



# Society for Pediatric Research Research Conference

## The Conference Theme

The research theme spans all areas of pediatrics including surgery, critical care and basic sciences including microbiology, genetics, biochemistry and immunology. The sub-themes that will be addressed in the 5 sessions are of scientific relevance, have major public health implications and all have high potential for translation to clinical care.

## Wednesday, October 17

1:00pm-4:30pm

### Early Nutritional Interventions, Interaction of the Intestinal Microenvironment With Innate and Adaptive Immunity That Relate to Later Pediatric Illnesses.

Chair: W. Allan Walker, Massachusetts General Hospital, Charlestown, MA

The emphasis is how the microbial environment of the intestinal tract interacts with nutrients during vulnerable developmental periods and how this environment relates to diseases that extend beyond the gastrointestinal tract and childhood.

- 1:00 Overview of Microecology of the Gastrointestinal Tract**  
Justin L. Sonnenburg, Washington University School of Medicine, St. Louis, MO
- 1:30 Innate and Adaptive Immunity of the Developing Gastrointestinal Tract**  
W. Allan Walker, Massachusetts General Hospital, Charlestown, MA
- 2:00 Epithelial Microbial Interactions; Intercellular Mechanisms**  
Andrew S. Neish, Emory University School of Medicine, Charlestown, MA
- 2:30 Coffee Break**
- 3:00 Intestinal Microbial-Mucosa Interactions and Intestinal Disease**  
Philip Sherman, Hospital for Sick Children, Toronto, Ontario Canada
- 3:30 Relation of Intestinal Microflora to Allergies and Atopy**  
Erica Isolauri, University of Turku and Turku University Central Hospital, Turku, Finland
- 4:00 Panel Discussion**

5:30pm-6:30pm

### Poster Session & Welcome Reception

7:00pm-8:30pm

Dinner

## Thursday, October 18

8:00am-11:15am

### Mechanisms of How Early Postnatal Nutrition Relate to Major Subsequent Diseases and Public Health Problems Such as Obesity, Type 2 Diabetes and Cardiovascular Health: Studies in Animals and Humans

Chair: William Hay, Jr., University of Colorado Health Science Center, Denver, CO

The emphasis is on the mechanisms of how early nutritional (primarily postnatal) perturbations will affect subsequent health that can span for more than just the lifetime of the individual, but for generations to come.

- 8:00 Overview of the Problem, Questions We are asking and that should be asked**  
William Hay, Jr., University of Colorado Health Sciences Center, Denver, CO
- 8:30 Nutritional Manipulation Throughout Life in Animal Models**  
Suzanne Ozanne, University of Cambridge, Addenbrooke's Hospital, Cambridge, United Kingdom
- 9:00 Postnatal Carbohydrate Manipulation in Infant Rats**  
Mulchand Patel, School of Medicine and Biomedical Sciences, SUNY, Buffalo, NY
- 9:30 Coffee Break**
- 9:45 Molecular Mechanisms/ Biotechniques Used to Evaluate Epigenetic Mechanisms**  
Robert Lane, University of Utah School of Medicine, Salt Lake City, UT
- 10:15 Fetal/Postnatal Over - and Undernutrition - Mechanisms behind the Phenotype.**  
Sherin Devaskar, UCLA School of Medicine, Los Angeles, CA
- 10:45 Panel Discussion**

1:00pm-4:15pm

### Postnatal Nutrition and Childhood Diseases and Behavioral Disorders

Chair: Desmond Schatz, University of Florida, Gainesville, FL

There will be in depth discussions of mechanisms of how early nutrition relates to various childhood conditions such as type 1 diabetes, allergies, atopy, inflammatory bowel disease and autism. The relationship of the hygiene hypothesis to these conditions has been of tremendous interest to the pediatric research community.

- 1:00 Type 1 Diabetes, Diet and the Intestine**  
Outi Vaarala, University of Linkoping, Linkoping, Sweden
- 1:30 Dietary Interventions and Type 1 Diabetes**  
Desmond Schatz, University of Florida, Gainesville, FL & Mark A. Atkinson, University of Florida, Gainesville, FL
- 2:00 Coffee Break**
- 2:15 Early Diet, Hygiene, Autoimmune Disease And Allergy**  
Jean Francois Bach, Hospital Necker, Paris, France

# Conference Information

October 17 – 19, 2007

The Woodlands Executive Conference Center  
The Woodlands, TX

## Thursday, October 18 continued

- 2:45 Maternal - Infant Interactions, Intestinal Barrier, and Intestinal Sensitization**  
Mary H. Perdue, McMaster University, Hamilton, Ontario Canada
- 3:15 Panel Discussion**

## 5:00pm-6:30pm

Dinner

## 7:00pm-9:30pm

### **Special Considerations For Nutrition Of The Critically Ill Neonate & Older Child. Now That We Know How To Save Them With Critical Care, How Do We Salvage Their Full Potential? How Do We Prevent Nutrition (Or Lack Of Nutrition) Related Morbidities...?**

*Chair: Patti Thureen, University of Colorado Health Sciences Center, Denver, CO*

The short and long term implications of providing appropriate quantity and quality of nutrients and the route used (enteral vs. parenteral) to provide nutrients to infants during critical illness will be addressed. Emphasis will be on the mechanisms by which nutrient deprivation during vulnerable periods in critically ill children can affect not only short-term growth, but long term metabolic, endocrine, and developmental functions.

- 7:00 GI Tract Developmental Issues: How Much Can We Expect To Use It During Critical Illness**  
Josef Neu, University of Florida, Gainesville, FL
- 7:30 Issues with Intravenous Nutrition**  
Patti Thureen, University of Colorado Health Sciences Center, Denver, CO
- 8:00 Issues with Nutrition of the Surgical Patient**  
Henri Ford, University of Southern California Keck School of Medicine, Los Angeles, CA
- 8:30 Nutrients, Hormones and the Gastrointestinal Tract**  
Doug G. Burrin, Baylor College of Medicine, Houston, TX
- 9:00 Panel Discussion**

## Friday, October 19

### 8:00am-12:00pm

### **Postnatal Nutrition, Neurodevelopment and Neuroendocrine Programming**

*Chair: Michael Georgieff, University of Minnesota School of Medicine, Minneapolis, MN*

The emphasis will be on mechanisms of how nutrient composition during highly vulnerable periods during infancy and childhood can affect neurodevelopment. Much emphasis has recently been placed on the lipid composition of early nutrition, and this will be addressed here on a mechanistic level. In addition, the mechanisms of the effects of several other nutrients on neurodevelopment and neuroregulatory mechanisms will be discussed.

- 8:00 Overviews of Early Nutrient Composition and Neurodevelopment**  
Steven Zeisel, School of Public Health and School of Medicine, University of North Carolina at Chapel Hill, Chapel Hill, NC
- 8:30 Essential Fatty Acids**  
Sheila Innis, University of British Columbia, Vancouver, British Columbia
- 9:30 Coffee Break**
- 9:45 Nutrient Interactions With Developing Brain Regions And Processes**  
Michael Georgieff, University of Minnesota School of Medicine, Minneapolis, MN
- 10:15 Nutrients and Neurodevelopment: International Perspectives**  
Ricardo Uauy, University of Chile, Santiago, Chile
- 10:45 Early Origins of Obesity: Programming the Appetite Regulatory System**  
Caroline McMillen, School of Molecular and Biomedical Sciences, University of Adelaide, Adelaide, Australia
- 11:15 Panel Discussion**
- 11:45 Wrap-up: Where Do We Go From Here?**



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