Mon 5/12/2014 - Fri 5/16/2014 R25DK099080 The Mathematical Sciences in Obesity		**Module identification color codes** **Introduction to math method** **Application of method to obesity** **Hands-on interactive session** **Open problems**†
Time	**Speaker**	**Topic**
Monday 5-12-2014		
8:00 - 8:30	Diana Thomas, Montclair	Registration
8:30 - 9:00	Diana Thomas/ David Allison, Montclair/UAB	Introductory remarks
9:00 – 09:45	Steven Heymsfield, PBRC	Overview of state of the field of obesity and mathematical sciences
10:00 – 10:30	Edward Sazonov, Alabama, Tuscaloosa	Overview of career paths
10:30 – 11:00	David Allison, UAB	Overview of funding approach at NIH and other federal granting agencies
11:30- 12:00	Diana Thomas, Montclair	Intro to project development approach
Lunch		
Module 1: Outcomes in Obesity Randomized Controlled Trials (RCTs)		
1:00-1:45	David Allison, UAB	Introduction to RCTs and their quantitative analysis
2:00-2:45	Miguel Padilla, Old Dominion	Missing data in randomized clinical trials for weight loss
3:00-3:30	Mark Beasley, UAB	Hands on demonstration: Software
3:30-4:00	David Allison, UAB	Open problems in Obesity Related RCTs
4:00-5:30	Moderated by Senior Researchers	Roundtable Session††
Tuesday 5-13-2014 **Module 2: Modeling weight change using energy balance**		
9:00 – 9:45	Kevin Hall, NIH	Introduction to Energy Balance Models
10:00 – 10:45	Diana Thomas, Montclair	Energy Balance models for clinical interventions
11:00-11:30	Corby Martin, PBRC	Hands on demonstration: Models delivered using smart phone technology
11:30– 12:00	Kevin Hall, NIH	Open problems
Lunch		
Module 3: Modeling Obesity Prevalence		
1:00-1:45	Hassan Fathallah-Shaykh, UAB	Infectious disease model approach
2:00-2:45	Marion Weedermann, Dominican	Dynamic obesity prevalence
3:00-3:30	John Dawson, UAB	Assortative Mating
3:30-4:00	David Allison, UAB	Open problems
4:00-5:30	Moderated by Senior Researchers	Roundtable Session††
Wednesday 5-14-2014 **Module 4: Modeling Obesity and Economics**		
9:00 - 09:45	Eric Finkelstein, Duke University	Overview
10:00 – 10:45	Ross Hammond, Brookings Institution	Complex Systems Approaches to Obesity Etiology and Intervention
11:00-11:30	Carolyn Salafia	The geometry of the placenta in the obese.
11:30-12:00	Eric Finkelstein, Duke University	Open problems
Lunch		
Module 5: Modeling Pregnancy and Childhood Obesity		

1:00-1:45	Nancy Butte, Baylor	Overview of the state of the field
2:00-2:45	Kevin Hall, NIH	Energy balance model of childhood growth and obesity
2:45-3:30	Carol Graham, Brookings Institution	Variance in Obesity Across Cohorts and Countries: A Norms Based Explanation Using Happiness Surveys
3:30-4:00	Diana Thomas, Montclair State	Hands on activity – gestational weight gain software
4:00-5:30	Moderated by Senior Researchers	Roundtable Session††
Thursday 5-15-2014 **Module 6: Sensor Models in Obesity**		
9:00 – 9:45	Edward, Sazonov, Alabama, Tuscaloosa	Overview of the field
9:30 – 10:45	Nancy Butte, Baylor	Predicting energy expenditure from accelerometers
11:00 – 11:30	Rob Brychta , NIH	Hands on demonstration Guided discovery project
11:30 – 12:00	Rob Brychta , NIH	Open problems
Lunch		
Module 7: Applications of Imaging Models in Obesity		
1:00-1:45	Timothy Nagy, UAB	Overview of the field
2:00-2:45	Dympna Gallagher, St. Luke's-Roosevelt	Estimating organ size and metabolic rate from DXA and MRI
3:00-3:30	Diana Thomas, Montclair State University	3D image rendering of placentas from obesity related pregnancy complications
3:30-4:00	Brian Welch, Vanderbilt	Open Problems
4:15-5:30	Moderated by Senior Researchers	Roundtable Session†† Preparation for student presentations
Friday 5-16-2014 **Module 8: Statistical Modeling in Genetics**		
9:00 – 09:45	Hemant Tiwari, UAB	Genetic association analysis of 30 genes related to obesity in a European American population: Overview
9:30 – 10:45	Gustavo de los Campos, UAB	Prediction of expected years of life using whole-genome markers
11:00 – 11:30	Liming Liang, Harvard University	Analysis of mechanisms behind how IRS1 genotype modulates metabolic syndrome reversion during weight loss
11:30 – 12:00	Peter Kharchenko	Computational methods for sequencing assays
Lunch		
1:00-1:45	**Student Presentations**	
2:00-2:45		
3:00-3:30		
3:30-4:00		
4:15-5:30		