

Ernesto Staroswiecki

PhD, PE

Sr. Managing Consultant



Dr. Ernesto Staroswiecki is a Sr. Managing Consultant at ESI. Dr. Staroswiecki has over two decades of engineering experience, with a focus on medical devices and specializing in active medical devices. He has been involved in all aspects of the product lifecycle, from ideation and needs elicitation, through specification, planning and product development, to commercial launch and post-market surveillance. Dr. Staroswiecki's experience also spans sustaining engineering, reliability, quality, and compliance.

Prior to joining ESI, Dr. Staroswiecki led a global team of R&D scientists, engineers, and project managers in the development and sustainment of high-complexity medical devices. Dr. Staroswiecki has experience supporting industrial and forensic clients, including issues related to DfX, safety, intellectual property concerns, class action litigation, product liability, and product performance.

Dr. Staroswiecki is a Licensed Professional Electrical Engineer and holds PhD and MS degrees in Electrical Engineering from Stanford University, as well as undergraduate degrees in Mathematics and Statistics and Computer Engineering.

Education

PhD, Electrical Engineering. Stanford University. 2012

MS, Electrical Engineering. Stanford University. 2005

BS, Computer Engineering. UMBC. 2002

BA, Mathematics & Statistics. UMBC. 2002

Licenses & Certifications

- State of California P.E. License E20891

Languages

- English, Spanish, Portuguese

Contact Information

estaroswiecki@engsys.com

(786) 221 4864

ESi Miami

6735 NW 36th Street, Suite 325

Miami, FL 33166

Areas of Specialization

- Failure & Root Cause Analysis
- Biomedical Systems & Life Sciences Instrumentation
- Electrical & Embedded Systems
- System Integration
- Product Reliability and Risk Assessment & Management
- Experimental Design
- Regulatory & Design Controls (FDA, EU, NMPA)
- Technical Reporting & Expert Communication
- AI in Medical Devices
- Global Innovation/R&D Leadership
- Cross-Functional Program Management
- Strategic Portfolio Planning
- Product Development
- Organizational Transformation
- Consumer Electronics

Positions Held

Engineering Systems Inc., Miami, Florida

- Sr. Managing Consultant, 2026 – Present

Beckman Coulter Life Sciences, Miami, Florida

- Senior Manager, R&D 2020-2026

Exponent, Inc., Menlo Park, California

- Senior Managing Engineer, 2012-2020

Intel Corporation, Hillsboro, Oregon

- Associate, 2004-2004

IBM, Poughkeepsie, New York

- Associate, 2003-2003

Atmel Corporation, Columbia, Maryland

- Design Engineer Technician, 2000-2002

AIT/ PRIMA S.A/ Comunicación Interactiva, Buenos Aires, Argentina

- Lead Software Developer, 1994-1998

Professional Affiliations/Honors

Institute of Electrical and Electronics Engineers

- Senior Member

American Society for Quality

- Member

International Society for Magnetic Resonance in Medicine

- Member

Publications

“High-resolution, three-dimensional diffusion-weighted breast imaging using DESS,” Granlund KL, **Staroswiecki E**, Alley MT, Daniel BL, Hargreaves BA. Magnetic Resonance in Medicine 2014; 32:330-341

“Simultaneous estimation of T2 and ADC in human articular cartilage in vivo with a modified 3D DESS sequence at 3 T,” **Staroswiecki E**, Granlund KL, Alley MT, Gold GE, Hargreaves BA. Magnetic Resonance in Medicine 2011; 67:1086-1096.

"In vivo sodium imaging of human patellar cartilage with a 3D cones sequence at 3 T and 7 T," **Staroswiecki E**, Bangerter NK, Gurney PT, Grafendorfer T, Gold GE, Hargreaves BA. Journal of Magnetic Resonance Imaging 2010; 32:446–451.

"Magnetic resonance imaging of the knee: Optimizing 3 Tesla imaging," Shapiro L, **Staroswiecki E**, Gold GE. Seminars in Roentgenology 2010; 45:238–249.

"Defect diagnosis using a current ratio based quiescent signal analysis model for commercial power grids," Patel C, **Staroswiecki E**, Pawar S, Acharyya D, Plusquellic J. Journal of Electronic Testing 2003; 19:611–623.

Presentations

"Simultaneous estimation of T2 and ADC in human articular cartilage in vivo with a modified 3D DESS sequence at 3 T," **Staroswiecki E**, Granlund KL, Alley MT, Gold G, Hargreaves BA. Abstract in Proceedings, International Society for Magnetic Resonance in Medicine 2011; 19:500. Also presented at the 19th Annual Meeting of the ISMRM, Montreal, QC, Canada, May 2011.

"Analysis of diffusion-weighted SSFP signal with computer simulation," Choi E, O'Halloran R, **Staroswiecki E**, Bammer R. Abstract in Proceedings, International Society for Magnetic Resonance in Medicine 2011; 19:1969.

"Are sports good for your knees? An MRI evaluation of the effects of basketball on knee health in Division I collegiate athletes," Vogelsong MA, Pappas G, **Staroswiecki E**, Bangerter NK, Han E, Hargreaves BA, Braun HJ, Safran MR, Gold GE. Abstract in Proceedings, International Society for Magnetic Resonance in Medicine 2011; 19:507.

"In vivo breast sodium T1 measurements using inversion recovery 3D cones," Kaggie J, Park D, Newbold RD, Morrell GR, Hargreaves BA, **Staroswiecki E**, Gold GE, Bangerter NK. Abstract in Proceedings, International Society for Magnetic Resonance in Medicine 2011; 19:3506.

"Prospective motion correction for T2- and diffusion-weighted breast imaging with FADE," Granlund KL, **Staroswiecki E**, Moran CJ, Alley MT, Daniel BL, Hargreaves BA. Abstract in Proceedings, International Society for Magnetic Resonance in Medicine 2011; 19:1017.

"Simulation of diffusion-weighted SSFP: Time to reach steady state and effects on anisotropic diffusion," Choi E, O'Halloran R, **Staroswiecki E**, Bammer R. Abstract in Proceedings, International Society for Magnetic Resonance in Medicine 2011; 19:1968.

"T2, T1p, and sodium MRI of articular cartilage in patients with osteoarthritis treated with arthritis relief plus cream," Braun HJ, Vogelsong MA, **Staroswiecki E**, Hargreaves BA, Bangerter NK, Han E, Fattor J, Friedlander AL, Shah O, Beaubien JM, Gold GE. Abstract in Proceedings, International Society for Magnetic Resonance in Medicine 2011; 19:3214.

"Sodium MRI detects regional variation in knee articular cartilage glycosaminoglycan content in vivo," Vogelsong MA, Pappas G, **Staroswiecki E**, Bangerter NK, Hargreaves BA, Braun HJ, Safran MR, Gold GE. Presented at the 2011 Meeting of the Society of Computed Body Tomography & Magnetic Resonance (SCBT/MR), March 2011.

“Comparison of SPGR and balanced SSFP for sodium knee imaging,” **Staroswiecki E**, Bangerter NK, Gold GE, Hargreaves BA. Abstract in Proceedings, International Society for Magnetic Resonance in Medicine 2010; 18:817. Also presented at the ISMRM-ESMRMB Joint Annual Meeting, Stockholm, Sweden, May 2010.

“T2 maps and diffusion-weighted imaging of knee cartilage with a DESS sequence at 3T ISMRM 2010,” **Staroswiecki E**, Granlund KL, Alley MT, Gold GE, Hargreaves BA. Abstract in Proceedings, International Society for Magnetic Resonance in Medicine 2010; 18:824. Also presented at the ISMRM-ESMRMB Joint Annual Meeting, Stockholm, Sweden, May 2010.

“High resolution T2 breast imaging using FADE,” Granlund KL, **Staroswiecki E**, Alley MT, Daniel BL, Hargreaves BA. Abstract in Proceedings, International Society for Magnetic Resonance in Medicine 2010; 18:366.

“High SNR dual tuned sodium/proton knee coil,” Watkins RD, **Staroswiecki E**, Bangerter NK, Hargreaves BA, Gold GE. Abstract in Proceedings, International Society for Magnetic Resonance in Medicine 2010; 18:1503.

“Comparison of T1p, T2 mapping, and sodium MRI of osteoarthritic cartilage in vivo,” Vogelsong MA, **Staroswiecki E**, Hargreaves BA, Han ET, Fattor JA, Friedlander AL, Shah O, Beaubien JM, Gold GE. Abstract in Proceedings, International Society for Magnetic Resonance in Medicine 2010; 18:835.

“3D phase sensitive B1 mapping,” Allen S, Morrell GR, Peterson B, Park D, Kaggie J, **Staroswiecki E**, Bangerter NK. Abstract in Proceedings, International Society for Magnetic Resonance in Medicine 2010; 18:2840.

“An on-the-fly radiofrequency pulse for bilateral excitation with independently modulated phase,” **Staroswiecki E**, Pauly JM, Daniel BL, Hargreaves BA. Abstract in Proceedings, International Society for Magnetic Resonance in Medicine 2009; 17:4506. Also presented at the 17th Annual Meeting of the ISMRM, Honolulu, HI, May 2009.

“In vivo sodium imaging and relaxometry of the breast at 3T,” **Staroswiecki E**, Nnewiwe A, Bangerter NK, Daniel BL, Hargreaves BA. Abstract in Proceedings, International Society for Magnetic Resonance in Medicine 2009; 17:2129. Also presented at the 17th Annual Meeting of the ISMRM, Honolulu, HI, May 2009.

“Repeatability and age-related change of sodium in the knee articular cartilage measured with sodium MRI,” Koo S, **Staroswiecki E**, Bangerter N, Hargreaves B, Gold G. Abstract in Proceedings, International Society for Magnetic Resonance in Medicine 2009; 17:1975.

“In vivo sodium MRI at 3.0T of patients with previous ACL injury,” Gold GE, Koo S, **Staroswiecki E**, Watkins R, Hargreaves BA, Bangerter NK. Abstract in Proceedings, International Society for Magnetic Resonance in Medicine 2009; 17:3967.

“Early detection of osteoarthritis in patients with ACL injury using sodium MRI,” Gold GE, Koo S, **Staroswiecki E**, Watkins R, Bangerter NK, Hargreaves BA. Presented at the 2009 Meeting of the Society of Computed Body Tomography & Magnetic Resonance (SCBT/MR), March 2009.

“In vivo measurement of ^{23}Na T2* in human articular cartilage at 3T and 7T,” **Staroswiecki E**, Bangerter NK, Gurney PT, Gold GE, Holdsworth SJ, Grafendorfer T, Hargreaves BA. Abstract in Proceedings, International

Society for Magnetic Resonance in Medicine 2008; 16:324. Also presented at the 16th Annual Meeting of the International Society for Magnetic Resonance in Medicine, Toronto, ON, Canada, May 2008.

“Dual tuned Helmholtz coil for breast cancer imaging,” Nnewihe A, **Staroswiecki E**, Bangerter N, Hargreaves B. Abstract in Proceedings, International Society for Magnetic Resonance in Medicine 2008; 16:1114.

“Co-registered Sodium and Proton MRI of Osteoarthritis and Breast Cancer,” Hargreaves BA, Bangerter NK, **Staroswiecki E**, Gurney PT, Grafendorfer T, Nnewihe A, Daniel BL, Gold GE. Presented at the 2008 Meeting of the Society of Computed Body Tomography & Magnetic Resonance (SCBT/MR), March 2008.

“Registered $1\text{H}/23\text{Na}$ in vivo imaging of human articular cartilage with 3D cones trajectory at 7T,” **Staroswiecki E**, Gurney PT, Gold GE, Hargreaves BA. Abstract in Proceedings, International Society for Magnetic Resonance in Medicine 2007; 15:384. Also presented at the International Society for Magnetic Resonance in Medicine (ISMRM-ESMRMB) Joint Annual Meeting, Berlin, Germany, May 2007.

“In vivo T2, T1 ρ , and sodium imaging of articular cartilage at 3.0T: Initial experience,” Gold GE, Bangerter NK, **Staroswiecki E**, Han E, Gurney PT, Wright GA, Hargreaves BA. Abstract in Proceedings, International Society for Magnetic Resonance in Medicine 2007; 15:2648.