOGIST TRAVEL AWARD

The International Early-career Physiologist (IECP) Travel Awards are presented to graduate students, postdoctoral fellows and junior faculty members who live and work outside the United States. This initiative of the International Committee is designed to assist with travel expenses that international early career. For more information, click here.

Due Date: December 1st, 2023

Who should apply: Graduate students, postdoctoral fellows and junior faculty living and working outside the U.S. and are APS members

DEPENDENT SUPPORT TRAVEL AWARD

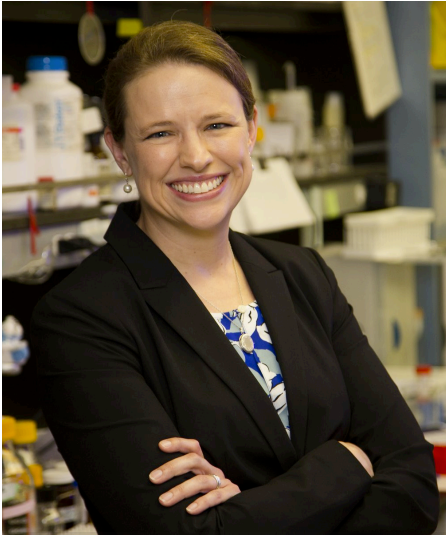
The APS Dependent Support Travel Award is a reimbursable allowance of up to \$500 for the APS annual meeting or APS Conferences. Funds may not be used for on-going dependent care expenses or the costs associated with transporting dependents to the meeting. Can be held in conjunction with other awards. All awardees must have a receipt for reimbursement request. For more information and eligible funding scenarios click here.

Due Date: January 5th, 2024

Who should apply: Must be an APS member in good standing and a primary care-giver.



Message from Editor-in-Chief



Gina L. C. Yosten, PhD
Editor in Chief
AJP-Regulatory, Integrative and
Comparative Physiology
gina.yosten@health.slu.edu

Current Call for Papers:

We have extended the deadline for our current Call for Papers.
Visualizing physiology: using novel microscopy methods to investigate the mechanisms underlying physiology and pathophysiology.

Submission Deadline: December 31, 2023

Learn more and submit your research [here](#)

Which article type best fits your research?

Find out which article type fits your manuscript and learn more about the new Short Report and Methods & Resources article types [here](#)

Add a 'New & Noteworthy' summary to your research submission

AJP-Regu is accepting "New & Noteworthy" summaries (maximum of 75 words) as part of original research submissions. Use this feature to showcase what's unique about your research. Learn more on our information for authors page [here](#)

Hello from AJP-Regu!

We are thrilled to be able to continue to serve the NCAR Section. As you know, **AJP-Regu** publishes original investigations that illuminate normal or abnormal regulation and integration of physiological mechanisms at all levels of biological organization. Thank you for your support of the journal, as both authors and reviewers. We couldn't do it without you!

Social Media

Follow us on X (formerly Twitter) [@AJPRegu](#) to find out about the latest published research, Calls for Papers, and Star Reviewers!

Thank you peer reviewers!

Speaking of Star Reviewers, we would like to congratulate Dr. Steven Copp (Kansas State University) and Dr. Jacqueline Limberg (University of Missouri-Columbia) for being named the **AJP-Regu 2022 Star Reviewers!**





data NCARNATION

by Ian Greenlund



Hello NCAR Trainees!

Whether this year saw the beginning of your graduate program, successful completion of your dissertation, or transition to a new academic/industry position, NCAR is supportive of our trainees across the spectrum. At any stage as a trainee, please keep up your hard work, especially during "abstract season!"

The APS and NCAR steering committee are excited for you to be a part of the 2nd annual American Physiology Summit in Long Beach, CA. We learned a lot as a society and as a section during our inaugural summit last year and are working to deliver an even better experience than last year. Please remember to submit

your work by **November 3rd at 11:59pm EDT** (earlier than last year).

One of the main goals of the new American Physiological Summit is to feature our trainees, especially to offer plenty of oral presentation opportunities. NCAR is the main sponsor for three oral sessions including the Carl Ludwig Distinguished Lecture-ship, CNS Regulation of Glucose Homeostasis: The Highs and Lows on the Road to Pathophysiology, and Peripheral Glia Take Center Stage in Autonomic Functions. Please consider submitting and/or applying for awards to have your work featured at these foundational science oral sessions.

Data NCARNation is a trainee only session to highlight the future of NCAR. To be considered for this session, all you need to do is submit your abstract to any NCAR featured topic or NCAR poster topic and select oral presentation as your presentation style preference. You are eligible to present in Data NCARNation as long as you are not chosen for another oral presentation at APS and have not previously won an NCAR award. We choose the top ranked student and

post-doc/resident abstracts for 5-minute presentations in this session to compete for awards. This session will take place on **Thursday, April 4th**, so please plan arrive early for this great session!

Don't forget to apply for awards when you submit your abstract! To apply for any APS awards your APS membership must be active at the time of application. To be eligible for NCAR awards, you must have NCAR listed as your primary affiliation on your APS account so please read the award descriptions carefully in the awards section of this newsletter or [here](#). The deadline for majority of these award is **Friday, November 10th**. These awards include: Michael J. Brody Young Investigator Award, NCAR New Investigator Award, NCAR Research Recognition Awards, and Outstanding Graduate Student Award.

I am looking forward to seeing all of you at APS 2024! Please do not hesitate to reach out with any questions or concerns. Stay tuned to Trainee Advisory Committee specific programs in our Spring 2024 NCAR newsletter.

NCAR SPOTLIGHT

“I would sit with my uncle for hours, examining samples under the microscope at family gatherings. I was only a kid when it all started.”

by Carie R. Boychuk

This was the first “scientific” spark for Dr. Javier Stern, this year’s NCAR Carl Ludwig Distinguished Lecturer. As a child growing up in Buenos Aires, Dr. Stern made a point to visit “Uncle A” (we’re maintaining anonymity!), a biochemist with a microscope in his home and an individual that Dr. Stern says was one of the most influential people in his choice of career in science. Microscopes must still fascinate Dr. Stern since when asked to nail down this favorite part of the job (and difficult task to do!), he says spending time on the patch rig helping trainees learn the skills needed for single cell electrophysiology.

This early passion for science drove him first to medical school and then to get a Ph.D. in neurophysiology. Throughout his training in Argentina, there were limited resources for research, including funding, equipment and supplies. Despite these potential hardships, Dr. Stern says “this type of environment encourages you to become very efficient, resilient and creative at the same time, while developing a strong sense of comradery and teamwork.”

Creativity specifically that he contributes to his success in maintaining innovative and forward-thinking science. “Creativity is a major driver of innovation, even more so than incorporating new technologies to your toolkit” says Dr. Stern.

Dr. Stern’s research itself investigates neurobiological mechanisms regulating autonomic and neurosecretory outflows within the hypothalamus. Mechanistically, his research program is broad aiming, but looks to understand how derangements in signaling contribute to diseases. “Autonomic neuroscience” he says “is directly linked to multiple diseases states, an aspect that has always attracted me.” But to Dr. Stern the field of autonomics is more than just a research program. It is a community, where collegiality and friendships are welcomed. A sentiment that must resonate strongly with Dr. Stern since he states that in addition to “Uncle A” and his direct research mentors (Drs. Daniel Cardinali and William Armstrong), there are too many influential colleagues to his career that have provided him with critical discussions on data, ideas and future directions. “All of which shaped the scientist I am today” he says.

To Dr. Stern, these colleagues are embedded in the NCAR community, and APS in general. Dr. Stern says “Since my early stages as an independent scientist, my home in terms of meeting, interacting with colleagues, and publishing” has been NCAR and APS. The support the community provides to “young trainees is extremely valuable and unique” says Dr. Stern “Not only in the awards they provide, but also the opportunities to actively be part of the society by serving on committees



Dr. Javier Stern
NCAR Carl Ludwig Distinguished
Lecturer Award Recipient
George State University's Neuroscience Institute
jstern@gsu.edu

and participating in programming of society-sponsored meetings.”

It is safe to say that Dr. Stern is an influential member of our NCAR community, adding new and innovative ideas with each research paper. Dr. Stern encourages those looking to lead their own research programs one day to stay focused on your work, be confident and positive. “I see a bright and stimulating future for our field” says Dr. Stern. He sees the field growing in very exciting directions including the integration into fields not traditionally associated with autonomics, for example cognitive and behavioral neuroscience.

Dr. Javier Stern is a professor at George State University's Neuroscience Institute and Director and Founder of the Center for Neuroinflammation and Cardiometabolic Diseases. Be sure to catch his Distinguished Lectureship at Physiological Summit 2024 in Long Beach, California.

GET TO KNOW

This Fall 2023 NCARTOWN Get to Know features our Steering Committee members, Dr. Julia Shanks and Dr. Paul Marvar, two fabulous scientists in our NCAR section. Don't forget to say Hi! when you meet them next year at APS Summit 2024!



NCAR in one word

Supportive

Sing or Dance?

Dance. No one wants to hear me sing.

Hi! I am Dr. Julia Shanks

I am the Women in Physiology Committee representative for NCAR. NCAR is one of the only section steering committees with a dedicated seat for a WIPC committee member. I grew up in Yorkshire, in the North of England and have truly embraced the global nature of autonomic research, having studied and worked in Oxford, UK, Omaha, NE, USA, and Auckland, NZ. I love to spend time outside, being in, or around, the water is my happy place.

My hidden talent

I can balloon model

If I had a superpower, it would be to FLY!

My research

My research focuses on end-organ control of the autonomic nervous system in cardiovascular disease. This ranges from studying neurotransmitter release and re-uptake from isolated post-ganglionic sympathetic (stellate ganglia) neurons to recording conscious direct cardiac sympathetic and parasympathetic nerve activity in large animals.

Why did I join NCAR?

My PhD supervisor encouraged all of the students to join NCAR. It seemed so daunting at first, all these great scientists you recognize the names from papers you have read. Quickly, I realized how friendly and welcoming everyone was, and have not looked back since.



NCAR in one word

Influence

3 people I would invite to dinner are Albert Einstein, Elvis Presley and Tom Brady

Hello! I am Dr. Paul Marvar

I am an Associate Professor at George Washington University's School of Medicine and Health Sciences in Washington, DC, with a secondary appointment in the Department of Psychiatry and Behavioral Health (Marvar laboratory est. 2013). I earned my master's degree in Exercise Physiology from Northern Illinois University and a Ph.D. in Physiology from West Virginia University.

Why did I join NCAR?

It was a combination of factors: the cross-disciplinary focus within the section (ie., CNS-peripheral disease mechanisms), the extensive international membership of this section, and the added perk of NCAR hosting the most impressive open bar during the annual APS meetings.

My research

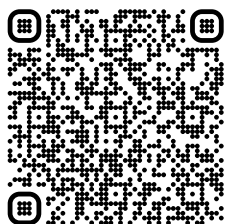
My research focuses on the neuro-physiological mechanisms controlling blood pressure and autonomic regulation and how chronic emotional stress, like PTSD, affects brain-heart/vascular interactions. We were among the first to show renin-angiotensin system's in PTSD. Using a range of translational and reverse translational approaches, we aim to find innovative treatment approaches for cardiovascular issues linked to PTSD.

Sing or Dance?

Both, and not with great skill.

What I enjoy the most in NCAR

Refer to my reasons for joining, with a special emphasis on the amiable, collaborative, and good-humored nature of fellow NCAR section members.



Support NCAR to help next generation scientists grow!

The extent and quality of our programming and activities depends in large measure on the funds available to the section. Please help support NCAR by considering an investment in the section. Donations can be made directly to NCAR Brody Endowment fund or by assisting in recruiting a corporate sponsor. These contributions help our mission to engage new investigators in the field through presentation and functions, such as NCARNation. For more information please contact Dr. Carie Boychuk (boychukc@missouri.edu). YOUR HELP MATTERS!

Scan or click the QR code to make a direct donation.



AMERICAN JOURNAL of PHYSIOLOGY
**Regulatory, Integrative and
Comparative Physiology**



**Physiological
Reports**
Open Access

Published by Wiley





You have the power to grow your scientific community.

Gift APS Membership this Holiday Season and Share the Benefits

Give the gift that keeps giving through 2024! Help your colleagues, trainees, students, fellow scientists and mentees connect with leading researchers and educators around the globe; access exclusive funding, awards and honors; dive into cutting-edge publications; receive deep publishing discounts; and so much more.

physiology.org/gifting

