

Rebecca Rakow-Penner

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EDUCATION

- July 2002
— present
STANFORD UNIVERSITY—Stanford, CA.
M.D./Ph.D. student in Biophysics, 4th year. Research focuses on developing MRI technology for breast imaging. Coursework in medical imaging, molecular imaging, Fourier transforms, and basic medical school classes.
Advisors: Gary H. Glover, Professor of Radiology
Bruce L. Daniel, Assistant Professor of Radiology
- September 2001
— June 2002
CALIFORNIA INSTITUTE OF TECHNOLOGY—Pasadena, CA.
M.S. in Bioengineering, June 2002. Coursework in biochemistry, bioinformatics, differential equations, transport phenomena.
- September 1997
— June 2001
HARVARD UNIVERSITY—Cambridge, MA.
S.B. in Engineering specializing in Biomedicine, June 2001. Cum Laude. Dean's List. Coursework in digital design, biophysics, bioelectronics, differential equations, chemistry, French.
Senior Honors Thesis entitled: "Design of Detector Coils for Improved Magnetic Resonance Imaging of the Breast"

WORK and RESEARCH EXPERIENCE

- July 2002
— present
STANFORD UNIVERSITY—Stanford, CA.
GRADUATE STUDENT: Developing MRI technology for breast imaging.
- January 2002
— March 2003
CALIFORNIA INSTITUTE OF TECHNOLOGY—Pasadena, CA.
GRADUATE STUDENT: Developed MRI technology in the Biological Imaging Center. Simulated biological circuits.
- June 2000
— August 2001
HARVARD MEDICAL SCHOOL, BETH ISRAEL HOSPITAL—Boston, MA.
RESEARCHER: Conducted independent research in the Biomedical Imaging Laboratory. Developed receiving coil for MRI to increase the speed of breast imaging. Project presented in April 2001 as a Senior Thesis. Built several MRI coils designed for Phosphorus imaging.
- Summer 1999
TECHNION INSTITUTE—Haifa, Israel.
RESEARCH FELLOW: Investigated and analyzed frequency components of intracardiac signals obtained using a novel nonfluoroscopic electromechanical mapping technique (NOGA).
- Summer 1997
AXONN CORPORATION—New Orleans, LA
INTERN: Further developed self-initiated project for child-safety pool alarm.

PEER REVIEWED ABSTRACTS and PUBLICATIONS

PUBLISHED:

Articles:

Rebecca Rakow-Penner, Bruce Daniel, Huanzhou Yu, Anne Sawyer-Glover, Gary Glover. "Relaxation Times of Breast Tissue at 1.5T and 3T Using 3 Point IDEAL." *Journal of Magnetic Resonance Imaging*, 23(1):87-91, 2006.

Robert L. Greenman, **Rebecca Rakow-Penner**. "Evaluation of the RF field uniformity of a double-tuned 31P/1H birdcage RF coil for spin-echo MRI/MRS of the diabetic foot." *Journal of Magnetic Resonance Imaging*, 22(3): 427-432, 2005.

Abstracts:

Rebecca A. Rakow, Bruce L. Daniel, Karl Vigen, Anne Sawyer-Glover, Gary Glover. "T1 and T2 Measurements of Breast Tissue at 0.5T, 1.5T, and 3.0T" oral presentation and published in the proceedings of the International Society for Magnetic Resonance in Medicine Annual Meeting, Toronto, Canada. July 2003.

Robert L. Greenman, **Rebecca A. Rakow**. "Phosphorus RARE Imaging vs Spectroscopy at 3 Tesla—A Quantitative Comparison" poster presentation and published in the proceedings of the European Society of Magnetic Resonance in Medicine and Biology Annual Meeting, Cannes, France. August 2002.

Rebecca Rakow-Penner, Bruce Daniel, Gary Gold, John Pauly, Sam Mazin, Gary Glover. "Correction of 3D Truncation Artifacts in Knee and Breast Imaging" poster presentation and published in the proceedings of International Society for Magnetic Resonance in Medicine Annual Meeting, Miami, Florida, May 2005.

Rebecca Rakow-Penner, Bruce Daniel, Julia Po, Anne Sawyer-Glover, Roland Bammer. "Viable b-value Range for Diffusion Weighted Imaging of the Breast at 1.5T" poster presentation and published in the proceedings of International Society for Magnetic Resonance in Medicine Annual Meeting, Miami, Florida, May 2005.

Charles Cunningham, Bruce Daniel, **Rebecca Rakow-Penner**, John Pauly. "Independent Dual-band Spectral-Spatial RF pulses: Implementation for Bilateral Breast MRI" poster presentation and published in the proceedings of International Society for Magnetic Resonance in Medicine Annual Meeting, Miami, Florida, May 2005.

MANUSCRIPTS IN PREPARATION:

Rebecca Rakow-Penner, Bruce Daniel, Gary Glover. "Linear Prediction Improving 3D Breast Imaging."

Rebecca Rakow-Penner, Bruce Daniel, Lara Stables, Gary Glover. "BOLD Contrast in the Breast."

INVITED PRESENTATIONS

Rebecca Rakow-Penner, Bruce Daniel, Gary Glover. "T1 and T2 of Breast Tissue at 1.5T and 3T." Poster presentation at the Stanford Continuing Medical Education breast imaging course in Las Vegas, October 2004.

ACADEMIC AWARDS and COMMITTEES

DOD BREAST CANCER RESEARCH PROGRAM PREDOCTORAL TRAINEE. (Summer 2006 – Spring 2009). Scored 1.2 on grant proposal.

ASSOCIATION OF RADIOLOGICAL SCIENCES STUDENTS

FOUNDER, PAST PRESIDENT (Oct 2003 – Jan 2005), TREASURER (Jan 2005 – present): Founded

student group that unites all graduate students across departments interested in imaging research. (October 2003 – present).

FACULTY SELECTION COMMITTEE FOR STANFORD BIOENGINEERING

STUDENT REPRESENTATIVE: Interviewed faculty candidates for Stanford’s new Bioengineering department. (Fall 2003, Winter 2005).

STUDENT ADMISSIONS COMMITTEE FOR STANFORD BIOPHYSICS

STUDENT REPRESENTATIVE: Discussed with incoming students life at Stanford and organized welcoming activities. (Winter 2004, 2005).

STUDENT ADMISSIONS COMMITTEE FOR STANFORD BIOENGINEERING

STUDENT REPRESENTATIVE: Discussed with incoming students life at Stanford and organized welcoming activities. (Winter 2004).

STANFORD NIH TRAINING GRANT FELLOW. (Summer 2002 – Spring 2006).

CALIFORNIA INSTITUTE OF TECHNOLOGY INSTITUTE FELLOWSHIP RECIPIENT. (September 2001 –June 2002).

JULIA SHAFFNER MEMORIAL PRIZE for woman in science. (June 2001).

HARVARD WEISSMAN INTERNATIONAL INTERN for funded travel and research. (Summer 2000).

ZONTA INTERNATIONAL YOUNG WOMAN OF THE YEAR for public service. (August 1998).

TEACHING and MENTORING EXPERIENCE

Fall 2005	STANFORD UNIVERSITY—Stanford, CA. TEACHING ASSISTANT: Coordinating course, leading sections, and holding office hours for a new course in functional magnetic resonance imaging taught by Professor Gary Glover.
Fall 2005 – present	STANFORD UNIVERSITY—Stanford, CA. MENTOR: Advising three undergraduate Stanford students interested in continuing their studies in graduate school. Currently providing mostly academic advice and general advice on life as a graduate/medical student.
Winter 2005	STANFORD UNIVERSITY—Stanford, CA. GRADER: Graded coursework for graduate class in magnetic resonance spectroscopy taught by Professor Daniel Spielman.
June 2001 — August 2001	HARVARD UNIVERSITY—Cambridge, MA. SUMMER SCHOOL PROCTOR: Advised visiting undergraduate students during their summer school experience at Harvard.
Fall terms 1999, 2000	HARVARD UNIVERSTIY—Cambridge, MA. ENGINEERING TEACHING FELLOW: Honored as an undergraduate to assist in Harvard’s introductory electrical engineering course. Responsibilities included teaching sections, developing and teaching labs, grading coursework, tutoring individual students.

PUBLIC SERVICE and EXTRACURRICULAR ACTIVITIES

Spring 2004 AMERICAN CANCER SOCIETY, NORTHERN CALIFORNIA

- present **LEGISLATIVE AMBASSADOR:** Advocate for cancer research and cancer research funding. Meet with legislators and discuss breast and prostate cancer research funding for the state of California. Responsible for meeting with Northern California legislators and gathering others to support ACS political projects.
- November 2002 BETH AM CONGREGATION—Los Altos Hills, CA.
— present **TEACHER:** Leading group discussions and teaching families about Jewish life.
- 1985 - present KARATE
BLACK BELT: Student of Karate for 19 years. Currently training with the Northern California Karate Association. Once an organizing member of the Harvard Shotokan Karate Club. **National Collegiate Champion:** Placed first in sparring at the ISKF National Collegiate Shotokan Karate Tournament for women (November 1998).
- March 2000 WOMEN’S CONFERENCE
CHAIR: Conference Chair for a National Collegiate Jewish Women’s Conference held at Harvard University. Responsible for initiating the idea, fundraising conference costs, and guiding committee chairs. Attracted recognized speakers such as playwright Wendy Wasserstein and Assistant Surgeon General Susan Blumenthal.
- Spring 1998 VOLUNTEER TEACHING
— Spring 2000 **EXPERIMENTOR:** Co-taught weekly science lessons to underprivileged children at Cambridge elementary schools.

Technical Skills

C, C++, Perl, Matlab, digital circuit design, Logic Works, Xilinx, Mathematica, Maple, select biological design programs, protocols on GE MRI scanners.

Professional Membership

International Society of Magnetic Resonance Imaging
American Medical Association
American Medical Students Association
Santa Clara County Medical Association