CS 5970-900
BIOMOLECULAR COMPUTING
Spring 2011

Instructor: Dr. C. Kim, DEH 253, 325-4281, ckim@ou.edu.
Class Meetings: TR 6PM – 7:15PM, DEH 130.
Office Hours: TR 5PM – 6PM.
Prerequisites: CS 3823 (Theory of Computation) or instructor’s permission.
Course Content: The course covers theory of biomolecular computing, an interdisciplinary research branch of theoretical computer science and computational biology that attempts to develop computational techniques whose principles are based on what nature does in general (natural computing) and what biomolecules do in particular, in contrast to the traditional silicon-based computing technologies, and/or better understand computational processes performed by biomolecules. Example systems covered in the course include H systems (splicing systems) and other DNA systems that compute by manipulating DNA strands and P systems (membrane systems) that compute by manipulating biomolecules in cells and membranes. This is a seminar course in which student participation in the form of oral/written presentation and discussions is required. I plan to go over key concepts from theoretical computer science, natural computing, and known models of biomolecular computing and supervise students’ reading of more recent papers on the subject and their preparation of oral and written presentations in the first half of the semester and run students’ class presentations and discussions in the second half.
Student Activities: A midterm exam (30%), an oral presentation (40%), and a written paper (30%). Details will be discussed in class.
Remarks:
1. Students are required to attend all class meetings.
2. Any student who has a disability that may prevent him or her from fully demonstrating his or her abilities should contact me personally as soon as possible so we can discuss accommodations necessary to ensure full participation and facilitate your educational opportunities.
3. The College of Engineering utilizes student ratings as one of the bases for evaluating the teaching effectiveness of each of its faculty members. The results of these forms are important data used in the process of awarding tenure, making promotions, and giving salary increases. In addition, the faculty uses these forms to improve their own teaching effectiveness. The original request for the use of these forms came from students, and it is students who eventually benefit most from their use. Please take this task seriously and respond as honestly and precisely as possible, both to the machine-scored items and to the open-ended questions. On-line evaluation of this course can be done at http://eval.ou.edu.