CURRICULUM VITAE

Salavat R. Aglyamov

Department of Mechanical Engineering
The University of Houston
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RESEARCH INTERESTS

Elastography; Biomedical imaging; Biomechanics of soft tissues; Ultrasound; Photoacoustics; Viscoelasticity; Contrast agents; Microbubbles; Nanoparticles; OCT; Laser tissue interaction

EDUCATION / DEGREES

1999 Ph.D., Biophysics, Institute of Theoretical and Experimental Biophysics, Pushchino, Russia
Thesis: "*The reconstruction of visco-elastic properties of soft tissues using the local dynamic loading*."

1993 M.S., Applied Mathematics, Moscow State University, Russia

1991 B.S., Applied Mathematics, Moscow State University, Russia

PROFESSIONAL APPOINTMENTS

2017-present **Research Assistant Professor**, Department of Mechanical Engineering, University of Houston, Texas, USA

2012-present **Research Scientist**, Center for Emerging Imaging Technologies, University of Texas at Austin, Austin, Texas, USA

2005-2015 **Research Associate**, Ultrasound Imaging and Therapeutics Research Laboratory, Biomedical Engineering Department, University of Texas at Austin, Austin, Texas, USA

2002-2005 **Research Fellow**, Ultrasound Imaging and Therapeutics Research Laboratory, Biomedical Engineering Department, University of Texas at Austin, Austin, Texas, USA

2001-2002 **Research Fellow**, Biomedical Ultrasound Laboratory, Biomedical Engineering Department, University of Michigan, Ann-Arbor, Michigan, USA

1993-2000 **Research Assistant**, Laboratory of Mechanical Problems of Biology, Institute of Mathematical Problems of Biology, Russia Academy of Sciences, Pushchino, Russia

JOURNAL REVIEWER

IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control
Physics in Medicine and Biology
IEEE Transactions on Medical Imaging
Ultrasound in Medicine and Biology
Journal of the Acoustical Society of America

Journal of Biomedical Optics
Journal of the Optical Society of America A
Annals of Biomedical Engineering
Computers in Biology and Medicine
Journal of Sound and Vibration
Wave Motion
Journal of Ultrasound in Medicine
International Journal for Numerical Methods in Biomedical Engineering
Journal of Biomechanics
Journal of Innovative Optical Health Sciences

ASSOCIATE EDITOR

Medical Physics

HONORS

Robert Havemann Scholarship (Germany), 1999

PROFESSIONAL SOCIETIES

Member of Institute of Electrical and Electronics Engineers (IEEE)
Member of Association for Research in Vision and Ophthalmology (ARVO)
Member of International Society for Optical Engineering (SPIE)

INDUSTRIAL CONSULTING

2004 – 2016: Artann Laboratories
2005 – 2010: WinProbe Corporation
2012 – 2013: Sound Surgical Technologies
2013 – 2017: Sperion Medical Devices
2016 – 2017: NanoHybrids

PH.D. DISSERTATION COMMITTEES

Biomedical Engineering Department, the University of Texas at Austin

2004-2007	Shriram Sethuraman
2005-2008	Jignesh Shah
2005-2008	Suhyun Park
2008-2009	Srivalleesha Mallidi
2009-2011	Bo Wang
2011-2012	Mohammad Mehrmohammadi
2011-2012	Sangpil Yoon
2015-2016	Robin Hartman

GRANT REVIEWER/SERVICE ON STUDY SECTIONS

Member of the National Eye Institute Special Emphasis Panel, NEI Clinical and Epidemiology Grant Applications II, ZEY1 VSN (06), NIH, June, 2015.

Member of the Discovery Award peer review panel of the FY15 Peer Reviewed Medical Research Program for the Department of Defense Congressionally Directed Medical Research Programs, September, 2015.

Online Reviewer, FY16 Medical Research Program for the Department of Defense, Hydrocephalus peer review panel, July 2016.

Online Reviewer, FY16 Medical Research Program for the Department of Defense, Rheumatoid Arthritis peer review panel, July 2016.

Teleconference Reviewer, FY16 Medical Research Program for the Department of Defense, Autoimmune Diseases peer review panel, December 2016.

Mail Reviewer, the Swiss National Science Foundation, January 2017.

Mail Reviewer, the National Eye Institute Special Emphasis Panel, Ocular Surface, Cornea, Anterior Segment Glaucoma and Refractive Error, ZRG1 BDCN-J (81), February, 2017.

RESEARCH SUPPORT

Ongoing Research Support

2R01EY022362 Aglyamov (PI), Larin (PI), Twa (PI) 06/01/2016 – 05/31/2020
NIH/NEI
Total Award: $ 1,755,904
Optical Coherence Elastography of the Cornea
The objective of this proposal is to develop novel tools and techniques to non-invasively resolve spatial biomechanical properties of the cornea using a combination of focused air-pressure induced mechanical wave stimulation and ultra-high resolution wave propagation detection via Phase-Sensitive Swept Source Optical Coherence Tomography.
Role: PI

1R21NS090336 Aglyamov (PI) 02/01/2015 – 01/31/2018
NIH/NINDS
Total Award: $427,344
Assessment of cerebrospinal fluid flow
The overall goal of the project is to develop a safe, cost-effective method for diagnosing shunt malfunctions using contrast-enhanced real-time ultrasound-based imaging of CSF flow.
Role: PI

Completed Research Support

1R01EY022362 Aglyamov (PI), Larin (PI) 06/01/2012 – 05/31/2016
NIH/NEI
Total Award: $ 1,230,135
Optical Coherence Elastography of the Cornea
The objective of this proposal is to develop novel tools and techniques to non-invasively resolve spatial biomechanical properties of the cornea using a combination of focused air-pressure induced mechanical wave stimulation and ultra-high resolution wave propagation detection via Phase-Sensitive Swept Source Optical Coherence Tomography.
Role: PI

1 R01 EY084076 Emelianov (PI) 08/01/2007 - 07/31/2012
NIH/NEI
Total Award: $1,631,298
Elasticity Imaging and Sensing using Gas Bubble Dynamics
The overall goal of this project is to understand the gas bubble dynamics in viscoelastic medium and to develop an imaging technology to assess tissue mechanical properties based on gas bubble dynamics.
Role: Co-I

1 R44 HL091609 Scott (PI) 03/17/2008 – 05/31/2010
NIH/NHLBI
Total Award: $ 1,199,292
Integrated Multifunctional Imaging of Deep Vein Thrombosis
The overall goal of this project is to develop, test and commercialize a real-time ultrasonic, photoacoustic and strain (elasticity) imaging system to detect and differentiate deep vein thrombosis.
Role: Co-I

DAMD17-02-1-0097 Emelianov (PI) 01/01/2005 - 12/31/2008
Army, Idea Award
Total Award: $225,000 (Direct Cost)
Prostate Carcinoma Detection Using Combined Ultrasound, Elasticity and Tissue Strain-Hardening Imaging
The goal of this project was to develop an ultrasound based technique for prostate cancer imaging, biopsy guidance and therapy monitoring.
Role: Co-I

R01 HL68658 Rubin(PI) 08/01/2002 - 06/30/2006
NIH/NIHLB (subcontract from the University of Michigan)
Total Award: $1,359,105
Aging Venous Thrombosis using Ultrasound Elasticity Imaging
The goal of this project was detection and aging deep vein thrombosis using combined ultrasound and elasticity imaging.
Role: Co-I

PUBLICATIONS

Peer Reviewed Publications:

Journal publications:

Skovoroda AR, **Aglyamov SR**, "Reconstruction of the elastic properties of biological soft tissues on exposure to low frequency perturbation", Biophysics, Pergamon, v. 40, N 6, 1995, p. 1353-1358.

Skovoroda AR, **Aglyamov SR**, "Reconstruction of the elastic properties of viscoelastic layer using impedance measurements", Mathematical modeling, 1997, 9(8), p. 119-127. (in Russian)

Skovoroda AR, **Aglyamov SR**, "Determination of mechanical properties of multilayer viscoelastic media based on impedance measurements", Biophysics, Pergamon, 1998, 43(2), p. 327-332.

Aglyamov SR "The reconstruction of visco-elastic properties of soft tissues using the local dynamic loading" Ph.D. thesis, Pushchino, 1999.

Aglyamov SR, Skovoroda AR, "Mechanical properties of soft biological tissues", Biophysics, Pergamon, 2000, 45(6), pp. 1103-1111.

Aglyamov SR, Skovoroda AR, "Diagnosis of Nonuniform Distribution of the Viscoelastic Properties of Soft Biological Tissues under Low-Frequency Influence", Biophysics, Pergamon, 2002, 47(3), pp. 519-524.

Rubin JM, **Aglyamov SR,** Wakefield TW, O'Donnell M, Emelianov, SY, "Clinical Application of Sonographic Elasticity Imaging for Aging of Deep Venous Thrombosis". J. Ultrasound Med. 22, pp. 443–448, 2003.

Xie H, Kim K, **Aglyamov SR**, Emelianov SY, Chen X, O'Donnell M, Weitzel WF, Wrobleski, SK, Myers DD, Wakefield TW, Rubin JM, "Staging deep venous thrombosis using ultrasound elasticity imaging: animal model," Ultrasound in Medicine and Biology 30(10), 1385-1396, 2004.

Aglyamov SR, Skovoroda AR, Rubin JM, O'Donnell M and Emelianov SY, "Model Based Reconstructive Elasticity Imaging of Deep Venous Thrombosis ", IEEE Trans. Ultrason., Ferroelect., and Freq. Contr, 51(5) : 521-531, 2004.

Xie H, Kim K, **Aglyamov SR**, Emelianov SY, Chen X, O'Donnell M, Weitzel WF, Wrobleski SK, Myers DD, Wakefield TW, Rubin JM, "Correspondence of ultrasound elasticity imaging to direct mechanical measurement in aging DVT in rats ," Ultrasound in Medicine and Biology, Vol. 31(10), pp.1351:1359, 2005.

Rubin JM, Xie H, Kim K, Weitzel WF, Emelianov SY, **Aglyamov SR**, Wakefield TW, Urquhart AG, O'Donnell M, "Sonographic elasticity imaging of acute and chronic deep venous thrombosis in humans," Journal of Ultrasound in Medicine, Vol. 25(9), pp.1179:1186, 2006.

Sethuraman S, **Aglyamov SR**, Amirian J, Smalling R, Emelianov SY, "Intravascular photoacoustic imaging using an IVUS imaging catheter," IEEE Trans. Ultrason., Ferroelect., and Freq. Contr, 54(5): 978-986, 2007.

Park S, **Aglyamov SR,** Scott WG, and Emelianov SY, "Strain imaging using conventional and ultrafast ultrasound imaging: Numerical analysis," IEEE Trans. Ultrason., Ferroelect. Freq. Cont., 54(5): 987-995, 2007.

Aglyamov SR, Skovoroda AR, Hua Xie, Kim K, Rubin JM, O'Donnell M, Wakefield TW, Myers D, Emelianov SY, "Model-Based Reconstructive Elasticity Imaging Using Ultrasound," International Journal of Biomedical Imaging, vol. 2007, Article ID 35830, 11 pages, 2007.

Aglyamov SR, Karpiouk AB, Ilinskii YA, Zabolotskaya EA, Emelianov SY, "Motion of a solid sphere in a viscoelastic medium in response to applied acoustic radiation force: Theoretical analysis and experimental verification," J. Acoust. Soc. Am., 122**(**4): 1927-1936, 2007.

Park S, **Aglyamov SR,** and Emelianov SY, "Elasticity Imaging using Conventional and High Frame Rate Ultrasound Imaging: Experimental Study," IEEE Trans. Ultrason., Ferroelect. Freq. Cont., 54(11): 2246-2256, 2007.

Sethuraman S, **Aglyamov SR**, Smalling R, Emelianov SY, "Remote temperature estimation in intravascular photoacoustic imaging," Ultrasound in Med. & Biol. 34(2): 299-308, 2008.

Shah J, **Aglyamov SR**, Sokolov K, Milner TE, Emelianov SY, "Ultrasound imaging to monitor photothermal therapy - feasibility study," Optics Express **16(6)**: 3776-3785, 2008.

Karpiouk AB, **Aglyamov SR**, Bourgeois F, Ben-Yakar A, and Emelianov SY, "Quantitative ultrasound method to detect and monitor laser-induced cavitation bubbles," Journal of Biomedical Optics, 13(3), 034011, 2008.

Karpiouk AB, **Aglyamov SR**, Mallidi S, Shah J, Scott WG, Rubin J, and Emelianov SY, "Combined ultrasound and photoacoustic imaging to detect and stage deep vein thrombosis: phantom and ex vivo studies," Journal of Biomedical Optics, 13(5), 054061, 2008.

Aglyamov SR, Karpiouk AB, Bourgeois F, Ben-Yakar A, and Emelianov SY, "Ultrasound measurements of cavitation bubble radius for femtosecond laser-induced breakdown in water," Optics Letters, 33(12), 1357-1359, 2008.

Park S, Karpiouk AB, **Aglyamov SR**, and Emelianov SY, "Adaptive beamforming for photoacoustic imaging," Optics Letters, vol. 33(12), 1291-1293, 2008.

Shah J, Park S, **Aglyamov S**, Larson T, Ma L, Sokolov K, Johnston K, Milner T, and Emelianov SY, "Photoacoustic imaging and temperature measurement for photothermal cancer therapy," Journal of Biomedical Optics, 13(3), 034024, 2008.

Karpiouk AB, **Aglyamov SR**, Ilinskii YA, Zabolotskaya EA, and Emelianov SY, "Assessment of shear modulus of tissue using ultrasound radiation force acting on a spherical acoustic inhomogeneity," IEEE Trans. Ultrason., Ferroelect. Freq. Cont., 56(11), 2380-2387, 2009.

Manapuram RK, Baranov SA, Manne VGR, Sudheendran N, Mashiatulla M, **Aglyamov S**, Emelianov S and Larin KV, "Assessment of wave propagation on surfaces of crystalline lens with phase sensitive optical coherence tomography," Laser Physics Letters, 8(2), 164–168, 2011.

Kim S, **Aglyamov SR**, Park S, O'Donnell M and Emelianov SY, "An autocorrelation-based method for improvement of sub-pixel displacement estimation in ultrasound strain imaging," IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 58(4), 838-843, 2011.

Sarvazyan A, Hall T, Urban M, Fatemi M, **Aglyamov S**, Garra B, "An overview of elastography – an emerging branch of medical imaging, " Curr. Med. Imaging. Rev., 7(4), 255-282, 2011.

Yoon S, **Aglyamov SR**, Karpiouk AB, Kim S, Emelianov SY, "Estimation of mechanical properties of a viscoelastic medium using a laser-induced microbubble interrogated by an acoustic radiation force," J. Acoust. Soc. Am., 130 (4), 2011.

Chen Y-C, Frey W, **Aglyamov S**, and Emelianov S, "Environment-dependent generation of photoacoustic waves from plasmonic nanoparticles," Small, 8(1), 47-52, 2012.

Aglyamov SR, Karpiouk AB, Mehrmohammadi M, Yoon S, Kim S, and Emelianov SY, "Elasticity imaging and sensing using targeted motion: from macro to nano," Curr. Med. Imaging. Rev., 8(1), 3-15, 2012.

Yoon S, **Aglyamov S**, Karpiouk A, and Emelianov S, "High pulse repetition frequency ultrasound system for *ex vivo* measurement of mechanical properties of crystalline lenses with laser-induced microbubbles interrogated by acoustic radiation force," Physics in Medicine and Biology, 57, 4871–4884, 2012.

Manapuram RK, **Aglyamov S**, Menodiado FM, Mashiatulla M, Wang S, Baranov SA, Li J, Emelianov S, and Larin KV, "Estimation of shear wave velocity in gelatin phantoms utilizing PhS-SSOCT," Laser Physics, 22(9), 1439–1444, 2012.

Manapuram RK, **Aglyamov SR**, Menodiado FM, Mashiatulla M, Li J, Emelianov SY, and Larin KV, "In vivo estimation of elastic wave parameters using phase-stabilized swept source optical coherence elastography," Journal of Biomedical Optics 17(10), 100501, 2012.

Yoon S, **Aglyamov SR**, Karpiouk AB, Emelianov SY, "The mechanical properties of ex vivo bovine and porcine crystalline lenses: age-related changes and location-dependent variations," Ultrasound in Medicine and Biology, 39(6), 1120-1127, 2013.

Wang S, Larin KV, Li J, Vantipalli S, Manapuram RK, **Aglyamov S**, Emelianov S and Twa MD, "A focused air-pulse system for optical-coherence-tomography-based measurements of tissue elasticity," Laser Physics Letters, 10(7), 075605, 2013.

Chen Y-C, Frey W, Walker C, **Aglyamov S**, and Emelianov S, "Sensitivity enhanced nanothermal sensors for photoacoustic temperature mapping," J. Biophotonics, 6(6-7), 534–542, 2013.

Li J, Wang S, Manapuram RK, Singh M, Menodiado FM, **Aglyamov S**, Emelianov S, Twa MD, Larin KV. Dynamic optical coherence tomography measurements of elastic wave propagation in tissue-mimicking phantoms and mouse cornea *in vivo*. Journal of Biomedical Optics, 18(12), 121503, 2013.

Yoon S, **Aglyamov S**, Karpiouk A, Emelianov S, "Local variations of viscoelastic properties of porcine vitreous humors," IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 60(11): 2453-2460, 2013.

Wang S, **Aglyamov S**, Karpiouk A, Li J, Emelianov S, Manns F, Larin KV, "Assessing the mechanical properties of tissue-mimicking phantoms at different depths as an approach to measure biomechanical gradient of crystalline lens," Biomedical Optics Express, 4(12), 2769-2780, 2013.

Li J, Wang S, Singh M, **Aglyamov S**, Emelianov S, Twa MD, Larin KV, "Air-pulse OCE for assessment of age-related changes in mouse cornea *in vivo,"* Laser Physics Letters, 11: 065601, 2014.

Twa MD, Li J, Vantipalli S, Singh M, **Aglyamov S**, Emelianov S, Larin KV, "Spatial characterization of corneal biomechanical properties with optical coherence elastography after UV cross-linking," Biomedical Optics Express, 5(5): 1419:1427, 2014.

Sarvazyan A, Rudenko O, **Aglyamov S**, Emelianov S, "Muscle as a molecular machine for protecting joints and bones by absorbing mechanical impacts," Medical Hypotheses, 83: 6-10, 2014.

Han Z, **Aglyamov S**, Li J, Singh M, Wang S, Vantipalli S, Wu C, Liu C-H, Twa MD, and Larin KV, "Quantitative assessment of corneal viscoelasticity using optical coherence elastography and a modified Rayleigh–Lamb equation," Journal of Biomedical Optics, 20(2), 020501: 1-3, 2015.

Wu C, Han Z, Wang S, Li J, Singh M, Liu C-H, **Aglyamov S**, Emelianov S, Manns F, and Larin KV, "Assessing age-related changes in the biomechanical properties of rabbit lens using a co-aligned ultrasound and optical coherence elastography system," Investigative Ophthalmology & Visual Science, 56(2), 1292-1300, 2015.

Han Z, Li J, Singh M, Wu C, Liu C-H, Wang S, Idugboe R, Raghunathan R, Sudheendran N, **Aglyamov SR**, Twa MD and Larin KV, "Quantitative methods for reconstructing tissue biomechanical properties in optical coherence elastography: a comparison study," Physics in Medicine and Biology, 60, 3531–3547, 2015.

Aglyamov SR, Wang S, Karpiouk AB, Li J, Twa M, Emelianov SY, and Larin KV, The dynamic deformation of a layered viscoelastic medium under surface excitation," Physics in Medicine and Biology, 60, 4295–4312, 2015.

Han Z, Li J, Singh M, **Aglyamov SR**, Wu C, Liu C-H, and Larin KV, "Analysis of the effects of curvature and thickness on elastic wave velocity in cornea-like structures by finite element modeling and optical coherence elastography," Applied Physics Letters, 106, 233702:1-4, 2015.

Hartman R, **Aglyamov S**, Fox D, and Emelianov S, "Quantitative contrast-enhanced ultrasound measurement of cerebrospinal fluid flow for the diagnosis of ventricular malfunction," Journal of Neurosurgery, 123 (6), 1420-1426, 2015.

Singh M, Li J, Vantipalli S, Wang S, Han Z, Nair A, **Aglyamov SR**, Twa MD, and Larin KV, "Noncontact elastic wave imaging optical coherence elastography for evaluating changes in corneal elasticity due to crosslinking," IEEE Journal of Selected Topics in Quantum Electronics, 22 (3), 266-276, 2016.

Han Z, Li, J, Singh M, Vantipalli S, **Aglyamov SR**, Wu C, Liu C-H, Raghunathan R, Twa MD, and Larin KV, "Analysis of the effect of the fluid-structure interface on elastic wave velocity in cornea-like structures by OCE and FEM," Laser Physics Letters, 13 (3), 035602, 2016.

Singh M, Li J, Han Z, Vantipalli S, Liu C-H, Wu C, Raghunathan R, **Aglyamov SR**, Twa MD, Larin KV, "Evaluating the effects of riboflavin/UV-A and rose-bengal/green light cross-linking of the rabbit cornea by noncontact optical coherence elastography evaluating the effects of cross-linking with OCE," Investigative Ophthalmology & Visual Science, 57(9), OCT112-OCT120, 2016.

Singh M, Li J, Han Z, Wu C, **Aglyamov SR**, Twa MD, Larin KV, "Investigating elastic anisotropy of the porcine cornea as a function of intraocular pressure with optical coherence elastography," Journal of Refractive Surgery, 32(8), 562-567, 2016.

Han Z, Singh M, **Aglyamov SR**, Liu C-H, Nair A, Raghunathan R, Wu C, Li J, and Larin KV, "Quantifying tissue viscoelasticity using optical coherence elastography and the Rayleigh wave model," Journal of Biomedical Optics, 21(9), 090504-090504, 2016.

Han Z, Li J, Singh M, Wu C, Liu C-H, Raghunathan R, **Aglyamov SR**, Vantipalli S, Twa MD, and Larin KV, "Optical coherence elastography assessment of corneal viscoelasticity with a modified Rayleigh-Lamb wave model," Journal of the Mechanical Behavior of Biomedical Materials, 66, 87-94, 2017.

Park S, Yoon H, Larin KV, Emelianov SY, and **Aglyamov SR**, "The impact of intraocular pressure on elastic wave velocity estimates in the crystalline lens," Physics in Medicine and Biology, 62(3), N45-57, 2017.

Singh M, Li J, Han Z, Raghunathan R, Nair A, Wu C, Liu C-H, **Aglyamov S**, Twa MD, and Larin KV, "Assessing the effects of riboflavin/UV-A crosslinking on porcine corneal mechanical anisotropy with optical coherence elastography," Biomedical Optics Express, 8(1), 349-366, 2017.

Park S, Yoon, H, Emelianov S, and **Aglyamov S**, "Fluid flow measurement for diagnosis of ventricular shunt malfunction using nonlinear responses of microbubbles in the contrast-enhanced ultrasound imaging," Japanese Journal of Applied Physics, 56, 07JF10-1-3, 2017.

Yoon H, **Aglyamov SR**, and Emelianov SY, "Dual-phase transmit focusing for multi-angle compound shear-wave elasticity imaging," IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, Jul 11. doi: 10.1109/TUFFC.2017.2725839. [Epub ahead of print], 2017.

Book Chapters:

Shah J, Park S, **Aglyamov S** and Emelianov S, "Role of Photoacoustic and Ultrasound Imaging in Photothermal Therapy," in Photoacoustic imaging and spectroscopy, L.V. Wang, editor, Taylor & Francis Group/CRC press, chapter 39, 481-492, 2009.

Aglyamov S, Bouchard R, Graf I, Emelianov S, "Breast Elasticity Imaging," in Physics of mammographic imaging, M. K. Markey, editor, Taylor & Francis Group/CRC press , chapter 18, 221-237, 2012.

<u>Other Publications:</u>

Conference proceedings:

Aglyamov SR, Park S, Ilinskii YA, Emelianov SY, "Ultrasound imaging of soft tissue shear viscosity", Proceedings of IEEE Ultrasonics Symposium on, vol. 1 ,pp.:937 – 940, 2003.

Emelianov SY, **Aglyamov SR**, Shah J, Sethuraman S, Scott WG, Schmitt R, Motamedi M, Karpiouk A, Oraevsky A, "Combined ultrasound, optoacoustic and elasticity imaging," Proceedings of SPIE, Volume 5320, pp. 101-112, 2004.

Aglyamov SR, Xie H, Kim K, Rubin JM, O'Donnell M, Wakefield TW, Myers D, and Emelianov SY, "Young's modulus reconstruction for elasticity imaging of deep Venous Thrombosis: Animal Studies," in Proceedings of SPIE Vol. 5373 , pp.193-201, 2004.

Sethuraman S, **Aglyamov SR**, Amirian JH, Smalling RW, and Emelianov SY, "Intravascular photoacoustic imaging to detect and differentiate atherosclerotic plaques," Proceedings of IEEE Ultrasonics Symposium on, vol. 1, pp. 133-136, 2005.

Karpiouk AB, **Aglyamov SR**, Mallidi S, Scott WG, Rubin JM, and Emelianov SY, "Combined ultrasonic and photoacoustic imaging to age deep vein thrombosis: preliminary studies," Proceedings of IEEE Ultrasonics Symposium on, vol. 1, pp. 399-402, 2005.

Mallidi S, **Aglyamov SR**, Karpiouk AB, Park S, and Emelianov SY, "Functional and Morphological Ultrasonic Biomicroscopy for Tissue Engineers," Proceedings of the SPIE Medical Imaging 2006: Ultrasonic Imaging and Signal Processing, vol. 6147, pp. 61470Y 1-7, 2006.

Park S, Shah J, **Aglyamov SR**, Karpiouk AB, Mallidi S, Gopal A, Moon H, Zhang XJ, Scott WG, Emelianov SY, "Integrated system for ultrasonic, photoacoustic and elasticity imaging," Proceedings of the SPIE Medical Imaging 2006: Ultrasonic Imaging and Signal Processing, vol. 6147, pp. 61470H 1-8, 2006.

Sethuraman S, **Aglyamov SR**, Amirian JH, Smalling RW, and Emelianov SY, "Development of a combined intravascular ultrasound and photoacoustic imaging system," Proceedings of the 2006 SPIE Photonics West Symposium: Photons Plus Ultrasound Imaging and Sensing, volume 6086, p. 108-117, 2006.

Emelianov SY, **Aglyamov SR**, Karpiouk AB, Mallidi S, Park S, Sethuraman S, Shah J, Smalling RW, Rubin JM, Scott GW, "Synergy and applications of ultrasound, elasticity, and photoacoustic imaging," Proceedings of IEEE Ultrasonics Symposium, pp. 405-415, 2006.

Park S, **Aglyamov SR**, Scott GW, Emelianov SY, "Elasticity imaging using high frame rate ultrasound imaging," Proceedings of IEEE Ultrasonics Symposium, pp. 602-605, 2006.

Sethuraman S, Rakalin AA, **Aglyamov SR**, Amirian J, Smalling RW, Emelianov SY, "Temperature monitoring in intravascular photoacoustic imaging," Proceedings of IEEE Ultrasonics Symposium, pp. 714-717, 2006.

Shah J, **Aglyamov SR**, Sokolov K, Milner TE, Emelianov SY, "Ultrasound based thermal and elasticity imaging to assist photothermal cancer therapy – preliminary study," Proceedings of IEEE Ultrasonics Symposium, pp. 1029-1032, 2006.

Aglyamov SR, Karpiouk AB, Ilinskii YA, Zabolotskaya EA, Emelianov SY, "Estimation of viscoelastic properties of tissue using acoustic radiation force," Proceedings of IEEE Ultrasonics Symposium, pp. 1152-1155, 2006.

Karpiouk AB, Bourgeois F, **Aglyamov SR**, Ben-Yakar A, and Emelianov SY, "Development of ultrasound technique to detect and characterize laser-induced microbubbles," Proceedings of the 2007 SPIE Optical Interactions with Tissue and Cells XVIII, volume 6435, pp. 64350P 1-9, 2007.

Park S, Mallidi S, Karpiouk AB, **Aglyamov S**, Emelianov SY, " Photoacoustic imaging using array transducer," Proceedings of the 2007 SPIE Photons Plus Ultrasound: Imaging and Sensing, volume 6437, pp. 643714 1-7, 2007.

Sethuraman S, Mallidi S, **Aglyamov SR**, Amirian JH, Litovsky S, Smalling RW, Emelianov SY, "Intravascular photoacoustic imaging of atherosclerotic plaques: ex vivo study using a rabbit model of atherosclerosis," Proceedings of the 2007 SPIE Photons Plus Ultrasound: Imaging and Sensing, volume 6437, pp. 643729 1-9, 2007.

Mallidi S, Karpiouk AB, **Aglyamov SR**, Sethuraman S, and Emelianov SY, "Measurement of blood perfusion using photoacoustic, ultrasound and strain imaging," Proceedings of the 2007 SPIE Photons Plus Ultrasound: Imaging and Sensing, volume 6437, pp. 643707 1-9, 2007.

Shah J, Park S, **Aglyamov SR**, Larson T, Ma L, Sokolov K, Johnston K, Milner T and Emelianov S, "Photoacoustic and ultrasound imaging to guide photothermal therapy: ex vivo study," Proceedings of the 2008 SPIE Photonics West Symposium: Photons Plus Ultrasound: Imaging and Sensing, volume 6856, 68560U:1-7, 2008.

Park S, Karpiouk AB, **Aglyamov SR**, Emelianov SY, "Adaptive beamforming for photoacoustic imaging using linear array transducer," Proceedings of the 2008 IEEE Ultrasonics Symposium, 578-581, 2008.

Karpiouk AB, **Aglyamov SR**, Bourgeois F, Ben-Yakar A, Emelianov SY, "Ultrasound characterization of cavitation microbubbles produced by femtosecond laser pulses," Proceedings of the 2009 SPIE Photonics West Symposium: Optical Interactions with Tissue and Cells, volume 7175, 717512: 1-7, 2009.

Kim S. **Aglyamov S**, Emelianov SY, "Display pixel-based synthetic aperture focusing method for intravascular ultrasound imaging," Proceedings of the 31st Annual International IEEE EMBS Conference, pp. 475-478, 2009.

Mehrmohammadi M, Oh J, **Aglyamov S**, Karpiouk A, Emelianov SY, "Pulsed magneto-acoustic imaging," Proceedings of the 31st Annual International IEEE EMBS Conference, pp. 4771-4774, 2009.

Sudheendran N, Manne VR, Manapuram RK, Baranov SA, **Aglyamov S**, Emelianov S, and Larin KV, "Measurement of vibrations induced on the surface of crystalline eye lens using PhS-SDOCT," Proc. SPIE, vol. 7550, pp. 755007-8, 2010.

Yoon S, **Aglyamov S**, Karpiouk A, Kim S, and Emelianov, S "Measurements of Young's modulus of viscoelastic medium using a laser-induced microbubble under acoustic radiation force," IEEE International Ultrasonics Symposium Proceedings, pp. 5-8, 2010.

Manapuram RK, Sudheendran N, Manne VR, Baranov SA, **Aglyamov S**, Emelianov S, and Larin KV, "3D assessment of mechanical wave propagation in the crystalline eye lens using PhS-SSOCT," Proc. SPIE 7885, pp. 78851V1-9, 2011.

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