

Franz Edward Boas

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Education	Stanford University, M.D. / Ph.D. (biochemistry), 2008. Harvard University, A.B. in biochemistry, magna cum laude with highest honors, 1999.
Research	Stanford University (July 1999 – June 2008) <ul style="list-style-type: none">• Ph.D. thesis: <i>Physics-based design of protein-ligand binding</i>. Developed and validated a general technique for predicting binding constants, predicting structures of protein binding sites, and designing binding proteins. This was the first successful design of a binding protein using a standard physical model. (Advisor: Pehr Harbury)• Invented a method for reducing streak artifacts in computed tomography scans. (Advisor: Dominik Fleischmann)• Developed a method for predicting protein-protein interactions. (Advisor: Russ Altman) Harvard University (Advisor: George Whitesides; March 1998 – May 1999) <ul style="list-style-type: none">• Senior honors thesis. Designed, synthesized, and tested polymers that could potentially block bacterial infections. Scripps Research Institute (Advisor: Ernest Beutler; Summer 1997, Summer 1996, Summer 1995) <ul style="list-style-type: none">• Identified a chemical signal used to recognize and remove old red blood cells from the circulation.• Found evidence for heterozygote selection of a Gaucher disease mutation.
Teaching	Stanford University (2001, 2002) Teaching assistant for medical school molecular biology and biochemistry classes. Research Science Institute (MIT in 1997 and 2003, Caltech in 2004) Lecturer and teaching assistant. Harvard University (1997) Course assistant for multivariable calculus class. Award Peer Tutor
Leadership	President, Harvard Science Review (1998 – 1999) Worked closely with a staff of more than twenty editors, writers, layout designers, and business managers to produce Harvard's oldest and largest undergraduate science publication. Also served terms as Editor-in-Chief and Online Manager. President, Hippocratic Society (1998 – 1999) Harvard Conference Director, MIT-Harvard Conference on Genetic Technology and Society. This two-day conference, which featured an international all-star cast of Nobel laureates, corporate CEOs, and congressmen, drew an audience of 1,200 people.
Selected Awards	Medical Scientist Training Program (1999 – 2008) Barry M. Goldwater Scholar (1998) United States Presidential Scholar (named by Bill Clinton, 1995) Top ten finalist, Westinghouse (now Intel) Science Talent Search (1995) <i>USA Today</i> All-USA Academic First Team (1995)
Selected Publications	<ul style="list-style-type: none">• Boas FE, Harbury PB. (2008) "Design of protein-ligand binding based on the molecular-mechanics energy model." <i>Journal of Molecular Biology</i>. 380: 415-24.• Boas FE. (2007) "Method and apparatus for reducing artifacts in computed tomography images." U.S. Patent Application.• Boas FE and Harbury PB. (2007) "Potential energy functions for protein design." <i>Current Opinion in Structural Biology</i>. 17: 199-204.• Boas FE, Forman L, Beutler E. (1998) "Phosphatidylserine exposure and red cell viability in red cell aging and in hemolytic anemia." <i>Proc Natl Acad Sci, USA</i>. 95: 3077-3081.