SFRBM dot

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UPCOMING EVENTS

17TH ANNUAL MEETING
November 17 - 21, 2010
Caribe Royale Hotel &
Conference Center
Orlando, FL USA

SFRBM HEADQUARTERS

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AVERAGE SALARY FOR FREE RADICAL RESEARCHERS $94K IN 2009

The average salary for a US-based free radical researcher is $94,302, based on results of SFRBM's 2009 Compensation and Benefit Survey. The report is based on the data provided by nearly 200 member and non-member American scientists and provides average salaries based on employment type, title, years in position, level of education and geographic region. SFRBM also collected the same data from scientists outside the US, however there were not enough responses from individual countries to be statistically significant and, as a result, are not included in this initial summary (although it will be used in subsequent follow-up reports).

The "profile" of the survey respondent was a Ph.D. who worked in an academic institution, had held their current position for 3-5 years, worked 51 hours per week, was expected to recover between 20-50% of their salary through grant support, had health insurance provided by their employer, but paid approximately $260 per month to cover a portion of the premium.

Scientists who worked at academic institutions represented the critical mass of respondents (87%), however their average salary was the lowest at $91,028. This is not entirely surprising given the widely divergent positions, responsibilities and commensurate compensation that exists within university-based research labs. When looking at salary and professional title, the incremental increase from Assistant Professor to Associate Professor was significant ($81,894 to $118,800 or 45%), however the increase in salary between an Associate Professor and a Full Professor was only 6%. Department chairpersons headed the list with an average annual salary of $153,750.

THE AVERAGE SURVEY RESPONDENT WAS A PH.D. WHO WORKED IN AN ACADEMIC INSTITUTION, HAD HELD THEIR CURRENT POSITION FOR 3-5 YEARS & WORKED 51 HOURS PER WEEK.

With regards to years in current position, it is interesting to note that investigators who have been in their current position for 6-10 years averaged more than $54,000 per year more than colleagues in their position for 3-5 years ($122,500 vs. $67,885). Salaries peaked at the 16-20 year range ($168,055) and were slightly lower at the 20+ year range ($163,529).

Education level also factored considerably into determining average salaries. Scientists who have earned both their Ph.D. and MD made 52% more than those with just their Ph.D. ($156,944 vs. $102,956) but just more than 7% more than those with just their MD ($156,944 vs. $146,250). There was a considerable difference in salary between those who have earned their Masters ($27,045) or Bachelors ($37,361) and those who have their Ph.D. ($102,956) or MD ($146,250).

When looking at benefits, 92% of respondents reported that their company or institution offered health insurance while 77% indicated that dental insurance was provided. Nearly 75% stated that they paid a portion of the health insurance premium each month, which averaged $258. 71% reported that their employer offers a flexible spending/reimbursement account. And of those surveyed, 79% of their employers offer a retirement program but only 60% offer a matching funds program.

See page 8 for detailed statistics.

SFRBM COUNCIL

PRESIDENT'S MESSAGE:

Victor Darley-Usmar, Ph.D.

Victor Darley-Usmar

In the last issue of the Dot the SFRBM Foundation was introduced as a new non-profit entity dedicated to supporting the objectives and activities of the society. We are now excited to announce that members can make begin to make donations online at http://www.sfrbm.org/sfrbmfoundation.php.

Members can specifically earmark their donation to support the annual meeting, in honor of a colleague, support a Young Investigator Award, the Mini-Fellowship Program or designate another area. We anticipate that the Foundation will be funded by diverse sources, including member donations, industry contributions, foundation grants and individual philanthropy. Please remember that all donations are tax-deductible and your support helps SFRBM continue to grow and provide new opportunities in the future.

We are also at work planning the 17th Annual Meeting this November 18-21 in Orlando, FL. It will be a joint meeting with the SFRRI International and we are working together to provide a program that will offer a broader and more extensive range of topics (see pages 6-7 for more details). SFRBM 2010 will include general plenary sessions, oral presentations of selected abstracts, poster symposia, awards for outstanding poster presentations, topical workshops, instructional luncheons and networking receptions. We believe it will be the largest convocation of free radical researchers in the last few decades, with 900 - 1,000 scientists expected to attend.

We are excited to announce that Louis Ignarro, Ph.D., 1998 Noble Prize Winner in Physiology or Medicine, will be speaking at the Annual Meeting as well as many other distinguished scientists in our field. 2010 is also the 25th Anniversary of the FRBM Journal which is currently one of the highest impact factor journals in the field (5.399). To celebrate the impact the FRBM journal has had in the field, there will be a special opening plenary session at the Annual Meeting.

The society is also excited about the statistics gathered from the 2009 Compensation and Benefits Survey as seen on page 1. We hope that this information is beneficial to you and will allow us all to have a better grasp of the current climate in the field of free radical and biology.

As always, this is your society so please let us if you have any suggestions or comments that you may have.

FRBM NOW ACCEPTING CRITICAL METHODS ARTICLES

SFRBM's journal, *Free Radical Biology & Medicine* (FRBM) ,began publishing Critical Methods articles by invitation only two years ago. After great success and the publication of a compendium of the first group of articles, the editors have decided to issue an open invitation for additional methods articles to all SFRBM members. Such articles are intended to be the gold standards, although we recognize that in science gold will eventually lose its luster and need to be replaced. As such, all articles must be submitted per the instructions below and the review will be very rigorous.

All submissions must include:

- **Abstract:** In 200 words or less, state why this is the appropriate method to use, the general method type (HPLC, Elisa, enzymatic assay, etc.) and the instrumentation (UV detector, Plate reader, UV spectrophotometer, etc.).
- **Introduction:** Background of methodology. Provide example of the use of the method. If other methods are flawed, briefly explain the problem with them.
- **Principles:** Explain the chemical and/or biological basis of the method. Describe what the assay does and does not mean. For example, many molecular biology measurements provide relative changes rather than absolute values. Another example, is that the usual spectrofluorimetric determination of intracellular calcium concentration is an average among cells that does not indicate individual cells and does not account for gradients within cells.
- **Materials:** Provide a detailed list of every reagent. Include source and catalog number.
- **Instrumentation:** Describe the required instrument(s). For example, for spectrophotometer, a double beam spectrophotometer and for HPLC , specific detector, gradient mixer, etc. An actual model number and the vendor, etc. should be included.
- **Protocol:** Describe in detail each step. This can be divided into subsections. For example, for electrophoretic mobility assays, extraction of nuclear proteins would be a section and gel electrophoresis would be another. If there are multiple buffer solutions, each could also be a separate section. Indicate the minimum (and maximum if needed) concentration of percent change that is required for the assay to produce significant results. Indicate the timing of steps including any waiting periods. Provide representative illustrations of steps where useful. If there are steps where particular care must be paid that are not obvious (for example, making sure a sample is placed into a well below the buffer using a long thin pipette) this should be in bold lettering. Precautions should also be in bold for any steps where something can easily go wrong.
- **Calculations and Expected Results:** Describe any post protocol calculations in detail. Provide representative results.
- **Caveats:** Describe any caveats that need to be considered.
- **Acknowledgements**
- **Conflict of Interest:** State if the authors have patents or financial interests in the protocol or instruments.

Submissions can be made at any time. For more information regarding submissions or for examples, please visit http://www.sfrbm.org/journal.php. Please indicate that it is a "Critical Methods" article in the cover letter.

LIFETIME ACHIEVEMENT AWARD

SFRBM is now calling for nominations from members for our 2010 Lifetime Achievement Award. This award recognizes an aggregate body of work important to the field of free radical biology and medicine over a scientist's career. This award will include a featured lecture at SFRBM's 17th Annual Meeting in Orlando, FL USA, as well as:

- $2,500 cash award
- Bronze medal with stand
- Paid travel expenses to SFRBM 2010
- Invited to publish a review article for Free Radical Biology & Medicine, SFRBM's journal, celebrating their scientific contributions and the presentation of the award.
- Have a one page bio and picture prominently displayed in the SFRBM 2010 Abstract/Program book.

NOMINATIONS PROCESS

Please visit ww.sfrbm.org/news.php for more information. Completed submission should be submitted to SFRBM no later than May 5, 2010.

LITERATURE REVIEW

Readers interested in nominating a paper or providing a short editorial review (less than 150 words), should contact Ashleigh Bates at abates@hp-assoc.com.

Release of redox-active iron by muscle crush trauma: no liberation into the circulation. *Kerkweg, U.; Pamp, K.; Fieker, J.; Petrat, F.; Hider, R.C.; de Groot, H. Shock. [Epub ahead of print] Oct 9, 2009.*

One of the intriguing questions in the field of redox biology of exercise is the origin of blood plasma oxidative stress that appears after physical activity. In this paper, Kerkweg and co-workers employed both in vitro and in vivo experiments, in order to assess the biological relevance of their in vitro data. In vitro they elegantly demonstrated that redox-active iron is released from disrupted muscle tissue and induces lipid peroxidation within the muscle homogenate. In vivo they confirmed the occurrence of oxidative stress within the damaged muscle tissue. However, the liberation of redox-active iron from the injured muscle into the circulation and its contribution to oxidation of plasma lipids and proteins could not be verified. Consequently, the plasma oxidative stress that typically follows almost every type of physical activity may not be derived from the release of redox-active iron from the skeletal muscle into the blood plasma. *Review by Michalis G. Nikolaidis, Center for Research and Technology - Thessaly.*

Enhanced xanthine oxidoreductase expression and tissue nitrate reduction in germ free mice. *Huang, L., Borniquel, S. and Lundberg, J.O., Nitric Oxide* ***22****:191-5; 2010.*

Nitrite and nitrate have gained considerable traction recently as critical NO reservoirs and thus vasodilatory precursors as well as protective agents. Nitrate reduction to nitrite is catalyzed by bacterial nitrate reductase activity in the oral cavity and GI tract and to some extent by a recently-discovered mammalian pathway. Nitrite is further metabolized in blood and tissues to NO as well as other bioactive nitrogen oxides. The authors explored the hypothesis that the absence of GI flora in germ-free (GF) mice would significantly up-regulate mammalian tissue nitrate reductase activities. Administration of sodium nitrate (i.p.) enhanced tissue and plasma levels of nitrate to a similar extent in both GF and control mice. However, plasma nitrite levels were 3-fold higher in GF mice and this effect was attenuated by administration of allopurinol indicating a contributory role for xanthine oxidase (XO). These exciting new data stimulate further study to mechanistically reveal biological sources of NO alternative to NOS. *Review by Eric E. Kelley, University of Pittsburgh.*

Extracellular redox status regulates Nrf2 activation through mitochondrial reactive oxygen species. *Imhoff, B; Hansen, JM. Biochem.J.* ***424****: 491-50; 2009.*

Altered extracellular cysteine/cystine (Cys/CySS) redox status has been associated with human pathologies and diseases, such as aging, diabetes, and cardiovascular disease, but the mechanism of how the extracellular redox milieu mediate intracellular signaling and cell responses is poorly understood. In this paper, Imhoff and Hansen described a novel mechanism in mouse embryonic fibroblasts (MEFs) that oxidized extracellular Cys/CySS status activated a mitochondria-driven signaling pathway that induced an Nrf2-dependent antioxidant response and re-regulation of the extracellular redox state. Notably, the authors demonstrated that exposure of 3T3 cells to an oxidizing (0 to -46mV), but not reducing (-109 to -150mV) extracellular Cys/CySS environment elicited mitochondria-derived ROS production that caused Trx2 oxidation and Nrf2 activation, instigating an antioxidant response, and, interestingly, a re-equilibration of the extracellular redox potential to baseline level. Similar increases in ROS production, Nrf2 activation and upregulation of Nrf2 genes - GCLc, Trx1, NQO1 and the CySS-glutamate exchange transporter, Xc- were observed in primary MEFs from WT mice; accordingly, Trx2 overexpression in MEF cells inhibited these responses. The authors suggest that extracellular stress induced activation of Nrf2 via intramitochondrial ROS production may provide a mechanism for extracellular redox regulation. Curiously, there was little evidence for a role for cytosolic GSH/Trx1 redox status in this mechanism of ROS signaling and regulation of extracellular redox homeostasis. *Reviewed by Magdalena L. Circu and Tak Yee Aw, LSU Health Sciences Center – Shreveport.*

continued on page 5

FREE RADICALS ABROAD

Free Radicals Abroad articles spotlight the research of SFRBM members outside the U.S. in order to increase awareness and foster collaborative efforts among all SFRBM members.

An overnight flight from the West Coast of the US will take you to New Zealand, a country renowned for its scenic beauty and outdoor opportunities. It is also home to an active group of free radical researchers. The largest contingent is in our lab at the University of Otago, Christchurch, but there are others throughout the country including Dunedin where Rob Smith has a thriving collaboration with Mike Murphy (Cambridge, UK) on the synthesis and application of mitochondrially targeted redox reagents. The Christchurch group has grown since haemoglobin oxidation first introduced me to superoxide radicals some 35 years ago and now includes my coPIs (Tony Kettle, Margreet Vissers and Mark Hampton) and our associates and graduate students. Our research covers a range of topics, the main ones being neutrophil oxidants and myeloperoxidase in bacterial killing and inflammation; thiol biochemistry, redox regulation and peroxiredoxin function; mitochondrial oxidants and apoptosis; and cellular activities of vitamin C.

Research in New Zealand, is in many respects, similar to research elsewhere. Obtaining grant funding is challenging, especially for emerging researchers, but if you are funded, the environment is positive. Although not on the same scale as large institutions in the US, our labs are comparable to many I have encountered in other places. As a small country (population: 4 million) we need to focus our strengths and not cover every aspect of science, and we often do not have the same depth of expertise as in larger communities. In our lab, we have created critical mass by integrating the efforts of several PIs, and we also work collaboratively with others around the country and elsewhere. Distance does create some differences from labs in North America. For example, chemical orders are not delivered next day. Locals get used to planning in advance, but visitors can get upset if they find they have a 1-2 week wait before their next experiment. However, we benefit immensely from the instant communication provided by the internet and this makes us no more isolated than elsewhere in the world.

Our free radical lab currently covers 12 different nationalities. Visitors find it a friendly and stimulating place to work, and we are always open to sabbatical visits and new collaborations. Also, the next meeting of SFRR (Australasia) is in Akaroa outside Christchurch in December, and we welcome SFRBM members who would like to attend (Email mark.hampton@otago.ac.nz for more information). *Article by Christine Winterbourn, Ph.D., University of Otago.*

Literature Review *continued from page 4*

Thioredoxin-interacting protein links oxidative stress to inflammasome activation. *Rongbin Zhou, R., Tardivel, A., Thorens, B., Choi, I & Tschopp, J. Nature Immunology* ***11****(2):136-40; 2010.*
A crucial part of the cytosolic innate immune response is the assembly of the inflammasome. These studies demonstrate a key role for ROS in regulating binding of thioredoxin interacting protein (TXNIP) to the NLR family protein (NLRP3) and subsequent inflammasome activation. Inflammasome activators and H2O2 were shown to disrupt the interaction of TXNIP with thioredoxin and promote binding with NLRP3. TXNIP release from TRX and binding of NLRP3 are correlated with increases in H2DCFDA oxidation, while TXNIP deficiency prevents NLRP3 inflammasome activation both in vitro and in vivo. TXNIP and NLRP3 are also linked to glucose-dependent IL-1 secretion from islets that is inhibited by the widely used drug for the treatment of type 2 diabetes, glibenclamide. While these studies define the redox-sensitive molecular mechanisms that drive inflammasome activation, compelling work has emerged from Netea and coworkers supporting an inhibitory role for ROS in inflammasome activation (PNAS. 2010 Feb 16;107(7):3030-3). Thus, there is no doubt that ROS participate in inflammasome activity but the precise role is still contentious. *Review by J. Andres Melendez, Albany Medical College.*

SFRBM's 17th Annual Meeting
November 17-21, 2010
Caribe Royale Hotel & Conference Center
Orlando, Florida

SFRBM has secured a special room rate of $149 per night. On-line registration information and a full program will be available in April 2010.

FEATURED PLENARY SESSIONS:

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

- **Role of Mitochondria and Reactive Species in Stem Cell Biology**
  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.

- **Biochemistry and Pathology of Reactive Lipid Species**
  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.

Caribe Royale Hotel

- **Nitric Oxide and Oxygen: Co-Conspirators for Life**
  Since its initial characterization as endothelial derived relaxing factor, nitric oxide (NO) has been tightly linked to oxygen (O_2). 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 O2 modulate the production and metabolism of one another as well as their interactions with specific protein targets.

FRBM 25th ANNIVERSARY SESSION:

It hardly seems possible that our society journal, Free Radical Biology & 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.

PRE-MEETING WORKSHOP:

- **New Approaches for Examining Nitrative and Oxidative Stress in Biology**
  Major experimental advances made in the past several years can fundamentally transform our ability to critically examine the biological role of nitrative 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 nitrotyrosine 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.

ORAL PRESENTATIONS FROM SELECTED ABSTRACTS:

A number of high-quality abstracts will be chosen from those submitted to the Society for primary authors to give 15-minute oral presentations of their research. Four (4) concurrent sessions will be held each day and structured around topic areas like the ones listed below. A total of 72 cutting-edge research presentations will be offered during this symposia.

- Nitric Oxide chemistry, biology and physiology
- Biological Regulation by Reactive Oxygen Species
- Redox Imaging
- Chemotherapy
- Hydrogen Sulfide chemistry and biology
- Targeted Antioxidants
- Macromolecule Modification
- Redox Signaling
- Redox Reaction Mechanisms
- Superoxide and Superoxide Dismutases
- Adaptative Responses
- Lipids In Redox Biology
- Biological Formation of reactive species
- Signal Transduction And Gene Expression
- Cardiovascular Redox Biology And Pathology
- Novel Therapeutics
- Mitochondria And Cell Proliferation
- Free Radical Chemistry And Biochemistry
- Inflammatory Oxidative Signaling And Injury
- Cancer, Cell Proliferation And Death
- UV effects and atmospheric pollutants
- DNA damage and its consequences
- Protective enzymes

SUNRISE FREE RADICAL SCHOOL:

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.

POSTER SYMPOSIUM:

During each day of the Annual Meeting, posters will be on display all day and can be viewed at any time. Each day, two hours of formal presentation time is scheduled for authors to be available to discuss their work with other attendees. We expect 500-600 posters in 15 reserach categories to be presented.

TRAVEL & YOUNG INVESTIGATOR AWARDS:

SFRBM's Outreach Committee are making Travel Awards available to students and postdoctoral fellows who wish to attend SFRBM 2010 to present their research. SFRBM's "Young Investigator Awards" (YIAs) will be presented to 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. More information will be available in Spring 2010.

2009 Compensation & Benefit Survey Results *continued from page 1*

OVERALL PROFILE

Average Salary	$94,302
Range	$22,500 -$225,000+

	No.	Avg Salary
EMPLOYMENT TYPE		
Academic Institution	158	$91,028
Government	10	$93,750
Hospital	8	$117,143
Industry	3	$127,500
Private Practice	3	$181,667

	No.	Avg Salary
PROFESSIONAL TITLE		
Graduate Student	27	$24,800
Post Doc	25	$40,417
Lab Manager	1	$45,000
Research Associate	15	$45,192
Assistant Professor	36	$81,894
Associate Professor	28	$118,800
Professor	105	$126,061
Lead Scientist	12	$126,458
Chairperson	5	$153,750

	No.	Avg Salary
YEARS IN CURRENT POSITION		
2 yrs or less	53	$64,309
3-5 years	70	$67,885
6-10 years	32	$122,500
11-15 years	9	$136,944
16-20 years	10	$168,056
20+ years	17	$163,529

HOURS WORKED PER WEEK

	n	Hours
Lab Manager	1	40.0
Lead Scientist	12	42.8
Research Associate	14	43.2
Post Doc	25	45.5
Assistant Professor	36	48.9
Graduate Student	27	50.0
Chairperson	5	51.0
Professor	105	54.2
Associate Professor	28	54.8

RECOVER PERCENTAGE OF SALARY WITH GRANT SUPPORT?

	n	Pct
Yes	105	56%
No	83	44%

Professor	34
Assistant Professor	29
Associate Professor	20
Research Associate	7
Post-Doc	6
Lead Scientist	4
Chairperson	2
Graduate Student	2

WHAT PERCENTAGE ARE YOU EXPECTED TO SECURE?

1-10	13%	51-60	8%
11-20	3%	61-70	8%
21-30	16%	71-80	0%
31-40	7%	81-90	4%
41-50	24%	91-100	17%

	No.	Avg Salary
REGION		
Midwest	38	$83,333
Pacific	16	$83,833
Northwest	9	$91,563
Northeast	30	$97,500
Southeast	44	$97,500
Southwest	18	$111,526
Not Specified	34	$95,606

	No.	Avg Salary
HIGHEST LEVEL OF EDUCATION		
Masters	11	$27,045
Bachelors	19	$37,361
Ph.D.	146	$102,956
MD	25	$146,250
Ph.D. & MD	10	$156,944

2009 Compensation & Benefit Survey Results *continued from page 8*

	Yes	No
BENEFITS OFFERED		
Health Insurance	92%	8%
Paid for by employer	65%	35%
Contributory (employees pay in)	73%	27%
Dental Insurance	77%	23%
Paid for by employer	49%	51%
Contributory (employees pay in)	67%	33%
Flexible Spending/ Reimbursement Account	71%	29%
Matching Funds Program	60%	40%
Retirement Program	79%	21%

Average Amount Paid Monthly by Employee	
Health Insurance	$258
Dental Insurance	$71

MINI-FELLOWSHIP DEADLINE EXTENDED

The 2010 Research Mini-Fellowship Program deadline has been extended to April 15, 2010. The program provides additional research training opportunities for young investigators in the field of free radical biology that are not available at their home institution. Individual grants of up to **$2,500** are available.

Through the program, young investigators will have the opportunity to cultivate collaborative relationships with established scientists, develop novel techniques or methodologies and expand their career development and research opportunities. For more information please visit http://www.sfrbm.org/fellowships.php.

DONATE TO THE SFRBM FOUNDATION

The SFRBM Foundation's key objectives are to foster and support SFRBM's current charitable, educational and scientific objectives and purposes, including the Society's education, training and research programs. We also aim to help fund new opportunities for program development in the areas of education, training and research programs. The ultimate impact of the Foundation's achievements cannot be easily measured. Rather, it will be demonstrated through the development of scientists who benefit from SFRBM programs. We would like to thank the following members who have already donated to the SFRBM Foundation in 2010:

Margaret M. Briehl, Ph.D., *University of Arizona*
Paul S. Brookes, Ph.D., *University of Rochester*
Garry R. Buettner, Ph.D., *The University of Iowa*
Victor Darley-Usmar, Ph.D.,
University of Alabama at Birmingham
Frederick Domann, Ph.D., *The University of Iowa*
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Tim Oury, *University of Pittsburgh*
Rafael Radi, Ph.D., *Universidad de la República - Uruguay*
Douglas R. Spitz, Ph.D., *The University of Iowa*

To learn more about the Foundation or to make a tax-deductible donation, please visit www.sfrbm.org/sfrbmfoundation.php.

WEBINAR AVAILABLE FOR ON-LINE VIEWING

The February 2010 Virtual Free Radical School Webinar with Neil Hogg, Ph.D. is now available online to SFRBM members. The session is entitled, Redox Signaling Through Protein Cysteine Residues, and is approximately one hour long. The webinar can be downloaded at www.sfrbm.org/virtualfreeradicalschool.php.