

Montagna Symposium on the Biology of Skin

# MELANOMA<sup>TO</sup> VITILIGO

THE MELANOCYTE IN BIOLOGY & MEDICINE



October 17 - 22, 2018

Salishan Resort

Gleneden Beach, Ore., U.S.A.

## Program Chairs

Sancy A. Leachman, M.D., Ph.D.

Thomas J. Hornyak, M.D., Ph.D.

## Montagna Symposium Director

Molly Kulesz-Martin, Ph.D.

## Program

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### Wednesday, October 17

#### WEDNESDAY AFTERNOON

#### **MELANOMA, VITILIGO & XP PATIENT SYMPOSIUM**

(Council House and Lincoln/Pine Room; non-CME event)

12:15 - 6 p.m.

Patient Symposium

- Lunch
- Keynote: Sancy A. Leachman, M.D., Ph.D., "It's all about the melanocyte"
- Breakouts
- Exhibits

#### WEDNESDAY EVENING

4 - 7 p.m.

Hotel check-in (*Hotel Lobby*)  
Scientific participant check-in (*Terrace Room*)

6 - 7 p.m.

Opening reception (*Long House and Terrace Room*)

**KEYNOTE A**

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*(Long House)*

7 p.m. **Sancy A. Leachman, M.D., Ph.D.** (*Oregon Health & Science University*)  
**Thomas J. Hornyak, M.D., Ph.D.** (*University of Maryland*)  
 Welcome and introductions

7:15 – 8:15 p.m. **MEETING KEYNOTE**  
**Michael Shapiro, Ph.D.** (*University of Utah*)  
 “Genetics of plumage color patterning and the checkered past of rock pigeons”

**Thursday, October 18****THURSDAY MORNING**

7 – 7:55 a.m. Breakfast (*Council House*)

**SESSION 1: ANIMAL MODELS**

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*(Long House)**Session Chairs: Sheri Holmen & Greg Barsh*

7:55 a.m. **Clara Stemwedel**  
 Announcements

8 a.m. **Molly Kulesz-Martin, Ph.D.** (*Oregon Health & Science University*)  
**Thomas J. Hornyak, M.D., Ph.D.** (*University of Maryland*)  
**Sancy A. Leachman, M.D., Ph.D.** (*Oregon Health & Science University*)  
 Acknowledgements

8:10 a.m. **Sheri Holmen, Ph.D.** (*University of Utah*)  
**Greg Barsh, M.D., Ph.D.** (*HudsonAlpha Institute for Biotechnology*)  
 Session introduction

8:15 a.m. **SESSION KEYNOTE**  
**Greg Barsh, M.D., Ph.D.** (*HudsonAlpha Institute for Biotechnology*)  
 “Genetics of diversity and convergence in mammalian color patterns”

8:45 a.m. **Karen Osborn, Ph.D.** (*Smithsonian Institution*)  
 “Black holes in the deep sea: Ultrastructure and optics of deep-sea fish skin”

9:15 a.m. **Helen Michael, D.V.M.** (*NIH/NCI/CCR*)  
 “Initiation and progression of BRAF/NRAS wildtype melanoma in a UV-induced mouse model of cutaneous melanoma”

9:45 a.m. Break (*Terrace Room*)

- 10 a.m. **Deborah Lang, Ph.D.** (*Boston University*)  
"Targeting ETS transcription factors to suppress melanoma growth"
- 10:15 a.m. **Yeon Sook Choi, Ph.D.** (*Massachusetts General Hospital and Harvard Medical School*)  
"Topical hapten-based immunotherapy and MEK-targeted local therapy regress congenital melanocytic nevi in NRAS<sup>Q61R</sup>-driven preclinical models of human giant congenital nevi"
- 10:30 a.m. **Zhussipbek Mukhatayev, Ph.D.** (*Northwestern University*)  
"GD<sub>3</sub> CAR-Tregs to mount antigen-specific immunosuppression in vitiligo"
- 10:45 a.m. **Catherine Van Raamsdonk, Ph.D.** (*University of British Columbia*)  
"The role of oncogenic GNAQ in meningeal melanocytoma"
- 11 a.m. **Barbara Bedogni, Ph.D.** (*University of Miami*)  
"Inhibiting Notch1 enhances immunotherapy efficacy in melanoma by preventing Notch1 dependent immune suppressive properties"
- 11:30 a.m. **Christin Burd, Ph.D.** (*The Ohio State University*)  
"Genetically humanized mouse models for the testing of melanoma preventatives"
- 12 – 1 p.m. Lunch (*Council House*)  
PASPCR Council meeting (*Sitka Room*)  
*Food served in the Council House; bring plates to the Sitka Room*

## THURSDAY AFTERNOON

### **SESSION 2: HUMAN MODEL SYSTEMS**

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(*Long House*)

*Session Chairs: Kenneth H. Kraemer & James E. Cleaver*

- 1 p.m. **Kenneth H. Kraemer, M.D.** (*NIH/NCI*)  
**James E. Cleaver, Ph.D.** (*University of California, San Francisco*)  
Session introduction
- 1:05 p.m. **SESSION KEYNOTE**  
**Hensin Tsao, M.D., Ph.D.** (*Massachusetts General Hospital and Harvard Medical School*)  
"Genetics and melanoma"
- 1:35 p.m. **Margaret A. Tucker, M.D.** (*NIH/NCI/DCEG*)  
"Familial melanoma: Still learning after 40+ years"
- 2:05 p.m. **Kenneth H. Kraemer, M.D.** (*NIH/NCI/CCR*)  
"Xeroderma pigmentosum: 40+ years of insights into carcinogenesis"
- 2:35 p.m. Break (*Terrace Room*)
- 2:55 p.m. **Sarah Arron, M.D., Ph.D.** (*University of California, San Francisco*)  
"Targeting DNA damage repair for cancer therapy"

- 3:25 p.m. **Andrzej Slominski, M.D., Ph.D.** (*University of Alabama at Birmingham*)  
"Neuro-immuno-endocrinology of the skin: Moving the pigmentary system into center stage"
- 3:40 p.m. **Discussion**  
Sun protection – Pearls and perils  
Moderator: *Kenneth H. Kraemer, M.D.*

## **POSTER SESSION I**

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(*Long House and Terrace Room*)

- 4:10 p.m. **Cynthia Cooper, Ph.D.** (*Washington State University, Vancouver*)  
Session introduction

### **Young Investigator Short Oral Presentations**

- 4:15 p.m. **Eric Domyan, Ph.D.** (*Utah Valley University*)  
"SOX10 regulates multiple genes to direct eumelanin vs. pheomelanin production in domestic rock pigeon"
- 4:30 p.m. **Corinne Rauck, B.A.** (*NIH/NCI/CCR; University of Cincinnati*)  
"Inducible CRISPR-Cas9 knockout of CEACAM1 as a new therapeutic strategy for melanoma"
- 4:45 p.m. **Hunter Shain, Ph.D.** (*University of California, San Francisco*)  
"Genomic and transcriptomic analysis reveals incremental disruption of key signaling pathways during melanoma evolution"
- 5 p.m. **Evan Carpenter, B.S.** (*Oregon State University*)  
"High throughput screen identifies a metabolic regulator of drug resistant metastatic melanomas with *BRAF*<sup>V600E</sup> mutation"
- 5:15 p.m. **Donald Koroma, Sc.B.** (*Brown University*)  
"An intracellular chloride/proton exchanger essential for pigmentation"
- 5:30 – 7 p.m. Poster session and reception

## **Friday, October 19**

### **FRIDAY MORNING**

- 6:50 – 7:50 a.m. Breakfast (*Council House*)

## **SESSION 3: STEM CELLS & DEVELOPMENT**

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(*Long House*)

*Session Chairs: William J. Pavan & Mayumi Fujita*

- 7:50 a.m. **Clara Stemwedel**  
Announcements
- 7:55 a.m. **Thomas J. Hornyak, M.D., Ph.D.** (*University of Maryland*)  
**Prashiela Manga, Ph.D.** (*New York University*)  
**Molly Kulesz-Martin, Ph.D.** (*Oregon Health & Science University*)  
Travel award presentations
- PanAmerican Society for Pigment Cell Research Travel Awards
  - Society for Investigative Dermatology Eugene M. Farber Travel Awards for Young Investigators
  - Montagna Symposium Director's Travel Award for Fostering Skin Research Among Underrepresented Scientists
  - Japanese Society for Investigative Dermatology Travel Award for Young Investigators
  - National Psoriasis Foundation Travel Grant
- 8:10 a.m. **William J. Pavan, Ph.D.** (*NIH/NHGRI*)  
**Mayumi Fujita, M.D., Ph.D.** (*University of Colorado School of Medicine*)  
Session introduction
- 8:15 a.m. **Mayumi Ito, Ph.D.** (*New York University*)  
"Melanocyte stem cells in regeneration and cancer"
- 8:45 a.m. **Morgan Sturgeon, B.S.** (*University of Iowa*)  
"Abnormal melanocyte differentiation in zebrafish *trpm7* mutant embryos results from a deficiency in magnesium homeostasis"
- 9 a.m. **Melissa L. Harris, Ph.D.** (*University of Alabama at Birmingham*)  
"Exploiting mouse models of hair graying to identify and investigate novel aspects of stem cell biology"
- 9:30 a.m. **David Parichy, Ph.D.** (*University of Virginia*)  
"Thyroid hormone signaling in adult pigment cell development"
- 10 a.m. Break (*Terrace Room*)
- 10:15 a.m. **Emi K. Nishimura, M.D., Ph.D.** (*Tokyo Medical and Dental University*)  
"Melanocyte stem cells and melanoma"
- 10:45 a.m. **Andrew White, Ph.D.** (*Cornell University*)  
"Identifying the molecular and environmental factors mediating transformation of melanocyte stem cells to melanoma"
- 11 a.m. **Vijayaradhi Setaluri, Ph.D.** (*University of Wisconsin, Madison*)  
"Melanoma tumor progression inhibits pluripotency and melanoma-derived iPSC differentiate predominantly to neural-like cells"
- 11:15 a.m. **E. Elizabeth Patton, Ph.D.** (*University of Edinburgh*)  
"Discovering and targeting melanoma cell subpopulations"

11:45 a.m. – 1 p.m. Non-PASPCR attendee lunch (*Council House*)  
 PASPCR General Meeting & lunch (*Long House*)  
*Food served in the Council House; bring plates to the Long House*

## FRIDAY AFTERNOON

### **SESSION 4: MICROENVIRONMENT & IMMUNOLOGY**

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(*Long House*)

*Session Chairs: I. Caroline Le Poole & Amanda Lund*

- 1 p.m. **I. Caroline Le Poole, Ph.D.** (*Northwestern University*)  
**Amanda Lund, Ph.D.** (*Oregon Health & Science University*)  
 Session introduction
- 1:05 p.m. **Rosalie Luiten, Ph.D.** (*University of Amsterdam*)  
 “Viteligo development for melanoma survival”
- 1:35 p.m. **Mayumi Fujita, M.D., Ph.D.** (*University of Colorado School of Medicine*)  
 “Melanoma-induced inflammation and immunosuppression”
- 1:50 p.m. **Amanda Lund, Ph.D.** (*Oregon Health & Science University*)  
 “Lymphatic vessels as selective barriers to anti-tumor immunity in melanoma”
- 2:05 p.m. Break (*Terrace Room*)
- 2:15 p.m. **I. Caroline Le Poole, Ph.D.** (*Northwestern University*)  
 “A T cell receptor from vitiligo skin with potential for anti-melanoma treatment.”
- 2:45 p.m. **Jodi Johnson, Ph.D.** (*Northwestern University*)  
 “Keratinocyte desmoglein 1 regulates the epidermal microenvironment and melanocyte behavior”
- 3 p.m. **Youwen Zhou, Ph.D.** (*University of British Columbia*)  
 “Novel cellular defects in vitiligo lesional skin revealed by transcriptome sequencing”
- 3:15 p.m. Break (*Terrace Room*)
- 3:25 p.m. **Ryan Lane, B.S.** (*Oregon Health & Science University*)  
 “IFN $\gamma$ -dependent activation of cutaneous lymphatic vessels limits cytotoxic immunity in melanoma”
- 3:40 p.m. **Arup Indra, Ph.D.** (*Oregon State University*)  
 “Nuclear receptor signaling regulates melanocyte homeostasis and development of UVB induced metastatic NRAS melanomas”
- 3:55 p.m. **Niroshana Anandasabapathy, M.D., Ph.D.** (*Weill Cornell Medical College*)  
 “A novel biology for PD1 in melanoma and barrier immunity”

## **POSTER SESSION II**

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*(Long House and Terrace Room)*

4:25 p.m.      **Arup Indra, Ph.D.** (*Oregon State University*)  
Session introduction

### **Young Investigator Short Oral Presentations**

4:30 p.m.      **Jessica Flesher, B.S.** (*University of California, Irvine*)  
“Delineating the role of MITF isoforms in pigmentation and tissue development”

4:45 p.m.      **Fabian V. Filipp, Ph.D.** (*University of California, Merced*)  
“Ill communication—Decoding heterotypic signaling in melanoma”

5 p.m.          **Alec Gramann, B.S.** (*University of Massachusetts Medical School*)  
“BMP signaling regulates pigment cell differentiation during zebrafish embryogenesis and melanoma”

5:15 p.m.      **Noel Turner, B.A.** (*Yale University*)  
“Tumor-intrinsic IFN $\gamma$  signaling is required for response to immune checkpoint blockade in the YUMMER1.7 mouse melanoma model”

5:30 – 7 p.m.      Poster session and reception

## **Saturday, October 20**

### **SATURDAY MORNING**

7 – 7:55 a.m.      Breakfast (*Council House*)

## **SESSION 5: GENETICS, EARLY DETECTION & PREVENTION**

*(Long House)*

**Session Chairs: Sancy A. Leachman & Boris Bastian**

7:55 a.m.      **Clara Stemwedel**  
Announcements

8 a.m.          **Sancy Leachman, M.D., Ph.D.** (*Oregon Health & Science University*)  
**Boris Bastian, MD, Ph.D.** (*University of California, San Francisco*)  
Session introduction

8:05 a.m.      **SESSION KEYNOTE**  
**William J. Pavan, Ph.D.** (*NIH/NHGRI*)  
“More than one way to go gray: Mouse mutants with pheomelanin-specific gray coat color”

- 8:35 a.m. **Richard Spritz, M.D.** (*University of Colorado School of Medicine*)  
"The genetic architecture of vitiligo"
- 9:05 a.m. **Robert Judson-Torres, Ph.D.** (*University of California, San Francisco*)  
"Machine-learning identifies microRNA ratios as biomarkers for cutaneous melanoma"
- 9:20 a.m. Break (*Terrace Room*)
- 9:35 a.m. **Iwei Yeh, M.D., Ph.D.** (*University of California, San Francisco*)  
"SPRED1 is a tumor suppressor in mucosal melanoma that cooperates with KIT mutation"
- 10:05 a.m. **Pamela Cassidy, Ph.D.** (*Oregon Health & Science University*)  
"Prevention – The next revolution in melanoma"
- 10:35 a.m. **Point/Counterpoint Discussion**  
"Dysplastic nevi: Precursor or not?"  
*Moderator: Boris Bastian, M.D.*
- 11:05 a.m. **SPECIAL TALK**  
**Roger T. Hanlon, Ph.D.** (*Marine Biological Laboratory/Brown University*)  
"The squid's elegant version of a vertebrate melanocyte: A dynamic chromatocyte with intimately co-located pigmentary and structural coloration elements"

## SATURDAY AFTERNOON

- 11:35 a.m. Lunch on own, leading into free time or hike (below)  
Melanoma Prevention Working Group meeting (*Council House*)  
*General meeting participants welcome to attend*
- 1:30 p.m. **Cascade Head Hike** – gather in Hotel Lobby to form carpools to trailhead  
OR free time

## SATURDAY EVENING

- 5:15 p.m. **Mentorship Mixer** (*Lincoln/Pine Room*)  
*All Young Investigators welcome to participate*

## **KEYNOTE B**

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(*Council House*)

- 6:15 p.m. Dinner
- 7:30 – 8:30 p.m. **MEETING KEYNOTE**  
**Lisa Coussens, Ph.D.** (*Oregon Health & Science University*)  
"Inflammation and cancer: New targets for therapy in cancer"



**Sunday, October 21****SUNDAY MORNING**7 – 7:55 a.m. Breakfast (*Council House*)**SESSION 6: SIGNAL TRANSDUCTION**

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*(Long House)**Session Chairs: John D’Orazio, Roger Lo and Vijayaradhi Setaluri*

- 7:55 a.m. **Clara Stemwedel**  
Announcements
- 8 a.m. **John D’Orazio, M.D., Ph.D.** (*University of Kentucky*)  
**Roger Lo, M.D., Ph.D.** (*University of California, Los Angeles*)  
**Vijayaradhi Setaluri, Ph.D.** (*University of Wisconsin, Madison*)  
Session introduction
- 8:10 a.m. **SESSION KEYNOTE**  
**Ze’ev Ronai, Ph.D.** (*Sanford Burnham Prebys Medical Discovery Institute*)  
“Coordinated regulation of gut microbiota and anti-tumor immunity by the UPR controls melanoma growth”
- 8:40 a.m. **Keiran S. Smalley, Ph.D.** (*Moffitt Cancer Center*)  
“The role of epigenetic reprogramming in BRAF-MEK inhibitor resistance and melanoma phenotype switching”
- 9:10 a.m. **John D’Orazio, M.D., Ph.D.** (*University of Kentucky*)  
“cAMP signaling and melanocyte genomic stability: A new role for Sirtuin 1”
- 9:40 a.m. *Break (Terrace Room)*
- 10 a.m. **Shobhan Gaddameedhi, Ph.D.** (*Washington State University, Spokane*)  
“Circadian clock protein BMAL1 regulates melanogenesis through MITF”
- 10:15 a.m. **Zalfa Abdel-Malek, Ph.D.** (*University of Cincinnati*)  
“Paracrine factors activate the DNA damage response of human melanocytes via multiple signaling pathways”
- 10:30 a.m. **Ivana de la Serna, Ph.D.** (*University of Toledo*)  
“Inhibiting BRD9 in melanoma”
- 10:45 a.m. **Todd Ridky, M.D., Ph.D.** (*University of Pennsylvania*)  
“Estrogen signaling through the G protein-coupled estrogen receptor inhibits melanoma and other cancers and synergizes with immune and targeted therapies”
- 11:15 a.m. **Roger Lo, M.D., Ph.D.** (*University of California, Los Angeles*)  
“Melanoma therapeutic designs based on resistance mechanisms”

11:45 a.m. – 12:40 p.m. Lunch (Council House)

## SUNDAY AFTERNOON

### **SESSION 7: PHOTOCHEMISTRY & TOXICOLOGY OF PIGMENT CELLS**

(Long House)

Session Chairs: Douglas Brash & Prashiela Manga

12:40 p.m.	<b>Clara Stemwedel</b> Announcements
12:45 p.m.	<b>Douglas Brash, Ph.D.</b> (Yale University) <b>Prashiela Manga, Ph.D.</b> (New York University) Session introduction
12:50 p.m.	<b>SESSION KEYNOTE</b> <b>Douglas Brash, Ph.D.</b> (Yale University) “Excited-state melanins, cyclobutane dimer hyperhotspots, and precision prevention”
1:20 p.m.	<b>Gregory Payne, Ph.D.</b> (University of Maryland) “Redox properties of melanin and its potential for drug interactions: Revealing redox-features through electrochemical reverse engineering”
1:50 p.m.	Break (Terrace Room)
2 p.m.	<b>Prashiela Manga, Ph.D.</b> (New York University) “Stress-response pathways activity in response to vitiligo-inducing phenols”
2:30 p.m.	<b>Peng Mao, Ph.D.</b> (Washington State University, Pullman) “Genome-wide map of UV damage reveals that ETS transcription factors induce UV damage and mutation hotspots in melanoma”
2:45 p.m.	<b>Olga Lavinda, Ph.D.</b> (New York University) “Structure-activity relationships in human tyrosinase”
3 p.m.	Break (Terrace Room)
3:10 p.m.	<b>Jason Belitsky, Ph.D.</b> (Oberlin College) “A course-based research experience introducing melanin as a central biomaterial”
3:25 p.m.	<b>Luigi Zecca, M.D., Ph.D.</b> (Institute of Biomedical Technologies – CNR, Italy) “Neuromelanin in human brain aging and Parkinson disease”
3:55 – 4:25 p.m.	<b>Point/Counterpoint Discussion</b> “Antioxidants: Good or bad?” Moderator: Pamela Cassidy, Ph.D.

## SUNDAY EVENING

5:30 p.m. Northwest salmon barbecue dinner  
*At the home of Drs. Jim & Diane Baker, on the beach*

Bus departs at 4:50 p.m. and 5:20 p.m. from outside Hotel Lobby  
Bus returns 7 p.m. and 7:30 p.m.  
*(Weather permitting - alternate site: Cedar Tree)*

## Monday, October 22

7 – 8 a.m. Breakfast *(Council House)*

8 a.m. Airport bus loading *(outside Hotel Lobby)*

8:15 a.m. Airport bus departs

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