

## Rodolfo Repetto: List of Publications

### Publications on ISI Journals

- [1] Romano, M. R., Stocchino, A., Ferrara, M., Lagazzo, A. and Repetto, R. 2018. Fluidics of single and double blade guillotine vitrectomy probes in balanced salt solution and artificial vitreous. Accepted for the publication in *Translational Vision Science & Technology*.
- [2] Dvoriashyna, M., Foss, A. J. E., Gaffney, E. A., Jensen, O. E. and Repetto, R. 2018. Osmotic and electroosmotic fluid transport across the retinal pigment epithelium: A mathematical model. *Journal of Theoretical Biology*, vol. 456, pp. 233-248, doi: 10.1016/j.jtbi.2018.08.009.
- [3] Davvalo Khongar, P., Pralits, J. O., Soleri, P., Romano, M. and Repetto, R. 2018. A study of the mechanical forces on aphakic iris-fixated intraocular lenses. *ASME. Journal of Biomechanical Engineering*, vol. 140(11), pp. 111009-1–111009-8, doi: 10.1115/1.4040588.
- [4] Damiano N., Repetto, R., Tweedy, J. H., Williamson, T. H. and Pralits, J. O. 2018. A simple mathematical model of rhegmatogenous retinal detachment. *Journal of Fluids and Structures*, vol. 82, pp. 245-257, doi: 10.1016/j.jfluidstructs.2018.06.020.
- [5] Dvoriashyna, M., Repetto, R., Romano, M. R. and Tweedy, J. H. 2017. Aqueous humour flow in the posterior chamber of the eye and its modifications due to pupillary block and iridotomy. *Mathematical Medicine and Biology*, doi: 10.1093/imammb/dqx012.
- [6] Tweedy, J. H., Pralits, J. O., Repetto, R. and Soleri P. 2017. Flow in the anterior chamber of the eye with an implanted iris-fixated artificial lens. *Mathematical Medicine and Biology*, doi: 10.1093/imammb/dqx007.
- [7] Isakova, K., Pralits, J. O., Romano, M. R., Beenakker, J. M., Shamonin, D. P. and Repetto, R. 2017 Equilibrium shape of the aqueous humor-vitreous substitute interface in vitrectomized eyes. *Journal for Modeling in Ophthalmology*, issue 3, pp. 31-46.
- [8] Davvalo Khongar, P., Pralits, J. O., Soleri, P. and Repetto, R. 2017. Aqueous flow in the presence of a perforated iris-fixated intraocular lens. *Meccanica*, vol. 52, issue 3, pp. 577-586, doi: 10.1007/s11012-015-0313-y.
- [9] Saracco, A., Bauckneht, M., Verna, E., Ghiringhelli, S., Repetto, R., Sambuceti, G., Provasoli, S. and Storace, M. 2016. A mathematical model for the vessel recruitment in coronary microcirculation in the absence of active autoregulation. *Microvascular Research*, vol. 106, pp. 38-45, doi: 10.1016/j.mvr.2015.11.006.
- [10] Bonfiglio, A., Lagazzo, A., Repetto, R. and Stocchino, A. 2015. An experimental model of vitreous motion induced by eye rotations. *Eye and Vision*, pp. 2-10, doi: 10.1186/s40662-015-0020-8.
- [11] Repetto, R., Pralits, J. O., Siggers, J. H. and Soleri, P. 2015. Phakic iris-fixated intraocular lens placement in the anterior chamber: effects on aqueous flow. *Investigative Ophthalmology & Visual Science*, vol. 56, pp. 3061-3068, doi:10.1167/iovs.14-16118.
- [12] Isakova, K., Pralits, J. O., Repetto, R. and Romano M. R. 2014. A model for the linear stability of the interface between aqueous humor and vitreous substitutes after vitreoretinal surgery. *Phys. of Fluids*. vol. 26, no. 12, pp. 124101-1–124101-13, doi:10.1063/1.4902163.

- [13] Repetto, R., J. H. Siggers and J. Meskauskas. 2014. Steady streaming of a viscoelastic fluid within a periodically rotating sphere. *J. Fluid. Mech.* vol. 761, pp. 329–347, doi:10.1017/jfm.2014.546.
- [14] Isakova, K. Pralits, J. O., Repetto, R. and Romano, M. R. 2014. Mechanical models of the dynamics of vitreous substitutes. *BioMed Research International*. vol. 2014, Article ID 672926, <http://dx.doi.org/10.1155/2014/672926>.
- [15] Siggers, J. H., Leungchavaphongse, K. Ho, C. H. and Repetto, R. 2014. Mathematical model of blood and interstitial flow and lymph production in the liver. *Biomech. Model. Mechanobiol.* vol. 13, pp. 363–378, doi: 10.1007/s10237-013-0516-x.
- [16] Debbaut, C., Vierendeels, J., Siggers, J. H., Repetto, R., Monbaliu, D. and Segers, P. 2014. A 3D porous media liver lobule model: the importance of vascular septa and anisotropic permeability for homogeneous perfusion. *Comput. Methods Biomech. Biomed. Eng.*, vol. 17, issue 12, pp. 1295–1310, doi: 10.1080/10255842.2012.744399.
- [17] Bonfiglio, A., Repetto, R., Siggers, J. H. and Stocchino, A. 2013. Investigation of the motion of a viscous fluid in the vitreous cavity induced by eye rotations and implications for drug delivery. *Physics in Medicine and Biology*, vol. 58, no. 6, pp. 1969–1982, doi:10.1088/0031-9155/58/6/1969.
- [18] Meskauskas, J., Repetto, R. and Siggers, J. H. 2012. Shape change of the vitreous chamber influences retinal detachment and reattachment processes: is mechanical stress during eye rotations a factor? *Investigative Ophthalmology & Visual Science*, vol. 53, no. 10, pp. 6271–6281, doi:10.1167/iovs.11-9390.
- [19] Rossi, T., Querzoli, G., Pasqualitto, G., Iossa, M., Placentino, L., Repetto, R., Stocchino, A. and Ripandelli, G. 2012. Ultrasound imaging velocimetry of the human vitreous. *Experimental Eye Research.*, vol. 99, pp. 98–104, doi:10.1016/j.exer.2012.03.014.
- [20] Meskauskas, J., Repetto, R. and Siggers, J. H. 2011. Oscillatory motion of a viscoelastic fluid within a spherical cavity. *J. Fluid Mech.*, vol. 685, pp. 1–22, doi:10.1017/jfm.2011.263.
- [21] Repetto, R., Tatone, A., Testa, A. and Colangeli, E. 2011. Traction on the Retina Induced by Saccadic Eye Movements in the Presence of Posterior Vitreous Detachment. *Biomech. Model. Mechanobiol.*, vol. 10, pp. 191–202, doi:10.1007/s10237-010-0226-6.
- [22] Bonfiglio, A., Leungchavaphongse, K., Repetto, R. and Siggers, J. H. 2010. Mathematical modeling of the circulation in the liver lobule. *J. Biomech. Eng (ASME)*, vol. 132/111011, doi:10.1115/1.4002563.
- [23] Repetto, R., Siggers, J. H. and Stocchino, A. 2010. Mathematical model of flow in the vitreous humor induced by saccadic eye rotations: effect of geometry. *Biomech. Model. Mechanobiol.*, vol. 9, pp. 65–76, doi:10.1007/s10237-009-0159-0.
- [24] Stocchino, A., Repetto, R. and Siggers, J. H. 2010. Mixing processes in the vitreous chamber induced by eye rotations. *Phys. Med. Biol.*, vol. 55, pp. 453–467, doi:10.1088/0031-9155/55/2/008.
- [25] Bertoldi, W., Zanoni, L., Miori, S., Repetto, R. and Tubino, M. 2009. Interaction between migrating bars and bifurcations in gravel-bed rivers. *Water Resour. Res.*, vol. 45, W06418, doi:10.1029/2008WR007086.

- [26] Repetto, R., Siggers, J. H. and Stocchino, A. 2008. Steady streaming within a periodically rotating sphere. *J. Fluid Mech.*, vol. 608, pp. 71–80, doi:10.1017/S002211200800222X.
- [27] Siviglia, A., Repetto, R., Zolezzi, G. and Tubino, M. 2008. River bed evolution due to channel expansion: general behaviour and application to a case study (Kugart River, Kyrgyz Republic). *River Res. Appl.*, vol. 24, issue 9, pp. 1271–1287, doi:10.1002/rra.1095.
- [28] Beltrami, G. M., Repetto, R. and Del Guzzo, A. 2007. A simple method to regularise supercritical flow profiles in bends. *J. Hydraul. Res.*, vol. 45, no. 6, pp. 773–786, doi:10.1080/00221686.2007.9521815.
- [29] Stocchino, A., Repetto, R. and Cafferata, C. 2007. Eye rotation induced dynamics of a Newtonian fluid within the vitreous cavity: the effect of the chamber shape. *Phys. Med. Biol.*, vol. 52, pp. 2021–2034, doi:10.1088/0031-9155/52/7/016.
- [30] Miori, S., Repetto, R. and Tubino, M. 2006. A one-dimensional model of bifurcations in gravel bed channels with erodible banks. *Water Resour. Res.*, vol. 42, no. 11, W11413, doi:10.1029/2006WR004863.
- [31] Repetto, R. 2006. An analytical model of the dynamics of the liquefied vitreous induced by saccadic eye movements. *Meccanica*, vol. 41, no. 1, pp 101–117, doi:10.1007/s11012-005-0782-5.
- [32] Repetto R., Stocchino A. and Cafferata, C. 2005. Experimental investigation of vitreous humour motion within a human eye model. *Phys. Med. Biol.*, vol. 50, pp. 4729–4743, doi:10.1088/0031-9155/50/19/021.
- [33] Repetto, R., Ghigo, I., Seminara, G. and Ciurlo, C. 2004. A simple hydro-elastic model of the dynamics of a vitreous membrane. *J. Fluid Mech.*, vol. 503, pp. 1–14, doi:10.1017/S0022112003007389.
- [34] Bolla Pittaluga, M., Repetto, R. and Tubino, M. 2003. Channel bifurcation in braided rivers: equilibrium configurations and stability. *Water Resour. Res.*, vol. 39 no. 3, 1046, doi:10.1029/2001WR001112.<sup>1</sup>
- [35] Repetto, R. and Galletta, V. 2002. Finite amplitude Faraday waves induced by a random forcing. *Phys. Fluids*, vol. 14, no. 12, pp. 4284–4289, doi:10.1063/1.1518690.
- [36] Repetto, R., Tubino, M. and Paola, C. 2002. Planimetric instability of channels with variable width. *J. Fluid Mech.*, vol. 457, pp. 79–109, doi:10.1017/S0022112001007595.
- [37] Repetto, R. and Tubino, M. 2001. Topographic expressions of bars in channels with variable width. *Phys. Chem. Earth (B): Hydrology, Oceans and Atmosphere*, vol. 26, issue 1, pp. 71–76, doi:10.1016/S1464-1909(01)85017-6.
- [38] Tubino, M., Repetto R. and Zolezzi, G. 1999. Free bars in rivers. *J. Hydraul. Res.*, vol. 37, no. 6, pp. 759–775.

### Chapters in books

- [39] Repetto, R., Siggers, J. H. and Meskauskas, J. 2014. Fluid mechanics of the vitreous chamber. In *Integrated multidisciplinary approaches in the study and care of the human eye*, edited by Paola Causin, Giovanna Guidoboni, Riccardo Sacco and Alon Harris, Kugler Publications, Amsterdam, The Netherlands. ISBN: 978-90-6299-241-6.

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<sup>1</sup>Bolla Pittaluga, M., Repetto, R. and Tubino, M. 2003. Correction to “Channel bifurcation in braided rivers: Equilibrium configurations and stability”, *Water Resour. Res.*, vol. 39, no. 11, 1323, doi:10.1029/2003WR002754.

- [40] Repetto, R. e Zolezzi, G. 2014. Il progetto delle valli: le sistemazioni dei corsi d'acqua. In *Ingegneria e paesaggio in Italia: un progetto per le valli e per le coste*, a cura di Mariolina Besio, Donzelli Editore, Roma, ISBN: 978-88-6843-062-7.
- [41] Besio, M., Bovolenta, R., Passalacqua, R., Repetto, R. e Zolezzi, G. 2014. Il progetto incompiuto delle valli liguri. In *Ingegneria e paesaggio in Italia: un progetto per le valli e per le coste*, a cura di Mariolina Besio, Donzelli Editore, Roma, ISBN: 978-88-6843-062-7.
- [42] Siviglia, A., Repetto, R., Zolezzi, G. and Tubino, M. 2009. Application of a one-dimensional mathematical model for river morphodynamics: silting in the Kugart River, Kyrgyzstan. In *Hydraulic Structures for Small Hydropower Engineering of Mountain and Foot-Mountain Area*, edited by Nikolay Lavrov, pp. 113–129. ISBN: 978-9967-05-524-7.
- [43] Bolla Pittaluga, M., Federici, B., Repetto, R., Paola, C., Seminara, G. and Tubino, M. 2001. The morphodynamics of braiding rivers: experimental and theoretical results on unit processes. In *Gravel-Bed Rivers V*, edited for the New Zealand Hydrological Society by M. Paul Mosley, Wellington, New Zealand, pp. 143–181. ISBN: 9780473074869.

#### **Publications on proceedings of scientific meetings**

- [44] Tatone, A., Recrosi, F. Repetto, R. 2017. From species diffusion to poroelasticity in modelling the lamina cribrosa. *XXIII Congresso AIMETA 2013*, Salerno, September 4-7.
- [45] Isakova, K., Pralits, J. and Repetto, R. 2013. Stability of the interface between two immiscible fluids over a periodically oscillating flat surface. *XX Congresso AIMETA 2013*, Torino, September 17-20.
- [46] Repetto, R., Meskauskas, J., Bonfiglio, A., Stocchino, A. and Siggers, J. H. 2012. A model of the dynamics of the vitreous humour in the eye. *XXXIII Convegno di Idraulica e Costruzioni Idrauliche*. Brescia (Italy), September 10-15. ISBN: 9788897181187.
- [47] Meskauskas, J., Repetto, R. and Siggers, J. H. 2011. Dynamics of the vitreous humour and stress on the retina generated during eye rotations. *XX Congresso AIMETA 2011*, ISBN 978-88-906340-1-7, Bologna, September 12-15.
- [48] Siggers, J. H., Bonfiglio, A., Leungchavaphongse, K. and Repetto, R. 2010. Mathematical modelling of blood circulation in the liver. *6<sup>th</sup> World Congress of Biomechanics (WCB 2010)*, *IFMBE Proceedings*, vol. 31, part 2, pp. 454–457, doi:10.1007/978-3-642-14515-5\_116. Singapore, August 1-6.
- [49] Repetto, R., Siggers, J. H., Finn, M. and Stocchino, A. 2009. Flow in the vitreous humour of the eye induced by saccadic eyeball motion. *Fourth Asian and Pacific Conference on Biomechanics*. University of Canterbury, Christchurch (New Zealand), April 14-17.
- [50] Repetto, R., Siggers, J. H. and Stocchino, A. 2008. Experimental and theoretical study of the steady streaming in a sphere subject to periodic torsional oscillations. *XXXI Convegno di Idraulica e Costruzioni Idrauliche*. ISBN: 886074220X, Perugia (Italy), September 9-12.
- [51] Colangeli, E., Repetto, R., Tatone, A. and Testa, A. 2007. Traction on the retina induced by saccadic eye movements in the presence of posterior vitreous detachment. *Comsol Conference*. Grenoble (France), October 23-24.

- [52] Zolezzi, G., Repetto, R., Siviglia, A., Serafini, M., Tubino, M. and Toropov, M. 2007. Mathematical modelling of silting in the Kugart river, Kyrgyzstan. *5<sup>th</sup> I.A.H.R. Symposium on River, Coastal and Estuarine Morphodynamics*, ISBN: 978-0-415-45363-9, pp. 1179–1186. Enschede (The Netherlands), September 17-21.
- [53] Miori, S., Repetto, R. e Tubino, M. 2006. Effetti di non stazionarietà sulla dinamica delle biforcazioni negli alvei intrecciati. *XXX Convegno di Idraulica e Costruzioni Idrauliche*, ISBN: 888724281X, Roma, settembre 10-15.
- [54] Del Guzzo, A., Beltrami, G. M. e Repetto, R. 2006. Un semplice metodo per la regolarizzazione del profilo nelle correnti supercritiche in curva. *XXX Convegno di Idraulica e Costruzioni Idrauliche*, ISBN: 888724281X, Roma, settembre 10-15.
- [55] Miori, S., Repetto, R. and Tubino, M. 2006. Unsteadiness effects on the morphological behaviour of gravel-bed river bifurcations. *River Flow 2006*, Proceedings of the International Conference on Fluvial Hydraulics, ISBN: 978-0-415-40815-8, doi: 10.1201/9781439833865.ch136. Lisbon (Portugal), June 6-8.
- [56] Miori, S., Repetto R. and Tubino M. 2005. Morphological evolution of bifurcations in gravel-bed rivers with erodible banks. *4<sup>th</sup> I.A.H.R. Symposium on River, Coastal and Estuarine Morphodynamics*, ISBN: 978-0-415-39270-9, pp. 421–428, doi: 10.1201/9781439833896.ch47. Urbana (Illinois, USA), October 4-7.
- [57] Cafferata, C., Repetto R. and Stocchino, A. 2005. Dinamica del vitreo oculare indotta dai movimenti saccadici. *AIME TA 2005, XVII Congresso AIME TA di Meccanica Teorica e Applicata*, ISBN: 88-8453-460-7, vol. 2, pp. 13–22, Firenze, settembre 11-15.
- [58] Beltrami, G. M., Repetto, R. e Remedia, G. 2004. Un nuovo metodo per la riduzione del sovrizzo delle correnti supercritiche in curva. *XXIX Convegno di Idraulica e Costruzioni Idrauliche*, ISBN: 8877403829, vol. 1, pp. 957–964. Trento, settembre 7-10.
- [59] Miori, S. Repetto, R. e Tubino, M. Configurazioni di equilibrio di biforcazioni in canali a fondo mobile e sponde erodibili. 2004. *XXIX Convegno di Idraulica e Costruzioni Idrauliche*, ISBN: 8877403829, vol. 1, pp. 527–533. Trento, settembre 7-10.
- [60] Repetto, R. Un modello analitico della fluidodinamica del vitreo oculare liquefatto. 2004. *XXIX Convegno di Idraulica e Costruzioni Idrauliche*, ISBN: 8877403829, vol. 1, pp. 267–274. Trento, settembre 7-10.
- [61] Repetto, R. e Seminara, G. 2002. Su un problema di idroelasticità di rilievo per la dinamica del vitreo oculare. *XXVIII Convegno di Idraulica e Costruzioni Idrauliche*, ISBN: 8877403403, vol. 1, pp. 707–714. Potenza, settembre 16-19.
- [62] Repetto, R. and Seminara, G. 2002. A hydrodynamic problem relevant for human vitreous dynamics. *2<sup>nd</sup> Workshop BIOFLUMEN, Biological Fluid Mechanics, Istituto Superiore di Sanità*, pp. 41–44. Roma, aprile 15.
- [63] Bolla Pittaluga, M., Repetto, R. and Tubino, M. 2001. Channel bifurcation in one-dimensional models: a physically based nodal point condition. *2<sup>nd</sup> I.A.H.R. Symposium on River, Coastal and Estuarine Morphodynamics*, pp. 305–314. Obihiro (Japan), September 10-14.
- [64] Repetto, R., Tubino, M. e Volcan, C. 2000. La risposta altimetrica di correnti a fondo mobile in canali a larghezza variabile: osservazioni sperimentali. *XXVII Convegno di Idraulica e Costruzioni Idrauliche*, vol. 1, pp. 333–341. Genova, settembre 12-15.

- [65] Besio, G., Bolla Pittaluga, M., Repetto, R. e Tubino, M. 2000. Stabilità di biforcazioni fluviali in alvei a fondo mobile. *XXVII Convegno di Idraulica e Costruzioni Idrauliche*, vol. 1, pp. 205–213. Genova, settembre 12-15.
- [66] Repetto, R. and Tubino, M. 1999. Transition from migrating alternate bars to steady central bars in channels with variable width. *I.A.H.R. Symposium on River, Coastal and Estuarine Morphodynamics*, vol. 1, pp. 605–614. Genoa (Italy), September 6-10.
- [67] Repetto, R. e Tubino, M. 1998. Instabilità planimetrica di correnti a larghezza variabile. *Atti dei convegni Lincei 154. Il rischio idrogeologico e la difesa del suolo*, pp. 201–206. Roma, ottobre 1-2.
- [68] Galletta, V. e Repetto, R. 1998. Onde di ampiezza finita in contenitori oscillanti verticalmente con legge temporale random. *XXVI Convegno di Idraulica e Costruzioni Idrauliche*, vol. 4, pp. 301–312. Catania, settembre 9-12.
- [69] Repetto, R. e Tubino, M. 1998. La risposta altimetrica di correnti a fondo mobile in canali a larghezza variabile. *XXVI Convegno di Idraulica e Costruzioni Idrauliche*, vol. 1, pp. 405–416. Catania, settembre 9-12.
- [70] Repetto, R., Tubino, M. e Zolezzi, G. 1996. Sulla formazione di barre fluviali in granulometria fine. *XXV Convegno di Idraulica e Costruzioni Idrauliche*, vol. 2, pp. 322–333. Torino, settembre 16-18.

#### Abstracts presented to national and international conferences

- [71] Dvoriashyna, M., Repetto, R. and Tweedy, J. H. 2018. Aqueous flow in the anterior chamber of the rotating eye: a mathematical model. UK Fluids conference 2018. Manchester (UK), September 4-6.
- [72]
- [73]
- [74]
- [75]
- [76] Davvalo Khongar, P., Pralits, J. O., Cheng, X., Pinsky, P., Soleri, P. and Repetto, R. 2017. Effect of an iris-fixated intraocular lens on corneal metabolism: a numerical study. *ESB-ITA Italian Chapter of the European Society of Biomechanics*. Roma, September 28-29.
- [77] Dvoriashyna, M., Foss, A. J. E., Gaffney, E. A., Jensen, O. E. and Repetto, R. 2017. A mathematical model of fluid transport across the retinal pigment epithelium. *ESB-ITA Italian Chapter of the European Society of Biomechanics*. Roma, September 28-29.
- [78] Nepita, I., Liggieri, L., Santini, E., Ravera, F., Romano, M. R., Pralits, J. O. and Repetto, R. 2017. The effect of serum proteins on dynamic interfacial properties of silicone oils in vitrectomized eyes. *ESB-ITA Italian Chapter of the European Society of Biomechanics*. Roma, September 28-29.
- [79] Recrosi, F., Repetto, R., Tatone, A. and Guidoboni, G. 2017. Thermodynamical derivation of a nonlinear poroelastic model describing hemodynamics-mechanics interplay in the lamina cribrosa. *ESB-ITA Italian Chapter of the European Society of Biomechanics*. Roma, September 28-29.

- [80] Repetto, R., Di Michele, F. and Tatone, A. 2017. A mathematical model of posterior vitreous detachment and generation of vitreoretinal tractions *ESB-ITA Italian Chapter of the European Society of Biomechanics*. Roma, September 28-29.
- [81] Salerni, F., Repetto, R., Harris, A., Pinsky, P., Prud'homme C., Szopos, M. and Guidoboni, G. 2017. Mathematical modelling of ocular and cerebral hemo-fluid dynamics: application to VIIP. *ESB-ITA Italian Chapter of the European Society of Biomechanics*. Roma, September 28-29.
- [82] Stocchino, A., Repetto, R. and Romano, M. 2017. Assessment of the fluid dynamic performance of a vitreous cutter *ESB-ITA Italian Chapter of the European Society of Biomechanics*. Roma, September 28-29.
- [83] Davvalo Khongar, P., Auteri, F., de Tullio, M. D., Guermond, J., Pandolfi, A., Pralits, J. O. and Repetto, R. 2017. FSI simulation of a detached retina. *XXII Congresso AIMETA*. Salerno, September 4-7.
- [84] Davvalo Khongar, P., Pralits, J. O., Cheng, X., Pinsky, P., Soleri, P. and Repetto, R. 2017. A mathematical model of corneal metabolism in the presence of an iris-fixated intraocular lens. *23rd Congress of the European Society of Biomechanics*. Seville (Spain), July 2-5.
- [85] Santini, E., Liggieri, L., Ravera, F., Nepita, I., Pralits, J. O., Repetto, R. and Romano M. 2017. The effect of serum proteins on the dynamic interfacial properties of high-viscosity silicone oils. *Bubble and drop*. Lyon (France), June 26-30.
- [86] Pralits, J. O., Repetto, R., Nepita, I., Romano, M. R., Ravera, F., Santini, E. and Liggieri, L. 2017. The effect of albumin on the interfacial tension of silicone oil in vitrectomized eyes. *ARVO Annual Meeting*. Baltimore, MD. (USA), May 7-11.
- [87] Guidoboni, G., Salerni, F., Harris, A., Prud'homme, C., Szopos, M., Pinsky, P. M. and Repetto, R. 2017. Ocular and cerebral hemo-fluid dynamics in microgravity: a mathematical model. *ARVO Annual Meeting*. Baltimore, MD. (USA), May 7-11.
- [88] Repetto, R., Di Michele, F. and Tatone, A. 2017. A mathematical model of posterior vitreous detachment and generation of vitreoretinal tractions. *ARVO Annual Meeting*. Baltimore, MD. (USA), May 7-11.
- [89] Sala, L., Prud'homme, C., Prada, D., Salerni, F., Trophime, C., Chabannes, V., Szopos, M., Repetto, R., Sacco, R., Harris, A. and Guidoboni, G.. 2017. Patient-specific virtual simulator of tissue perfusion in the lamina cribrosa. *ARVO Annual Meeting*. Baltimore, MD. (USA), May 7-11.
- [90] Dvoriashyna, M., Repetto, R. and Tweedy, J. H. 2016. Aqueous humor flow in the posterior chamber of the eye with iridotomy. *XXXV Convegno di Idraulica e Costruzioni Idrauliche*. Bologna (Italy), September 14-16.
- [91] Nepita, I., Lagazzo, A., Barone, S., Besio, G., Stocchino, A. and Repetto, R. 2016. Caratterizzazione reologica di un liquido di coltura embrionale e implicazioni per l'uso di dispositivi microfluidici. *XXXV Convegno di Idraulica e Costruzioni Idrauliche*. Bologna (Italy), September 14-16.
- [92] Dvoriashyna, M., Repetto, R. and Tweedy, J. H. 2016. Aqueous humor flow in the posterior chamber of the eye with iridotomy. *SB3C Summer Biomechanics, Bioengineering, and Biotransport Conference*. National Harbor, Maryland, USA, June 29 - July 2.

- [93] Isakova, K., Pralits, J. O., Tammissola, O. and Repetto, R. 2016. A mathematical model of vitreoschisis. *SB3C Summer Biomechanics, Bioengineering, and Biotransport Conference*. National Harbor, Maryland, USA, June 29 - July 2.
- [94] Davvalo Khongar, P., Cheng, X., Pralits, J. O., Repetto, R., Soleri, P. and Pinsky, P. M. 2016. Numerical investigation of glucose transport and corneal metabolism in the anterior chamber in the presence of an iris-fixated intraocular lens. *ARVO Annual Meeting*. Seattle, WA. (USA), May 1-5.
- [95] Tweedy, J. H., Dvoriashyna, M. and Repetto, R. 2016. Aqueous humor flow in the posterior chamber of the eye in the case of iridotomy. *ARVO Annual Meeting*. Seattle, WA. (USA), May 1-5.
- [96] Baronti, V., Barberis, F., Capurro, M. and Repetto, R. 2015. Poro-elastic behavior of a polyurethane liver phantom by indentation tests *XXII Congresso AIMETA*, Genoa, September 14-17.
- [97] Davvalo Khongar, P., Repetto, R. and Pralits, J. O. 2015. Effect of a central hole in an intraocular lens on pressure and corneal nutrient uptake Un modello delle trazioni generate sulla retina durante il processo di sineresi vitreale. *XXII Congresso AIMETA*, Genoa, September 14-17.
- [98] Di Michele, F., Repetto, R. and Tatone, A. 2015. Un modello delle trazioni generate sulla retina durante il processo di sineresi vitreale. *XXII Congresso AIMETA*, Genoa, September 14-17.
- [99] Dvoriashyna, M., Repetto, R. and Siggers, J. H. 2015. Theoretical model of the flow in the posterior chamber with iridotomy. *XXII Congresso AIMETA*, Genoa, September 14-17.
- [100] Ghaderi, M., Isakova, K., Pralits, J. O. and Repetto, R. 2015. Non-modal stability analysis of the interface between two immiscible fluids superposed over periodically oscillating flat surface. *XXII Congresso AIMETA*, Genoa, September 14-17.
- [101] Isakova, K., Repetto, R. and Pralits, J. O. 2015. Shape of the interface between a tamponade fluid and aqueous humor in vitrectomised eyes. *XXII Congresso AIMETA*, Genoa, September 14-17.
- [102] Saracco, A., Bauckneht, M., Repetto, R., Sambuceti, G., and Storace, M. 2015. Modello matematico di reclutamento di vasi nella microcircolazione coronarica. *XXII Congresso AIMETA*, Genoa, September 14-17.
- [103] Isakova, K., Pralits, J. O. and Repetto, R. Equilibrium shape of the aqueous-vitreous substitute interface. 2015. *SB3C-2015, Summer Biomechanics, Bioengineering and Biotransport Conference*. Snowbird Resort, Utah (USA), June 17-20.
- [104] Repetto, R., Davvalo Khongar, P., Pralits, J. O., Siggers, J. H. and Soleri, P. 2015. Numerical simulations of flow and mass transport processes in the anterior chamber in the presence of an iris-fixated intraocular lens. *ARVO Annual Meeting*. Denver, CO. (USA), May 3-7.
- [105] Isakova, K., Repetto, R. and Pralits, J. O. 2014. Alcuni aspetti della meccanica di un fluido tamponante all'interno della camera vitrea dell'occhio. 2014. *XXXIV Convegno di Idraulica e Costruzioni Idrauliche*. Bari (Italy), September 7-10. ISBN: 978-88-904561-8-3, pp. 93-94.
- [106] Repetto, R., Pralits, J. O. and Siggers, J. H. 2014. Fluidodinamica della camera anteriore dell'occhio in presenza di lenti intraoculari. 2014. *XXXIV Convegno di Idraulica e Costruzioni Idrauliche*. Bari (Italy), September 7-10. ISBN: 978-88-904561-8-3, pp. 101-102.

- [107] Isakova, K., Pralits, J. O. and Repetto, R. Stability of a stratified fluid over a periodically oscillating flat surface. 2014. *10th European Fluid Mechanics Conference*, September 14-18, Copenhagen, Denmark.
- [108] Siggers, J. H., Repetto, R. and Meskauskas, J. 2014. Viscoelastic model of vitreous humor: stress on the retina and mass. *World Congress of Biomechanics (WCB2014)*, July 20-25, Boston (USA).
- [109] Repetto, R., Siggers, J. H., Pralits, J. O. and Davvalo Khongar, P. 2014. Lens placement in anterior chamber: effect on ocular health. *World Congress of Biomechanics (WCB2014)*, July 20-25, Boston (USA).
- [110] Siggers, J. H. and Repetto, R. 2014. Double porous medium model of blood and interstitial flow in the liver. *Proceedings of the 11th World Congress on Computational Mechanics (WCCM-ECCM-ECFD-2014)*, July 20-25, Barcelona, Spain.
- [111] Bonfiglio, A., Repetto, R. and Stocchino, A. 2013. In-vitro experimental study on the motion of the vitreous body induced by rotations of the eye ball. *Euromech Colloquium 533: "Biomechanics of the Eye"*. Genova, July 22-24.
- [112] Stocchino, A., Rossi, T., Querzoli, G., Pasqualitto, G., Iossa, M., Placentino, L., Repetto, R. and Ripandelli, G. 2013. Ultrasound imaging velocimetry of the human vitreous during eye rotations. *Euromech Colloquium 533: "Biomechanics of the Eye"*. Genova, July 22-24.
- [113] Isakova, K., Pralits, J. O., Repetto, R. and Romano, M. 2013. Stability analysis of the interface between aqueous humour and vitreous substitutes in vitrectomised eyes. *Euromech Colloquium 533: "Biomechanics of the Eye"*. Genova, July 22-24.
- [114] Bonfiglio, A., Stocchino, A., Repetto, R. and Siggers, J. H. 2012. In-vitro simulations of drug delivery in the vitreous chamber of the eye. *Proceedings of the ASME 2012 Summer Bioengineering Conference (SBC2012)*, June 20-23 2012, Fajardo, Puerto Rico (USA).
- [115] Meskauskas, J., Repetto, R. and Siggers, J. H. 2012. Theoretical model of the dynamic stress on the retina during eye rotations. *Proceedings of the ASME 2012 Summer Bioengineering Conference (SBC2012)*, June 20-23 2012, Fajardo, Puerto Rico (USA).
- [116] Rossi, T., Querzoli, G., Repetto, R., Stocchino, A., Pasqualitto, G., Iossa, M. and Placentino, L. 2012. In-vivo measurement of vitreous motion using an ultrasound imaging velocimetry technique. *Proceedings of the ASME 2012 Summer Bioengineering Conference (SBC2012)*, June 20-23 2012, Fajardo, Puerto Rico (USA).
- [117] Tatone, A. and Repetto, R. 2012. A Model of posterior vitreous detachment and generation of tractions on the retina. *8th European Solid Mechanics Conference (ESMC 2012)*, Graz (Austria), July 9-13.
- [118] Bonfiglio, A., Repetto, R. and Stocchino, A. 2011. Experimental study on the motion of a viscoelastic fluid in a rotating sphere. *XX Congresso AIMETA 2011*, Bologna, September 12-15.
- [119] Leungchavaphongse, K., Siggers, J. H. and Repetto, R. 2011. Mathematical model of the blood and interstitial flow on the micro-scale of the liver. *Euromech Colloquium 521: "Biomedical Flows at Low Reynolds Numbers"*. Zurich (Switzerland), July 26-28.
- [120] Siggers, J. H., Bonfiglio, A., Leungchavaphongse, K. and Repetto, R. 2011. Blood flow and deformation of liver tissue during portal hypertension. *Euromech Colloquium 521: "Biomedical Flows at Low Reynolds Numbers"*. Zurich (Switzerland), July 26-28.

- [121] Meskauskas, J., Repetto, R. and Siggers, J. H. 2011. Dynamics of the vitreous humour and stress on the retina generated during eye rotations. *Euromech Colloquium 521: "Biomedical Flows at Low Reynolds Numbers"*. Zurich (Switzerland), July 26-28.
- [122] Meskauskas, J., Repetto, R. and Siggers, J. H. 2010. Analytical model of stress distribution on the retina caused by eye rotations. *6<sup>th</sup> World Conference of Biomechanics*. Singapore, August 1-6.
- [123] Bonfiglio, A., Stocchino, A., Repetto, R. and Siggers, J. H. 2010. Reconstruction of the three-dimensional velocity field in the vitreous chamber from two-dimensional PIV measurements on a eye model. *Euromech Colloquium 518: "Biomechanics of the Eye"*. London (UK), July 26-28.
- [124] Meskauskas, J., Repetto, R. and Siggers, J. H. 2010. The effect of myopia and scleral buckling on the stress distribution on the retina. *Euromech Colloquium 518: "Biomechanics of the Eye"*. London (UK), July 26-28.
- [125] Siggers, J. H., Repetto, R. and Stocchino, A. 2010. Flow in the vitreous chamber of the eye: steady streaming in a Newtonian fluid. *Euromech Colloquium 518: "Biomechanics of the Eye"*. London (UK), July 26-28.
- [126] Tatone, A., Repetto, R., Testa, A. and Colangeli, E. 2010. A mechanical model of dynamic stresses on the retina in the presence of posterior vitreous detachment. *Euromech Colloquium 518: "Biomechanics of the Eye"*. London (UK), July 26-28.
- [127] Bonfiglio, A., Leungchavaphongse, K., Repetto R. and Siggers, J. H. A mathematical model of blood circulation in the lobule. *Proceedings of the ASME 2010 Summer Bioengineering Conference (SBC2010)*, June 16-19 2010, Naples (Florida, USA). ISBN: 978-0-7918-3874-7.
- [128] Siggers, J. H., Repetto, R. and Stocchino, A. 2009. Model of Vitreous Humour Flow in the Eye: Effect of Domain Shape. *Bioengineering 09*. University of Oxford (UK), September 24-25.
- [129] Stocchino, A., Repetto, R. and Siggers, J. H. 2009. Steady streaming in the liquefied vitreous due to saccadic eye movements. *Proceedings of the ASME 2009 Summer Bioengineering Conference*. Lake Tahoe (California, USA), June 17-21. Paper no. SBC2009-206191; pp. 361–362; 2 pages; doi: 10.1115/SBC2009-206191, ISBN: 978-0-7918-4891-3.
- [130] Repetto, R., Siggers, J. H. and Stocchino, A. 2008. Steady streaming in a periodically rotating sphere. *EFMC European Fluid Mechanics Conference (EUROMECH)*. Manchester (UK), September 14-18.
- [131] Siggers, J. H. and Repetto, R. 2008. Oscillating flow in a deformed sphere: application to motion of the vitreous humour. *EFMC European Fluid Mechanics Conference (EUROMECH)*, Manchester (UK), September 14-18.
- [132] Miori, S., Bertoldi, W., Repetto, R., Zanoni, L. and Tubino, M. 2007. The effect of alternating bars migration on river bifurcation dynamics. *AGU Fall Meeting*. San Francisco (California, USA), December 10-14.
- [133] Cafferata, C., Repetto, R., Siggers, J. H. and Stocchino, A. 2007. Fluid dynamic events within the vitreous cavity induced by saccadic eye rotations. *ASME 2007 Summer Bioengineering Conference*. Keystone (Colorado, USA), June 20-24.

- [134] Cafferata, C., Repetto, R. and Stocchino, A. 2006. Experimental investigation of vitreous humour dynamics. *EFMC European Fluid Mechanics Conference (EUROMECH)*. Stockholm (Sweden), June 26-30.
- [135] Repetto, R., Ghigo, I., Seminara, G. and Ciurlo, C. 2003. Dynamics of vitreous membranes: a simple theoretical model. *5<sup>th</sup> EUROMECH Fluid Mechanics Conference*, pp. 222. Toulouse (France), August 24-28.
- [136] Repetto, R. and Tubino, M. 2000. Free-forced interactions in braided channels. *4<sup>th</sup> EUROMECH Fluid Mechanics Conference EFMC2000*, pp. 93. Eindhoven (The Netherlands), November 19-23.
- [137] Repetto, R. and Tubino, M. 1997. Bed topography in channels with variable width. *AGU Fall Meeting*, Eos Transactions, AGU, vol. 78, no. 46, pp. F271, H32E-05. San Francisco (California, USA), November 18.

### **Theses**

- [138] Repetto, R. 2000. Unit processes in braided rivers. *PhD thesis*. PhD in Hydraulic Engineering, University of Padua. Supervisor: Tubino, M.
- [139] Repetto, R. e Zolezzi, G. 1996. Formazione di barre fluviali in presenza di trasporto solido in sospensione. *Tesi di laurea*, Università di Genova. Relatori Seminara, G. e Tubino, M.