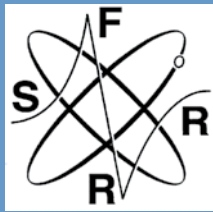
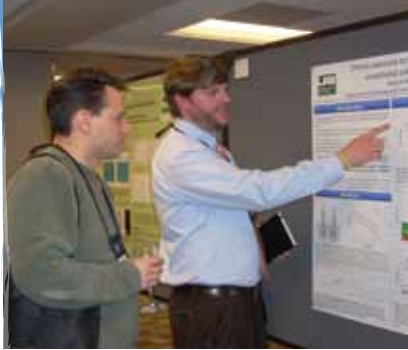




17TH ANNUAL MEETING  
**SFRBM**  
NOVEMBER 17 - 21, 2010  
CARIBE ROYALE HOTEL & CONFERENCE CENTER  
SFRR INTERNATIONAL XV BIENNIAL MEETING  
*Orlando, Florida*



**PRELIMINARY PROGRAM AND  
REGISTRATION MATERIALS**

*Orlando, Florida*

## PRESIDENTS' INVITE

The Society for Free Radical Biology and Medicine's (SFRBM) Annual Meeting has long been the premier venue for cutting edge research in all aspects of redox biology, featuring the latest technologies and applications in basic and translational research. The Society for Free Radical Research International (SFRRI) has played a similar role in the different countries where, in collaboration with the local Society, its biennial meeting has been held. This year SFRBM and SFRRI are holding a joint meeting and we look forward to refreshing and fruitful exchanges between investigators from all over the world.



Victor Darley-USmar, Ph.D.



Angelo Azzi, MD, Ph.D.

The 2010 program offers a broader and more extensive range of topics from the 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 atmosphere will remain unchanged this year, but with the additional excitement of an even more international touch brought in by SFRRI. Whether through poster symposia or our popular oral presentation sessions — where 72 abstracts will be selected through a rigorous peer review process — your most creative, dynamic and exciting science will be on display.

SFRBM/SFRRI 2010 begins with a pre-meeting workshop on "New Approaches for Examining Nitritative and Oxidative Stress in Biology." This session will explore how major experimental advances made in the past several years can fundamentally transform our ability

to critically examine the biological role of nitritative and oxidative stress in biology and medicine.

The SFRBM/SFRRI 2010 Program Committee has worked hard to select sessions which emphasize scientific excellence, and introduces both new investigators and novel research topics. Featured plenary sessions include:

- Redox Signaling in the Pathogenesis of Cardiovascular Disease
- Role of Mitochondria and Reactive Species in Stem Cell Biology
- Biochemistry and Pathology of Reactive Lipid Species
- Nitric Oxide and Oxygen: Co-Conspirators for Life

Now in its 16th year, the popular Sunrise Free Radical School 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.

It hardly seems possible that SFRBM's journal, *Free Radical Biology and Medicine* was first published in 1985. To celebrate its 25th anniversary, we will have a special plenary session featuring members of FRBM's Distinguished Editorial Board and former Associate Editors.

As always, some of the most exciting research will be communicated through the three-day poster symposium. Young Investigator and Travel Awards will be offered to encourage and stimulate the next generation of scientists in our field throughout the Americas and worldwide.

Please come and join us this November in Orlando to share your passion for science!

Sincerely,

**Victor Darley-USmar, Ph.D.**  
President, SFRBM  
University of Alabama  
at Birmingham



**Angelo Azzi, MD, Ph.D.**  
President, SFRRI  
Tufts University



## PROGRAM GOALS

- Explore new issues in free radical chemistry, biology and medicine
- 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 17 –  
Sunday, November 21, 2010**

A full-day workshop on "New Approaches for Examining Nitritative and Oxidative Stress in Biology" will be held on Wednesday, November 17. Workshop participants should arrive by Tuesday night, November 16 in order to attend the full-day program on November 17. The Registration Desk will open at 4:00 pm on Tuesday, November 16.

**PLAN TO ARRIVE** in Orlando no later than Wednesday afternoon as SFRBM/SFRRI 2010 will officially kick off on Wednesday evening at 5:00 pm with the President's Welcome and special session, "Celebrating 25 Years of *Free Radical Biology and Medicine*". This session will pay tribute to the SFRBM's Journal, *Free Radical Biology and Medicine* and feature presentations from members of FRBM's Distinguished Editorial Board and former Associate Editors. Join Nobel Prize winners, National Academy members, and National Medal of Science recipients, as we celebrate the 25-year impact of the journal on the development of the field. The Welcome Reception will immediately follow.

The Annual Meeting will conclude at 11:30 am on Sunday, November 21.

## KEY DATES TO REMEMBER



### SUNDAY, AUGUST 15, 2010

Submission deadline for abstracts to be considered for a Travel Award. You must be a student or postdoc SFRBM or SFRR1 member at the time of submission to be eligible for this award.

### WEDNESDAY, SEPTEMBER 1, 2010

- 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." You must be a student or postdoc SFRBM or SFRR1 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.

### FRIDAY, OCTOBER 15, 2010

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

### SUNDAY, OCTOBER 17, 2010

Reservation deadline for conference rate of \$149 USD at the Caribe Royale Hotel. Reservations received after this date will be accepted on a space-available basis only and a higher hotel room rate may prevail.

### WEDNESDAY, NOVEMBER 17, 2010

- Pre-meeting Workshop:**  
New Approaches for Examining Nitritative and Oxidative Stress in Biology
- Celebrating 25 Years of *Free Radical Biology and Medicine*

### NOVEMBER 17 – 21, 2010

- SFRBM 17th Annual Meeting
- SFRR1 XV Biennial Meeting

Photos are courtesy of the Orlando/Orange County Convention & Visitors Bureau, Inc.®

## FORMAT

SFRBM/SFRR1 2010 will feature five days of scientific communication. A full-day pre-meeting workshop on "New Approaches for Examining Nitritative and Oxidative Stress in Biology" will be held Wednesday, November 17. Registration for the pre-meeting workshop is **NOT** included in your Annual Meeting registration fee and must be completed separately.

The Annual Meeting is scheduled for the following four days (Thursday through Sunday). Each day will begin with the popular Sunrise Free Radical School and continue with morning plenary lectures, afternoon 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 16th consecutive year, the Sunrise Free Radical School will kick off each day of our Annual Meeting. Led by Alicia Kowaltowski, Ph.D., University of São Paulo, Brazil, and Aimee Landar, Ph.D., University of Alabama at Birmingham, 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:

- Redox Signaling in the Pathogenesis of Cardiovascular Disease
- Role of Mitochondria and Reactive Species in Stem Cell Biology
- Biochemistry and Pathology of Reactive Lipid Species
- Nitric Oxide and Oxygen: Co-Conspirators for Life

### AFTERNOON PARALLEL SESSIONS: ORAL PRESENTATIONS (2:30 pm - 4:30 pm)

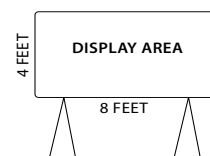
A number of high-quality abstracts are chosen from those submitted to the Society for primary authors to give 15-minute oral presentations of their research. Four concurrent sessions will be structured around basic topic areas and will feature 72 speakers over three days.

### POSTER SESSIONS (Thursday - Saturday)

#### 4:30 pm – 6:30 pm formal poster presentation

**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 hours of formal presentation time (4:30 pm - 6:30 pm) will be scheduled for authors to be available to discuss their work with other attendees. Poster boards for display of abstracts will be 4 feet (122 cm) wide x 8 feet (244 cm) long for greater display area.



# ABSTRACTS & AWARDS

## ABSTRACTS

Abstracts for oral or poster presentation consideration should be submitted on-line at [www.sfrbm.org/17AnnualMeeting.php](http://www.sfrbm.org/17AnnualMeeting.php). The deadline for submitting abstracts for SFRBM/SFRRRI 2010 is Wednesday, September 1, 2010. Please note that submitted abstracts must be previously unpublished work. Abstracts submitted for either oral and poster presentation consideration will be subject to a double blind review process. Decisions on abstract acceptance for SFRBM/SFRRRI 2010 will be posted on the SFRBM website during the week of October 5, 2010.

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 1,900 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.

All submitted abstracts will be published in the meeting's program and abstract book. If you wish an abstract to be considered for a Travel Award, abstracts must be received by Sunday, August 15, 2010. Submission deadline to be considered for a Young Investigator Award is Wednesday, September 1, 2010. 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 2010 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. SFRRRI Australasia and SFRRRI Europe 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 Sunday, August 15, 2010.

Abstract judging will be based on research merit only and applicants must be the first author of the abstract. Winners will be notified during the week of October 5 about their award and will be given their check at the SFRBM/SFRRRI 2010 Awards Banquet on November 20 as well as free meeting registration for the 2011 SFRBM Annual Meeting in Atlanta, GA or 2012 SFRBM Annual Meeting in San Diego, CA. Please note that 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 2010 will be posted on the SFRBM site during the week of October 5, 2010.

## 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 a first author 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 or SFRRRI 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 for the 2011 Annual Meeting in Atlanta, GA or the 2012 Annual Meeting in San Diego, CA.

## LOCATION

### Caribe Royale All-Suite Hotel & Convention Center

8101 World Center Drive  
Orlando, FL 32821

Phone: (407) 238-8000

Fax: (407) 238-8050

Reservations: (800) 823-8300

[www.thecaribeorlando.com](http://www.thecaribeorlando.com)



## HOTEL RESERVATIONS

The Caribe Royale is the host hotel for SFRBM/SFRRRI 2010. The hotel is located in Orlando, close to many attractions and restaurants. A special room rate of \$149 USD per night single/double is available for all meeting participants. This rate is offered on a space available basis through October 17, 2010. Please contact the Caribe Royale Reservations at (800) 823-8300 or (407) 238-8000 and indicate you are with "SFRBM 2010" to receive the special room rate or make your reservations on-line by visiting [www.sfrbm.org/17AnnualMeeting.php](http://www.sfrbm.org/17AnnualMeeting.php) and clicking on "hotel accommodations".

## SHARING A ROOM

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. SFRBM staff will then contact you to match you with a roommate as they become available. Matched roommates will be responsible for paying half of the room cost per night.

# WORKSHOP

## PRE-MEETING WORKSHOP

### New Approaches for Examining Nitrate and Oxidative Stress in Biology

Wednesday, November 17, 2010

8:00 am - 3:30 pm

Chairs: Joe S. Beckman, Ph.D., Linus Pauling Institute and Balaraman Kalyanaraman, Ph.D., Medical College of Wisconsin

Registration fees for the workshop, which includes lunch and course materials, are not included in the annual meeting tuition. Persons 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 Orlando on Tuesday to be ready for the Wednesday morning start.

Cost: \$175 per person for SFRBM & SFRRRI members  
\$200 for non-members

## SPECIAL PROGRAMS

### WELCOME RECEPTION

Wednesday, November 17, 2010

7:15 pm - 9:00 pm

### SFRBM ANNUAL MEMBERSHIP MEETING

Thursday, November 18, 2010

12:00 pm - 12:30 pm

The Society's Annual Member Meeting will be held on Thursday, November 18. 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.

### 8th ANNUAL OPENING DOORS EVENT

### "Celebrating Cultural Diversity in Science"

Thursday, November 18, 2010

6:30 pm - 9:30 pm

Organized by Aimee Landar, Ph.D., University of Alabama at Birmingham, Xiaolei (Dawn) Jin, Health Canada and Sally Nelson, Ph.D., SomaLogic, Inc., and the Women in Science Committee (WIS)

The "Opening Doors Event" provides an opportunity for education, dialogue and networking among scientists at all stages of their careers. This year's Opening Doors Event will be in the form of a workshop, and will focus on cultural diversity in the workplace. The components of this workshop will include 1) recognizing our dissimilarities, 2) celebrating our cultural differences, and 3) benefiting from our diversities. **All attendees are invited to attend.**

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

### SFRBM LIFETIME ACHIEVEMENT LECTURE

Friday, November 19, 2010

12:00 pm - 12:30 pm

### SFRRRI TREVOR SLATER LECTURE

Saturday, November 20, 2010

12:00 pm - 12:30 pm

### SFRRRI GENERAL ASSEMBLY

Saturday, November 20, 2010

12:30 pm - 1:00 pm

### CLOSING/AWARDS BANQUET

Saturday, November 20, 2010

7:30 pm - 9:30 pm

The Awards Banquet on Saturday, November 20 will feature the recognition of Young Investigator and Travel Award winners and outstanding leaders in the field. The Welcome Reception and Awards Banquet are included in your registration fee.



# CONFERENCE SCHEDULE



## WEDNESDAY NOVEMBER 17, 2010

8:30 am – 3:40 pm

### PRE-MEETING WORKSHOP

#### New Approaches for Examining Nitritative and Oxidative Stress in Biology

Chairs: Joe S. Beckman, Ph.D., Linus Pauling Institute and Balaraman Kalyanaraman, Ph.D., Medical College of Wisconsin

Major experimental advances made in the past several years can fundamentally transform our ability to critically examine the biological role of nitritative and oxidative stress in biology and medicine. New fluorescent probes can detect superoxide and peroxynitrite production in vivo, but only if carefully applied. Nitration, hydroxylation and dimerization of protein-bound tyrosines have become a widely used marker of oxidative stress. New approaches for understanding the specificity for certain tyrosine sites to be susceptible to nitration will allow the biological implications of tyrosine modifications to be characterized. Importantly, the specific functional consequences can be determined by directly incorporating nitro-tyrosine into recombinant proteins by unnatural amino acid mutagenesis. Mitochondria are key targets of oxidative stress. New technologies of monitoring mitochondrial function are transforming our understanding of their dysfunction in vivo. These new approaches can provide mechanistic insights into how oxidants specifically damage cells to produce pathological changes that underlie so many disease processes.

8:30 am – 9:00 am

#### New Advances to Explore Nitritative and Oxidative Stress in vivo

Joe Beckman, Ph.D., Linus Pauling Institute

9:00 am – 9:30 am

#### Measuring Superoxide and Peroxynitrite in Cells: The "Do or Dye" Approach

Balaraman Kalyanaraman, Ph.D., Medical College of Wisconsin

9:30 am – 10:00 am

#### How to Measure Protein Oxidation and Nitration

Michael Davies, Ph.D., Heart Research Institute, Australia

10:00 am – 10:30 am **Break**

10:30 am – 11:00 am

#### In vivo Measurements of Protein and DNA Radicals by Immuno-spin Trapping

Ronald Mason, Ph.D., NIEHS/NIH

11:00 am – 11:30 am

#### Assessing the Biological Impact of Increased Mitochondrial Oxidant Generation

Lee Ann MacMillan-Crow, Ph.D., University of Arkansas

11:30 am – 12:00 pm

#### Activation of a HSP90 Toxic Gain-in-Function by Tyrosine Nitration: A Molecular Mechanism for Peroxynitrite Toxicity

Alvaro Estevez, Ph.D., Oregon State University

12:00 pm – 1:30 pm

Lunch

1:30 pm – 2:10 pm

#### The Application of Affinity Reagents to Detect Protein Post-translational Modifications

Aimee Landar, Ph.D., University of Alabama at Birmingham

2:10 pm – 2:50 pm

#### Relating Insult to Injury: How to Measure Oxidative Protein Modifications and Bioenergetics in Cardiovascular Cells

Bradford Hill, Ph.D., University of Louisville

2:50 pm – 3:20 pm

#### Using Redox Proteins as Sensors of Cellular Oxidative Stress

Mark Hampton, Ph.D., University of Otago, New Zealand

3:20 pm – 3:40 pm

#### Closing Remarks: Where We Will Go Wrong? Critical Thinking About How These Techniques Could Be Misapplied

## ANNUAL MEETING BEGINS

5:00 pm – 5:15 pm

#### SFRBM & SFRRRI President's Welcome

Victor Darley-Usmar, Ph.D., University of Alabama at Birmingham and Angelo Azzi, MD, Ph.D., Tufts University

5:15 pm – 7:15 pm

#### Celebrating 25 Years of Free Radical Biology and Medicine

Chair: Kelvin J. A. Davies, Ph.D., D.Sc., University of Southern California

It hardly seems possible that our society journal, *Free Radical Biology and Medicine* was first published in 1985, but it's true and this year we will be celebrating its 25th anniversary! To kick-off the festivities, we will have a special opening plenary session at the meeting, featuring members of our FRBM's Distinguished Editorial Board and former Associate Editors. Join Nobel Prize winners, National Academy members, and National Medal of Science recipients, as we celebrate the 25 year impact of our society journal on the development of the field.

#### FRBM Introduction

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



**5:15 pm – 5:45 pm**

**Flavonoids in 2010: From Reducing Properties to Biological Functions**

*Catherine Rice-Evans, Ph.D., King's College London, UK*

**5:45 pm – 6:15 pm**

**Free Radicals in Biology and Medicine: Good, Unexpected, and Uninvited Friends**

*Etsuo Niki, Ph.D., Human Stress Signal Research Center, Japan*

**6:15 pm – 6:45 pm**

**A Diet for Health and Longevity**

*Bruce Ames, Ph.D., UC Berkeley*

**6:45 pm – 7:15 pm**

**Nitric Oxide as a Unique Free Radical in Biology and Medicine**

*Louis Ignarro, Ph.D., UCLA*

**7:15 pm – 9:00 pm**

**WELCOME RECEPTION**



**THURSDAY  
NOVEMBER 18, 2010**

**SUNRISE FREE RADICAL SCHOOL**

**Back to the Basics**

*Chairs: Alicia Kowaltowski, Ph.D., University of São Paulo, Brazil, and Aimee Landar, Ph.D., University of Alabama at Birmingham*

**8:00 am – 8:30 am**

**Introduction to ROS in the Cardiovascular System**

*John Keaney, MD, UMASS Medical School*

**8:30 am – 9:00 am**

**Oxidative Stress in Cardiac Disease and Diabetes**

*Daria Mochly-Rosen, Ph.D., Stanford University*

**PLENARY SESSION**

**Redox Signaling in the Pathogenesis of Cardiovascular Disease**

*Chairs: Philip Eaton, Ph.D., King's College London, UK and Ajay Shah, MD, FRCP, FmedSci, King's College London, UK*

There is a growing recognition of the crucial role of redox signaling in the pathogenesis of cardiovascular disease. It is important to define precisely how changes in cellular oxidants and antioxidants contribute to the development of hypertension, ischemic heart disease and the growing burden of heart failure. This session will provide an update of progress in this area from leaders in the field who study redox alterations in cardiovascular dysfunction using powerful molecular techniques together with highly relevant (often in vivo) disease models.

**9:30 am – 10:00 am**

**Role of NOS in Cardiac Oxidative Stress and Pathologic Remodeling**

*David Kass, MD, The Johns Hopkins Medical Institutions*

**10:00 am – 10:30 am**

**Nox Enzymes and the Development of Heart Failure**

*Ajay Shah, MD, FRCP, FmedSci, King's College London, UK*

**10:30 am – 11:00 am Break**

**11:00 am – 11:30 am**

**Regulation of Thioredoxin-1 in Endothelial Cells**

*Judith Haendeler, Ph.D., University of Duesseldorf, Germany*

**11:30 am – 12:00 pm**

**Redox Regulation of Class II HDACs and Cardiac Hypertrophy**

*Junichi Sadoshima, MD, Ph.D.*

*University of Medicine and Dentistry at New Jersey*

**12:00 pm – 12:30 pm**

**SFRBM Annual Membership Meeting**

**12:30 pm – 2:30 pm**

**Lunch**

*Attendees on own or attend a professional development session*

**12:45 pm – 1:45 pm**

**PROFESSIONAL DEVELOPMENT SESSION I**

**Publications...From Bench to Bookshelf**

*Balaraman Kalyanaraman, Ph.D., Medical College of Wisconsin and Anthony Newman, Elsevier, Inc.*

This session is designed for investigators at all levels, and presents an inside-out look at the world of scientific publishing, from the perspective of both the publisher and an associate editor of FRBM. In addition to covering broad topics such as manuscript preparation and how to deal with reviewer's comments, the workshop will also touch on novel developments in publishing such as on-line technologies (Scopus, Pubget, SML).

**12:45 pm – 1:45 pm**

**PROFESSIONAL DEVELOPMENT SESSION II**

**Intellectual Property...Turning Your Molecule Into a Drug**

*Bruce Freeman, Ph.D., University of Pittsburgh*

This session will give attendees an introduction to the field of patents, intellectual property protection, and commercialization of ideas in the life sciences. The session is aimed at anyone interested in taking their ideas in the lab into the realm of pharmaceutical development, and will include discussions on how to time such developments, what resources are available, attracting venture capital, protecting your discovery, and how to keep your academic/commercial enterprises separate.

**2:30 pm – 4:30 pm****Oral presentations from submitted abstracts***(4 concurrent sessions)***4:30 pm – 6:30 pm****Formal Poster Presentations****6:30 pm – 8:00 pm****FRBM EDITORIAL BOARD RECEPTION****6:30 pm – 9:30 pm****OPENING DOORS EVENT****Celebrating Cultural Diversity in Science***Organized by Aimee Landar, Ph.D., University of Alabama at Birmingham, Xiaolei (Dawn) Jin, Health Canada and Sally Nelson, Ph.D., SomaLogic, Inc., and the Women in Science Committee (WIS)***FRIDAY  
NOVEMBER 19, 2010****SUNRISE FREE RADICAL SCHOOL****Back to the Basics***Chairs: Alicia Kowaltowski, Ph.D., University of São Paulo, Brazil, and Aimee Landar, Ph.D., University of Alabama at Birmingham***8:00 am – 8:30 am****Sources of ROS: From Enzymes to Organelles***Francisco Laurindo, MD, University of São Paulo, Brazil***8:30 am – 9:00 am****From NO to Nitrite and Nitrate...and Back Again:  
Roles in Mammalian Biology***Rakesh Patel, Ph.D., University of Alabama at Birmingham***PLENARY SESSION****Role of Mitochondria and Reactive Species in  
Stem Cell Biology***Chairs: Toren Finkel, MD, Ph.D., National Heart Lung and Blood, NIH and Bradford Hill, Ph.D., University of Louisville*

The use of stem cells for treating disease is now entering the realm of possibility, thanks to a better understanding of their biology. Recent work has shown that the proliferation, homing, and differentiation of stem cells rely in part on changes in metabolism and on reactive species generated during the natural course of physiology or during the disease process. The purpose of this plenary session will be to highlight important contributions to this field and to initiate interest in the role of reactive species and mitochondria in stem cell biology.

**9:30 am – 10:00 am****Mitochondrial and Redox Regulation  
of Stem Cell Biology***Toren Finkel, MD, Ph.D.**National Heart Lung and Blood, NIH***10:00 am – 10:30 am****Nitric Oxide-Cyclic GMP Signaling in Stem Cell  
Differentiation***Kalpana Mujoo, Ph.D.**University of Texas Health Sciences Center at Houston***10:30 am – 11:00 am** Break**11:00 am – 11:30 am****Pluripotent Stem Cells and Mitochondrial  
Remodeling***Timothy Nelson, MD, Ph.D., Mayo Clinic***11:30 am – 12:00 pm****Maintaining Stem Cell Fate During Drosophila  
Hematopoiesis***Utpal Banerjee, Ph.D., UCLA***12:00 pm – 12:30 pm****SFRBM LIFETIME ACHIEVEMENT LECTURE****12:30 pm – 2:30 pm****Lunch***Attendees on own or attend a professional development session***12:45 pm – 1:45 pm****PROFESSIONAL DEVELOPMENT SESSION III****Getting Your Point Across — The Basics of a  
15-minute Conference Lecture***Victor Darley-Usmar, Ph.D., University of Alabama at Birmingham*

This session starts with the preparation of abstracts and develops the principles of presentations using power point as applied to research presentations. The workshop is aimed at students, post-docs and junior investigators.

**12:45 pm – 1:45 pm****PROFESSIONAL DEVELOPMENT SESSION IV  
Grantsmanship Session***Edward Postlethwait, Ph.D., University of Alabama at Birmingham*

This very successful session returns for 2010 with a renewed look at the rapidly-changing subject of grant submission. In addition to covering classical topics such as basic grantsmanship, the session will also cover the recent substantial changes to the NIH grant writing and scoring process, and will also provide attendees with a list of resources and funding agencies. The workshop is aimed at investigators at all levels.

**2:30 pm – 4:30 pm****Oral presentations from submitted abstracts***(4 concurrent sessions)***4:30 pm – 6:30 pm****Formal Poster Presentations**



# SATURDAY NOVEMBER 20, 2010

## SUNRISE FREE RADICAL SCHOOL

### Back to the Basics

*Chairs: Alicia Kowaltowski, Ph.D., University of São Paulo, Brazil, and Aimee Landar, Ph.D., University of Alabama at Birmingham*

**8:00 am – 8:30 am**

### Reactivity and Biological Functions of Oxidized Lipids

*Matthew Picklo, Ph.D., USDA-Agricultural Research Service*

**8:30 am – 9:00 am**

### Properties of Protein Targets of Reactive (Lipid) Species

*Dennis Petersen, Ph.D., University of Colorado*

## PLENARY SESSION

### Biochemistry and Pathology of Reactive Lipid Species

*Chairs: Henry Forman, Ph.D., University of California at Merced, and Corinne Spickett, University of Strathclyde, UK*

The involvement of reactive, electrophilic lipid species in physiology and pathology is becoming widely accepted, and recent advances in mass spectrometry and proteomics have facilitated understanding of the mechanisms involved. The ability to modulate pathways of cell signaling and gene expression is emerging as critical. This session will present the latest findings on how reactive lipid species influence signaling processes, and will describe the technologies that have underpinned these advances.

**9:30 am – 10:00 am**

### Systems Approaches to Establishing the Relationship Between Protein Modification and Cellular Responses by Lipid Electrophiles

*Larry Marnett, Ph.D., Vanderbilt University*

**10:00 am – 10:30 am**

### Protein Bound HNE as a Ligand of LOX 1

*Koji Uchida, Ph.D., Nagoya University, Japan*

**10:30 am – 11:00 am Break**

**11:00 am – 11:30 am**

### Inflammation Related Gene Expression by Lipid Oxidation Derived Products in the Progression of Atherosclerosis

*Giuseppe Poli, Ph.D., University of Turin, Italy*

**11:30 am – 12:00 pm**

### Activation of Stress Signaling Pathways by Oxidized and Nitrated Lipids

*Anna-Liisa Levonen, MD, Ph.D., University of Eastern Finland*

**12:00 pm – 12:30 pm**

## TREVOR SLATER LECTURE

### Vitamin E: From Chemistry to Biology

*Etsuo Niki, Ph.D., Human Stress Signal Research Center, Japan*

**12:30 pm – 1:00 pm**

## SFRR GENERAL ASSEMBLY

**1:00 pm – 2:30 pm**

### Lunch

*Attendees on own*

**2:30 pm – 4:30 pm**

### Oral presentations from submitted abstracts

*(4 concurrent sessions)*

**4:30 pm – 6:30 pm**

### Formal Poster Presentations

**7:30 pm – 9:30 pm**

### Closing/Awards Banquet



# SUNDAY NOVEMBER 21, 2010

## PLENARY SESSION

### Nitric Oxide and Oxygen: Co-Conspirators for Life

*Chairs: Sruti Shiva, Ph.D., University of Pittsburgh and Douglas Thomas, Ph.D., University of Illinois at Chicago*

Since its initial characterization as endothelial derived relaxing factor, nitric oxide (NO) has been tightly linked to oxygen (O<sub>2</sub>). The unique relationship between these two molecules is important for most physiological and pathological conditions, ranging from cellular bioenergetics to inflammation and adaptation to high altitude. This session will focus on the different mechanisms by which NO and O<sub>2</sub> modulate the production and metabolism of one another as well as their interactions with specific protein targets.

**9:00 am – 9:30 am**

### NO Interactions with Mitochondrial Cytochrome c and Cytochrome Oxidase

*Chris Cooper, Ph.D., University of Essex, UK*

**9:30 am – 10:00 am**

### Oxygen-Dependent Regulation of NO Production

*Cynthia Otto, Ph.D., University of Pennsylvania*

**10:00 am – 10:30 am Break**

**10:30 am – 11:00 am**

### Nitrite: A Hypoxic NO Donor and Vasodilator

*Mark Gladwin, MD, UPMC Montefiore*

**11:00 am – 11:30 am**

### Nitric Oxide Levels and Adaptation to High Altitude Hypoxia

*Serpil Erzurum, MD, The Cleveland Clinic Foundation*

**11:30 am Adjourn**



# OTHER IMPORTANT INFORMATION

## ANNUAL MEETING REGISTRATION

Annual Meeting Conference Registration includes:

- Access to 4 days of educational sessions and symposia (Thursday - Sunday)
  - Sunrise Free Radical School
  - Plenary Sessions
  - Oral Presentations from selected abstracts
  - Poster Sessions
- Continental Breakfast & Coffee Breaks (Thursday - Sunday)
- Welcome Reception (Wednesday evening)
- One (1) ticket to the Awards Banquet (Saturday evening)
- Poster and Networking Sessions/Receptions (Thursday - Saturday)
- Hospitality Room for networking with junior and senior scientists (Wednesday - Saturday evenings)
- Networking opportunities with scientists and potential collaborators from around the world
- Wireless internet in the conference center
- Access to Exhibit Area when you can learn more about the latest products and services that can assist you in your research
- Entrance to both the SFRBM Membership and SFRRRI General Assembly meetings
- Poster space to display your research — provided for formally submitted abstracts only

## GENERAL INFORMATION

- Orlando does not have easily accessible public transportation and many of the restaurants within the area are not walkable. You may want to consider car rental while in Orlando.
- Rental Car Companies: Rental car companies are located in Terminal A and Terminal B on the Grand Transportation Level in the Orlando International Airport (MCO). You may visit the Orlando International Airport website at: [http://www.orlando-airports.net/transport/rental\\_cars.htm](http://www.orlando-airports.net/transport/rental_cars.htm) for further information regarding the rental car companies available at the airport. Here are a few of the companies located at the Orlando Airport: Alamo, Avis, Budget, Dollar, Enterprise, Hertz, National, Thrifty.
- For your convenience during lunchtime, affordably priced lunch items and beverages will be available for purchase in the convention center.



## TRAVEL INFORMATION

The Orlando International Airport (MCO) is approximately 16 miles (25 minutes) from the Caribe Royale Orlando. Taxi service is available; average cost is \$35-\$40 one-way from the Orlando International Airport. Shuttle Service through Mears Transportation: \$20 one-way; \$33 round trip. For shuttle information, please visit: <https://secure.mears-transportation.com/?referrer=cariberoyale>.

## QUESTIONS?

Questions about SFRBM/SFRRRI 2010 can be directed to SFRBM via phone at (317) 205-9482, fax at (317) 205-9481 or e-mail at [info@sfrbm.org](mailto:info@sfrbm.org). Registration forms can be mailed to: SFRBM, 8365 Keystone Crossing, Suite 107, Indianapolis, IN 46240.

# SFRBM/SFRRRI 2010 SUPPORT

SFRBM wishes to recognize and thank the following supporters of SFRBM 2010:



## MEETING MATERIALS

Participants will be provided with the Program and Abstract book, which indexes all 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. In addition, the course materials for the Sunrise Free Radical School will also be distributed at the Annual Meeting. Attendees will also receive a list of all meeting participants and speakers. Upon request, attendees may also receive an official certificate of attendance.

## OFFICIAL LANGUAGE

English is the official language of SFRBM/SFRRRI 2010. No simultaneous translation will be provided.

## CME CREDIT

NO Category 1 CME Credits will be offered for SFRBM/SFRRRI 2010.

## LOCAL ATTRACTIONS IN ORLANDO

There are many famous attractions to visit while in Orlando: Cirque de Soleil, Daytona 500 Experience, Disney's Magic Kingdom, Disney's Animal Kingdom, Epcot, Hollywood Studios, Kennedy Space Center, SeaWorld Orlando, Universal Studios Florida and much more. For more information on nearby attractions, please visit the Orlando Convention and Visitors Bureau at <http://www.orlandoinfo.com>.

# SFRBM/SFRR 2010 REGISTRATION FORM

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

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

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

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

Email: \_\_\_\_\_  New Member  First Time Attendee

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

**Saturday Banquet Choice: (please check one)**  Chicken  Fish  Vegetarian  Not Attending

**MEMBERSHIP:** Select the primary SFRR region to which you belong.

SFRR Americas (SFRBM)  SFRR Africa  SFRR Asia  SFRR Australasia  SFRR Europe  Non member

## REGISTRATION FEES:

Full SFRBM / SFRR Regular Member

Student/Post-doc SFRBM / SFRR Member

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

Emeritus SFRBM / SFRR Member

Non-Member Regular

Non-Member Postdoc & Student

Guest Registration (Receptions, Banquet & Hospitality only)

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

### Pre-registered (by Oct. 15)

\$535

\$275

\$250

\$685

\$350

\$150

### Late & Onsite

\$585

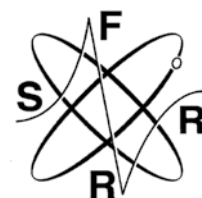
\$325

\$300

\$735

\$400

\$200



## Pre-Meeting Workshop – New Approaches for Examining

Nitrative and Oxidative Stress in Biology .....	<input type="checkbox"/> \$175 member	<input type="checkbox"/> \$225 member
	<input type="checkbox"/> \$200 non-member	<input type="checkbox"/> \$250 non-member
Opening Doors Event .....	<input type="checkbox"/> \$25 Student/Postdoc	<input type="checkbox"/> \$30 Student/Postdoc
	<input type="checkbox"/> \$35 Senior Investigator	<input type="checkbox"/> \$40 Senior Investigator

## PROFESSIONAL DEVELOPMENT SESSIONS:

You may choose to attend one session per day. These sessions are **complimentary** and part of your conference registration.

### Thursday, November 18, 12:45 pm – 1:45 pm

Publications... From Bench to Bookshelf  Intellectual Property... Turning Your Molecule Into a Drug

### Friday, November 19, 12:45 pm – 1:45 pm

Getting Your Point Across  Grantsmanship Session

## METHOD OF PAYMENT: Check\*\* Visa Mastercard

Card Number: \_\_\_\_\_ 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. 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.*

## CANCELLATIONS & REFUNDS:

Fees include all receptions, breaks and banquet. Requests for refunds will be honored if received in writing by November 5, 2010. Please note that all refunds will be issued AFTER the meeting and will be subject to a \$50 processing fee.

- It is very important that you enjoy SFRBM 2010. 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.

## PHONE REGISTRATION NOT ACCEPTED.

Please select one of the following three options:



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



fax: (317) 205-9481 (Visa/MC)



SFRBM, 8365 Keystone Crossing,  
Suite 107, Indianapolis, IN 46240  
(Check/Visa/MC)



Society for Free Radical Biology and Medicine  
8365 Keystone Crossing, Suite 107  
Indianapolis, IN 46240

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Carmel, Indiana



**REGISTER TODAY!**

**NEW FOR  
2010**

## PROFESSIONAL DEVELOPMENT SESSIONS

Thursday and Friday • 12:45 pm – 1:45 pm

Bring your lunch\* and join your colleagues for a short introductory session into one of the following sessions below.

### Thursday, November 18

#### **Publications...From Bench to Bookshelf**

This session is designed for investigators at all levels, and presents an inside-out look at the world of scientific publishing, from the perspective of both the publisher and an associate editor of FRBM. In addition to covering broad topics such as manuscript preparation and how to deal with reviewer's comments, the workshop will also touch on novel developments in publishing such as on-line technologies (Scopus, Pubget, SML).

#### **Intellectual Property...Turning Your Molecule Into a Drug**

This session will give attendees an introduction to the field of patents, intellectual property protection, and commercialization of ideas in the life sciences. The session is aimed at anyone interested in taking their ideas in the lab into the realm of pharmaceutical development, and will include discussions on how to time such developments, what resources are available, attracting venture capital, protecting your discovery, and how to keep your academic/commercial enterprises separate.

### Friday, November 19

#### **Getting Your Point Across — The Basics of a 15-minute Conference Lecture**

This session starts with the preparation of abstracts and develops the principles of presentations using power point as applied to research presentations. The workshop is aimed at students, post-docs and junior investigators.

#### **Grantsmanship Session**

This very successful session returns for 2010 with a renewed look at the rapidly-changing subject of grant submission. In addition to covering classical topics such as basic grantsmanship, the session will also cover the recent substantial changes to the NIH grant writing and scoring process, and will also provide attendees with a list of resources and funding agencies. The session is aimed at investigators at all levels.

*\*For your convenience during lunchtime, affordably priced lunch items and beverages will be available for purchase in the convention center.*