

The 18th Annual International Conference on Dose-Response

PRECONDITIONING **IN BIOLOGY AND MEDICINE**

Adaptive Responses/
Preconditioning

The Annual Meeting of the
International **DOSE-RESPONSE** Society
www.Dose-Response.org

Conference Directors: Edward J. Calabrese, Ph.D., Paul Kostecki, Ph.D

April 16-17, 2019

**University of Massachusetts
Amherst, MA**

Adaptive
Bidirectional
Biphasic
Hormetic
Non-Monotonic
Yerkes-Dodson Law (Psychology)
U-Shaped
J-Shaped
Subsidy-Stress Gradient (Ecology)
Reverse Dose-Responses



*Approved for CPH Recertification by the
National Board of Public Health Examiners*

INTERNATIONAL DOSE-RESPONSE SOCIETY MEMBERSHIP

The **INTERNATIONAL DOSE-RESPONSE SOCIETY** is a professional society designed to enhance understanding of the nature of the dose response and its implications for science and society. Those Individuals with a professional interest in these areas are invited to join the Society.

Applications for membership can be found at www.dose-response.org. Annual membership rates are as follows:
Corporate Membership \$5000 (US),
Sustaining Membership \$1000 (US),
Individual Membership - 1yr. \$125 (US),
Individual Membership - 2yr. \$225 (US),
Retiree Membership - 1yr. \$75 (US),
Retiree Membership - 2yr. \$125 (US),
Post-Graduate Membership (up to three years post-graduation) - 1yr. \$75 (US),
Post-Graduate Membership (up to three years post-graduation) - 2yr. \$125 (US),
Student Membership - 1yr. \$10 (US) and
Student Membership - 2yr. \$15 (US).

Members will receive a 25% reduction in registration fees to **The 2019 Dose Response Conference, Adaptive Responses in Biology and Medicine**, the Annual Meeting of the International Dose-Response Society.

To Become a Member, Visit
www.dose-response.org

A growing number of scientists, including toxicologists, pharmacologists, biostatisticians, epidemiologists, occupational and environmental medical researchers and others have begun to display considerable interest in the topic of hormesis, a dose response phenomenon characterized by a low dose stimulation and a high dose inhibition. While there are many professional societies that have a general interest in dose response relationships, none explicitly is devoted to the topic of understanding the nature of the dose response in general and hormesis in particular. The diversity of professional societies that may consider dose response issues, including hormesis, is nonetheless quite broad ranging from the agricultural to the biomedical and clinical sciences. However, nearly without exception, these societies tend to be strongly organized around professional advancement and not focused on specific scientific concepts. This makes the issue of hormesis one of diffuse interest across a broad range of professions. The present situation represents a major obstacle for the integrated assessment of the dose response in general and hormesis in particular. In order to provide intellectual and research leadership on the topic of hormesis, a professional association was created in 2005 called the International Dose-Response Society.

The Society is dedicated to the enhancement, exchange, and dissemination of ongoing global research efforts in the field of hormesis. In addition, the Society also strongly encourages the assessment of the implications of hormesis for such diverse fields as toxicology, risk assessment, risk communication, medicine, numerous areas of biomedical research, and all other biological disciplines including relevant engineering domains dealing with the dose response.

The International Dose-Response Society is administered by the School of Public Health & Health Sciences at the University of Massachusetts at Amherst.

If you would like additional information about the society including information on becoming a member, please contact Alfred Sorensen at sorensen@ehs.umass.edu or visit the society webpage www.dose-response.org.

PLATFORM PRESENTATIONS - Tuesday, April 16, 2019

Day 1 Moderator - **EDWARD J. CALABRESE**, *Environmental Health, University of Massachusetts, Amherst, MA*

8:00AM [Welcome / Conference Overview](#)

EDWARD J. CALABRESE, Conference Director, *UMass/Amherst*

PLENARY SESSION

8:30AM

[Hormesis: It's Impact on Biology, Toxicology, and Medicine](#)

Walter J. Kozumbo, *Hormesis Project, University of Massachusetts, Amherst, MA*

9:15AM

[Radiation Hormesis: Its Significance and Applications](#)

Douglas Boreham, *North Ontario School of Medicine, Sudbury, Ontario, Canada*

10:00AM BREAK

10:30AM

[Metabolic Management of Cancer](#)

Thomas Seyfried, *Biology Department, Boston College, Chestnut Hill, MA*

11:15AM

[From Jumping Genes to Genomic Instability; the Contributions of Barbara McClintock to Low Dose Radiation Biology and Toxicology](#)

Carmel Mothersill, *Department of Medical Physics and Applied Radiation Sciences, McMaster University, Hamilton, Ontario, Canada*

NOON - 1:30PM **LUNCH** Amherst Room, 10th Floor Campus Center

Session I: EXERCISE

1:30PM

[Digitizing Physical Activity Dose: Step Counting and Cadence Tracking](#)

Catrine Tudor-Locke, *Department of Kinesiology, School of Public Health, UMass, Amherst, MA*

2:00PM

[Exercise Induced hormesis in Skeletal Muscle Health](#)

Ji Li, *Laboratory of Physiological Hygiene and Exercise Science, School of Kinesiology, University of Minnesota, Minneapolis, MN*

Session II: INTERMITTENT FASTING

2:30PM

[Harnessing the Benefits of Intermittent Fasting by Targeting Lysosomes](#)

Abhinav Dwan, *Department of Internal Medicine, Washington University, St. Louis, MO*

3:00PM BREAK

3:30PM

[Caloric Excess or Restriction and the Human Inflammasome](#)

Michael Sac, *Center for Molecular Medicine, NHLBI, NIH, Bethesda, MD*

5:30PM - 6:30PM **POSTER SESSION AND SOCIAL** 10th Floor Campus Center

6:30PM **DINNER** Amherst Room, 10th Floor Campus Center

Dinner Speaker: **PAUL SELBY**

[The Selby-Russell dispute regarding the non-reporting of critical data in the Mega-Mouse Experiments of Drs. William and Liane Russell that spanned many decades: What happened, Current status, and Some ramifications.](#)

PLATFORM PRESENTATIONS - Wednesday, April 17, 2019

Day 2 Moderator - **TBA**

Session III: ENHANCING RESILIENCE

8:00AM

Biological Resilience

Rehana K. Leak, *Graduate School of Pharmaceutical Sciences, Duquesne University, Pittsburgh, PA*

8:30AM

Remote Ischemic Conditioning: Trials, Tribulations and Clinical Translation

Karin Przyklenk, *Cardiovascular Research Institute, Wayne State University School of Medicine, Detroit, MI*

9:00AM

Remote Ischemic Conditioning for Stroke and Vascular Dementia: an Exercise Mimetic?

David Hess, *Department of Neurology, Medical College of Georgia, Augusta, GA*

9:30AM

Endoplasmic Reticulum Stress: Its Role in Adaptive Response

Danilo Medinas, *Cellular and Molecular Biology, University of Chile, Santiago, Chile*

10:00AM BREAK AND HOTEL CHECK OUT

10:30AM

Biomarker Development for Aerobic Exercise: Applications for Assessing Performance and Pathology

Michael Moto, *McGowan Institute for Regenerative Medicine, University of Pittsburgh, Pittsburgh, PA*

11:00AM

Stress Inducible Evolution from Bacteria to Cancer

Susan M. Rosenberg, *Dept. of Molecular and Human Genetics, Baylor College of Medicine, Houston, TX*

11:30AM

CONFERENCE CLOSING REMARKS

Colin Seymour, *Department of Medical Physics and Applied Radiation Sciences, McMaster University, Hamilton, Ontario, Canada*

NOON - 2:00PM

LUNCH Amherst Room, 10th Floor Campus Center

CALL FOR POSTERS

We invite you to submit an ABSTRACT for poster presentation at

The 18th Annual International Conference on Dose-Response

PRECONDITIONING IN BIOLOGY AND MEDICINE Adaptive Responses/Preconditioning APRIL 16-17, 2019

University of Massachusetts at Amherst

Sponsored by

International DOSE-RESPONSE Society

www.Dose-Response.org

The conference will address a multidisciplinary and mechanistic focus in toxicology, medicine, pharmacology, radiation, risk assessment for dose-response relationships.

TOPICS WILL INCLUDE:

PRE- POST-CONDITIONING:

Alzheimer's Disease/Dementia
Parkinson's Disease
Depression and PTSD
Concussions/Traumatic Brain Injury
Improving Surgical Outcomes
Stroke/Cardiovascular Disease
Glaucoma
Stem Cell Transplantation Therapy

HEALTHY LIFESTYLES, AGING

AND LIFE EXTENSION:
Intermittent Fasting
Exercise
Chemical/Nutritional Supplements
Low Dose Radiation and Longevity
Adaptive response-based cosmetics

ENHANCING HUMAN PERFORMANCE:

Cognition
Endurance, Strength and Speed
Fatigue/Jet Lag: Prolong Onset/
Speed Up Recovery
Wound Healing Acceleration - skin,
tendon, muscle, bone, and vascular

Call For Abstracts

Please visit conference website

<http://dose-response.org/annual-conference>

For abstract submission guidelines as well as information about the conference and the Dose-Response society email Conference Coordinator, Mary B. Glavin at

mbglavin@umass.edu

*Deadline for abstract submissions for the
Dose-Response 2019 Conference poster session is*

JANUARY 31, 2019

For further information contact:

Edward J Calabrese, Ph.D.

Environmental Health Sciences

University of Massachusetts Amherst, MA 01003

Phone: (413) 545-3164 • FAX: (413) 545-4692

edwardc@schoolph.umass.edu

AREA HOTEL INFORMATION

Registrants are responsible for making their own hotel arrangements.
(We recommend you make reservations early)

Amherst	Single/Double	Hadley	Single/Double
Campus Center Hotel (UMass)		Econo Lodge	
(413) 549-6000	\$145	(413) 582-7077	\$79-149
Allen House Inn		Hampton Inn	
(413) 253-5000	\$75-150	(413) 586-4851	\$119-179
Amherst Motel		Holiday Inn Express	
(413) 256-8122	\$59-85	(413) 582-0002	\$119-200
Black Walnut Inn		Howard Johnson	
(413) 549-5649	\$108-159	(413) 586-0114	\$85-179
Lord Jeffrey Inn		Norwottuck Inn	
(413) 253-2576	\$129-259	(413) 587-9866	\$159-179
University Motor Lodge		Quality Inn	
(413) 256-8111	\$70-150	(413) 584-9816	\$69-145
Deerfield	Single/Double	Northampton	Single/Double
Deerfield Inn		Autumn Inn	
(413) 774-5587	\$170-270	(413) 584-7660	\$99-180
Red Roof Inn		Best Western	
(413) 665-7161	\$75-125	(413) 586-1500	\$69-149
Holyoke	Single/Double	Clarion Hotel	
Country Inn & Suites		(413) 586-1211	\$100-235
(413) 533-2100	\$89-189	Hotel Northampton	
Holyoke Holiday Inn		(413) 584-3100	\$145-180
(413) 534-3311	\$120-150		

* For those attendees wishing to stay at the Campus Center Hotel where the conference will be held, telephone the hotel directly at (413) 549-6000 by **March 18, 2019** and IDENTIFY THE CONFERENCE AS **HOTEL BLOCK DR419C** to secure a room at the rate of \$145/night.

University Conference Services does not guarantee the accuracy of any of the rates listed above.

FOR CONFERENCE INFORMATION

Please contact the conference coordinator Mary B. Glavin
413-545-1239 • mbglavin@umass.edu

LOCATION AND TRAVEL INFORMATION

The conference will take place in the Murray D. Lincoln Campus Center, **University of Massachusetts at Amherst**, located in the scenic Connecticut River Valley. Amherst is served by major airlines through **Bradley International Airport** in Windsor Locks, Connecticut (about 1 1/4 hours by car) and **Logan Airport** in Boston (about 2 1/2 hours by car). Rental cars and bus service are available from both airports.

There are two services that provide shuttle service to and from both airports, Amtrak and bus stations to the University of Massachusetts - Seemo Shuttle Service and Valley Transporter.

Seemo Shuttle Service - call (800) 908-2829 or (413) 586-1120 or visit www.seemoshuttle.com

The Valley Transporter - RESERVATIONS ARE REQUIRED, call (800) 872-8752 or (413) 253-1350 or visit www.valleytransporter.com.

REGISTRATION

All Registrations for the conference must be received by the University Conference Services no later than **April 2, 2019** in order to avoid late registration fee of \$50.

To register for the conference please fill out and return the accompanying registration form to:

Conference Registration Office - CS19117

810 Campus Center

University of Massachusetts

1 Campus Center Way

Amherst, MA 01003

Phone: **413-577-8102**; Fax: **413-577-8130**

For further information contact us at:

INTERNATIONAL DOSE-RESPONSE SOCIETY

Phone: **413-545-3164**; Fax: **413-545-4692**

Email: mbglavin@umass.edu

www.dose-response.org

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April 16-17, 2019 • University of Massachusetts, Amherst, MA

R E G I S T R A T I O N F O R M

To Register: Form should be received on or before **April 2, 2019** with full payment.

Mail or fax to: **Conference Registration Office - CS19117**

810 Campus Center
University of Massachusetts
Amherst, MA 01003
Phone: 413-577-8102 • Fax: 413- 577-8130

For Office Use _____
Case No. _____
Ref. No. _____
Date _____
Payment _____
Confirmed _____

Mr. Mrs. Ms. Dr.

First: _____ MI: _____ Last: _____

Title: _____ Company: _____

Address: _____

City: _____ State: _____ Zip: _____ Country: _____

Telephone: _____ Fax: _____

Email: _____

Registration: Includes all sessions and refreshment breaks

Full Two Days	\$399
Full Two Days for International Dose-Response Society Members*	\$299
Government and Academic Rate.....	\$199
Government and Academic Rate for International Dose-Response Society Members*	\$149
Student Rate.....	\$99
Student Rate for International Dose-Response Society Members*	\$74

*Must be a member at the time of registration to receive the International Dose-Response Society Members rate

Sub Total _____

Hot Buffet Lunch: \$26 each day Tuesday Wednesday

Lunch Total _____

Hot Buffet Dinner: \$36 Tuesday

Dinner _____

Note: All registrations received after **April 2, 2019**, will be assessed a \$50 late fee

Late Fee _____

Total _____

Visa Amex Master Card Diners Discover Check payable to: UMass/Conference Services CS19117

Card Number: _____ Expiration Date: _____

Name on Card (print): _____ 3 digit CVV/Security Code: _____

Signature (all charges must be signed): _____

Hotel Reservations: CONFERENCE ATTENDEES ARE RESPONSIBLE FOR THEIR OWN HOTEL RESERVATIONS

Encumbered Purchase Orders will be accepted from institutions and agencies for the purpose of pre-registration only. Full payment including those pre-registrations secured by P.O. must be remitted on or before the on-site registration. Non-compliance will result in a \$35 processing fee for any resulting billings. Phone registrations will not be accepted. Checks must be redeemable at US banks. Any processing fees will be filled to the registrant. Cancellations made by the close of business (5:00pm EST) on April 9, 2019, will receive a full refund minus a \$60 cancellation fee and any administrative fees. There will be no refunds for cancellations made after the close of business on April 9, 2019. Registrations should be received on or before April 2, 2019. After April 2, 2019, a \$50 late fee will be assessed.

For more conference information contact: INTERNATIONAL DOSE-RESPONSE SOCIETY
Phone: 413-545-3164 • Fax: 413-545-4692 • Email: mbglavin@umass.edu
Online Conference Registration: umass.irisregistration.com