

● Subject Index to Volume 39

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please see <http://www.umbjournal.org/content/indices>

3D

Synonyms: 3-D, three dimensional, three-dimensional,
3-dimensional

Scopus Search: 3D OR 3-D OR "three dimensional" OR
three-dimensional OR 3-dimensional

Mercier L, Araujo D, Haegelen C, Del Maestro RF, Petrecca K,
Collins DL. Registering Pre- and Post resection
3-Dimensional Ultrasound for Improved Visualization of
Residual Brain Tumor. *39:16-29.*

Zhang H, Abiose AK, Gupta D, Campbell DN, Martins JB,
Sonka M, Wahle A. Novel Indices for Left-Ventricular
Dyssynchrony Characterization Based on Highly Automated
Segmentation From Real-Time 3-D Echocardiography.
39:72-88.

Barbosa D, Dietenbeck T, Heyde B, Houle H, Friboulet D,
D'hooge J, Bernard O. Fast and Fully Automatic 3-D
Echocardiographic Segmentation Using B-Spline Explicit
Active Surfaces: Feasibility Study and Validation in a Clinical
Setting. *39:89-101.*

Lai Y-C, Huang Y-S, Wang D-W, Tiu C-M, Chou Y-H, Chang
R-F. Computer-Aided Diagnosis for 3-D Power Doppler
Breast Ultrasound. *39:555-567.*

Xiang H, Huang R, Cheng J, Gulinaer S, Hu R, Feng Y, Liu H.
Value of Three-Dimensional Contrast-Enhanced Ultrasound
in the Diagnosis of Small Adnexal Masses. *39:761-768.*

Burlina P, Sprouse C, Mukherjee R, DeMenthon D, Abraham T.
Patient-Specific Mitral Valve Closure Prediction Using 3D
Echocardiography. *39:769-783.*

Schone M, Mannicke N, Gottwald M, Gobel F, Raum K. 3-D
High-Frequency Ultrasound Improves the Estimation of
Surface Properties in Degenerated Cartilage. *39:834-844.*

Housden RJ, Ma Y, Arujuna A, Nijhof N, Cathier P, Gijssbers G,
Bullens R, Gill J, Rinaldi CA, Parish V, Rhode KS. Extended-
Field-of-View Three-Dimensional Transesophageal
Echocardiography Using Image-Based X-Ray Probe
Tracking. *39:993-1005.*

Hjertaas JJ, Fossa H, Dybdahl GL, Gruner R, Lunde P, Matre K.
Accuracy of Real-Time Single- and Multi-Beat 3-D Speckle
Tracking Echocardiography In Vitro. *39:1006-1014.*

Long A, Rouet L, Debreuve A, Ardon R, Barbe C, Becquemin
JP, Allaire E. Abdominal Aortic Aneurysm Imaging with 3-D
Ultrasound: 3-D-Based Maximum Diameter Measurement
and Volume Quantification. *39:1325-1336.*

Ito A, Sugioka K, Matsumura Y, Fujita S, Iwata S, Hanatani A,
Hozumi T, Ueda M, Yoshiyama M. Rapid and Accurate
Assessment of Aortic Arch Atherosclerosis Using
Simultaneous Multi-Plane Imaging by Transesophageal
Echocardiography. *39:1337-1342.*

Hollman KW, Shtein RM, Tripathy S, Kim K. Using an
Ultrasound Elasticity Microscope to Map Three-Dimensional
Strain in a Porcine Cornea. *39:1451-1459.*

Hata T, Mashima M, Ito M, Uketa E, Mori N, Ishimura M.
Three-Dimensional HDLive Rendering Images of the Fetal
Heart. *39:1513-1517.*

Barra DA, Lima JC, Mauad Filho F, Araujo Jœnior E, Martins
WP. Measuring Fetal Volume During Late First Trimester by
Three-Dimensional Ultrasonography Using Virtual Organ
Computer-Aided Analysis. *39:1552-1559.*

Heyde B, Bouchez S, Thieren S, Vandenheuvel M, Jasaityte R,
Barbosa D, Claus P, Maes F, Wouters P, D'Hooge J. Elastic
Image Registration to Quantify 3-D Regional Myocardial
Deformation from Volumetric Ultrasound: Experimental
Validation in an Animal Model. *39:1688-1697.*

Chen L, Chen Y, Diao X-H, Fang L, Pang Y, Cheng A-Q,
Li W-P, Wang Y. Comparative Study of Automated Breast
3-D Ultrasound and Handheld B-Mode Ultrasound for
Differentiation of Benign and Malignant Breast Masses.
39:1735-1742.

Boekhoven RW, Lopata RGP, van Sambeek MR, van de Vosse
FN, Rutten MCM. A Novel Experimental Approach for
Three-Dimensional Geometry Assessment of Calcified
Human Stenotic Arteries in Vitro. *39:1875-1886.*

Kwok SJJ, El Kaffas A, Lai P, Al Mahrouki A, Lee J, Iradji S,
Tran WT, Giles A, Czarnota GJ. Ultrasound-Mediated
Microbubble Enhancement of Radiation Therapy Studied
Using Three-Dimensional High-Frequency Power Doppler
Ultrasound. *39:1983-1990.*

Tozaki M, Saito M, Benson J, Fan L, Isobe S. Shear Wave
Velocity Measurements for Differential Diagnosis of Solid
Breast Masses: A Comparison between Virtual Touch
Quantification and Virtual Touch IQ. *39:2233-2245.*

Yu MH, Lee JY, Kim JH, Han JK, Choi B-I. Value of Near-
Isovoxel Ultrasound for Evaluation of Ductal Communications
with Pancreatic Cystic Lesions: Correlation with Magnetic
Resonance Cholangiopancreatography. *39:2279-2284.*

Aristizbal O, Mamou J, Ketterling JA, Turnbull DH.
High-Throughput, High-Frequency 3-D Ultrasound for in
Utero Analysis of Embryonic Mouse Brain Development.
39:2321-2332.

Sorace AG, Warram JM, Mahoney M, Zinn KR, Hoyt K. Enhancement of Adenovirus Delivery after Ultrasound-Stimulated Therapy in a Cancer Model. *39:2374-2381*.

Cheng J, Li H, Xiao F, Fenster A, Zhang X, He X, Li L, Ding M. Fully Automatic Plaque Segmentation in 3-D Carotid Ultrasound Images. *39:2431-2446*.

Mukherjee R, Vyas S, Juang R, Sprouse C, Burlina P. Endocardial Surface Delineation in 3D Transesophageal Echocardiography. *39:2447-2462*.

4D

Synonyms: 4-D, four dimensional, four-dimensional, 4-dimensional

Scopus Search: 4D OR 4-D OR "four dimensional" OR four-dimensional OR 4-dimensional

Yang J-M, Yang S-H, Huang W-C, Tzeng C-R. Reliability of a New Method for Assessing Tension and Configuration of Transobturator Suburethral Tapes Using Four-Dimensional Ultrasound. *39:44-53*.

Arbeille P, Angoulvant D, Zuj K, Patier J, Desveaux B, Quilliet L, Charbonnier B. Four-Dimensional Speckle Tracking for Assessing Improvement in Left Ventricular Contractility After Coronary Angioplasty. *39:102-110*.

A

Acoustic microscopy

Synonyms: scanning acoustic microscopy (SAM), ultrasound/ultrasonic microscopy, biomicroscopy

Scopus Search: "acoustic microscop*" OR "ultrasonic microscop*" OR "bio*microscop*" OR SAM

See also: **high frequency ultrasound**

Su R-J, Zhang J-M, Li R-J, Sun Y, Jiang B, Ma N, Li Z-A, Luo X-H, Song L, Xue J-L, Wang Z, Yang Y. Ultrasound Biomicroscopy for Measurement of Coronary Artery Flow and Estimation of Infarct Size in a Mouse Model of Acute Myocardial Infarction. *39:2044-2052*.

Aneurysm

Synonyms: aneurism

Scopus Search: Aneur*sm OR AAA

See also: **atherosclerosis, hypertension**

Long A, Rouet L, Debreuve A, Ardon R, Barbe C, Becquemin JP, Allaire E. Abdominal Aortic Aneurysm Imaging with 3-D Ultrasound: 3-D-Based Maximum Diameter Measurement and Volume Quantification. *39:1325-1336*.

Angiogenesis

Synonyms: increase in vascularity, vascularisation

Scopus Search: Angiogenesis OR "increase in vascularity" OR "vascularity index" OR VI OR vasculari*ation OR "capillary density" OR "microvessel density" OR neoangiogenesis OR neovasculari*ation

Ling Z-Y, Shu S-y, Zhong S-G, Luo J, Su L, Liu Z-Z, Lan X-B, Yuan G-B, Zheng Y-Y, Ran H-T, Wang Z-G, Yin Y-H. Ultrasound Targeted Microbubble Destruction Promotes Angiogenesis and Heart Function by Inducing Myocardial Microenvironment Change. *39:2001-2010*.

Animal studies

Synonyms: animal model

Scopus Search: "animal stud*" OR "animal model" OR mouse OR dog OR bovine OR murine OR canine OR porcine OR rabbit OR pig OR rat OR primate

Hinz T, Voth H, Ahmadzadehfard H, Hoeller T, Wenzel J, Bieber T, Schmid-Wendtner M-H. Role of High-Resolution Ultrasound and PET/CT Imaging for Preoperative Characterization of Sentinel Lymph Nodes in Cutaneous Melanoma. *39:30-36*.

Tych RE, Gofeld M, Jarvik JG, Kliot M, Loeser JD, McClintic AM, Ollos RJ, Pederson KD, Sparks RE, Terman GW, Mourad PD. Neuropathic Tissue Responds Preferentially to Stimulation by Intense Focused Ultrasound. *39:111-116*.

Cheung W-H, Chin W-C, Wei F-Y, Li G, Leung K-S. Applications of Exogenous Mesenchymal Stem Cells and Low Intensity Pulsed Ultrasound Enhance Fracture Healing in Rat Model. *39:117-125*.

Gollwitzer H, Gloeck T, Roessner M, Langer R, Horn C, Gerdesmeyer L, Diehl P. Radial Extracorporeal Shock Wave Therapy (rESWT) Induces New Bone Formation in vivo: Results of an Animal Study in Rabbits. *39:126-133*.

Saini R, Sorace AG, Warram JM, Mahoney MJ, Zinn KR, Hoyt K. An Animal Model Allowing Controlled Receptor Expression for Molecular Ultrasound Imaging. *39:172-180*.

Park MJ, Kim Y-S, Yang J, Sun WC, Park H, Chae SY, Namgung M-S, Choi K-S. Pulsed High-Intensity Focused Ultrasound Therapy Enhances Targeted Delivery of Cetuximab to Colon Cancer Xenograft Model in Mice. *39:292-299*.

King RL, Brown JR, Newsome WT, Pauly KB. Effective Parameters for Ultrasound-Induced In Vivo Neurostimulation. *39:312-331*.

Noda K, Hirano T, Noda K, Kodama S, Ichimiya I, Suzuki M. Effect of Low-Intensity Focused Ultrasound on the Middle Ear in a Mouse Model of Acute Otitis Media. *39:413-423*.

Williams R, Wright C, Cherin E, Reznik N, Lee M, Gorelikov I, Foster FS, Matsuura N, Burns PN. Characterization of Submicron Phase-change Perfluorocarbon Droplets for Extravascular Ultrasound Imaging of Cancer. *39:475-489*.

Richards MS, Doyley MM. Non-Rigid Image Registration Based Strain Estimator for Intravascular Ultrasound Elastography. *39:515-533*.

Yang F-Y, Chen C-C, Kao Y-H, Chen C-L, Ko C-E, Horng S-C, Chen R-C. Evaluation of Dose Distribution of Molecular Delivery After Blood-Brain Barrier Disruption

- by Focused Ultrasound with Treatment Planning. 39:620-627.
- Wang G, Zhuo Z, Xia H, Zhang Y, He Y, Tan W, Gao Y. Investigation Into the Impact of Diagnostic Ultrasound with Microbubbles on the Capillary Permeability of Rat Hepatomas. 39:628-637.
- Nabili M, Patel H, Mahesh SP, Liu J, Geist C, Zderic V. Ultrasound-Enhanced Delivery of Antibiotics and Anti-inflammatory Drugs Into the Eye. 39:638-646.
- Elhai M, Jerome A, Marchiol C, Renault G, Ruiz B, Frechet M, Chiochia G, Allanore Y. Performance of Skin Ultrasound to Measure Skin Involvement in Different Animal Models of Systemic Sclerosis. 39:845-852.
- Chen J-J, Fu S-Y, Chiang C-S, Hong J-H, Yeh C-K. A Preclinical Study to Explore Vasculature Differences Between Primary and Recurrent Tumors Using Ultrasound Doppler Imaging. 39:860-869.
- Liu Q, Zhao H, Wu S, Zhao X, Zhong Y, Li L, Liu Z. Impact of Microbubble-Enhanced Ultrasound on Liver Ethanol Ablation. 39:1039-1046.
- Kim Y, Fifer CG, Gelehrter SK, Owens GE, Berman DR, Vlaisavljevich E, Allen SP, Ladino-Torres MF, Xu Z. Developmental Impact and Lesion Maturation of Histotripsy-Mediated Non-Invasive Tissue Ablation in a Fetal Sheep Model. 39:1047-1055.
- Lin S-h, Ding H, Mao F, Xue L-Y, Lv W-w, Zhu H-G, Huang B-J, Wang W-P. Non-invasive Assessment of Liver Fibrosis in a Rat Model: Shear Wave Elasticity Imaging Versus Real-Time Elastography. 39:1215-1222.
- Eggen S, Afadzi M, Nilssen EA, Haugstad SB, Angelsen B, Davies CdL. Ultrasound Improves the Uptake and Distribution of Liposomal Doxorubicin in Prostate Cancer Xenografts. 39:1255-1266.
- Kim HC, Al-Mahrouki A, Gorjizadeh A, Karshafian R, Czarnota GJ. Effects of Biophysical Parameters in Enhancing Radiation Responses of Prostate Tumors with Ultrasound-Stimulated Microbubbles. 39:1376-1387.
- Elbes D, Denost Q, Laurent C, Trillaud H, Rullier A, Quesson B. Pre-Clinical Study of In Vivo Magnetic Resonance-Guided Bubble-Enhanced Heating in Pig Liver. 39:1388-1397.
- Vlaisavljevich E, Kim Y, Allen S, Owens G, Pelletier S, Cain C, Ives K, Xu Z. Image-Guided Non-Invasive Ultrasound Liver Ablation Using Histotripsy: Feasibility Study in an In Vivo Porcine Model. 39:1398-1409.
- Bu R, Yin L, Yang H, Wang Q, Wu F, Zou JZ. Tissue Ablation Accelerated by Peripheral Scanning Mode with High-Intensity Focused Ultrasound: A Study on Isolated Porcine Liver Perfusion. 39:1410-1419.
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- Hollman KW, Shtein RM, Tripathy S, Kim K. Using an Ultrasound Elasticity Microscope to Map Three-Dimensional Strain in a Porcine Cornea. 39:1451-1459.
- Rohrbach D, Preininger B, Hesse B, Gerigk H, Perka C, Raum K. The Early Phases of Bone Healing Can Be Differentiated in a Rat Osteotomy Model by Focused Transverse-Transmission Ultrasound. 39:1642-1653.
- Nam K-H, Bok T-H, Kong Q, Paeng D-G. High Spatial and Temporal Resolution Observations of Pulsatile Changes in Blood Echogenicity in the Common Carotid Artery of Rats. 39:1665-1671.
- Wagstrom E, Johnson J, Ferm-Widlund K, Elmstedt N, Liuba K, Lind B, Brodin L, Lundback S, Westgren M. The Cardiac State Diagram as a Novel Approach for the Evaluation of Pre- and Post-ejection Phases of the Cardiac Cycle in Asphyxiated Fetal Lambs. 39:1682-1687.
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- Ritchie R, Collin J, Coussios C, Leslie T. Attenuation and De-focusing During High-Intensity Focused Ultrasound Therapy Through Peri-nephric Fat. 39:1785-1793.
- Liao A-H, Ma W-C, Wu M-F. Evaluation of Ultrasound Combined with Chitosan for the Control of Weight and Local Fat in Mice. 39:1794-1803.
- Kremer F, Dresselaers T, Heyde B, Ferferieva V, Caluwe E, Choi HF, Claus P, Oosterlinck W, Janssens S, Himmelreich U, D'Hooge J. 2-D Strain Assessment in the Mouse Through Spatial Compounding of Myocardial Velocity Data: In Vivo Feasibility. 39:1848-1860.
- Kwok SJJ, El Kaffas A, Lai P, Al Mahrouki A, Lee J, Iradji S, Tran WT, Giles A, Czarnota GJ. Ultrasound-Mediated Microbubble Enhancement of Radiation Therapy Studied Using Three-Dimensional High-Frequency Power Doppler Ultrasound. 39:1983-1990.
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- Ling Z-Y, Shu S-Y, Zhong S-G, Luo J, Su L, Liu Z-Z, Lan X-B, Yuan G-B, Zheng Y-Y, Ran H-T, Wang Z-G, Yin Y-H. Ultrasound Targeted Microbubble Destruction Promotes Angiogenesis and Heart Function by Inducing Myocardial Microenvironment Change. 39:2001-2010.
- Koch SE, Haworth KJ, Robbins N, Smith MA, Lather N, Anjak A, Jiang M, Varma P, Jones WK, Rubinstein J. Age- and Gender-Related Changes in Ventricular Performance in Wild-Type FVB/N Mice as Evaluated by Conventional and Vector Velocity Echocardiography Imaging: A Retrospective Study. 39:2034-2043.

- Su R-J, Zhang J-M, Li R-J, Sun Y, Jiang B, Ma N, Li Z-A, Luo X-H, Song L, Xue J-L, Wang Z, Yang Y. Ultrasound Bio-microscopy for Measurement of Coronary Artery Flow and Estimation of Infarct Size in a Mouse Model of Acute Myocardial Infarction. *39:2044-2052*.
- Wu J, Zhou Y-Q, Zou Y, Henkelman M. Evaluation of Bi-ventricular Coronary Flow Patterns Using High-Frequency Ultrasound in Mice with Transverse Aortic Constriction. *39:2053-2065*.
- Tajbakhsh N, Wu H, Xue W, McMahon EM, Belohlavek M, Liang J. Motion Analysis of Right Ventricular Dysfunction Under Mild or Moderate Pressure Overload Caused by Acute Pulmonary Embolism. *39:2066-2074*.
- Roosens B, Bala G, Droogmans S, Hostens J, Somja J, Delvenne E, Schiettecatte J, Delvenne P, Caveliers V, Lahoutte T, Van Camp G, Cosyns B. Echocardiographic Integrated Backscatter for Assessing Reduction of Aortic Valve Calcifications by R-568 in a Rat Model of Chronic Kidney Disease. *39:2075-2083*.
- Chen X, Shen Y, Zheng Y, Lin H, Guo Y, Zhu Y, Zhang X, Wang T, Chen S. Quantification of Liver Viscoelasticity with Acoustic Radiation Force: A Study of Hepatic Fibrosis in a Rat Model. *39:2091-2102*.
- Zhou X, Chen L, Feng C, Li B, Tang J, Liu A, Lv F, Li T. Establishing an Animal Model of Intracerebral Hemorrhage under the Guidance of Ultrasound. *39:2116-2122*.
- Wu H, Rognin NG, Krupka TM, Solorio L, Yoshiara H, Guenette G, Sanders C, Kamiyama N, Exner AA. Acoustic Characterization and Pharmacokinetic Analyses of New Nanobubble Ultrasound Contrast Agents. *39:2137-2146*.
- Tong H-P, Wang L-F, Guo Y-L, Li L, Fan X-Z, Ding J, Huang H-Y. Preparation of Protamine Cationic Nanobubbles and Experimental Study of Their Physical Properties and In Vivo Contrast Enhancement. *39:2147-2157*.
- Liu GJ, Ji Q, Moriyasu F, Xie XY, Wang W, Wong LH, Lin MX, Lu MD. Value of Contrast-Enhanced Ultrasound Using Perflubutane Microbubbles for Diagnosing Liver Fibrosis and Cirrhosis in Rats. *39:2158-2165*.
- Aristizbal O, Mamou J, Ketterling JA, Turnbull DH. High-Throughput, High-Frequency 3-D Ultrasound for in Utero Analysis of Embryonic Mouse Brain Development. *39:2321-2332*.
- Lavarello RJ, Ridgway WR, Sarwate SS, Oelze ML. Characterization of Thyroid Cancer in Mouse Models Using High-Frequency Quantitative Ultrasound Techniques. *39:2333-2341*.
- Fowler R, Fossheim S, Mestas JL, Ngo J, Canet-Soulas E, Lafon C. Non-Invasive Magnetic Resonance Imaging Follow-Up Of Sono-Sensitive Liposome Tumor Delivery and Controlled Release After High-Intensity Focused Ultrasound. *39:2342-2350*.
- Anderson CD, Urschitz J, Khemmani M, Owens JB, Moisyadi S, Shohet RV, Walton CB. Ultrasound Directs a Transposase System for Durable Hepatic Gene Delivery in Mice. *39:2351-2361*.
- Roll SC, Evans KD, Volz KR, Sommerich CM. Longitudinal Design for Sonographic Measurement of Median Nerve Swelling with Controlled Exposure to Physical Work Using an Animal Model. *39:2492-2497*.
- Arrays**
Synonyms: phased array, beam steering, compound imaging
Scopus Search: array* OR "phased array*" OR "beam steering" OR compound* OR "multi* element" OR "beam forming"
See also: **transducers**
- Gourevich D, Hertzberg Y, Volovick A, Shafran Y, Navon G, Cochran S, Melzer A. Ultrasound-Mediated Targeted Drug Delivery Generated by Multifocal Beam Patterns: An In vitro Study. *39:507-514*.
- Ponnle A, Hasegawa H, Kanai H. Suppression of Grating Lobe Artifacts in Ultrasound Images Formed from Diverging Transmitting Beams by Modulation of Receiving Beams. *39:681-691*.
- Novell A, Escoffre J-M, Bouakaz A. Second Harmonic and Subharmonic for Non-Linear Wideband Contrast Imaging Using a Capacitive Micromachined Ultrasonic Transducer Array. *39:1500-1512*.
- Artefacts
See **image artifacts**
- Atherosclerosis**
Synonyms: vascular disease, atheromatous plaque, arterial hardening
Scopus Search: Atherosclerosis OR plaque OR stenosis OR "vascular disease" OR atheromatous OR "arter* hardening"
See also: **blood vessels, aneurysm**
- Ito A, Sugioka K, Matsumura Y, Fujita S, Iwata S, Hanatani A, Hozumi T, Ueda M, Yoshiyama M. Rapid and Accurate Assessment of Aortic Arch Atherosclerosis Using Simultaneous Multi-Plane Imaging by Transesophageal Echocardiography. *39:1337-1342*.
- Cheng J, Li H, Xiao F, Fenster A, Zhang X, He X, Li L, Ding M. Fully Automatic Plaque Segmentation in 3-D Carotid Ultrasound Images. *39:2431-2446*.
- Alberti M, Balocco S, Carrillo X, Mauri J, Radeva P. Automatic Non-rigid Temporal Alignment of Intravascular Ultrasound Sequences: Method and Quantitative Validation. *39:1698-1712*.
- Boekhoven RW, Lopata RGP, van Sambeek MR, van de Vosse FN, Rutten MCM. A Novel Experimental Approach for Three-Dimensional Geometry Assessment of Calcified Human Stenotic Arteries in Vitro. *39:1875-1886*.

Deleaval F, Bouvier A, Finet G, Cloutier G, Yazdani SK, Le Floch S, Clarysse P, Pettigrew RI, Ohayon J. The Intravascular Ultrasound Elasticity-Palpography Technique Revisited: A Reliable Tool for the In Vivo Detection of Vulnerable Coronary Atherosclerotic Plaques. *39:1469-1481*.

Attenuation

Synonyms: BUA

Scopus Search: [attenuat*](#) OR BUA

Ritchie R, Collin J, Coussios C, Leslie T. Attenuation and Defocusing During High-Intensity Focused Ultrasound Therapy Through Peri-nephric Fat. *39:1785-1793*.

Kanayama Y, Kamiyama N, Maruyama K, Sumino Y. Real-Time Ultrasound Attenuation Imaging of Diffuse Fatty Liver Disease. *39:692-705*.

B

Backscatter

Synonyms: back scatter, backscattering

Scopus Search: [Backscatter*](#) OR "Back scatter*" OR Nakagami

Roosens B, Bala G, Droogmans S, Hostens J, Somja J, Delvenne E, Schiettecatte J, Delvenne P, Cavelliers V, Lahoutte T, Van Camp G, Cosyns B. Echocardiographic Integrated Backscatter for Assessing Reduction of Aortic Valve Calcifications by R-568 in a Rat Model of Chronic Kidney Disease. *39:2075-2083*.

Civale J, Rivens I, ter Haar G, Morris H, Coussios C, Friend P, Bamber J. Calibration of Ultrasound Backscatter Temperature Imaging for High-Intensity Focused Ultrasound Treatment Planning. *39:1596-1612*.

Zhang R, Ta D, Liu C, Chen C. Feasibility of Bone Assessment with Ultrasonic Backscatter Signals in Neonates. *39:1751-1759*.

Bacteria

Synonyms: biofilms, infection

Scopus Search: [Bacteria*](#) OR biofilm OR bio-film OR infectio*

Iqbal K, Ohl S-W, Khoo B-C, Neo J, Fawzy AS. Effect of High-Intensity Focused Ultrasound on Enterococcus Faecalis Planktonic Suspensions and Biofilms. *39:825-833*.

Biological effects

Synonyms: Bioeffects, Biochemical effect

Scopus Search: "bio*effect*"

See also: **therapeutic effects of ultrasound, thermal effects**

Zhong W, Chen X, Jiang P, Wan JMF, Qin P, Yu ACH. Induction of Endoplasmic Reticulum Stress by Sonoporation: Linkage to Mitochondria-Mediated Apoptosis Initiation. *39:2382-2392*.

ter Haar GR, Abramowicz JS, Akiyama I, Evans DH, Ziskin MC, Marsal K. Do We Need to Restrict the Use of Doppler Ultrasound in the First Trimester of Pregnancy? *39:374-380*.

Hu Y, Zhong W, Wan JMF, Yu ACH. Ultrasound can Modulate Neuronal Development: Impact on Neurite Growth and Cell Body Morphology. *39:915-925*.

Louw TM, Budhiraja G, Viljoen HJ, Subramanian A. Mechanotransduction of Ultrasound is Frequency Dependent Below the Cavitation Threshold. *39:1303-1319*.

Thakkar D, Gupta R, Monson K, Rapoport N. Effect of Ultrasound on the Permeability of Vascular Wall to Nano-emulsion Droplets. *39:1804-1811*.

Gateau J, Taccoen N, Tanter M, Aubry J-F. Statistics of Acoustically Induced Bubble-Nucleation Events in in Vitro Blood: A Feasibility Study. *39:1812-1825*.

Biomarkers

Synonyms: Identification

Scopus Search: "bio*mark*"

See also: **Molecular imaging**

Forbrich A, Paproski R, Hitt M, Zemp R. Microbubble-Enhanced Ultrasound Liberation of mRNA Biomarkers In Vitro. *39:1087-1093*.

Biometrics

Synonyms: Identification

Scopus Search: "bio*metric*"

Sande RK, Matre K, Eide GE, Kiserud T. The Effect of Ultrasound Output Level on Obstetric Biometric Measurements. *39:37-43*.

Blood perfusion

Synonyms: tissue perfusion, vascularity

Scopus Search: [Blood](#) OR [tissue](#) AND [perfusion](#) OR [vascularity](#) OR "flash replenishment"

Bolognese M, Artemis D, Alonso A, Hennerici MG, Meairs S, Kern R. Real-Time Ultrasound Perfusion Imaging in Acute Stroke: Assessment of Cerebral Perfusion Deficits Related to Arterial Recanalization. *39:745-752*.

Blood flow

Synonyms: haemodynamics, venous reflux

Scopus Search: "Blood flow" OR "h*emodynamic*(s)" OR "venous reflux" OR "flow index"

See also: **Doppler**

Cheng J, Li H, Xiao F, Fenster A, Zhang X, He X, Li L, Ding M. Fully Automatic Plaque Segmentation in 3-D Carotid Ultrasound Images. *39:2431-2446*.

Su R-J, Zhang J-M, Li R-J, Sun Y, Jiang B, Ma N, Li Z-A, Luo X-H, Song L, Xue J-L, Wang Z, Yang Y. Ultrasound Biomicroscopy for Measurement of Coronary Artery Flow and Estimation of Infarct Size in a Mouse Model of Acute Myocardial Infarction. *39:2044-2052*.

Nam K-H, Bok T-H, Kong Q, Paeng D-G. High Spatial and Temporal Resolution Observations of Pulsatile Changes in

- Blood Echogenicity in the Common Carotid Artery of Rats. [39:1665-1671](#).
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Synonyms: artery, vein, capillary, vascular
Scopus Search: "blood vessel" OR artery OR vein OR capillary OR vascular
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Synonyms: BBB
Scopus Search: "blood-brain barrier" OR BBB OR "tight junctions" OR fenestrations
See also: thrombolysis, transcranial ultrasound
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Synonyms: osteo-
Scopus Search: bone OR trabecular OR cortical OR osteo*

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Bone density measurement

Synonyms: Calcaneal quantitative ultrasound, bone mineral density test, bone mass measurement

Scopus Search: "bone density measurement" OR "Calcaneal quantitative ultrasound" OR "bone mineral density test" OR "bone mass measurement"

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Brain

Synonyms: cerebral, cerebrovascular, cerebrum

Scopus Search: Brain OR cerebr* OR neurosurgery

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Breast

Synonyms: mammary glands

Scopus Search: Breast OR Mamm*

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- ### Calibration
- Synonyms:* standards, metrology, quality assurance
Scopus Search: [calibration](#) OR [standard*](#) OR [metrology](#) OR [quality assurance](#)
- See also:* [dosimetry](#), [safety](#), [instrumentation](#)
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Scopus Search: [cancer*](#)
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Synonyms: heart, cardiography

Scopus Search: [Cardi*](#) OR [myocardi*](#) OR [heart](#) OR [ECG](#) OR [ventricular](#) OR [atrial](#)

See also: [echocardiography](#)

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See also: **contrast agents**

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Scopus Search: "[Cavitation detect*](#)" OR "[Passive Cavitation Detect*](#)" OR "[Active cavitation detect*](#)" OR "[Broadband Noise](#)" OR [PCD](#) OR [ACD](#)

See also: **instrumentation**

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Scopus Search: [Clinical AND study](#) OR [trial](#)

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Computer aided diagnosis (CAD) system

Synonyms: CAD, automated analysis, automatic classification, automatic thresholding, artificial intelligence

Scopus Search: "Computer-Aided Diagnosis" OR CAD OR "automa* analysis" OR "automa* classification" OR "automa* thresholding"

See also: **Ultrasound guided surgery, feature detection**

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Contrast agents

Synonyms: Contrast media, microbubbles

Scopus Search: Contrast AND agent* OR medi* OR microbubble* OR "micro-bubble*" OR Optison OR Sonovue OR Levovist OR Quantison OR Definity

See also: **cavitation, contrast enhanced ultrasound**

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Synonyms: contrast echocardiography, contrast ultrasound, contrast sonography, contrast-enhanced, CEUS
Scopus Search: "contrast enhanc*"

See also: **Doppler, contrast agents, harmonic imaging**

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Scopus Search: [Doppler](#)
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Scopus Search: **Dos***
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Synonyms: controlled release, targeted delivery, site-specific delivery, sonodynamic
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Scopus Search: ear OR otol*
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- Echocardiography**
Synonyms: cardiac imaging, sonocardiography
Scopus Search: echocard* OR "card* imaging" OR "card* ultraso*" OR sonocard*
- See also:* **cardiology, contrast enhanced ultrasound**
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Elastography

Synonyms: elasticity imaging, strain imaging, sonoelastography, vibro-acoustography

Scopus Search: *elastography OR "elastic* imaging" OR "strain imaging" OR "vibro*acoustography" OR "Modulus Contrast"

See also: **Tissue elasticity**

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- Emboli detection**
Synonyms: embolic signal, microembolic signal, embolus, embolism
Scopus Search: embol* OR occlusion OR clot
See also: thrombolysis
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Synonyms: ocular, retinal, cornea
Scopus Search: eye* OR ocular OR retina* OR cornea*
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- F**
- Feature detection**
Synonyms: Feature selection, Feature tracking, Feature Extraction, Feature selection, Edge detection, Contour detection, Boundary Delineation, Pattern recognition, Pattern classification, Automated tracking, virtual histology
Scopus Search: "Feature detection" OR "Feature selection" OR "Feature tracking" OR "Feature Extraction" OR "Feature selection" OR "Edge detection" OR "Contour detection" OR

"Boundary Delineation" OR "Pattern recognition" OR "Pattern classification" OR "automated tracking" OR "virtual histology"

See also: **Computer aided diagnosis (CAD) system, image processing**

Riha K, Masek J, Burget R, Benes R, Zavodna E. Novel Method for Localization of Common Carotid Artery Transverse Section in Ultrasound Images Using Modified Viola-Jones Detector. *39:1887-1902.*

Flow visualisation

Synonyms: flowmetry, particle image velocimetry, PIV
Scopus Search: "flow visualisation" OR "flowmetry" OR "particle image velocimetry" OR PIV

See also: **Doppler**

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Fracture healing

Synonyms: regeneration
Scopus Search: Fracture AND healing OR regen*

See also: **bone, healing**

Cheung W-H, Chin W-C, Wei F-Y, Li G, Leung K-S. Applications of Exogenous Mesenchymal Stem Cells and Low Intensity Pulsed Ultrasound Enhance Fracture Healing in Rat Model. *39:117-125.*

Gollwitzer H, Gloeck T, Roessner M, Langer R, Horn C, Gerdesmeyer L, Diehl P. Radial Extracorporeal Shock Wave Therapy (rESWT) Induces New Bone Formation in vivo: Results of an Animal Study in Rabbits. *39:126-133.*

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G

Gastroenterology

Synonyms: Gastrointestinal Tract, gastric, digestive system, oesophageal
Scopus Search: Gastr* AND digestive OR oesophag* OR esophag*

See also: **liver, pancreas**

Nylund K, Jirik R, Mezl M, Leh S, Hausken T, Pfeffer F, Odegaard S, Taxt T, Gilja OH. Quantitative Contrast-Enhanced Ultrasound Comparison Between Inflammatory and Fibrotic Lesions in Patients with Crohn's Disease. *39:1197-1206.*

Gene therapy

Synonyms: gene delivery, Gene transfection, Gene transfer
Scopus Search: gene AND therapy OR transfection OR transfer

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Genitourinary

Synonyms: urinary tract, bladder, urodynamics, reproductive system, pelvis
Scopus Search: Genitourinary OR urin* OR urodynamic* OR bladder OR reproduct* OR pelvi*

See also: **prostate, testis, uterus**

Yang J-M, Yang S-H, Huang W-C, Tzeng C-R. Reliability of a New Method for Assessing Tension and Configuration of Transobturator Suburethral Tapes Using Four-Dimensional Ultrasound. *39:44-53.*

Ying H, Da L, Luo J, Li-Xia L, Yu X, Li-Mei X, Wei-Dong R. Quantitative Assessment of Bladder Neck Compliance by Using Transvaginal Real-Time Elastography of Women. *39:1727-1734.*

H

Harmonic Imaging

Synonyms: Tissue harmonic imaging (TIH), phase inversion harmonic imaging (PIHI), second harmonic imaging, subharmonic imaging, pulse inversion, nonlinear imaging
Scopus Search: "second Harmonic" OR "2nd Harmonic" OR "TIH" OR "PIHI" OR "phase inversion" OR "pulse inversion" OR "Harmonic Imaging" OR "Nonlinear imaging" OR "sub*harmonic"

See also: **contrast enhanced imaging**

Maresca D, Renaud G, van Soest G, Li X, Zhou Q, Shung KK, de Jong N, van der Steen AFW. Contrast-Enhanced Intravascular Ultrasound Pulse Sequences for Bandwidth-Limited Transducers. *39:706-713.*

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Healing

Synonyms: regeneration, regenerative
Scopus Search: healing OR regener*

See also: **fracture healing, therapeutic applications of ultrasound**

Keltie K, Reay CA, Bousfield DR, Cole H, Ward B, Oates CP, Sims AJ. Characterization of the Ultrasound Beam Produced by the MIST Therapy, Wound Healing System. [39:1233-1240](#).

Hemorrhage

Synonyms: bleeding, trauma

Scopus Search: [H*emorrhage OR Bleed* OR trauma](#)

Zhou X, Chen L, Feng C, Li B, Tang J, Liu A, Lv F, Li T. Establishing an Animal Model of Intracerebral Hemorrhage under the Guidance of Ultrasound. [39:2116-2122](#).

High frequency ultrasound

Synonyms: high resolution

Scopus Search: ["high frequency" OR "high resolution"](#)

See also: **acoustic microscopy**

Hinz T, Voth H, Ahmadzadehfar H, Hoeller T, Wenzel J, Bieber T, Schmid-Wendtner M-H. Role of High-Resolution Ultrasound and PET/CT Imaging for Preoperative Characterization of Sentinel Lymph Nodes in Cutaneous Melanoma. [39:30-36](#).

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High intensity focused ultrasound

Synonyms: Focused ultrasound surgery, HIFU, FUS, thermal ablation

Scopus Search: ["high intensity focused ultrasound" OR "Focused ultrasound surgery" OR HIFU OR FUS OR ablat*](#)

See also: **therapeutic applications of ultrasound, hyperthermia, thermal effects**

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Ritchie R, Collin J, Coussios C, Leslie T. Attenuation and Defocusing During High-Intensity Focused Ultrasound Therapy Through Peri-nephric Fat. *39:1785-1793*.

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Historical review

Histotripsy

Synonyms: pulsed ultrasound cavitation therapy
Scopus Search: [Histotripsy](#) OR “[cav* therapy](#)”

See also: [Cavitation](#)

Wang Y-N, Khokhlova T, Bailey M, Hwang JH, Khokhlova V. Histological and Biochemical Analysis of Mechanical and Thermal Bioeffects in Boiling Histotripsy Lesions Induced by High Intensity Focused Ultrasound. *39:424-438*.

Kim Y, Fifer CG, Gelehrter SK, Owens GE, Berman DR, Vlaisavljevich E, Allen SP, Ladino-Torres MF, Xu Z. Developmental Impact and Lesion Maturation of Histotripsy-Mediated Non-Invasive Tissue Ablation in a Fetal Sheep Model. *39:1047-1055*.

Vlaisavljevich E, Kim Y, Allen S, Owens G, Pelletier S, Cain C, Ives K, Xu Z. Image-Guided Non-Invasive Ultrasound Liver

Ablation Using Histotripsy: Feasibility Study in an In Vivo Porcine Model. *39:1398-1409*.

Miller RM, Kim Y, Lin K-W, Cain CA, Owens GE, Xu Z. Histotripsy Cardiac Therapy System Integrated with Real-Time Motion Correction. *39:2362-2373*.

Hyperthermia

Synonyms: [thermotherapy](#)

Scopus Search: [Hyperthermia](#) OR [thermotherapy](#)

See also: [High intensity Focused Ultrasound, thermal effects, therapeutic applications of ultrasound](#)

Mannaris C, Efthymiou E, Meyre M-E, Averkiou MA. In Vitro Localized Release of Thermosensitive Liposomes with Ultrasound-Induced Hyperthermia. *39:2011-2020*.

I

Image artifacts

Synonyms: [artefacts](#), [shadowing](#), [imaging errors](#), [defocusing](#), [aliasing](#), [distortion](#), [afterglow](#), [duplication](#)

Scopus Search: [art*facts](#) OR [shadow*](#)

See also: [speckle, image processing](#)

Lu W, Sapozhnikov OA, Bailey MR, Kaczkowski PJ, Crum LA. Evidence for Trapped Surface Bubbles as the Cause for the Twinkling Artifact in Ultrasound Imaging. *39:1026-1038*.

Ponnle A, Hasegawa H, Kanai H. Suppression of Grating Lobe Artifacts in Ultrasound Images Formed from Diverging Transmitting Beams by Modulation of Receiving Beams. *39:681-691*.

Image processing

Synonyms: [filtering](#), [averaging](#), [denoising](#), [decluttering](#), [image enhancement](#), [attenuation correction](#)

Scopus Search: “[image processing](#)” OR [Filter*](#) OR [averag*](#) OR [denois*](#) OR [*clutter](#) OR “[image enhance*](#)” OR “[attenuation correction](#)”

See also: [feature detection, principle components analysis, speckle, computer aided diagnosis](#)

Alberti M, Balocco S, Carrillo X, Mauri J, Radeva P. Automatic Non-rigid Temporal Alignment of Intravascular Ultrasound Sequences: Method and Quantitative Validation. *39:1698-1712*.

Riha K, Masek J, Burget R, Benes R, Zavodna E. Novel Method for Localization of Common Carotid Artery Transverse Section in Ultrasound Images Using Modified Viola-Jones Detector. *39:1887-1902*.

Kudla MJ, Kandzia T, Alcazar JL. Comparison of Two Methods for Calculating the Mean Vascularization Index of Ovarian Stroma on the Basis of Spatio-temporal Image Correlation High-Definition Flow Technology. *39:2202-2204*.

Image reconstruction

Synonyms: compound imaging, compounding, spatial compound sonography (SONOCT), mapping, surface reconstruction, volume reconstruction

Scopus Search: [reconstruction](#) OR [compound*](#) OR [SONOCT](#) OR [map*](#)

Yin L, Gudur MSR, Hsiao Y-S, Kumon RE, Deng CX, Jiang H. Tomographic Reconstruction of Tissue Properties and Temperature Increase for High-Intensity Focused Ultrasound Applications. [39:1760-1770](#).

Image segmentation

Synonyms: Partitioning Clustering

Scopus Search: [segmentation](#) OR [Partitioning](#) OR [Clustering](#)

See also: **computer aided diagnosis, image processing**

Zhang H, Abiose AK, Gupta D, Campbell DN, Martins JB, Sonka M, Wahle A. Novel Indices for Left-Ventricular Dyssynchrony Characterization Based on Highly Automated Segmentation From Real-Time 3-D Echocardiography. [39:72-88](#).

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Cheng J, Li H, Xiao F, Fenster A, Zhang X, He X, Li L, Ding M. Fully Automatic Plaque Segmentation in 3-D Carotid Ultrasound Images. [39:2431-2446](#).

Image registration

Synonyms: correlation, recorelation, fusion

Scopus Search: [registration](#) OR [*correlation](#) OR [fusion](#)

See also: **image processing**

Mercier L, Araujo D, Haegelen C, Del Maestro RF, Petrecca K, Collins DL. Registering Pre- and Postresection 3-Dimensional Ultrasound for Improved Visualization of Residual Brain Tumor. [39:16-29](#).

In memoriam

Chou Y-H, Tiu C-M, Hsieh F-J, Chen CT-C. In Memoriam: Hsi-Yao Chen, MD, FAIUM, 1922-2012, The Father of Modern Obstetrics and Pioneer of Diagnostic Ultrasound in Taiwan. [39:1-3](#).

Instrumentation

Synonyms: scanning systems, imaging hardware

Scopus Search: [instrument*](#) OR [scann*](#) OR [hardware](#)

See also: **arrays, transducers**

Xing J, Choi M, Ang W, Yu X, Chen J. Design and Characterization of a Close-Proximity Thermoacoustic Sensor. [39:1613-1622](#).

Intravascular ultrasound

Synonyms: IVUS

Scopus Search: [intravascular](#) OR [IVUS](#)

See also: **blood vessels**

Richards MS, Doyley MM. Non-Rigid Image Registration Based Strain Estimator for Intravascular Ultrasound Elastography. [39:515-533](#).

Maresca D, Renaud G, van Soest G, Li X, Zhou Q, Shung KK, de Jong N, van der Steen AFW. Contrast-Enhanced Intravascular Ultrasound Pulse Sequences for Bandwidth-Limited Transducers. [39:706-713](#).

Deleaval F, Bouvier A, Finet G, Cloutier G, Yazdani SK, Le Floc'h S, Clarysse P, Pettigrew RI, Ohayon J. The Intravascular Ultrasound Elasticity-Palpography Technique Revisited: A Reliable Tool for the In Vivo Detection of Vulnerable Coronary Atherosclerotic Plaques. [39:1469-1481](#).

Alberti M, Balocco S, Carrillo X, Mauri J, Radeva P. Automatic Non-rigid Temporal Alignment of Intravascular Ultrasound Sequences: Method and Quantitative Validation. [39:1698-1712](#).

Ischemia

Synonyms: ischaemia

Scopus Search: [isch*emia](#) OR [isch*emic](#)

See also: **thrombolysis, atherosclerosis, blood perfusion**

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K**Kidney**

Synonyms: nephrology, renal

Scopus Search: [kidney](#) OR [neph*](#) OR [renal](#)

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L

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Lipolysis

Synonyms: liposuction, weight loss, fat reduction

Scopus Search: lipo*

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Liposomes

Synonyms: vesicle, reverse micelle

Scopus Search: Liposome* OR vesicle* OR micelle

See also: **contrast agents, drug delivery**

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Liver

Synonyms: hepatic

Scopus Search: Liver OR hepat*

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Low frequency ultrasound

Synonyms: LFUS

Scopus Search: "Low frequency ultrasound" OR LFUS

See also: **physiotherapy**

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Low intensity ultrasound

Synonyms: Low intensity pulsed ultrasound, LIPUS, LIFU

Scopus Search: "low*intensity ultrasound" OR LIPUS OR LIFU

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Lymphatic system

Synonyms: lymph nodes

Scopus Search: [lymph*](#)

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M

Modelling

Synonyms: simulations, theory, mathematical, in silico

Scopus Search: [Modelling](#) OR [simulation*](#) OR [theor*](#) OR [mathemat*](#) OR ["in silico"](#)

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Molecular imaging

Synonyms: molecular tagging, targeted imaging, biomarkers

Scopus Search: ["molecular imaging"](#) OR ["molecular tagging"](#) OR ["targeted imaging"](#) OR [bio*markers](#)

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Motion analysis

Synonyms: motion tracking, motion compensation, M mode, phased tracking method

Scopus Search: [Motion](#) OR ["phased tracking"](#) OR [M*mode](#)

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Musculoskeletal

Synonyms: Sonomyography

Scopus Search: [Musc*](#) OR [Sonomyography](#)

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N

Nervous system

Synonyms: neurology

Scopus Search: **Neuro*** OR **nerv***

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Neurostimulation

Synonyms: brain imaging, transcranial

Scopus Search: neurostimulation

See also: **brain, nervous system, transcranial Doppler**

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Nonlinear effects

Synonyms: nonlinear propagation, acoustic nonlinearity, harmonic distortion

Scopus Search: **nonlinear*** OR **non-linear*** OR **"non linear*"** OR **harmonic**

See also: **harmonic imaging, shock waves**

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O

Obstetrics

Synonyms: prenatal, fetal, gynaecology, foetal, FBM, FHR

Scopus Search: **obstetric*** OR **gynaecolog*** OR **gynecolog*** OR **pre*natal**

See also: **uterus**

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Optoacoustic

See **Photoacoustic**

Orthopedic

See **Musculoskeletal, Bone**

Ovary

Synonyms: reproductive system, ovarian

Scopus Search: [Ovar*](#) OR ["reproductive system"](#)

See also: **genitourinary**

Xiang H, Huang R, Cheng J, Gulinaer S, Hu R, Feng Y, Liu H. Value of Three-Dimensional Contrast-Enhanced Ultrasound in the Diagnosis of Small Adnexal Masses. [39:761-768](#).

P

Pain relief

Synonyms: pain management

Scopus Search: [pain*](#)

See also: **Healing, Therapeutic applications of ultrasound**

Lewis Jr GK, Langer MD, Henderson Jr CR, Ortiz R. Design and Evaluation of a Wearable Self-Applied Therapeutic Ultrasound Device for Chronic Myofascial Pain. [39:1429-1439](#).

Pancreas

Synonyms: pancreatic, gastrointestinal

Scopus Search: [pancrea*](#) OR [gastrointestinal](#)

See also: **Gastroenterology**

Yu MH, Lee JY, Kim JH, Han JK, Choi B-I. Value of Near-Isovoxel Ultrasound for Evaluation of Ductal Communications with Pancreatic Cystic Lesions: Correlation with Magnetic Resonance Cholangiopancreatography. [39:2279-2284](#).

Pediatrics

Synonyms: children, infants, neonates

Scopus Search: [Pediatrics](#) OR [child*](#) OR [infant*](#) OR [neonat*](#) OR [neo-nat*](#)

Wu Y-C, Hsieh W-S, Hsu C-H, Chiu N-C, Chou H-C, Chen C-Y, Peng S-F, Hung H-Y, Chang J-H, Chen WJ, Jeng S-F. Relationship of Neonatal Cerebral Blood Flow Velocity Asymmetry with Early Motor, Cognitive and Language Development in Term Infants. [39:797-803](#).

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Phantoms

Synonyms: mimics, tissue-mimicking, gel phantom, gelatine, agarose, tofu, polyacrylamide, urethane foam, flow model, flow cell

Scopus Search: [phantom*](#) OR [mimic*](#) OR [tissue-mimic*](#) OR [Gel*](#) OR [agar*](#) OR [polyacrylamide](#) OR [urethane](#) OR ["flow cell*"](#) OR ["flow model*"](#)

Dunmire B, Kucewicz JC, Mitchell SB, Crum LA, Sekins KM. Characterizing an Agar/Gelatin Phantom for Image Guided

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Photoacoustic

Synonyms: optoacoustic, ultrasound light modulation, laser ultrasonic

Scopus Search: [Optoacoustic OR photoacoustic OR "ultrasound light modulation" OR "laser ultraso*"](#)

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Prostate

Synonyms: prostate gland

Scopus Search: [prostate OR transrectal OR endorectal OR TRUS](#)

See also: [genitourinary](#)

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Quantitative ultrasound

Synonyms: QUS, quantification, quantitation

Scopus Search: [Quantit* OR QUS](#)

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R

Radiation force

Synonyms: Bjerknæs force, Acoustic Radiation Force Impulse Ultrasound (ARFI), acoustic tweezers, ultrasound tweezers, acoustic remote palpation, acoustic trapping

Scopus Search: "radiation force" OR ARFI OR Bjerknæs OR "acoustic tweezers" OR "ultrason*" OR ARP OR trap*

See also: **elastography, shear waves**

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Acoustic Radiation Force: A Study of Hepatic Fibrosis in a Rat Model. *39:2091-2102*.

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Radio-frequency

Synonyms: RF

Scopus Search: "radio*frequency" OR RF

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Safety

Synonyms:

Scopus Search: safety

See also: **bio-effects, dosimetry, thermal effects**

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Shear waves

Synonyms:

Scopus Search: "Shear Wave*"

See also: **elastography, radiation force**

Sporea I, Bota S, Jurchis A, Sirli R, Gradinaru-Tascau O, Popescu A, Ratiu I, Szilaski M. Acoustic Radiation Force Impulse and Supersonic Shear Imaging Versus Transient Elastography for Liver Fibrosis Assessment. *39:1933-1941*.

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Shock waves

Synonyms: shock-wave, shockwave, extracorporeal shock-wave (ESW) therapy, shock-wave lithotripsy

Scopus Search: [shock*wave](#) OR [ESW](#)

See also: **nonlinear effects**

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Skin

Synonyms: dermal, transdermal, cutaneous, transcutaneous, subcutaneous

Scopus Search: [skin](#) OR [dermal](#) OR [transdermal](#) OR [cutaneous](#) OR [transcutaneous](#) OR [subcutaneous](#)

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Sonoporation

Synonyms: sonophoresis, phonophoresis, cell membrane permeabilisation, permeability enhancement, molecular delivery, poration, enhanced uptake

Scopus Search: [Sonoporation](#) OR [Sonophoresis](#) OR [Phonophoresis](#) OR [permeabilisation](#) OR ["enhance* permeability"](#) OR ["molecular delivery"](#) OR [poration](#) OR ["enhance* uptake"](#)

See also: **cavitation, drug delivery, gene therapy, streaming**

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Speckle

Synonyms: interference pattern, noise

Scopus Search: [speckle](#) OR [noise](#) OR [interference](#)

See also: **image artifacts, image processing, textural analysis, motion tracking**

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Spleen

Synonyms: splenic

Scopus Search: spleen OR splen*

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Standing wave

Synonyms: stationary wave, acoustic trapping, ultrasound trapping, acoustic tweezers

Scopus Search: "Standing wave" OR "stationary wave" OR trap* OR USWT

See also: **radiation force**

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Strain imaging

Scopus Search: strain

See also: **elastography**, **radiation force**

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Stroke

Synonyms: cerebrovascular accident (CVA), thrombus, thrombosis, clot

Scopus Search: Stroke OR "cerebrovascular accident" OR CVA OR thromb*

See also: **atherosclerosis**, **emboli detection**, **ischemia**, **thrombolysis**

Santamato A, Notarnicola A, Panza F, Ranieri M, Micello MF, Manganotti P, Moretti B, Fortunato F, Filoni S, Fiore P. SBOTE Study: Extracorporeal Shock Wave Therapy Versus Electrical Stimulation After Botulinum Toxin Type A Injection for Post-Stroke Spasticity-A Prospective Randomized Trial. *39:283-291.*

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Bolognese M, Artemis D, Alonso A, Hennerici MG, Meairs S, Kern R. Real-Time Ultrasound Perfusion Imaging in Acute Stroke: Assessment of Cerebral Perfusion Deficits Related to Arterial Recanalization. *39:745-752.*

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Therapeutic Applications of Ultrasound

Synonyms: ultrasound therapy, sonotherapy

Scopus Search: [Therap*](#) OR [Sonotherap*](#)

See also: **healing, high intensity focused ultrasound, hyperthermia, physiotherapy**

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Thermoacoustic imaging

Synonyms: Acousto-thermal imaging

Scopus Search: [thermo*acoustic](#) OR [Acousto*thermal](#)

Xing J, Choi M, Ang W, Yu X, Chen J. Design and Characterization of a Close-Proximity Thermoacoustic Sensor. [39:1613-1622](#).

Thrombolysis

Synonyms: sonothrombolysis, recanalisation, clot busting

Scopus Search: [Thromb*](#) OR [sonothrombolysis](#) OR [stroke](#) OR [clot](#) OR [recanalisation](#)

See also: **ischemia**

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Thyroid

Synonyms: Thyroid gland

Scopus Search: [Thyroid*](#) OR [goitre](#)

Kim DW, In HS, Choo HJ, Jung SJ, Kim YW. Solid and Isoechoic Thyroid Nodules Without Malignant Sonographic Features: Comparison of Malignancy Rate According to Nodule Size, Shape and Color Doppler Pattern. [39:269-274](#).

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Wu M-H, Chen C-N, Chen K-Y, Ho M-C, Tai H-C, Chung Y-C, Lo C-P, Chen A, Chang K-J. Quantitative Analysis of Dynamic Power Doppler Sonograms for Patients with Thyroid Nodules. [39:1543-1551](#).

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Lavarello RJ, Ridgway WR, Sarwate SS, Oelze ML. Characterization of Thyroid Cancer in Mouse Models Using High-Frequency Quantitative Ultrasound Techniques. [39:2333-2341](#).

Tissue characterization

Synonyms: tissue identification, tissue differentiation, histoscanning

Scopus Search: [tissue AND characteri*ation](#) OR [identification](#) OR [differentiation](#) OR [histoscanning](#)

See also: **speckle**

Lee H-H, Hung C-S, Wu X-M, Wu V-C, Liu K-L, Wang S-M, Lin L-C, Chen P-C, Guo Y-L, Chueh S-C, Lin Y-H, Ho Y-L, Wu K-D. Myocardial Ultrasound Tissue Characterization of Patients With Primary Aldosteronism. [39:54-61](#).

Tissue Engineering

Synonyms: tissue synthesis, remodelling, prostheses

Scopus Search: [Tissue AND Engineer*](#)

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Transcranial ultrasound

Synonyms: TCS, TCD

Scopus Search: [Transcranial OR TCD OR skull](#)

See also: **Doppler**

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Transducers

Synonyms: probe, scanning head

Scopus Search: [Transducer* OR probe* OR "scan* head" OR "piezoelectric effect" OR *MUT OR PZT OR "PMN-PT" OR "polyvinylidene fluoride"](#)

See also: **arrays, instrumentation**

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Novell A, Escoffre J-M, Bouakaz A. Second Harmonic and Subharmonic for Non-Linear Wideband Contrast Imaging Using a Capacitive Micromachined Ultrasonic Transducer Array. *39:1500-1512*.

U

Ultrasound guided surgery

Synonyms: intraoperative imaging, ultrasonic guidance, image guided surgery

Scopus Search: ["Ultraso* guid* surgery" OR "ultraso* treatment monitoring" OR "intraoperative imaging" OR "image*guid*" OR "intraoperative guid*"](#)

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Uterus

Synonyms: Womb

Scopus Search: [Uter* OR Cervi* OR Womb](#)

See also: **obstetrics**

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Velocimetry

Synonyms: particle image velocimetry, PIV

Scopus Search: [velocimetry](#)

See also: **Doppler**

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Characterization of the Left Atrial Vortex Flow by Two-Dimensional Transesophageal Contrast Echocardiography Using Particle Image Velocimetry. [39:62-71](#).

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Volume measurement

Synonyms: volumetric measurement

Scopus Search: "volume* measurement" OR "volume rendering"

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operative Extent of Pure Ductal Carcinoma In Situ: Comparison with a Conventional Handheld Ultrasound Examination. [39:2255-2263](#).

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