Social relationships are critical for mental and physical health and early-life social experiences can have a life-long impact on the ability to form relationships. Dr. Young will discuss how the chemistry in our brain mediates social bonding as well as the consequences of losing a loved one. Studies using monogamous prairie voles have revealed that the brain chemicals oxytocin and vasopressin promote social bonding through interactions with the brain's reward centers. Furthermore, variations in the oxytocin and vasopressin systems contribute to species and individual differences in social behaviors. Early-life social deprivation disrupts the ability to form bonds later in life, an effect that is mitigated by oxytocin release in the brain. Once bonded, the loss of a partner results in a depression-like state that is mediated by the brain peptide CRF. This bereavement-like behavior is similar in brain mechanisms to withdrawal from drugs like heroin or cocaine, and serves to maintain bonds in long term relationships. Dr. Young will discuss remarkable parallels between these studies in voles and recent studies in humans which suggest that these brain mechanisms are highly conserved from rodent to man. These observations have important implications for designing new treatments for psychiatric disorders characterized by disruptions in social relationships, including autism.

**The Chemistry Between Us: From the Science of Love to Novel Treatments for Autism**

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**Wednesday, February 26, 2014**

**6:00 P.M.**

**Mara Auditorium, Masters 110**