The Hilda and Preston Davis Foundation Awards Program for Eating Disorders Research: Junior Faculty
2018 Award Recipients

- **Adrienne Juarascio, Ph.D.**
  Assistant Professor
  Drexel University

  Using Continuous Glucose Monitoring to Detect Eating Disorder Symptoms in Bulimia Nervosa
  When patients with bulimia nervosa (BN) are adherent to treatment recommendations in CBT, substantial reductions in symptoms are observed. However, many patients with BE have difficulty adhering to treatment recommendations and outcomes often suffer as a result. Ecological Momentary Interventions (EMIs, interventions delivered—often via smartphone—during times of need in the patient's everyday lives) are one promising method for extending the reach of current interventions to increase between-session treatment adherence. The ability to objectively track real-time eating behavior could dramatically increase our ability to develop effective EMI-systems. One of the most promising approaches to date has been the development of algorithms that detect meal consumption using continuous glucose monitoring (CGM). CGM sensors are easily self-inserted, minimally invasive, and well-tolerated by patients, and thus, have become a standard method for tracking glucose levels. Although existing meal detection algorithms have been developed for use in patients with diabetes, prior studies have documented that individuals with BN have glucose and insulin responses that are within range for accurate detection and thus there is reason to believe that restrictive eating behaviors could be accurately detected. A small number of studies have also demonstrated that purging produces a signature post-prandial glucose response and that glucose response to objectively large binge eating episodes can be reliably differentiated from glucose response following non-binge meals, suggesting that other disordered eating behaviors may also be detectable via CGM. If CGM is confirmed as a feasible, acceptable, and effective method for tracking real-time disordered eating behavior in patients with BN, our ability to develop effective EMI-systems would be improved. In the current study, we will examine if CGM is a feasible, acceptable, and valid method for detecting real-time restrictive eating, binge eating and purging behaviors in patients with BN (n=30).

- **Colleen Schreyer, Ph.D.**
  Assistant Professor of Psychiatry and Behavioral Sciences
  Johns Hopkins University

  Meal-based Exposure and Response Prevention in Anorexia Nervosa: Reducing Physiological and Self-reported Food-related Anxiety

  Patients with anorexia nervosa (AN), a serious psychiatric disorder, exhibit restricted dietary intake and endorse fear of consuming calorie-dense foods, which in turn drives weight loss. Premorbid anxious personality traits and comorbid anxiety disorders are common in patients with AN. Although intensive behavioral treatment programs can achieve weight restoration in a majority of adults with AN, relapse rates are high. Predictors of relapse include elevated state anxiety and low dietary variety, including lower intake of fat, after discharge, which suggests that relapse following weight restoration may be related to inadequate fear extinction to high energy density (ED) foods during treatment and consequent resumption of restrictive eating patterns. Despite evidence of anxiety's role in the onset and maintenance of restricted eating behavior, utilizing exposure and response prevention (EX-RP) and meal-based interventions to reduce food-related fears is understudied. EX-RP is the gold standard of treatment for Obsessive Compulsive Disorder (OCD). This proposal aims to test the efficacy of an adjunct meal-based EX-RP intervention to reduce food-related fears during intensive behavioral weight restoration in hospitalized patients with AN in comparison to a control treatment, Motivational Interviewing. We will assess changes in a) self-reported anxiety regarding consumption of high-ED foods, b) physiological (skin conductance and heart rate variability) responses to imagined consumption of food items elicited utilizing a visual food cue task, and c) caloric intake of a challenging test meal pre- and post-treatment. A secondary aim is to assess the relationship of early treatment response to EX-RP, operationalized as a reduction in self-reported anxiety within the first three weeks of treatment, and end-of-treatment as well as six-month post-discharge outcomes. Helping patients tolerate food-related anxiety and increase dietary variety across meal contexts may augment treatment effectiveness in adult patients during intensive treatment for AN and has potential to decrease relapse rates.