

# Advanced Cell Biology Lab 3.

## Learning protein folding through learning FoldIt game

February 14th, 2011

**Background** FoldIt is a new free computer game intended to help in science research of protein structure. Solving FoldIt puzzles, player will contribute to medical biology, because every protein has an astronomical number of possible conformations, and finding low energy conformation is an extensive task even for contemporary computer systems. Instead of computers, FoldIt employs much more powerful thing—human brain.

### Assignment

1. **Read** the introductory page from a FoldIt Web site (<http://fold.it/portal/info/science>), make sure you followed additional links to RCSB Protein Data Bank (like “Amylase” etc.)
2. **Download** Windows version of FoldIt from <http://fold.it/portal/download/windows> and **install** it for current user
3. **Run** FoldIt, **skip the update**, choose “**Play offline**”. **Do not** register! (If you like the game, you can do it later on your computer).
4. Your goal is to **solve** all “Tutorial Puzzles” (for proper grade, it is important to solve at least 50% of them)
5. Please work in pairs. If the puzzle seems to be hard, do not hesitate to **consult** with other pairs, with FoldIt Wiki ([http://foldit.wikia.com/wiki/FoldIt\\_Wiki](http://foldit.wikia.com/wiki/FoldIt_Wiki)) and especially Tutorial Puzzles Wiki ([http://foldit.wikia.com/wiki/Tutorial\\_Puzzles](http://foldit.wikia.com/wiki/Tutorial_Puzzles)).
6. Prepare the short **report**: your name, today’s date, how many puzzles have been solved, how much time has been spent.
7. Important! **Uninstall** FoldIt from the computer and turn it off.