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 Choudhary¹,²,³, Lawrence O. Olala¹,², Haixia Qin¹,², Inas Helwa¹,², Zhi-qiang Pan², Ying-Ying Tsai², Michael A. Frohman⁴, Ismail Kaddour-Djebbar¹,², and Wendy B. Bollag¹,²,³
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. Botchkareva¹
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. Brogden¹
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 Demaria**, Naoko Ohtani, Sameh A. Youssef, Martijn E.T. Dollé, Jan H.J. Hoeijmakers, Alain de Bruin, Eiji Hara, and Judith Campisi

*Buck Institute for Research on Aging, Novato, California, USA; Division of Cancer Biology, The Japanese Foundation for Cancer Research, Tokyo, Japan; Dutch Molecular Pathology Center, Department of Pathobiology, Faculty of Veterinary Medicine, Utrecht University, The Netherlands; National Institute of Public Health and the Environment (RIVM), Bilthoven, The Netherlands; CGC Department of Genetics, Erasmus Medical Center, Rotterdam, The Netherlands; Lawrence 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 Dreesen**, Alexandre Chojnowski, Peh Fern Ong, Tian Yun Zhao, John Common, Declan Lunny, E. Birgit Lane, Shu Jin Lee, Leah A. Vardy, Colin L. Stewart, and Alan Colman

*Stem Cell Disease Models, Developmental and Regenerative Biology, Translational Regulation in Stem Cells, and Epithelial Biology, Institute of Medical Biology, Singapore; Mount Elizabeth Medical Centre, Singapore*

**The contrasting roles of lamin B1 in aging and human disease**

**Rossella Monteforte**, Georg F. Beilhack, Regina Grillari-Voglauer, Maria Sibilia, Erwin Tschachler, Florian Gruber, and Johannes Grillari

*Department of Biotechnology, University of Natural Resources and Applied Life Sciences, Vienna, Austria; Division of Nephrology & Dialysis, Internal Medicine III, Institute for Cancer Research, and Department of Dermatology, Medical University of Vienna, Vienna, Austria; Evercyte GmbH, Vienna, Austria; Christian Doppler Laboratory for Biotechnology of Skin Aging, Vienna, Austria*

**SNEV<sup>hPrp19/sPSO4</sup> 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**, Maxim V. Geraschenko, Joe R. Delaney, Alaattin Kaya, Brian K. Kennedy, Matt Kaeberlein, and Vadim N. Gladyshev

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

**Translational regulation by the unfolded protein response and its role in aging**
Jason Rothouse\textsuperscript{1}, Arun Rajgopal\textsuperscript{1}, Jesse Leverett\textsuperscript{1}, Tetsuo Kokubun\textsuperscript{2}, and Monique Simmonds\textsuperscript{2}
\textsuperscript{1}Amway Corporation, Ada, Michigan, USA; \textsuperscript{2}Royal 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 Ido\textsuperscript{1}, Albert Duranton\textsuperscript{2}, Lionel Breton\textsuperscript{2}, Karen Weikel\textsuperscript{1}, and Neil Ruderman\textsuperscript{1}

\textsuperscript{1}Division of Endocrinology, Diabetes & Nutrition, Department of Medicine, Boston University School of Medicine, Boston, Massachusetts; \textsuperscript{2}L’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. Velarde\textsuperscript{1}, Simon Melov\textsuperscript{1}, and Judith Campisi\textsuperscript{1,2}

\textsuperscript{1}Buck Institute for Research on Aging, Novato, California, USA; \textsuperscript{2}Life Science Division, Lawrence Berkley 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 Wang\textsuperscript{1}, Ken Calderone\textsuperscript{1}, Noah Smith\textsuperscript{1}, Sewon Kang\textsuperscript{1,2}, John J. Voorhees\textsuperscript{1}, and Gary J. Fisher\textsuperscript{1}

\textsuperscript{1}Department of Dermatology, University of Michigan, Ann Arbor, Michigan, USA; \textsuperscript{2}Department 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