

PUBLICATIONS OF DOMINIK OBRIST

Journal articles

- Carrel T., Dembitsky W., de Mol B., Obrist D., Dreyfus G., Meuris B., Vennemann B., Lapeyre D., Schaff H. Non-physiologic Closing of Bi-leaflet Heart Prostheses: Potential Impact on Thromboembolism and Mechanical Failure and Implications for Future Valve Designs, *Eur Heart J*, 2018, submitted.
- Jahren S. E., Vennemann B., Rösgen T., Obrist D. Leaflet fluttering in a bovine bioprosthetic heart valve: determinants and possible mechanisms, *J Biomech*, 2017, submitted.
- Hasler D., Obrist D. Effect of aortic root size on the flow in the vicinity of a bioprosthetic aortic valve, *PLOS ONE*, 2017, under review.
- Jahren S. E., Heinisch P. P., Hasler D., Winkler B., Stortecky S., Pilgrim T., Correa Londono M., Carrel T., von Tengg-Kobligk H., Obrist D. Can bioprosthetic valve thrombosis be promoted by aortic root morphology? An in vitro study, *Interactive Journal Cardiovasc Thor Surg*, 2017, in press.
- Anagnostopoulou P., Vomsattel S., Kentgens A.-C., Guidi M., Binggeli S., Kohler L., Singer F., Latzin P., Obrist D. An innovative lung model for multiple breath washout testing in health and disease, *Clin Biomech*, doi: 10.1016/j.clinbiomech.2017.11.002, 2017.
- Jahren S. E., Hurni S., Heinisch P. P., Winkler B., Obrist D., Weber A., Carrel T., Trans-valvular pressure gradients for different methods of mitral valve repair: only neochordoplasty achieves native valve gradients, *Interactive Journal Cardiovasc Thor Surg*, doi: 10.1093/icvts/ivx323, 2017.
- Niederhauser T., Gafner E. S., Cantieni T., Grämiger M., Häberlin A., Obrist D., Burkhard F., Clavica F., Detection and quantification of overactive bladder activity in patients: can we make it better and automatic?, *Neurourology & Urodynamics*, doi: 10.1002/nau.23357, 2017.
- Vennemann B., Rösgen T., Heinisch P. P., Obrist D., Leaflet Kinematics of Mechanical and Bioprosthetic Aortic Valve Prostheses, *ASAIO J*, doi: 10.1097/MAT.0000000000000687, 2017.
- Frey S., Haine A., Kammer R., von Tengg-Kobligk H., Obrist D., Baumgartner I., Hemodynamic characterization of peripheral arterio-venous malformations, *Ann Biomed Eng*, doi:10.1007/s10439-017-1821-9, 2017.
- Pfiffner F., Prochazka L., Péus D., Dobrev I., Dalbert A., Sim J.H., Kesterke R., Walraevens J., Harris F., Röösli C., Obrist D., Huber A., A MEMS Condenser Microphone-Based Intracochlear Acoustic Receiver, *IEEE Trans Biomed Eng*, **64**(10):2431-8, doi: 10.1109/TBME.2016.2640447, 2017.
- Clavica F., Homsy A., Jeandupeux L., Obrist D., Red blood cell phase separation in symmetric and asymmetric microchannel networks: effect of capillary dilation and inflow velocity, *Sci Rep*, **6**:36763; doi: 10.1038/srep36763, 2016.
- Hupp D., Arbenz P., Obrist D., A parallel Navier-Stokes solver using spectral discretization in time, *Int J Comp Fluid Dyn*, doi: 10.1080/10618562.2016.1242725, 2016.
- Obrist D., Nienhaus A., Zamaro E., Kalla R., Mantokoudis G., Strupp M., Determinants for a successful Sémont maneuver: an in-vitro study with a semicircular canal model, *Frontiers in Neurology – Neuro-otology* **7**:150. doi: 10.3389/fneur.2016.00150, 2016.
- S. E. Jahren, B. M. Winkler, P. P. Heinisch, J. Wirz, T. Carrel, D. Obrist, Aortic stiffness affects the kinematics of bioprosthetic aortic valves, *Interactive Journal Cardiovasc Thor Surg*, doi: 10.1093/icvts/ivw284, 2016.
- Vennemann B., Rösgen T., Carrel T. P., Obrist D., Time-Resolved Micro PIV in the Pivoting Area of the Triflo Mechanical Heart Valve, *Cardiovasc Eng Tech*, 1-13, 2016.
- Hasler D., Landolt A., Obrist D., Tomographic PIV behind a prosthetic heart valve, *Exp Fluids*, **57**(5):1-13, 2016.

- Grieser B., Kleiser L., Obrist D., Identifying mechanisms behind the Tullio phenomenon: a computational study based on first principles, *JARO*, **17**:103–118, doi: 10.1007/s10162-016-0553-0, 2016.
- John M. O., Obrist D., Kleiser L., Secondary instability and subcritical transition of the leading-edge boundary layer, *J Fluid Mech*, **792**:682-711, doi:10.1017/jfm.2016.117, 2016.
- Edom E., Obrist D., Kleiser L., Steady streaming in a two-dimensional box model of a passive cochlea, *J Fluid Mech*, **753**:254-278, 2014.
- John M. O., Obrist D., Kleiser L., A class of exact Navier-Stokes solutions for homogeneous flat-plate boundary layers and their linear stability, *J Fluid Mech*, **753**:462-484, 2014.
- John M. O., Obrist D., Kleiser L., Stabilization of subcritical bypass transition in the leading-edge boundary layer by suction, *J Turb*, **15**(11):795-805, doi: 10.1080/14685248.2014.933226, 2014.
- Bühler S., Obrist D., Kleiser L., Laminar and turbulent nozzle-jet flows and their acoustic near-field, *Phys Fluids*, **26**:086103, doi: 10.1063/1.4890493, 2014.
- Boselli F., Kleiser L., Bockisch C. J., Hegemann S., Obrist D., Quantitative analysis of BPPV fatigue under canalithiasis conditions, *J Biomech*, **47**(8):1853-1860, doi: 10.1016/j.jbiomech.2014.03.019, 2014.
- Pfenniger A., Stahel A., Koch V. M., Obrist D., Vogel R., Energy Harvesting through Arterial Wall Deformation: a FEM approach to fluid-structure interactions and magneto-hydrodynamics, *Appl Math Model*, **38**(13):3325-3338, doi: 10.1016/j.apm.2013.11.051, 2014.
- Edom E., Obrist D., R. Henniger, Sim J. H., Huber A., Kleiser L., The effect of rocking stapes motions on the fluid flow in the cochlea and on the basilar membrane motion, *J Acoust Soc Am*, **134**(5):3749-3758, doi: 10.1121/1.4824159, 2013.
- Gloor M., Obrist D., Kleiser L., Linear stability and acoustic characteristics of compressible, viscous, sub-sonic coaxial jet flow, *Phys Fluids*, **25**, 084102, doi: 10.1063/1.4816368, 2013.
- Radu M. D., Pfenniger A., Räber L., de Marchi S. F., Obrist D., Kelbæk H., Windecker S., Serruys P. W., Vogel R., Flow disturbances in stent-related coronary evaginations – A computational fluid-dynamic simulation study, *EuroIntervention*, **10**(1):113-123, 2013.
- Boselli F., Obrist D., Kleiser L., A Meshless Boundary Method for Stokes Flows with Particles: Application to Canalithiasis, *Int J Num Meth Biomed Eng*, **29**(11):1176-1191, doi: 10.1002/cnm.2564, 2013.
- Landolt A., Obrist D., Wyss M., Barrett M., Langer D., Jolivet R., Soltisynki T., Roesgen T., Weber B., Two-photon microscopy with double-circle trajectories for in vivo cerebral blood flow measurements, *Exp Fluids* **54**(1523), 1-8, doi:10.1007/s00348-013-1523-5, 2013.
- Pfenniger A., Obrist D., Stahel A., Koch V. M., Vogel R., Energy Harvesting through Arterial Wall Deformation: Design Considerations for a Magneto-Hydrodynamic Generator, *Med Biol Eng Comput*, **51**(7), 741-755, doi: 10.1007/s11517-012-0989-2, 2013.
- Boselli F., Obrist D., Kleiser L., Vortical flow in the utricle and the ampulla: A computational study on the fluid dynamics of the vestibular system, *Biomech Model Mechanobiol*, **12**:335-348 doi: 10.1007/s10237-012-0402-y, 2013.
- Boselli F., Obrist D., Kleiser L., A Multilayer Method of Fundamental Solutions for Stokes flow problems, *J. Comp. Phys.*, **231**(18):6139-6158, doi: 10.1016/j.jcp.2012.05.023, 2012.
- Obrist D., Henniger R., Kleiser L., Subcritical spatial transition of swept Hiemenz flow, *Int. J. Heat Fluid Flow*, **35**, 61-67, doi: 10.1016/j.ijheatfluidflow.2012.01.012, 2012.
- Erb R. M., Obrist D., Chen P. W., Studer J., Studart A. R., Predicting sizes of droplets made by microfluidic flow-induced dripping, *Soft Matter*, **7**, 8757-8761, doi: 10.1039/C1SM06231J, 2011.
- Obrist D., Schmid P.J., Algebraically diverging modes upstream of a swept bluff body, *J. Fluid Mech.*, **683**, 346-356, doi: 10.1017/jfm.2011.269, 2011.
- Obrist D., Acoustic emissions from convected wave packets, *Phys. Fluids*, **23**(2), 026101-14, doi: 10.1063/1.3540693, 2011.
- Obrist D., Weber B., Buck A., Jenny P., Red blood cell distribution in simplified capillary networks, *Phil. Trans. R. Soc. A*, **368**(1921), 2897-2918, doi: 10.1098/rsta.2010.0045, 2010.

- Henniger R., Obrist D., Kleiser L., High-order accurate solver for the Navier–Stokes equations on massively parallel computers. *J. Comp. Phys.*, **229**(10), 3543-3572, doi:10.1016/j.jcp.2010.01.015, 2010.
- Obrist D., Schmid P.J., Algebraically decaying modes and wave packet pseudomodes in swept Hiemenz flow, *J. Fluid Mech.*, **643**, 309-332, doi: 10.1017/S0022112009992114, 2010.
- Obrist D., Hegemann S., Kronenberg D., Häuselmann O., Rösgen T., In-vitro model of a semicircular canal: design and validation of the model and its use for the study of canalithiasis, *J. Biomech.*, **43**, 1208-1214, doi: 10.1016/j.jbiomech.2009.11.027, 2010.
- Obrist D., Directivity of acoustic emissions from wave packets to the far-field, *J. Fluid Mech.*, **640**, 165-186, doi: 10.1017/S0022112009991297, 2009.
- Obrist D., Fluidmechanics of semicircular canals - revisited, *Z. angew. Math. Phys.* **59**(3), 475-497, doi: 10.1007/s00033-007-6037-7, 2008.
- Obrist D., Hegemann S., Fluid-particle dynamics in canalithiasis, *J. R. Soc. Interface* **5**(27), 1215-1229, doi: 10.1098/rsif.2008.0047, 2008.
- Obrist D., Schmid P.J., On the linear stability of swept attachment-line boundary layer flow. Part I: Spectrum and asymptotic behavior. *J. Fluid Mech.* **493**, 1-29, 2003.
- Obrist D., Schmid P.J., On the linear stability of swept attachment-line boundary layer flow. Part II: Non-modal effects and receptivity. *J. Fluid Mech.* **493**, 31-58, 2003.
- Kerswell R.R., Obrist D., Schmid P.J., On smoothed turbulent shear flows: Bounds, numerics and stress-reducing additives. *Phys. Fluids*. **15**, 78-83, 2003.
- Theofilis V., Fedorov A., Obrist D., Dallmann U.C., The extended Görtler–Hämmerlin model for linear instability of three-dimensional incompressible swept attachment-line boundary layer flow. *J. Fluid Mech.* **487**, 271-313, 2003.

Monographs, book chapters

- Obrist D., *Fluid Mechanics of the Inner Ear*, Habilitation treatise, Department of Mechanical and Process Engineering, ETH Zurich, doi: 10.3929/ethz-a-007318979, 2012.
- Ziefler J., Obrist D., Kleiser L., Performance assessment and parallelisation issues of the CFD code NSMB. In *High Performance Computing on Vector Systems 2007* (ed. M. Resch, S. Roller, P. Lammers, T. Furui, M. Galle & W. Bez), pp. 83–112. Springer Berlin Heidelberg, doi: 10.1007/978-3-540-74384-2_9, 2007
- Obrist D., On the stability of the swept leading-edge boundary layer, Doctoral thesis, University of Washington, Seattle, 2000.
- Obrist D., Ein Pseudospektralverfahren zur direkten numerischen Simulation isotroper kompressibler Turbulenz, Diplomarbeit, ETH Zürich, 1997.

Refereed conference proceedings

- Nestola M., Becsek B., Zolfaghari H., Obrist D., Krause R., A novel FSI framework based on the variational IB method, 10th European Solid Mechanics Conference ESMC 2018, 2-6 July 2018, Bologna, Italy, 2018, submitted.
- Federspiel A., Obrist D., Kiefer C., Schneider J. J., Wiest R., Validating Arterial Spin Labeling Cerebral Blood Flow measure with perfusion phantom, Joint Annual Meeting of ISMRM-ESMRMB 2018, 16-21 June 2018, Paris, 2018, submitted.
- Arbenz P., Hupp D., Obrist D. *Comparison of parallel time-periodic Navier-Stokes solvers*. 12th Int. Conf. Parallel Processing and Applied Mathematics PPAM 2017, September 10-13, 2017, Lubin, Poland, 2017.
- Jahren S. E., Hasler D., Heinisch P. P., Winkler B. M., Stortecky S., Pilgrim T., Correa-Lôndon M., von Tengg-Kobligk H., Obrist D., *Can bioprosthetic valve thrombosis be initiated by aortic root morphology? An in vitro study*, 31st EACTS Annual Meeting, 7-11 October 2017, Vienna, Austria, 2017.

Nestola M., Becsek B., Zolfaghari H., Zulian P., Obrist D., Krause R., *An immersed boundary method based on the variational L2-projection approach*, DD24 – Int. Conference on Domain Decomposition Methods, February 6-10 2017, Svalbard, Norway, 2017.

Becsek B., Zolfaghari H., Nestola M., Krause R., Obrist D., *Understanding Turbulent Flow issuing from the Aortic Valve*, 5th International Conference on Computational and Mathematical Biomedical Engineering - CMBE2017, 10–12 April 2017, Pittsburgh, USA, 2017.

Hasler D., Obrist D., 3D flow topology behind an aortic valve prosthesis, 18th Int. Symp. On Applications of Laser Techniques to Fluid Mechanics, 4-7 July 2016, Lisbon, Portugal, 2016.

Zurbuchen A., Gugler Y., Bereuter L., Jahren S. E., Frey S., Obrist D., Vogel R., Fuhrer J., Haeberlin A., The torpedo-pacemaker – towards blood flow driven lead- and batteryless right ventricular outflow tract pacing. European Heart Journal, 2016.

Frey S., Schwalbe M., Weber S., von Tengg-Kobligk H., Obrist D., Baumgartner I., Virtual angiography of complex vascular networks to assist arteriovenous malformation therapy, BMT 2016, 4-6 October 2016, Basel, Switzerland, 2016.

Niederhauser T., Cantieni T., Gräminger M., Häberlin A., Obrist D., Burkhard F., Clavica F., Towards an automatic detection and quantification of urinary bladder activity in overactive bladder patients, BMT 2016, 4-6 October 2016, Basel, Switzerland, 2016.

Benner C.-F., Nyilas S., Anagnostopoulos P., Hasler D., Latzin P., Obrist D., Computational model of a fractal lung to simulate and visualize gas transport in CF patients for diagnostics and patient education, BMT 2016, 4-6 October 2016, Basel, Switzerland, 2016.

Jahren S. E., Hasler D., Vennemann B., Correa Londoño M., Madi Z. L., von Tengg-Kobligk H., Obrist D., Compliant transparent patient-specific aortic root phantoms for hemodynamic valve testing, BMT 2016, 4-6 October 2016, Basel, Switzerland, 2016.

Clavica F., Homys A., Jeandupeux L., Keppner H., Obrist D., Blood cell dynamics in a simple model of microvascular networks, microTAS2015 – 19th Conference on Miniaturized Systems for Chemistry and Life Science, October 25-29 2015, Gyeongju (Korea), 2015.

Zolliker D., Niederhauser T., Gräminger M., van Mastrigt R., Burkhard F., Obrist D., Clavica F., Frequency analysis of urinary bladder pre-voiding activity in normal and overactive human detrusor: a pilot study, EMBC 2015 – 37th Annual International Conference of the IEEE Engineering in Medicine and Biology Society, August 25-29 2015, Milano, Italy, 2015.

Jahren S., Heinisch P. O., Wirz J., Winkler B. M., Carrel T., Obrist D., Hemodynamic Performance of Edwards Intuity valve in a compliant aortic root model, EMBC 2015 – 37th Annual International Conference of the IEEE Engineering in Medicine and Biology Society, August 25-29 2015, Milano, Italy, 2015.

John M. O., Obrist D., Kleiser L., Secondary instability and subcritical transition in the leading-edge boundary layer, ERCOFTAC Workshop on Direct and Large-Eddy Simulation DLES10, 27-29 May 2015, Limassol (Cyprus), 2015.

Hupp D., Obrist D., Arbenz P., Multigrid preconditioning for time-periodic Navier-Stokes problems, Proc. Appl. Math. Mech, **15**(1), 595-596, doi: 10.1002/pamm.201510287, 2015.

Nyilas S., Borer D., Hasler D., Singer F., Yammie S., Latzin P., Obrist D., Mathematical simulation of single breath washout model: Slope III in comparison to human data, Eur Respiratory J **44**(S58):4521, 2014.

John M. O., Obrist D., Kleiser L., Stabilizing a leading-edge boundary layer subject to wall suction by increasing the Reynolds number, 8th IUTAM Symposium on Laminar-Turbulent Transition, 2014.

Arbenz P., Hupp D., Obrist D., A parallel solver for the time-periodic Navier-Stokes equations, PPAM 2013 - 10th Intl. Conference on Parallel Processing and Applied Mathematics, 8-11 September 2013, Warsaw, Lecture Notes in Computational Science, 8385, 291-300, doi: 10.1007/978-642-55195-6_27, 2014.

Grieser B., Kleiser L., Hegemann S., Obrist D., The Tullio phenomenon – Investigated from a fluid-dynamical point of view. 28th Barany Society Meeting, Buenos Aires, J. Vestib. Res. **24**, 2014.

Grieser B., McGarvie L., Kleiser L., Manzari L., Obrist D., Curthoys I., the video head impulse test versus the caloric test in Ménière's disease suggests a new way of looking at the mechanism. *28th Barany Society Meeting*, Buenos Aires, *J. Vestib. Res.* **24**:219, 2014.

McGarvie L., MacDougall H., Halmagi M., Grieser B., Obrist D., Curthoys I., Numerical investigations of the effects of endolymphatic hydrops on the VOR response. *28th Barany Society Meeting*, Buenos Aires, *J. Vestib. Res.* **24**:222, 2014.

Grieser B., Kleiser L., Obrist D., Fluid-structure interaction of an elastic pipe immersed inside a coaxial rigid pipe: a model for the Tullio phenomenon, *Proc. Appl. Math. Mech.*, **13**(1), 491-492, 2014.

Bühler S., Obrist D., Kleiser L., Near-field and far-field acoustics of laminar and turbulent nozzle-jet flows, *19th AIAA/CEAS Aeroacoustics Conference*, 27-29 May 2013, Berlin, 2013.

John M. O., Obrist D., Kleiser L., Stabilization of subcritical bypass transition in the leading-edge boundary layer by suction, *TSFP-8 – 8th Int. Symposium on turbulence and shear flow phenomena*, 28-30 August 2013, Poitiers, 2013.

Gloor M., Obrist D., Kleiser L., Noise radiation from instability waves in subsonic coaxial jets, *14th European Turbulence Conference – ETC14*, Lyon, 1-4 September 2013.

John M. O., Obrist D., Kleiser L., An Exact Navier-Stokes Solution for Three-Dimensional, Spanwise-Homogeneous Boundary Layers, *Proc. Appl. Math. Mech.*, **12**(1), 477-478, doi: 10.1002/pamm.201210227, 2012.

Landolt A., Obrist D., Wyss M., Barrett M., Langer D., Jolivet R., Soltisynki T., Weber B., Roesgen T., Two-photon microscopy with double-circle trajectories for in vivo cerebral blood flow measurements, *16th Int. Symp. On Applications of Laser Techniques to Fluid Mechanics*, Lisbon, 9-12 July 2012.

Obrist D., Landolt A., Wyss M., Barrett M., Langer D., Jolivet R., Soltisynki T., Weber B., Rösgen T., In vivo blood flow measurements at bifurcations in the cerebral microvasculature, *18th Congress of the European Society of Biomechanics ESB 2012*, 1-4 July 2012, Lisbon, *J. Biomech.* **45**(S1), S39, 2012.

Boselli F., Obrist D., Kleiser L., A numerical model for benign paroxysmal positional vertigo, *18th Congress of the European Society of Biomechanics ESB 2012*, 1-4 July 2012, Lisbon, *J. Biomech.* **45**(S1), S185, 2012.

Arbenz P., Hiltbrand A., Obrist D., A parallel space-time finite difference solver for periodic solutions of the shallow-water equation, *PPAM 2011 - 9th Intl. Conference on Parallel Processing and Applied Mathematics*, 11-14 September 2011, Torun, Poland, *Lecture Notes in Computational Science* **7204**, 302-312, doi: 10.1007/978-3-642-31500-8, 2012.

Obrist D., Henniger R., Kleiser L., Subcritical spatial transition of swept Hiemenz flow, *TSFP-7 – 7th Int. Symposium on turbulence and shear flow phenomena*, 28-31 July 2011, Ottawa, 2011.

Edom E., Obrist D., Kleiser L., Simulation of fluid flow and basilar membrane motion in a two-dimensional box model of the cochlea, *Mechanics of Hearing 2011*, 16-22 July, Williamstown (MA), 608-610, 2011.

Boselli F., Kleiser L., Obrist D., A new study on the Fluid Dynamics in the SCC and the Utricle, *26th Barany Society Meeting*, 18-21 August 2010, Reykjavik, *J. Vestib. Res.* **20**(3), 168-169, doi: 10.3233/VES-2010-0373, 2010.

Edom E., Sim J.H., Huber A.M., Kleiser L., Obrist D., Numerical simulation of the fluid flow due to rocking stapes motion, *Biomedizinische Technik* **55**, 209-211, doi: 10.1515/BMT.2010.647, 2010.

Landolt A., Syburra T., Rösgen T., Obrist D., Relation between pressure drop, opening area and flow rate in aortic valve bioprostheses, *17th Congress European Society of Biomechanics ESB 2010*, 5-8 July 2010, Edinburgh, 2010.

Boselli F., Sim J.H., Kleiser L., Obrist D., New Insights into the Biofluid Dynamics in the Utricle of the Vestibular System, *17th Congress European Society of Biomechanics ESB 2010*, 5-8 July 2010, Edinburgh, 2010.

- Obrist D., Hegemann S., Kleiser L., Rösger T., Can canalith clustering explain the fatigue of top-shelf vertigo?, *17th Congress European Society of Biomechanics ESB 2010*, 5-8 July 2010, Edinburgh, 2010.
- Syburra T., Landolt A., Rösger T., Obrist D., Genoni.M, Fluid Dynamics in Aortic Valve Bioprostheses: A Novel Approach, *Valves in the Heart of the Big Apple VI*, April 15-17 2010, New York, *Cardiology*, **115**, 288, doi: 10.1159/000308357, 2010.
- Luginsland T., Bühler S., Obrist D., Kleiser L., A parallel code for Large Eddy Simulations of compressible swirling jet flows, *Proc. Appl. Math. Mech.*, **10**, 727-728, doi: 10.1002/pamm.201010348, 2010.
- Bühler S., Luginsland T., Obrist D., Kleiser L., Parallel simulation of compressible jets including nozzle modelling, *Proc. Appl. Math. Mech.*, **10**, 443-444, doi: 10.1002/pamm.201010214, 2010.
- Boselli F., Obrist D., Kleiser L., A meshless boundary method for computation of Stokes flow with particles in the semicircular canals of the inner ear, *Proc. Appl. Math. Mech.*, **10**, 459-460, doi: 10.1002/pamm.201010222, 2010.
- Obrist D., Henniger R., Arbenz P., Kuroiwa N., Parallelization of the time integration for time-periodic flow problems, *Proc. Appl. Math. Mech.*, **10**, 567-568, doi: 10.1002/pamm.201010276, 2010.
- Obrist D., Jenny P., Buck A., Weber B., Self-regulation of red blood cell transport in capillary networks. *IV International Conference on Computational Bioengineering ICCB*, 16-18 September 2009, Bertinoro (I), ISSN 2036-9247, 2009.
- Boselli F., Obrist D., Kleiser L., Multilayer MFS for Stokes flows, *ICCES MM 2009*, Lubljana, 2009.
- Boselli F., Obrist D., Kleiser L., Multilayer MFS for Stokes problems, in *Recent Studies in Meshless & Other Novel Computational Methods*, Eds. B. Sarler and S. N. Atluri, Tech Science Press, 71-86, 2010.
- Obrist D., Schmid P.J., Wave packet pseudomodes upstream of a swept cylinder, *7th IUTAM Symposium on Laminar-Turbulent Transition*, June 23-26 2009, Stockholm, 2009.
- Obrist D., Transient inviscid flow in a passive linear model of the cochlea. *Proc. Appl. Math. Mech.*, **9**, 2009.
- Boselli F., Obrist D., Kleiser L., Numerical simulation of the flow in semicircular canals with the method of fundamental solutions. *Proc. Appl. Math. Mech.*, **9**, 2009.
- Obrist D., Kleiser L., Rösger T., Particle trajectories in semicircular canals with canalithiasis, *16th Congress European Society of Biomechanics ESB 2008*, 6-9 July 2008, Lucerne, *J. Biomech.* S1, S308, 2008.
- Obrist D., Schmid P.J., Resonance in the cochlea with wave packet pseudomodes, *22nd Int. Congress of Theoretical and Applied Mechanics ICTAM2008*, August 24-30 2008, Adelaide, ISBN 978-0-9805142-0-9, 2008.
- Obrist D., Kleiser L., Localization of acoustic sources in round jets, *Proc. Appl. Math. Mech.*, **8**, 2008.
- Obrist D., Kleiser L., The influence of spatial domain truncation on the prediction of acoustic far-fields, *13th AIAA/CAES Aeroacoustics Conference*, 21-23 May 2007, Rome, AIAA-2007-3725, 2007.
- Obrist D., Hegemann S., Fluid mechanics of benign paroxysmal positional vertigo (BPPV), *5th Int. Symposium on Turbulence and Shear Flow Phenomena TSFP-5*, 27-29 August 2007, Munich, 2007.
- Obrist D., Numerical simulation of the endolymph flow in a semicircular canal. *Proc. Appl. Math. Mech.*, **7**, 2007.
- Henniger R., Obrist D., Kleiser L., High-order accurate iterative solution of the Navier-Stokes equations for incompressible flows. *Proc. Appl. Math. Mech.*, **7**, 4100009–4100010, doi:10.1002/pamm.200700411, 2007.
- Keiderling F., Obrist D., Müller S.B., Kleiser L., An Euler-solver for the acoustic far-field prediction of compressible jet flow. *Proc. Appl. Math. Mech.*, **7**, 2007.
- Obrist D., Keiderling F., Kleiser L., Computation of acoustic far-fields with the Spectral Lighthill Method. *Proc. Appl. Math. Mech.*, **6**, 2006.

Obrist D., Misra H., Zhang S., Chou D., Performance Enhancements in MSC.Nastran for Large Scale Design Optimization on Cray SV1 Computers, proceedings of *MSC.Software Aerospace Conference*, Toulouse, 2002.

Obrist D., Nicolopoulos D., Jaques A., Aero-acoustic simulation of a side mirror compared with experimental results, Proceedings of *InterNoise2002*, Pittsburgh, 2002.

Conference abstracts & posters

Liu S., Moller P. W., Kohler A., Beldi G., Obrist D., Hana A., Berger D., Takala J., Jakob S. M. Determinants of venous return during Trendelenburg position and effect of hepatic vascular waterfall, *38th Symp. on Intensive Care and Emergency Medicine*, March 20-23, 2018, Brussels, Belgium, 2018, submitted.

Vennemann B., Jahren S., Rösgen T., Obrist D., Determinants of Bioprosthetic Leaflet Fluttering – Insights from an In Vitro Study, *Heart Valve Society – HVS Scientific Meeting 2018*, 12-14 April 2018, New York, USA, 2018.

Hasler D., Pietrasanta L., Biedermann D., Obrist D., Effect of Transcatheter Aortic Valve Alignment on Sinus Flow, *Heart Valve Society – HVS Scientific Meeting 2018*, 12-14 April 2018, New York, USA, 2018.

Heinisch P. P., Jahren S., Nienhaus A., Iyer K., Smeenk M., Gazdar A., Winkler B., Kadner A., Carrel T., Obrist D. Biogenic polymer-based heart valve for cardiac surgery, *Heart Valve Society – HVS Scientific Meeting 2018*, 12-14 April 2018, New York, USA, 2018.

Mantegazza A., Clavica F., Obrist D. In vitro measurements of apparent intrinsic viscosity in function of tube hematocrit and red blood cell velocity, *Blood Flow Conference*, 9-11 October 2017, Paris, France, 2017.

Pfiffner F., Prochazka L., Péus D., Dobrev I., Dalbert A., Sim J.-H., Kesterke R., Walraevens J., Harris F., Röösli C., Obrist D., Huber A. A MEMS Condenser Microphone-Based Intracochlear Acoustic Receiver, *100 years ORL at University Hospital Zurich*, August 31-September 2 2017, Zurich, Switzerland, 2017.

Kohler A., Frey S., Möller P., Tinguely P., Djafarzadeh S., Candinas D., Obrist D., Jakob S., Beldi G. Portal inflow restriction enhances liver regeneration and decreases liver injury after major liver resection, *104th Annual Congress of the Swiss Society of Surgery*, 31 May – 2 June 2017, Bern, Switzerland, *British J Surg*, **104**(S4):21, 2017.

Zolfaghari H., Becsek B., Nestola M., Krause R., Obrist D. Flow Stability and Transition Past an Aortic Valve Using a Hybrid Multicore/Manycore Massively Parallel Navier-Stokes Solver, *PASC17 – Platform for Advanced Scientific Computing Conference*, 26-28 June 2017, Lugano, Switzerland, 2017.

Becsek B., Nestola M., Zolfaghari H., Krause R., Obrist D. Aortic Valve Hemodynamics Using Variational Transfer Immersed Boundary Method, *PASC17 – Platform for Advanced Scientific Computing Conference*, 26-28 June 2017, Lugano, Switzerland, 2017.

Nestola M., Becsek B., Zolfaghari H., Obrist D., Krause R. AV-Flow: a software library for FSI Problems based on Variational Transfer IB Methods, *PASC17 – Platform for Advanced Scientific Computing Conference*, 26-28 June 2017, Lugano, Switzerland, 2017.

Zolfaghari H., Becsek B., Sawyer W., Obrist D. Towards CFD at Exascale: Hybrid multicore/manycore massively parallel high-order Navier-Stokes solver, *NVIDIA GPU Technology Conference*, May 8-11, 2017, Silicon Valley, USA, 2017.

Bereuter L., Küffer T., Artik E., Niederhauser T., Obrist D., Tanner H., Häberlin A., Towards a Leadless Cardiac Multisite Pacemaker System, *Joint Annual Meeting SGK/SGHC*, 7.-9. June 2017, Baden, Switzerland, 2017.

Vennemann B., Hasler D., Jahren S. E., Obrist D., Rösgen T., Aortic Root Morphology influences Sinus Washout Efficiency, *Heart Valve Society – HVS Scientific Meeting 2017*, 2-4 March 2017, Monaco, 2017.

Hasler D., Vennemann B., Jahren S. E., Winkler B., Carrel T., Obrist D., How aortic valve design affects blood flow in the ascending aorta, *Heart Valve Society – HVS Scientific Meeting 2017*, 2-4 March 2017, Monaco, 2017.

Hasler D., Vennemann B., Stortecky S., Pilgrim T., Obrist D., Under what Conditions do we find Vortical Flow in the Ssinus of Valsalva?, *Heart Valve Society – HVS Scientific Meeting 2017*, 2-4 March 2017, Monaco, 2017.

Dembitsky W., Leyland P., Mischler S., Casagrande A., Gaffuri M., Vennemann B., Obrist D., Geringer J., Carrel T., Dreyfus G., Lapeyre D., Towards a Warfarin-free mechanical heart valve substitute, *Heart Valve Society – HVS Scientific Meeting 2017*, 2-4 March 2017, Monaco, 2017.

Benner C.-F., Cremona T.P., Haberthür D., Hasler D., Latzin P., Obrist D., Schittny J.C., Computational Model of a Breathing Lung Illustrates the Influence of the Acinar Structures on Gas Washout, *ATS 2017*, 19- 24 May 2017 Washington D.C., USA, 2017.

Hupp D., Arbenz P., Obrist D., Solving time-periodic Navier-Stokes problems using spectral discretization in time, *SIAM CS&E* 2017, submitted.

Hupp D., Obrist D., Arbenz P., A Parallel Space-Time Solver for the Time-Periodic Navier-Stokes Problems, *2016 SIAM Annual Meeting*, 11-15 July 2016, Boston, MA, USA, 2016.

Hupp D., Obrist D., Arbenz P., A parallel-in-time solver for time-periodic Navier–Stokes problems, *SIAM Parallel Processing for Scientific Computing*, 12-15 July 2016, Paris, 2016.

M. Nestola, B. Becsek, H. Zolfaghari, D. Obrist, R. Krause, FDM-FEM coupling for Fluid Structure Interaction Simulations in Soft Tissues, *VPH 2016 - Virtual Physiological Human Conference*, 26-28 September 2016, Amsterdam, NL, 2016.

B. Becsek, M. Nestola, H. Zolfaghari, R. Krause, D. Obrist. FD/FEM Coupling with the Immersed Boundary Method for the Simulation of Aortic Heart Valves, *PASC16 – Platform for Advanced Scientific Computing Conference*, 8-10 June 2016, Lausanne, Switzerland, 2016.

H. Zolfaghari, B. Becsek, M. Nestola, R. Krause, D. Obrist. GPU-Accelerated Immersed Boundary Method with CUDA for the Efficient Simulation of Biomedical Fluid-Structure Interaction, *PASC16 – Platform for Advanced Scientific Computing Conference*, 8-10 June 2016, Lausanne, Switzerland, 2016.

A. Zurbuchen, Y. Gugler, L. Bereuter, SE. Jahren, S. Frey, D. Obrist, R. Vogel, J. Fuhrer, A. Haeberlin, The torpedo-pacemaker – towards blood flow driven lead- and batteryless right ventricular outflow tract pacing, *ESC Congress 2016*, 27-31 August 2016, Rome, Italy, 2016.

S. E. Jahren, P. P. Heinisch, J. Wirz, B. M. Winkler, T. Carrel, D. Obrist, Aortic stiffness affects the kinematics of bioprosthetic aortic valves, *Joint Annual Meeting SGK/SGHC/SGP*, 15.-17. June 2016, Lausanne, Switzerland, 2016.

A. Zurbuchen, Y. Gugler, L. Bereuter, SE. Jahren, S. Frey, D. Obrist, R. Vogel, J. Fuhrer, A. Haeberlin, The torpedo-pacemaker – towards blood flow driven lead- and batteryless right ventricular outflow tract pacing, *Joint Annual Meeting SGK/SGHC/SGP*, 15.-17. June 2016, Lausanne, Switzerland, 2016.

A. Schwery, D. Hasler, S. E. Jahren, S. Stortecky, S. Windecker, D. Obrist, Influence of transcatheter aortic valve stent frames on coronary perfusion: in vitro study in a left heart flow loop with coronary circulation, *Joint Annual Meeting SGK/SGHC/SGP*, 15.-17. June 2016, Lausanne, Switzerland, 2016.

Zamaro E., Obrist D., Nienhaus A., Kalla R., Vibert D., Caversaccio M., Strupp M., Mantokoudis G., Experimentelles Bogengangsmodel für die Simulation von Repositionsmanövern bei BPLS, 28-29 April 2016, Montreux (CH), 2016.

Häuselmann O., Landolt A., Hasler D., Winkler B., Obrist D., Rösken T., *Time-resolved measurements of in-vitro leaflet motion for a bioprosthetic aortic valve*, Heart Valve Society – HVS Scientific Meeting 2016, March 17-19 2016, New York, 2016.

Vennemann B., Jahren S. E., Heinisch P. P., Rösken T., Obrist D., *Comparison of leaflet kinematics in state-of-the-art bioprosthetic and mechanical valves with a tri-leaflet valve design*, Heart Valve Society – HVS Scientific Meeting 2016, March 17-19 2016, New York, 2016.

Hupp D., Obrist D., Arbenz P., A parallel-in-time Navier-Stokes solver, *Parallel-in-Time Workshop*, 10-11 January 2016, Toulouse, 2016.

Pfiffner F., Péus D., Prochazka L., Dalbert A., Dobrev I., Sim J.H., Obrist D., Harris F., Walraevens J., Röösli C., Huber A., Intracochlear Sound Pressure Mapping Measurements with a Newly Developed Intracochlear Acoustic Receiver, *IUTAM Symposium on Advances in Biomechanics of Hearing*, May 17-20 2016, Stuttgart, 2016.

Pfiffner F., Prochazka L., Péus D., Dobrev I., Dalbert A., Sim J.H., Obrist D., Walraevens J., Harris F., Röösli C., Huber A., Intracochlear Sound Pressure Measurements with a Newly Developed MEMS Condenser-Microphone-Based Sensor, *OMAI 2016 – 9th Int. Symp. On Objective Measures in Auditory Implants*, June 15-18 2016, Szeged, Hungary, 2016.

Pfiffner F., Péus D., Prochazka L., Dalbert A., Dobrev I., Sim J.H., Röösli C., Harris F., Walraevens J., Obrist D., Huber A., Ein intracochleärer Schalldruckempfänger für zukünftige vollimplantierbare Cochlea-Implantat Systeme, *DGA Hannover*, 2016.

Grundmann A., Clavica F., Landolt A., Barrett M., Weber B., Obrist D., Pressure measurements in micro-capillaries, *microTAS2015 – 19th Conference on Miniaturized Systems for Chemistry and Life Science*, October 25-29 2015, Gyeongju (Korea), 2015.

Pfiffner F., Prochazka L., Péus D., Dobrev I., Harris F., Walraevens J., Gerig R., Sim J.H., Obrist D., Röösli C., Huber A., Concept and Preliminary Results with an Intracochlear Acoustic Receiver for Totally Implantable Cochlear Implant, *ZNZ Symposium 2015*, 11 September 2015, Zürich, 2015.

Hasler D., Nyilas S., Latzin P., Obrist D., A numerical model for inert gas transport in the lung based on a fractal airway morphology, *Computational Fluid Dynamics (CFD) in Medicine and Biology II*, August 30 – September 4 2015, Albufeira, Portugal, 2015.

Frey S., Schwalbe M., Weber S., Baumgartner I., Obrist D., Interventional planning and outcome prediction for vascular malformation therapy, *Computational Fluid Dynamics (CFD) in Medicine and Biology II*, August 30 – September 4 2015, Albufeira, Portugal, 2015.

Pfiffner F., Prochazka L., Péus D., Thoelle K., Dalbert A., Dobrev I., Gerig R., Sim J.H., Röösli C., Obrist D., Huber A., Intracochlear Acoustic Receiver for Totally Implantable Cochlear Implants: Concept and Preliminary Temporal Bone Results, *CIAP – Conference on Implantable Auditory Prostheses*, Lake Tahoe, USA, July 12-17, 2015, submitted.

Pfiffner F., Prochazka L., Thoelle K., Dalbert A., Dobrev I., Gerig R., Sim J.H., Röösli C., Obrist D., Huber A., A novel implantable intracochlear acoustic receiver to quantify airborne sound transformation and transmission through the middle ear, *MEMRO 2015, 7th International Symposium on Middle Ear Mechanics in Research and Otology*, 1.-5. July 2015, Aalborg, Denmark, 2015.

Hurni S., Wüthrich O., Vandenberghe S., Guggisberg S., Obrist D., Carrel T., Weber A., Neochodae suturing at the papillary muscle: with or without pledgets?, *Joint Annual Meeting SSC/SSCC*, 10-12 June 2015, Zurich, 2015.

Hurni S., Jahren S., Vandenberghe S., Carrel T., Obrist D., Weber A., Only neochordoplasty achieves physiological trans-valvular pressure gradients after repair of acute posterior leaflet prolapse in porcine mitral valves, *Joint Annual Meeting SSC/SSCC*, 10-12 June 2015, Zurich, 2015.

Hurni S., Wüthrich O., Vandenberghe S., Guggisberg S., Obrist D., Carrel T., Weber A., Neochodae suturing at the papillary muscle: with or without pledgets?, *AATS Mitral Conclave 2015*, April 23-25 2015, New York (USA), 2015.

Hurni S., Jahren S., Vandenberghe S., Carrel T., Obrist D., Weber A., Only neochordoplasty achieves physiological trans-valvular pressure gradients after repair of acute posterior leaflet prolapse in porcine mitral valves, *AATS Mitral Conclave 2015*, April 23-25 2015, New York (USA), 2015.

Pfiffner F., Prochazka L., Thoelle K., Dalbert A., Dobrev I., Gerig R., Sim J.H., Röösli C., Obrist D., Huber A., Ein intracochleärer Schalldruckempfänger für zukünftige vollimplantierbare Cochlea-Implantat Systeme, *Frühjahrsversammlung SGROL 2015*, 4.&5. Juni 2015, Lugano, 2015, submitted.

Becsek B., FEM/FD Immersed Boundary FSI Simulations, *PASC15 – Platform for Advanced Scientific Computing Conference*, June 1-3 2015, Zurich, 2015.

Hupp D., Arbenz P., Obrist D., A parallel Navier-Stokes solver using spectral discretization in time, Parallel CFD 2015, 27th International Conference on Parallel Computational Fluid Dynamics, 17-21 May 2015, Montreal, 2015.

Vennemann B., Hasler D., Jahren S. E., Rösgen T., Carrel T., Obrist D., *Hemodynamics in the Pivoting area of the Triflo Mechanical Heart Valve*, Heart Valve Society – Inaugural Scientific Meeting, May 7-9 2015, Monaco, 2015.

Hupp D., Obrist D., Arbenz P., Multigrid preconditioning for time-periodic Navier-Stokes problems, GAMM2015 – 86th Annual Meeting of the International Association of Applied Mathematics and Mechanics, March 23-27 2015, Lecce, Italy, 2015.

Pfiffner F., Prochazka L., Thoelle K., Dalbert A., Dobrev I., Gerig R., Sim J.H., Röösli C., Obrist D., Huber A., Intracochlear Acoustic Receiver for Totally Implantable Cochlear Implants: Concept and Preliminary Temporal Bone Results, ARO – 38th Annual Mid-Winter Meeting, February 21-25 2015, Baltimore, USA, 2015.

Hasler D., Jahren S., Obrist D., In vitro and in silico investigation of the hemodynamics and kinematics of aortic valve prostheses, SSBE Annual Meeting, August 27-28 2014, Zurich, 2014.

Zurbuchen A., Häberlin A., Schärer J., Pfenniger A., Obrist D., Vogel R., Harvesting energy from the heart wall motion – Device weight considerations, SSBE Annual Meeting, August 27-28 2014, Zurich, 2014.

Frey S., Baumgartner I., Obrist D., Interventional planning and outcome prediction for vascular malformation therapy, SSBE Annual Meeting, August 27-28 2014, Zurich, 2014.

Jonsson M., Steingötter A., Obrist D., Gastric mixing: a numerical study, SSBE Annual Meeting, August 27-28 2014, Zurich, 2014.

Clavica F., Barrett M., Weiss P., Landolt A., Weber B., Obrist D., In vivo assessment of hematocrit distribution at bifurcations in cerebral microcirculation, SSBE Annual Meeting, August 27-28 2014, Zurich, 2014.

Schwalbe M., Hansen, C., Frey S., Obrist D., Baumgartner I., Weber S., Concept and design of an image-guidance system for treatments of arterio-venous malformations, 1st Conference on Image Guided Interventions, October 13-14, 2014, Magdeburg, Germany, 2014.

Borer D., Yammie S., Singer F., Isler R., Latzin P., Obrist D., Validierung und Visualisierung zur praktischen Anwendung eines neuen Lungenfunktionstest mittels Doppel-Test-Gas bei Kindern, CTI MedTech Event 2013, 27 August 2013, Bern, 2013.

Borer D., Yammie S., Singer F., Rösgen T., Latzin P., Obrist D., A computer model for single-breath washout with double-tracer gas to help understanding ventilation inhomogeneity, BMT 2013, 19-21 September 2013, Graz, 2013.

Gloor M., Obrist D., Kleiser L., Jet noise predictions based on linear stability theory, Trends in Open Shear Flow Instability, LadHyX, Ecole Polytechnique, Palaiseau, 1-3 July 2013.

Hupp D., Obrist D., Arbenz P., A parallel space-time solver for Navier-Stokes, Schweizer Numerik Kolloquium, EPFL, 5 April 2013.

Boselli F., Kleiser L., Obrist D., What causes BPPV fatigue?, The Vestibular System, Siena, 5-6 April 2013.

Obrist D., Edom E., Grieser B., Kleiser L., Streaming phenomena in the inner ear, 9th European Fluid Mechanics Conference EFMC-9, 10-13 September 2012, Rome, 2012.

Schmid P. J., Obrist D., Wave-packet pseudomodes for flows in complex domains, 9th European Fluid Mechanics Conference EFMC-9, 10-13 September 2012, Rome, 2012.

Gloor M., Obrist D., Kleiser L., Directivity of noise emissions from flow disturbances in jet flows: an analysis based on linear stability theory, 9th European Fluid Mechanics Conference EFMC-9, 10-13 September 2012, Rome, 2012.

Bühler S., Obrist D., Kleiser L., Simulation of a nozzle-jet flow including near- and far-field acoustics, 9th European Fluid Mechanics Conference EFMC-9, 10-13 September 2012, Rome, 2012.

Meier A. H., Landolt A., Attin T., Imfeld T., Obrist D., Inter-proximal flow generated by sonic toothbrushes, *PER/IADR Congress*, September 12-15, 2012, Helsinki, 2012.

Boselli F., Obrist D., Kleiser L., Fluid-dynamical mechanisms of BPPV fatigue, *SSBE Annual Meeting*, 27.&28. August 2012, EPF Lausanne, 2012.

Obrist D., Henniger R., Kleiser L., By-pass transition in the swept leading-edge boundary layer, *9th ERCOFTAC SIG33 workshop. Progress in Transition Modeling and Control*, 28-30 September 2011, Toledo, 2011.

Reichold J., Buck A., Obrist D., Weber B., Jenny P., Erythrocyte influence on blood flow in the cerebral vasculature, *EUROMECH Colloquium 521*, 29-31 August 2011, Zurich, 2011.

Edom E., Obrist D., Kleiser L., Viscous and nonlinear flow phenomena in the cochlea, *EUROMECH Colloquium 521*, 29-31 August 2011, Zurich, 2011.

Boselli F., Obrist D., Kleiser L., Comparison of the flow patterns in healthy and pathological vestibular systems, *EUROMECH Colloquium 521*, 29-31 August 2011, Zurich, 2011.

Boselli F., Obrist D., Kleiser L., A meshless multilevel method of fundamental solutions for medical flows with particles at low Reynolds numbers, *Schweizer Numerik Kolloquium*, 6 May 2011, Lugano, 2011.

Reichold J., Obrist D., Buck A., Weber B., Jenny P., Red blood cell influence on cortical hemodynamics, *BRAIN 2011*, 25-28 May 2011, Barcelona, 2011.

Weber B., Reichold J., Buck A., Obrist D., Jenny P., Cortical blood flow simulation using a vascular graph model, *40th Annual Meeting of the Society-for-Neuroscience*, November 13-17, 2010, San Diego, 2011.

Syburra T., Landolt A., Rösgen T., Obrist D., Genoni M., Fluid dynamics in aortic valve bioprostheses: a novel approach, *97th Annual Congress of the Swiss Soc. of Surgery*, 26.-28. May, Interlaken, *British J. of Surgery* **97**(S3): 32, 2010.

Edom E., Sim J.H., Huber A.M., Kleiser L., Obrist D., Numerical simulation of the fluid flow due to rocking stapes motion, *BMT 2010*, 6-8 October 2010, Rostock-Warnemünde, 2010.

Obrist D., Monopole, dipole and quadrupole emissions from aeroacoustic sources in the shape of wave packets, *8th European Fluid Mechanics Conference EFMC-8*, 13-16 September 2010, Bad Reichenhall, 2010.

Edom E., Obrist D., Kleiser L., Fluid flow in the cochlea due to rocking stapes motion, *8th European Fluid Mechanics Conference EFMC-8*, 13-16 September 2010, Bad Reichenhall, 2010.

Kuroiwa N., Arbenz P., Obrist D., A parallel space-time finite difference solver for the steady-state shallow-water equation, *6th International Workshop on Parallel Matrix Algorithms and Applications PMAA10*, June 29 – July 2 2010, Basel, 2010.

Chatzimichalis M., Sim J.H., Edom E., Obrist D., Eiber A., Lauxmann M., Huber A.M., Effects of Stapes Rocking Motions on Cochlea Response: Experimental results and Numerical Simulation of Cochlea Fluid Flow, *97. Frühjahrsversammlung der Schweizerischen Gesellschaft für Oto-Rhino-Laryngologie, Hals- und Gesichtschirurgie*, 17.&18. Juni 2010, Zürich, 2010.

Boselli F., Obrist D., Kleiser L., Coupling MFS and FCM for the simulation of settling particles at low Reynolds number, *Schweizer Numerik Kolloquium*, 16. April 2010, Zürich, 2010.

Henniger R., Obrist D., Kleiser L., Massively Parallel High-Order Accurate Solution of the Navier-Stokes Equations, *38th Speed-Up Workshop on High-Performance Computing*, 7.&8. September 2009, Lausanne, 2009.

Syburra T., Obrist D., Landolt A., Rösgen T., Genoni M., Flow separation in aortic valve bioprostheses, *SSBE Annual Meeting*, 27.&28. August 2009, Bern, 2009.

Kronenberg D., Obrist D., Häuselmann O., Hegemann S., Rösgen T., Experimental study of top-shelf vertigo in a model of the inner ear labyrinth, *SSBE Annual Meeting*, 27.&28. August 2009, Bern, 2009.

Edom E., Obrist D., Kleiser L., Coupling a Hopf bifurcation to a cochlear fluid flow model, *SSBE Annual Meeting*, 27.&28. August 2009, Bern, 2009.

- Milosevic M., Boselli F., Sim J.H., Obrist D., Kleiser L., Morphology of a semicircular canal from CT images, *SSBE Annual Meeting*, 27.&28. August 2009, Bern, 2009.
- Boselli F., Obrist D., Kleiser L., Modeling the fluid mechanics of the vestibular system, *SSBE Annual Meeting*, 27.&28. August 2009, Bern, 2009.
- Syburra T., Obrist D., Landolt A., Rösgen T., Genoni M., Flow separation in aortic valve bioprostheses, *96. Jahrestagung der Schweiz. Gesellschaft für Chirurgie*, 10.-12. Juni 2009, Montreux, 2009.
- Boselli F., Obrist D., Kleiser L., An efficient method of fundamental solutions for Stokes flow problems, *Schweizer Numerik Kolloquium*, 24. April 2009, Basel, 2009.
- Obrist D., Boselli F., Kleiser L., The method of fundamental solutions for predicting the flow in semicircular canals, *Schweizer Numerik Kolloquium*, 26. April 2008, Fribourg, 2008.
- Boselli F., Obrist D., Kleiser L., Numerical Simulation of the Endolymph Flow in Semicircular Canals, *SSBE Annual Meeting*, 4.&5. September 2008, Muttenz, 2008.
- Merz Ch., Obrist D., Rösgen T., Syburra T., Genoni M., Experimental study of the flow in biological heart valve prostheses, *SSBE Annual Meeting*, 4.&5. September 2008, Muttenz, 2008.
- Strässle R., Obrist D., Hafner P., Preysch M., Study of the flow-stop effect in a gravity infusion set, *SSBE Annual Meeting*, 4.&5. September 2008, Muttenz, 2008.
- Hegemann S., Obrist D., Improved fluid mechanic modeling of canalithiasis, *30th ARO Mid-Winter Meeting*, 10-15 February 2007, Denver, 2007.
- Zieffle J., Obrist D., Kleiser L., Breaking the Load-Balancing Barrier by Block Splitting in the CFD Code NSMB. *inSiDE*, 5(2), 8-13, 2007.
- Häuselmann S., Obrist D., Rösgen T., Hegemann S., An experimental set-up for the study of BPPV, *SSBE Annual Meeting*, 13.&14. September 2007, Neuchâtel, 2007.
- Hegemann S., Bockisch C., Obrist D., Ein fluiddynamisches Modell für den gutartigen Lagerungsschwindel, *78. Jahrestagung der Deutschen Gesellschaft für Hals-Nasen-Ohren-Heilkunde, Kopf- und Hals-Chirurgie e.V.* 16.-20.05.2007, München, 2007.
- Hegemann S., Bockisch C., Obrist D., Ein verbessertes fluiddynamisches Modell für den gutartigen Lagerungsschwindel des posterioren Bogenganges, *94. Frühjahrsversammlung der Schweizerischen Gesellschaft für Oto-Rhino-Laryngologie, Hals- und Gesichtschirurgie*, 14.&15. Juni 2007, Bern, 2007
- Hegemann S., Bockisch C., Obrist D., Latenz und andere Charakteristika der Canalolithiasis im fluiddynamischen Modell, *Akt Neurol*, 34, V262, doi: 10.1055/s-2007-987573, 2007
- Hegemann S., Obrist D., Fluidmechanics of canalithiasis and its clinical application, *24th Barany Society Meeting*, 11-14 June 2006, Uppsala, 2006.

Patents

- Walraevens J., Wiskerke P., Paris F., Huber A., Prochazka L., Obrist, D., Internal pressure management system, *United States Patent Application 20150367130*, 2015.
- Walraevens J., Wiskerke P., Paris F., Huber A., Prochazka L., Obrist, D., Cochlear implant electrode array including receptor and sensor, *United States Patent Application 20150126900*, 2014.

Technical Reports

- Grieser B., Obrist D., Kleiser L., tullioFoam - A numerical model of the Tullio phenomenon, Technical Report, Institute of Fluid Dynamics, ETH Zurich, <http://e-collection.library.ethz.ch/view/eth:48072>, 2015.