Program for GSDRC Summer School 2014
University of Colorado Denver (UCD), Anschutz Medical Campus

Hosted By:

Charles C. Gates Center for Regenerative Medicine and Stem Cell Biology
University of Colorado Anschutz Medical Campus

Department of Dermatology

The Global Skin Diseases Research Consortium (GSDRC) is a consortium of:

Organizers: Maranke Koster, Dennis Roop, Beth Spring and Jillian Talley
GSDRC Summer School 2014

*** Monday July 28 ***

8:15 – 8:30 am  Meet Jillian Talley in the lobby of Springhill suites to walk over to Education 1 (Ed 1) Rm 3500

8:50 – 9:00 am  Welcome
Ed. 1 Rm 3500
Dennis Roop, PhD  Director, Charles C. Gates Center for Regenerative Medicine and Stem Cell Biology, UCD
David Norris, MD  Chair, Department of Dermatology, UCD

9:00 – 9:15 am  Introductions
Ed. 1 Rm 3500

9:15 - 10:15 am  Short talks by participants on their skin-related research (15 minute talk + 5 min discussion)
Ed. 1 Rm 3500
Priscilla Peh  – A*STAR - Stem Cell-Bioactive Scaffold Tissue Modulating Approach to Skin Regeneration in a Full Thickness Skin Wound
Harumi Fujita  – Keio University - Claudin-4 deficiency results in urothelial hyperplasia and lethal hydronephrosis
Susanne Vorhagen  – University of Cologne - Unraveling the role of aPKC, in the regulation of oriented cell division and stem cell homeostasis in the mammalian epidermis.

10:15-10:25 am  Break + put up posters

10:30 am – 12:30 pm  Modeling skin diseases:
Ed. 1 Rm 3500
10:30 – 11:15  Peter Koch, PhD (UCD)
Mouse models for disease modeling: Overview of mouse models
11:15 – 12:00  Maranke Koster, PhD (UCD)
Advantages/limitations of mouse models for modeling human skin disease
12:00 – 12:30:  Laura Hoaglin, HT(ASCP) (UCD), Christopher Barnard, BS, HT(ASCP) (UCD), & Jessie Hoaglin (UCD)
Considerations for high-quality histology

12:30 – 1:25 pm  Lunch
Ed. 1 Rm 3500

1:30 -2:30 pm  Keynote Speaker:  David Owens, PhD (Columbia University)
Merkel Cell Stem Cells
Ed. 1 Rm 3500

2:30 – 3:15 pm  Mark Bauer, PhD (UCD)
Introduction to ethical considerations for stem cell use
Ed. 1 Rm 3500

3:15 – 3:25 pm  Break

3:30 - 4:30 pm  Approaches for 3D modeling:
Ed. 1 Rm 3500
3:30 – 4:00  Mayumi Fujita, MD/PhD (UCD) & Yiqun Shellman, PhD (UCD)
Building in vitro models of human skin
4:00 – 4:30  Velmurugan Balaiya, PhD (UCD) & Bradley Kubick, BS (UCD)
Building in vivo models of skin and skin cancer

4:30 – 5:00 pm  Roundtable discussion: challenges to modeling skin diseases
Ed. 1 Rm 3500

5:00 – 6:00 pm  Poster session + social
Ed. 1 Rm 3500

6:00 pm  Dinner in Research Center 2, Trivisable Room
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*** Tuesday July 29 ***

9:00 – 10:20 am  
Ed. 1  Rm 3500  
Short talks by participants on their skin-related research (15 minute talk + 5 min discussion)

Jessica Morgner – University of Cologne - Cell-matrix interactions in stem cell quiescence and carcinogenesis

Karen Reuter – University of Cologne - Interfering with stem cell-specific gatekeeper functions controls the DNA damage response of hair follicle bulge stem cells and promotes tumour initiation

Yalda Moayedi – Columbia University - Mechanisms of calcium channel modulators on epidermal homeostasis and squamous cell carcinoma progression

Cheryl Chen – A*STAR - Umbilical cord epithelium may be a suitable surrogate tissue for monitoring expression of epidermal proteins as biomarkers of atopic dermatitis

10:20 – 10:25 am  
Break

10:30 – 11:30 am  
Ed. 1  Rm 3500  
iPS cells: basics and stem cell-based models

Peter Koch, PhD (UCD)

11:30 am -12:30 pm  
Ed. 1  Rm 3500  
iPS cells: latest updates on technical approaches

Ganna Bilousova, PhD (UCD)

12:30 – 1:25 pm  
Lunch

1:30 – 2:30 pm  
Ed. 1  Rm 3500  
Applications of iPS cells:

Dennis Roop, PhD (UCD)

1. Applications for disease modeling
2. Therapeutic applications and challenges

2:30 – 3:15 pm  
Ed. 1  Rm 3500  
Mark Bauer, PhD (UCD)  
Ethical considerations for clinical applications of iPS cells

3:15 – 3:25 pm  
Break

3:30 – 4:30 pm  
Ed. 1  Rm 3500  
Research presentations from UC Denver faculty (15 minute talk + 5 min discussion)

Qinghong Zhang, PhD (UCD): Targeting transcription in skin diseases by biologics

Tamara Terzian, PhD (UCD): p53 in pigmentation and melanoma

Yosef Refaeli, PhD (UCD): The regulation of hematopoietic stem cell homeostasis and expansion by MYC

4:30 – 4:45pm  
Walk to GMP facility

4:45 – 5:15 pm  
Bioscience Park Center  
Thomas Payne, PhD, GMP Facility Director (UCD)  
Manufacturing cells for clinical use

5:15 – 5:45 pm  
Bioscience Park Center  
Tour of GMP facility

5:45 – 6:30 pm  
Bioscience Park Center  
Reception in Research Center 2, Trivisible Room  
Dinner on Own
GSDRC Summer School 2014

*** Wednesday July 30 ***

9:00 – 10:00 am
Ed. 1 Rm 3500
Short talks by participants on their skin-related research (15 minute talk + 5 min discussion)
**Melina Mescher** – University of Cologne - Polarity proteins in melanocytes, melanoma formation and metastasis

**Cynthia Tilley** – UCD – Silibilin and its derivative Dehydrosilybin Inhibit Basal Cell Carcinoma Proliferation and Tumor Growth via targeting Multiple Signaling Pathways

**Alexandra Zuk** – University of Cologne - In vivo consequences of dominant negative effects on the fibrillin microfibrillar network

10:00 – 10:45 am
Ed. 1 Rm 3500
**Laurie Goodrich**, DVM/PhD (Colorado State University)
Clinical applications of bone marrow derived mesenchymal stem cells in musculoskeletal diseases of horses

10:45 – 10:55 am
Break

11:00 am – 12:30 pm
Ed. 1 Rm 3500
Research presentations from UC Denver faculty (15 minute talk + 5 min discussion)
**Yiqun Shellman**, PhD (UCD): The role of SASH1 in skin pigmentation

**Neil Box**, PhD (UCD): Gene-environment interactions in childhood nevus development

**Stanca Birlea**, PhD (UCD): UV light treatment for human vitiligo induces precursor and differentiated populations of melanocyte in hair follicles and epidermis.

**Mayumi Fujita**, MD/PhD (UCD): Role of IL-37 in adaptive immunity in skin

12:30 – 1:25 pm
Ed. 1 Rm 3500
Lunch

1:30 – 2:10 pm
Ed. 1 Rm 3500
Short talks by participants (15 minute talk + 5 min discussion)

**Louise Stanley** – University of Dundee – BADGEM: A clinical network dedicated to genodermatoses

**Kim Robinson** – A*STAR – Singapore's Asian Skin Cell Bank

2:10 – 3:00 pm
Ed. 1 Rm 3500
**Mayumi Fujita** MD/PhD, **Dennis Roop** PhD, **Peter Koch** PhD
Global career perspectives in skin research – senior PI roundtable

3:00 pm
Visit Red Rocks

7:00 pm
Dinner

Acknowledgements

Thank you and round of applause to all participants for attending and sharing your fascinating research

And a special thanks to all the GSDRC Coordinators