



## 4<sup>th</sup> Annual ISEMPH Meeting

Wed–Sat, August 1-4, 2018  
Park City, Utah

### Wednesday, August 1, 2018

7:30am–8:00pm REGISTRATION OPEN

8:00am–3:30pm

**CME PRE-CONFERENCE: EVOLUTION AND WILDERNESS MEDICINE—  
ADAPTATION TO EXTREME ENVIRONMENTS** (*Adtl fee required*)

*Program Chair: Joe Alcock*

*Presenters: Cynthia Beall, Rick Henriksen, Melissa Ilardo, Michael Lauria,  
Scott McIntosh, Diane Rimple, Blair Wolf*

A core competency of wilderness medicine is to understand how human physiology responds to extreme environments. Most human existence has taken place in environments without modern medicine. This legacy has shaped physiologic responses to extreme conditions, including temperature, altitude, dehydration, and other stresses. This session explores how adaptive responses to environmental challenges, their constraints and trade-offs, can inform wilderness medical care.

2:00–4:00pm

**AFTERNOON HIKE**



... ARRANGED BY LOCAL COMMITTEE

3:30–5:00pm **INFORMAL DISCUSSION: DEVELOPING THE FIELD—UPDATES AND IDEAS**

*Stephen Stearns, Chair* (*All welcome to attend*)

6:00–8:00pm

**WELCOME RECEPTION & BOOK EXCHANGE**

*I cannot remember the books I've read any more than the meals I have eaten;  
even so, they have made me.*

~ Ralph Waldo Emerson

### Thursday, August 2, 2018

6:15–7:15am

**SUNRISE HIKE** (ARRANGED BY LOCAL COMMITTEE) or **YOGA CLASS** (BY PARK CITY SPA YOGA)

7:00–7:45am

**CONTINENTAL BREAKFAST — VISIT EXHIBITS** (*Food will remain addl 15 mins*)

7:45–8:00am

**OPENING REMARKS**

*Stephen Stearns & Joe Alcock*

8:00–8:45am

**PLENARY [P-1]: DISGUST AND DESIRE: EVOLUTIONARY APPROACHES TO  
BEHAVIOUR CHANGE**  
*Val Curtis*

8:45–10:00am

**SYMPOSIUM I: EVOLUTION AND HEALTH BEHAVIOUR****Chair:** Gillian Pepper**Presenters:** Athena Aktipis, Bruce Ellis, Michael Gurven, Dandara Ramos

The same selective forces that shape our biology thereby influence our behaviour. Evolutionary insights can thus inform our understanding of health behaviours, enabling improved public health interventions. This session will explore evolutionary perspectives on a range of health behaviours including diet, health-risking behaviours, and treatment uptake, and discuss their implications for public health.

10:00–10:30am

**BREAK – VISIT EXHIBITS & PREVIEW POSTERS**

10:30–11:30am

**PLATFORM (ORAL) PRESENTATIONS: SESSION 1**

<b>Session 1A</b>		<b>Early Life and Milk: <i>Chair, Katie Hinde</i></b>	
		<b>Location: Summit Ballroom A</b>	
Time	#	Presenter	Title
10:30am	1A-1	Fujita, M	<u>An exploratory study of the adaptive anemia hypothesis: Maternal anemia may compromise or enhance breast milk macronutrient levels depending on the type of anemia, the presence of infection, and the milk component</u>
10:45am	1A-2	Morgan, N	<u>What types of life stress have the greatest impact on pregnancy complications?</u>
11:00am	1A-3	Greenwald, A	<u>Evolutionary Insights into Breastfeeding from an Archaeological Hunter-Gatherer Population</u>

<b>Session 1B</b>		<b>Evolution and Mental Health: <i>Chair, Brandon Hidaka</i></b>	
		<b>Location: Summit Ballroom B/C</b>	
Time	#	Presenter	Title
10:30am	1B-1	Garcia, A	<u>An evolutionary perspective on the links between depression, neuroendocrine-immune interactions, and Type 2 Diabetes risk</u>
10:45am	1B-2	Syme, K	<u>When Saying 'Sorry' Isn't Enough: Does some suicidal behavior function to signal an honest apology?</u>
11:00am	1B-3	Zefferman, M	<u>An evolutionary theory of PTSD and moral injury with evidence from Turkana pastoralist warriors</u>
11:15am	1B-4	Swain Ewald, H	<u>Depression, inflammation and tryptophan restriction: the why and how of it?</u>

11:30am–12:30pm **PLATFORM (ORAL) PRESENTATIONS: SESSION 2**

<b>Session 2A</b>		<b>Selection and Anatomy: <i>Chair, Nicole Bender</i></b>	
		<b>Location: Summit Ballroom A</b>	
Time	#	Presenter	Title
11:30am	2A-1	Bender, N	<u>Increasing variability of body mass and health correlates in Swiss conscripts, a possible role of relaxed natural selection?</u>
11:45am	2A-2	Boyd, K	<u>Dental, Facial and Respiratory Development in Pre-industrial H. sapiens: how anthropology can inform modern orthodontic diagnosis and treatment</u>
12:00pm	2A-3	Hanzal, E	<u>A few basic assumptions about the evolution of continence</u>
12:15pm	2A-4	Uhl, E	<u>Osteoarthritis: Insights from evolution, tensegrity and comparative pathology</u>

<b>Session 2B</b>		<b>Life History: <i>Chair, Andrea Graham</i></b>	
		<b>Location: Summit Ballroom B/C</b>	
Time	#	Presenter	Title
11:30am	2B-1	Jasienska, G	<u>Trade-offs between reproduction and health: women with high parity have poorer health in post-reproductive age</u>
11:45am	2B-2	Frumkin, A	<u>The cost of reproduction in women: Reproductive effort and oxidative stress in premenopausal and postmenopausal American women</u>
12:00pm	2B-3	Koepke, N	<u>The obstetrical dilemma – evidence from historical Swiss data</u>
12:15pm	2B-4	Ryan, C	<u>Genome-wide DNA-methylation varies with reproductive status and parity and supports costs of reproduction in a cohort of young Filipino women</u>

12:30–1:30pm **BOX LUNCH — VISIT EXHIBITS**

1:30–2:15pm

**PLENARY [P-2]: LEARNING AND PERTURBING THE EVOLUTIONARY MECHANISMS DRIVING THERAPEUTIC RESISTANCE IN CANCER AND PATHOGENS**  
*Jacob Scott*

2:15–3:30pm

**SYMPOSIUM II: COMPARATIVE ONCOLOGY**

**Co-Chairs:** *Athena Aktipis & Amy Boddy*

**Presenters:** *Lisa Abegglen, Athena Aktipis, Amy Boddy, Valerie Harris*

Comparative oncology is a new and expanding field in cancer biology that examines cancer susceptibility across species. Evolution has, over millions of years, inherently explored cancer defense mechanisms with each new multicellular species. By identifying how certain species evolved mechanisms of cancer suppression, we can begin to identify which underlying molecular targets are potentially more exploitable for human cancer prevention and treatment. In this session we will explore a broad range of topics in comparative oncology, including cancer rates across the tree of life, understanding vulnerability to cancer, and cancer comparative genomics.

3:30–3:45pm **BREAK – VISIT EXHIBITS & PREVIEW POSTERS**

3:45–4:30pm **PLATFORM (ORAL) PRESENTATIONS: SESSION 3**

<b>Session 3A</b>		<b>Cancer: <i>Chair, Amy Boddy</i></b>	
		<b>Location: Summit Ballroom A</b>	
Time	#	Presenter	Title
3:45pm	3A-1	Buetow, K	<u>Networks of interacting germline and somatic variants drive tumor etiology, progression, and response</u>
4:00pm	3A-2	Hamilton, P	<u>Cancer stem cell characteristics and immune surveillance across cancers</u>
4:15pm	3A-3	Organ, C	<u>Analyzing Cellular Traits with Developmental Phylogenetics</u>

<b>Session 3B</b>		<b>Regulation &amp; Homeostasis: <i>Chair, James Morgan</i></b>	
		<b>Location: Summit Ballroom B/C</b>	
Time	#	Presenter	Title
3:45pm	3B-1	Perlman, R	<u>An Evolutionary View of Physiological Control Mechanisms</u>
4:00pm	3B-2	Nijhout, F	<u>Homeostasis, cryptic genetic variation and predisposition to disease</u>
4:15pm	3B-3	LeGrand, E	<u>Immune Cell Metabolism: Examining Natural Selection's Design</u>

4:30–6:00pm

**SYMPOSIUM III: NOVEL SOLUTIONS TO CHEMOTHERAPEUTIC RESISTANCE**

**Chairs:** *Michael Hochberg*

**Presenters:** *Sam Brown, Ben Chan, Michael Hochberg [Nina Wade's talk is the Omenn Lecture on Fri]*

Resistance to chemotherapies is an ever-growing problem in treating diseases ranging from bacterial and parasitic infections to cancers. Resistance often leaves doctors with few or no alternatives to treat either chronic illness or life-threatening situations. Evolutionarily-guided therapies offer the prospect of improved outcomes and spectacular successes. This symposium will bring together experts to discuss how environmental and ecological conditions can be shaped so as to reduce or prevent the evolution of resistance and increase prospects for therapeutic success.

6:30–10:00pm

**GROUP DINNERS ARRANGED BY LOCAL COMMITTEE (OR ON YOUR OWN)**

## Friday, August 3, 2018

6:15–7:15am **SUNRISE HIKE (ARRANGED BY LOCAL COMMITTEE) or YOGA CLASS (BY PARK CITY SPA YOGA)**

7:00–8:00am **CONTINENTAL BREAKFAST — VISIT EXHIBITS** (*Food will remain addl 15 mins*)

7:45–8:00am **HOUSEKEEPING ANNOUNCEMENTS**  
*Joe Alcock*

8:00–8:45am **PLENARY [P-3]: BUILDING A COSTLY BRAIN: IMPLICATIONS FOR THE EVOLUTION OF HUMAN CHILDHOOD AND THE DEVELOPMENTAL ORIGINS OF METABOLIC DISEASE**  
*Chris Kuzawa*

8:45–10:00am **SYMPOSIUM IV: EVOLUTION AND MEDICINE IN LIGHT OF THE MICROBIOME**

**Chair:** *Seth Bordenstein*

**Presenters:** *Katherine Amato, Seth Bordenstein, Jennifer Stearns*

Emerging research initiatives are now conceptualizing the human as an ecosystem - the sum of a host and its associated microbes that vary in time, space and function. This session will explore a broad range of potential evolutionary influences on the human-microbe ecosystem and impacts on health, nutrition, and development. Special emphasis will be placed how life scientists and clinicians can join together to advance microbiome scholarship beyond its incipient stage.

10:00–10:15am **BREAK – VISIT EXHIBITS & PREVIEW POSTERS**

10:15–11:15am **PLATFORM (ORAL) PRESENTATIONS: SESSION 4**

<b>Session 4A</b>	<b>Microbiome: <i>Chair, Kevin Boyd</i></b>
	<b>Location: Summit Ballroom A</b>

Time	#	Presenter	Title
10:15am	4A-1	Ozga, A	<u>Dental calculus microbiome variation across foraging-farming and metropolitan populations</u>
10:30am	4A-2	Ojong, J	<u>Iron-driven host-microbiota coadaptation: an influence factor in Mycobacterium tuberculosis infection?</u>
10:45am	4A-3	Horvath, J	<u>Investigating recovery of the skin microbiota after surgery</u>
11:00am	4A-4	Brown, D G	<u>Gut symbionts influence CNS immunity during a virally induced demyelinating disease</u>

<b>Session 4B</b>	<b>Ev Med Education: <i>Chair, Djuke Veldhuis</i></b>
	<b>Location: Summit Ballroom B/C</b>

Time	#	Presenter	Title
10:15am	4B-1	Anderson, D	<u>Development and field testing of a health sciences version of the Conceptual Inventory of Natural Selection</u>
10:30am	4B-2	Nesse, R	<u>EvMedEd</u>
10:45am	4B-3	Grunspan, D	<u>The State of Evolutionary Medicine in Undergraduate Education at American Universities</u>
11:00am	4B-4	Burt, N	<u>The Unwilling Student: Teaching Evolutionary Medicine to the Museum Public</u>

11:15am–12:15pm **PLATFORM (ORAL) PRESENTATIONS: SESSION 5**

<b>Session 5A</b>	<b>Resistance Evolution: <i>Chair, James Gurney</i></b>
	<b>Location: Summit Ballroom A</b>

Time	#	Presenter	Title
11:15am	5A-1	Barlow, M	<u>Growth rate assays reveal fitness consequences of <math>\beta</math>-lactamases</u>
11:30am	5A-2	Paaijmans, K	<u>Turning back the clock: Why we should stop using insecticides on bednets to fight malaria</u>
11:45am	5A-3	Thomas, M	<u>Iron-related fitness epistasis is antagonistic to the evolution of silver resistance in Escherichia coli</u>
12:00pm	5A-4	Huijben, S	<u>The evolution of drug resistance in different immunological contexts</u>

<b>Session 5B</b>		<b>Metabolism: <i>Chair, Benjamin Trumble</i></b>	
		<b>Location: Ballroom B/C</b>	
Time	#	Presenter	Title
11:15am	5B-1	Pontzer, H	<u>Why is Exercise Essential? Constrained Energy Expenditure and the Mechanisms of Metabolic Health</u>
11:30am	1B-2	Corbett, S	<u>The Relative Immunity of Europids to Type 2 Diabetes Modelling the Fitness of Insulin Sensitivity across the Demographic and Nutritional Transition</u>
11:45am	1B-3	Nunez-De La Mora, A	<u>Non-diabetic low fasting glucose levels in women and children living in poverty in a food insecure rural setting: a sign of silent hunger and an overlooked precursor of adverse metabolic syndrome risk?</u>
12:00pm	1B-4	Urlacher, S	<u>Childhood energy expenditure in evolutionary medicine perspective: Direct measures of energy use among Amazonian forager-horticulturalists</u>

**12:15–1:15pm**      **BOX LUNCH — VISIT EXHIBITS**

**12:15–1:15pm**      **ISEMPH MEETING: EDUCATION & OUTREACH** (*All welcome to attend*)

**1:15–2:00pm**

**PLENARY [P-4]: PERINATAL IMPACTS, MICROBIOTA, AND HEALTH**  
*Maria Gloria Dominguez-Bello*

**2:00–3:15pm**

**SYMPOSIUM V: ADAPTATION AND CRITICAL CARE**

**Chair:**            *Joe Alcock*

**Presenters:**    *Scott Aberegg, Joe Alcock, and James Morgan*

*“Our arsenals for fighting off bacteria are so powerful . . . that we are more in danger from them than the invaders.”*  
~ Lewis Thomas 1972

Is this true? Fever, mobilization of white blood cells, acute phase response proteins are functional responses (e.g. adaptations). This poses a dilemma: when and how to intervene in sepsis. This session will explore whether the human body's response is the problem. We discuss how evolutionary insights can point to better treatments in critical illness.

**3:15–3:45pm**      **(POSTER) FLASH TALKS**

Time	#	Presenter	Title
3:15pm	LT-01	Addetia, A	<u>Elimination of the electron transport chain as an evolutionary survival strategy in bacterial small colony variant isolates</u>
3:18pm	LT-02	Baines, A	<u>Using High Throughput Kinomics Analysis to Identify Inhibitors Against Drug Resistant Pancreatic Cancer Cell Growth</u>
3:21pm	LT-03	Boaz, N	<u>Umbilical Vein “Folds of Hoboken” in a Coiled Umbilical Cord: An Evolved Fetal Adaptation to Withstand the High Pressure of Human Birth</u>
3:24pm	LT-04	Hidaka, B	<u>More Money More Problems: A Mismatch Theory for Depression</u>
3:27pm	LT-05	Mintzer, K	<u>How does evolutionary medicine contribute to the National Institute of Health's mission?</u>
3:30pm	LT-06	Shen, Y	<u>Pica: An Evolutionarily Important Behavior?</u>
3:33pm	LT-07	Snyder, A	<u>A Re-Assessment of Research on the Correlation Between Acne vulgaris and Western Lifestyle and Diet</u>
3:36pm	LT-08	Watson, P	<u>Unipolar Depression as an Evolutionary Adaptation for High Stakes Social Navigation</u>
3:39pm	LT-09	Edgar, H	<u>An upcoming large, whole body cadaver CT database: Potential applications in evolutionary medicine</u>
3:42pm			

**3:45–4:00pm**      **STRETCH BREAK**

**4:00–4:45pm**      **PLATFORM (ORAL) PRESENTATIONS: SESSION 6**

<b>Session 6A</b>		<b>Hot Topics: <i>Chair, Melissa Wilson Sayres</i></b>	
		<b>Location: Summit Ballroom A</b>	
Time	#	Presenter	Title
4:00pm	6A-1	Ilardo, M	<u>Sea Nomads: A novel system for the study of acute hypoxia</u>
4:20pm	6A-2	Martin, A	<u>Genetic risk prediction across diverse populations</u>

<b>Session 6B</b>		<b>Evolution and Behavior: <i>Chair, Gillian Pepper</i></b>	
		<b>Location: Summit Ballroom B/C</b>	
<b>Time</b>	<b>#</b>	<b>Presenter</b>	<b>Title</b>
4:00pm	<b>6B-1</b>	Sarafin, R	<u>Who's really in charge here? Manipulation of human behavior by sexually transmitted organisms</u>
4:15pm	<b>6B-2</b>	Doyle, C	<u>Depression and Infection among reproductive age women</u>
4:30pm	<b>6B-3</b>	Anderson, A	<u>A Review of the Evidence for Adaptive Anemia</u>

#### 4:45–6:15pm POSTER PRESENTATIONS WITH AUTHORS & LAST CHANCE TO VISIT EXHIBITS (*Light snacks*)

	<b>Location: Ivers/Hearst/Kearns – 2<sup>nd</sup> Floor</b>												
<b>Time</b>	<b>PSTR #</b>												
4:45-5:15pm	1,	4,	5,	7,	11,	14,	18,	21,	24,	28,	30,	33,	35
5:15-5:45pm	2,	10,	12,	13,	16,	19,	22,	23,	26,	27,	32,	36,	38
5:45-6:15pm	3,	6,	8,	9,	15,	17,	20,	25,	29,	31,	34,	34,	37

<b>PSTR #</b>	<b>Presenter(s)</b>	<b>Title</b>
PSTR-01	Snyder, A	A Re-Assessment of Research on the Correlation Between Acne vulgaris and Western Lifestyle and Diet
PSTR-02	Chevalier, R	A New Evolutionary Synthesis is Needed to Advance Research in Chronic Kidney Disease
PSTR-03	Flood, D; Kragel, E	Factors contributing to malnutrition in the indigenous population of the Guatemalan Highlands
PSTR-04	Boyd, S	Evolution of general metal resistance in Copper Resistant E. coli
PSTR-05	Andrews, J; Olney, K	RNA-seq sex-specific mapping protocol increases expression value on the sex chromosomes in both genetic male and female samples
PSTR-06	Hidaka, B	More Money More Problems: A Mismatch Theory for Depression
PSTR-07	Watson, P	Unipolar Depression as an Evolutionary Adaptation for High Stakes Social Navigation
PSTR-08	Nunez-de la Mora, A	Milpa populations on the brink: Obesity, early risk factors for metabolic syndrome and dual burden of disease among women in a mixed cash-subsistence economy in rural Mexico.
PSTR-09	Buetow, K; Natri, H	Sex-specific genomic architecture and regulatory mechanisms underlying hepatocellular carcinoma
PSTR-10	Alcock, J; Trumble, B	Out of step – circadian rhythm, the microbiome and shift worker health.
PSTR-11	Addetia, A	Elimination of the electron transport chain as an evolutionary survival strategy in bacterial small colony variant isolates
PSTR-12	Manus, M; Nunn, C	High Prevalence of Hypertension in an Agricultural Village in Madagascar
PSTR-13	Olney, K; Wilson Sayres, M	Gene expression differences between male and female placentas
PSTR-14	Franklin, M	Metacognition as it relates to health: an adaptationist perspective (CHANGE TITLE after JA okays)
PSTR-15	Schwartz, M	Viewing Myopia Through the Lens of Evolutionary Medicine
PSTR-16	Baines, A	Using High Throughput Kinomics Analysis to Identify Inhibitors Against Drug Resistant Pancreatic Cancer Cell Growth
PSTR-17	Amoroso, C	Clinical Research Informs Disgust Theory: Domain-Specific Disgust Contributions to Two Psychiatric Disorders
PSTR-18	Pontzer, H; Urlacher, S	What kills us and why? Comparing age-specific mortality profiles across human populations
PSTR-19	Donovan, L	Elephant p53 (EP53) retrogenes induce gene expression and apoptosis through p53 independent mechanisms

PSTR #	Presenter(s)	Title
PSTR-20	Dunham, B	Optimizing birth: Integrating perspectives from evolutionary medicine and critical medical anthropology to improve maternity care in the United States
PSTR-21	Boaz, N	Umbilical Vein "Folds of Hoboken" in a Coiled Umbilical Cord: An Evolved Fetal Adaptation to Withstand the High Pressure of Human Birth
PSTR-22	Liu, K	How Cancer Spreads: Modeling cancer as an infectious disease
PSTR-23	Clark, R	Dental Health in Madagascar: An Evolutionary Perspective
PSTR-24	Hall, S; Dunham, B	Divisions of Labor: Conflicts and confluences of interest in maternity care within the United States
PSTR-25	Mackintosh, C; Nesse, R	Clinical Cancer Research Outcomes Are Limited by a Lack of Applied Evolutionary Biology
PSTR-26	Robey, R B	The Biochemical Fitness of Intracellular Potassium
PSTR-27	Evanovich, A; Natri, H	Patterns of sex-biased gene expression and isoform usage in the human brain
PSTR-28	Dhawan, D; Alcock J	Impairment of host defense by antimotility drugs in acute diarrhea
PSTR-29	Edgar, H	An upcoming large, whole body cadaver CT database: Potential applications in evolutionary medicine
PSTR-30	Shen, Y	Pica: An Evolutionarily Important Behavior?
PSTR-31	Potts, W; Cauceglia, J	The power of Organismal Performance Assays (OPAs) for detecting health declines due to any cause
PSTR-32	Manus, M	<i>The Evolutionary Medicine Summer Institute (EMSI): Training in Computational Methods for Evolutionary Medicine</i>
PSTR-33	Monosson, E	Adaptations: Life's response to potentially toxic chemicals
PSTR-34	Dichosa, A	Overcoming <i>C. difficile</i> infection using one's own microbiome
PSTR-35	Ibrahim, M	Does correlated metal resistance persist in the absence of iron selection?
PSTR-36	Staley, C	Genomics: Antimicrobial Resistance and the Potential Role of Compensatory Mutations
PSTR-37	Thornton, M	Can Iron Resistance Persist in the Absence of Selection?

6:30–10:00pm

GROUP DINNERS ARRANGED BY LOCAL COMMITTEE (OR ON YOUR OWN)

## Saturday, August 4, 2018

6:15–7:15am YOGA CLASS (BY PARK CITY SPA YOGA)

7:00–8:00am CONTINENTAL BREAKFAST (*Food will remain addl 15 mins*)

7:45–8:00am HOUSEKEEPING ANNOUNCEMENTS  
*Joe Alcock*

8:00–8:45am **PLENARY [P-5]: RESISTANCE EVOLUTION—AND ITS MANAGEMENT—IN A MULTI-DRUG HOSPITAL PATHOGEN**  
*Andrew Read*

8:45–9:45am **PLATFORM (ORAL) PRESENTATIONS: SESSION 7**

<b>Session 7A</b>		<b>Microbial Evolution: <i>Chair, Misty Thomas</i></b>	
		<b>Location: Summit Ballroom A</b>	
Time	#	Presenter	Title
8:45am	7A-1	Rorick, M	<u>Evidence of niche partitioning within the antigenic genes of the malaria parasite <i>P. falciparum</i> and implications for malaria vaccine design</u>
9:00am	7A-2	Gurney, J	<u>Efficacy and evolutionary robustness of a phage-antibiotic combination therapy</u>
9:15am	7A-3	Cooper, V	<u>Why evolution in biofilm-associated infections generates greater diversity and yet may be predictable</u>
9:30am	7A-4	Dichosa, A	<u>Developing targeted alpha-radiotherapies to combat antimicrobial resistance in bacterial pathogens</u>

<b>Session 7B</b>		<b>Host Pathogen Evolution: <i>Chair, Michelle Blyth</i></b>	
		<b>Location: Summit Ballroom B/C</b>	
Time	#	Presenter	Title
8:45am	7B-1	Nunn, C	<u>Vector-Borne Disease Risk in Human Altered Host-Vector Communities: A Network-Based Simulation Study</u>
9:00am	7B-2	Torosin, N	<u>The evolution of TLR7 and TLR8 in yellow fever virus endemic areas</u>
9:15am	7B-3	Emery Thompson, M	<u>Epidemiology of respiratory disease in wild chimpanzees</u>
9:30am	7B-4	Green, M	<u>The Origins of the Black Death: A Consilient Approach from Phylogenetics and History</u>

9:45–9:50am STRETCH BREAK

9:50–10:50am **PLATFORM (ORAL) PRESENTATIONS: SESSION 8**

<b>Session 8A</b>		<b>Immunity: <i>Chair, Stephen Corbett</i></b>	
		<b>Location: Summit Ballroom A</b>	
Time	#	Presenter	Title
09:50am	8A-1	Graham, A	<u>Late life on the double-edged sword: Antibodies among Taiwanese elderly</u>
10:05am	8A-2	Wiessner, P	<u>Not all Elevations in Late Night Salivary Cortisol Are Pathological</u>
10:20am	8A-3	Trumble, B	<u>The exposome in the evolution of human inflammatory responses: from dust to diesel</u>
10:35am	8A-4	Mattison, S	<u>Kinship ecology and sex differences in C-reactive protein among matrilineal and patrilineal Mosuo of Southwest China</u>

<b>Session 8B</b>		<b>Genomics and Complexity: <i>Chair, Elizabeth Uhl</i></b>	
		<b>Location: Summit Ballroom B/C</b>	
Time	#	Presenter	Title
09:50am	8B-1	Duello, T	<u>Concepts of 'Race' in Genetics Clinical Trials: A Systematic Review of Literature Since the Human Genome Project</u>
10:05am	8B-2	Bergstrom, C	<u>Burning money: competition generates inefficiencies in the grant proposal system for scientific funding</u>
10:20am	8B-3	Chevalier, R	<u>Champion of American science and public health, William H. Welch was a pioneer in Darwinian medicine</u>
10:35am	8B-4	Laubichler, M	<u>Complexity and evolution as the basis for evolutionary medicine</u>



11:00am–12:00pm **ISEMPH ANNUAL BUSINESS MEETING** *(All members welcome to attend)*

12:00–1:30pm **LUNCH** *(On your own)*

1:30–2:15pm **PLENARY [P-6]: ADOLESCENT REPRODUCTIVE DEBUT: LIFE HISTORY TRADEOFFS IN A CLINICAL CONTEXT**  
*Katie Hinde*

2:15–2:35pm **OMENN PRIZE RUNNER-UP: CONTEMPORARY H3N2 INFLUENZA VIRUSES HAVE A GLYCOSYLATION SITE THAT ALTERS BINDING OF ANTIBODIES ELICITED BY EGG-ADAPTED VACCINE STRAINS**  
*Seth Zost*

2:35–3:20pm **OMENN PRIZE KEYNOTE: SLOWING THE RISE OF ‘SUPERBUGS’ BY MANIPULATING WITHIN-HOST ECOLOGY**  
*Nina Wale*

3:20–3:30pm **BREAK**

3:30–4:15pm **WILLIAMS PRIZE KEYNOTE: FROM EVOLUTIONARY HYPOTHESIS TO HOSPITAL – PREECLAMPSIA AND THE DANISH REGISTRIES**  
*Birgitte Hollegaard*

4:15–5:30pm **THE FUTURE OF EVOLUTIONARY MEDICINE: A MODERATED DISCUSSION AND Q&A**

*"A man's friendships are one of the best measures of his worth." ~ Charles Darwin*

**Moderator:** *Joe Alcock*

**Discussants:** *Amara Frumkin, Barbara Natterson-Horowitz, Randolph Nesse, and Stephen Stearns*

Will evolutionary medicine eventually become a foundational science - embedded into all relevant fields - or will evolutionary medicine continue to have distinct priorities, goals, and outlook? As evolutionary medicine develops, how do we ensure it is inclusive now and in the future, welcoming to a diverse community of scientists?

5:30pm **FINAL ADJOURNMENT**

6:00–10:30pm **BANQUET & FAREWELL CELEBRATION...  
MUSIC & DANCING!**



**UNTIL WE MEET AGAIN...**

*"In the long history of humankind (and animal kind, too) those who learned to collaborate and improvise most effectively have prevailed."*

~ Charles Darwin

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**SAVE THE DATE!**  
**5<sup>th</sup> Annual ISEMPH Meeting**  
**August 14-16, 2019**  
**Zurich, Switzerland**

