

Michel Versluis - Publication list

Current *h*-index = **68** - *Scopus*

Number of peer-reviewed publications: **272**

Number of citations: **15,824**

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Google Scholar: *h*-index **83**, citations **23,451**, i10-index **220**

2026

281. Modes of high-frequency leaflet tip fluttering and vortex shedding past a bioprosthetic heart valve. Lorenzo Ferrari, Guillaume Lajoinie, Karoline-Marie Bornemann, Michel Versluis, and Dominik Obrist.
(under review, 2026).
280. Differences between computed tomography angiography and optical coherence tomography-based stenotic and stented superficial femoral artery geometries change computational fluid dynamics-derived flow parameters and in-stent restenosis prediction.
Lisa Rutten, Lennart van de Velde, Michel M.P.J. Reijnen, Michel Versluis, and Kartik Jain.
(under review, 2026).
279. Impact of optical coherence tomography during endovascular treatment of femoropopliteal lesions and its influence on the treatment strategy.
Lisa Rutten, Lennart van de Velde, Michiel van Werkum, Paul Cernohorsky, Jasper M. Martens, Kartik Jain, Michel Versluis, and Michel M.P.J. Reijnen.
(under review, 2026).
278. Feasibility of duplex ultrasound for follow-up after polymer-based prophylactic sac filling in conjunction with endovascular aneurysm repair for abdominal aortic aneurysms.
Jeffrey Nagel, Hanneke Kruijt, Michel Versluis, Michel Reijnen, and Erik Groot Jebbink.
(under review, 2026).
277. Radiofrequency ablation of benign thyroid nodules reduces patient-reported goiter symptoms.
Manon M.D. van der Meeren, Pim de Graaf, Tim Boers, Laura N. Deden, Peter Veendrick, Katya M. Duvivier, Koen M.A. Dreijerink, Sicco J. Braak, Michel Versluis, Srirang Manohar, Paul Cernohorsky, Sean H.P.P. Roerink, and Wim J.G. Oyen.
(under review, 2026).
276. Novel degradable mold-based human engineered mini-heart platform for mimicking ventricular pump function.
Marcelo C. Ribeiro, Mariel Cano-Jorge, Simone ten Den, Danique Snippert, Marcel Karperien, Tom Kamperman, Guillaume Lajoinie, Michel Versluis, and Robert Passier.
(under review, 2026).
275. Delay-encoded cascaded waves for ultrafast ultrasound imaging.
Charlotte Nawijn, Michel Versluis, Tim Segers, and Guillaume Lajoinie.
(under review, 2026).
274. Dissolution and vaporization of a water droplet in oil exposed to a temperature ramp.
Muhammad Saeed Saleem, Michel Versluis, and Guillaume Lajoinie.
(under review, 2026).
273. Vaporization dynamics of a super-heated water-in-oil droplet: modeling and numerical solution.
Muhammad Saeed Saleem, Michel Versluis, and Guillaume Lajoinie.
(under review, 2026).
272. Reducing stent-induced blooming artifacts using virtual monoenergetic imaging reconstructions in a superficial femoral artery phantom: an in-vitro study.
Lisa Rutten, Lennart van de Velde, Cornelius Slump, Jasper Martens, Kartik Jain, Michel Versluis, and Michel M. P. J. Reijnen.
Cardiovasc. Eng. Tech. (on-line, 2026).
<https://doi.org/10.1007/s13239-026-00848-8>

271. Blood flow characteristics in the femoral bifurcation of healthy subjects.
Majorie van Helvert, Janna Ruisch, Joosje M.K. de Bakker, Anne E.C.M. Saris, Chris L. de Korte, Michel Versluis, Erik Groot Jebbink, and Michel M.P.J. Reijnen.
JVS Vasc. Insights **4**, 100456(2026).
<https://doi.org/10.1016/j.jvsvi.2026.100456>
270. Dynamic contrast-enhanced ultrasound-guided transarterial radioembolization: proof-of-concept in ex-vivo perfused porcine livers.
Jan L. van der Hoek, Tess J. Snoeijink, Adrie Visser, Kyra D.E. de Bree, Marleen E. Krommendijk, Jaap G.M. Greve, H. Remco Liefers, Wyger M. Brink, Michel Versluis, Jutta Arens, Srirang Manohar, and Erik Groot Jebbink.
Nature Comm. Med. (on-line, 2026).
<https://doi.org/10.1038/s43856-026-01760-x>
269. Oscillatory counter-centrifugation of particles in a piezo-acoustic printhead.
Yogesh J. Jethani, Hans Reinten, Wybo Wagenaar, Detlef Lohse, Michel Versluis, and Tim Segers.
Phys. Rev. Applied **25**, 054070 (2026).
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268. Shape oscillation and 3-D microstreaming profile of a phospholipid-coated microbubble attached to a wall.
Hongchen Li, Yuchen Wang, Ruisheng Su, Christian Cierpka, Michel Versluis, Antonius F.W. van der Steen, Nico de Jong, Martin D. Verweij, and Klazina Kooiman.
IEEE Trans. Ultrason. **73**(6), 619–636 (2026).
<https://doi.org/10.1109/TUSON.2026.3676695>
267. Effect of Doppler ultrasound and high-frame-rate ultrasound particle image velocimetry derived inlet boundary conditions on wall shear stress parameters in the stented superficial femoral artery.
Lisa Rutten, Lennart van de Velde, Lente Pol, Kartik Jain, Michel M.P.J. Reijnen, and Michel Versluis.
Comput. Methods Programs Biomed. **277**, 09259 (2026).
<https://doi.org/10.1016/j.cmpb.2026.109259>
266. Modeling nonlinear scattering of phospholipid-coated microbubbles in elastic media.
Ali Rezaei, David Fernandez Rivas, Guillaume Lajoinie, and Michel Versluis.
Ultrasonics **162**, 107964 (2026).
<https://doi.org/10.1016/j.ultras.2026.107964>
265. In-vivo validation of computational fluid dynamics for determining the pressure gradient for multi-segmental femoropopliteal disease.
L. van de Velde, L. Rutten, M. van Werkum, P. Cernohorsky, E. Groot Jebbink, M. Versluis, and M.M.P.J. Reijnen.
Cardiovasc Intervent Radiol **49**, 1190–1198 (2026).
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264. Flow characterization in a piezo-acoustic inkjet printhead: vortex formation and the role of nozzle tapering.
Yogesh J. Jethani, Roger Jeurissen, Wybo Wagenaar, Hans Reinten, Youri de Loore, Marc van den Berg, Detlef Lohse, Michel Versluis, and Tim Segers.
J. Fluids Eng. **148**, 061203 (2026).
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263. Microbubble-based measurement of shear and loss moduli in polyacrylamide hydrogels at MHz frequencies.
Ali Rezaei, Kay Dijs, David Fernandez Rivas, Jacco Snoeijer, Michel Versluis, and Guillaume Lajoinie.
Soft Matter **22**, 763-772 (2026).
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262. Role of cell culture scaffold stiffness on sonoporation efficiency.
Martin van den Broek, Robyn Klassen, Michel Versluis, Alfred Yu, and Tim Segers.
Ultrasound Med. Biol. **52**(2), 336–345 (2026).
<https://doi.org/10.1016/j.ultrasmedbio.2025.09.018>

261. Accurate sizing of monodisperse microbubble suspensions by optical attenuation spectroscopy. Martin van den Broek, Hidde Sikkema, Niladri Satpathi, Loes Kleinsmit, Albert van den Berg, Michel Versluis, and Tim Segers. *Ultrasound Med. Biol.* **52**(2), 305–314 (2026).
<https://doi.org/10.1016/j.ultrasmedbio.2025.08.022>
260. Active sac management for prevention of type II endoleaks after endovascular aneurysm repair. Jeffrey R. Nagel, Wouter Driessen, Erik Groot Jebbink, Michel Versluis, and Michel M.P.J. Reijnen. *Eur. J. Vasc. Med.* **55**(2), 88–105 (2026).
<https://doi.org/10.1024/0301-1526/a001237>
259. Swirling flow quantification in helical stents using ultrasound velocimetry. A. Ghanbarzadeh-Dagheyan, M. van Helvert, L. van de Velde, M.M.P.J. Reijnen, M. Versluis, and E. Groot Jebbink. *J. Endovasc. Ther.* **33**(2), 989–1000 (2026).
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258. Tuning the shell elasticity of phospholipid-coated microbubbles via palmitic acid doping. Benjamin van Elburg, Kim Bruil, Guillaume Lajoinie, Mark Borden, Michel Versluis, and Tim Segers. *Langmuir* **41**, 28313–28321 (2025).
<https://doi.org/10.1021/acs.langmuir.5c02618>
257. Monte Carlo simulation platform for laser Doppler flowmetry. David Thompson, Wietske Verveld, Guillaume Lajoinie, Michel Versluis, Wiendelt Steenberg, and Nienke Bosschaart. *J. Biomed. Opt.* **30**(8), 087002 (2025).
<https://doi.org/10.1117/1.JBO.30.8.087002>
256. A systematic review on the use of intravascular ultrasound and optical coherence tomography in the femoropopliteal tract. Lisa Rutten, Stan E.J. Reijnen, Lennart van de Velde, Michel Versluis, and Michel M.P.J. Reijnen. *Catheter. Cardiovasc. Interv.* **106**(2), 949–961 (2025).
<https://doi.org/10.1002/ccd.31636>
255. Ultrasound contrast microbubbles to predict the microsphere distribution during radioembolization, an in-vitro proof of concept study. Jan L. van der Hoek, Tess J. Snoeijink, Hadi Mirgolbabaee, Romaine Kunst, Michel Versluis, Jutta Arens, Srirang Manohar, and Erik Groot Jebbink. *Drug Delivery* **32**(1), 2505007 (2025).
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254. PROTEUS: a physically realistic contrast-enhanced ultrasound simulator – Part II: Imaging applications. Baptiste Heiles, Nathan Blanken, Alina Kuliesh, Michel Versluis, Kartik Jain, Guillaume Lajoinie, and David Maresca. *IEEE Trans. Ultrason. Ferroelectr. Freq. Control* **72**(7), 866–878 (2025).
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253. PROTEUS: a physically realistic contrast-enhanced ultrasound simulator – Part I: Numerical methods. Nathan Blanken, Baptiste Heiles, Alina Kuliesh, Michel Versluis, Kartik Jain, David Maresca, and Guillaume Lajoinie. *IEEE Trans. Ultrason. Ferroelectr. Freq. Control* **72**(7) 848–865 (2025).
<https://doi.org/10.1109/TUFFC.2024.3427850>
252. Ultrasound-actuated microfluidic flow-focusing allows control of bubble size and production rate. Sarah Cleve, Tim Segers, Michel Versluis, and Guillaume Lajoinie. *Phys. Rev. Appl.* **23**, L051004 (2025).
<https://doi.org/10.1103/PhysRevApplied.23.L051004>

251. Vascular flow phantom of a cohort-based averaged abdominal aortic aneurysm: Design, fabrication and characterization.
Hadi Mirgolbabaee, Jeffrey R. Nagel, Jelle Plomp, Ashkan Ghanbarzadeh-Dagheyan, Jaimy A. Simmering, Michel Versluis, Michel M.P.J. Reijnen, and Erik Groot Jebbink.
Ann. Biomed. Eng. **53**, 1439–1452 (2025).
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250. Optimizing the radiopacity of an injectable polymer used for treatment of type II endoleak after endovascular aneurysm repair.
Jeffrey R. Nagel, Erik Groot Jebbink, Stefan P.M. Smorenburg, Arjan W.J. Hoksbergen, Rutger J. Lely, Michel Versluis, and Michel M.P.J. Reijnen.
Cardiovasc. Eng. Technol. **16**, 377–385 (2025).
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249. Waveform-specific performance of deep learning-based ultrasound super-resolution models.
Rienk Zorgdrager, Nathan Blanken, Jelmer Wolterink, Michel Versluis, and Guillaume Lajoinie.
IEEE Trans. Ultrason. Ferroelectr. Freq. Control **72**(4), 427–439 (2025).
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248. Imaging behind the plaque: Improved blood flow imaging using an iterative scheme for active attenuation correction.
Jelle Plomp, Ashkan Ghanbarzadeh-Dagheyan, Michel Versluis, Guillaume Lajoinie, and Erik Groot Jebbink.
Ultrasound Med. Biol. **51**(6), 984–998 (2025).
<https://doi.org/10.1016/j.ultrasmedbio.2025.02.012>
247. Radiofrequency ablation for thyroid nodules (RATED study) - analysis of a learning curve and predictors of success
M.M.D. van der Meeren, T. Boers, P. de Graaf, K.M. Duvivier, K.M.A. Dreijerink, L.N. Deden, P. Veendrick, P. Cernohorsky, F.B.M. Joosten, B.M.C. Savelberg, S.J. Braak, S.H.P.P. Roerink, M. Versluis, S. Manohar, and W.J.G. Oyen.
J. Clin. Endocrinol. Metab. **110**(11), 3201–3209 (2025).
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246. Role of surfactants on droplet formation in piezoacoustic inkjet printing across microsecond-to-second timescales.
Maaike Rump, Christian Diddens, Uddalok Sen, Michel Versluis, Detlef Lohse, and Tim Segers.
Phys. Rev. Appl. **23**, 024076 (2025).
<https://doi.org/10.1103/PhysRevApplied.23.024076>
245. Ambient pressure sensitivity of subharmonically vibrating single microbubbles.
Sander Spiekhout, Yuchen Wang, Tim Segers, Klazina Kooiman, Michel Versluis, Jason Voorneveld, Nico de Jong, and Johannes G. Bosch.
Ultrasound Med. Biol. **51**(6), 931–940 (2025).
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244. Frequency-domain decoding of cascaded dual-polarity waves for ultrafast ultrasound imaging.
Charlotte Nawijn, Joosje de Bakker, Tim Segers, Chris de Korte, Michel Versluis, Anne Saris, and Guillaume Lajoinie.
IEEE Trans. Ultrason. Ferroelectr. Freq. Control **72**(3), 321–337 (2025).
<https://doi.org/10.1109/TUFFC.2025.3534429>
243. Controlling the stability of monodisperse phospholipid-coated microbubbles by tuning their buckling pressure.
Benjamin van Elburg, Anne Lassus, Samir Cherkaoui, Guillaume Lajoinie, Michel Versluis, and Tim Segers.
J. Colloid Interface Sci. **685**, 449–457 (2025).
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242. Stress-strain analysis of single ultrasound-driven microbubbles for viscoelastic shell characterization.
Charlotte L. Nawijn, Sander Spiekhout, Jason Voorneveld, Johannes G. Bosch, Michel Versluis, Tim Segers, and Guillaume P.R. Lajoinie.
J. Acoust. Soc. Am. **157**(2), 897–911 (2025).
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241. Soft stereolithographic 3D printed phantoms for dual-modality particle image velocimetry (PIV). E. Hosseinzadeh, H. Mirgolbabaee, L. van de Velde, M. Versluis, E. Groot Jebbink, A. Aguirre-Soto, and M. M. P. J. Reijnen. *Exp. Fluids* **66**, 20 (2025)
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240. Additive manufacturing of 3D flow-focusing millifluidics for the production of mono-sized curable microdroplets. Muhammad Saeed Saleem, Timothy T.K. Chan, Michel Versluis, Domink Krug, and Guillaume Lajoinie. *RSC Advances* **14**(53), 39276 (2024).
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239. Optimizing high-intensity focused ultrasound-induced immunogenic cell-death using passive cavitation mapping as a monitoring tool. Yanou Engelen, Dmitri V. Krysko, Iuliia Effimova, Karine Breckpot, Michel Versluis, Stefaan De Smedt, Guillaume Lajoinie, and Ine Lentacker. *J. Control. Release* **375**, 389–403 (2024).
<https://doi.org/10.1016/j.jconrel.2024.09.016>
238. Second order and transverse flow visualization through three-dimensional particle image velocimetry in millimetric ducts. N.C. Harte, D. Obrist, M. Versluis, E. Groot Jebbink, M. Caversaccio, W. Wimmer, and G.P.R. Lajoinie. *Exp. Therm. Fluid Sci.* **159**, 111296 (2024).
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237. 3D ultrasound guidance for radiofrequency ablation in an anthropomorphic thyroid nodule phantom. Tim Boers, Sicco Braak, Wyger Brink, Michel Versluis, and Srirang Manohar. *Eur. Radiol. Exp.* **8**:115 (2024).
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236. Deep learning-based segmentation of 3D ultrasound images of the thyroid. Roxane Munsterman, Tim Boers, Sicco Braak, Jelmer M. Wolterink, Michel Versluis, and Srirang Manohar. *WFMUB Ultrasound Open* **2**(2), 100055 (2024).
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235. Functionalized monodisperse microbubble production: Microfluidic method for fast, controlled, and automated removal of excess coating material. Martin van den Broek, Michel Versluis, Albert van den Berg, and Tim Segers. *Microfluid. Nanofluid.* **10**(1), 120 (2024).
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234. Are monodisperse phospholipid-coated microbubbles 'mono-acoustic'?. Sander Spiekhout, Benjamin van Elburg, Jason Voorneveld, Nico de Jong, Michel Versluis, Johannes G. Bosch, and Tim Segers. *Appl. Phys. Lett.* **124**, 231601 (2024).
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233. High-frame-rate ultrasound velocimetry in the healthy femoral bifurcation: a comparative study against 4-D flow magnetic resonance imaging. Majorie van Helvert, Janna Ruisch, Joosje de Bakker, Anne Saris, Chris de Korte, Michel Versluis, Erik Groot Jebbink, and Michel Reijnen. *Ultrasound Med. Biol.* **50**(12), 1755–1763 (2024).
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232. Validation of ultrasound velocimetry and computational fluid dynamics for flow assessment in femoral artery stenotic disease.
Lennart van de Velde, Majorie van Helvert, Stefan Engelhard, Ashkan Ghanbarzadeh-Dagheyan, Hadi Mirgolbabaee, Jason Voorneveld, Guillaume Lajoinie, Michel Versluis, Michel Reijnen, and Erik Groot Jebbink.
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231. High-speed optical characterization of protein-and-nanoparticle-stabilized microbubbles for ultrasound-triggered drug release.
Charlotte L. Nawijn, Tim Segers, Guillaume Lajoinie, Sigrid Berg, Sofie Snipstad, Catharina de Lange Davies, and Michel Versluis.
Ultrasound Med. Biol. **50**(8), 1099–1107 (2024)
<https://doi.org/10.1016/j.ultrasmedbio.2024.03.011>
230. Lesion eccentricity plays a key role in determining the pressure gradient of serial stenotic lesions.
L. van de Velde, E. Groot Jebbink, K. Jain, M. Versluis, and M.M.P.J. Reijnen.
Cardiovasc. Intervent. Radiol. **47**(5), 533–542 (2024).
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229. A unifying Rayleigh-Plesset-type equation for bubbles in viscoelastic media.
Alexandros T. Oratis, Kay Dijs, Guillaume Lajoinie, Michel Versluis, and Jacco H. Snoeijer.
J. Acoust. Soc. Am. **155**, 1593–1605 (2024).
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228. An anthropomorphic thyroid phantom for ultrasound-guided radiofrequency ablation of nodules.
Tim Boers, Wyger Brink, Leonardo Bianchi, Paola Saccomandi, Johan van Hespen, Germen Wennemars, Sicco Braak, Michel Versluis, and Srirang Manohar.
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227. Ultrasound particle image velocimetry to investigate potential hemodynamic causes of limb thrombosis after endovascular aneurysm repair with the Anaconda device.
H. Mirgolbabaee, L. van de Velde, R. H. Geelkerken, M. Versluis, E. Groot Jebbink, M.M.P.J. Reijnen
J. Endovasc. Ther. **32**(6), 2223–2235 (2023).
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226. Dependence of sonoporation efficiency on microbubble size: an in vitro monodisperse microbubble study.
Benjamin van Elburg, Joke Deprez, Martin van den Broek, Stefaan C. De Smedt, Michel Versluis, Guillaume Lajoinie, Ine Lentacker, and Tim Segers.
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225. Microbubble formation by flow-focusing: role of gas and liquid properties, and channel geometry.
Sarah Cleve, Anne Lassus, Christian Diddens, Benjamin van Elburg, Emmanuel Gaud, Samir Cherkaoui, Michel Versluis, Tim Segers, and Guillaume Lajoinie.
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224. Coated microbubbles swim via shell buckling.
Georges Chabouh, Marcel Mokbel, Benjamin van Elburg, Michel Versluis, Tim Segers, Sebastian Aland, Catherine Quilliet, and Gwennou Coupier.
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223. Computational Fluid Dynamics for the prediction of endograft thrombosis in the superficial femoral artery.
Lennart van de Velde, Erik Groot Jebbink, Rob Hagmeijer, Michel Versluis, and Michel M.P.J. Reijnen.
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222. Selective evaporation at the nozzle exit in piezoacoustic inkjet printing.
Maaïke Rump, Uddalok Sen, Roger Jeurissen, Hans Reinten, Michel Versluis, Detlef Lohse, Christian Diddens, and Tim Segers.
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221. Ultrasound imaging in thyroid nodule diagnosis, therapy and follow-up: current status and future trends.
T. Boers, S.J. Braak, N.E.T. Rikken, M. Versluis, and S. Manohar.
J. Clin. Ultrasound **2023**, 1-14 (2023).
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220. Buckling of lipidic ultrasound contrast agents under quasi-static load.
Georges Chabouh, Benjamin van Elburg, Michel Versluis, Tim Segers, Catherine Quilliet, and Gwennou Coupier.
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219. Vorticity-induced flow-focusing leads to bubble entrainment in an inkjet printhead: synchrotron X-ray and volume-of-fluid visualizations.
Maaïke Rump, Youssef Saade, Uddalok Sen, Kamel Fezzaa, Michel Versluis, Detlef Lohse, and Tim Segers.
Phys. Rev. Fluids **7**, 104004 (2022).
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218. Irrigant flow in the root canal during ultrasonic activation: a numerical fluid-structure interaction model and its validation.
C. Boutsioukis, B. Verhaagen, L.W.M. van der Sluis, and M. Versluis
Int. Endod. J. **55**, 938-949 (2022).
<https://doi.org/10.1111/iej.13791>
217. Time-resolved absolute radius estimation of vibrating contrast microbubbles using an acoustical camera.
Sander Spiekhout, Jason Voorneveld, Benjamin van Elburg, Guillaume Renaud, Tim Segers, Guillaume P.R. Lajoinie, Michel Versluis, Martin D. Verweij, Nico de Jong, and Johannes G. Bosch.
J. Acoust. Soc. Am. **151**(6), 3993-4003 (2022).
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216. A theoretical framework for acoustically produced luminescence: from thermometry to ultrasound pressure field mapping.
Simon E. Michels, Guillaume Lajoinie, Saeid Hedayatrasa, Michel Versluis, Mathias Kersemans, and Philippe Smet.
J. Lumin. **248**:118940 (2022).
<https://doi.org/10.1016/j.jlumin.2022.118940>
215. The response of dual-species bacterial biofilm to 2% and 5% NaOCl mixed with etidronic acid: real-time evaluation by optical coherence tomography.
M.M.B. Borges, R.J.B. Dijkstra, F.B. Andrade, M.A.H. Duarte, M. Versluis, L.W.M. van der Sluis, and X. Petridis.
Int. Endod. J. **55**(7), 758-771 (2022).
<https://doi.org/10.1111/iej.13754>
214. Super-resolved microbubble localization in single-channel ultrasound RF signals using deep learning.
Nathan Blanken, Jelmer M. Wolterink, Hervé Delingette, Christoph Brune, Michel Versluis, and Guillaume Lajoinie.
IEEE Trans. Med. Imaging **41**(9), 2532-2542 (2022).
<https://doi.org/10.1109/tmi.2022.3166443>

213. High-frame-rate contrast-enhanced ultrasound particle image velocimetry in patients with a stented superficial femoral artery: a feasibility study.
Majorie van Helvert, Stefan Engelhard, Jason Voorneveld, Marije van der Vee, Johan G. Bosch, Michel Versluis, Erik Groot Jebbink, and Michel M. P. J. Reijnen.
Eur. Radiol. Exp. **6**:32 (2022).
<https://doi.org/10.1186/s41747-022-00278-w>
212. Evaluation of liposome-loaded microbubbles as theranostic tool in murine collagen-induced arthritis.
Joke Deprez, Silke Roovers, Guillaume Lajoinie, Heleen Dewitte, Tine Decruy, Julie Coudenys, Benedicte Descamps, Christian Vanhove, Michel Versluis, Dirk Elewaut, Peggy Jacques, Stefaan C. De Smedt, and Ine Lentacker
Sci. Pharm. **90**(1), 17 (2022)
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211. The Supera interwoven nitinol stent as a flow diverting configuration in popliteal aneurysms.
L. van de Velde, E. Groot Jebbink, B.A. Zambrano, M. Versluis, J. Tessarek, and M.M.P.J. Reijnen.
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