

The 61st annual

Montagna Symposium on the Biology of Skin

presents

Keeping It All Together: Adhesion, the Cytoskeleton & Signaling in Morphogenesis & Tissue Function

October 11 – 15, 2012
Salishan Resort, Gleneden Beach, Oregon

Program Chairs
Kathleen J. Green, PhD
Masayuki Amagai, MD, PhD

Symposium Director
Molly Kulesz-Martin, PhD

Program

Thursday, October 11

THURSDAY EVENING

KEYNOTE SESSION

4:30 pm

Hotel check-in (front desk) and Symposium check-in (Long House foyer)

6:00 pm

Opening Reception *(Cedar Tree)*

7:00 pm

Kathleen J. Green, PhD

Welcome and Introductions (Long House)

7:15 pm

The EMBO Keynote Lecture:

Fiona M. Watt, DPhil

*Director, Centre for Stem Cell and Regenerative Medicine Research,
King's College London*

"Studies of periplakin and envoplakin function in mammalian epidermis"

Friday, October 12

FRIDAY MORNING

7:00 – 8:00 am

Breakfast (Long House foyer)

8:00 am **Molly Kulesz-Martin, PhD**

Welcome and Thanks

ADHESION, JUNCTIONS AND CELL POLARITY IN TISSUE MORPHOGENESIS

Session Chair: Carien Niessen

8:10 am **Carien Niessen, PhD**

“Cadherins and polarity proteins in epidermal morphogenesis”

8:50 am **Akiharu Kubo, MD, PhD**

“The stratum corneum comprises three layers with distinct barrier properties, as revealed by TOF-SIMS imaging”

9:05 am **Terry Lechler, PhD**

“Non-centrosomal microtubules potentiate cell adhesion and barrier formation in the epidermis”

9:45 am

Break

10:00 am **Peter J. Koch, PhD**

“Gene regulatory pathways involved in differential regulation of desmosomal adhesion molecules in normal development and diseases”

10:40 am **Valera Vasioukhin, PhD**

“Hippo/ α -catenin pathway in regulation of tissue homeostasis and cancer”

11:20 am **Aaron F. Mertz, MPhil**

“Intercellular adhesions organize cell-matrix mechanics in keratinocytes”

11:35 am **Christina M. Van Itallie, PhD**

“Identifying protein networks at the tight junction”

12:15 – 1:30 pm

Lunch on own

FRIDAY AFTERNOON

DYNAMIC MECHANISMS FOR REGULATING ADHESION STRENGTH AND CELL BEHAVIOR

Session Chair: Andrew Kowalczyk

- 1:30 pm **Andrew Kowalczyk, PhD**
 "Regulation of cell adhesion by cadherin endocytosis"
- 2:10 pm **Caitlin Collins**
 "Localized tensional forces on PECAM-1 elicit a global mechanotransduction response via the integrin-RhoA pathway"
- 2:25 pm **David Garrod, PhD**
 "Hyper-adhesion in desmosomes and how it may be regulated"
- 3:05 pm **Sanjeevi Sivasankar, PhD**
 "Ideal, catch and slip bonds in E-cadherin adhesion"
- 3:20 pm **Sergey Troyanovsky, PhD**
 "Key role of F-actin in adherens junction assembly and dynamics"
- 4:00 pm **Anand Reddi**
 "MicroRNA-9 targets the adherence junction protein α -catenin resulting in squamous cell carcinoma metastasis"
- 4:15 pm **Christopher S. Chen, MD, PhD**
 "Novel approaches for measuring adhesion and cell mechanics"

POSTER SESSION

- 4:55 pm **Molly Kulesz-Martin, PhD**
 Presentation of Society for Investigative Dermatology
 Eugene M. Farber Travel Awards for Young Investigators

5:00 – 7:00 pm

Poster Reception (*Long House & Long House foyer*)

Poster tour for residents and clinicians lead by **David A. Norris, MD**

Saturday, October 13

SATURDAY MORNING

7:00 – 8:00 am

Breakfast (Long House foyer)

CELL MATRIX AND MIGRATION IN WOUND HEALING AND DISEASE

Session Chair: John McGrath

8:00 am **John McGrath, MD**

“Inherited skin blistering: new insights from patients”

8:40 am **Jonathan Jones, PhD**

“ $\alpha6\beta4$ integrin receptors in keratinocytes are multi-functional with involvement in adhesion, migration and signaling”

9:20 am **Michael DiPersio, PhD**

“Roles for integrin $\alpha3\beta1$ in skin development are recapitulated during wound healing”

9:35 am **Reinhard Fässler, MD, PhD**

“Integrin tail-associated proteins in skin disease”

10:15 am

Break

10:30 am **Greg Weber, PhD**

“Cadherin-dependent mechanosensitive cell signaling and the regulation of collective cell migration”

11:10 am **Martine Dunnwald, PharmD, PhD**

“Interferon Regulatory Factor 6 regulates keratinocyte migration and adhesion”

11:25 am **Sabine Werner, PhD**

“Role of the Nrf2 transcription factor in skin homeostasis, repair and disease”

12:05 pm

Lunch on own

SATURDAY AFTERNOON

1:00 pm

Coastal Hills Hike

(Carpools to hike trailhead gather in front of hotel entrance.)

SATURDAY EVENING

6:00 pm

Banquet Dinner *(Council House)*

W. James Nelson, PhD - Plenary Speaker

Professor of Biology (School of Humanities & Sciences), Professor of Molecular & Cellular Physiology (School of Medicine), Stanford University

“Structural and functional evolution of epithelia and cell-cell adhesion complexes”

Sunday, October 14

SUNDAY MORNING

7:00 – 8:00 am

Breakfast (Long House foyer)

COORDINATING ADHESION AND SIGNALING IN EPITHELIA

Session Chair: Kathleen Green

8:00 am **Kathleen J. Green, PhD**

“Desmosomes couple cytoskeletal remodeling and Erk inhibition to promote epidermal differentiation and morphogenesis”

8:40 am **Andrea I. McClatchey, PhD**

“Cortical organization in epithelial morphogenesis and tumorigenesis”

9:20 am **Lisa M. Godsel, PhD**

“The desmosome protein plakophilin 2 is required for extracellular matrix attachment”

9:35 am **Gregory D. Longmore, MD**

“The roles for Rho GTPase in adherens junction remodeling”

10:15 am

Break

10:30 am **Spiro Getsios, PhD**

“Eph/Ephrin-adhesion intersections in the epidermis”

11:10 am **Eliane Müller, PhD**

“Connecting intercellular adhesion to the nucleus: plakoglobin (γ -catenin) is a cadherin-dependent transcriptional regulator of the Wnt pathway which functionally overlaps with β -catenin”

11:50 am – 1:20 pm

Lunch on own

SUNDAY AFTERNOON

DISEASES OF ADHESION: FROM BENCH TO BEDSIDE

Session Chair: Masayuki Amagai

- 1:20 pm **Masayuki Amagai, MD, PhD**
 "Mechanisms in pemphigus"
- 2:00 pm **Satoshi Hirakawa, MD, PhD**
 "A functional role of LYVE-1 in VEGF-A-induced lymphangiogenesis and psoriasis"
- 2:15 pm **Arnoud Sonnenberg, PhD**
 "Regulation of hemidesmosome dynamics during cell migration"
- 2:55 pm
 Break with snacks (Long House foyer)
- 3:10 pm **Jouni Uitto, MD, PhD**
 "Heritable disorders of the cutaneous basement membrane zone"
- 3:50 pm **John R. Stanley, MD**
 "Pathologic and non-pathologic autoantibodies in pemphigus"
- 4:30 pm **Jakub Tolar, MD, PhD**
 "Improving hematopoietic cell transplantation in epidermolysis bullosa"

SUNDAY EVENING

- 6:00 pm
 Potlatch Northwest-Style Salmon Barbecue
 At the home of Drs. Jim & Diane Baker, on the beach
 Bus departs 6:00 pm, returns 8:30 pm
 (Bad weather alternative location: Cedar Tree)

Monday, October 15

- 7:30 – 8:30 am
 Breakfast (Long House foyer)
- 8:45 am
 Airport bus loading *(outside hotel lobby)*
- 9:00 am
 Airport bus departs