

SfRBM/SFRRI 2016

NOVEMBER 16 - 19, 2016

SAN FRANCISCO, CA, USA



**SfRBM**

Society for Redox  
Biology *and* Medicine

23rd Annual Meeting of the Society for Redox Biology and Medicine  
a joint meeting with the Society for Free Radical Research International

**PRELIMINARY PROGRAM AND  
REGISTRATION MATERIALS**

# PRESIDENTS' INVITE



Neil Hogg, Ph.D.



Rafael Radi, MD, Ph.D.

**EVERY SIX YEARS** the Society for Redox Biology and Medicine (SfRBM) and the Society for Free Radical Research International (SFRRRI) come together to hold a joint meeting in the Americas. This year we are excited to invite you to attend SfRBM/SFRRRI 2016 to be held in San Francisco, California. The meeting will continue the strong tradition of SfRBM Annual Meetings and SFRRRI Biennial Meetings as premier venues for cutting edge research in all aspects of redox biology, featuring the latest technologies and applications in basic and translational research. It will be a truly international meeting with plenary speakers, selected abstracts, posters and attendees from around the globe.

Our 2016 program offers a broad and extensive range of topics from international leaders in our field. SfRBM has always nurtured a collegial environment for the open exchange of the latest scientific advances, whether from a first-year graduate student, or from established investigators. This year we have the additional excitement and networking potential of an even more international audience brought in by SFRRRI. Whether through poster symposia or our oral presentation sessions — where 45 abstracts will be selected for oral presentation through a rigorous peer review process — your most creative, dynamic and exciting science will be on display.

SfRBM/SFRRRI 2016 will begin with two featured pre-meeting workshops, including a full day workshop, "Fundamentals in Redox Biology," and a half day workshop, "Redox Systems Biology." This is the 22nd year of the popular Sunrise Free Radical School (SFRS). SFRS provides valuable didactic lectures especially designed for attendees who are new to the redox biology field as well as more seasoned investigators in need of a refresher course.

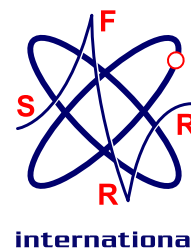
The SfRBM/SFRRRI 2016 Program Committee has worked hard to select sessions, which emphasize scientific excellence, and introduces both new investigators and novel research topics. To enhance the educational value during SfRBM/SFRRRI 2016, we have increased the number of plenary sessions. We will begin on Wednesday evening with a special opening plenary session, followed on Thursday and Friday mornings where there will be two concurrent plenary sessions providing valuable scientific education.

## FEATURED PLENARY SESSIONS INCLUDE:

- Biomarkers for Oxidative Stress, Translation of Chemical and Biological/ Research into the In Vivo and Clinical Setting
- Pivotal Role of  $H_2O_2$  in Redox Regulation of Signaling and Transcription
- Dual Role of Oxidants Generated by Leukocyte Enzymes in Health and Disease
- The Role of Redox Regulation on Epigenetics in Human Diseases
- The Landscape of Reductive Stress
- Oxygen Matters in Redox Biology

In addition to the usual extensive opportunities for networking we will be offering several career and professional development sessions including:

- Opening Doors Event: Enhancing Your Professional and Personal Management Skills
- Professional Development Series
  - Developing Business and Entrepreneurial Skills
  - Teaching While Also Running a Research Program
  - How to Be the Boss — Effectively Managing People and Leading a Productive Research Team
  - How to Find the Best Lab for Your Ph.D. and Post-Doctoral Work
  - The Manuscript Review Process



As always, some of the most exciting research will be communicated through the three-day poster symposium. SfRBM will present the SfRBM Lifetime Achievement Award, SFRRRI will present the Trevor Slater Award and SfRBM will also continue its popular Young Investigator and Travel Awards to encourage and stimulate the next generation of scientists in our field throughout the Americas and worldwide.

Plan to join us this November in San Francisco to share your passion for the most creative, dynamic and groundbreaking science in our field.

Sincerely,

Neil Hogg, Ph.D., *President, SfRBM*  
Medical College of Wisconsin

Rafael Radi, MD, Ph.D., *President, SFRRRI*  
Universidad de la República - Uruguay

# KEY DATES TO REMEMBER

## MONDAY, AUGUST 15

### TRAVEL AWARD DEADLINE

- Submission deadline for abstracts to be considered for a Travel Award. You must be a student or post-doc SfrBM or SFRRRI member at the time of submission to be eligible for this award.

## THURSDAY, SEPTEMBER 1

### ABSTRACT & YIA AWARD DEADLINE

- Submission deadline for abstracts to be considered for either oral or poster presentation.
- Deadline for indicating you wish an abstract to be considered for a "Young Investigator Award (YIA)." You must be a student or postdoc SfrBM or SFRRRI member at the time of submission to be eligible for this award.
- Presenting authors are limited to submitting one (1) abstract to be considered for a Young Investigator Award. SfrBM recommends authors submit their best work for YIA consideration.

## SATURDAY, OCTOBER 15

### EARLY-BIRD DEADLINE, SAVE \$50

- Deadline for early-bird conference registration. Registrations received after this time will be charged an additional \$50 late fee.

## SUNDAY, OCTOBER 23

### HOTEL RESERVATION DEADLINE

- Reservation deadline for conference rate of \$165 USD at the Hyatt Regency. Reservations received after this date will be accepted on a space-available basis only and a higher hotel room rate may prevail.

## WEDNESDAY, NOVEMBER 16

### PRE-MEETING WORKSHOPS

Fundamentals in Redox Biology (*full day*)  
Redox Systems Biology (*half day*)

### WELCOME RECEPTION

## NOVEMBER 16 – 19, 2016

### SfrBM/SFRRRI 2016

# PROGRAM GOALS

- Explore the latest issues in redox biology, a unifying theme in the pathophysiology of human diseases
- Instruct new members and students in the basics of free radical chemistry and biology
- Build personal and scientific relationships between newcomers to the field, established researchers, academicians and the private sector

# CONFERENCE DATES

## Wednesday, November 16 – Saturday, November 19, 2016

SfrBM/SFRRRI 2016 will begin with two featured pre-meeting workshops to be held on Wednesday, November 16. A full day workshop, "Fundamentals in Redox Biology," and a half day workshop, "Redox Systems Biology."

Pre-Meeting workshop participants should arrive by Tuesday night, November 15 to order to attend the full-day program on Wednesday morning.

The Registration Desk will open at 5:00 pm on Tuesday, November 15.

**PLAN TO ARRIVE** in San Francisco no later than Wednesday afternoon as SfrBM/SFRRRI 2016 will officially kick off on Wednesday evening at 5:00 pm with a featured plenary session, "Biomarkers for Oxidative Stress, Translation of Chemical and Biological Research into the In Vivo and Clinical Setting," followed by the 2016 SfrBM Lifetime Achievement Award Lecture.



# CONFERENCE PROGRAM

**WEDNESDAY**  
**NOVEMBER 16, 2016**



## PRE-MEETING WORKSHOPS (2)

### ■ FULL DAY PRE-MEETING WORKSHOP

**8:15 am – 3:00 pm**

#### Fundamentals in Redox Biology

*Chairs: Ohara Augusto, Ph.D., University of São Paulo, Brazil and Jacek Zielonka, Ph.D., Medical College of Wisconsin, USA*

The investigation of redox processes can elucidate disease mechanisms and reveal new therapeutic targets, justifying the increasing scientific interest in redox biology. This workshop targets graduate students, trainees and newcomers to the area. The speakers will discuss state-of-the-art concepts and approaches to provide an in-depth understanding of the bases and perspectives of redox biology.

**8:15 am – 8:20 am** Welcome

**8:20 am – 9:00 am**

#### Oxidants, Free Radicals and Redox Reactions in Biology

*Christine Winterbourn, Ph.D., University of Otago, New Zealand*

**9:00 am – 9:40 am**

#### Measurement of Cellular Oxidants with Small Molecule Probes

*Jacek Zielonka, Ph.D., Medical College of Wisconsin, USA*

**9:40 am – 10:20 am**

#### Molecular Tools for Redox Imaging and Metabolic Engineering

*Vsevolod Belousov, Ph.D., D.Sc., M.M. Shemyakin - Yu.A. Ovchinnikov Institute of Bioorganic Chemistry, Russia*

**10:20 am – 10:40 am** Break

**10:40 am – 11:20 am**

#### Overview of Oxidative Damage to Biomolecules

*Barry Halliwell, Ph.D., National University of Singapore, Singapore*

**11:20 am – 12:00 pm**

#### Measurements of Oxidative Damage in Biological Samples

*Sayuri Miyamoto, Ph.D., Universidade de São Paulo, Brazil*

**12:00 pm – 1:00 pm** Lunch

**1:00 pm – 1:40 pm**

#### Redox Biochemistry of Thiols

*Madia Trujillo, Ph.D., Universidad de la República, Uruguay*

**1:40 pm – 2:20 pm**

#### Thiol-Based Redox Signaling

*Henry Jay Forman, Ph.D., University of Southern California, Los Angeles, USA*

**2:20 pm – 3:00 pm**

#### The Redox Code

*Dean Jones, Ph.D., Emory University, USA*

## ■ HALF DAY PRE-MEETING WORKSHOP

**1:00 pm – 3:30 pm**

#### Redox Systems Biology

*Chairs: Rick Domann, Ph.D., The University of Iowa, USA and Melissa Kemp, Ph.D., Georgia Institute of Technology, USA*

**1:00 pm – 1:10 pm** Welcome & Overview

**1:10 pm – 1:40 pm**

#### Roles of Peroxiredoxins in ROS Responses; New Insight from Systems Approaches Combining Computational and Genetic Studies

*Elizabeth Veal, Ph.D., University of Newcastle, UK*

**1:40 pm – 2:10 pm**

#### Painting the Cysteine Chapel: Chemical Tools for Biological Discovery and Beyond

*Kate Carroll, Ph.D., The Scripps Research Institute, USA*

**2:10 pm – 2:25 pm** Break

**2:25 pm – 2:55 pm**

#### Computational Systems Analysis: What Can We Learn About Redox-based Mechanisms?

*Melissa Kemp, Ph.D., Georgia Institute of Technology, USA*

**2:55 pm – 3:25 pm**

#### Quantitative Metabolomics Approaches to Understanding Glucose and Amino Acid Metabolism

*Jason Locasale, Ph.D., Duke University School of Medicine, USA*

## ANNUAL MEETING BEGINS

**5:00 pm – 5:10 pm**

### OPENING SESSION

#### SfRBM & SFRRI Presidents' Welcome

*Neil Hogg Ph.D., Medical College of Wisconsin, USA, SfRBM President and Rafael Radi, MD, Ph.D., Universidad de la República - Uruguay, SFRRI President*

**5:10 pm – 6:40 pm**

### PLENARY SESSION

#### Biomarkers for Oxidative Stress, Translation of Chemical and Biological Research into the In Vivo and Clinical Setting

*Chairs: Ginger Lohr Milne, Ph.D., Vanderbilt University, USA and Henrik Poulsen, MD, Rigshospitalet, University Hospital Copenhagen, Denmark*

Great progress has been made in the mechanistic understanding of oxidative stress, however the translation of this knowledge into revelation of the importance of oxidative stress in diseases, their diagnosis, prognosis and treatment is still in its infancy. This symposium addresses the present stage of translational research on oxidative stress.

**5:10 pm – 5:40 pm**

#### Comparison of Different Oxidative Stress Biomarkers in vivo

*Maria Kadiiska, Ph.D., MD, NIEHS/NIH, USA*

# WEDNESDAY (CONTINUED)

**5:40 pm – 6:10 pm**

## **Sterol Oxidation: Errors in Cholesterol Biosynthesis**

*Ned Porter, Ph.D., Vanderbilt University, USA*

**6:10 pm – 6:40 pm**

## **Are There Free Radical Diseases?**

*Henrik Poulsen, MD, Rigshospitalet, University Hospital Copenhagen, Denmark*

**6:40 pm – 7:10 pm**

## **SfRBM Lifetime Achievement Lecture**

### **Redox Biology — Questions for the Future from the Perspective of an Aging Free Radical**

*Henry Jay Forman, Ph.D., University of Southern California, USA*

**7:15 pm – 9:00 pm**

**Welcome Reception**

**7:15 pm – 9:00 pm**

**Trainee & Mentor/Mentee Reception**

**9:00 pm – 12:00 am**

**Hospitality**

# THURSDAY NOVEMBER 17, 2016



## **SUNRISE FREE RADICAL SCHOOL**

**8:00 am – 9:00 am**

### **Back to the Basics**

*Chairs: Marcie Cole, Ph.D., University of Louisville, USA and Madia Trujillo, Ph.D., Universidad de la República - Uruguay*

**8:00 am – 8:30 am**

### **Approaches for Evaluation of H<sub>2</sub>O<sub>2</sub> Mediated Protein Oxidation and Thiol-Disulfide Exchange Reactions**

*Leslie Poole, Ph.D., Wake Forest School of Medicine, USA*

**8:30 am – 9:00 am**

### **Hydrogen Peroxide as a Signaling Molecule**

*Fernando Antunes Ph.D., Faculdade de Ciências da Universidade de Lisboa, Portugal*

**9:30 am – 12:00 pm**

## **PLENARY SESSION 1**

### **Pivotal Role of H<sub>2</sub>O<sub>2</sub> in Redox Regulation of Signaling and Transcription**

*Chairs: Helmut Sies, MD, University of Düsseldorf, Germany and Enrique Cadenas, Ph.D., MD, University of Southern California, USA*

H<sub>2</sub>O<sub>2</sub> is utilized in metabolic regulation in ways similar to diffusible gases such as NO, CO, or H<sub>2</sub>S, and it is recognized as a fundamental transcription-independent signal, in line with Ca<sup>2+</sup> and ATP. H<sub>2</sub>O<sub>2</sub> has been identified as a suitable second messenger molecule. This session addresses the mechanisms that involve H<sub>2</sub>O<sub>2</sub> in redox signaling, its targets, and the functional consequences of H<sub>2</sub>O<sub>2</sub> signaling. Novel aspects of H<sub>2</sub>O<sub>2</sub>-mediated redox regulation of cell signaling and transcriptional pathways are covered in terms of a redox relay for H<sub>2</sub>O<sub>2</sub> signaling, identification of mitochondrial sites producing H<sub>2</sub>O<sub>2</sub> and involved in cell signaling, and significance of mitochondrial ketoacid dehydrogenases as sources of H<sub>2</sub>O<sub>2</sub>.

**9:30 am – 10:00 am**

### **Sites of Mitochondrial Hydrogen Peroxide Generation**

*Martin Brand, Ph.D., Buck Institute for Research on Aging, USA*

**10:00 am – 10:30 am**

### **The Mechanisms of Mitochondrial ROS Production and Their Role in Redox Signaling**

*Stefan Dröse, MD, Ph.D., University Hospital Frankfurt, Germany*

**10:30 am – 11:00 am**

**Break**

**11:00 am – 11:30 am**

### **Hydrogen Peroxide Release from Mitochondria in Regulating Metabolic Functions**

*Jan Riemer, Ph.D., University of Cologne, Germany*

**11:30 am – 12:00 pm**

### **Thioredoxin Reductase 1 (TrxR1) Links Cellular Signaling Pathways Controlling Cellular Phenotype to H<sub>2</sub>O<sub>2</sub> Modulation, Nitrosylation, and Persulfidation Pathways**

*Elias S. J. Arnér, MD, Ph.D., Karolinska Institutet, Sweden*

**9:30 am – 12:00 pm**

## **PLENARY SESSION 2**

### **Dual Role of Oxidants Generated by Leukocyte Enzymes in Health and Disease**

*Chairs: Clare Hawkins, Ph.D., Heart Research Institute, Australia and Michael Davies, Ph.D., Panum Institute, University of Copenhagen, Denmark*

Leukocytes generate very high oxidant fluxes when subject to appropriate stimuli, with O<sub>2</sub> consumption rates being up to 2500-fold higher than for other cells. They are therefore "professional" oxidant generators. These oxidants are important for killing invading pathogens, but this comes at a major cost to the host in "collateral" damage, with host cells subject to severe oxidative damage. Such oxidative host tissue damage has been associated with many diseases. Thus oxidation induced by leukocyte enzymes has both positive and negative effects, and understanding these mechanisms and their control, is critically important in physiological and pathological situations.

**9:30 am – 10:00 am**

### **Positives and Negatives of Oxidant Formation by Neutrophils**

*Christine Winterbourn, Ph.D., University of Otago, New Zealand*

# THURSDAY (CONTINUED)

**10:00 am – 10:30 am**

## Neutrophil Extracellular Traps

Arturo Zychlinsky, Ph.D., Max Planck Institute for Infection Biology, Germany

**10:30 am – 11:00 am** Break

**11:00 am – 11:30 am**

## Inflammation, Oxidation and Lung Damage

Brian Day, Ph.D., National Jewish Health, USA

**11:30 am – 12:00 pm**

## Myeloperoxidase and Cardiovascular Disease

Stephan Baldus, MD, Cologne University Heart Center, Germany

**12:00 pm – 12:30 pm**

## SfRBM Year in Review: Annual Member Meeting

**12:30 pm – 2:30 pm** Lunch

Attendees on own or attend the professional development session

**1:00 pm – 2:15 pm**

## PROFESSIONAL DEVELOPMENT SESSION I

### Developing Business and Entrepreneurial Skills

sponsored by the SfRBM Trainee Council

Whether you are running your own lab or stepping into a new career in industry, everyone can benefit from developing their business and entrepreneurial skills. In this session, we will discuss basic business etiquette and how it differs in academia and industry. Our panelists will discuss the skills they utilized to become successful in their careers, and provide trainees with advice on how to apply entrepreneurial expertise to best reach their future goals.

**1:00 pm – 2:15 pm**

## PROFESSIONAL DEVELOPMENT SESSION II

### Teaching While Also Running a Research Program

Many of us have a significant teaching commitment, which can compete with time spent leading our research programs and writing grant proposals. Join us for an interactive session, where panelists will share their experience and highlight potential pitfalls and successful strategies in balancing teaching and research, including: course planning, tips for effective teaching, mentoring approaches, laboratory time management, and more.

**2:30 pm – 4:15 pm**

## Oral Presentations From Submitted Abstracts

3 concurrent sessions

**4:15 pm – 6:45 pm** Formal Poster Presentations

**6:45 pm – 9:00 pm**

## OPENING DOORS EVENT

### Enhancing your Professional and Personal Management Skills

The event will focus on how to manage personnel, time, money and stress at every stage of a researcher's career.

**9:00 pm – 12:00 am** Hospitality



# FRIDAY NOVEMBER 18, 2016



## SUNRISE FREE RADICAL SCHOOL

**8:00 am – 9:00 am**

### Back to the Basics

Chairs: Marcie Cole, Ph.D., University of Louisville, USA and Madia Trujillo, Ph.D., Universidad de la República - Uruguay,

**8:00 am – 8:30 am**

### Redox Biology of the Epigenetic Landscape

Rick Domann, Ph.D., The University of Iowa, USA

**8:30 am – 9:00 am**

### The Origins of Redox Biology

Neil Hogg, Ph.D., Medical College of Wisconsin, USA

**9:30 am – 12:00 pm**

## PLENARY SESSION 1

### The Role of Redox Regulation on Epigenetics in Human Diseases

Chairs: Rick Domann, Ph.D., The University of Iowa, USA and Rebecca Oberley-Deegan, Ph.D., University of Nebraska Medical Center, USA

Over the past two decades, epigenetics has started to provide a plausible mechanistic link to explain interactions between the genetic code and others factors such as environment, diet, metabolism and age, all of which play major roles in the development of disease. Loss of epigenetic control and dysregulation of gene expression occurs in a variety of diseases, and as more research has been conducted in this field, it has become apparent that oxidative stress is a major driver of aberrant epigenetic regulation. This plenary session will discuss the role of redox biology and oxidative stress in the development and progression of epigenetic dysregulation in human disease.

**9:30 am – 10:00 am**

### Regulation of the Epigenome by Vitamin C

Gaofeng Wang, Ph.D., University of Miami, USA

# FRIDAY (CONTINUED)

**10:00 am – 10:30 am**

## **Role of Oxygen as an Epigenetic Regulator of Tumor Progression and Metastasis**

*Lynne-Marie Postovit, Ph.D., University of Alberta, Edmonton, Canada*

**10:30 am – 11:00 am** Break

**11:00 am – 11:30 am**

## **Epigenetic Regulation of Nrf2 in Cancer**

*Ah-Ng Tony Kong, Ph.D., Rutgers University, USA*

**11:30 am – 12:00 pm**

## **Redox Regulation of Mito-senesence and Dysfunctional Epigenome**

*Irfan Rahman, Ph.D., University of Rochester Medical Center, USA*

**9:30 am – 12:00 pm**

## **PLENARY SESSION 2**

### **The Landscape of Reductive Stress**

*Chairs: Chang Chen, Ph.D., Chinese Academy of Sciences, China and Young-Joon Surh, Ph.D., Seoul National University, South Korea*

Redox homeostasis is essential for normal cellular maintenance and physiological functions. Reductive stress (RS), which refers to an abnormal increase of reducing equivalents (e.g. GSH/GSSG, NADH/NAD<sup>+</sup>, NADPH/NADP<sup>+</sup>, etc.), is emerging to become recognized as a new frontier in redox field. RS exists in physiological and pathological process, such as aging, cardiomyopathy, diabetes, and Alzheimer's disease. However, much remains unknown about the causative factors, the biological effect and the underlying mechanism, which might impact the future strategy on redox regulation.

**9:30 am – 10:00 am**

## **Reductive Stress of ER and its Function in Aging**

*Chang Chen, Ph.D., Chinese Academy of Sciences, China*

**10:00 am – 10:30 am**

## **Adaptive Responses to Reductive Stress in Hypoxia**

*Joseph Loscalzo, MD, Ph.D., Harvard Medical School, USA*

**10:30 am – 11:00 am** Break

**11:00 am – 11:30 am**

## **Reductive Stress Caused by Sustained Nrf2 Activation: Implications for Its Oncogenic Potential**

*Young-Joon Surh, Ph.D., Seoul National University, South Korea*

**11:30 am – 12:00 pm**

## **Reductive Stress: Novel Mechanism for Cardiac Remodeling**

*Rajasekaran Namakkal-Soorappan, M.Phil., Ph.D., University of Alabama at Birmingham, USA*

**12:00 pm – 2:30 pm** Lunch

*Attendees on own or attend the professional development session*

**1:00 pm – 2:15 pm**

## **PROFESSIONAL DEVELOPMENT SESSION III**

### **How to be the Boss – Effectively Managing People and Leading a Productive Research Team**

Congratulations, you're a newly minted principal investigator! Beyond the challenges of obtaining grant funding, you now face the daunting task of developing and running your research laboratory. In this panel discussion, experienced investigators will share their insights on issues such as motivating your team; dealing with "slack-ers"; personnel conflicts; and effective oversight of research projects including the assignment of roles and responsibilities. Come learn from the successes (and failures) of those who have dealt with the same issues you now face.

**1:00 pm – 2:15 pm**

## **PROFESSIONAL DEVELOPMENT SESSION IV**

### **How to Find the Best Lab for Your Ph.D. and Post-Doctoral Work**

Choosing the right lab for your graduate and post-doctoral studies is a critical step in charting your scientific career. However, with little experience early stage scientists often struggle with these decisions. Senior investigators and post-docs will be on hand to discuss the importance of, and how to find the "right match" for a successful training experience and career development. Topics will address whether or not "pedigree" matters, strategies for networking to identify the right mentor and research area, and the importance of self-assessment.

**2:30 pm – 4:15 pm**

## **Oral Presentations From Submitted Abstracts**

*3 concurrent sessions*

**4:15 pm – 6:45 pm**

**Formal Poster Presentations**

**6:30 pm – 8:00 pm**

**FRBM & Redox Biology Editorial Board Reception**

**9:00 pm – 12:00 am**

**Hospitality**





# SATURDAY NOVEMBER 19, 2016



## SUNRISE FREE RADICAL SCHOOL

**8:00 am – 9:00 am**

### Back to the Basics

*Chairs: Marcie Cole, Ph.D., University of Louisville, USA and Madia Trujillo, Ph.D., Universidad de la República - Uruguay*

**8:00 am – 8:30 am**

### What is the Oxygen Tension in vivo

*Pedro Cabrales, Ph.D., University of California at San Diego, USA*

**8:30 am – 9:00 am**

### The Impact of Hyperoxia in the Developing Lung

*Phyllis Dennery, MD, Brown University / Rhode Island Hospital, USA*

## PLENARY SESSION

### Oxygen Matters in Redox Biology

*Chairs: Giovanni Mann, Ph.D., King's College London, UK and Kelvin J. A. Davies, Ph.D., D.Sc., University of Southern California, USA*

Alterations in oxygen tension modulate cell function by affecting intracellular NAD(P)H levels, protein kinases, ion channels and endogenous antioxidant defenses. This plenary session aims to provide an up-to-date overview of the critical importance that oxygen tension plays in modulating cell signaling in health and diseases such as cancer and cardiovascular diseases.

**9:30 am – 10:00 am**

### Molecular Mechanisms Underlying Oxygen Homeostasis

*Gregg Semenza, MD, Ph.D., Johns Hopkins University, USA*

**10:00 am – 10:30 am**

### Nrf2-Keap1 Regulated Redox Signaling Under Physiologica Normoxia

*Giovanni Mann, Ph.D., King's College London, UK*

**10:30 am – 11:00 am** Break

**11:00 am – 11:30 am**

### Acute Oxygen Sensing Mechanisms

*Jose Lopez-Barneo MD, Ph.D., Instituto de Biomedicina de Sevilla (IBiS), University of Seville, Spain*

**11:30 am – 12:00 pm**

### Oxygen Sensors and Neural Circuit Activity in *C. elegans*

*Mario de Bono, Ph.D., University of Cambridge, UK*

**12:00 pm – 12:30 pm** New Member Welcome Meeting

**12:00 pm – 12:30 pm**

### SFRRI Trevor Slater Award

*Kelvin J. A. Davies, Ph.D., D.Sc., University of Southern California, USA*

**12:30 pm – 1:00 pm** SFRRI General Assembly

**1:00 pm – 2:30 pm** Lunch *Attendees on own*

**1:00 pm – 2:15 pm**

## PROFESSIONAL DEVELOPMENT SESSION V

### The Manuscript Review Process

This interactive session will discuss the peer review process and provide perspectives on how to be a good reviewer.

**2:30 pm – 4:15 pm**

### Oral Presentations From Submitted Abstracts

*3 concurrent sessions*

**4:15 pm – 7:00 pm** Formal Poster Presentations

**7:30 pm – 9:30 pm** Closing Awards Banquet

**9:30 pm – 12:00 am** Hospitality



# FORMAT, ABSTRACTS, AND AWARDS

## FORMAT

SfRBM/SFRRI 2016 will begin on Wednesday, November 16 at 5:00 pm and conclude with the Closing Awards Banquet on Saturday, November 19.

SfRBM/SFRRI 2016 will feature four days of scientific communication. On Wednesday, the featured pre-meeting workshops are NOT included in your Annual Meeting registration fee and must be completed separately.

The Annual Meeting is scheduled for the following three days (Thursday through Saturday). Each day will begin with the popular Sunrise Free Radical School; continue with morning plenary lectures, afternoon professional development sessions, parallel thematic sessions and poster presentations. In addition, there will be several special programs and receptions to network with fellow scientists.

### FREE RADICAL SCHOOL | 8:00 am – 9:00 am

For the 22nd consecutive year, the Sunrise Free Radical School will kick off each day of our Annual Meeting. Led by Marcie Cole, Ph.D., University of Louisville, USA and Madia Trujillo, Ph.D., Universidad de la República - Uruguay, the Free Radical School is designed to provide a detailed overview of the basic concepts of free radical chemistry and biology and is targeted towards students, fellows and those wishing to learn about new areas. A faculty of highly respected investigators in free radical research will deliver lectures and provide key literature references in their subject areas.

### PLENARY SESSIONS | 9:30 am – 12:00 pm

Plenary sessions, which will be held during each morning of the annual meeting, will be comprised of speakers who will address common or closely related topics. Each will deliver a 20-25 minute talk followed by a 5-10 minutes question and answer session moderated by a 2-3 member panel. Topics to be covered include:

- Pivotal Role of H<sub>2</sub>O<sub>2</sub> in Redox Regulation of Signaling and Transcription
- Dual Role of Oxidants Generated by Leukocyte Enzymes in Health and Disease
- The Role of Redox Regulation on Epigenetics in Human Diseases
- The Landscape of Reductive Stress
- Oxygen Matters in Redox Biology



**SfRBM/SFRRI 2016 will offer dual morning plenary sessions on Thursday and Friday, providing additional scientific opportunities.**

## AFTERNOON PARALLEL SESSIONS

### Oral Presentations | 2:30 pm – 4:15 pm

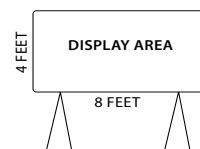
A number of high-quality abstracts are chosen from those submitted to the Society for primary authors to give 20-minute oral presentations of their research. Three concurrent sessions will be structured around basic topic areas and will feature 45 speakers.

### POSTER SESSIONS (Thursday – Saturday)

#### Formal Poster Presentation | 4:15 pm – 6:45 pm

*Authors must be present during this poster session time*

During each day of this three-day session, posters will be on display all day (9:00 am – 9:00 pm) and can be viewed at any time during this period. Each day, two and half hours of formal presentation time (4:15 pm – 6:45 pm) will be scheduled for authors to be available to discuss their work with other attendees. Poster boards for display of abstracts will again be 4 feet (122 cm) wide x 8 feet (244 cm) long for greater display area.



## ABSTRACTS

Abstracts for oral or poster presentation consideration should be submitted on-line at <http://www.SfRBM.org/sections/annual-meeting/23rd-annual-meeting>

### The deadline for submitting abstracts for SfRBM/SFRRI 2016 is Thursday, September 1.

Submitted abstracts must be previously unpublished work. Abstracts submitted for oral presentation consideration will be subject to a double-blind review process. Presenting authors of the highest scored abstracts will be invited to share their work in one of 45 oral presentation slots in the program.

All other abstracts will be programmed as a poster presentation, to be presented on one day of SfRBM/SFRRI three-day poster symposia. Decisions on abstract acceptance for SfRBM/SFRRI 2016 will be posted on the SfRBM site during the week of October 5, 2016.

Abstracts must fit into a 3 in. (7.62 cm) wide x 4.75 in. (12.1 cm) high space within the online form. This is approximately 1900 characters. Abstracts that exceed this size will display a "TOO LONG" message during the proofreading stage and authors will be asked to resubmit an edited version. The site will set the font size of your abstract to an 8 pt. font and the abstract will appear in the abstract book in 8 pt. font.

# FORMAT, ABSTRACTS, AND AWARDS

All submitted abstracts will be published in the meeting's program and abstract book and available in the meeting mobile app. If you wish an abstract to be considered for a Travel Award, abstracts must be received by Monday, August 15, 2016. Submission deadline to be considered for a Young Investigator Award is Thursday, September 1, 2016. Please mark the appropriate box on the on-line abstract form.

## TRAVEL AWARDS

SfRBM's Outreach Committee are making Travel Awards available to students and postdocs who wish to attend SfRBM/SFRRRI 2016 to present their research. Ten (10) awards at \$500 each will be presented to postdoc and student SfRBM members in the US. An additional ten (10) awards at \$1,000 each will be given by SfRBM to postdoc or student SfRBM/SFRRRI members throughout the rest of the world. SFRR Asia will also be offering travel awards to its student and postdoc members.

Any student or postdoc wishing to submit an abstract for Travel Award consideration must check the appropriate box on the on-line abstract form and submit the abstract no later than Monday, August 15, 2016.

- Abstract judging will be based on research merit only and applicants must be the first author of the abstract.
- Travel Award winners are not eligible for Young Investigator Awards (YIA) given at the meeting.
- You may simultaneously apply for SfRBM membership when submitting an abstract for a Travel Award.
- Decisions on Travel Awards for SfRBM 2015 will be posted on the SfRBM site during the week of October 5.
- Recipients will be given their check at the Closing Awards Banquet on November 19 as well as free meeting registration for SfRBM 2017 or SfRBM 2018.

## YOUNG INVESTIGATOR AWARDS

SfRBM's "Young Investigator Awards" (YIAs) will be presented to graduate students and postdoctoral fellows based on the submitted abstract and the presentation of the work at the annual meeting, either in oral or poster symposia.

- Candidates must be first authors on a submitted abstract, must check the appropriate box on the electronic abstract form and must be fully registered to attend the meeting.

- Eligible graduate students must be enrolled in an accredited full-time doctoral degree program at the time of abstract submission.
- Eligible postdoctoral fellows must be engaged in full-time postdoctoral research and must have no more than five years of research experience beyond their doctoral degree.
- Finally, to be considered for the award, the author must be a postdoc or student SfRBM or SFRRRI member. You may simultaneously apply for SfRBM membership when submitting an abstract for a YIA.

Presenting authors are limited to submitting one (1) abstract to be considered for a Young Investigator Award. SfRBM recommends authors submit their best work for YIA consideration.

YIA awardees will receive a \$500 stipend in recognition of their work as well as free meeting registration to SfRBM 2017 or SfRBM 2018.

## POSTER NOTIFICATION & PRESENTATION POLICY

As there have been an increasing number of investigators who formally confirm their posters but do not attend to present their research, SfRBM has instituted a policy for poster presentations during its Annual Meeting.

Should you confirm a presentation in a reply to your acceptance email and do not show up to present your work, you will be ineligible to submit any abstracts for the subsequent year's conference. The same applies to investigators who receive an acceptance email but fail to communicate that they will NOT be presenting.

Investigators will have up until November 5, 2016 to indicate whether or not to accept an invitation to present a poster. Investigators in violation of this policy will not be eligible to submit their latest work for SfRBM 2017.

# WORKSHOPS AND SPECIAL PROGRAMS

## WEDNESDAY NOVEMBER 16, 2016

### PRE-MEETING WORKSHOPS (2)

#### ■ FULL DAY PRE-MEETING WORKSHOP **Fundamentals in Redox Biology** | 8:15 am – 3:00 pm

Chairs: *Ohara Augusto, Ph.D., University of São Paulo, Brazil and Jacek Zielonka, Ph.D., Medical College of Wisconsin, USA*

The investigation of redox processes can elucidate disease mechanisms and reveal new therapeutic targets, justifying the increasing scientific interest in redox biology. This workshop targets graduate students, trainees and newcomers to the area. The speakers will discuss state-of-the-art concepts and approaches to provide an in-depth understanding of the bases and perspectives of redox biology.

Registration fees for the workshop, which includes lunch and course materials, are not included in the annual meeting tuition. Attendees wishing to attend the workshop must clearly indicate their participation on the enclosed registration form.

Attendance will be limited to the first 175 applicants, so it is advisable to register early! Participants should plan to arrive in San Francisco on Tuesday to be ready for the Wednesday morning start.

Cost: *Members \$175 per person • Non-members \$200 per person*

#### ■ HALF DAY PRE-MEETING WORKSHOP **Redox Systems Biology** | 1:00 pm – 3:30 pm

Chairs: *Rick Domann, Ph.D., The University of Iowa, USA and Melissa Kemp, Ph.D., Georgia Institute of Technology, USA*

Systems biology emerged as a discipline to study biology from a global perspective, through interactions of components that give rise to higher-order properties; it is now easier than ever to collect large-scale data at the genomic, proteomic, and metabolomic-wide levels. How do we analyze, integrate and model -omics data to gain insight in redox biology? This workshop will discuss a breadth of systems biology tools and applications to initiate discussion on the complexity of redox systems.

Cost: *Members \$100 per person • Non-members \$125 per person*

#### ■ SFRBM LIFETIME ACHIEVEMENT AWARD LECTURE **Redox Biology — Questions for the Future from the Perspective of an Aging Free Radical** | 6:40 pm – 7:10 pm

*Henry Jay Forman, Ph.D., University of Southern California, USA*

#### ■ WELCOME RECEPTION | 7:15 pm – 9:00 pm

The Welcome Reception is included in your registration fee.

#### ■ TRAINEE WELCOME EVENT | 7:15 pm – 9:00 pm

The Trainee Council is excited to host the Trainee Meet and Mingle! Come by during the Welcome Reception to meet, network, and socialize with fellow trainees and faculty Society members. A raffle for prizes for attending trainees will be held with food and drink provided.

*Hosted by the SfrBM Trainee Council*

## THURSDAY NOVEMBER 17, 2016

#### ■ SFRBM YEAR IN REVIEW: ANNUAL MEMBER MEETING | 12:00 pm – 12:30 pm

The member meeting will discuss past and future financial, administrative and academic activities of the society and recruit suggestions and comments from the general membership.

#### ■ 14TH ANNUAL OPENING DOORS EVENT **Enhancing your Professional and Personal Management Skills** 6:45 pm – 9:00 pm

The event will focus on how to manage personnel, time, money and stress at every stage of a researcher's career.

Organized by: *Maria Clara Franco, Ph.D., University of Central Florida, USA, Samantha Giordano, Ph.D., University of Alabama at Birmingham, USA, and Michelle Booze, Ph.D., Sanford Health, USA and the Women in Science Committee (WIS)*

Cost: *\$25 for student & postdocs • \$35 for senior investigators*

## SATURDAY NOVEMBER 19, 2016

#### ■ SFRRI TREVOR SLATER AWARD LECTURE 12:00 pm – 12:30 pm

*Kelvin J. A. Davies, Ph.D., D.Sc., University of Southern California, USA*

#### ■ SFRRI GENERAL ASSEMBLY 12:30 pm – 1:00 pm

#### ■ NEW MEMBER MEETING | 12:00 pm – 12:30 pm

This session will inform you of the activities and benefits of being a member of the Society and give you the opportunity to get all of your questions answered about SfrBM.

#### ■ CLOSING AWARDS BANQUET 7:30 pm – 9:30 pm

The Awards Banquet on Saturday, November 19 will feature the recognition of Young Investigator and Travel Award winners and outstanding leaders in the field and is included in your registration fee.

# LOCATION, TRAVEL, AND OTHER MEETING INFORMATION

## LOCATION & HOTEL ACCOMODATIONS

### Hyatt Regency San Francisco

5 Embarcadero Center  
San Francisco, California USA 94111  
P: (415) 788-1234 | Reservations: (888) 421-1442  
[www.sanfranciscoregency.hyatt.com](http://www.sanfranciscoregency.hyatt.com)

Hyatt Regency San Francisco is the host hotel for SfrBM/SFRRRI 2016. The hotel is located in downtown San Francisco. A special room rate of \$165 USD per night single/double is available for all meeting participants. This rate is offered on a space-available basis through October 23, 2016.

Contact Hyatt Regency reservations at (888) 421-1442 and indicate you are with "SfrBM/SFRRRI 2016" or visit <http://www.SfrBM.org/sections/annual-meeting/23rd-annual-meeting> and click on "online hotel reservations".

## ROOM SHARE PROGRAM

If you plan to attend the conference and wish to share a room with another conferee that you do not know, please indicate this request (as well as your gender) on the enclosed registration form no later than October 30, 2016. SfrBM staff will then contact you to match you with a roommate as they become available. Matched roommates will be responsible for making the hotel reservations and for paying half of the room cost per night.

## TRAVEL INFORMATION

The San Francisco International Airport (SFO) is approximately 14 miles (40 minutes) and the Oakland Airport (OAK) is approximately 19 miles (40 minutes) from the Hyatt Regency.

- **Taxi service available:** Average cost is \$40-50 one-way from the San Francisco International Airport and approximately \$50-60 one-way from the Oakland Airport.
- **Public Transportation:** BART (train) service; cost from San Francisco International Airport is approximately \$8.65 one way and \$10.05 from the Oakland Airport. Visit [www.bart.gov](http://www.bart.gov) for more detailed information.
- For further transportation options, please contact the Hyatt Regency Concierge at (415) 788-1234.

## ANNUAL MEETING REGISTRATION INCLUDES:

- Networking opportunities with scientists and potential collaborators from around the world
- Access to four days of educational sessions (Wednesday – Saturday)
  - Sunrise Free Radical School
  - Plenary Sessions
  - Oral Presentations from selected abstracts
  - Poster Sessions
  - Professional Development Sessions
- Formally provided poster space to display your research
- Scientific Exhibit Hall – where you can learn more about the latest products and services that can assist you in your research
- Continental Breakfast & Coffee Breaks (Thursday – Saturday)
- Poster and Networking Sessions/Receptions (Thursday – Saturday)
- Welcome Reception (Wednesday evening)
- One ticket to the Closing Awards Banquet (Saturday evening)
- Hospitality Room for networking with junior and senior scientists (Wednesday – Saturday evenings)
- Invited to attend the SfrBM Annual Member Meeting
- Attendance to the SFRRRI 2016 General Assembly

## MEETING MATERIALS – MOBILE MEETING APP

The Program and Abstract book will be provided on a mobile app that will include the plenary lectures, oral presentation and poster symposia abstracts by topic. The book is produced as a supplement to the Society's journal, *Free Radical Biology and Medicine (FRBM)*, making the abstracts contained within scientifically citeable.

Course materials for the Sunrise Free Radical School and an attendee list will also be included on the SfrBM/SFRRRI 2016 Mobile meeting app.

Upon request, attendees may also receive an official certificate of attendance at the meeting.



# LOCATION, TRAVEL, AND OTHER MEETING INFORMATION

## PRINTED PROGRAM & ABSTRACT BOOK

If you wish to receive a "printed" version of the program and abstract book, the cost will be \$15 and you must pre-order the printed program and abstract book on the registration form. Extra printed copies will not be available at the meeting.

## OFFICIAL LANGUAGE

English is the official language of SfrBM/SFRRI 2016. No simultaneous translation will be provided.

## CME CREDIT

NO Category 1 CME Credits will be offered for SfrBM/SFRRI 2016.

## QUESTIONS?

Questions about SfrBM/SFRRI 2016 can be directed to SfrBM via phone at (317) 205-9482, fax at (317) 205-9481 or e-mail at info@SfrBM.org. Registration forms can be mailed to: SfrBM, 8365 Keystone Crossing, Suite 107, Indianapolis, IN 46240.

## CANCELLATIONS & REFUNDS

Fees include all receptions, breaks and banquet. Requests for refunds will be honored if received in writing by November 5, 2016. Please note that all refunds will be issued AFTER the meeting and will be subject to a \$50 processing fee.

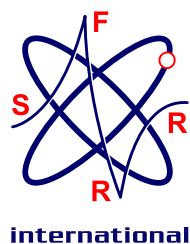
## PHOTO & VIDEO POLICY

SfrBM/SFRRI 2016 prohibits the taking of unauthorized photography and/or videography of any kind during the plenary sessions, lectures, workshops, and poster presentations without consent from the presenter/speaker/author.

I understand that participation in SfrBM/SFRRI 2016 grants permission for photos and videos taken of the individual participants and groups during the event to be used by the Society for Redox Biology and Medicine in promotional media during the conference and online, unless the Society for Redox Biology and Medicine is notified in writing that an individual or group does not grant permission. SfrBM must be notified via email at info@SfrBM.org before November 5.

## 2016 SPONSORS

SfrBM wishes to recognize and thank the following supporters of SfrBM/SFRRI 2016:



# SfRBM/SFRRRI 2016 REGISTRATION FORM



Name: \_\_\_\_\_ Degree: \_\_\_\_\_

Affiliation: \_\_\_\_\_

Address: \_\_\_\_\_ City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Country: \_\_\_\_\_ Phone: \_\_\_\_\_ Fax: \_\_\_\_\_

Email: \_\_\_\_\_

Require SfRBM to assign you a roommate:  Yes  No If yes, registrant is:  Male  Female Arrival Date: \_\_\_\_\_ Departure Date: \_\_\_\_\_

If yes, may SfRBM share your email address with others interested in a roommate?  Yes  No

SfRBM NEW MEMBER  FIRST TIME ATTENDEE SATURDAY BANQUET CHOICE: (please check one)  CHICKEN  FISH  VEGETARIAN  NOT ATTENDING

## REGISTRATION FEES:

FULL/ASSOCIATE – SfRBM/SFRRRI MEMBER

STUDENT/POST-DOC SfRBM / SFRRRI MEMBER

*\*Post-doc Members are those with five (5) years or less from the date they received their doctorate.*

EMERITUS – SfRBM/SFRRRI MEMBER

NON-MEMBER REGULAR

NON-MEMBER POSTDOC/STUDENT

UNDERGRADUATE\* – SfRBM/SFRRRI MEMBER

*\*Undergraduate Members are working on obtaining their Bachelor's degree.*

ONE-DAY PASS\* Day attending: \_\_\_\_\_

*\*Cost is the same for members and non-members. This fee does not include the Saturday, Nov. 19 Banquet.*

GUEST REGISTRATION (Receptions, Banquet & Hospitality only)

Guest Name: \_\_\_\_\_

PRINTED ABSTRACT AND PROGRAM BOOK

Select now if you would like to order a printed copy. Only the quantity ordered will be printed. You will NOT be able to purchase at the meeting.

## PRE-MEETING WORKSHOPS *check and circle membership type)*

**FULL DAY PRE-MEETING WORKSHOP: Fundamentals in Redox Biology**

**HALF DAY PRE-MEETING WORKSHOP: Redox Systems Biology**

## OPENING DOORS EVENT

**Enhancing Your Professional and Personal Management Skills**

## POSTER NOTIFICATION & PRESENTATION POLICY *(see page 5 for details)*

Review and check that you understand and agree to the following terms:

I agree that if my abstract is accepted for presentation in any format (i.e. oral or poster), I understand I must confirm my attendance for SfRBM/SFRRRI 2016 and comply with all conference policies.

## PHOTOS & VIDEOS *(see page 13 for details)*

Permission granted for photos and videos taken at SfRBM/SFRRRI 2016.

## METHOD OF PAYMENT:

Check\*\*  Visa  Mastercard  AmEx

Card Number: \_\_\_\_\_ CVV: \_\_\_\_\_ Exp.Date: \_\_\_\_\_

Cardholder Name (please print): \_\_\_\_\_ Signature: \_\_\_\_\_

*Unless appropriate check/charge information accompanies this form you will NOT be considered pre-registered. \*\*Payable to the Society for Free Radical Biology and Medicine (SfRBM). All checks must be made in U.S. Dollars, drawn on U.S. Banks. U.S. postal money orders and U.S. travelers checks are also accepted.*

*It is very important that you enjoy SfRBM/SFRRRI 2016. If due to a disability, you have any special needs or requirements, please call (317) 205-9482 and we will do our best to accommodate your needs.*

*For additional registrants, please make photocopies of this form. Full registration fees must accompany this form.*

### PRE-REGISTERED (BY OCT. 15)

\$535

\$275

\$250

\$685

\$350

\$200

\$225

\$150

\$15

### LATE & ONSITE

\$585

\$325

\$300

\$735

\$400

\$225

\$250

\$200

## PROFESSIONAL DEVELOPMENT SESSIONS

1:00 PM – 2:15 PM | You may choose to attend one session per day. These sessions are complimentary and part of your conference registration.

### THURSDAY, NOVEMBER 17:

Developing Business and Entrepreneurial Skills  Teaching While Also Running a Research Program

### FRIDAY, NOVEMBER 18:

How to Be the Boss — Effectively Managing People and Leading a Productive Research Team  
 How to Find the Best Lab for Your Ph.D. and Post-Doctoral Work

SATURDAY, NOVEMBER 19:  The Manuscript Review Process

## PHONE REGISTRATIONS ARE NOT ACCEPTED.



Please register by selecting one of the following three options:  
www.SfRBM.org or fax: (317) 205-9481  
or SfRBM - 8365 Keystone Crossing, Suite 107  
Indianapolis, IN 46240