

CSCI-4290/6290: Robot Motion Planning
Lecture 23: November 18, 2005
**Radiosurgical Planning,
and Multiple Robot Coordination**

Today's Class

1. Radiosurgical Planning: Rajkumar Joseph will talk about *radiosurgical planning*. This is a non-standard application of a motion planning perspective. The goal is to identify a good set of radiation beams to irradiate tumors without harming healthy tissue.
2. Multiple Robot Coordination: Diana Mirabello will describe a (weakly) centralized roadmap approach to plan the coordinated motions of multiple car-like robots.

References

“CARABEAMER: A Treatment Planner for a Robotic Radiosurgical System with General Kinematics,” R.Z. Tombropoulos, J.R. Adler, and J.C. Latombe, *Medical Image Analysis*, 3(3):237-264, 1999.

“Coordinated path planning for multiple robots,” P. Svestka and M. Overmars, *Robotics and Autonomous Systems*, volume 23, pages 125-152, 1998.

“On Delaying Collision Checking in PRM Planning — Application to Multi-Robot Coordination,” G. Sanchez and J.C. Latombe, *International Journal of Robotics Research*, volume 21, number 1, pages 5–26, January 2002.

Next Class

Collision detection, and Planning for closed kinematic chains.