

Montagna Symposium on the Biology of Skin

Advances in Science and Medicine Catalyzed by Pioneering Skin Research

October 13 – 17, 2011
Skamania Lodge, Stevenson, Washington

Program Chair
Stuart H. Yuspa, MD

Symposium Co-Chairs
Molly Kulesz-Martin, PhD
Jackie R. Bickenbach, PhD

Posters

Janina Bär¹, Preethi Vijayaraj², Wera Roth¹, and Thomas Magin¹
¹TRM Leipzig & Biology, Division of Cell and Developmental Biology, University of Leipzig, Germany;
²Department of Medicine, Centre for Vascular Biology Research, Beth Israel Deaconess Medical Centre, Harvard Medical School, Boston, Massachusetts
Skin development without keratins

Paulo R. Bargo, Melissa Chu, and Nikiforos Kollias
Johnson & Johnson Consumer Companies, Skillman, New Jersey
Documentation of cellular structure progression over time in healthy human skin *in vivo* and in wound repair

Marcus J. Calkins¹, Jodi L. Johnson^{1,2}, Brian C. Lowell¹, Olga P. Ryabininya¹, R. Stephen Lloyd^{1,3,4}, and Amanda K. McCullough^{1,3,4}
¹Center for Research on Occupational and Environmental Toxicology, ³Department of Molecular and Medical Genetics, Oregon Health & Science University, Portland, Oregon; ²Departments of Pathology and Dermatology, Northwestern University Feinberg School of Medicine, Chicago, Illinois; ⁴Restorations Genetics, Portland, Oregon
Subcellular targeting of exogenous pyrimidine dimer-specific DNA glycosylase to repair UV-damaged DNA in HaCaT keratinocytes and fibroblasts

Ganesh Diwakar¹, Mangalam Subramanian², Valentina Kazlova³, Shyam Ramakrishnan³, David Fast¹ and Jeffrey D. Scholten¹
¹Analytical Services, ²Design and Formulation Amway Corporation, Ada, Michigan; ³New Technology, Nutrilite Research and Development, Buena Park, California
Activation of inflammation pathways in age spot hyperpigmentation

Ryan R. Driskell¹, Vikram R. Juneja¹, John T. Connelly², David W.-M. Tan¹, and Fiona M. Watt¹
¹Wellcome Trust Centre for Stem Cell Research, University of Cambridge, Cambridge, United Kingdom; ²Blizard Institute of Cell and Molecular Science, Queen Mary University of London, United Kingdom
Clonal growth of dermal papilla cells in hydrogels reveals intrinsic differences between Sox2-positive and -negative cells *in vitro* and *in vivo*

Steffen Durinck^{1*}, **Christine Ho**^{2*}, Nicholas J. Wang^{1*}, Wilson Liao³, Lakshmi R. Jakkula¹, Eric Collisson¹, Jennifer Pons³, Sai-Wing Chan³, Ernest T. Lam³, Catherine Chu³, Kyunghee Park⁴, Sung-woo Hong⁴, Joe S. Hur⁵, Nam Huh⁴, Isaac M. Neuhaus³, Siegrid S. Yu³, Roy T. Grekin³, Theodora M. Mauro³, James E. Cleaver³, Pui-Yan Kwok³, Philip E. LeBoit⁶, Gad Getz⁷, Kristian Cibulskis⁷, Jon C. Aster⁸, Haiyan Huang², Elizabeth Purdom², Jian Li^{9,10}, Lars Bolund^{9,10}, Sarah T. Arron³, Joe W. Gray^{1,11}, Paul T. Spellman^{1†}, and Raymond J. Cho^{3†}

¹Life Sciences Division, Lawrence Berkeley National Laboratories, California; ²Department of Statistics, University of California, Berkeley; ³Department of Dermatology, University of California, San Francisco; ⁴Emerging Technology Research Center, Samsung Advanced Institute of Technology, Seoul, Korea; ⁵Samsung Electronics Headquarters Seoul, Korea; ⁶San Francisco Dermatopathology Service, California; ⁷The Broad Institute of MIT and Harvard, Cambridge, Massachusetts; ⁸Department of Pathology, Brigham and Women's Hospital, Boston, Massachusetts; ⁹Beijing Genomics Institute-Shenzhen, Shenzhen, China; ¹⁰Institute of Human Genetics, Aarhus University, Denmark; ¹¹Biomedical Engineering Department, Oregon Health Sciences University, Portland, Oregon;
*†: equal contribution

Timely intervention for cancer requires knowledge of its earliest genetic aberrations

Stephen Hyter^{1,2}, Steven Ma², Dan Coleman^{1,2}, Masashi Yanigisawa⁴, Gitali Indra^{1,2} and Arup K. Indra^{1,2,3,5}

¹Molecular & Cellular Biology Program, ²Department of Pharmaceutical Science, College of Pharmacy, ³Environmental Health Science Center, Oregon State University, Corvallis, Oregon; ⁴UT Southwestern Medical Center, Dallas, Texas; ⁵Department of Dermatology, Oregon Health & Science University, Portland, Oregon

***In vivo* role of keratinocyte derived endothelin-1 (ET-1) signaling in mediating UV induced melanocyte homeostasis**

Rajan P. Kulkarni¹, Joseph D. Hillman², Seong H. Ra², Xinmin Li², Delphine J. Lee³, and Scott W. Binder²

¹Division of Dermatology, Dept of Medicine, ²Dept of Pathology, UCLA Medical Center, Los Angeles, California; ³Dept of Translational Immunology, John Wayne Cancer Institute, Santa Monica, California

Genetic profiling of BRAF-inhibitor induced keratoacanthomas

Sarah D. Lamore and Georg T. Wondrak

Pharmacology and Toxicology, College of Pharmacy and Arizona Cancer Center, University of Arizona, Tucson, Arizona

Proteomic identification of cathepsin B as a novel target of UVA photodamage upstream of autophagic-lysosomal dysregulation in human skin fibroblasts

LaTondra Lawrence, Mangalam Subramanian, Wubet Gebre-Hiwot, Kathryn Hokamp, Loni Puckett and M. Bergel*

Department of Biology, Texas Woman's University, Denton, Texas

The involvement of HMGN1 in GG-NER is associated with changes in the acetylation status of core histones H3 and H4

Marco L. Leung¹, David W. Dwyer¹, Harina Vin¹, Larissa R. Stewart¹, Jonathan L. Curry², Kevin B. Kim³, Ana M. Ciurea⁴, Madeleine Duvic⁴, Victor G. Prieto², Stephen E. Ullrich¹, Elsa R. Flores⁵, and Kenneth Y. Tsai^{1,4}

¹*Department of Immunology*, ²*Department of Pathology*, ³*Department of Melanoma Medical Oncology*, ⁴*Department of Dermatology*, ⁵*Department of Biochemistry and Molecular Biology, University of Texas MD Anderson Cancer Center, Houston, Texas*

Vemurafenib / PLX4720 suppresses apoptosis by inhibition of JNK signaling

Haoyan Chen¹, Genki Hayashi¹, Olivia Lai¹, Alexander Dilthey², Peter Kuebler³, Douglas Nixon³, Anne Bowcock⁴, and **Wilson Liao**¹

¹*Department of Dermatology, University of California San Francisco*; ²*Department of Statistics, University of Oxford, United Kingdom*; ³*Division of Experimental Medicine, University of California, San Francisco*; ⁴*Division of Human Genetics, Department of Genetics, Washington University School of Medicine, St. Louis, Missouri*

Psoriasis patients are enriched for genetic variants that confer protection against HIV-1

B. Jack Longley^{1,2}, Neehar Bhatia¹, Tony Z Xiao¹, Qiao Meng³, Gwen A. Lomber⁴, and Raul Urrutia⁴

¹*Department of Dermatology*, ²*Paul P. Carbone Comprehensive Cancer Center*, ³*McArdle Laboratory, University of Wisconsin School of Medicine and Public Health, Madison, Wisconsin*; ⁴*Department of Molecular Neuroscience, Department of Biochemistry and Molecular Biology, and Gastroenterology Research Unit, Mayo Clinic, Rochester, Minnesota*

MAGE proteins promote oncogenesis through multiple mechanisms

Francesca Mascia, Gary Lam, and Stuart H. Yuspa

Laboratory of Cancer Biology and Genetics, National Cancer Institute, NIH, Bethesda, Maryland

Genetic and pharmacologic ablation of EGFR reveals its role as endogenous anti-inflammatory agent in mouse and human skin

Heather McCauley and Géraldine Guasch

Cincinnati Children's Hospital Medical Center, Division of Developmental Biology, Cincinnati, Ohio

Transitional epithelium: Merging microenvironments and cellular transformation

Anjali Mishra¹, Gregory H. Sams¹, Jessica Johns¹, Douglas P. Curphey¹, Laura A. Sullivan¹, Lauren G. Falkenberg¹, Heather Gibson¹, Christopher Hickey¹, Shujun Liu^{1,2}, Laura Jaroncyk¹, Krista La Perle³, Guido Marcucci^{1,2}, Henry K. Wong^{1,2}, Pierluigi Porcu^{1,2}, and Michael A. Caligiuri^{1,2}

¹The Ohio State University Comprehensive Cancer Center, James Cancer Hospital and Solove Research Institute, Columbus, Ohio; ²Division of Hematology and Oncology, Department of Internal Medicine, ³Department of Pathology, College of Medicine, The Ohio State University, Columbus, Ohio

A novel spontaneous mouse model for cutaneous T-cell lymphoma reveals a role for Interleukin (IL)-15 in CTCL pathogenesis

Jill Neiman¹, Amber Beserra², Timothy Cleaver¹, Stephen Malkoski¹, and Xiao-Jing Wang¹

¹University of Colorado Denver Health Science Center, Denver, Colorado; ²Case Western Reserve University, Cleveland, Ohio

Role of TGF β RII deleted fibroblasts on the tumor microenvironment

Heuijoon Park^{1,2,3,4}, Anupama Singh⁴, Guangchun Jin³, Samuel Asfaha³, Ashok Singh⁴, Xiangdong Yang³, Kelly Bets³, Carol Trempus⁵, Timothy C. Wang³, and Rebecca J. Morris^{1,2,4}

¹Department of Pathology and Cell Biology, ²Department of Dermatology, ³Division of Digestive and Liver Diseases, Department of Medicine and Irving Cancer Center, Columbia University, New York, New York; ⁴The Hormel Institute, University of Minnesota, Austin, Minnesota; ⁵Matrix Biology Group, Laboratory of Respiratory Biology, National Institute of Environmental Health Sciences, NIH, Research Triangle Park, North Carolina

Bone marrow-derived epithelial cells contribute to chronic skin inflammation and skin tumor formation in the mouse

Maryam G. Rohani, Sina A. Gharib, and William C. Parks

Center for Lung Biology, University of Washington, Seattle, Washington

Comparative responses of skin keratinocytes during wound healing

Padmakumar Velayuthan Chellammal¹, Kelsey Speer¹, Sonali Pal-Ghosh², Samuel Dengler¹, Shelly Hwang¹, John Edwards³, Vincenzo Coppola⁴, Lino Tessarollo⁴, Mary Ann Stepp², and Stuart H. Yuspa¹

¹Laboratory of Cancer Biology and Genetics, National Cancer Institute, NIH, Bethesda, Maryland; ²Department of Anatomy and Cell Biology, George Washington University Medical School, Washington, DC; ³Department of Medicine, University of North Carolina, Chapel Hill; ⁴Mouse Cancer Genetics Program, National Cancer Institute, NIH, Frederick, Maryland

Spontaneous skin erosions in CLIC4^{NULL} mice are associated with reduced TGF- β signaling and wound healing

Richard C. Wang¹, Yongjie Wei^{2,4}, Michael White³, Julia Reichelt⁵, and Beth Levine^{2,4}

¹Department of Dermatology, ²Department of Internal Medicine, ³Department of Cell Biology, and ⁴Howard Hughes Medical Institute, University of Texas Southwestern Medical Center, Dallas, Texas; ⁵Institute of Cellular Medicine, University of Newcastle, Newcastle upon Tyne, United Kingdom

Akt-mediated regulation of autophagy and tumorigenesis through Beclin 1 phosphorylation and formation of a Beclin 1/14-3-3/type I keratin complex

Ruth White¹, Anand Reddi², Gangwen Han², Antonio Jimeno³, Molly Kulesz-Martin¹, Shi-Long Lu⁵, and Xiao-Jing Wang²

¹*Department of Cell and Developmental Biology, Oregon Health and Science University, Portland, Oregon;*

²*Department of Pathology, ³Department of Medicine, Division of Medical Oncology, ⁴Department of Otolaryngology, University of Colorado Anschutz Medical Campus, Aurora, Colorado*

MicroRNA-9 regulates tumor initiating cell migration and invasion in squamous cell carcinomas

Tony Z. Xiao¹, Neehar Bhatia¹, Raul Urrutia³, Gwen A. Lomber³, and B. Jack Longley^{1,2}

¹*Department of Dermatology, ²Paul P. Carbone Comprehensive Cancer Center, University of Wisconsin School of*

Medicine and Public Health, Madison, Wisconsin; ³Department of Molecular Neuroscience, Department of Biochemistry and Molecular Biology, and Gastroenterology Research Unit, Mayo Clinic, Rochester, Minnesota

MAGE proteins are master regulators of KRAB domain containing zinc finger transcription factors (KZFTFs)