

Introductory Student Research Project

Supervisor: Prof. David Baker, Physics Department

Biological macromolecules such as proteins exhibit the remarkable property of folding to a single unique structure despite having thousands of degrees of freedom. The very large loss in entropy upon folding must be compensated by the formation of many favorable interactions within the folded structure. With recent advances, the interactions energy within a folded structure can now be computed reasonably accurately, which is enabling prediction of structures of naturally occurring proteins and the design of new proteins with new functions. However, the computation of entropy changes upon folding remains an unsolved problem which is critical to mapping folding free energy landscapes, identifying low lying excited states, and predicting and designing structures accurately. Students interested in research in this area should have some programming experience.

For more information please contact Prof. David Baker at dabaker@u.washington.edu or 206-543-1295

Applications will be accepted until 06/01/10.