Planning, control, and learning for intelligent robotic manipulation.

**Particular topics include:**   
• Manipulation planning using physics-based predictions of object motion,   
• **Machine learning for manipulation planning and control,**   
• Manipulation based on tactile sensing (e.g. artificial skin),   
• **Multi-robot collaborative manipulation,**• Human-robot collaborative manipulation, and   
• **Manipulation planning for flexible manufacturing and assembly.**

**Applications**: Industry & Agriculture:

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**Research Topics:**

* **Complex System**
* **Hybrid Discrete and Continuous System**
* **Feedback Control System**
* **Nonlinear and Constrained System**
* **Artificial Vision: Image Processing & Object Detection (Pattern Detection) / Video Processing.**
* **Coordinate Systems**
* **Machine Learning**
* **Adaptive System.**
* **Optimization**

**Proposed Research Topics:**