

Energetics in Anthropology Workshop

Duke University

PROGRAM

MONDAY MAY 2

All events in Penn Pavilion

8:30 – 8:50 Arrival, coffee

8:50 – 9:00 Welcome & Introduction – Herman Pontzer

9:00 – 10:00 Keynote Address Amy Luke - *Measuring energy metabolism across the epidemiologic transition: Methods, strengths and challenges from the field*

10:00 – 10:15 McGrosky et al. - *Energy expenditure and water turnover in a pastoralist population*

10:15 – 10:30 Kraft et al. - *The energetics of uniquely human subsistence strategies*

10:30 – 10:45 Break

Session 1 – Methods: Doubly Labeled Water, Respirometry, Accelerometry

10:45 – 11:30 Ed Melanson – *Some like it hot: Estrogen and brown fat activity in women*

11:30 – 11:45 Ravelli et al. - *Probability of failure in reaching isotopic equilibrium in urine specimens of older adults*

11:45 – 12:00 Shkurovich et al. - *Anticipatory energy expenditure in mice*

12:00 – 1:00 Lunch

Session 2 – Application: Lifestyle, Metabolism & Health

1:00 – 1:45 Dale Schoeller – *The role of sleep in weight management*

1:45 – 2:00 Flanagan et al. - *Energy compensation and metabolic adaptation in response to aerobic exercise training*

2:00 – 2:15 Whittle et al. - *Persistent hypermetabolism and longitudinal energy expenditure in critically ill patients with COVID-19*

2:15 – 2:30 Bobba-Alves et al. - *Modeling the energetic cost of stress adaptation in human cells*

2:30 – 2:45 Break

Session 3 – Application: Field Settings

2:45 – 3:30 Sam Urlacher - *The evolutionary energetics of childhood*

3:30 – 3:45 Greenwald et al. - *Infant carrying technology and maternal foraging efficiency*

3:45 – 4:00 Shandhi & Dunn - *Cardiorespiratory fitness monitoring using wearables*

4:00 – 4:05 (lightning) Ballare et al. - *Ecological and energetic correlates of cultural behavior in wild western Ugandan chimpanzees (*Pan troglodytes schweinfurthii*)*

4:15 – 6:00 Poster Session & Happy Hour

Wood et al. - *Behavior and energetics of parenting in a biparental, neotropical primate*

Gesquiere et al. - *The energetic costs of being the alpha male in wild baboons*

Levy et al. - *The metabolic allostatic response to stress (MARS) hypothesis: patterns from studies of metabolic responses to cold stress and other stressors*

Malani & Rosenbaum - *Energetics in pathogen variant environments in India*

Miller et al. - *Dried blood spots as a method for examining analytes of interest in energetic studies*

Sercel et al. - *Does mitochondrial respiratory chain dysfunction alter cellular and whole-body energy expenditure?*

McCue et al. - *Using the diet to manipulate microbiome-generated methane production in real time: A case study of rats with relevance to humans*

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TUESDAY MAY 3

All events in Penn Pavilion unless noted

8:30 – 8:50 Arrival, coffee

8:50 – 9:00 Welcome & Introduction – Herman Pontzer

9:00 – 9:45 John Speakman – *Did declining physical activity in the last 35 years help to fuel the obesity epidemic?*

Session 4.1 – Application: Life History

9:45 – 10:00 Gesquiere et al. - *The energetic consequences of living in a highly seasonal environment*

10:00 – 10:15 Schrock & Sathir et al. - *Energetics and neuroendocrinology of maternal investment in lemurs*

10:15 – 10:20 (lightning) Adjangba et al. - *Sex-biased investment: Measuring energy expenditure in baboon mothers*

10:20 – 10:45 Break

Session 4.2 – Application: Life History

10:45 – 11:30 Leanne Redman - *An energetics assessment of human pregnancy and aging*

11:30 – 11:45 Finkel et al. - *Old male chimpanzees decrease energetically expensive behaviors and maintain energy balance at Ngogo, Kibale National Park, Uganda*

11:45 – 12:00 Salomons et al. - *Age-related metabolic decline in humans & bottlenose dolphins*

12:00 – 12:05 (lightning) Schultz et al. - *Beyond nutrition and activity: Proposing demographic-specific energy expenditure analysis for western lowland gorillas (*Gorilla gorilla gorilla*) in North American zoos*

12:15 – 1:15 Lunch

Session 5 – Application: Climate and adaptive variation

1:15 – 2:00 Cara Ocobock - *Physiological cold-climate adaptations among reindeer herders from sub-Arctic Finland*

2:00 – 2:15 Sarma et al. - *Energy expenditure and neuroendocrine response when acclimatizing to novel and challenging environments*

2:15 – 2:30 Niclou et al. - *Brown adipose tissue is metabolically activated at wide temperature range in Samoans*

2:30 – 4:30 Energetic Lab Tour & Hands-On Demonstrations

Doubly Labeled Water, Respirometry, Metabolic Chamber, Accelerometry

4:30 – 4:45 Closing Remarks: Pontzer

5:00 – 6:00 Closing Reception (*location: French Science Center Patio*)

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