

Skin Aging: Molecular Mechanisms and Tissue Consequences

October 9 – 13, 2014
Salishan Resort, Gleneden Beach, Oregon, USA

Program Chair
Barbara A. Gilchrest, MD

Symposium Director
Molly Kulesz-Martin, PhD

POSTERS

Vivek Choudhary^{1,2,3}, Lawrence O. Olala^{1,2}, Haixia Qin^{1,2}, Inas Helwa^{1,2}, Zhi-qiang Pan², Ying-Ying Tsai², Michael A. Frohman⁴, Ismail Kaddour-Djebbar^{1,2}, and **Wendy B. Bollag**^{1,2,3}
¹Charlie Norwood VA Medical Center, Augusta, Georgia, USA; ²Department of Physiology, Georgia Regents University, Augusta, Georgia, USA; ³Section of Dermatology, Department of Medicine, Georgia Regents University, Augusta, Georgia, USA; ⁴Department of Pharmacology, Stony Brook University, Stony Brook, New York, USA

Aquaporin-3 re-expression induces differentiation in a phospholipase D2-dependent manner in aquaporin-3 knockout mouse keratinocytes

Ankit Patel¹, Krzysztof Poterlowicz¹, Gill Westgate¹, Nilofer Farjo², and **Natalia V. Botchkareva**¹
¹Centre for Skin Sciences, University of Bradford, Bradford, United Kingdom; ²Farjo Hair Institute, Manchester, United Kingdom

Age-associated changes in gene expression programs in human hair follicle

Grant O. Holdren¹, Patrick M. Kinn¹, Carol L. Fischer², Kim A. Brogden², and **Nicole K. Brogden**¹
¹Department of Pharmaceutical Sciences and Experimental Therapeutics, College of Pharmacy, University of Iowa, Iowa City, Iowa, USA; ²Dows Institute, University of Iowa, Iowa City, Iowa, USA

Age-related variability in skin analytes: A novel means to identify treatment targets in elderly patients with dermatologic conditions?

Chih-Chiang Chen¹ and Cheng Ming Chuong²

¹Department of Dermatology, Taipei Veterans General Hospital and National Yang-Ming University, Taipei, Taiwan; ²Department of Pathology, University of Southern California, Los Angeles, California, USA

Regenerative hair waves in aging mice and extra-follicular modulators follistatin, Dkk1 and Sfrp4

Marco Demaria¹, Naoko Ohtani², Sameh A. Youssef³, Martijn E.T. Dollé⁴, Jan H.J. Hoeijmakers⁵, Alain de Bruin³, Eiji Hara², and Judith Campisi^{1,6}

¹Buck Institute for Research on Aging, Novato, California, USA; ²Division of Cancer Biology, The Japanese Foundation for Cancer Research, Tokyo, Japan; ³Dutch Molecular Pathology Center, Department of Pathobiology, Faculty of Veterinary Medicine, Utrecht University, The Netherlands; ⁴National Institute of Public Health and the Environment (RIVM), Bilthoven, The Netherlands; ⁵CGC Department of Genetics, Erasmus Medical Center, Rotterdam, The Netherlands; ⁶Lawrence Berkeley National Laboratory, Life Sciences Division, Berkeley, California, USA

Senescent cells promote optimal wound healing through the secretion of PDGF-AA

Ganesh Diwakar, Mark A. Smith, and Jeff Scholten

Analytical Sciences, Amway Corporation, Ada, Michigan, USA

Lipofuscin accumulation in c-elegans, a marker for aging and hyperpigmentation

Oliver Dreesen¹, Alexandre Chojnowski², Peh Fern Ong¹, Tian Yun Zhao³, John Common⁴, Declan Lunny⁴, E. Birgit Lane⁴, Shu Jin Lee⁵, Leah A. Vardy³, Colin L. Stewart², and Alan Colman¹

¹Stem Cell Disease Models, ²Developmental and Regenerative Biology, ³Translational Regulation in Stem Cells, and ⁴Epithelial Biology, Institute of Medical Biology, Singapore; ⁵Mount Elizabeth Medical Centre, Singapore

The contrasting roles of lamin B1 in aging and human disease

Rossella Monteforte¹, Georg F. Beilhack², Regina Grillari-Voglauer^{1,3}, Maria Sibilica⁴, Erwin Tschachler⁵, Florian Gruber^{5,6*}, and **Johannes Grillari**^{1,3,6*}

¹Department of Biotechnology, University of Natural Resources and Applied Life Sciences, Vienna, Austria;

²Division of Nephrology & Dialysis, Internal Medicine III, ⁴Institute for Cancer Research, and ⁵Department of Dermatology, Medical University of Vienna, Vienna, Austria; ³Evercyte GmbH, Vienna, Austria; ⁶Christian Doppler Laboratory on Biotechnology of Skin Aging, Vienna, Austria

SNEV^{hPrp19/hPSO4} haploinsufficiency accelerates premature skin aging in response to 8-methoxypsoralen/UVA treatment in mice

Marie-S. Narzt, Ionela M. Nagelreiter, Susanne Karner, Johannes Grillari, Katarzyna Figlak, Manuel Filzwieser, Valery N. Bochkov, Erwin Tschachler, and **Florian Gruber**

Department of Dermatology, Medical University of Vienna; Christian Doppler Laboratory for Biotechnology of Skin Aging, Vienna, Austria

Lipid oxidation patterns and -kinetics under senescence-promoting stress in keratinocytes

Hideo Kudo, Masatoshi Jinnin, and Hironobu Ihn

Department of Dermatology and Plastic Surgery, Faculty of Life Sciences, Kumamoto University, Kumamoto, Japan

Decreased IL-20 expression in scleroderma skin contributes to cutaneous fibrosis

Vyacheslav M. Labunskyy^{1,2}, Maxim V. Gerashchenko², Joe R. Delaney³, Alaattin Kaya², Brian K. Kennedy⁴, Matt Kaerberlein³, and Vadim N. Gladyshev²

¹Department of Dermatology, Boston University School of Medicine, Boston, Massachusetts, USA; ²Division of Genetics, Department of Medicine, Brigham and Women's Hospital and Harvard Medical School, Boston, Massachusetts, USA; ³Department of Pathology, University of Washington, Seattle, Washington, USA; ⁴Buck Institute for Research on Aging, Novato, California, USA

Translational regulation by the unfolded protein response and its role in aging

Jason Rothouse¹, Arun Rajgopal¹, **Jesse Leverett**¹, Tetsuo Kokubun², and Monique Simmonds²
¹Amway Corporation, Ada, Michigan, USA; ²Royal Botanic Gardens, Kew, United Kingdom

A comparison of PGC-1 alpha activity of a traditional solvent extract and a stem cell extract of *Gardenia jasminoides*

George Man, Theodora M. Mauro, Yongjiao Zhai, Peggy L. Kim, Carolyn Cheung, Melanie Hupe, Debbie Crumrine, Peter M. Elias, and Mao-Qiang Man

Dermatology Service, Veterans Affairs Medical Center, San Francisco, California, USA; Department of Dermatology, University of California, San Francisco, San Francisco, California, USA

Topical hesperidin enhances epidermal function in an aged murine model

Florence Nadal-Wollbold, Cécile Viodé, Sandrine Alvarez-Georges, Ophélie Lejeune, Gwendal Josse, Christiane Casas, Valérie Mengeaud, Daniel Redoulès, and Anne-Marie-Schmitt

European Skin Research Center, Pierre Fabre Dermo-Cosmétique, Toulouse, France

In vivo retinoid molecular profile of retinaldehyde in human photoaged skin

Yasuo Ido¹, Albert Duranton², Lionel Breton², Karen Weikel¹, and **Neil Ruderman**¹

¹Division of Endocrinology, Diabetes & Nutrition, Department of Medicine, Boston University School of Medicine, Boston, Massachusetts; ²L'Oréal, Clichy Cedex, France

AMPK, SIRT1 and cellular ageing in keratinocytes

Michael Van Meter, Mehr Kashyap, Sarallah Rezazadeh, Anthony J. Geneva, Timothy D. Morello, Vera Gorbunova, and **Andrei Seluanov**

Department of Biology, University of Rochester, Rochester, New York, USA

SIRT6 is a regulator of aging and genome stability

Michael C. Velarde¹, Simon Melov¹, and Judith Campisi^{1,2}

¹Buck Institute for Research on Aging, Novato, California, USA; ²Life Science Division, Lawrence Berkeley National Laboratory, Berkeley, California, USA

Mitochondrial dysfunction induces cellular senescence in K14+ epidermal stem cells and promotes beneficial and detrimental effects depending on age

Frank Wang¹, Ken Calderone¹, Noah Smith¹, Sewon Kang^{1,2}, John J. Voorhees¹, and Gary J. Fisher¹

¹Department of Dermatology, University of Michigan, Ann Arbor, Michigan, USA; ²Department of Dermatology, Johns Hopkins University, Baltimore, Maryland, USA

Enhanced mechanical support of the dermal extracellular matrix stimulates fibroblast function and type I collagen production in photoaged human skin