Montagna Symposium on the Biology of Skin

MELANOMA TO 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

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  
(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  
(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
(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.*

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**POSTER SESSION I**
*(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 \( \text{BRAF}^{V600E} \) 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

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**Friday, October 19**

**FRIDAY MORNING**

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

**SESSION 3: STEM CELLS & DEVELOPMENT**
*(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.  Vijayasaradhi 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”
FRIDAY AFTERNOON

SESSION 4: MICROENVIRONMENT & IMMUNOLOGY
(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)
“Vitiligo 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)
“IFNy-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
(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 IFNγ 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 pigmented 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
(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

(Long House)

Session Chairs: John D’Orazio, Roger Lo and Vijayasaradhi 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)
          Vijayasaradhi 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)

12:40 p.m.    Clara Stemwedel
               Announcements

12:45 p.m.    Douglas Brash, Ph.D.  (Yale University)
               Prashiela Manga, Ph.D.  (New York University)
               Session introduction

12:50 p.m.    SESSION KEYNOTE
               Douglas Brash, Ph.D.  (Yale University)
               “Excited-state melanins, cyclobutane dimer hyperhotspots, and precision prevention”

1:20 p.m.     Gregory Payne, Ph.D.  (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.        Prashiela Manga, Ph.D.  (New York University)
               “Stress-response pathways activity in response to vitiligo-inducing phenols”

2:30 p.m.     Peng Mao, Ph.D.  (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.     Olga Lavinda, Ph.D.  (New York University)
               “Structure-activity relationships in human tyrosinase”

3 p.m.        Break  (Terrace Room)

3:10 p.m.     Jason Belitsky, Ph.D.  (Oberlin College)
               “A course-based research experience introducing melanin as a central biomaterial”

3:25 p.m.     Luigi Zecca, M.D., Ph.D.  (Institute of Biomedical Technologies – CNR, Italy)
               “Neuromelanin in human brain aging and Parkinson disease”

3:55 – 4:25 p.m.    Point/Counterpoint Discussion
               “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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