



**2008 AAOS / ORS MOLECULAR BIOLOGY AND
 THERAPEUTICS IN MUSCULOSKELETAL ONCOLOGY
 RESEARCH SYMPOSIUM**

**HILTON SALT LAKE CITY
 SALT LAKE CITY, UT
 SEPTEMBER 25 – 27, 2008**

*Symposium Co-Chairs: Theresa A. Guise, MD, Regis O'Keefe, MD, PhD,
 R. Lor Randall, MD, FACS, and Richard Terek, MD*

PRELIMINARY SYMPOSIUM AGENDA

WEDNESDAY, SEPTEMBER 24, 2008

5:00 – 7:00 PM	Symposium Check-In	Hilton Salt Lake City AAOS Office (TBD)
6:15 – 7:00 PM	Session Moderator and Breakout Leader/Scribe Meeting <i>All session moderators/breakout leaders and scribes should be in attendance for this organizational meeting.</i>	Room TBD

THURSDAY, SEPTEMBER 25, 2008

7:00 AM	Symposium Check-In / AAOS Office Hours	Hilton Salt Lake City AAOS Office (TBD)
7:00 AM	Continental Breakfast	Hilton Salt Lake City General Session Room (TBD)
7:30 – 7:35 AM	Symposium Introduction and Welcome <i>Richard Terek, MD, Regis O'Keefe, MD, PhD, R. Lor Randall, MD, FACS, and Theresa A. Guise, MD</i>	
7:35 – 7:40 AM	AAOS Symposium History <i>Denis R. Clobis, MD Chair, AAOS Research Development Committee</i>	

SESSION I: TUMOR BIOLOGY

MODERATORS: RANDY ROSIER, MD AND DENIS R. CLOHISY, MD

7:40 – 7:45 AM	Session / Speaker Introductions <i>Randy Rosier, MD and Denis Clobis, MD</i>	Hilton Salt Lake City General Session Room (TBD)
7:45 – 8:05 AM	1) Cancer Stem Cells <i>Catherine O'Brien, MD, MSc University Health Network</i>	
8:05 – 8:25 AM	2) Immunotherapy <i>Maurice Zauderer, PhD Vaccinex, Inc.</i>	
8:25 – 8:45 AM	3) Angiogenesis <i>Marsba A. Moses, PhD Children's Hospital, Harvard Medical School</i>	
8:45 – 9:05 AM	4) Apoptosis <i>Roman Eliseen, MD, PhD University of Rochester</i>	
9:05 – 9:25 AM	5) The Cell Cycle <i>Richard Freiman, PhD Brown University</i>	
9:25 – 10:00 AM	Discussion/Questions and Answers	
10:00 – 10:15 AM	BREAK	

SESSION II: RESISTANCE TO TREATMENT IN OSTEOSARCOMA

MODERATORS: VALERAE LEWIS, MD AND CHAND KHANNA, DVM, PhD

10:15 – 10:20 AM	Session / Speaker Introductions <i>Valerae Lewis, MD and Chand Khanna, DVM, PhD</i>	Hilton Salt Lake City General Session Room (TBD)
10:20 – 10:40 AM	6) Challenges and Treatments in OS <i>Dempsey Springfield, MD</i> <i>Massachusetts General Hospital</i>	
10:40 – 11:00 AM	7) Chemoresistance in OGS <i>Marc F. Hansen, PhD</i> <i>University of Connecticut Health Center</i>	
11:00 – 11:20 AM	8) Reversal of EMT in Osteosarcoma <i>Bang Hoang, MD</i> <i>University of California, Irvine</i>	
11:20 – 11:40 AM	9) Blocks to Differentiation in Osteosarcoma <i>Rex Haydon, MD, PhD</i> <i>The University of Chicago</i>	
11:40 AM – 12:00 PM	10) Expression Profiles of Chemoresistant Osteosarcoma <i>Ching Lau, MD, PhD</i> <i>Texas Children's Hospital</i>	
12:00 – 12:30 PM	Discussion/Questions and Answers	
12:35 – 1:40 PM	BREAK	

SESSION III: BIOLOGIC BASED THERAPY FOR OSTEOSARCOMA

MODERATORS: RICHARD TEREK, MD AND REX HAYDON, MD, PhD

1:45 – 1:50 PM	Session / Speaker Introductions <i>Richard Terek, MD and Rex Haydon, MD, PhD</i>	Hilton Salt Lake City General Session Room (TBD)
1:50 – 2:10 PM	11) Pet Animal Models of Sarcoma <i>Stephen Withrow, DVM</i> <i>Colorado State University</i>	
2:10 – 2:30 PM	12) Biologic Based Therapy for Osteosarcoma <i>Eugenie S. Kleinerman, MD</i> <i>MD Anderson Cancer Center</i>	
2:30 – 2:50 PM	13) mTOR in Osteosarcoma <i>Chand Khanna, DVM, PhD</i> <i>National Cancer Institute</i>	
2:50 – 3:10 PM	14) Barriers to Clinical Trials, Future Directions <i>Neyssa Marina, MD</i> <i>Bone Tumors Committee - Stanford University Medical Center</i>	
3:10 – 3:45 PM	Discussion/Questions and Answers	
7:00 – 9:00 PM	Welcome Dinner Reception <i>(Two blocks walking distance from the Hilton)</i>	Squatters Private Patio/ Garden Room 147 West Broadway Salt Lake City

FRIDAY, SEPTEMBER 26, 2008

7:45 – 8:00 AM	Continental Breakfast	TBD
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SESSION IV: BIOLOGIC BASED THERAPY FOR EWING'S SARCOMA

MODERATORS: PATRICK P. LIN, MD AND C. PARKER GIBBS, MD

8:00 – 8:05 AM	Session / Speaker Introductions <i>Patrick P. Lin, MD and C. Parker Gibbs, MD</i>	Hilton Salt Lake City General Session Room (TBD)
8:05 – 8:25 AM	15) Biology of EWS/Fli-1 <i>Stephen Lessnick, MD, PhD</i> <i>Huntsman Cancer Institute</i>	
8:25 – 8:45 AM	16) EWS/Fli-1 and Cell Cycle Dysregulation <i>Howard Chansky, MD</i> <i>University of Washington School of Medicine</i>	

8:45 – 9:05 AM	17) Translating Ewing’s Biology to Clinical Trials <i>Lee Helman, MD</i> <i>National Cancer Institute</i>	
9:05 – 9:35 AM	Discussion/Questions and Answers	
9:35 – 9:45 AM	BREAK	
SESSION V: MOLECULAR DEFECTS IN CHONDROSARCOMA		
MODERATORS: CAROL MORRIS, MD AND FRANCIS HORNICEK, MD		
9:45 AM	Session / Speaker Introductions <i>Carol D. Morris, MD, MS and Francis Hornicek, MD</i>	
9:50 – 10:10 AM	18) Genetic Alterations Resulting in Chondrosarcoma <i>Benjamin Alman, MD, FRCSC</i> <i>University of Toronto</i>	Hilton Salt Lake City General Session Room (TBD)
10:10 – 10:30 AM	19) Telomerase in Chondrosarcoma <i>James Martin, PhD</i> <i>University of Iowa</i>	
10:30 – 10:50 AM	20) Cell Cycle Abnormalities in Chondrosarcoma <i>Sean Scully, MD, PhD</i> <i>University of Miami</i>	
10:50 – 11:25 AM	Discussion/Questions and Answers	
11:35 AM–12:45 PM	Luncheon Breakouts BREAKOUT GROUPS 1: A) Strategies for Identification of New Therapeutic Targets for OGS – <i>Eugenie S. Kleinerman, MD /J. Sybil Biermann, MD</i> B) Strategies for Identification of New Therapeutic Targets for Ewing’s - <i>Stephen Lessnick, MD, PhD/Lee Helman, MD</i> C) Strategies for Identification of New Therapeutic Targets for CS - <i>Carol D. Morris, MD, MS/Sean Scully, MD, PhD</i>	A) Room TBD
		B) Room TBD
		C) Room TBD
12:55 – 1:10 PM	Breakout Group Reports <i>Breakout Session Moderators/Scribes</i>	
1:10 – 1:50 PM	21) KEYNOTE PRESENTATION: STS Animal Models: Mouse Model of Synovial Sarcoma <i>Mario Capecchi, PhD</i> <i>University of Utah</i>	Hilton Salt Lake City General Session Room (TBD)
1:50 – 2:10 PM	Questions and Answers - Keynote Presentation	
SESSION VI: BIOLOGIC BASED THERAPY FOR STS		
MODERATORS: R. LOR RANDALL, MD, FACS AND RAPHAEL POLLOCK, MD, PhD		
2:10 – 2:15 PM	Session / Speaker Introductions <i>R. Lor Randall, MD, FACS and Raphael Pollock, MD, PhD</i>	Hilton Salt Lake City General Session Room (TBD)
2:15 – 2:35 PM	22) Cytogenetics and Molecular Classification of Sarcomas <i>Jonathan Fletcher, MD</i> <i>Brigham and Women's Hospital</i>	Hilton Salt Lake City General Session Room (TBD)
2:35 – 2:55 PM	23) Rhabdomyosarcoma: Clinical & Biologic Prognostic Features and Controversies in Therapy <i>William H. Meyer, MD</i> <i>The University of Oklahoma Health Sciences Center</i>	
2:55 – 3:15 PM	24) Genome wide RNA transcriptional profiling of sarcomas for diagnosis, prognosis, and therapeutic target identification <i>Timothy J. Triche, MD, PhD</i> <i>Children’s Hospital Los Angeles</i>	
3:15 – 3:40 PM	Discussion/Questions and Answers	
3:40 – 3:55 PM	BREAK	

**SESSION VII: GENOMIC SCREENING TECHNIQUES FOR
DISEASE SUSCEPTIBILITY AND NEW TREATMENTS**

MODERATORS: REGIS O'KEEFE, MD, PHD AND YIBIN KANG, PHD

3:55 – 4:00 PM	Session / Speaker Introductions <i>Regis O'Keefe, MD, PhD and Yibin Kang, PhD</i>	Hilton Salt Lake City General Session Room (TBD)
4:00 – 4:20 PM	25) Overview of Screening Techniques <i>Paul Meltzer, MD, PhD</i> <i>National Cancer Institute</i>	
4:20 – 4:40 PM	26) The Future of Massive Expression Screening <i>Jay Wunder, MD</i> <i>Mount Sinai Hospital, Toronto</i>	
4:40 – 5:00 PM	27) Expression Profiling of Sarcomas: Target Identification and Limitations <i>Torsten O. Nielsen, MD, PhD FRCPC</i> <i>Genetic Pathology Evaluation Centre, BC Cancer Agency, Vancouver</i>	
5:00 – 5:30 PM	Discussion/Questions and Answers	
6:20 PM	Departure for Dinner Reception <i>(Transportation will be provided to dinner, please meet in hotel lobby for shuttle.)</i>	Hilton Salt Lake City
7:00 – 9:00 PM	Off-Site Dinner Reception	Log Haven Restaurant 6451 East Mill Creek Canyon Road

SATURDAY, SEPTEMBER 27, 2008

7:15 AM	Breakfast	Room (TBD)
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SESSION VIII: NOVEL THERAPIES/STRATEGIES/REGULATORY ISSUES

MODERATORS: THERESA A. GUISE, MD AND J. SYBIL BIERMANN, MD

7:30 AM	Session / Speaker Introductions <i>Theresa A. Guise, MD and J. Sybil Biermann, MD</i>	Hilton Salt Lake City General Session Room (TBD)
7:35 - 7:55 AM	28) Combining Cytotoxic and Biologic Therapies/Combination Clinical Trials with Novel Agents: The NCI Experience <i>James H. Doroshow, MD, FACP</i> <i>National Cancer Institute</i>	
7:55 – 8:15 AM	29) The Clinical Challenge of Drug Combinations <i>Mathew T. Thomas, MD</i> <i>U.S. Food and Drug Administration, Office of Orphan Products Development</i>	
8:15 – 8:35 AM	30) Pharmacogenetics: Aligning Structural, Functional, and Cellular Genomics to Drive Clinical Drug Development Decisions <i>Spyro Mousset, PhD</i> <i>TGen</i>	
8:35 – 9:00 AM	Discussion/Questions and Answers	
9:00 – 9:10 AM	BREAK	

SESSION IX: MANAGEMENT OF TISSUE DEFECTS AND METASTATIC DISEASE

MODERATORS: GINGER HOLT, MD AND ROCKY TUAN, PHD

9:10 AM	Session / Speaker Introductions <i>Ginger Holt, MD and Rocky Tuan, PhD</i>	Hilton Salt Lake City General Session Room (TBD)
9:10 – 9:25 AM	31) Stem Cells and Tissue Engineering <i>Jennifer Elisseeff, PhD</i> <i>Johns Hopkins University</i>	
9:25 – 9:40 AM	32) Muscle and Soft Tissue Engineering <i>Johnny Huard, PhD</i> <i>University of Pittsburgh</i>	
9:40 – 9:55 AM	33) Bone Regeneration <i>Rocky Tuan, PhD</i> <i>National Institute of Arthritis and Musculoskeletal and Skin Diseases</i>	

9:55 – 10:25 AM	Discussion/Questions and Answers	
10:25 – 10:40 AM	34) Bone Metastasis Signatures <i>Yibin Kang, PhD</i> <i>Princeton University</i>	
10:40 – 10:55 AM	35) Molecular Mechanisms of Solid Tumor Metastases to Bone <i>Gregory Mundy, MD</i> <i>Vanderbilt University Medical Center</i>	
10:55 – 11:10 AM	36) RANKL Antibody for Treatment of Metastatic Giant Cell Tumor <i>David Thomas, MD</i> <i>Ian Potter Center for Cancer Genomics and Predictive Medicine, Australia</i>	
11:10 – 11:35 AM	Discussion/Questions and Answers	
11:40 AM–12:40 PM	Luncheon BREAKOUT GROUPS 2	A) Room TBD
	A) Strategies for Identification of New Therapeutic Targets for STS - <i>Jonathan Fletcher, MD/Timothy J. Triche, MD, PhD</i>	B) Room TBD
	B) Tissue Engineering - What are the Missing Steps in Limb Regeneration? – Rocky Tuan, PhD/Johnny Huard, PhD C) Strategies for Identification of New Therapeutic Targets for Metastases to Bone - Gregory Mundy, MD/David Thomas, MD	C) Room TBD
12:45 PM	Breakout Group Reports <i>Breakout Session Moderators/Scribes</i>	Hilton Salt Lake City General Session Room (TBD)
1:05 PM	Concluding Comments	
1:15 PM	SYMPOSIUM ADJOURNED	

ORS Young Investigators:

Claudia Fischbach-Teschl, PhD, Cornell University

Kevin B. Jones, MD, University of Toronto Musculoskeletal Oncology Unit, Mount Sinai Hospital

Ilkyu Han, MD, PhD, Seoul National University Hospital

Kurt R. Weiss, MD, University of Pittsburgh

Musculoskeletal Tumor Society (MSTS) Representatives:

Albert Aboulafia, MD, Education Chair, Musculoskeletal Tumor Society

Edward Cheng, MD, Research Representative, Musculoskeletal Tumor Society

Other:

Jonathan Forsberg, LCDR NNMC, Society of Military Orthopaedic Surgeons (SOMOS)

Francis Young-In Lee MD, PhD, Columbia University, AAOS Research Development Committee

U.S. Food and Drug Administration (FDA)

Mathew T. Thomas, MD - Health Science Administrator, Office of Orphan Products Development

National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS)

Joan McGowan, PhD, Director, Musculoskeletal Diseases Branch

Rocky Tuan, PhD – Chief, Cartilage Biology and Orthopaedics Branch

National Cancer Institute (NCI)

James H. Doroshow, MD, FACP – Director, Division of Cancer Treatment and Diagnosis

Chand Khanna, DVM, PhD - Pediatric Oncology Branch, Senior Scientist, Head, Tumor and Metastasis Biology Section

Lee Helman, MD - Pediatric Oncology Branch, Head, Molecular Oncology Section, Senior Investigator

Paul Meltzer, MD, PhD – Head, Molecular Genetics Section, Branch Chief

Suresh Mohla, PhD -Chief, Tumor Biology and Metastasis Branch, Division of Cancer Biology