September 12, 2010

4:30 p.m.-6:00 p.m.  Opening Plenary Session
Liberty Ballroom AB, p. 13

Welcome
Patricia S. Steeg, Conference Co-Chairperson and
President, Metastasis Research Society
Bruce R. Zetter, Conference Co-Chairperson and
Past-Chairperson, Tumor Microenvironment Working
Group of the AACR

Special Presentation
Healthcare Reform: Implications for Cancer Research
S. Ward Casscells, University of Texas Health Science
Center, Houston, TX

Keynote Presentation
New Insights into Tumor Cell Drug Resistance
Joan S. Brugge, Harvard Medical School, Boston, MA

6:00 p.m.-8:30 p.m.  Plenary Session 1
The Influence of the Niche
David C. Lyden, Chairperson, Liberty Ballroom AB, p. 14

8:30-10:00 pm  Opening Reception
Liberty Ballroom Foyer

September 13, 2010

7:00 a.m.-7:45 a.m.  Meet-the-Expert
Sessions 1-2
Funding Paradigms in the Tumor Microenvironment
Dinah S. Singer, Presenter, Liberty Ballroom AB, p. 15

Hypoxic Tumor Microenvironment: Validation of Novel
Metabolic Targets
Jacques Pouysségur, Presenter, Liberty Ballroom D, p. 15

7:45 a.m.-10:15 a.m.  Plenary Session 2
Translational Targets 1
George W. Sledge, Chairperson, Liberty Ballroom AB, p. 16

10:15 a.m.-10:45 a.m.  Break
Liberty Ballroom Foyer

10:45 a.m.-12:15 p.m.  Concurrent Sessions 1-2
TME: Stroma
Zena Werb, Chairperson, Liberty Ballroom D, p. 17

MRS: Genomics of Primary Tumors and Metastases
G. Steven Bova, Chairperson, Liberty Ballroom AB, p. 17

12:15 p.m.-1:15 p.m.  Lunch Break (on your own)

1:15 p.m.-2:30 p.m.  Controversy Session:
Antiangiogenesis: Hot or Not?
Lee M. Ellis and Robert S. Kerbel, Presenters, Liberty
Ballroom AB, p. 18

2:30 p.m.-4:30 p.m.  Plenary Session 3:
Novel Molecular Pathways
Joan Massagué, Chairperson, Liberty Ballroom AB, p. 19

4:30 p.m.-4:55 p.m.  Break
Liberty Ballroom Foyer

4:55 p.m.-6:30 p.m.  Concurrent Sessions 3-4
TME: Inflammation and Immunity
Alberto Mantovani, Chairperson, Liberty Ballroom D, p. 20

MRS: Metastatic Colonization
Carrie W. Rinker-Schaeffer, Chairperson, Liberty
Ballroom AB, p. 20

6:30 p.m.-8:30 p.m.  Poster Session A
Freedom & Independence
Ballrooms, p. 21

Genomics of Primary Tumors and Metastases
Inflammation and Immunity
The Influence of the Niche
Metastasis and the Matrix
Novel Molecular Pathways
Site Specific Metastasis
Stem Cells
Stroma
Translational Targets
September 14, 2010

7:00 a.m.-8:00 a.m. Meet-the-Expert Sessions 3-4

Neuroendocrine Regulation of Metastasis: Targeting the Tumor Macroenvironment
Steve Cole, Presenter, Liberty Ballroom D, p. 31

Metastasis Assays *in vivo* and ‘Metastasis Assays’ *in vitro*: What Do They Mean?
Danny R. Welch, Presenter, Liberty Ballroom AB, p. 32

8:00 a.m.-10:00 a.m. Plenary Session 4

Dormancy
Ann F. Chambers, Chairperson, Liberty Ballroom AB, p. 32

10:00 a.m.-10:30 a.m. Break
Liberty Ballroom Foyer

10:30 a.m.-12:00 p.m. Generation X Session

The Future of Tumor Progression
Yves A. DeClerck, Chairperson, Liberty Ballroom AB, p. 33

12:00 p.m.-1:30 p.m. Lunch Break (on your own)

12:00 p.m.-1:30 p.m. Metastasis Research Society Meeting
(open to members only)
Liberty Ballroom D

1:30 p.m.-3:30 p.m. Concurrent Sessions 5-6

Metastasis and the Matrix
Valerie M. Weaver, Chairperson, Liberty Ballroom D, p. 34

MRS: Site Specific Metastasis
Andrea M. Mastro, Chairperson, Liberty Ballroom AB, p. 34

3:30 p.m.-4:00 p.m. Break
Liberty Ballroom Foyer

4:00 p.m.-5:00 p.m. Paget-Ewing Award Lecture

*microRNA-mediated Regulation of the Tumor Angiogenic Switch*
David A. Cheresh, Presenter, Liberty Ballroom AB, p. 35

5:30 p.m.-7:30 p.m. Poster Session B
Freedom & Independence Ballrooms, p. 36

Dormancy
Genomics of Primary Tumors and Metastases
Metastasis and the Matrix
Metastatic Colonization
Novel Molecular Pathways
Site Specific Metastasis
Stroma
Translational Targets
Other

7:30 p.m.-10:30 p.m. Conference Banquet
Liberty Ballroom CD

September 15, 2010

7:00 a.m.-7:45 a.m. Meet-the-Expert Sessions 5-6

Cancer Micrometastasis and Circulating Tumor Cells
Klaus Pantel, Presenter, Liberty Ballroom AB, p. 46

Natural Products Lead Discovery in the Molecular Targets Laboratory
James B. McMahon, Presenter, Liberty Ballroom D, p. 46

7:45 a.m.-10:00 a.m. Plenary Session 5

Stem Cells
Max S. Wicha, Chairperson, Liberty Ballroom AB, p. 47

10:00 a.m.-10:30 a.m. Break
Liberty Ballroom Foyer

10:30 a.m.-12:00 p.m. Plenary Session 6

Translational Targets 2
Patricia S. Steeg, Chairperson, Liberty Ballroom AB, p. 48

12:00 p.m. Departure
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<tr>
<td>4:30 p.m.</td>
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Plenary Session 1  Sunday, September 12, 6:00 p.m.-8:30 p.m.

The Influence of the Niche  Liberty Ballroom AB

Chairperson: David C. Lyden, Cornell University Weill Medical College, New York, NY

6:00  *ALK: An exploitable new target in non-small cell lung cancer  
Mace L. Rothenberg, Pfizer Inc., New York, NY

6:30  The pre-metastatic niche: Adapting the foreign soil  
David C. Lyden, Cornell University Weill Medical College, New York, NY

7:00  Seed and soil hypothesis revisited  
Rakesh K. Jain, Massachusetts General Hospital, Boston, MA

7:30  Hypoxia-induced genes that promote metastasis: New targets for therapy  
Amato J. Giaccia, Stanford University School of Medicine, Stanford, CA

8:00  **Slow cycling self renewing JARID1B-positive cells are essential for long-term maintenance of malignant melanoma  
Meenhard Herlyn, The Wistar Institute, Philadelphia, PA

Opening Reception  Sunday, September 12, 8:30 p.m.-10:00 p.m.

Liberty Ballroom Foyer
7:00  Funding Paradigms in the Tumor Microenvironment
      Liberty Ballroom AB
      Dinah S. Singer, National Cancer Institute, Division of Cancer Biology, Rockville, MD

7:00  *Hypoxic Tumor Microenvironment: Validation of Novel Metabolic Targets
      Liberty Ballroom D
      Jacques Pouysségur, Institute of Signaling, Developmental Biology & Cancer Research,
      Nice, France

*An extended abstract for this presentation is available in the Invited Abstracts section of the Proceedings.
**Translational Targets 1**
Liberty Ballroom AB

Chairperson: George W. Sledge, Indiana University Cancer Center, Indianapolis, IN

7:45  *Is the micrometastatic cell a clinical target?*
George W. Sledge, Indiana University Cancer Center, Indianapolis, IN

8:15  *Targeting TGF-beta to suppress metastasis*
Lalage M. Wakefield, National Cancer Institute, Bethesda, MD

8:45  *The role of tumor endothelin-1 in metastatic colonization of the lung*
Dan Theodorescu, University of Colorado Comprehensive Cancer Center, Aurora, CO

9:15  *Bone metastasis of lung cancer and its molecular-targeted therapy in the organ microenvironment*
Saburo Sone, University of Tokushima Graduate School, Tokushima, Japan

9:45  **14-3-3ζ cooperates with ErbB2 to promote ductal carcinoma in situ progression to invasive breast cancer by inducing epithelial-mesenchymal transition**
Dihua Yu, UT M. D. Anderson Cancer Center, Houston, TX

10:00  **Chemotherapy promotes lung metastasis formation in mouse models via a VEGFR-1-dependent mechanism**
Laura G.M. Daenen, University Medical Centre, Utrecht, The Netherlands

*An extended abstract for this presentation is available in the Invited Abstracts section of the Proceedings.
**An extended abstract for this presentation is available in the Proffered Abstracts section of the Proceedings.
### Concurrent Session 1: TME: Stroma

**Liberty Ballroom D**

**Chairperson:** Zena Werb, University of California, San Francisco, CA

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<tr>
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<tr>
<td>10:45</td>
<td>*Targeting stromal proteases as therapy for cancer</td>
<td>Samuel R. Denmeade, Johns Hopkins Kimmel Comprehensive Cancer Center, Baltimore, MD</td>
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<tr>
<td>11:15</td>
<td>*Adult stromal cells for the targeted therapy of gastrointestinal cancers</td>
<td>Pierre Cordelier, Institut Louis Bugnard, Toulouse, France</td>
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<tr>
<td>11:45</td>
<td>*Role of the tumor microenvironment in breast cancer progression and response to therapy</td>
<td>Zena Werb, University of California, San Francisco, CA</td>
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### Concurrent Session 2: MRS: Genomics of Primary Tumors and Metastases

**Liberty Ballroom AB**

**Chairperson:** G. Steven Bova, Johns Hopkins University School of Medicine, Boston, MA

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<td>10:45</td>
<td>Exploring clonality in lethal metastatic prostate cancer: Potential value in reducing complexity</td>
<td>G. Steven Bova, Johns Hopkins University School of Medicine, Boston, MA</td>
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<td>11:15</td>
<td>Comparing genomics of primary tumors and metastases for targets identification and biomarkers development in lung cancer</td>
<td>Ignacio I. Wistuba, UT M. D. Anderson Cancer Center, Houston, TX</td>
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<tr>
<td>11:45</td>
<td>*Epigenetic and microenvironmental regulation of metastatic dispersal in childhood malignancy</td>
<td>Stefan Burdach, Technische Universität München, Munich, Germany</td>
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*An extended abstract for this presentation is available in the Invited Abstracts section of the Proceedings.*
**Controversy Session**  
Monday, September 13, 1:15 p.m.-2:30 p.m.

**Antiangiogenesis: Hot or Not?**  
Liberty Ballroom AB

1:15  
*The biology behind the successes and failures of VEGF-targeted therapies*  
Lee M. Ellis, UT M. D. Anderson Cancer Center, Houston, TX

1:55  
*Preclinical modeling of adjuvant and metastatic antiangiogenic (and other drug) therapies*  
Robert S. Kerbel, University of Toronto Sunnybrook Health Sciences Centre, Toronto, ON, Canada

*An extended abstract for this presentation is available in the Invited Abstracts section of the Proceedings.*
Novel Molecular Pathways

Liberty Ballroom AB

Chairperson: Joan Massagué, Memorial Sloan-Kettering Cancer Center, New York, NY

2:30  
*Correlative biomarkers for antiangiogenic therapy
Jeffrey W. Clark, Massachusetts General Hospital Cancer Center, Boston, MA

3:00  
*Metastasis meets microenvironment: Survival signals from the soil
Joan Massagué, Memorial Sloan-Kettering Cancer Center, New York, NY

3:30  
*Necdin regulation by Nm23-H1 and EBNA3C: Insights from a virus
Erle S. Robertson, Abramson Cancer Center of University of Pennsylvania, Philadelphia, PA

4:00  
**A novel population of neuropilin-1-expressing mononuclear cells (NEMs) contributes to tumor vessel stabilization and normalization
Alessandro Carrer, International Centre for Genetic Engineering and Biotechnology, Trieste, Italy

4:15  
**The KISS1 metastasis suppressor appears to reverse the ‘Warburg Effect’ by increasing mitochondrial number
Kyle P. Feeley, University of Alabama, Birmingham, AL

*An extended abstract for this presentation is available in the Invited Abstracts section of the Proceedings.
**An extended abstract for this presentation is available in the Proffered Abstracts section of the Proceedings.
Concurrent Session 3:

**TME: Inflammation and Immunity**
Liberty Ballroom D

Chairperson: Alberto Mantovani, Istituto Clinico Humanitas, University of Milan, Milan, Italy

4:55 *Chemokines in tumor progression and metastasis*
Alberto Mantovani, Istituto Clinico Humanitas, University of Milan, Milan, Italy

5:20 *Inflammation and cancer: Reprogramming the immune microenvironment as an anticancer therapeutic strategy*
Lisa M. Coussens, University of California, Helen Diller Family Comprehensive Cancer Center, San Francisco, CA

5:45 *Stem cells, inflammation, and tumor immunity: From bedside to the bench*
Madhav V. Dhodapkar, Yale School of Medicine, New Haven, CT

6:10 **Spatial and temporal regulation of CXCR3 chemokine production and CD8 T cell infiltration in the metastatic melanoma microenvironment**
David W. Mullins, University of Virginia, Charlottesville, VA

Concurrent Session 4:

**MRS: Metastatic Colonization**
Liberty Ballroom AB

Chairperson: Carrie W. Rinker-Schaeffer, University of Chicago, Chicago, IL

4:55 Using metastasis suppressors to dissect cancer cell-microenvironmental interactions during metastatic colonization
Carrie W. Rinker-Schaeffer, University of Chicago, Chicago, IL

5:20 *Novel mediators of tumor-stroma crosstalk in breast cancer bone metastasis*
Yibin Kang, Princeton University, Princeton, NJ

5:45 **A mutant of the metastasis susceptibility gene Brd4 promotes EMT, stem cell–like conversion and metastatic progression in a mouse mammary tumor model**
Jude Alsarraj, National Cancer Institute, Bethesda, MD

6:00 Can we screen for anti-metastatic agents?
Bruce R. Zetter, Children’s Hospital Boston and Harvard Medical School, Boston, MA

*An extended abstract for this presentation is available in the Invited Abstracts section of the Proceedings.

**An extended abstract for this presentation is available in the Proffered Abstracts section of the Proceedings.
Genomics of Primary Tumors and Metastases


A2 14-3-3ζ cooperates with ErbB2 to promote ductal carcinoma in situ progression to invasive breast cancer by inducing epithelial-mesenchymal transition. Dihua Yu.

This abstract is being presented as a short talk in Plenary Session 2. A full abstract is printed in the Proffered Abstracts section (PR2) of the Conference Proceedings.

A3 Upregulation of leptin during malignant progression of fibrosarcoma and other soft tissue sarcoma. Sagarika Kanjilal.

A4 Intrinsic subtype and tumor differentiation status are robust predictors of metastasis site. J. Chuck Harrell, Aleix Prat, Joel S. Parker, Cheng Fan, Charles M. Perou.


A7 The alpha receptor for platelet-derived growth factor confers bone-metastatic potential to prostate cancer cells and regulates the expression of a specific set of genes. Qingxin Liu, Mike R. Russell, Alessandro Fatatis.


A10 Dissecting mechanisms of metastasis using a mouse model of cancer. Rebecca D. Dodd, Jeff Mito, Will Eward, Brian Brigman, Leslie Dodd, Sayan Mukherjee, David Kirsch.

A11 Dissecting molecular mechanisms of metastasis in a primary mouse model of soft tissue sarcoma. Jeffrey K. Mito, Rebecca D. Dodd, Brian E. Brigman, Zhizhong Li, William C. Eward, Sayan Mukherjee, David Kirsch.


Inflammation and Immunity


A15 sTNFR shedded by breast tumor cells influences macrophage cell migration. Stephen Rego, Muthulekha Swamydas, Krista Ricci, Didier Dréau.


This abstract is being presented as a short talk in Concurrent Session 3. A full abstract is printed in the Proffered Abstracts section (PR6) of the Conference Proceedings.
A17 The indirect interaction between CCL5 and orphan chemokine receptor CCRL2 induced prostate cancer cell migration. Ya-Ju Hsiao, Hui-Wen Chang, Li-Chin Wu, Chia-Ling Hsieh, Leland W. K. Chung, Shian-Ying Sung.


A19 Tumor-recruited neutrophils and their TIMP-free MMP-9 determine coordinately the levels of tumor angiogenesis and efficiency of malignant cell dissemination. Elena I. Deryugina, Erin M. Bekes, Bernhard Schweighofer, Tatyana A. Kupriyanova, James P. Quigley.


A21 Colon carcinoma cell interaction with liver sinusoidal endothelium inhibits organ-specific anti-tumor immunity via IL-1-induced mannose receptor. Beatriz Arteta, Nerea Lasuen, Aritz Lopategi, Baldur Sveinbjörnsson, Bard Smedsrod, Fernando Vidal-Vanaclocha.

A22 CCL2 recruits inflammatory monocytes to facilitate breast tumor metastasis. Bin-Zhi Qian, Jiu Feng Li, Hui Zhang, Linda A. Snyder, Jeffrey W. Pollard.

A23 Indoleamine 2,3-dioxygenase (IDO) supports metastatic outgrowth of the 4T1 breast cancer mouse model. Courtney Smith, James DuHadaway, Alexander J. Muller, George C. Prendergast.


A25 A novel population of Neuropilin-1-expressing mononuclear cells (NEMs) contributes to tumor vessel stabilization and normalization. Alessandro Carrer, Mauro Giacca, Serena Zacchigna, Silvia Moimas, Giulia Ruozzi, Milena Sinigaglia, Miguel Mano, Lorena Zentilin, Enrico Giraudo, Federico Bussolino.

This abstract is being presented as a short talk in Plenary Session 3. A full abstract is printed in the Proffered Abstracts section (PR4) of the Conference Proceedings.

A26 Wogonin sensitizes cancer cells to tumor necrosis factor-induced apoptosis through catalase suppression-mediated hydrogen peroxide accumulation and consequent NF-κB blockage. Ian Yang, Xuelian Zheng, Hong Sun, Yingjia Zhong, Qiong Wang, Yong Lin, Lin Zhang, Xia Wang.

A27 Inflammation linked to the deficiency of tissue inhibitor of metalloproteinase-2 accelerates tumorogenesis of Lewis-Lung carcinoma. Liliana Guedez, Clifford J. Kwityn, William G. Stetler-Stevenson.


The Influence of the Niche


A33 Aminobisphosphonates regulate cell proliferation, viability and gene expression in human osteoblasts and affect osteoblast-tumor interactions. Tatjana Kaiser, Konstanze Geiger, Diethelm Wallwiener, Gerd Klein, Tanja Fehm.

A34 Epithelial-mesenchymal plasticity dictates proliferative control pathways in breast cancer. Honor J. Hugo, Yvette Drabsch, Thomas J. Gonda, Tony Blick, Robert G. Ramsay, Erik W. Thompson.


A36 Type I collagen enrichment at the metastatic site: The ‘soil’ triggering the transition from tumor dormancy to metastatic growth. Dalit Barkan, Jack Gauldie, Jeffrey E. Green, Lara H. El Touny, Aleksandra M. Michalowski, Jane Ann Smith, Isabel Chu, Anne Sally Davis, Joshua D. Webster, Shelley Hoover, Mark R. Simpson.

A37 Changes in bone marrow microenvironment over time during breast cancer metastatic colonization of bone. Donna M. Sosnoski, Venkat Krishnan, Andrea M. Mastro.

A38 Low ascorbate levels are associated with high hypoxia-inducible factor-1 activity and a more aggressive tumor phenotype in endometrial cancer. Caroline Kuiper, Ilona G. M. Molenaar, Gabi U. Dachs, Margaret J. Currie, Peter H Sykes, Margreet C.M. Vissers.


A40 Osteoblasts change the expression of dysadherin and chemokine (C-C motif) ligand 2 in renal carcinoma cells and increase their motility. Yvonne Schueler, Wilhelm K. Aicher, Gerd Klein.

A41 Tumor entrained neutrophils inhibit seeding in the pre-metastatic niche. Zvi Granot, Robert Benezra.

Metastasis and the Matrix


A44 Regulation of E-cadherin and cell-cell adhesion by the metastasis suppressor tetraspanin KAI1/CD82. Cindy K. Miranti, Electa Park.

A45 Inhibition of TGFβ1 with losartan but not 1D11, an anti-TGFβ antibody, extends survival and curtails metastasis of pancreatic carcinoma in SPARC-null mice. Shanna A. Arnold, Lee B. Rivera, Juliet G. Carbon, Chi-Lun Chang, Amy D. Bradshaw, Rolf A. Breken.
**A46** An automated high-content assay for tumor cell migration through 3-dimensional matrices. Victoria Echeverria, Ivar Meyvantsson, Allyson Skoien, Casey Lamers, Steven Hayes.

**A47** MicroRNAs regulating breast cancer stem cells and metastasis. Huiping Liu, Yohei Shimono, Jessica Bockhorn, Funmi Olopade, Geoffrey Greene, Michael F. Clarke.

**A48** Melanoma-derived tenasin-C maintains a stem cell-like phenotype, increases pulmonary metastases and creates resistance to conventional therapies. Mizuho Fukunaga-Kalabis, Ademi Santiago-Walker, Alex Roesch, Meenhard Herlyn.

**A49** Differential roles of SPARC in bladder carcinogenesis and metastasis. Neveen Said, Nidhi Chandra, Rolf Brekken, Henry F. Frierson, Dan Theodorescu.

**A50** Activation of pro-uPA facilitates angiogenesis, escape from the primary tumor, and intravasation of prostate carcinoma cells. Erin M Bekes, Kenneth A. Boetkjaer, Peter A. Andreassen, Elena I Deryugina, James P. Quigley.


**A52** Possible evidences of a protease-independent invasion mechanism in colon cancer liver metastases with “pushing” growth pattern. Martin Illemann, Nigel Bird, Ali Majeed, Keld Dane, Boye S. Nielsen, Ole D. Laerum.

**A53** Effects of cyclic hypoxia on the expression of metastatic genes in cervical carcinoma. Naz Chaudary, Richard P. Hill.

**A54** Androgen receptor-enhanced integrin α6β1 regulation of prostate tumor survival and invasion on laminin. Laura E. Lamb, Jelani C. Zarif, Cindy K. Miranti.

**A55** Activation of FAK-ERK signaling by MT-SP2 during invasion and epithelial-mesenchymal transition. Semi Kim, Hee Young Kang, Eun-Hee Nam, Xue-Feng Zhao, Chang Soo Hong, Jae Hyuk Lee, Young-Kyu Park.


**A57** A novel, ligand independent activation of c-Met by α5β1-integrin regulates ovarian cancer invasion and metastasis. Anirban K. Mitra, Kenjiro Sawada, Payal Tiwari, Keeley Mui, Katja Gwin.


**A59** Engaging the tetraspanin CD151 leads to matrix-dependent inhibition of cell migration and metastasis through a novel mechanism involving cell-cell contact. Trenis D Palmer, Antonio Mazzocca, Amanda G. Hansen, Andries Zijlstra.

**A60** Glucosamine treatment-mediated O-GlcNAc modification of paxillin depends on adhesion state of rat insulinoma INS-1 cells. Tae Kyoung Kwak, Jung Weon Lee.

A63 Influence on the physiological functions of mouse hepatocarcinoma Hca-F cell line after blockade of CLIC1 by shRNA. Rongkuan Li, Jianwu Tang, Jun Zhang.

Novel Molecular Pathways

A64 Slow cycling self-renewing JARID1B-positive cells are essential for long-term maintenance of malignant melanoma. Meenhard Herlyn, Alexander Roesch, Mizuho Fukunaga-Kalabis. This abstract is being presented as a short talk in Plenary Session 1. A full abstract is printed in the Proffered Abstracts section (PR1) of the Conference Proceedings.

A65 The KISS1 metastasis suppressor appears to reverse the 'Warburg Effect' by increasing mitochondrial number. Benjamin H. Beck, Kyle P. Feeley, Anne R. Diers, Kedar S. Vaidya, Kevin T. Nash, John W. Thomas, Aimee Landar, Scott W. Ballinger, Danny R. Welch.

A66 The KISS1 metastasis suppressor mediates its anti-metastatic effects by paracrine signaling through macrophages. Benjamin H. Beck, Kyle P. Feeley, John W. Thomas, Kedar S. Vaidya, Jason W. Ashley, Danny R. Welch.


A68 Regulation of breast cancer metastasis by thromboxane A₂ receptor signaling. Zhang Xuejing, Wang Man-Tzu, Chen Yakun, Tang Yong, Nie Daotai.

A69 Heat shock factor 1 as a multifaceted regulator of breast cancer progression and metastasis. Michelle M. Kouspou, Chau Nguyen, Benjamin Lang, Ryan Chai, Jessica Vieuxseux, John T Price.

A70 The metastasis suppressor NM23-H1 promotes genomic stability through its 3'-5' exonuclease and nucleoside diphosphate kinase activities. Stuart G. Jarrett, Marian Novak, Nathan Harris, Isabel Mellon, Sandrine Arnaud-Dabernat, Jean-Yves Daniel, David M. Kaetzel.

A71 Mdm2 is induced as cells undergo EMT and correlates with invasive late-stage breast cancer. Jacob Eitel, Shinako Akaki, Karen Pollok, David Boothman, Lindsey D. Mayo.


A73 The tumor suppressor C/EBP delta (CEBPΔ) promotes metastasis of MMTV-Neu mouse mammary tumors and augments mTOR/AKT/HIF-1 activity through inhibition of FBXW7 expression. Kuppusamy Balamurugan, Tapasree Roy Sarkar, Ju M. Wang, Shikha Sharan, Miriam M. Anver, Robert Leightly, Esta Sterneck.

A74 c-Crk proto-oncogene and TGF-β signaling pathway contribute to transcriptional repression of p120ctn in non-small cell lung cancer cells. Fariborz (Fred) Mortazavi, Steven M. Dubinett, Matthew B. Rettig.

A75 The LKB1-STRADα axis regulates vimentin to control cancer cell metastasis. Erik R. Kline, Katherine Hales, Adam I. Marcus.

A76 Analysis of sequences required for BRMS1 mediated metastasis suppression. Douglas R. Hurst, Yi Xie, Mick D. Edmonds, Danny R. Welch.
A77 Epidemiology of hypertension and ovarian cancer tumor progression and metastasis. Sharon Hensley Alford, Xiao-Ping Yang, Adnan Munkarah.


A79 ATF3, a hub of the stress-response network, promotes a systemic environment that enhances cancer metastasis. Christopher Wolford, Xin Yin, Tsonwin Hai, Swati Jalgaonkar, Steve McConoughy, Yiseok Chang, Johnna Dominick, Marino Leon, Sandra O’Toole, Rob Sutherland, Charles Shapiro.

A80 Forkhead Box m1 transcription factor is required for the cross talk between endothelial cells and tumor cells during lung tumor formation. David Balli, Vladimir Kalinichenko, Yufang Zhang, Jonathan Snyder, Tanya Kalin.

A81 p16Ink4a enhances the migration and metastasis phenotype of hepatocellular carcinoma cells. Ya-Wen Chen, Hsiao-Chein Chu, Brian C. Lewis.


A84 EMT and metastasis in a murine model of NSCLC is dependent upon the Notch ligand Jagged2 activation of a GATA3-miR-200 feedback loop. Don L Gibbons, Yanan Yang, Young-Ho Ahn, Chad J. Creighton, Alexander Pertošmelidis, Philip A. Gregory, Wei Lin, Zain H. Rizvi, Jonathan M. Kurie.

A85 The adhesion molecule MCAM/MUC18 (CD 146) regulates the expression of Id-1 and contributes to melanoma metastasis. Maya Zigler, Gabriel J. Villares, Andrey S. Dobroff, Russel R. Braeuer, Hua Wang, Vlada Melnikova, Huang Li, Renduo Song, Alani M. Rhoda, Menashe Bar-Eli.

A86 Regulation of ER-associated degradation and ER stress in metastasis: Insights from studies on an ER ubiquitin ligase. Yien Che Tsai, Rhyan Maditz, Allan M. Weissman.


Site Specific Metastasis


This abstract is being presented as a short talk in Concurrent Session 6. A full abstract is printed in the Proffered Abstracts section (PR14) of the Conference Proceedings.

A90 A role for oncostatin M in breast cancer metastasis to bone. Ken Tawara, Celeste Bolin, Caleb Sutherland, Robin L. Anderson, Cheryl L. Jorcyk.

A91 Application of nanoparticle quantum dot as a unique tool for identification of high risk cancer cells for metastasis. Jing Xu, Donghai Huang, Yuxiang Wang, Clifford C. Hoyt, Xianghong Peng, Dongsheng Wang, Hongzheng Zhang, Dong M. Shin, Zhuo (Georgia) Chen.


A94 Chronic consumption of a high fat diet increases solid tumor growth and metastasis of 4T1 murine mammary carcinoma cells in a BALB/c mouse xenograft model. Eun Ji Kim, Mi-Ran Choi, Heesook Park, Ji Eun Hong, Jae-Yong Lee, Jung Han Yoon Park.

A95 Host-derived cathepsin K enhances progression of prostate tumors in the skeleton: Distinct effects on tumor- and host-initiated proteolytic pathways. Izabela Podgorski, Mackenzie Herroon, Deborah Rudy, Anju Mukundan, Craig Giroux.

A96 The chemokine fractalkine and its receptor CX3CR1 are directly involved in the arrest of circulating breast and prostate cancer cells to the skeleton. Yun Zhang, Whitney L. Jamieson, Alessandro Fatatis.

A97 Discoidin Domain Receptor 2 deficiency predisposes hepatic tissue to colon carcinoma metastasis. Elvira Olaso, Iker Badiola, Fernando Vidal-Vanaclocha.

A98 Pazopanib reveals a role for B-Raf in tumorigenesis, angiogenesis and prevention of brain metastatic colonization of HER2+ breast cancer cells. Brunilde Gril, Diane Palmieri, Yong Qian, Lilja Ileva, David J. Liewehr, Seth M. Steinberg, Patricia S. Steeg.


A100 Full Length L1CAM is overexpressed on brain-seeking MDA-MB-231 breast cancer cells and may play a role in binding Tenascin C and colony formation in vitro. Lynda M. Evans, Diane Palmieri, Patricia S. Steeg.


A102 Sequential treatment with zoledronic acid and doxorubicin has no additive effects in a mouse model of established bone metastasis. Mari I. Suominen, Rami Käkönen, Jukka P. Rissanen, Sanna-Maria Käkönen, Jussi M. Hallean.

Stem Cells

A103 In vivo imaging of the differential malignancy and chemosensitivity of interacting cancer stem and non-stem cells. Atsushi Suetsugu, Yosuke Osawa, Masahito Nagaki, Hisataka Moriwaki, Shigetoyo Saji, Michael Bouvet, Robert M. Hoffman.


This abstract is being presented as a short talk in the Generation X Session. A full abstract is printed in the Proffered Abstracts section (PR11) of the conference Proceedings.

A106 Comparing stem cell marker expression between primary and metastatic lymph node tumors of NSCLC. Omid Rouhi, John Coon, Jeffrey A. Borgia, Marlene Gallegos, Kelly A. Kaiser-Walters, Diana Escarzaga, Danielle Steker, Sanjib Basu, Michael J. Liptay, Paolo Gattuso, Philip Bonomi.

A107 Effects of hMSCs on ER-positive human breast carcinoma cells are mediated through ER-SDF-1/CXCR4 crosstalk. Lyndsay V Rhodes, James W. Antoon, Shannon E. Muir, Steven Elliott, Barbara S. Beckman, Matthew E. Burow.
A108 Long term treatment with TGFβ pathway inhibitor LY2109671 leads to a paradoxical increase in TGFβ signaling and possible expansion of the stem cell compartment. Erin C. Connolly, Elise Saunier, David Quigley, Rosemary Akhurst.


A110 Microenvironment enriched metastatic cancer stem cells mediate prostate cancer metastasis. Mahipal V.. Suraneni, Hangwen Li, John Moore, Da Yang, Wei Zhang, Dean G. Tang. This abstract is being presented as a short talk in Plenary Session 5. A full abstract is printed in the Proffered Abstracts section (PR16) of the Conference Proceedings.


A112 Hematopoietic cell spheres (HCS): Growth, description, and potential. Audrey N. Jajosky, Michael Craig, Karen Martin, Laura F. Gibson.

A113 CD 146 positive bone marrow mesenchymal stem cells in advanced stages of untreated lung and breast cancer patients. Valeria Beatriz Fernandez Vallone, Hooson Choi, Vivian Labovsky, Leandro Martinez, Horacio Bordenave, Leonardo Feldman, Norma Alejandra Chasseing.


A116 Malignant tumor and host tissue CXCR2 expression promotes mammary tumor growth, angiogenesis, and progression. Kalyan C. Nannuru, Bhawna Sharma, Michelle L. Varney, Rakesh K. Singh.

A117 Molecular profile of the stroma from human ovarian carcinoma xenografts equipped with different angiogenic phenotypes. Antonietta Silini, Carmen Ghilardi, Giovanna Chiorino, Regine Dhase, Sara Figini, Barbara Pedley, Raffaella Giavazzi, Maria Rosa Bani.

A118 Blockade of PDGFR signaling impairs the tumor promoting effect of bone marrow-derived mesenchymal stem cells in colon cancer. Yasuhiro Kitadai, Kei Shinagawa, Miwako Tanaka, Tomonori Sumida, Michiyo Kodama, Shinji Tanaka, Kazuaki Chayama.


A120 Murine and human lymphatic endothelial cells show similar marker profiles and migratory properties. Sanja Coso, Elizabeth D. Williams.

**A122** Secretion from stellate cells induces epithelial-mesenchymal transition in pancreatic cancer. *Ivy Chung, Atsushi Masamune, Nabeel Bardeesy, Bruce Zetter.*

**A123** The role of stroma and STAT1 in radioresistance of breast cancer. *Mirjam C. Boelens, Tony J. Wu, Taewon Yoon, Andy J. Minn.*

This abstract is being presented as a short talk in the Generation X Session. A full abstract is printed in the Proffered Abstracts section (PR9) of the Conference Proceedings.

**A124** Cancer cell and nucleus size and the tumor microenvironment. *Julia Rastelli, Lucas Jae, Ferenc Reinhardt, Sandra S. McAllister, Robert A. Weinberg.*

**A125** Separate analysis of the cancer and stroma cell populations from orthotopically implanted tumor biopsies in eGFP scid mice. *Hege Karine Jacobsen, Rolf Bjerkvig, Per Øyvind Enger, Aly Dicko, Jian Wang, Kristian Storli, Sabine Leh, Frits Alan Thorsen, Tina Pavlin, Karl Søndenaa, Donald Gullberg.*

**A126** Specific inhibition of VEGF-A activation of VEGFR2 is sufficient to block lymphangiogenesis *in vitro and in vivo.* *Michael T. Dellinger, Rolf A. Brekken.*

**Translational Targets**


**A128** The role of β1 integrins in pancreatic cancer metastasis. *John J. Grzesiak, Michael Bouvet, Hop S. Tran Cao, Douglas W. Burton, Sharmeela Kaushal, Fabian Vargas, Paul Clopton, Cynthia S. Snyder, Leonard J. Deftos, Robert M. Hoffman.*


**A130** Targeting of XIAP in combination with systemic mesenchymal stem cell-mediated delivery of sTRAIL blocks metastatic growth of pancreatic carcinoma cells. *Andrea Mohr, Stella Maris Albarenque, Laura Deedigan, Rui Yu, Mairead Reidy, Simone Fulda, Ralf Zwacka.*


**A133** Recombinant human erythropoietin (rHuEPO) in combination with chemotherapy increases breast cancer metastasis in pre-clinical mouse models. *Benjamin Hedley, Jenny Chu, David George Ormond, Mich Beausoleil , Alexandra Boasie, Alison Allan, Anargyros Xenocostas.*

This abstract is being presented as a short talk in the Generation X Session. A full abstract is printed in the Proffered Abstracts section (PR10) of the Conference Proceedings.

**A134** Fibroblast activation protein alpha (FAP): Targeting the reactive stroma as a novel prodrug therapy for cancer. *W. Nathaniel Brennen, D. Marc Rosen, Samuel R. Denmeade.*

**A135** Omega 3 fatty acids as therapeutic ligands for PPARγ in renal cell carcinoma. *Mary Taub, Facundo Cutuli.*
**A136** Targeting $\alpha V$ integrins decreased metastasis and increased survival in a nude rat breast cancer brain metastasis model. Y. Jeffrey Wu, Seymour Gahramanov, Leslie L. Muldoon, Seth Lewin, Deborah J. Marshall, Edward A. Neuwelt.


**A138** Soluble receptor activator of nuclear factor-kB ligand and proteases: the involvement in osteolysis and its significance as therapeutics for bone metastasis of breast or prostate cancer. Mitsuru Futakuchi, Thomas J. Wilson, Kalyan C. Nannuru, Katsumi Fukamachi, Masumi Suzui, Rakesh K. Singh.

**A139** A new therapeutic candidate for breast cancer: Laminin-332 overexpressing myofibroblast formation via epithelial-mesenchymal transition in the interface zone. Baek Gil Kim, Suki Kang, Nam Hoon Cho.


**A143** The role of S100A2 in the transition to the invasive phenotype as identified and characterized by the human 21T series 3D model of breast cancer progression. Lesley H. Souter, Carl O. Postenka, Joseph D. Andrews, David I. Rodenhiser, Ann F. Chambers, Alan B. Tuck.


**A145** Quantitative high resolution genomic analysis of single cancer cells. Juliane Hannemann, Sönke Meyer-Staeckling, Simon A. Joosse, Iris Alpers, Sabine Riethdorf, Dirk Kemming, Klaus Pantel, Burkhard Brandt.
7:00  *Neuroendocrine Regulation of Metastasis: Targeting the Tumor Macroenvironment
      Liberty Ballroom D
      Steve Cole, University of California, Los Angeles, CA

7:00  Metastasis Assays *in vivo* and *Metastasis Assays* *in vitro*: What Do They Mean?
      Liberty Ballroom AB
      Danny R. Welch, University of Alabama, Birmingham, AL

*An extended abstract for this presentation is available in the Invited Abstracts section of the Proceedings.*
Dormancy
Liberty Ballroom AB
Chairperson: Ann F. Chambers, London Regional Cancer Center, London, ON, Canada

8:00  *Disseminated tumor cells in prostate cancer: Insights into bone metastases, epithelial to mesenchymal transition (EMT) and tumor cell dormancy
Robert L. Vessella, University of Washington Medical Center, Seattle, WA

8:30  *Imaging experimental models of tumor metastasis and dormancy
Ann F. Chambers, London Regional Cancer Center, London, ON, Canada

9:00  *Stress signaling mechanisms and dormancy of disseminated tumor cells
Julio A. Aguirre-Ghiso, Mount Sinai School of Medicine, New York, NY

9:30  *An LPA1 antagonist, Debio 0719, acts as a metastasis suppressor in breast cancer
Jean-Claude A. Marshall, National Cancer Institute, Bethesda, MD

*An extended abstract for this presentation is available in the Invited Abstracts section of the Proceedings.
The Future of Tumor Progression
Liberty Ballroom AB

Chairperson: Yves A. DeClerck, University of Southern California/Children’s Hospital Los Angeles, Los Angeles, CA

10:30 Introduction
Generation X: The 13th wave of scientists?
Yves A. DeClerck, University of Southern California/Children's Hospital Los Angeles, Los Angeles, CA

10:40 **A novel role of Notch signaling in breast cancer bone metastasis
Nilay Sethi, Princeton University, Princeton, NJ

11:00 **The role of stroma and STAT1 in radioresistance of breast cancer
Mirjam C. Boelens, Abramson Family Cancer Research Institute, University of Pennsylvania, Philadelphia, PA

11:20 **Recombinant human erythropoietin (rHuEPO) in combination with chemotherapy increases breast cancer metastasis in pre-clinical mouse models
Benjamin Hedley, London Health Sciences Centre, London, ON, Canada

11:40 **Identification of tumor-initiating-cells in late events of hepatic metastases
Jon Lecanda, Center for Applied Medical Research, Pamplona, Spain

**An extended abstract for this presentation is available in the Proffered Abstracts section of the Proceedings.
### Concurrent Session 5:  
**Metastasis and the Matrix**  
**Liberty Ballroom D**  
Chairperson: Valerie M. Weaver, University of California, San Francisco, CA

<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Speaker and Affiliation</th>
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<tbody>
<tr>
<td>1:30</td>
<td><strong>The force journey of a tumor cell</strong></td>
<td>Valerie M. Weaver, University of California, San Francisco, CA</td>
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<tr>
<td>2:00</td>
<td><strong>Microenvironments of carcinoma cell dissemination and metastasis:</strong></td>
<td>John S. Condeelis, Albert Einstein College of Medicine, Bronx, NY</td>
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<tr>
<td>2:30</td>
<td><strong>Title to be announced</strong></td>
<td>Linda G. Griffith, Massachusetts Institute of Technology, Cambridge, MA</td>
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<tr>
<td>3:00</td>
<td><strong>Role of versican in bladder cancer metastasis to the lungs</strong></td>
<td>Neveen Said, University of Virginia, Charlottesville, VA</td>
</tr>
<tr>
<td>3:15</td>
<td><strong>Microtentacles arising from imbalanced cytoskeletal forces promote the reattachment of circulating breast tumor cells in lung capillaries</strong></td>
<td>Stuart S. Martin, University of Maryland School of Medicine, Baltimore, MD</td>
</tr>
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### Concurrent Session 6:  
**MRS: Site Specific Metastasis**  
**Liberty Ballroom AB**  
Chairperson: Andrea M. Mastro, Penn State University, University Park, PA

<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Speaker and Affiliation</th>
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<tbody>
<tr>
<td>1:30</td>
<td><em>An in vitro model of the vicious cycle of breast cancer metastasis in the bone</em></td>
<td>Andrea M. Mastro, Penn State University, University Park, PA</td>
</tr>
<tr>
<td>2:00</td>
<td><em>Translational leads for the treatment of breast cancer brain metastasis</em></td>
<td>Diane Palmieri, National Cancer Institute, Bethesda, MD</td>
</tr>
<tr>
<td>2:30</td>
<td><em>The tumor microenvironment at different stages of the hepatic metastasis process</em></td>
<td>Fernando Vidal-Vanaclocha, CEU-San Pablo University School of Medicine and Madrid Hospital Foundation, Madrid, Spain</td>
</tr>
<tr>
<td>3:00</td>
<td><strong>Syndecans in breast cancer brain metastasis</strong></td>
<td>Jennifer E. Koblinski, Northwestern University, Chicago, IL</td>
</tr>
<tr>
<td>3:15</td>
<td><strong>Vascular co-option in brain metastasis</strong></td>
<td>Ruth Muschel, University of Oxford, Oxford, United Kingdom</td>
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*An extended abstract for this presentation is available in the Invited Abstracts section of the Proceedings.  
**An extended abstract for this presentation is available in the Proffered Abstracts section of the Proceedings.*
microRNA-mediated Regulation of the Tumor Angiogenic Switch

David A. Cheresh, University of California, San Diego, La Jolla, CA

Excellence in the metastasis field is recognized by the Paget-Ewing Award. The Paget-Ewing Award is named after Sir Stephen Paget and Dr. James Ewing, pioneers in metastasis research in the late 19th and early 20th centuries who proposed the two major theories to explain organ selectivity of metastasis. The Paget-Ewing Award is the highest honor bestowed by the Metastasis Research Society and honors a person’s scientific excellence and substantial contributions to the understanding and/or control of cancer metastasis.
Dormancy


B3 The function of extracellular matrix in breast cancer dormancy. Ori Maller, Traci R. Lyons, Jeffrey E. Green, Pepper J. Schedin.

Genomics of Primary Tumors and Metastases


B5 Transcriptional distinctions between A2B5-defined human glial progenitor cells and those derived from glial tumors at all stages of gliomagenesis. Romane Melanie Auvergne, Kevin Walter, Mahlon Johnson, Pragathi Achanta, Alfredo Quinones-Hinojosa, Sridaran Natesan, Steven A. Goldman, Fraser Sim, Su Wang, Devin Chandler-Militello, Jaclyn Burch, Xiaojie Li, Andrew Bennett, Nimish Mohile, Webster Pilcher.

B6 High-resolution genotyping of colorectal cancer in association with the detection of circulating tumor cells. Simon A. Joosse, Lutz Riethdorf, Sabine Riethdorf, Klaus Pantel, Juliane Hannemann, Catherine Alix-Panabières, Eric Denève, Christin Beneken, Marja Nieuwland, Ron M. Kerkhoven, Jeanne Ramos, Harriet Wikman.


B8 Comparative gene expression profiling of ovarian cancer and stromal cells suggests the existence of functionally significant variability in tumor microenvironments. Loukia N. Lili, L. DeEtte Walker, Lilya Matyunina, Nathan J. Bown, John F. McDonald.


B10 The bHLH/PAS transcription factor, Singleminded-2s (Sim2s), promotes breast tumor cell differentiation and inhibits metastasis. Kelly C. Scribner, Weston W. Porter.

B11 Expression and localization of CLIC1 in hepatocarcinoma cell lines with high and low lymphatic metastasis potential. Meiying Song, Jianwu Tang, Mingzhong Sun, Shuqing Liu, Bo Wang.

B12 The role of activator E2Fs in mediating breast cancer metastasis. Inez Yuwanita, Eran Andreczek.

B13 The Ron receptor is required for prostate tumor growth in the TRAMP mouse model. Devikala Gurusamy, Megan N. Thobe, Jerilyn K. Gray, Purnima K. Wagh, Peterson Pathrose, Alex B. Lentsch, Susan E. Waltz.

B14 Genetic tests of genomic predictions for E2F involvement in tumor progression and metastasis. Eran R. Andreczek.

B15 Evaluation of epithelial-to-mesenchymal transition markers and CXCR4 in primary and metastatic lymph node tumors of NSCLC. Omid Rouhi, Philip Bonomi, John Coon, Jeffrey A. Borgia, Patri Marconi, Marlene Gallegos, Kelly A. Kaiser-Walters, Diana Escarzaga, Danielle Steker, Sanjib Basu, Michael J. Liptay, Paolo Gattuso.
**Metastasis and the Matrix**

**B16** Estrogen receptor alpha deletion alters the metastatic phenotype in MMTV-Ron driven tumorigenesis. Aaron M. Marshall, Rebecca J. McClaine, Jerilyn K. Grey, Susan E. Waltz.

**B17** Role of annexin A2 in ovarian cancer metastasis. Carmela Ricciardelli, Noor A. Lokman, Miranda P. Ween, Peter Hoffman, Martin K. Oehler.


**B19** Loss of PTEN permits CXCR4-mediated metastasis through the ERK1/2 pathway in prostate cancer cells. Mahandranauth A. Chetram, Cimona V. Hinton.

**B20** Decreased tumor invasiveness after inhibition of VEGF and c-Met in RIP-Tag2 tumors. Beverly L. Falcon, Jeyling Chou, Stuart Thomson, David M. Epstein, Donald M. McDonald.

**B21** Loss of the α2β1 integrin regulates squamous cell carcinoma metastasis by altering lymphangiogenesis. Thuy Tran, Lynda O’Rear, Brenda Jarvis, Zhengzi Li, William Dupont, Brittney Barlow, Mary Zutter.

**B22** p120 regulates tumor growth of metastatic lobular carcinoma through Rock1-mediated anoikis resistance. Ron Schackmann, Miranda van Amersfoort, Judith Haarhuis, Annelieke Jaspers, Petra van der Groep, Paul van Diest, Jos Jonkers, Patrick W.B. Derksen.


**B24** Role of Cox-2 expression on metastatic potential in breast cancer cells resistant to chemotherapy. Ju-Hee Kang, Ki-Hoon Song, Kyung-Chae Jung, Changsun Choi, Chang Hoon Lee, Seung Hyun Oh.

**B25** The scribble polarity complex regulates tumor cell invasion by regulation of Zeb1 and dampening of β1-integrin signaling. Zain H Rizvi, Young-Ho Ahn, Chad J. Creighton, Ana Maria Cabanillas, Philip A Gregory, Gregory J. Goodall, Jonathan M. Kurie, Don L. Gibbons.


**B28** The dual function of SIRPα in mediating cross-talk between the prolactin receptor and integrins in breast cancer cells. Traci Galbaugh, Yvonne Feeney, Charles Clevenger.

**B29** VEGF inhibition has anti- and pro-tumorigenic effects in a transgenic model of pancreatic ductal adenocarcinoma. Lee B. Rivera, Juliet G. Carbon, Jason Toombs, Diego Castrillon, Rolf A. Brekken.


**B31** A role of ADAM9 in breast tumour cell invasion. Kelli Cristina Micocci, Ana Carolina B. Moreno Martin, Marcia Regina Cominetti, Heloísa Sobreiro Selistre-de-Araújo.

**B32** Ionizing radiation promotes an invasive phenotype in ErbB2-expressing mammary epithelial cells. Diane M. Keene, Mauricio Reginato, Jane Azizkhan-Clifford.
B33 TGF-β induces the PI3-kinase/AKT pathway and invasive behavior in prostate cancer cells. Lindsey D. Walker, Ana Cecilia Millena, Shafiq Khan.


B36 TM4SF5-mediated FAK activation for an enhanced migration and invasion. Osiun Jung, Jung Weon Lee.

B37 Targeting MMP13 in human breast cancer metastasis to bone. Manisha Shah, Tony Blick, Dexing Huang, Larry A. Reiter, Joel R. Hardink, Erik W. Thompson, Mark Waltham.

Metastatic Colonization

B38 A significant subpopulation of tumor cells in sentinel lymph nodes from breast cancer patients express mesenchymal characteristics and are not detected by conventional methods. Siri Tveito, Rolf Kaaresen, Kristin Andersen, Øystein Fodstad.


This abstract is being presented as a short talk in Concurrent Session 6. A full abstract is printed in the Proffered Abstracts section (PR15) of the Conference Proceedings.

B40 MicroRNA-1258 suppresses breast cancer brain metastasis by targeting heparanase. Lixin Zhang, Peggy Sullivan, Preethi Gunaratne, Dario Marchetti.

B41 Effects of dietary fat on spontaneous metastasis of Lewis lung carcinoma and changes in plasma cytokine concentrations in mice. Lin Yan.

B42 Mechanisms of the creation of a pre-metastatic niche in the liver by elevated systemic TIMP-1 levels. Achim Krüger.

B43 Soy isoflavones promote metastasis through regulation of protein synthesis. Elisa Otero-Franqui, Columba De La Parra, Michelle Martinez-Montemayor, Suranganie Dharmawadhan.

B44 TGFβ signaling is a metastasis suppressor. Neka A.K. Simms, Michael G. Brattain.


B46 Selectin-mediated activation of endothelial cells promotes metastasis by the recruitment of monocytic cells and modulates metastatic microenvironment. Lubor Borsig, Heinz Läubli.

B48 Disruption of bone morphogenetic protein receptor 2 accelerates mammary carcinoma metastasis to the lung. Philip Owens, Michael W. Pickup, Sergey V. Novitskiy, Agnieszka E. Gorska, Mary E. Aakre, Harold L. Moses.

B49 Role of fractalkine/fractalkine receptor signaling in progression of epithelial ovarian carcinoma. Mijung Kim, Andre Kajdacsy-Balla, Lisa Rooper, Jamie Rayahin, Maria Barbolina.


This abstract is being presented as a short talk in Concurrent Session 4. A full abstract is printed in the Proffered Abstracts section (PR7) of the Conference Proceedings.


B53 Chemotherapy promotes lung metastasis formation in mouse models via a VEGFR-1-dependent mechanism. Laura G.M. Daenen, Jeanine M.L. Roodhart, Mantre Dehnad, Emile E. Voest.

This abstract is being presented as a short talk in Plenary Session 2. A full abstract is printed in the Proffered Abstracts section (PR3) of the Conference Proceedings.

B54 Lineage tracing of metastasis in a murine lung adenocarcinoma model. Chitra Thakur.


Novel Molecular Pathways

B57 The Six1 homeoprotein is dependent on Eya2 to mediate TGFβ signaling, EMT properties, and stem cell characteristics in breast cancer. Susan M. Farabaugh, Douglas S. Micalizzi, Alana L. Welm, Heide L. Ford.


B59 The actin-binding protein Gelsolin as a potential binding partner of Nm23. Natasia Marino, Jean-Claude A. Marshall, Joshua Collins, Ming Zhou, Timothy Veenstra, Patricia S. Steeg.


B63 Increased PTEN instability-mediated Akt activation confers acquired resistance to cetuximab and increased migration/invasion potentials in non-small cell lung cancer. Sun Mi Kim, Yun Kyoung Hong, Hyeon Kim, Byoung Chul Cho.

B64 Role of the transcription factor forkhead box P3 in cancer metastasis. Tiziana Triulzi, Valentina Uva, Lucia Sfondrini, Patrizia Casalini, Piera Aiello, Monica Tortoreto, Andrea Balsari, Elda Tagliaabue.


B67 Optimal intracellular ascorbate concentrations suppress hypoxia-inducible factor-1α and its transcriptional activity differentially in cancer and normal cells. Caroline Kuiper, Gabi U. Dachs, Margaret J. Currie, Margreet C.M. Vissers.


B72 Activated HSF1 co-operates with oncogenic transformation and promotes cell biological features associated with a metastatic phenotype. Chau H. Nguyen, Michelle Kouspou, Benjamin Lang, Jessica Viesusseux, Ryan Chai, John Price.

B73 FMNL2: A positive regulator of cell motility and metastasis of colorectal carcinoma via RhoA/ROCK signaling. Li Liang, Xiling Zhu, Yuanfeng Zeng.

B74 A novel transcriptional repressor controlled by Erk/p90RSK/14-3-3 signalling impacts on expression of PEA3 Ets transcription factors. Kumara Dissanayake, Rachel Toth, Olof Olsson, David Campbell, Alan Prescott, Carol MacKintosh.


B76 TM4SF5-mediated epithelial-mesenchymal transition. Minkyung Kang, Jung Weon Lee.

B77 Axl is an essential epithelial-to-mesenchymal transition-induced regulator of breast cancer metastasis and patient survival. Crina Tiron, Bjorn Tore Gjertsen, David Micklem, Lars Akslen, Carlotta Glackin, James B Lorens, Christine Gjerdrum, Torrill Høiby, Hallvard Haugen, Ingunn Stefansson, Tone Sandal, Karin Collet, Shan Li, Emmet McCormack.

B78 Role of TAPP proteins in regulating the migration of leukemic B cells. Hongzhao Li, Aaron Marshall.
B79 Ezrin is essential for L1-mediated metastasis of colon cancer cells. Amir Ben-Shmuel, Nancy S. Gavert, Thomas Brabletz, Avri Ben-Ze’ev.


B81 Beta-catenin is required for Ron receptor induced mammary tumorigenesis. Purnima K. Wagh, Jerilyn K. Gray, Glendon Zinser, Laura James, Monga Satdarshan, Susan Waltz.

Site Specific Metastasis


B83 Interactions between breast cancer brain metastases and their microenvironment. Mihaela Lorger, Brunhilde Felding-Habermann.

B84 Metastasis of a β-catenin driven mouse model of colon cancer. Angela Bressel, M. Isabel Chiu, Murray O. Robinson, Joerg Heyer, Yinghui Zhou, Tong Zi, Carol Meeske, Samuel Farlow, William M. Rideout, Rebecca Rancourt, Qiurong Xiao, Josh Frederick.

B85 Tracking of disseminating tumor cells to determine the contribution of cells that traffic via the lymphatics to the development of metastases in vital organs. Nicole Grau, Jonathan P Sleeman.


B87 An immune-competent model of spontaneous breast cancer metastasis to the brain. Girieca Lorusso, Francois Kuonen, Qiang Lan, Curzio Ruegg.

B88 A novel and clinically relevant mouse model reflecting the disease progression in melanoma brain metastasis in patients. Inderjit K. Daphu, Heike Immervoll, Rolf Bjerkvig, Frits Thorsen.


B90 Identification of a 100-kDa protein that interacts with Metadherin and promotes in vivo lung metastasis. M. Andres Bianco, Maša Alečković, Yuling Hua, Zhen Xu, Yong Wei, Yibin Kang.


B94 Role of versican in bladder cancer metastasis to the lungs. Neveen Said, Dan Theodorescu.

This abstract is being presented as a short talk in Concurrent Session 5. A full abstract is printed in the Proffered Abstracts section (PR12) of the Conference Proceedings.

Stroma

     This abstract is being presented as a short talk in the Generation X Session. A full abstract is printed in the Proffered Abstracts section (PR8) of the Conference Proceedings.


B100  Tumor stroma interaction and radiation resistance in pancreatic cancer.  Tine S. Mantoni, Serena Lunardi, Thomas B. Brunner.


B102  Visualization of the tumor microenvironment that drives invasion of mammary tumors cells.  Laila Ritsma, Jacco van Rheenen.


B104  Visualization of the tumor microenvironment that drives invasion of mammary tumor cells.  Laila M.A. Ritsma, Jacco van Rheenen.


B107  The effect of TGFβ signaling in the prostate stroma: Support for cancer cell migration.  Melanie J. Grubisha, Donald B. DeFranco.

B108  Microenvironment of tongue carcinoma: The profile of the inflammatory infiltrate and the cancer-associated fibroblasts are related to disease recurrence and patients' survival.  Marilena Vered, Irit Allon, Itay Levy, Dan Dayan.

B109  The activation of CCR5 by stroma-derived CCL-9 and CCL-5 promotes breast cancer cell migration.  Muthulekha Swamydas, Krista Ricci, Didier Dréau.


B111  Regulation of FAP, a surface protease involved in tumorigenesis.  M. Jacob, L.A. Todd, E. Puré.

B112  IL-8 and lactate, secreted by tumor cells, facilitate metabolic exploitation of stromal cells in the tumor microenvironment.  Brijesh B. Patel, Yanique I. Rattigan, John W. Glod, Debabrata Banerjee.
Poster Session B

B113  The hypoxic tumor microenvironment in pancreatic adenocarcinoma: Correlation and prognostic significance of coexpressed proteins in tumor nests and tumor stroma. Galen Hostetter, April Watanabe, Caroline Diep, Meraj Aziz, Clifford Whatcott, Haiyong Han, Garth Powis, Michael Demeure, Daniel Von Hoff.


Translational Targets

B115  The investigation of high metastatic features and their modification in mouse metastatic osteosarcoma model. Yoshihiro Yui, Kiyoko Yoshioka, Norifumi Naka, Kazuyuki Itoh.

B116  A Met-derived peptide fused to target peptides acts as a powerful angiogenesis inhibitor. Rosaria Cammarota, AnnaRita Cantelmo, Monica Morini, Maria Prat, Paolo Maria Comoglio, Adriana Albini.

B117  Defining a novel mechanism of α-40D1 synergy with vaccine to induce potent anti-tumor effects. Mikayel Mkrtichyan, Yana G. Najjar, Estella C. Raufis, Samir N. Khleif.

B118  Exploring the potential of epigallocatechin-3-gallate (EGCG) on recapitulation of ATM credentials in LNCaP cell line. Ammad Ahmed Farooqi, Shahzad Bhatti.

B119  Molecular marker development for characterizing CD44, M-30, and prostate-specific antigen on circulating tumor cells in metastatic cancer. Lori E. Lowes, Ben D. Hedley, Mike Keeney, Alison L. Allan.

B120  A spliced isoform of carboxypeptidase E drives tumor metastasis epigenetically and predicts future malignancy for different cancers. Saravana Radha Krishna Murthy, Terence Lee, Niamh Cawley, Peng Loh.


B124  Identification of novel anticancer activities of glucosamine targeting the IGF-1R/Akt pathway. Ki-Hoon Song, Ju-Hee Kang, Jeong-Seok Nam, Ho-Young Lee, Seung-Hyun Oh.


B127  Inhibition of αvβ3/αvβ5 inhibits proliferation, migration and invasion of breast cancer cells as well as the development of experimental bone metastases. Maren Bretschi, Maximilian Merz, Dorde Komljenovic, Wolfhard Semmler, Tobias Baueuerle.

B128  Studies on boswellic acid against breast cancer MCF 7 cells. S.S. Agrawal, Sarita Saraswati, Rajani Mathur.
B129 Zalutumumab-induced ADCC represents a potent mechanism of action for the inhibition of metastasis and is active against wild-type and mutated KRAS tumor cells. Marije B. Overdijk, Sandra Verploegen, Jeroen H. van den Brakel, Jeroen J. Lammerts van Bueren, Gemma M. Rigt, Tom Vink, Jan G.J. van de Winkel, Paul W.H.I. Parren.


B131 Wnt5a effects on breast cancer metastasis. Wen Jiang, Rosa Serra.


Other

B136 Mechanisms of breast cancer metastasis that are extrinsic to tumor cells. Henok Eyob, Kelsi L. Kretschmann, Alana L. Welm.

B137 Microtentacles arising from imbalanced cytoskeletal forces promote the reattachment of circulating breast tumor cells in lung capillaries. Eric M. Balzer, Rebecca A. Whipple, Michele I. Vitolo, Keyata Thompson, Amanda E. Boggs, Jana Slovic, Jennifer R. Yoon, Jing Yang, Stuart S. Martin.

This abstract is being presented as a short talk in Concurrent Session 5. A full abstract is printed in the Proffered Abstracts section (PR13) of the Conference Proceedings.

B138 Dietary resveratrol may promote cancer growth and metastasis via Rac activation. Linette Castillo-Pichardo, Angélica Santos, Malika Flanagan, Suranganie Dharmawardhane.


B140 Targeting hypoxic cells to inhibit tumor metastasis. Nicole S. Bryce, Byung J. Kim, Trevor W. Hambley.

B141 Diverging effects of doxorubicin, paclitaxel and cyclophosphamide on 4T1 mouse breast cancer primary tumor and metastases. Mari I. Suominen, Rami Käkönen, Sanna-Maria Käkönen, Jussi M. Halleen.

B142 Interaction of MCF7 breast cancer cell with human lymph node stromal cells enhances metastasis to lung and lymph nodes in NOD/SCID mice. Chung-Gi Lee, Lee In Yong, Harold Sightler, Yong Sung Choi.


**B145** Ids act as downstream effectors in the transforming growth factor-β pathway in prostate cancer cells. *Nicole L. Strong, Cecille Millena, Mojgan Zavareh, Jaideep Chaudhary, Shafiq Khan*.

**B146** Plasmin-mediated fibrinolysis in hematopoietic stem cell mobilization. *Birgitte Rønø, Andreas Hald, Leif R. Lund*.

**B147** A structural and functional analysis of BARD1 and RAD51 overexpression in the MCF10A cell line. *Natasha M. Flores, George W. Sledge, Sunil Badve, Patricia Steeg, Diane Palmieri*.

7:00 Cancer Micrometastasis and Circulating Tumor Cells
Liberty Ballroom AB
Klaus Pantel, University Medical Center, Hamburg, Germany

7:00 *Natural Products Lead Discovery in the Molecular Targets Laboratory
Liberty Ballroom D
James B. McMahon, National Cancer Institute, Frederick, MD

*An extended abstract for this presentation is available in the Invited Abstracts section of the Proceedings.
Stem Cells
Liberty Ballroom AB

Chairperson: Max S. Wicha, University of Michigan Comprehensive Cancer Center, Ann Arbor, MI

7:45 Regulation of breast cancer stem cells by the tumor microenvironment
Max S. Wicha, University of Michigan Comprehensive Cancer Center, Ann Arbor, MI

8:30 *The role of developmental molecules and miRs in the induction of cancer stem cells and metastasis
Heide L. Ford, University of Colorado School of Medicine, Aurora, CO

9:00 *Solid tumors target the hematopoietic stem cell niche for metastasis
Russell S. Taichman, University of Michigan, Ann Arbor, MI

9:30 **Microenvironment enriched metastatic cancer stem cells mediate prostate cancer metastasis
Mahipal V. Suraneni, UT M. D. Anderson Cancer Center, Smithville, TX

*An extended abstract for this presentation is available in the Invited Abstracts section of the Proceedings.
**An extended abstract for this presentation is available in the Proffered Abstracts section of the Proceedings.
Translational Targets 2
Liberty Ballroom AB

Chairperson: Patricia S. Steeg, National Cancer Institute, Bethesda, MD

10:30  
**Signaling pathways as targets for therapy**
Suzanne A. Eccles, Cancer Research UK Centre For Cancer Therapeutics, McElwain Laboratories, Sutton, Surrey, United Kingdom

11:00  
*The role of adipocytes in promoting metastasis*
Ernst R. Lengyel, University of Chicago, Chicago, IL

11:30  
*Functional role of RANKL in metastasis and tumorigenesis: Skeletal and extraskeletal effects*
William C. Dougall, Amgen, Inc., Seattle, WA

*An extended abstract for this presentation is available in the Invited Abstracts section of the Proceedings.*