Zhanyong Guo
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Department of Chemistry
Southern Methodist University
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Education

Ph.D., Chemistry, 2008, University of Oklahoma, Norman, OK
M.S., Chemistry, 2008, University of Oklahoma, Norman, OK
B.S., Chemistry, 1996, Peking University, Beijing, China

Research Experience

Postdoc, Southern Methodist University, TX, 2010- present
Research Assistant/Teaching Assistant, University of Oklahoma, Norman, OK 2001-2008
Assistant Engineer, China Petroleum & Chemical Corporation, Beijing, China 1996-2001

Research Interest

Developing computational methods for protein structure representation and structure similarity comparison.

Molecular Dynamics simulation of protein folding.

Skills

Molecular Dynamics simulations, Quantum calculations, QM/MM
High Performance Computing on mainframe and Linux clusters
Programming with Python, C/C++, FORTRAN, Perl, PHP, HTML
Various Modeling software: Folly, AMBER, CHARMM, NAMD, Gaussian, GAMESS, NWChem, Autodock, SYBYL
Homology modeling and other regular bioinformatics tools
Other tools: R, SAS, SQL, Matlab
Chemistry and Biochemistry lab skills

Presentations

Ralph A. Wheeler, Zunnan Huang, and Zhanyong Guo, “An efficient search protocol

for mapping potential energy landscapes and conformations of alpha-helix- and beta-sheet-rich polypeptides", 236th ACS National Meeting, Philadelphia, PA, August 17-21, 2008.
Zhanyong Guo, "Molecular dynamics simulation of small peptides folding", Oklahoma Supercomputing Symposium 2006, Norman, OK, October 3 – 4, 2006.
Ralph A. Wheeler, Zunnan Huang, and Zhanyong Guo., "An efficient search protocol for mapping potential energy landscapes and conformations of an amphiphilic octadecapeptide", 232nd ACS National Meeting, San Francisco, CA, September 10-14, 2006.
Zunnan Huang, Zhanyong Guo, and Ralph A. Wheeler, "Protein folding simulations from first principles by a new molecular dynamics method", 229th ACS National Meeting, San Diego, CA, Marchrch 13 March 13-17, 2005.

Manuscripts

Zunnan Huang, Zhanyong Guo, Ralph A. Wheeler, "Disrupted velocity search protocols for mapping potential energy landscapes and conformations of an amphiphilic octadecapeptide", submitted.
Zhanyong Guo, Ralph A. Wheeler, "De novo Folding Simulation of an α-helical peptide with an enhanced sampling simulation protocol", in preparation.
Zhanyong Guo, Ralph A. Wheeler, "Folding Simulation of β-Hairpin Tryptophan Zipper 1 from first principle", in preparation.
Zhanyong Guo, Ralph A. Wheeler, "Folding simulation of a 14 residue β-hairpin MBH12 with a new molecular dynamics simulation protocol", in preparation.
Zhanyong Guo, Ralph A. Wheeler, "From sequence to native structure: folding simulation of α helical hairpin peptides", in preparation.
Zhanyong Guo, Ralph A. Wheeler, "Ab initio folding of a ββα miniprotein FSD-EY with all-atom molecular dynamics simulation", in preparation.
Zhanyong Guo, Ralph A. Wheeler, "Folding Simulation of an α Helical Bundle", in preparation