

TREC Accomplishments in 2006

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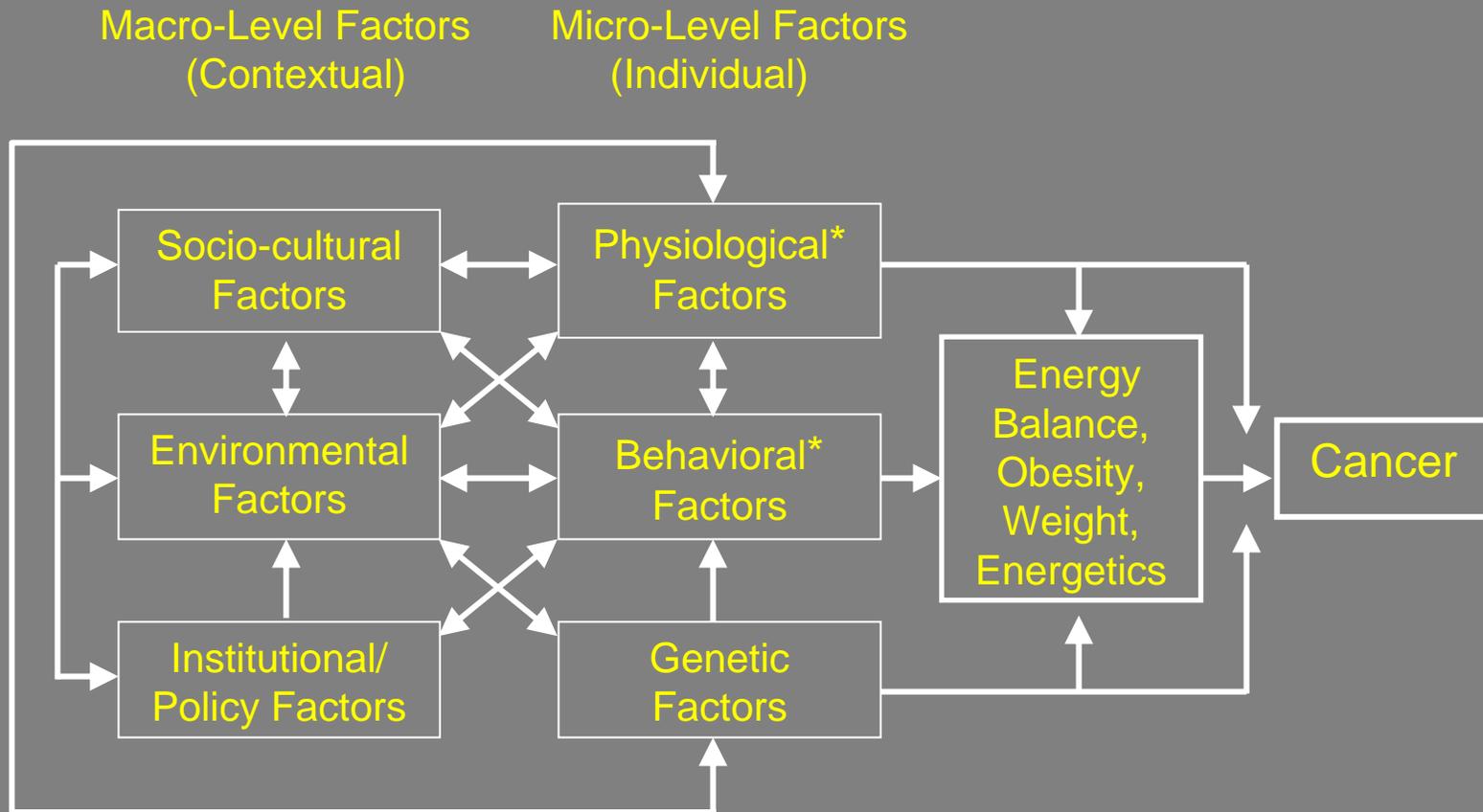


Challenges:



- Enhance understanding of the mechanisms underlying the association between energy balance and carcinogenesis across the life cycle
- Develop effective approaches with broad population impact at the social-environmental and policy level for the prevention and control of obesity
- Bring together diverse disciplines by facilitating new collaborative research endeavors
- Create new opportunities for interdisciplinary training

Transdisciplinary Conceptual Model



*Physiological and Behavioral Factors contribute to the additional factors of Personality (e.g., extraversion), Psychological Factors (e.g., stress), and Cognitive Factors (e.g., beliefs)

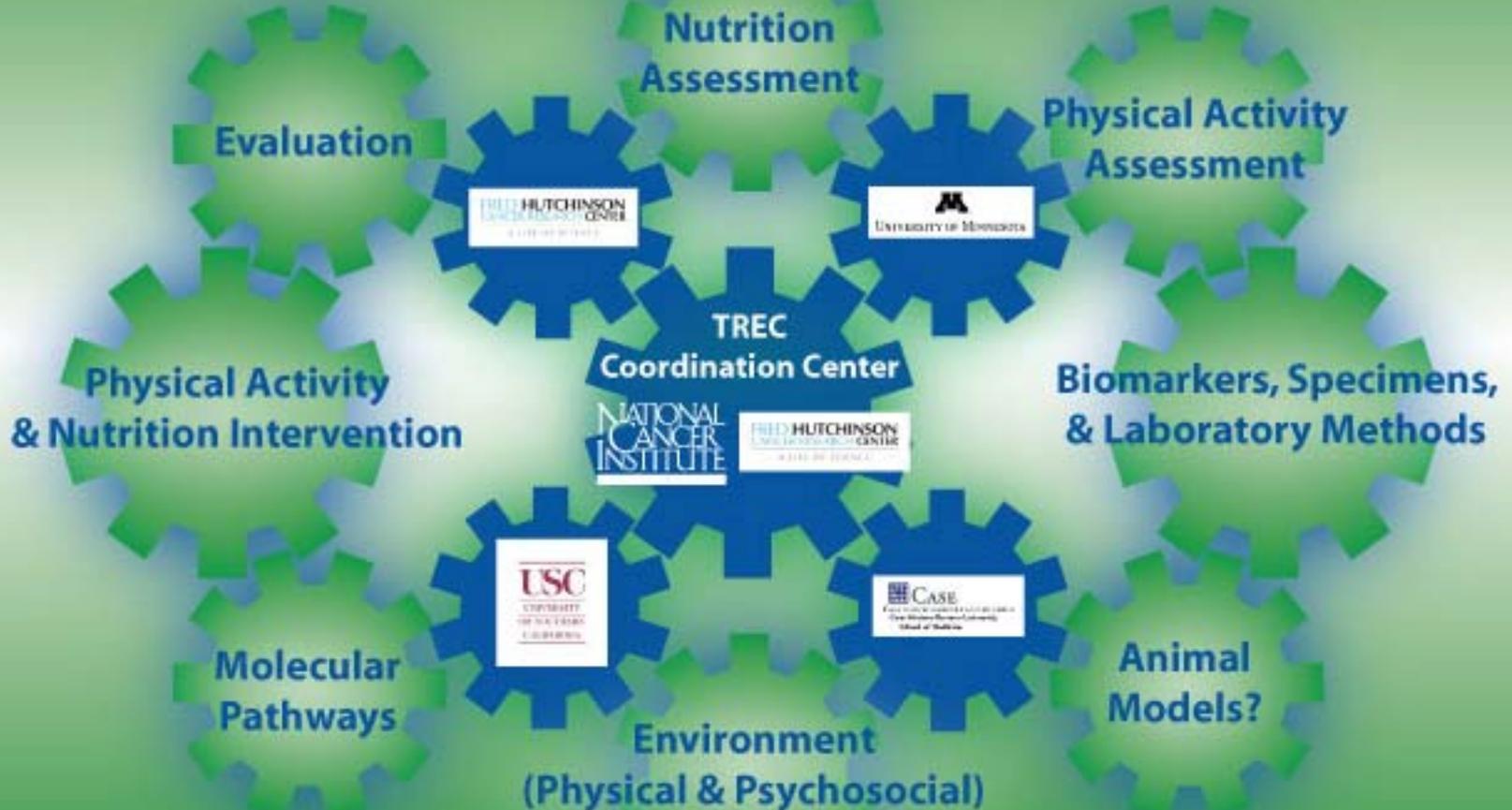
Transdisciplinary Research on Energetics and Cancer Centers



<https://www.compass.fhcrc.org/trec/>

<http://cancercontrol.cancer.gov/TREC/>

TREC NETWORK



Global Accomplishments - All Sites

- Research projects/cores operational and staffed
- Within site meetings/seminars/conf calls/advisory boards and IRB approvals have been established
- TREC Steering Committee established and operational
- Process for cross-site developmental projects review and selection established
- Career development/training activities (~40)
 - 3 masters thesis projects
 - 6 doctoral thesis projects



Global Accomplishments - All Sites

- Establishment of working groups (8)
- Cross-site collaborations are expanding
 - common measures; std. specimen collection
- Scientific meetings
 - Feb. 05; June 05; Oct. 06
 - Joint Centers Meeting: May 1-3, 2007 in development
- **President's Cancer Panel** (Jeffery, McTiernan, Schmitz, Ballard-Barbash)



TREC Coordination Center (Thornquist)

- Development of Data Methods/Systems
 - Working Groups - metrics
 - Commonalities (data elements, collection, laboratory assay)
 - Standardization of Forms – developmental projects
- Communications/Logistics
 - Committee meetings & conference calls
 - Working Groups minutes template/calls
 - Electronic Mailing Lists (21 lists and counting)
 - Manual of Operations
- Training - archives
- TREC Website
- Evaluation Metrics
- Developmental Projects
 - Specimen and tracking system (Seattle)
 - caBIG technologies

Case Western Reserve University (Berger)

- **Markowitz:** Obesity and molecular pathways leading to colon cancer.
- **Li:** Insulin resistance syndrome pathway factors and colon polyps.
- **Redline:** Determinants of obesity and metabolic dysfunction in adolescents.

Developmental Projects (2)

- **Williams:** Regulation of Obesity and ER Stress by Salicylates.
- **Brunengraber:** Metabolic studies of mice susceptible to obesity and/or colon cancer.

Case Western Reserve University

- Expansion of within CASE collaborations (Cancer, Diabetes)
- Expansion of transdisciplinary collaborations (CASE, FHCRC)
 - Nutrition, physical activity, sleep
- Expansion of external collaborations (Cleveland Clinic Foundation)
- **Dr. Li** received K22 NCI Mentored Career Development Award

University of Southern California (Goran)

- **Goran:** Obesity-related metabolic risk for cancer: Ethnicity and response to exercise in minority youth.
- **Spruijt-Metz:** Insulin resistance and declining physical activity levels in African American and Latin girls.
- **Jerrett:** Influence of built environments on the development of obesity during childhood.
- USC C-TREC website <http://www.ctrec.usc.edu>
- Distinguished Speaker Seminar Series
- Core A – Expansion of community dissemination/partnership

USC Developmental Projects (6 research/4 community)

- **Kaufman:** Colon Cancer Related Epigenetic Changes in Obesity.
- **Valente:** Social Network Influences on Diet and Physical Activity.
- **Davis:** Combining Strength and Cardiovascular Exercise (Circuit Training) to Reduce Obesity and Associated Overweight Diseases in Latino Youth.
- **McConnell:** SportBrain™ Pedometer and GPS Logging Technology: Better Tools for Evaluating Physical Activity in Children and an Application to the Impact of Neighborhood Land Use and Children's Commuting Time.
- **Mittelman:** Exploring the Link Between Obesity and Poor Prognosis of Childhood Acute Lymphoblastic Leukemia Using a Murine Model.
- **Stalter-Venzon:** Functional Brain Responses after Satiety in Normal Weight and Overweight Adolescent Girls.

USC Developmental Projects Con't.

Community focused – mini pilots

- YMCA Orange County-Community Services Branch “Kid Healthy” Steps to Healthy Living.
- Coalition for Community Health – Food for Thought
- Boys and Girls Club of Watts-Willowbrook – Hip Hop 2 Health (HH2H) Program.
- Pacific Islander Health Partnership (PIPH) – *I Ola No Ke Kino “the body enjoys health!”*.

Seattle FHCRC (McTiernan)

- **Hockenberry:** Mechanisms linking nutrient supply and cell cycle.
- **Thompson:** Energy balance and cancer: Markers and mechanisms.
- **Neuhouser/Lampe:** Glycemic load and obesity effects on cancer biomarkers.
- **Ulrich/McTiernan:** Exercise and diet: Biomarkers and mechanisms in humans.
- **Beresford:** Move and Moderate in Balance (MOVE'M).

Seattle FHCRC

- Expansion of within center support for Metafer Slide Scanning Station
- Expansion of cross-site collaborations: U of Wash.; Colorado State University; U of Wash. Exploratory Center for Obesity Research
- Largest Career Training Program
- **Dr. McTiernan:** co-chair, Lifestyle section: NCI Translational Research Working Group
- **Dr. Bonne McGregor:** (MOVE'M) received NCI K07 award

Seattle FHCRC

Developmental Projects

- **Simpson:** Characterization of diet & exercise-dependent metabolic phenotype: Evaluation responses to interventions.
- **Duncan:** Fitness, fatness, and breast cancer biomarkers in overweight adolescent girls.
- **Hockenbery/McTiernan:** Development of a serum-based marker of apoptosis and assessment of responses to dietary and exercise interventions.
- **Zhu/Thompson:** Obesity, menopausal status and mammary carcinogenesis: model and mechanisms.

Seattle FHCRC – cont.

- **Lampe/Neuhouser/MacGregor:** Ancillary data and sample collection in Seattle TREC Project 3: the CARB study.
- **Hullar/Lampe:** The gut microbiota as a cancer biomarker influenced by glycemic load and obesity.
- **Ulrich/Campbell:** Effect of exercise and caloric restriction on adipose tissue biomarkers – specimen collection pilot.

University of Minnesota (Jeffery)

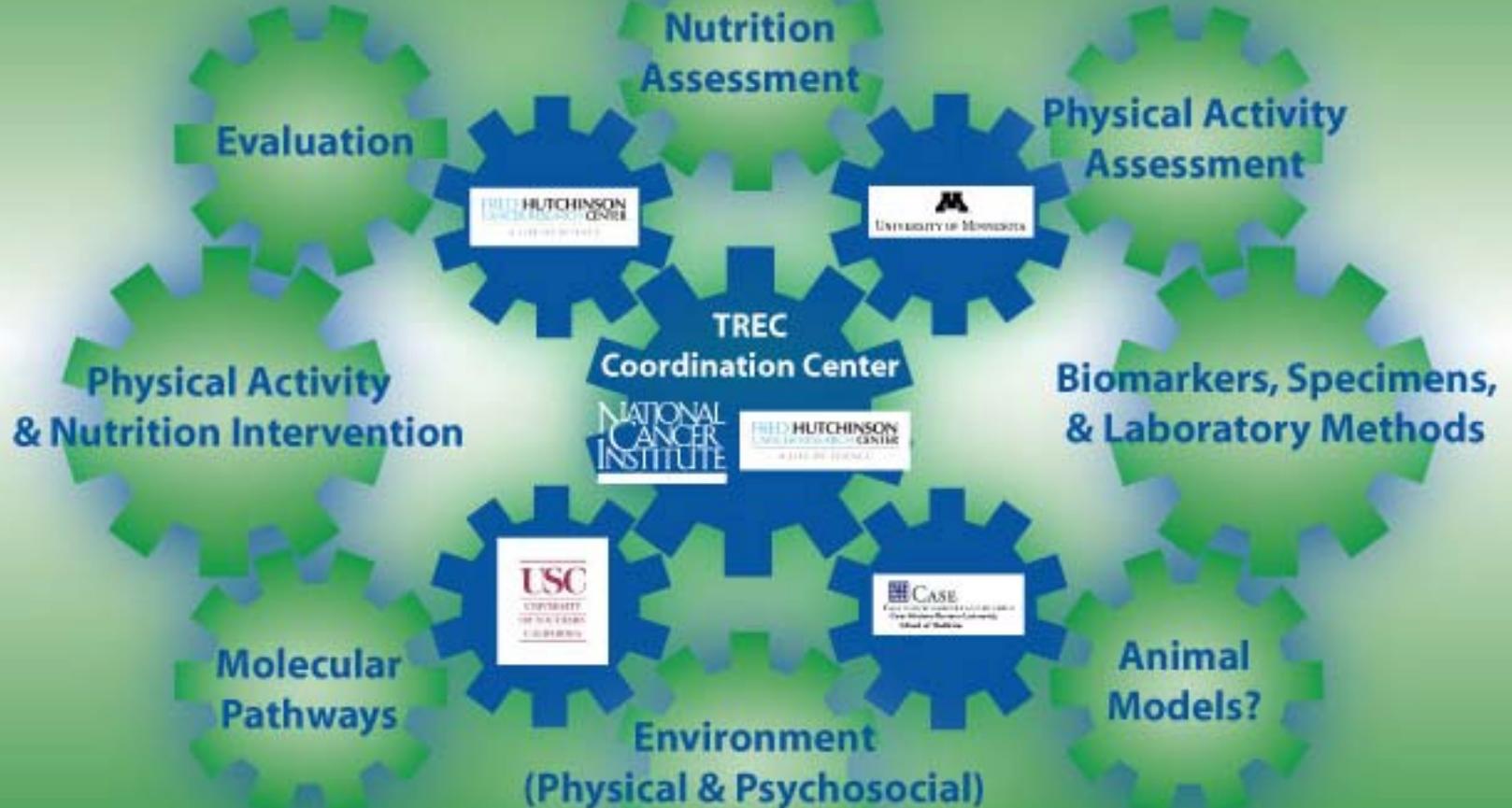
- **Lytle:** Etiology of adolescent obesity.
- **French:** Household Environment weight gain prevention.
- **Kurzer/Schimtz:** Women-Oxidative stress, estrogen and exercise.
- Expansion of U.Minn collaborations - Obesity Prevention Center, School of Public Health, Media.
- Career Development: 6 Trainees selected in year one, as part of the comprehensive program.

University of Minnesota

Developmental Projects

- **Dengel:** Biological Determinants of Obesity in Teens.
- **O'Dougherty:** Social, Cultural, and Contextual Dimensions of Young Women's Physical Activity.
- **Pereira:** Validation of Internet-based Dietary Assessment.
- **Plate:** Effects of Exercise on Breast Cancer Biomarkers in Nipple Aspirate Fluid.
- **Sirard:** Physical Activity and Media in the Home Environment.

TREC NETWORK



Next Steps:



- Working group collaborations
 - Excellent for common measures, joint specimen collection
 - Need direction for next steps
- How to bridge career development across centers
 - Listserve?
 - Special web page?
- Build partnerships to support science
 - Within centers vs. outside of network