

2011 National Conferences on **WILDERNESS MEDICINE**



The Definitive CME Courses on Wilderness Medicine

2011 Schedule



February 12-16

Big Sky
Montana

[Register Now](#)



March 2-6

Snow Bird
Utah

[Register Now](#)



June 1-5

Santa Fe
New Mexico



July 27-31

Big Sky
Montana



August 24-28

Lake Tahoe
California

**Register for a
Winter Meeting Now
and Save**

Register by November 29th:
Receive \$50 off registration of a
winter meeting
Use code: WINTER

**Unique Conference
with
Special Features:**

- Widely Acclaimed, definitive meetings on Wilderness Medicine
- World's Most Exciting CME Destinations
- World Class Faculty
- Dynamic Course Content
- Practical, Hands-On Workshops
- Activities for Companions & Children

Category 1 CME Accreditation

- American College of Emergency Physicians
- American Academy of Family Practice
- Wilderness Medicine Society
- Fellowship Academy of Wilderness Medicine (FAWM)

For More Information

[Contact Us](#)
[Faculty](#)
[Testimonials](#)



Save the Date

ICRR 2011 - WARSAW, POLAND

August 28 - September 1, 2011



Join Us For An Amazing Discovery Of Past, Present & Future!

The Maria Skłodowska-Curie Polish
Radiation Research Society &
The Congress of Radiation Research
Present

14th International Congress of Radiation Research

The largest gathering of radiation scientists in the world will, for the first time ever, be organized in Warsaw, Poland at the renowned Palace of Culture and Science.

Covering all of the major disciplines of the contemporary ionizing and nonionizing radiation science including: physics, chemistry, biology, medicine, and radiation protection.

For more information visit
[www..ICRR2011.org](http://www.ICRR2011.org)



Look for the RRS registration website to open for
booking in late spring

www.mtnreg.com/ICRR or call 888-995-3088

A Window to the Past With an Amazing View of the Future

Warsaw - an extraordinary historical city which fascinates and surprises with its unique blend of the past entwined with a visionary and exciting path to the future.

From the 12th & 13th century old and “new” towns rebuilt by the indomitable spirit of the Polish nation, to the posh and surprisingly sophisticated Nowy Swiat Ulica, the most elegant dining and shopping street in Warsaw, you’re sure to add this destination to the list of cities to which you must return.

Famous spots not to be missed:

- Muzeum Narodowe (National Museum)
- Muzeum Historyczne Miasta Warszawy
(History of Warsaw Museum)
- Old Town Square
- The Royal Castle
- The Baroque Wilanów Palace
- Łazienki Palace and Gardens
- Chopin Museum and Country Estates

Find out why the city is listed **On the UNESCO World
Heritage List:** www.e-WARSAW.pl



2010 Annual Partner Meeting

FT Lauderdale, FL

USA Hosts Alliance

November 17-18, 2010

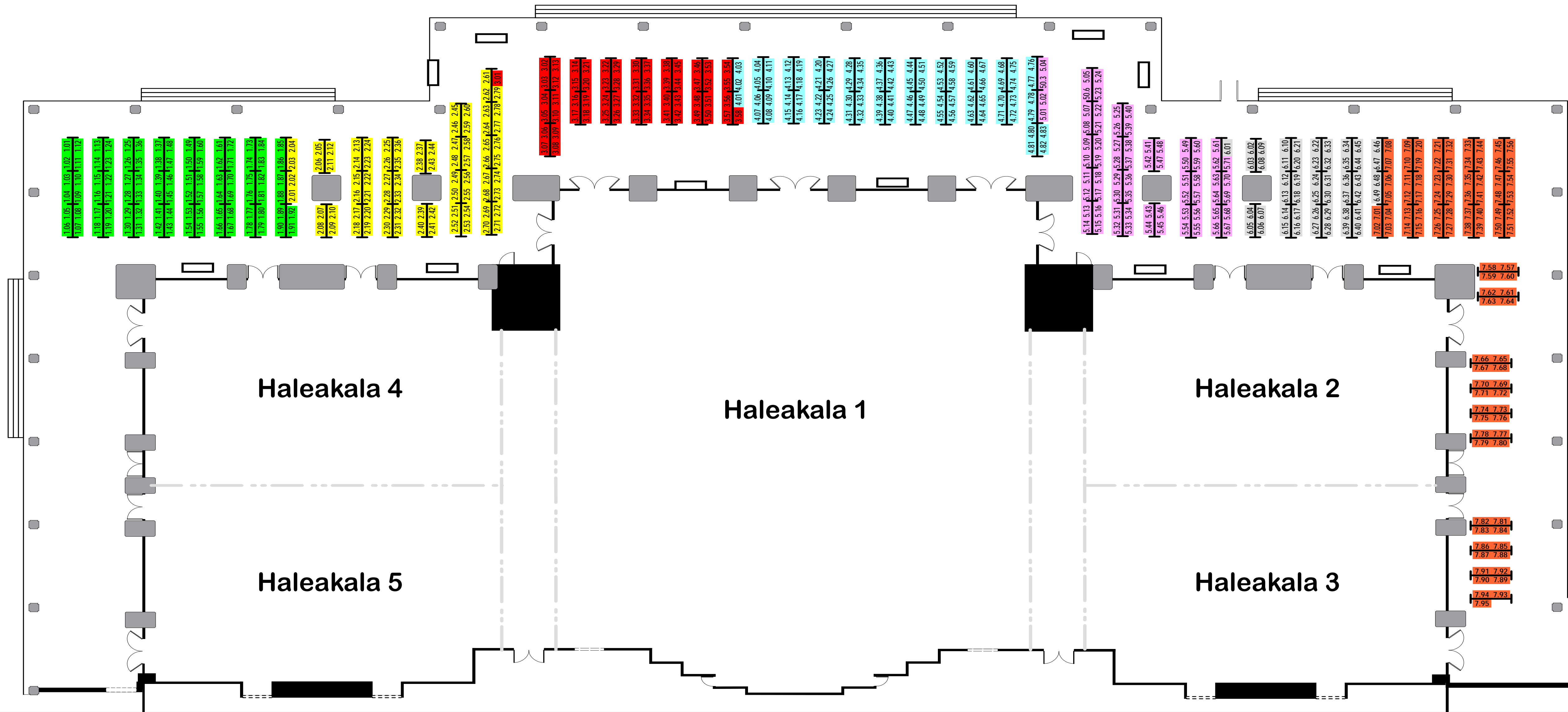


“Oceans of Opportunity”
2010 Radiation Research Society
56th Annual Meeting
Maui, Hawaii



“Oceans of Opportunity”

2010 Radiation Research Society



Haleakalā Ballroom
Grand Wailea Resort Hotel & Spa
Maui, Hawai'i

2010 Radiation Research Society
56th Annual Meeting



1004 Makepono St. • Honolulu, Hawai'i 96819
Ph: 808.832.2442 • Fax: 808.832.2431

Drawn by: K. Alagan • 8/11/2010 • v4



“Oceans of Opportunity”

RRS Annual Meeting 2010

Committee Meeting Schedule

<u>Date</u>	<u>Day</u>	<u>Start</u>	<u>End</u>	<u>Function</u>	<u>Room</u>
9/25/2010	Saturday				
		9:00 AM	4:00 PM	First Council Meeting	Ilima
		4:30 PM	6:00 PM	Editorial Board Meeting	Pikake 2-3
9/26/2010	Sunday				
		7:00 AM	8:00 AM	History Committee Meeting	Silversword
9/27/2010	Monday				
		7:00 AM	8:00 AM	Ad Hoc Committee Meeting	Silversword
		7:30 AM	9:00 AM	Finance Committee Meeting	Pikake 3
		6:40 PM	8:30 PM	Second Council Meeting	Plumeria 1-2
9/28/2010	Tuesday				
		8:30 AM	9:30 AM	Membership Committee Meeting	Plumeria 3
		7:00 AM	8:00 AM	Constitution and Bylaws Committee Meeting	Pikake 2
		12:30 PM	2:00 PM	Planning 2011 Committee Meeting	Pikake 2

“Oceans of Opportunity”

RRS Annual Meeting 2010

Schedule at a Glance

Saturday September 25, 2010	Sunday September 26, 2010	ROOM	Monday September 27, 2010	ROOM	Tuesday September 28, 2010	ROOM	Wednesday September 29, 2010	ROOM
8:00am - 8:50am Topical Reviews			8:00am - 8:50am Topical Reviews			8:00am - 8:50am Topical Reviews		
	TR1 Wendy Pogozelski - The Outsider's Guide to Understanding Radiation-Induced Damage to DNA	H5	TR5 Doug Boreham - Biological Responses to Low Dose Exposures from Natural, Medical and Occupational Sources	H4	TR9 Elaine Ron - Radiation epidemiology: from case series to global population studies	H4	TR13 Simon Powell - synthetic lethality and repair targeting	H2
	TR2 - Jackie Williams (chair) Meet the Federal Agencies - A Quick Guide to Open Federal Funding Mechanisms	H2	TR6 Takeo Ohnishi - Space Radiation Effects in ISS-Space Experiment of "RadGene"	H5	TR10 Herwig Paretzke - ICRU update - The relevance to radiation research	H5	TR14 Richard Wagner - Low energy electron induced DNA damage: from product analysis to possible mechanisms	H4
	TR3 Marianne Koritzinsky - Mechanisms of adaptation to hypoxia and their relevance in cancer	H3	TR7 Fiona Stewart - Late radiation damage in normal tissues: pathogenesis and strategies for intervention	H2	TR11 Hooshang Nikjoo - Radiation track, DNA damage-repair, and risk from low doses of radiation	H3	TR15 Wendy Kuhne - radio-ecology	PIK2
	TR4 Grigory Dianov -- The Role of Phosphorylation and Ubiquitination of DNA Repair Enzymes in the Cellular Resistance to Radiation	H4	TR8 Dennis Hallahan - Radiation guided drug delivery systems	H3	TR12 Sandra Demaria - Effects of radiation on the interactions between immune system and normal or neoplastic self tissues	H2	TR16 Stratford - Targeted drugs with radiation. What is needed to get these agents into clinical trials?	H3
	9:00am - 10:00am Plenary Lecture	H1	9:00am - 10:00am Plenary Lecture	H1	9:00am - 10:00am Plenary Lecture	H1	9:00am - 10:00am SIT Plenary Lecture:	H1
	P1 Alan Balmain-Cancer Complexity: insights from Systems analysis of tumour susceptibility		P2 Tom Tullius - A radical perspective on the role of DNA structure in the functioning of the human genome		P3 Max Wicha - SIT 'What's Hot' (Ann) Clinical implications of the cancer stem cell hypothesis		P4 Penny Jeggo - A journey through DNA double strand break repair in the context of chromatin superstructure	
10:00-10:15am Coffee Break			10:00-10:15am Coffee Break			10:00-10:15am Coffee Break		
10:15am - 12:15pm Symposia/Workshops/Mini-Symposium			10:15am - 12:15pm Presidential Symposium			10:15am - 12:15pm Symposia/Workshops/Mini-Symposium		
SIT WORKSHOP 7:30am - 5:00pm	S1 Effects of ionizing radiation on nucleic acids: inspiration for analytical and mechanistic investigations Marc Greenberg and Paul Black	LIL	S7 President's Symposium Ionizing Particles in Space and Medicine Kathy Held	H1	RRS History Committee Presentation Pioneers of the Radiation Sciences: Historical Review By Bill Osborne Introduction by Eleanor Blakely	LIL	S13 Bridging the gap between track structure and stable end products Jay LaVerne and Ianik Plante	PIK2
	S2 The Role of MicroRNA in Radiosensitivity and Human Cancer Tom Hei and Nicole Simone	H2			S11 Radiation treatment factors: effects on immune and normal tissue responses Sandra Demaria and Jackie Williams	H2	S14 Risk from in utero radiation exposure Evan Douple and John Boice	H3
	S3 Limoli - Stem cells at the crossroads of basic and translational radiobiology Charlie Limoli and Frank Pajonk	H3			S12 Missing Links and New Pathways in DNA Double-Strand Break Repair Yoshihisa Matsumoto and Susan Lees-Miller	H3	S15 Telomeres and double-strand breaks: which end's which? Susan Bailey and John Murnane	H2
	MS1 Part I Experimental therapeutics and translational research	H4			MS5 Bystander effects/Epidemiology	H4	S16 Low dose radiobiology: the cross talk between adaptive responses, bystander effects and genomic instability Ed Azzam and Giuseppe Schettino	H1
	MS2 Mutagenesis / clastogenesis / carcinogenesis / stem cells	H5			MS6 Physico-chemical events / Radiation protection- Biodosimetry	H5	MS7 Radiation protection - protection, mitigators and treatment	H4
	12:15pm - 2:00pm Lunch Break		12:15pm - 2:00pm Business Meeting w/lunch on own	H1	12:15pm Free Afternoon		12:15pm - 2:00pm SIT Luncheon	H5
	2:00pm - 2:45pm Poster Session		2:00pm - 2:45pm Poster Session				2:00pm - 2:45pm Poster Session	
	PS1 Radiation protection - protection/mitigators/treatment		PS3 Physico-chemical events stem cells radiation protection - biodosimetry				PS5 Mutagenesis/clastogenesis/carcinogenesis Bystander effects/adaptive response Epidemiology	
	2:45pm - 3:30pm Poster Session		2:45pm - 3:30pm Poster Session					
	PS2 DNA damage induction, repair and DNA damage response		PS4 Cell and tissue kinetics / signaling / microenvironment					
	3:30pm - 5:30pm Symposia/Workshops/Mini-Symposium		3:30pm - 5:30pm Symposia/Workshops/Mini-Symposium				3:30pm - 5:30pm Symposia/Workshops/Mini-Symposium	
	S4 Heavy ions in space radiation and hadron therapy Michael Dingfelder and Zi-Wei Lin	LIL	S8 Elementary processes in DNA damage formation William Berhard and Amitava Adhikary	LIL			S17 Update: Auger emitters in Medicine and Biology Roger Martin and Katherine Vallis	PIK2
	S5 The Tumour Microenvironment: Exploiting Pathways for Targeted Therapies Robert Bristow and Ester Hammond	H2	S9 Dosimetry for radiation emergency Hal Swartz and Narayani Ramakrishnan	H5			S18 Novel High Throughput Screening to Identify Radiation Response Modulators for Mechanistic Understanding and Translational Application Howard Lieberman and Bill Morgan	H1
	S6 Studies of radiation susceptibility to cancer: where do we stand? Alice Sigurdson and Sally Admunson	H3	S10 When is low dose-rate radiation harmful to health? Pam Sykes and Ron Mitchel	H4			S19 A role of chromatin reorganization in genome stability after IR exposure Tsuyoshi Ikura and Satoshi Tashiro	H2
	WS1 Markers and Prevention of Radiotherapy-Induced Second Cancers Don Jones and David Brenner	H4	WS2 SIT Debate Moderator Andean Simons-Burnett Hypo-fractionation: the available radiobiological models are adequate in predicting acute and late effects	H2			MS8 Part II Experimental therapeutics and translational research	H3
	MS3 DNA damage induction, repair and the DNA damage response	H5	MS4 High LET / space radiation effects / dose rate effects	H3			MS9 Cell and tissue kinetics/signaling/microenvironment	H4
	5:30-5:45pm Coffee Break		5:30-5:45pm Coffee Break				4:45pm - 6:15pm Poster Sessions with Reception	
	5:45pm - 6:45pm Failla Lecture James Mitchell (NIH, Bethesda) Introduction by Kathy Held	H1	5:45pm - 6:10pm Michael Fry Research Award David Kirsh (Duke University Medical Center) Introduction by Kathy Held	H1			4:45pm - 5:30pm PS6 high LET/space radiation effects/dose rate effects	
			6:10pm - 6:30pm Marie Curie Award Shichuan Zhang Introduction by Kathy Held	H1			5:30pm - 6:15pm PS7 Experimental therapeutics and translational research	
			Evening on Own				6:15pm END OF MEETING	
6:30-8:30pm SIT Reception Tsunami	7:00pm-8:30pm Failla and Welcoming Reception Molokini Gardens						7:00 pm Optional Closing Banquet Featuring a Hawaiian Luau	

“Oceans of Opportunity”

RRS Annual Meeting 2010

Schedule at a Glance

Saturday September 25, 2010	Sunday September 26, 2010	ROOM	Monday September 27, 2010	ROOM	Tuesday September 28, 2010	ROOM	Wednesday September 29, 2010	ROOM
	8:00am - 8:50am Topical Reviews		8:00am - 8:50am Topical Reviews		8:00am - 8:50am Topical Reviews		8:00am - 8:50am Topical Reviews	
	TR1 Wendy Pogozelski- The Outsider's Guide to Understanding Radiation- Induced Damage to DNA	H5	TR5 Doug Boreham - Biological Responses to Low Dose Exposures from Natural, Medical and Occupational Sources	H4	TR9 Elaine Ron - Radiation epidemiology: from case series to global population studies	H4	TR13 Simon Powell - synthetic lethality and repair targeting	H2
	TR2 - Jackie Williams (chair) Meet the Federal Agencies - A Quick Guide to Open Federal Funding Mechanisms	H2	TR6 Takeo Ohnishi - Space Radiation Effects in ISS-Space Experiment of "RadGene"	H5	TR10 Herwig Paretzke - ICRU update - The relevance to radiation research	H5	TR14 Richard Wagner - Low energy electron induced DNA damage: from product analysis to possible mechanisms	H4
	TR3 Marianne Koritzinsky- Mechanisms of adaptation to hypoxia and their relevance in cancer	H3	TR7 Fiona Stewart - Late radiation damage in normal tissues; pathogenesis and strategies for intervention	H2	TR11 Hooshang Nikjoo - Radiation track, DNA damage-repair, and risk from low doses of radiation	H3	TR15 Wendy Kuhne - radio-ecology	PIK2
	TR4 Grigory Dianov -- The Role of Phosphorylation and Ubiquitination of DNA Repair Enzymes in the Cellular Resistance to Radiation	H4	TR8 Dennis Hallahan - Radiation guided drug delivery systems	H3	TR12 Sandra Demaria - Effects of radiation on the interactions between immune system and normal or neoplastic self tissues	H2	TR16 Stratford - Targeted drugs with radiation. What is needed to get these agents into clinical trials?	H3
	9:00am - 10:00am Plenary Lecture	H1	9:00am - 10:00am Plenary Lecture	H1	9:00am - 10:00am Plenary Lecture	H1	9:00am - 10:00am SIT Plenary Lecture:	H1
	P1 Alan Balmain-Cancer Complexity: insights from Systems analysis of tumour susceptibility		P2 Tom Tullius - A radical perspective on the role of DNA structure in the functioning of the human genome		P3 Max Wicha - SIT "What's Hot" (Ann) Clinical implications of the cancer stem cell hypothesis		P4 Penny Jeggo - A journey through DNA double strand break repair in the context of chromatin superstructure	
	10:00-10:15am Coffee Break		10:00-10:15am Coffee Break		10:00-10:15am Coffee Break		10:00-10:15am Coffee Break	
	10:15am - 12:15pm Symposia/Workshops/Mini-Symposium		10:15am - 12:15pm Presidential Symposium		10:15am - 12:15pm Symposia/Workshops/Mini-Symposium		10:15am - 12:15pm Symposia/Workshops/Mini-Symposium	
SIT WORKSHOP 7:30am - 5:00pm	S1 Effects of ionizing radiation on nucleic acids: inspiration for analytical and mechanistic investigations Marc Greenberg and Paul Black	LIL	S7 President's Symposium Ionizing Particles in Space and Medicine Kathy Held	H1	RRS History Committee Presentation Pioneers of the Radiation Sciences: Historical Review By Bill Osborne Introduction by Eleanor Blakely	LIL	S13 Bridging the gap between track structure and stable end products Jay LaVerne and Ianik Plante	PIK2
	S2 The Role of MicroRNA in Radiosensitivity and Human Cancer Tom Hei and Nicole Simone	H2			S11 Radiation treatment factors: effects on immune and normal tissue responses Sandra Demaria and Jackie Williams	H2	S14 Risk from in utero radiation exposure Evan Douple and John Boice	H3
	S3 Limoli - Stem cells at the crossroads of basic and translational radiobiology Charlie Limoli and Frank Pajonk	H3			S12 Missing Links and New Pathways in DNA Double-Strand Break Repair Yoshihisa Matsumoto and Susan Lees-Miller	H3	S15 Telomeres and double-strand breaks: which end's which? Susan Bailey and John Murnane	H2
	MS1 Part I Experimental therapeutics and translational research	H4			MS5 Bystander effects/Epidemiology	H4	S16 Low dose radiobiology: the cross talk between adaptive responses, bystander effects and genomic instability Ed Azzam and Giuseppe Schettino	H1
	MS2 Mutagenesis / clastogenesis / carcinogenesis / stem cells	H5			MS6 Physico-chemical events / Radiation protection- Biodosimetry	H5	MS7 Radiation protection - protection, mitigators and treatment	H4
	12:15pm - 2:00pm Lunch Break		12:15pm - 2:00pm Business Meeting w/lunch on own	H1	12:15pm Free Afternoon		12:15pm - 2:00pm SIT Luncheon	H5
	2:00pm - 2:45pm Poster Session		2:00pm - 2:45pm Poster Session				2:00pm - 2:45pm Poster Session	
	PS1 Radiation protection - protection/mitigators/treatment		PS3 Physico-chemical events stem cells radiation protection - biodosimetry				PS5 Mutagenesis/clastogenesis/carcinogenesis Bystander effects/adaptive response Epidemiology	
	2:45pm - 3:30pm Poster Session		2:45pm - 3:30pm Poster Session					
	PS2 DNA damage induction, repair and DNA damage response		PS4 Cell and tissue kinetics / signaling / microenvironment					
	3:30pm - 5:30pm Symposia/Workshops/Mini-Symposium		3:30pm - 5:30pm Symposia/Workshops/Mini-Symposium				3:30pm - 5:30pm Symposia/Workshops/Mini-Symposium	
	S4 Heavy ions in space radiation and hadron therapy Michael Dingfelder and Zi-Wei Lin	LIL	S8 Elementary processes in DNA damage formation William Bernhard and Amitava Adhikary	LIL			S17 Update: Auger emitters in Medicine and Biology Roger Martin and Katherine Vallis	PIK2
	S5 The Tumour Microenvironment: Exploiting Pathways for Targeted Therapies Robert Bristow and Ester Hammond	H2	S9 Dosimetry for radiation emergency Hal Swartz and Narayani Ramakrishnan	H5			S18 Novel High Throughput Screening to Identify Radiation Response Modulators for Mechanistic Understanding and Translational Application Howard Lieberman and Bill Morgan	H1
	S6 Studies of radiation susceptibility to cancer: where do we stand? Alice Sigurdson and Sally Admanson	H3	S10 When is low dose-rate radiation harmful to health? Pam Sykes and Ron Mitchel	H4			S19 A role of chromatin reorganization in genome stability after IR exposure Tsuyoshi Ikura and Satoshi Tashiro	H2
	WS1 Markers and Prevention of Radiotherapy-Induced Second Cancers Don Jones and David Brenner	H4	WS2 SIT Debate Moderator Andrean Simons-Burnett Hypo-fractionation: the available radiobiological models are adequate in predicting acute and late effects	H2			MS8 Part II Experimental therapeutics and translational research	H3
	MS3 DNA damage induction, repair and the DNA damage response	H5	MS4 High LET / space radiation effects / dose rate effects	H3			MS9 Cell and tissue kinetics/signaling/microenvironment	H4
	5:30-5:45pm Coffee Break		5:30-5:45pm Coffee Break				4:45pm - 6:15pm Poster Sessions with Reception	
							4:45pm - 5:30pm PS6 high LET/space radiation effects/dose rate effects	
REGISTRATION HOURS: SIT ONLY Sat: 7:00am-11:00am EARLY REG Sat: 3:00-7:00pm Sunday: 7:00 am-6:00pm Monday 7:00am-5:00pm Tuesday: 7:00am-12:15pm Wednesday: 7:00am-5:00pm	5:45pm - 6:45pm Failla Lecture James Mitchell (NIH, Bethesda) Introduction by Kathy Held	H1	5:45pm - 6:10pm Michael Fry Research Award David Kirsh (Duke University Medical Center) Introduction by Kathy Held	H1			5:30pm - 6:15pm PS7 Experimental therapeutics and translational research	
			6:10pm - 6:30pm Marie Curie Award Shichuan Zhang Introduction by Kathy Held	H1			6:15pm END OF MEETING	
6:30-8:30pm SIT Reception Tsunami	7:00pm-8:30pm Failla and Welcoming Reception Molokini Gardens		Evening on Own				7:00 pm Optional Closing Banquet Featuring a Hawaiian Luau	

WILDERNESS MEDICINE

*International Conference
& Scientific Assembly*



*“The Definitive Course on Man’s Interface
with the Environment”*

**BIG SKY RESORT, MONTANA
JULY 28 - AUGUST 1, 2010**



WILDERNESS MEDICINE

*International Conference
& Scientific Assembly*
*“The Definitive Course on Man’s Interface
with the Environment”*

**BIG SKY RESORT, MONTANA
JULY 28 - AUGUST 1, 2010**

**SPONSORED BY THE AMERICAN COLLEGE OF EMERGENCY
PHYSICIANS AND WILDERNESS TRAVEL MEDICINE**

**COPYRIGHT © 2010 WILDERNESS TRAVEL MEDICINE
ALL RIGHTS RESERVED**

Wilderness Medicine

Table of Contents

Program-----	5
Faculty-----	11
 PLENARY LECTURES	
Wilderness Medicine: “Setting the Stage”-----	14
Wilderness Derm: Protecting the Body’s Largest Organ-----	20
High Altitude Illness: Prevention & Treatment-----	78
Surviving the Unexpected Night Out-----	112
Expedition & Backcountry Medical Kits-----	122
Heat-Related Illness-----	131
Bear & Other Wild Animal Attacks-----	140
Backcountry Water Purification-----	153
Wilderness Rashes: Poison Ivy & Oak-----	161
Whitewater Medicine & Rescue-----	195
Arthropod Bites and Stings-----	218
1001 Uses for Duct Tape & Safety Pins-----	237
Snake Envenomation-----	255
Hypothermia: Advances in Field and Hospital Treatment-----	270
Backcountry Fractures & Dislocations-----	283
Airway & Pain Management in the Backcountry-----	294
Lightning Prevention & Injuries-----	312
Traveler’s Diarrhea, Giardia, & Other Waterborne Infections-----	323

Fever in the Returned Traveler-----	333
Immunizations & Malaria Protection-----	405
Hazardous Marine Life-----	419
How to Avoid Lawyers in the Wilderness: Volunteer Medicine & Legal Issues-----	432
Mountain Search & Rescue-----	433
Life on the Edge: Memoirs of Everest & Beyond-----	460

WORKSHOPS & CONCURRENT SESSIONS

1. Improvised Splinting, Packaging, & Evacuation-----	466
2. Fracture & Dislocation Management-----	467
3. Diving Safety and Rescue-----	480
4. Orienteering/Routefinding-----	490
5. Survival Strategies for the Adventure Traveler-----	491
6. Taking Children Safely Into the Wilderness-----	643
7. Avalanche Survival & Rescue-----	655
8. Eyewear & Care: Wilderness Ophthalmology-----	668

SPECIAL SYMPOSIUM

International Medicine & the Challenges of Global Health-----	674
Doctors Without Borders & Other Aid Agencies: Who Are They, What Do They Do, And How Can I get Involved?-----	732
The Haiti Earthquake Relief Effort-----	790
Global Environmental Hazards in Remote Areas-----	797
Preparing for International Health Volunteer Work-----	821