LIST OF PUBLICATIONS

Peer-reviewed journal articles

1. Williams R., Cherin E., Tavakkoli J., Zemp R.J., Foster F.S. (2005) *Nonlinear ultrasound propagation through layered liquid and tissue-equivalent media.* IEEE Trans. Ultrason., Ferroelect., Freq. Contr. (Submitted).
2. Paterson R.F., Barret E., Siqueira T.M., Tavakkoli J., Rao V.V., Sanghvi N.T., Cheng L., Shalhav A.L. (2003) *Laparoscopic partial kidney ablation with high-intensity focused ultrasound.* J. Urology, 169:347-351.
3. Zemp R.J., Tavakkoli J., Cobbold R.S.C. (2003) *Modeling of nonlinear ultrasound propagation in tissue from array transducers*. J. Acoust. Soc. Am., 113:139-152.
4. Sushilov N., Tavakkoli J., Cobbold R.S.C. (2002) *Propagation of limited-diffraction X-waves in dissipative media*. IEEE Trans. Ultrason., Ferroelect., Freq. Contr., 49:675-682.
5. Sushilov N.V., Tavakkoli J., Cobbold R.S.C. (2001) *New X-wave solutions of free-space scalar wave equation and their finite size realization.* IEEE Trans. Ultrason., Ferroelect., Freq. Contr., 48:274-284.
6. Khokhlova V.A., Souchon R., Tavakkoli J., Sapozhnikov O.A., Cathignol D. (2001) *Numerical modeling of finite amplitude sound beams: shock formation in the nearfield of a CW plane piston source.* J. Acoust. Soc. Am., 110:95-108.
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10. Tavakkoli J., Cathignol D., Souchon R., Sapozhnikov O.A. (1998) *Modeling of pulsed finite-amplitude focused sound beams in time domain.* J. Acoust. Soc. Am., 104:2061-2072.
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13. Tavakkoli J., Birer A., Arefiev A., Prat F., Chapelon J.Y., Cathignol D. (1997) *A piezocomposite shock-wave generator with electronic focusing capability: application for producing cavitation-induced lesions in rabbit liver.* Ultrasound Med. Biol., 23:107-115.
14. Tavakkoli J., Birer A., Cathignol D. (1996) *Development of a PVDF low-cost shock-wave hydrophone.* Shock Waves, 5:369-374.

Conference papers and presentations

1. Williams R., Cherin E., Tavakkoli J., Zemp R.J., Foster F.S., *Nonlinear Ultrasound Propagation through Layered Liquid and Tissue-Equivalent Media.* Imaging Network Ontario, 4'th Imaging Symposium, 1-3 March 2005, Toronto, Ontario, Canada.
2. Williams R., Cherin E., Tavakkoli J., Zemp R.J., Foster F.S., *Theoretical and Experimental High-Frequency Nonlinear Ultrasound Propagation through Multilayered Media.* 2004 IEEE International UFFC Symposium, 24-27 August 2004, Montreal, Canada (Published in the Proceedings).
3. Tavakkoli J., Mehta A., Miller C., Seip R., Sanghvi N.T., Cheng L., Gardner T.A., Shalhav A.L., *A Laparoscopic HIFU Probe with Integrated Phased Array Ultrasound Imaging.* 3'rd International Symposium on Therapeutic Ultrasound, 22–25 June 2003, Lyon, France, Conference Proceedings, 417-422.

4. Seip R., Chen W., Tavakkoli J., Frizzell L., Sanghvi N.T., *High-Intensity Focused Ultrasound (HIFU) Phased Arrays: Recent Developments in Transrectal Transducers and Driving Electronics Design.* 3'rd International Symposium on Therapeutic Ultrasound, 22–25 June 2003, Lyon, France, Conference Proceedings, 423-428.
5. Bailey M.R., Reed J., Anand A., Kaczkowski P., Kreider W., Vaezy S., Crum L.A., Seip R., Tavakkoli J., Sanghvi N.T., *Cavitation Detection and Suppression in HIFU.* 3'rd International Symposium on Therapeutic Ultrasound, 22–25 June 2003, Lyon, France, Conference Proceedings, 43-48.
6. Wunderlich A., Seip R., Tavakkoli J., Sanghvi N.T., Dines K.A., *High intensity focused ultrasound (HIFU) treatment evaluation based on statistical decision theory.* 2003 AIUM Annual Meeting, June 1-4, 2003, Montreal, Quebec, Canada.
7. Sanghvi N.T., Wunderlich A., Seip R., Tavakkoli J., Dines K.A., Baily M., Crum L., *Detection theory applied to high intensity focused ultrasound (HIFU) treatment evaluation.* The 145th ASA Meeting, 28 April-2 May 2003, Nashville, TN, J. Acoust. Soc. Am., Vol. 113, No. 4, Pt. 2, April 2003, pp. 2308 (Invited Paper).
8. Tavakkoli J., Rao V.V., Seip R., Paterson R.F., Barret E., Cheng L., Shalhav A.L., Sanghvi N.T., *Laparoscopic high intensity focused ultrasound: application to kidney ablation.* 2'nd International Symposium on Therapeutic Ultrasound, 29 July-1 August 2002, Seattle, Conference Proceedings, 202-210.
9. Seip R., Tavakkoli J., Wunderlich A., Sanghvi N.T., Dines K.A., Crum L.A., *Real-time detection of multiple lesions during high intensity focused ultrasound (HIFU) treatments.* 2'nd International Symposium on Therapeutic Ultrasound, 29 July-1 August 2002, Seattle, WA, Conference Proceedings, 168-175.
10. Seip R., Tavakkoli J., Carlson R.F., Wunderlich A., Sanghvi N.T., Dines K.A., Gardner T.A., *High-intensity focused ultrasound (HIFU) multiple lesion imaging: comparison of detection algorithms for real-time treatment control.* 2002 IEEE International Ultrasonics Symposium, October 8-11, 2002, Munich, Germany, Conference Proceedings, 1395-1398.
11. Zemp R.J., Tavakkoli J., Cobbold R.S.C., *Modeling finite amplitude ultrasound beams in tissue from array transducers and application to tissue harmonic imaging.* 2002 IEEE International Ultrasonics Symposium, October 8-11, 2002, Munich, Germany, Conference Proceedings, 1698-1701.
12. Seip R., Sanghvi N.T., Carlson R.F., Tavakkoli J., Dines K.A., Gardner T.A., Uchida T., *Sonablate® 500: a novel platform for transrectal image-guided HIFU treatment of localized prostate cancer.* 32nd Annual UIA Symposium, Oct. 21-22, 2002, New York, NY.
13. Sanghvi N.T., Wunderlich A., Tavakkoli J., Seip R., Crum L.A., Dines K.A., *Quantitative imaging during tissue treatment using high intensity focused ultrasound.* 46th AIUM Annual Convention: Official Proceedings, March 10-13, 2002, Nashville, TN, J. Ultrasound Medicine, Vol. 21, No. 3 (Supplement), March 2002, S:42-S:43.
14. Paterson R.F., Shalhav A.L., Lingeman J.E., Sanghvi N.T., Tavakkoli J., Rao V.V., *Laparoscopic partial kidney ablation with high-intensity focused ultrasound.* AUA Annual Meeting, May 25-30 2002, Orlando, FL, J. of Urology, Vol. 167, No. 4, Supplement, April 2002, pp. 2-3.
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17. Sanghvi N.T., Carlson R.F., Seip R., Tavakkoli J., Dines K.A., Gardner T.A., Uchida T., *Sonablate® 500: A novel ultrasound platform for transrectal image-guided treatment of prostate*

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18. Paterson R.F., Shalhav A.L., Tavakkoli J., Rao V.V., Sanghvi N.T., *Laparoscopic high intensity focused ultrasound for partial renal ablation.* 10th Int. Congress and Endo Expo, Society of Laparoendoscopic Surgeons Annual Meeting, Dec. 5-8 2001, New York City, NY (Best Paper Award).
19. Shalhav A.L., Paterson R.F., Barret E., Cheng L., Gardner T.A., Rao V.V., Tavakkoli J., Sanghvi N.T., Lingeman J.E., *Laparoscopically delivered HIFU for partial renal ablation.* 19th World Congress on Endourology and Shockwave, Nov. 14-17 2001, Bangkok, Thailand.
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23. Lui E., Lim B., Tavakkoli J., Cobbold R.S.C., *On the packing of Red blood cells.* The Canadian Medical and Biological Engineering Society Conference: Proceedings; 24-26 June 1999, London, Canada, 30-31.
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- Ph.D. thesis: *Study of intensive focused ultrasonic pulse propagation in biological media: application to shock wave-induced tissue destruction in vitro and in vivo* (written in two separate versions: English and French). University of Lyon-1 and the laboratory of INSERM-U556, Lyon, France, April 1997.
- M.A.Sc. thesis: *Study of Speckle noise in ultrasound B-mode images and development of two different nonlinear adaptive digital filters used for its suppression.* Dept. of Electrical Eng., Sharif University of Technology, Tehran, Iran, Jan. 1992.

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- Tavakkoli J., Biswas M., Mehta A., Seip R., Sanghvi N.T., *Sonablate® 500-BPH: Benign Prostatic Hyperplasia HIFU Treatment Device,* FDA PMA Application, Focus Surgery Inc., Indianapolis, IN, Nov. 2002.
- Tavakkoli J., Rao V.V., Carlson R.F., Sanghvi N.T., *Sonablate® 500-PC: Prostate Cancer HIFU Treatment Device,* FDA IDE Application, Focus Surgery Inc., Indianapolis, IN, Jan. 2002.
- Tavakkoli J., *Sonablate® 500 Imaging Probe: Acoustic Output Measurement Report,* FDA 510(k) Clearance, Focus Surgery Inc., Indianapolis, IN, Nov. 2001.
- Carlson R.F., Tavakkoli J., Dines K.A., *Sonablate® 500 software technical manual, Version 1.0,* Focus Surgery Inc., Indianapolis, IN, April 2001.
- Tavakkoli J., Wunderlich A., Seip R., Sanghvi N.T., Crum L.A., Kaczkowski P., O'Donnell M., *Quantitative imaging and treatment with focused ultrasound.* NIH SBIR Phase-I Final Report, Focus Surgery Inc., Indianapolis, IN, March 2000.