

Russell W. Hanson

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Born: May 2, 1981, Palo Alto, CA, USA



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Russell Hanson
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Research Interests

I am broadly interested in biophysical and theoretical chemistry, specifically in:

- biophysics and molecular simulation;
- theoretical physical chemistry;
- electrostatics of biological macromolecules.

Education

2005 – present	Ph.D. student, Boston University Dept. of Chemistry, Boston, MA Theoretical and Computational Biophysics
2003 – 2005	M.S. Applied Biology, Georgia Tech School of Biology, Atlanta, GA Biophysics and Structural Biology
Fall 2001	MIT Media Lab, Cambridge, MA Special Student in Physics and Media
1999 – 2003	B.A. Physics, Reed College, Portland, OR Thesis Topic: Fast Fourier Transform Analysis of DNA Sequences

Skills and Experience

Coursework	Bio. 7668 Eukaryotic Molecular Genetics Bio. 8803 Bioinformatics and Genomics Bio. 8804 Macromolecular Modeling Bio. 361 Genetics and Molecular Biology Bio. 372 Cellular Biology Chem. 651/652 Molecular Quantum Chemistry I/II Chem. 658 Chemical Kinetics Chem. 6481 Statistical Mechanics Chem. 6572 Macromolecular Structure Chem. Eng. 6120A Molecular Modeling Chem. Eng. 6779 Bioprocess Engineering Phys. 502 Computational Physics Phys. 744 Polymer Physics Undergraduate thesis on bioinformatics and computational biology
Computer	Large C projects ~80k lines, limited C++ Fortran 77, 90, 2000 for computational chemistry applications Python for CGI and rapid application deployment Perl scripting for automation and data analysis Programming in Java since 1998 (SunOS, Windows platforms) Several years LabVIEW (GPIB bus interface, data acquisition and analysis) OpenGL graphics library PIC micro-controller programming (Microchip hardware) Operating systems: Unices, Linuxes, Windows, MacOS
Languages	Fluent French Spoken and Written Chinese (Mandarin, some Cantonese) Conversational German

Rudimentary Japanese
Some Latin and Italian

Teaching Experience

2005 – 2006	Graduate Teaching Fellow, Boston University Chemistry 111 Introductory Honors Chemistry Lab Instructor Chemistry 201 Lab Instructor
2003 – 2004	Graduate Teaching Assistant, Georgia Tech BIOL 1510/1520 Introductory Biology Lab Instructor
1999 – 2001	Teaching Assistant and Grader, Reed College Physics 331 Advanced Laboratory I Math 121 Introduction to Computing Physics 101 Introductory Topics in Physics

Publications & Presentations

Electronic reprints and slides available at <http://hansonr.org/>:

Thesis

- [T.1] Undergraduate Thesis
Fast Fourier Transform Analysis of DNA Sequences
Reed College May 2003
Adviser: Richard Crandall

Presentations, Posters, Conferences, and Invited Talks

- [P.11] Invited Speaker: 21st Chaos Communication Congress (21C3)
December 27–29, 2004 Berliner Congress Center, Berlin, Germany
- [P.10] Monte Carlo Study of DNA Condensation Phenomena
Georgia Tech Biology Graduate Student Symposium, Oct. 1, 2004
- [P.9] Conferee: The Fifth HOPE, New York, NY, July 9–11, 2004
- [P.8] Poster: Potential of Mean Force for DNA-DNA Electrostatic Interaction
Gordon Research Conference Computational Chemistry, Holderness School, NH July 4–9, 2004
- [P.7] Hacking the Genome: Designer Proteins, Elite Organisms, and You
InterzOne III Atlanta, GA April 18, 2004
- [P.6] Conferee: Fourth Georgia Tech International Conference on Bioinformatics, Nov. 13–16, 2003
Atlanta, GA
- [P.5] Thesis presentation: FFT biosequence analysis
Reed College, Physics Dept. April 2003
- [P.4] Conferee: O'Reilly Bioinformatics Conference 2003, San Diego, CA Feb. 3–6, 2003
- [P.3] Rotating radiance functions via spherical harmonic encoding
Reed College, Physics Dept. Dec. 2002
- [P.2] The Personal Jukebox: a hard drive-based portable mp3 player
Reed College, Physics Dept. Sept. 2000
- [P.1] The BES electron spectrometer and R value measurement: cross section of hadron to muon
production Reed College, Physics Dept. Sept. 1999

Association Memberships

- Member, American Physical Society (APS) (2000 – present)
- Member, Association for Computing Machinery (ACM) (2000 – present)

Hobbies and Awards

- GAANN Award, Georgia Tech School of Biology (\$6,089), 2004
- Howard Hughes Medical Institute, undergraduate research grant, 2002 – 2003
- Founder of RUUG, Reed College Unix Users Group, 2002
- University of Chicago, Dean's Grant Mathematics (\$10,000), 1999
- Three-time state champion high school Science Olympiad team, 1996 – 1999

References

- (available on request)