

JACQUELINE NERNEY WELCH, M.D., Ph.D.

jwelch@neotract.com

WORK EXPERIENCE:

Teleflex, Inc.

Director of Medical Affairs

Lead for strategy and execution of all medical affairs of the Interventional Urology business unit. Responsibilities include investigator initiated studies, study design, product safety, clinical trial safety, clinical research interpretation, data analysis, publications, conference presentations, medical evidence training, and supervision of the medical advisory board and faculty advisory committee.

Pleasanton, CA

2017-present

NeoTract, Inc.

Director of Medical Affairs (previously manager of medical affairs and device developer)

Lead for planning and execution of medical affairs for internal and external projects. Responsible for planning and executing clinical trials for start-up medical device company in both the United States and abroad. Involved in clinical needs verification, invention, patenting, testing, trial design, safety monitoring, regulatory strategy, reimbursement, market strategy, medical evidence training, and publications.

Pleasanton, CA

2006-2017

Exploramed II, Inc.

Device designer and clinical consultant

Responsible for the identification and verification of clinical needs, invention, prototyping, patenting, and early-stage testing of novel device concepts for medical device incubator.

Mountain View, CA

2004-2006

Sun Microsystems

User Centered Design group

Developed dynamic web-based tool that facilitated communication and collaboration between graphic artists, industrial designers, and experimental psychologists.

Menlo Park, CA

2003

Cbyon, Inc.

Surgical Navigation System Design group

Designed and implemented wireless control and interface for surgical navigation system for use during head, chest, and abdominal surgery.

Palo Alto, CA

2000

Guidant, Inc.

Technology consultant

Reviewed and summarized medical evidence for new product development.

Menlo Park, CA

1998

Pfizer, Inc.

Medical device designer

Designed medical devices for cardiac catheterization and cardiothoracic surgery. Developed new products through need finding, literature reviews, expert consultation, patent research, prototyping, market analysis, and financial planning.

New York, NY

1995

NASA Ames Research Center

Space Sciences Division, Land rover designer

Developed land rover and remote habitat for future manned mission to Mars.

Moffett Field, CA

1993

Lawrence Livermore National Laboratory*Mechanical engineer*

Developed finite element models for simulation of bridge overloading and Q-type security clearance projects for the Department of Energy.

Livermore, CA

1991-1992

Weizmann Institute of Science*Research assistant*

Studied the effects of lithium on rat development and brain functioning.

Rehovot, Israel

1990

Lawrence Berkeley Laboratory*Research assistant*

Berkeley, CA

1989

EDUCATION:

Stanford University School of Medicine*Doctor of Medicine, 2009*

Medical student and research assistant focused on developing an algorithm for 3D ultrasound visualization for breast and liver biopsy through the Stanford Department of Surgery.

Stanford, CA

Stanford University School of Engineering*Doctor of Philosophy, Mechanical Engineering, 2003**Master of Science, Mechanical Engineering, 1995**Bachelor of Science, Mechanical Engineering, 1994*

Research assistant on multiple engineering in medicine projects including distraction osteogenesis of the mandible, biomolecular force detection through atomic force microscopy, and microarray technology development for genomics.

Stanford, CA

Massachusetts Institute of Technology*Bachelor of Science program, 1990-91*

Boston, MA

University of California, Berkeley*Accelerated Bachelor of Science program, 1989-90*

Berkeley, CA

AWARDS/OTHER:

American Medical Association e-Medicine Advisory Committee Member

National Science Foundation Awardee

Department of Defense National Defense Science and Engineering Fellowship

Hertz Foundation Fellowship

National Merit Finalist

Coco-Cola Scholar

Women in Engineering Award

Stanford School of Engineering Leadership and Academics Scholarship

Tau Beta Pi Honor Society

Stanford Chapter ASME President

Acalanes Chapter National Charity League President

Arbor Free Clinic Leadership Council

Co-founder of the MIT debate team

MIT varsity singles tennis player

Nominating committee member for the Dean of the School of Engineering at Stanford University

Kaiser Permanente volunteer service recognition

PUBLICATIONS:

M. Schena, M. Jain, J. Carpenter, J. Nerney and R. W. Davis. "The Biochip Revolution: Parallel Expression Analysis with DNA Microarrays, Hilton Head, September 1997.

Y. Liang, J.N. Welch, R.G. Rudnitsky, and T.W. Kenny. "Biological Force Measurements using Micromachined Cantilevers," Proceedings 1999 ASME Winter Meeting (1999).

R. Khadem, C. Yeh, M. Sadeghi, M. Bax, J. Johnson, J.N. Welch, E. Wilkinson, R. Shahidi. "Comparative Tracking Error Analysis of Five Different Optical Tracking Systems," *Comp Aid Surg*, 2000; 5:98-107.

J. Nerney Welch, J.A. Johnson, M.R. Bax, R. Badr and R. Shahidi. "A Real-time Freehand 3D Ultrasound System for Image-Guided Surgery," *IEEE Ultrasonics Symposium Proceedings*, 2000; 2:1601-1604.

J. Nerney Welch. "Design, Implementation, and Analysis of a Three-dimensional Ultrasound System for Image-guided Surgery," PhD Dissertation, February 2003.

PATENTS:

US patent 7,896,891 B2: J. Catanese, T. Lamson, J. Makower, A. Nagpurkar, D. Merrick, J. Welch, R. Vecchiotti, S. West, C. Vidal, R. Redmond, M. Collinson. "Apparatus and method for manipulating or retracting tissue and anatomical structure."

US patent 7,914,542 B2: T. Lamson, J. Makower, J. Catanese, J. Welch, A. Walke, C. Vidal, R. Redmond, M. Collinson. "Devices, systems and methods for treating benign prostatic hyperplasia and other conditions."

US patent 7,951,158 B2: J. Catanese, T. Lamson, J. Makower, A. Nagpurkar, A. Walke, C. Vidal, R. Redmond, M. Collinson, J. Welch. "Devices, systems and methods for retracting, lifting, compressing, supporting or repositioning tissues or anatomical structures."

US patent 8,007,503 B2: J. Catanese, T. Lamson, J. Makower, A. Nagpurkar, D. Merrick, J. Welch, R. Vecchiotti, S. West, C. Vidal, R. Redmond, M. Collinson. "Apparatus and method for manipulating or retracting tissue and anatomical structure."

US patent 8,043,309 B2: J. Catanese, T. Lamson, J. Makower, A. Nagpurkar, A. Walke, C. Vidal, R. Redmond, M. Collinson, J. Welch. "Devices, systems and methods for retracting, lifting, compressing, supporting or repositioning tissues or anatomical structures."

US patent 8,211,118 B2: J. Catanese, T. Lamson, J. Makower, A. Nagpurkar, D. Merrick, J. Welch, R. Vecchiotti, S. West, C. Vidal, R. Redmond, M. Collinson. "Apparatus and method for manipulating or retracting tissue and anatomical structure."

US patent 8,343,187 B2: T. Lamson, J. Makower, J. Catanese, J. Welch, A. Walke, C. Vidal, R. Redmond, M. Collinson. "Devices, systems and methods for treating benign prostatic hyperplasia and other conditions."

US patent 8,394,110 B2: J. Catanese, T. Lamson, J. Makower, A. Nagpurkar, D. Merrick, J. Welch, R. Vecchiotti, S. West, C. Vidal, R. Redmond, M. Collinson. "Apparatus and method for manipulating or retracting tissue and anatomical structure."

US patent 8,715,239 B2: T. Lamson, J. Makower, J. Catanese, J. Welch, A. Walke, C. Vidal, R. Redmond, M. Collinson. "Devices, Systems and Methods for Treating Benign Prostatic Hyperplasia and Other Conditions."

US patent 8,734,468 B2: T. Lamson, J. Makower, J. Catanese, J. Nerney Welch, A. Walke, C. Vidal, R. Redmond, M. Collinson. "Device, Systems and Methods for Treating Benign Prostatic Hyperplasia and Other Conditions."

US patent 8900252 B2: T. Lamson, J. Makower, J. Catanese, J. Nerney Welch, A. Walke, C. Vidal, R. Redmond, M. Collinson. "Devices, Systems, and Methods for Treating Benign Prostatic Hyperplasia and Other Conditions."

US patent 8936609 B2: J. Catanese, T. Lamson, J. Makower, J. Makower, A. Nagpurkar, D. Merrick, J. Nerney Welch, R. Vecchiotti, S. West, C. Vidal, R. Redmond, M. Collinson. "Apparatus and Method for Manipulating or Retracting Tissue and Anatomical Structure."

US patent 8940001 B2: J. Catanese, T. Lamson, J. Makower, J. Makower, A. Nagpurkar, A. Walke, C. Vidal, R. Redmond, M. Collinson, J. Nerney Welch. "Devices, Systems, and Methods for Retracting, Lifting, Compressing, Supporting, or Repositioning Tissues or Anatomical Structures."

PRESENTATIONS:

Oct 22-25, 2000

Scientific Talk, 2000 IEEE International Ultrasonics Symposium, San Juan, Puerto Rico

Sponsored by the Ultrasonics, Ferroelectrics & Frequency Control Society

A Real-time Freehand 3D Ultrasound System for Image-Guided Surgery

Jacqueline Nerney Welch, Jeremy A. Johnson, Michael R. Bax, Rana Badr and Ramin Shahidi

Oct 28, 2000

Poster, BCATS: Biomedical Computation @ Stanford 2000, Stanford, CA

A Real-time Freehand 3D Ultrasound System for Image-guided Surgery

Jacqueline Nerney Welch, Jeremy A. Johnson, Michael R. Bax, Rana Badr and Ramin Shahidi

Feb 17-22, 2001

Poster, SPIE – The International Society for Optical Engineering: Medical Imaging 2001, San Diego, CA

Real-time freehand 3D ultrasound system for clinical applications

Jacqueline Nerney Welch, Jeremy A. Johnson, Michael R. Bax, Rana Badr, Samuel K. S. So, Thomas M. Krummel, and Ramin Shahidi

April 6, 2001

Poster, Electrical Engineering Department Research Fair Poster Session, Stanford, CA

Real-time freehand 3D ultrasound system for clinical applications

Jacqueline Nerney Welch, Jeremy A. Johnson, Michael R. Bax, Rana Badr, Samuel K. S. So, Thomas M. Krummel, and Ramin Shahidi

May 4, 2001

Scientific Talk, Medical Student Research Symposium, Stanford, CA

Real-time freehand 3D ultrasound system for image-guided surgery

Jacqueline Nerney Welch, Jeremy A. Johnson, Michael R. Bax, Rana Badr, Samuel K. S. So, Thomas M. Krummel, and Ramin Shahidi

June 27-30, 2001

Poster, 15th International Congress and Exhibition, ICC Berlin, Germany

CARS 2001 - Computer Assisted Radiology and Surgery

Quantifiable real-time 3D ultrasound data acquisition and visualization

Jacqueline Nerney Welch, Jeremy A. Johnson, Rana Badr, Michael R. Bax, Samuel K. S. So, Thomas M. Krummel, and Ramin Shahidi

July 2-5, 2001

Poster, UI'01: Ultrasonics International, Delft, Holland

A Real-time Freehand 3D Ultrasound System for Surgical Interventions

Jacqueline Nerney Welch, Jeremy A. Johnson, Rana Badr, Michael R. Bax Samuel K. S. So, Thomas M. Krummel, and Ramin Shahidi

Oct 20, 2001

Scientific Talk, BCATS: Biomedical Computation @ Stanford 2001, Stanford, CA

Quantifiable Real-time 3D Ultrasound Data Acquisition and Visualization

Jacqueline Nerney Welch, Jeremy A. Johnson, Michael R. Bax, Samuel K. S. So, Thomas M. Krummel, Calvin R. Maurer, and Ramin Shahidi

May 3, 2002

Scientific Talk, Medical Student Research Symposium, Stanford, CA

A Fast and Accurate Method of Ultrasound Probe Calibration for Image-Guided Surgery

Jacqueline Nerney Welch, Samuel K. S. So, Thomas M. Krummel, Ramin Shahidi, C.R. Maurer, Jr.

TEACHING EXPERIENCE:

- 1999 **STANFORD UNIVERSITY SCHOOL OF MEDICINE**, Stanford, CA
Teaching assistant for medical school course: Essential Procedures in Emergency Medicine.
- 1997 **EDUCATIONAL STUDIES PROGRAM**, Stanford, CA
Computer Science teacher: High School Enrichment Project.
- 1994-2001 **STANFORD MECHANICAL ENGINEERING DEPT., DESIGN DIVISION**, Stanford, CA
Coach for ME118, ME218 Smart Product design courses.

VOLUNTEER EXPERIENCE:

- 2013-present **NATIONAL CHARITY LEAGUE**, Lamorinda, CA
Focused on philanthropic efforts through mother-daughter teams at local charities.
- 2017 **AMOR MINISTRIES**, Tijuana, Mexico
Provided housing for the poor through working with the local churches.
- 2006-2013 **MORAGA JUNIOR WOMEN'S CLUB**, Moraga, CA
Focused on bettering the lives of women and children in local communities and abroad. Helped to raise nearly \$40,000 in 2008.
- 2006-2014 **CAMINO PABLO SCHOOL PTA**, Moraga, CA
Executive committee of the school PTA, responsible for finances and historical records.
- 2005-2007 **LAMORINDA MOM'S CLUB**, East Bay, CA
Steering committee member and zone coordinator responsible for organizing social events to build relationships in the local community.

- 1996-2001 **COMMUNITY ASSOCIATE FOR RESIDENTIAL EDUCATION**, Stanford, CA
Responsible for organizing discussion forums and education on subjects including inter-racial interactions, the political climate in Africa, adolescent prisons, the plight of the California farm worker, and issues dealing with mixed heritage. Organized speaking events on world politics including event with speaker George Schultz.
- 1998-01 **ARBOR FREE CLINIC**, Menlo Park, CA
Steering committee member for the Arbor Free Clinic, a student-run medical clinic for underserved or underinsured patients. Initiated internet special project which facilitates information dissemination, scheduling and volunteer attendance.
- 1998 **MEDICAL YOUTH SCIENCE PROGRAM**, Stanford, CA
Mentor for underprivileged youth interested in science and medicine.
- 1997-99 **STANFORD UNIVERSITY MEDICAL SCHOOL**, Stanford, CA
Admissions Committee interviewer, file reviewer, tour guide.
- 1994-95 **COMMUNITY SERVICE COORDINATOR**, Stanford, CA
Focus Leader responsible for organizing 10 service projects ranging from science demonstrations for local schools, a computer literacy project, after-school enrichment activities, and a nutrition awareness project.

TECHNOLOGY ADVOCATE:

- 2008-2017 **CAMINO PABLO WEBMASTER**, Moraga, CA
Responsible for creating and maintaining website.
- 2007-2009 **MORAGA JUNIOR WOMEN'S CLUB WEBMASTER**, Moraga, CA
Responsible for creating and maintaining website. Developed database interface, interactive calendar, and membership management system.
- 2001-2007 **AMA ELECTRONIC MEDICINE ADVISORY COMMITTEE**
National AMA committee member responsible for providing guidance regarding the vision, mission and content of the AMA's eMedicine agenda. Topics include the AMA web site operations, AMA eHealth initiatives and strategic planning, online partnerships, current technology evaluation, and guidance for the incorporation of future technology.
- 2002-2003 **STANFORD SCHOOL OF MEDICINE HANDHELD ADVISORY BOARD**, Stanford, CA
Member of committee formed to aid in the development of handheld computer use in medical education. Also a member of a handheld focus group determining patterns of information entry and retrieval for development of improved handheld software.
- 2001-2003 **AMA MEDICAL STUDENT WEBSITE**
Website editor and content contributor.
- 2000-01 **AMA-MSS NATIONAL COMMITTEE ON TECHNOLOGY AND COMPUTERS**
Medical student committee member focused on technology issues relevant to future doctors.
- 1998-02 **ARBOR FREE CLINIC**, Menlo Park, CA
Developed internet site and interactive scheduling system.