

Edmond Richer, Ph.D.

Robert C. Womack Chair
Department of Mechanical Engineering
Bobby B. Lyle School of Engineering
Southern Methodist University

Tel: (214) 768-3059
Fax: (214) 768-1473
e-mail: richer@lyle.smu.edu

Education:

- 1995 - 1999 **Ph.D.: Dynamic Systems and Control**
Department of Mechanical Engineering, School of Engineering and Applied Science
Southern Methodist University, Dallas, Texas, 75275
- 1987 - 1988 **Master of Science**
Department of Machine Construction Technology, School of Mechanical Engineering
University of Craiova, Romania
- 1983 - 1987 **Bachelor of Science**
Department of Machine Construction Technology, School of Mechanical Engineering
University of Craiova, Romania

Employment:

- August 2008 **Associate Professor**
Robert C. Womack Chair
Department of Mechanical Engineering, Lyle School of Engineering
Southern Methodist University, Dallas, Texas, 75275.
- 2005 – 2008 **Assistant Professor**
Joint Program in Biomedical Engineering, UT Southwestern Graduate School of
Biomedical Sciences, Dallas, and UT Arlington, Texas.
- 2000 – 2008 **Assistant Professor**
Advanced Radiological Sciences Division, Department of Radiology
UT Southwestern Medical Center at Dallas, Dallas, Texas, 75390
- 1999 – 2000 **Instructor**
Advanced Radiological Sciences Division, Department of Radiology
UT Southwestern Medical Center at Dallas, Dallas, Texas, 75390
- 1995 – 1999 **Teaching and Research Assistant**
Department of Mechanical Engineering, School of Engineering and Applied Science
Southern Methodist University, Dallas, Texas, 75275
- 1994 – 1998 **Co – Founder and Scientific Director**
IniCAD Soft SRL, Craiova, Romania
- 1990 – 1995 **Assistant Professor**
Department of Machine Construction Technology
School of Mechanical Engineering, University of Craiova, Romania
- 1988 – 1990 **Manufacturing Engineer**
Tools and Special Devices Department, Electroputere S.A., Craiova, Romania

Editorship and Professional Societies Activities:

2010 - Present	Technical Editor for <i>IEEE/ASME Transactions on Mechatronics</i>
2007 - 2008	UT Southwestern Biomedical Engineering Steering Committee
1997 - Present	Member of the ASME
2000 - 2004	Chair of ASME Dynamical Systems and Control Division, Biomechanical Panel
2003 - 2008	Member American Society for Bone and Mineral Research
2004 - 2008	Member Society for Molecular Imaging
2012 - Present	Member of the IEEE
2000 - Present	Reviewer for <i>Journal of Dynamical Systems and Control</i>
2001 - Present	Reviewer for <i>Transactions on Mechatronics</i>
2004 - Present	Reviewer for <i>Molecular Imaging</i>
2006 - Present	Reviewer for <i>Journal of Fluids Engineering</i>
2006 - Present	Reviewer for <i>Optics Express</i>

Awards and Honors:

- ASME 2013 Engineer of the Year Award, for Outstanding Achievements and Dedicated Service to the Engineering Profession, ASME North Texas Section.
- Graduate Student Council Outstanding Faculty Award in Mechanical Engineering, 2010.
- The Outstanding Graduate Student Award in Mechanical Engineering 1997-1998, School of Engineering and Applied Science, Southern Methodist University.
- The Graduate Student Research Award, Research Day 1997, Southern Methodist University.
- The Frederick E. Terman Award for Mechanical Engineering 1996-1997, School of Engineering and Applied Science, Southern Methodist University.
- First prize at the National College Student Competition in Mechanical Engineering, Romania, 1986.
- First prize at the National High School Student Competition in Machining, Romania, 1982.

Teaching Experience:

- **Courses Developed SMU:** Intermediate Dynamics, Fluid Power Systems.
- **Courses Taught at SMU:** Linear Systems Analysis, Intermediate Dynamics, Vehicle Dynamics, Fluid Power Systems, Nonlinear Control, Dynamics, Design and Control of Mechanical Systems, Introduction to CAD, Machines and Society,
- **Courses Taught at UTSWEMED:** Radiological Physics, Radiological Laboratory
- **Courses Taught and Developed at University of Craiova:** Basics of Experimental Research, Introduction to CAD, Advanced 3D Modeling using CAD (graduate level), Introduction to Engineering, Introduction to Surface Generation in Machining, Graphics for Engineers.

Research Experience:

- Founder and Director of the Biomedical Instrumentation and Robotics Laboratory at SMU.
- Experimental study and dynamical modeling of human body affected by pathological tremor.
- Theoretical analysis and experimental implementation of nonlinear control techniques for pneumatic and hydraulic actuators, and magnetorheological hybrid damper/actuators.
- Investigate the effect of high dose ionizing radiation on mechanical properties of cancellous vertebral bone following stereotactic radiosurgery.
- Theoretical analysis, design, and clinical implementation of Ultrasound Critical-angle Reflectometry instruments for in vivo bone quality assessment, currently entering clinical trials (patent pending).
- Experimental and theoretical study of virtual reality based haptic interfaces (under a contract from Texas National Laboratory Commission).

- Theoretical Analysis, design and construction of a pneumatically driven wrist for the Pneumatic Haptic Interface at Southern Methodist University.
- Design and construction of active vibration control systems for mechanical structures, using piezoelectric sensors and actuators (under a contract from Raytheon E Systems).
- Developed the Mechatronics Laboratory, the Optical Imaging Laboratory, and the Multimodality Imaging Laboratory at Advanced Radiological Sciences Division, UT Southwestern Medical Center.
- Theoretical development, design, and implementation of a unique multi-camera 3D bioluminescence imaging system, currently in use for research at Cancer Imaging Center at UT Southwestern Medical Center.
- Theoretical development, design, and implementation of high sensitivity, low noise CCD cameras with internal electron multiplication with application in a novel dual modality Small Animal Bioluminescence and Single Photon Emission Tomography system.
- Theoretical development, design, and implementation of six degrees of freedom gantry control system for a Small Animal Positron Emission Tomography Scanner.

Industry Experience:

- Co – Founder and Scientific Director of IniCAD Soft SRL, Craiova, Romania, one of the first design and consulting companies in the country that used an entirely computerized work flow.
- Coordinated the Special Technologies Division, Electroputere S.A. Equipment: CNC machine-tools, high precision drilling/boring machines, Electrical Discharge Machining, Wire EDM, and Numerical Coordinate Measuring Machines.
- Design of tools and dies for molding, forming, and stamping, specialty cutting tools, and special devices for machine-tools.
- Coordinated the maintenance of hydraulic systems for machine tools: grinding machines, high precision coordinate drilling machines, metal cutting saws.

Journal Publications:

1. Taheri, B., Case, D., Richer, E., “Adaptive Tremor Suppression Control Algorithm for Upper Limb Wearable Orthosis” *accepted to IEEE/ASME Transactions on Mechatronics*.
2. Taheri, B., Case, D., Richer, E., “Force and Stiffness Backstepping-Sliding Mode Controller for Pneumatic Cylinders”, *IEEE/ASME Transactions on Mechatronics*. doi: 10.1109/TMECH.2013.2294970, Jan 2, 2014.
3. Taheri, B., Richer, E., “Robust Algorithm for Tremor Suppression at Musculoskeletal Level in Human Wrist”, *IEEE Transactions on Neural Systems & Rehabilitation Engineering*. doi: 10.1109/TNSRE.2013.2295034, December 13, 2013.
4. Karine Pozo, Emely Castro-Rivera, Chunfeng Tan, Florian Plattner, Gert Schwach, Veronika Siegl, Douglas Meyer, Ailan Guo, Justin Gundara, Gabriel Mettlach, Edmond Richer, Jonathan A. Guevara, Li Ning, Anjali Gupta, Guiyang Hao, Li-Huei Tsai, Xiankai Sun, Pietro Antich, Stanley Sidhu, Bruce G. Robinson, Herbert Chen, Fiemu E. Nwariaku, Roswitha Pfragner, James A. Richardson, James Bibb, “The Role of Cdk5 in Neuroendocrine Thyroid Cancer”, *Cancer cell* doi:10.1016/j.ccr.2013.08.027 (vol. 24 issue 4 pp.499 - 511)
5. Matthew A. Lewis, Edmond Richer, Nikolai V. Slavine, Vikram D. Kodibagkar, Todd C. Soesbe, Peter P. Antich, and Ralph P. Mason, “A Multi-camera System for Bioluminescence Tomography in Preclinical Oncology Research”, *Diagnostics*, no. 3, pp.325-343, 2013.
6. Taheri B., Richer E., "Equidistance Target-Following Controller for Underactuated Autonomous Underwater Vehicles," *International Journal of Intelligent Computing and Cybernetics*, vol. 6, issue 2, 2013.
7. Case, D., Taheri, B., Richer, E., “Dynamical Modeling and Experimental Study of a Small-Scale Magnetorheological Damper for Tremor Suppression,” *IEEE/ASME Transactions on Mechatronics*. doi: 10.1109/TMECH.2013.2265701, June 25, 2013.
8. Case, D., Taheri, B., and Richer, E., "Multiphysics Modeling of Magnetorheological Dampers," *International*

Journal of Multiphysics, vol 7, no. 1, pp. 61-76, 2013

9. David Case, Behzad Taheri, and Edmond Richer, "Design and Characterization of a Small-Scale Magnetorheological Damper for Biomedical Applications," *IEEE/ASME Transactions on Mechatronics*, vol.18, no.1, pp.96-103, Feb. 2013, doi: 10.1109/TMECH.2011.2151204.
10. T C Soesbe, M A Lewis, N V Slavine, E Richer, F J Bonte, P P Antich, "High-resolution photon counting using a lens-coupled EMCCD gamma camera," *IEEE Transactions on Nuclear Science*, Vol. 57, No.3, June 2010.
11. D A Meyer, E Richer, D , S A Benkovic, K Hayashi, J W Kansy, C Hale, L Moy, Y Kim, J P O'Callaghan, Li-Huei Tsai, P Greengard, A C Nairn, C W Cowan, D B Miller, Pietro Antich, and J A Bibb, "Striatal dysregulation of CDk5 alter locomotor response to cocaine, motor learning, and dendritic morphology", *Proceedings of the National Academy of Sciences of the United States of America (PNAS)*, vol. 105, no. 47, pp 18561-18566, November 25, 2008.
12. D Zhao, E Richer, P P Antich, and R P Mason, "Antivascular effects of combretastatin A4 phosphate in breast cancer xenograft assessed using dynamic bioluminescence imaging (BLI) and confirmed by magnetic resonance imaging (MRI)", *FASEB Journal*, Vol. 22, Issue 7, pp 2445-2451, July 2008.
13. Soesbe TC, Lewis MA, Richer E, Slavine NV, and Antich PP, "Development and Evaluation of an EMCCD based Gamma Camera for use in Preclinical SPECT Imaging", *IEEE Transactions on Nuclear Science*, 54 (5), pp. 1516-1524, Oct. 2007.
14. J A Karam, J Fan, J Stanfield, E Richer, E A Benaim, E Frenkel, P Antich, A I Sagalowsky, R P Mason, and J T Hsieh, "The use of histone deacetylase inhibitor FK228 and DNA hypomethylation agent 5-Azacytidine in human bladder cancer therapy", *International Journal of Cancer*, No. 120, pp 1795-1802, 2007.
15. Tsyganov, E, Anderson J, Arbique, G, Constantinescu, A, Jennewein, M, Kulkarni, P, Mason, R, McColl, R, Parkey, R, Richer, E, Rosch, F, Seliounine, S, Slavine, N, Srivastava, S, Thorpe, P, Zinchenko, and Antich, P, "UT SW Small Animal Positron Emission Imager", *IEEE Transactions on Nuclear Science*, 53(5 part 1), 2591-2600, 2006.
16. Slavine N, Lewis MA, Richer E, Antich P, "Iterative Reconstruction method for Light Emitting Sources based on the Diffusion Equation", *Medical Physics*, 33(1), pp.61-68, 2006.
17. Richer E, Lewis MA, Odvina CV, Vazquez MA, Smith BJ, Peterson RD, Poindexter JR, Antich PP, Pak CYC, "Reduction in normalized bone elasticity following long-term bisphosphonate treatment as measured by ultrasound critical angle reflectometry," *Osteoporosis International*, Vol. 16, No. 11, pp 1384-1392, Nov. 2005.
18. Dikmen ZG, Gellert G, Dogan P, Mason R, Antich PP, Richer E, Wright WE, Shay JW, "A New Diagnostic System in Cancer Research: Bioluminescent Imaging (BLI)", *Turk. J. Med. Sci.*, 35, 65-70 (2005).
19. Shimon P, Richer E, Hurmuzlu, Y: "Theoretical and experimental study of efficient control of vibrations in a clamped square plate," *Journal of Sound and Vibration*, 282 (1-2): 453-473, Apr. 2005.
20. Paroo Z, Bollinger RA, Braasch DA, Richer E, Corey DR, Antich PP, Mason RP, "Validating Bioluminescence Imaging as a High-throughput, Quantitative Modality for Assessing Tumor Burden", *Molecular Imaging*, Vol. 3, No. 2, pp 117 – 124, April 2004.
21. Mehta S, Antich P, Daptary M, Bronson DG, and Richer E, "Bone Material Ultrasound Velocity is predictive of Whole Bone Strenght", *Ultrasound in Medicine and Biology*, Vol.27, Issue 6, June 2001.
22. Richer E, Hurmuzlu Y, "A High Performance Pneumatic Force Actuator System Part I: Nonlinear Mathematical Model", *ASME Journal of Dynamic Systems, Measurement, and Control*, Vol.122, No. 3, Sept. 2000.
23. Richer E, Hurmuzlu Y, "A High Performance Pneumatic Force Actuator System Part II: Nonlinear Controller Design", *ASME Journal of Dynamic Systems, Measurement, and Control*, Vol.122, No. 3, Sept. 2000.

Books and Book Chapters:

1. A Contero, E Richer, A Condim, and R P Mason, "High throughput quantitative bioluminescence imaging for assessing tumor burden", *Bioluminescence Methods and Protocol Series, Methods in Molecular Biology*, Vol. 574, Rich, Preston B.; Douillet, Christelle (Eds.) 2nd ed., 2009; 574:37-45. PMID: 19685298
2. Richer E, Lewis MA, Smith B, Li X, Seliounine S, Mason RP, Antich PP, "Comparison of CsI(Tl) and Scintillating Plastic in a Multi-Pinhole/CCD-based Gamma Camera for Small Animal Low Energy SPECT." *Small-Animal SPECT Imaging*, Chapter 11, Springer Science Media Inc., 2005.
3. M A Lewis, G Arbiq, M Jennewein, PP Antich, E Richer, A Constantinescu, R Brekken, J Guild, R P Mason, "Projection and pinhole based data acquisition for small animal SPECT using storage phosphor technology, *Small-Animal SPECT Imaging*, Chapter 24, Springer Science Media Inc., 2005.
4. Dobre D., Rosca A., Mazilu D., Calbureanu M., and Richer E., (1996), "Strength of Materials – Problems solved using Finite Element Analysis", Computer Aided Design Series, Certi, Craiova, ISBN 973-96972-2-4.
5. Mazilu D., Richer E., Dobre D., Rosca A., (1995), "2D Design with AutoCAD Release 12", Computer Aided Design Series, Certi, Craiova, ISBN 973-96972-0-8.

Patents:

1. Antich PP, Pak CYC, Richer E, Lewis MA, Smith BJ, "Rapid and Accurate Detection of Bone Quality Using Ultrasound Critical Angle Reflectometry." U.S. 7611465. Filing date: Jul. 30, 2003. Issue date: Nov. 3, 2009.
2. Hurmuzlu Y, Antich PP, Richer E, Smith BJ, Dogru A, "Ultrasound Multiphase Fraction Meter and Method for Determining Phase Fraction in a Multiphase Fluid." US7954362 B2, Filing date: July 27, 2007. Issue date: June 7, 2011.
3. Hurmuzlu Y, Antich PP, Richer E, Smith BJ, Dogru A, "Ultrasound Multiphase Fraction Meter and Method for Determining Phase Fraction in a Multiphase Fluid." US8176796 B2, Filing date: July 1, 2010. Issue date: May 15, 2012
4. Hurmuzlu Y, Antich PP, Richer E, Smith BJ, Dogru A, "Ultrasound Multiphase Fraction Meter and Method for Determining Phase Fraction in a Multiphase Fluid." US8408049 B2, Filing date: July 1, 2010. Issue date: April 15, 2013
5. Hurmuzlu Y, Richer E, "Calibration tube for multiphase flowmeters." US20120210768 A1. Filing date: Feb. 22, 2011. Issue Date: Aug 23, 2012.
6. Hurmuzlu Y, Richer E, "Calibration tube for multiphase flowmeters." WO2012116002 A2 / WO2012116002 A3. Filing date: Feb. 22, 2012. Issue Date: Aug 30, 2012.
7. Hongwei Liang, Edmond Richer, Jeffrey D. Nielson "Intelligent Patching Systems Using Acoustic Control Signals and Related Equipment and Methods." Publication number: US20120281509 A1, Application number: U.S. 3/463, 923. Filing date: May 4, 2012. Publication date: Nov 8, 2012.
8. Adam Cohen, Paul Krueger, Edmond Richer," 3-D Polymer + Wire Printing: Additive Manufacturing of Active Devices using Dielectric, Conductive, and Magnetic Materials", March 2013.
9. Cohen A, Richer E, "Robotic Dishwasher", December 2013.

Talks:

1. Case, D., Taheri, B., Richer, E. (Presenter & Author), "A Lumped-Parameter Model for Dynamic MR Damper Control", 2013 ASME Conference of Dynamic Systems and Control, Invited. October 21.
2. Taheri, B., Case, D., Richer, E. (Presenter & Author), "Theoretical Development and Experimental Validation of an Adaptive Controller for Tremor Suppression at Musculoskeletal Level", 2013 ASME Conference of Dynamic Systems and Control, Invited. October 23, 2013.

3. George Alexandrakis and Dr. Edmond Richer, "Tomographic Bioluminescence Imaging", UT Metroplex Days, Optical Medical Imaging, UT Arlington, December 2006.
4. Edmond Richer, "*In vivo* comparison of Light Emission Tomography (LET) with MRI in a lung metastasis model", Proffered Talk, The Fifth Annual Meeting of The Society for Molecular Imaging, Aug, 2006, Hawaii, USA.
5. Edmond Richer, "Quantitative Light Emission Tomography (LET). New developments and comparison with other imaging techniques", Cancer Imaging Program, Spring Seminar Series, UT Southwestern Medical Center, Dallas, April, 2006.
6. Edmond Richer, "Reduction in Normalized Bone Elasticity Following Long-Term Bisphosphonate Treatment as Measured by Ultrasound Critical Angle Reflectometry", Bone Research Society, Dallas, Feb 2002.
7. Edmond Richer, "Optical imaging-finding good LUC", Cancer Imaging symposium, Dallas, Nov, 2002.
8. Edmond Richer, "Clinical UCR Device For Measurement Of Bone Elasticity", Radiological Sciences Seminar Series, UT Southwestern Medical Center, Dallas, Nov. 2001.
9. Edmond Richer, "New Imaging Systems", Radiological Sciences Seminar Series, UT Southwestern Medical Center, Dallas, March 2001.

Conference Papers, Presentations, Abstracts, and Other Selected Publications:

1. Behzad Taheri, David Case, and Edmond Richer, "Theoretical Development and Experimental Validation of an Adaptive Controller for Tremor Suppression at Musculoskeletal Level", Proceeding of the 2013 ASME Conference of Dynamic Systems and Control, Palo Alto, CA, October 21- 23, 2013.
2. David Case, Behzad Taheri and Edmond Richer, "A Lumped-Parameter Model for Dynamic MR Damper", 2013 ASME Conference of Dynamic Systems and Control, Proceeding of the 2013 ASME Conference of Dynamic Systems and Control, Palo Alto, CA, October 21- 23, 2013.
3. Julie P. Griffin, Paul M. Medin, and Edmond Richer, "Dose-Related Long Term Effects of Cervical Spine SRS on Ultrasound Propagation Velocity – Early Results on a Porcine Model", Proceeding of the 5th European Symposium on Ultrasonic Characterization of Bone, ESUCB 2013, 7-10 May 2013, Granada, Spain.
4. Behzad Taheri, David Case, and Edmond Richer, "Design Of Robust Nonlinear Force And Stiffness Controller For Pneumatic Actuators", Proceeding of the 51st IEEE Conference on Decision and Control, December 10-13, 2012 at the Grand Wailea, Maui, Hawaii.
5. Behzad Taheri, David Case, and Edmond Richer, "Design And Development Of A Human Arm Joint Simulator For Evaluation Of Active Assistive Devices Control Algorithms", Proceedings of the 5th Annual Dynamic Systems and Control Conference and 11th Motion and Vibration Conference, October 17 - 19, 2012, Fort Lauderdale, Florida.
6. Taheri B, Case D, Richer E, " Robust Tremor Attenuation For Single DOF Model Of Human Elbow Joint With Parametric Uncertainties," Proceedings of ASME 2011 International Mechanical Engineering Congress & Exposition, Denver, Colorado, Nov. 11-17, 2011.
7. Case D, Taheri B, Richer E, " Finite Element Modeling and Analysis of Magnetorheological Dampers," Proceedings of ASME 2011 International Mechanical Engineering Congress & Exposition, Denver, Colorado, Nov. 11-17, 2011.
8. Behzad Taheri, David Case, and Edmond Richer, "Active Tremor Estimation And Suppression In Human Elbow Joint", Proceedings of the 2011ASME Dynamic Systems and Control Conference, Oct.31 – Nov. 2, 2011, Arlington, VA.
9. Case D, Taheri B, Richer E. "Multiphysics Modeling of Magnetorheological Dampers," COMSOL

Conference 2011, Boston, Massachusetts, Oct. 13-15, 2011.

10. David Case, Behzad Taheri, and Edmond Richer, "Dynamic Magnetorheological Damper for Orthotic Tremor Suppression", HUIIC Mathematics & Engineering Conference, Hawaii University International Conferences, June 13 -15, 2011, Honolulu, Hawaii.
11. Julie E. Pollard, Jessica Steinmann-Hermsen, Paul M. Medin, and Edmond Richer, "The effect of Single-Dose Spinal SRS On Ultrasound Propagation Velocity In Porcine Vertebral Bone", HUIIC Mathematics & Engineering Conference, Hawaii University International Conferences, June 13 -15, 2011, Honolulu, Hawaii.
12. Taheri, B, Case, D, Richer, E, "Adaptive Identification and Tremor Suppression for Single DOF Model of Human Arm", 27th Southern Biomedical Engineering Conference", April 29 – May 1, 2011, Arlington, Texas.
13. Taheri, B and Richer, E, " Equidistance Tracking Nonlinear Controller for under Actuated Autonomous Underwater Vehicles", 3rd Annual Dynamic Systems and Control Conference, September 13-15, 2010, Marriott Boston Cambridge, Cambridge, Massachusetts.
14. Pollard JE, Medin PM, Boike T, and Richer E, "Reduction of Ultrasound Propagation Velocity in Porcine Vertebrae Following Stereotactic Radiosurgery", J. Acoust. Soc. Am. Volume 128, Issue 4, pp. 2363-2363 (October 2010).
15. Soesbe, T, Lewis, M, Slavine, N, Richer, E, Bonte, F, Antich, P, "High-resolution photon counting using a lens-coupled EMCCD gamma camera", J NUCL MED MEETING ABSTRACTS 2009 50: 414
16. Pollard JE, Richer E, "Detection of the Effects of Radiation on Porcine Vertebrae by Ultrasound," Research Day, Southern Methodist University, 2010.
17. N V Slavine, R W McColl, E Richer, R P Mason, and P P Antich, "An Automated 3D Image-Processing Strategy for Small Animal Bioluminescence Cancer Studies," The 6th Annual Biotechnology and Bioinformatics Symposium - BIOT 2008.
18. Felix Krainski, Jeff Hastings, Eric Pacini, Edmond Richer, Peter Snell, Dean Palmer, Joseph Zerwekh, Pietro Antich, Benjamin D. Levine, "Effects of a Comprehensive Exercise Training Regimen and KMgCit on Bone Elasticity as an Indicator of Bone Quality after 5 Weeks of Bedrest", Experimental Biology 2008, April 5-9, San Diego.
19. Slavine N, Soesbe T, Richer E, Lewis MA, Antich PP: Construction, calibration and evaluation of a tissue phantom with reproducible optical properties for investigations in light emission tomography. IEEE Engineering in Medicine and Biology Society Dallas Workshop, 11-12 November 2007, Dallas.
20. Lewis MA, Berry R, Liu P, Richer E, Antich PP, Johnson SG, Aktosun T, Torlak M: Advanced Acoustic Inverse Scattering and the Development of Breast Microcalcification Screening Methods. UT-DFW Initiative for Biological Sciences & Engineering UT Metroplex Days, 4 December 2006, UT-Arlington, 11 December 2006, UT-Dallas.
21. Lewis MA, Liu P, Richer E, Antich PP, Johnson SG, "Linear sampling methods for acoustic inverse scattering in breast microcalcification detection," Journal of the Acoustical Society of America 120:5 pt 2, pg. 3025, 1pBB8, 2006.
22. Lewis MA, Liu P, Richer E, Antich PP, Johnson SG: Linear sampling methods for acoustic inverse scattering in breast microcalcification detection. 4th Joint Meeting of the Acoustical Society of America (152nd Meeting) and the Acoustical Society of Japan, 28 November – 2 December 2006, Honolulu, Hawaii.
23. Soesbe TC, Lewis MA, Richer E, Kulkarni PV, Bonte FJ, Antich PP: High-resolution high-sensitivity small animal SPECT using an electron-multiplying CCD and multiple-pinhole collimation. SNM 53rd Annual Meeting, 3-7 June 2006, San Diego. In Journal of Nuclear Medicine 47:Supplement 1, No. 666, 232P-233P, 2006.
24. Edmond Richer, Nikolai Slavine, Vikram D. Kodibagkar, Dawen Zhao, Matthew A. Lewis, Ralph P. Mason, and Peter P. Antich, "In vivo comparison of Light Emission Tomography (LET) with MRI in a lung

- metastasis model”, The Fifth Annual Meeting of The Society for Molecular Imaging, Aug, 2006, Hawaii, USA.
25. Dawen Zhao, Edmond Richer, Li Liu, Jerry W. Shay, Peter P. Antich and Ralph P. Mason, “Antivascular effects of combretastatin A4 phosphate in breast cancer xenograft: comparison of MRI and bioluminescence imaging (BLI) analysis”, The Fifth Annual Meeting of The Society for Molecular Imaging, Aug, 2006, Hawaii, USA.
 26. Zhao,D., Richer, E., Liu, Li., Ya Ren, Slavine, N., Shay, J. W., Antich, P. P., Mason, R. P., “ *In vivo* monitoring of antivascular effects of combretastatin A4 phosphate in a breast cancer xenograft model”, 97th AACR, Washington, DC, Apr 2006.
 27. Lewis M A, Slavine NV, Soesbe T, Richer E, Antich PP: Scatter Correction for Low-Energy Small Animal SPECT using Optical Surface Topography in a Dual Modality Imaging System. 2nd Biannual Workshop on Small-Animal SPECT Imaging, 8-10 March 2006, Tucson, Arizona.
 28. Zhao,D., Harper, A., Richer, E., Liu, Li., Slavine, N., Shay, J. W., Antich, P. P., Mason, R. P. , “Novel application of bioluminescent imaging: Interrogating acute effects of the vascular targeting agent combretastatin”, 9th International Workshop on The Tumor Microenvironment, Oxford, England, Aug 2005.
 29. Lewis M A, Richer E, Antich PP: Integrated Motion Control and Data Acquisition for Ultrasound Critical-Angle Reflectometry Using NI LabVIEW State Diagram Toolkit. NIWeek 2005, 16-18 August 2005, Austin, Texas.
 30. Antich PP, Lewis MA, Richer E, Slavine N, Zhao D, Soesbe T, Li X, Constantinescu A, Mason RP: A Dual Modality Optical/SPECT Imaging System for Murine Models of Human Breast Cancer. Fourth DoD BCRP Era of Hope Meeting, 8-11 June 2005, Philadelphia, Pennsylvania.
 31. Antich P, Lewis MA, Richer E: Bone Mechanical Quality Measured by Ultrasound Critical Angle Reflectometry. NIAMS/ASBMR/INSERM/NIBIB Workshop on Bone Quality: What Is It and Can We Measure It? 2-3 May 2005, Bethesda, Maryland.
 32. Richer E, Lewis M, Odvina CV, Vazquez MA, Smith BJ, Peterson RD, Poindexter JR, Antich PP, Pak CYC: Reduction in Normalized Bone Elasticity Following Long-Term Bisphosphonate Treatment and Renal Transplantation as Measured by Ultrasound Critical Angle Reflectometry. Fifth European Congress on Clinical and Economic Aspects of Osteoporosis and Osteoarthritis, 16-19 March, 2005, Rome, Italy.
 33. Li X, Xia M, Richer E, Lewis M, Smith B, Adam A, Mason R, Liu H, Antich PP: Optical Imaging Phantom Study for Quantitative Imaging Correction and Physiological Parameter Detection in vivo. The University of Texas System Molecular Medicine Symposium, 21-22 February 2005, Houston.
 34. Soesbe TC, Lewis M A, Richer E, Antich PP: Development of a Multi-Pinhole CCD Based SPECT Detector for High-Resolution and High-Sensitivity Imaging in Murine Models of Human Disease. The University of Texas System Molecular Medicine Symposium, 21-22 February 2005, Houston.
 35. Antich PP, Lewis M A, Richer E, Smith B: Ultrasound Critical-Angle Reflectometry: Measuring Velocities in Hard and Soft Anisotropic Tissues. Third International Conference on the Ultrasonic Measurement and Imaging of Tissue Elasticity, 17-20 October, 2004, Lake Windermere, Cumbria, UK.
 36. Richer E, Slavine N, Lewis MA, Tsyganov E, Gellert GC, Dikmen ZG, Bhagwandin V, Shay JW, Mason RP, Antich PP: Three Dimensional Light Emission Tomography using Multiple Rotating CCD Cameras. Third Annual Meeting of The Society for Molecular Imaging, 9-12 September, 2004, St. Louis.
 37. E Richer, M Lewis, CV Odvina, MA Vasquez, CYC Pak, PP Antich, “Impaired Bone Quality in Bisphosphonate Treatment and Renal Transplantation by Ultrasound Critical Angle Reflectometry (UCR)”, Journal of Bone and Mineral Research, Vol. 18, Suppl. 2, pp S207, Sept. 2003.
 38. PP Antich, M A Lewis, E Richer, B Smith: In Vivo Assessment of Bone Quality in the Clinic with a Second Generation Ultrasound Critical-Angle Reflectometer, IBMS-JSMBR 2003, Osaka, Japan. In Bone 32:5

Suppl., S184, May 2003.

39. PP Antich, M A Lewis, E Richer, PV Kulkarni, B Smith, R P Mason: A Novel Multi-Pinhole/CCD-Coupled CsI(Tl) Crystal Gamma Camera For Fully 3D μ SPECT/ μ CT Small-Animal Imaging. SNM 2003, New Orleans. In Journal of Nuclear Medicine 44:5 (Supplement), No. 523, 161P, 2003
40. Tsyganov E, Buzulutskov A, Antich PP, Moore J, Parkey R, Richer E, Seliounine S, Slavine N, Nguyen T: Triple GEM structure for medical imaging, Proceedings of the Nuclear Science Symposium and Medical Imaging Conference, Nov. 2002.
41. Mehta S, Antich P, Richer E, Daptary M, Lewis M A, "Bone Elastometric Measurements by Ultrasound Elastometry: Observations On Physiology And Functional Organization Of Bone", Proceedings of the 2000 ASME International Mechanical Engineering Congress and Exposition, Nov. 2000.
42. Stoianovici D, Richer E, Ephanov A and Hurmuzlu Y, "Achieving a Massless Haptic Interface", in Proceedings of the ASME Dynamic Systems and control Division, 1997, DSC-Vol. 61, pp. 123-130.
43. Ciolacu F, Richer E: Determination of tribological properties of a synthetic cutting fluid. Yugoslav Congress of Theoretical and Applied Mechanics, Nis, 1994.
44. Zamfirache M, Richer E, "Recherches concernant la temperature de taille a la travail au tour de l'acier E35NC016," Annals of University of Craiova, Craiova, 1993.
45. Ciolacu F, Richer E and Tarpe G, "Researches on the influence of a new type of cutting fluid on the machinability of stainless steels," Proceedings of the International Conference in Mechanical Engineering, Pitesti, Romania, 1992.
46. Tarita D, Richer E, Tarpe G, "Some aspects concerning cemented carbide tools wear at austenitic stainless steel turning," Proceedings of the International Conference in Mechanical Engineering, Pitesti, Romania, 1992.