

# Markus Dittrich

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## OBJECTIVE:

Modeling and investigation of biomolecular systems using approaches from theoretical physics and engineering together with advanced computer simulation techniques.

## EDUCATION:

May 2005: *Ph.D. in Physics*, University of Illinois at Urbana-Champaign.

Thesis topic: *Quantum Mechanical/Molecular Mechanical Studies of  $F_1$ -ATPase and a Plant Photoreceptor*, Advisor: Prof. K. Schulten

September 2000: *Diploma in Physics*, University of Regensburg, Germany.

## WORK EXPERIENCE:

May 2005 - present: *Postdoctoral research associate*, Theoretical and Computational Biophysics Group, University of Illinois at Urbana-Champaign.

Use classical, quantum mechanical, and combined quantum mechanical/molecular mechanical (QM/MM) simulation methods to study biomolecular systems.

January 2001 - May 2005: *Graduate research assistant*, Theoretical and Computational Biophysics Group, University of Illinois at Urbana-Champaign.

Conducted research on enzyme catalysis and photoexcitation in proteins using QM/MM and molecular dynamics simulations. Developed QM/MM code based on the quantum chemistry package GAMESS and the AMBER forcefield.

January 2001 - present: *Member of system administration team*, Theoretical and Computational Biophysics Group, University of Illinois at Urbana-Champaign.

Help maintain a large computational facility and assist users with problems/questions.

## SKILLS:

- In depth knowledge of the molecular modeling tools NAMD, VMD, CHARMM, GAMESS and several QM/MM implementations.
- Proficient in C/C++, Fortran, Python, and Ruby.
- Excellent knowledge of the Linux and Unix operating systems.
- Familiar with the Mac OS X and Windows operating systems.

## HONORS AND AWARDS

- Renato Bobone Award, Physics Department UIUC (2003)  
"Outstanding European Graduate Student".
- Member of the Honors Society of Phi Kappa Phi.
- DAAD (German Academic Exchange Service) travel stipend (1997).