

**Dr Eldad Avital**  
PhD, SMAIAA, SFHEA, FRAeS, CEng

School of Engineering and Materials Science  
Queen Mary University of London  
Mile End Road  
London E1 4NS

tel: +44 (0)20 7882 3616  
email: e.avital@qmul.ac.uk web: www.sems.qmul.ac.uk/e.avital

---

## 2024

**Airborne Transmission of SARS-CoV-2: The Contrast between Indoors and Outdoors.**  
Beggs C, Abid R, Motallebi F, Samad A, Venkatesan N and Avital E. *Fluids* vol. 9, (3) 1-28. *Mdpi*.

## 2023

**Self-Diffusiophoresis and Symmetry-Breaking of a Janus Dimer: Analytic Solution.**  
Avital EJ and Miloh T. *Symmetry* vol. 15, (11) 2019-2019. *Mdpi* Ag.

**Investigation of the formation and evolution of over-tip shock waves in the pressure-driven tip leakage flow by time-resolved schlieren visualization.**

Tang X, Li X, Avital EJ, Saleh ZJ and Motallebi F. *Physics of Fluids* vol. 35, (5) 056101-056101.

**Conceptual Design of a UVC-LED Air Purifier to Reduce Airborne Pathogen TransmissionA Feasibility Study.**  
Kapse S, Rahman D, Avital EJ, Venkatesan N, Smith T, Cantero-Garcia L, Motallebi F, Samad A and Beggs CB. *Fluids* vol. 8, (4) 111-111. *Mdpi* Ag.

**A Study on the Influence of Submergence Ratio on the Transport of Suspended Sediment in a Partially Vegetated Channel Flow.**

Wang M, Mi S, Avital E, Li N, Chen Y and Williams J. *Water Resources Research* vol. 59, 1-25.

**Influence of curvature distribution smoothing on the reduction of aerofoil self-noise.**

Shen X, Avital E, Ikram Z, Yang L, Korakianitis T and Dala L. *International Journal of Numerical Methods For Heat & Fluid Flow* vol. ahead-of-print, (ahead-of-print).

## 2022

**An implicit EulerianLagrangian model for flow-net interaction using immersed boundary method in OpenFOAM.**

Mi S, Wang M, Avital EJ, Williams JJR and Chatjigeorgiou IK. *Ocean Engineering* vol. 264, 112843-112843. *Elsevier Bv.*

**Variation of Dominant Discharge along the Riverbed Based on Numerical and Deep-Learning Models: a Case Study in the Middle Huaihe River, China.**

Xu J, Zhang C, Wang L, Zhu H, Tang H and Avital EJ. *Journal of Hydrology* vol. 612, 128285-128285.

**Travelling-Wave Electrophoresis, Electro-Hydrodynamics, Electro-Rotation, and Symmetry- Breaking of a Polarizable Dimer in Non-Uniform Fields.**

Miloh T and Avital EJ. *Micromachines* vol. 13, (8) 1173-1-1173-19. *Mdpi* Ag.

**Magnetohydrodynamics Solver for a Two-Phase Free Surface Flow Developed in OpenFOAM.**  
Suponitsky V, Khalzov IV and Avital EJ. *Fluids* vol. 7, (7) 210-1-210-36. *Mdpi* Ag.

**An improved Eulerian method in three-dimensional direct numerical simulation on the local scour around a cylinder.**

Xu J, Xia J, Wang L, Avital EJ, Zhu H and Wang Y. *Applied Mathematical Modelling*. *Elsevier Bv.*

**Source terms for benchmarking models of SARS-CoV-2 transmission via aerosols and droplets.**

Stettler MEJ, Nishida RT, de Oliveira PM, Mesquita LCC, Johnson TJ, Galea ER, Grandison A, Ewer J, Carruthers D, Sykes D, Kumar P, Avital E, Obeysekara AIB, Doorly D, Hardalupas Y, Green DC, Coldrick S, Parker S and Boies AM. *Royal Society Open Science* vol. 9, (5).The Royal Society.

**Direct numerical simulation on local scour around the cylinder induced by internal solitary waves propagating over a slope.**

Xu J, Xia J, Wang L, Zhu H and Avital EJ. *Ocean Engineering* vol. 247, 110525-110525. Elsevier Bv.

## 2021

**Self-thermophoresis of Laser-heated spherical Janus particles.**

Avital E and Miloh T. *The European Physical Journal E: Soft Matter and Biological Physics* vol. 44, 139-1-139-13. Edp Sciences.

**A resolved CFD-DEM-IBM algorithm for water entry problems.**

Di Y, Zhao L, Mao J and Avital E. *Ocean Engineering* vol. 240, 110014-110014. Elsevier.

**Numerical Study of A Generic Tidal Turbine Using BEM Optimization Methods.**

Ai K-M, Wang M-Y, Wang D, Wang H-F, Cao R-J and Avital E. *China Ocean Engineering* vol. 35, (3) 344-351. Springer Verlag.

**Turbulent flow simulation of a single-blade Magnus rotor.**

Bai X, Ji C, Grant P, Phillips N, Oza U, Avital EJ and Williams JJR. *Advances in Aerodynamics* vol. 3, (1).

**Effect of in-service burnout effect on the transonic leakage flows over cavity tip model.**

Saleh ZJ, Avital EJ and Korakianitis T. *Proceedings of The Institution of Mechanical Engineers, Part a: Journal of Power and Energy* 09576509211-09576509211. Sage Publications.

**A Numerical Study on Suspended Sediment Transport in a Partially Vegetated Channel Flow.**

Wang M, Avital E, Chen Q, Williams J, Mi S and Xie Q. *Journal of Hydrology* vol. 599, (6) 126335/1-126335/22.

**Aerodynamic performance improvements of a vertical axis wind turbine by leading-edge protuberance.**

Yan Y, Avital E, Williams J and Cui J. *Journal of Wind Engineering and Industrial Aerodynamics* vol. 211, 104535-104535. Elsevier.

**A psychrometric model to assess the biological decay of the SARS-CoV-2 virus in aerosols.**

Beggs C and Avital E. *Peerj* vol. 9, e11024-1-e11024-22. Peerj Inc.

**Large-Eddy Simulation of Microvortex Generators in a Turbulent Boundary Layer.**

HEFFRON AP, Williams JJR and Avital EJ. *Journal of Fluids Engineering* vol. 143, (5) 051208-1-051208-12. American Society of Mechanical Engineers.

## 2020

**A numerical study on the influence of curvature ratio and vegetation density on a partially vegetated U-bend channel flow.**

Wang M, Avital E, Korakianitis T, Williams J and Ai K. *Advances in Water Resources* vol. 148, 103843-1-103843-16. Elsevier.

**A Review on the Energy prospects of Indian Remote Islands and Preliminary assessment of Marine Current Energy Potential.**

Vyshnavi P, Samad A, Venkatesan N and Avital EJ. *Journal of Physics Conference Series* vol. 1716, (1) 012007-1-012007-20.

**Tidal Current Energy for Indian Coastal Lines A State Art of Review.**

Vyshnavi P, Venkatesan N, Samad A and Avital EJ. *Journal of Physics Conference Series* vol. 1716, (1) 012008-1-012008-18.

**A psychrometric model to predict the biological decay of the SARS-CoV-2 virus in aerosols.**

Beggs C and Avital E. *Medrxiv*.

**Upper-room ultraviolet air disinfection might help to reduce COVID-19 transmission in buildings: a feasibility study.**

Beggs C and Avital E. *Peerj* vol. 8, e10196-e10196. Anderson T. *Peerj Inc.*

**On the Hydrodynamic Stability of an Imploding Rotating Circular Cylindrical Liquid Liner.**

Avital E, Suponitsky V, Khalzov I, Zimmermann J and Plant D. *Fluid Dynamics Research* vol. 52, (5) 055505-055505. *Iop Science.*

**Upper-room ultraviolet air disinfection might help to reduce COVID-19 transmission in buildings.**

Beggs CB and Avital EJ. *Cold Spring Harbor Laboratory.*

**Dynamic large deformation analysis of a cantilever beam.**

Wei H, Pan QX, Adetoro OB, Avital E, Yuan Y and Wen PH. *Mathematics and Computers in Simulation* vol. 174, 183-204. *Elsevier.*

**Direct Numerical Simulations on Jets during the Propagation and Break down of Internal Solitary Waves on a Slope.**

Xu J, Avital E and Wang L-L. *Water* vol. 20. *Mdpi.*

**Numerical modelling of a dual-rotor marine current turbine in a rectilinear tidal flow.**

Ai K, Cui J, Wang M and Avital E. *Ocean Engineering* vol. 200, 107026-1-107026-12. *Elsevier.*

**Performance Improvements for a Vertical Axis Wind Turbine by Means of Gurney Flaps.**

Yan Y, Avital E, Williams JJR and Cui J. *Journal of Fluids Engineering* vol. 142, (2) 021205-021205. *American Society of Mechanical Engineers.*

## 2019

**A resolved CFDEM method for the interaction between the fluid and the discontinuous solids with large movement.**

Mao J, Zhao L, Liu X and Avital E. *International Journal For Numerical Methods in Engineering*. Wiley.

**Fluid-structure Interaction of Flexible Submerged Vegetation Stems and Kinetic Turbine Blades.**

Wang M, Avital E, Bai X, Ji C, Xu D, Williams JJR and Munjiza A. *Computational Particle Mechanics* vol. 7, 839-848. *Springer (Part of Springer Nature).*

**Light-induced heat-conducting micro/nano spheroidal particles and their thermoosmotic velocity fields.**

Avital EJ and Miloh T. *International Journal of Heat and Mass Transfer* vol. 143.,

**Effect of in-service burnout on the transonic tip leakage flows over flat tip model.**

Saleh Z, Avital EJ and Korakianitis T. *Proceedings of The Institution of Mechanical Engineers Part a Journal of Power and Energy* vol. 234, (5) 655-669. *Sage Publications.*

**CFD analysis for the performance of micro-vortex generator on aerofoil and vertical axis turbine.**

Yan Y, Avital E, Williams J and Cui J. *Journal of Renewable and Sustainable Energy* vol. 11, (4) 1-23. *Aip Publishing.*

**Aspects of the hybrid finite discrete element simulation technology in science and engineering.**

Munjiza A, Gali M, Smoljanovi H, Marovi P, Mihanovi A, Živalji N, Williams J and Avital E. *International Journal For Engineering Modelling* vol. 32, (1) 45-55.

**Large deformations of tapered beam with finite integration method.**

Huang T, Yuan Y, Zheng JL, Avital E and Wen PH. *Engineering Analysis With Boundary Elements* vol. 107, 115-123.

**Optimization of a horizontal axis marine current turbine via surrogate models.**

Karthikeyan T, Avital E, Nithya V and Abdus S. *Ocean Systems Engineering* vol. 9, (2) 111-133.

**CFD analysis for the performance of Gurney flap on aerofoil and vertical axis turbine.**

Yan Y, Avital E, Williams JJR and Korakianitis T. *International Journal of Mechanical Engineering and Robotics Research* vol. 8, (3) 385-392. *International Journal of Mechanical Engineering and Robotics Research.*

**Study on the packed volume-to-void ratio of idealized human red blood cells using a finite-discrete element method.**

Xu D, Ji C, Munjiza A, Kaliviotis E, Avital E and Williams J. *Applied Mathematics and Mechanics (English Edition)* vol. 40, (5) 737-750.

**A performance analysis of tidal turbine conversion system based on control strategies.**

Omkar K, Karthikeyan KB, Srimathi R, Venkatesan N, Avital EJ, Samad A and Rhee SH. *Energy Procedia* vol. 160, 526-533. Elsevier Bv.

**The Surface Curvature Effect on Performance of a Laboratory Scale Tidal Turbine.**

Ai K, Avital E, Shen X, Samad A and Venkatesan N. *Transactions On Engineering Technologies* 101-113. Springer Nature.

**Numerical Modelling of the Effects of Surface Roughness on Blunt Body Heat Transfer.**

Kim D, Park G and Avital E. *31st International Symposium On Shock Waves* 2 571-582. Springer Nature.

## 2018

**Low Reynolds number propulsor aerodynamic performance improvement using the continuous surface curvature design approach.**

AVITAL E, Korakianitis T and MOTALLEBI F. *Aeronautical Journal* vol. 123, (1259) 20-38. Cambridge University Press (Cup).

**Hydrodynamic assessment of a dual-rotor horizontal axis marine current turbine.**

Avital EJ, Ai K, Venkatesan N, Samad A and Korakianitis T. *International Journal of Engineering and Technology(Uae)* vol. 7, (4.10 Special Issue ) 455-459.

**A Novel Contact Algorithm Based on a Distance Potential Function for the 3D Discrete-Element Method.**

Zhao L, Liu X, Mao J, Xu D, MUNJIZA A and AVITAL E. *Rock Mechanics and Rock Engineering* vol. 51, (12) 3737-3769. Springer Verlag.

**Creating Real-Time Aeroacoustic Sound Effects Using Physically Informed Models.**

SELFridge R, MOFFAT D, AVITAL E and REISS J. *Journal of The Audio Engineering Society* vol. 66, (7/8) 594-607. Audio Engineering Society.

**NASAL INTERNAL AND EXTERNAL AERODYNAMICS FOR HEALTHY AND BLOCKED CAVITIES.**

NAYEBOSSADRI S, AVITAL E, MOTALLEBI F and Kenyon G. *Journal of Mechanics in Medicine and Biology* vol. 18, (5) 1850050-1850050. World Scientific Publishing.

**Numerical and Experimental Study of Microvortex Generators.**

HEFFRON A, WILLIAMS JJR and AVITAL E. *Journal of Aircraft* vol. 55, (6) 2256-2266. American Institute of Aeronautics and Astronautics.

**One-layer particle level set method.**

ZHAO L, KHUC H, MAO J, LIU X and AVITAL E. *Computers and Fluids* vol. 170, 141-156. Elsevier.

**A novel discrete element method based on the distance potential for arbitrary 2D convex elements.**

Zhao L, Liu X, Mao J, Xu D, Munjiza A and AVITAL E. *International Journal For Numerical Methods in Engineering* vol. 115, (2) 238-267. Wiley.

## 2017

**Sound Scattering by an Elastic Spherical Shell and its Cancellation using a Multi-pole Approach.**

AVITAL E, Bholah N, Giovanelli CG and Miloh T. *Archives of Acoustics* vol. 42, (4) 697-705. Polish Scientific Publishers.

**A computational model of ureteral peristalsis and an investigation into ureteral reflux.**

Hosseini G, Ji C, Xu D, AVITAL E, Rezaienia MA, Munjiza A, Williams JJR and Green JSA. *Biomedical Engineering Letters* vol. 8, (1) 117-125. Springer Verlag.

**Optimization of Axial Pump Characteristic Dimensions and Induced Hemolysis for Mechanical Circulatory Support Devices.**

Korakianitis T, Rezaienia MA, Paul GM, Avital EJ, Rothman MT and Mozafari S. *Asaio J* vol. 64, (6) 727-734.

**Computational Parametric Study of the Axial and Radial Clearances in a Centrifugal Rotary Blood Pump.**

Rezaienia MA, Paul G, AVITAL E, Rothman MT and Alexander T. *Asaio Journal* vol. 64, (5) 643-650. Lippincott, Williams & Wilkins.

**A three-phases model for the simulation of landslide-generated waves using the improved conservative level set method.**

Mao J, Zhao L, Liu X, Cheng J and AVITAL E. *Computers and Fluids* vol. 159, 243-253.

**Flow design and simulation of a gas compression system for hydrogen fusion energy production.**

AVITAL E, Salvatore E, Munijza A, Suponitsky V, Plant D and Laberge M. *Fluid Dynamics Research* vol. 49, 1-23. Iop Publishing.

**Experimental investigation of nonlinear properties of crackle and screech in supersonic jets.**

Punekar JN, AVITAL E and Li X. *Journal of The Acoustical Society of America* vol. 141, (6) EL567-EL573.Jasa Express Letters.

**PRESSURE WAVE IN LIQUID GENERATED BY PNEUMATIC PISTONS AND ITS INTERACTION WITH A FREE SURFACE.**

SUPONITSKY V, AVITAL E, Plant D and Munjiza A. *International Journal of Applied Mechanics* vol. 9, (3) 1750037-1750037. World Scientific Publishing.

**An Investigation on the Aggregation and Rheodynamics of Human Red Blood Cells Using High Performance Computations.**

Xu D, Ji C, AVITAL E, Kaliviotis E, Munjiza A and Williams JJR. *Scientifica* vol. 2017, Hindawi Publishing Corporation.

**Surface curvature effects on the tonal noise performance of a low Reynolds number aerofoil.**

Shen X, AVITAL E, Zhao Q, Gai J, Li X, Paul G and Alexander T. *Applied Acoustics* vol. 12, 34-40. Elsevier.

**Machinability and optimisation of shrouded centrifugal impellers for implantable blood pumps.**

Paul G, Rezaienia A, Avital EJ and Korakianitis T. *Journal of Medical Devices* vol. 11, (2) 021005-021005. Asme.

**In-vitro investigation of the hemodynamic responses of the cerebral, coronary and renal circulations with a rotary blood pump installed in the descending aorta.**

Rezaienia MA, Paul GM, AVITAL E, Mozafari S, Rothman M and Alexander T. *Medical Engineering and Physics* vol. 40, 2-10. Elsevier.

**Numerical Simulation of Shoaling Broad-Crested Internal Solitary Waves.**

Zhu H, Wang LL, AVITAL E, Tang HW and Williams JJR. *Journal of Hydraulic Engineering* vol. 143, (6) 04017006-04017006. American Society of Civil Engineers.

**Propagation of Pressure Waves in Compression System Prototype for Magnetized Target Fusion Reactor in General Fusion Inc.**

Suponitsky V, Plant D, Avital EJ and Munjiza A. *30th International Symposium On Shock Waves* 2 955-960. Springer Nature.

## 2016

**Experimental Study of Surface Curvature Effects on Aerodynamic Performance of a Low Reynolds Number Airfoil for Use in Small Wind Turbines.**

Shen X, AVITAL E, Paul G, Rezaienia MA, Wen P and Alexander T. *Journal of Renewable and Sustainable Energy* vol. 8, (5) 053303-053303. Aip Publishing.

**Computational methods for investigation of surface curvature effects on airfoil boundary layer behavior.**

Shen X, AVITAL E, Rezaienia MA, Paul G and Alexander T. *Journal of Algorithms and Computational Technology* vol. 11, (1) 68-82. Multi-Science Publishing.

**Slip and turbulence phenomena in journal bearings with application to implantable rotary blood pumps.**

PAUL GM, Rezaienia MA, Shen X, Avital E and Korakianitis T. *Tribology International* vol. 104, 157-165.

**On parallel pre-conditioners for pressure Poisson equation in LES of Complex Geometry Flows.**

singh KM, AVITAL E, Williams JJR, ji C, bai X and munjiza A. *International Journal For Numerical Methods in Fluids* vol. 83, (5) 446-464. Wiley: 12 Months.

**Numerical simulation of interaction between internal solitary waves and submerged ridges.**

Zhu H, Wang L, Tang H, AVITAL E and Williams JJR. *Applied Ocean Research* vol. 58, 118-134. Editors: Kaskiwagi M, Lin P and Molin B. Elsevier.

**In-vitro investigation of the effect on cerebral perfusion of a rotary blood pump installed in the descending aorta.**

Rezaienia MA, Paul G, AVITAL E, Rahideh A, Rothman MT and Alexander T. *Journal of Biomechanics* vol. 49, (9) 1865-1872. Elsevier.

**Effects of Submergence on Low and Moderate Reynolds Number Free-surface flow around a Matrix of Cubes.**  
ikram Z, AVITAL E and Williams JJR. *Journal of Fluids Engineering* vol. 138, (5) 051102-1-051102-11. Andrews MJ. American Society of Mechanical Engineers (Asme).

## 2015

**Numerical Investigation of Surface Curvature Effects on Aerofoil Aerodynamic Performance.**

Shen X, Alexander T and AVITAL E. *Applied Mechanics and Materials* vol. 798, 589-595. Editors: Hoxha D, McAndrew I and Dung A. Trans Tech Publications.

**Large Eddy Simulation of Flows Around a Kite Used as an Auxiliary Propulsion System.**

Scupi A, AVITAL E, Dinu D, Williams JJR and Munjiza A. *Journal of Fluids Engineering* vol. 137, (10) 101301-1-101301-8. Andrews MJ. American Society of Mechanical Engineers.

**Aerodynamics of Wind Turbine Technology.**

Korakianitis T, Rezaienia MA, AVITAL E, Shen X, Munjiza A, Wen P and Williams JJR. *Handbook of Clean Energy Systems*. Wiley-Blackwell.

**Sound scattering and its cancellation by an elastic spherical shell in free space and near a free surface.**

AVITAL E and Miloh T. *Wave Motion* vol. 55, 35-47. Norris AN. Elsevier.

## 2014

**Thin film flow of magnetohydrodynamic (MHD) pseudo-plastic fluid on vertical wall.**

Alam MK, Siddiqui AM, Rahim MT, Islam S, Avital EJ and Williams JJR. *Applied Mathematics and Computation* vol. 245, 544-556.

**Sound Scattering and Its Reduction by a Janus Sphere Type.**

Kim D, AVITAL E and Miloh T. *Advances in Acoustics and Vibration* vol. 2014, 392138-1-392138-11. Khelif A. Hindawi.

**A well-balanced explicit/semi-implicit finite element scheme for shallow water equations in drying-wetting areas.**

Zhao L, Guo B, Li T, Avital EJ and Williams JJR. *International Journal For Numerical Methods in Fluids* vol. 75, (12) 815-834.

**Saltation of particles in turbulent channel flow.**

Ji C, Munjiza A, Avital E, Xu D and Williams J. *Physical Review E - Statistical, Nonlinear, and Soft Matter Physics* vol. 89, (5) 052202-052202.

**Numerical Simulation of a marine current turbine in free surface flow.**

Bai X, AVITAL E, Munjiza A and Williams JJR. *Renewable Energy* vol. 63, 715-723. Sayigh AAM. Elsevier/Science Direct.

**Numerical investigation of particle saltation in the bed-load regime.**

Ji C, Ante M, Eldad A, Xu D and John W. *Science China-Technological Sciences* vol. 57, (8) 1500-1511.

## 2013

**Simulation of the upper urinary system.**

Hosseini G, Williams JJR, Avital EJ, Munjiza A, Dong X and Green JSA. *Critical Reviews in Biomedical Engineering* vol. 41, (3) 259-268.

**Effect of jet noise reduction on gas turbine engine efficiency.**

Doulgeris G, Korakianitis T, AVITAL E, Pilidis P and Laskaridis P. *Proc Imeche Part G: J Aerospace Engineering* vol. 227, (9) 1441-1455. Martinez-Val R. Institution of Mechanical Engineers.

**Large scale simulation of red blood cell aggregation in shear flows.**

Xu D, Kaliviotis E, Munjiza A, Avital E, Ji C and Williams J. *Journal of Biomechanics* vol. 46, (11) 1810-1817. Guilak F. Elsevier.

**Direct numerical simulation of sediment entrainment in turbulent channel flow.**

Ji C, Munjiza A, AVITAL E, Ma J and Williams JJR. *Physics of Fluids* vol. 25, (5) 056601-1-056601-20. American Institute of Physics.

**Investigation of Improved Aerodynamic Performance of Isolated Airfoils Using CIRCLE Method.**

Ahmed MU, AVITAL E and Korakianitis T. *Procedia Engineering* vol. 56, 560-567. Editors: Sadrul Islam AKM, Amin R and Ali M. Elsevier.

**Solution of the steady thin film flow of non-Newtonian fluid on vertical cylinder using Adomian Decomposition Method.**

Alam MK, Rahim MT, Avital EJ, Islam S, Siddiqui AM and Williams JJR. *Journal of The Franklin Institute* vol. 350, (4) 818-839.

**Nonlinear Propagation of Sound Emitted by High Speed Wave Packets.**

AVITAL E, Musafir RE and Korakianitis T. *Journal of Computational Acoustics* vol. 21, (3) 1-21. Editors: Lee D, Buckingham MJ, Chiu CS and Wu SF. World Scientific.

**Solution of the steady thin film flow of non-Newtonian fluid on vertical cylinder using Adomian Decomposition Method.**

Alam MK, Rahim MT, Avital EJ, Islam S, Siddiqui AM and Williams JJR. *Journal of The Franklin Institute*.

**Simulation of the upper urinary system.**

Hosseini G, Williams JJR, Avital EJ, Munjiza A, Dong X and Green JSA. *Crit Rev Biomed Eng* vol. 41, (3) 259-268.

## 2012

**Sound Scattering by a Flexible Plate Embedded on Free Surface.**

AVITAL E, Korakianitis T and Miloh T. *Advances in Acoustics and Vibration* vol. 2012, 473531-1-473531-13. Bhat R. Hindawi.

**Aerodynamic improvements of wind-turbine airfoil geometries with the prescribed surface curvature distribution blade design (CIRCLE) method.**

Korakianitis T, Rezaienia MA, Hamakhan IA, Avital EJ and Williams JJR. *Journal of Engineering For Gas Turbines and Power* vol. 134, (8).

**Design of high-efficiency turbomachinery blades for energy conversion devices with the three-dimensional prescribed surface curvature distribution blade design (CIRCLE) method.**

Korakianitis T, Hamakhan IA, Rezaienia MA, Wheeler APS, Avital EJ and Williams JJR. *Applied Energy* vol. 89, (1) 215-227. Yan J.

**Detached Eddy Simulation of Free-Surface Flow Around a Submerged Submarine Fairwater.**

Ikram Z, Avital EJ and Williams JJR. *Journal of Fluids Engineering-Transactions of The Asme* vol. 134, (6).

**Immersed boundary based fluid coupling in mechanics of discontinua.**

Munjiza A, Williams JJR, Avital EJ, Cin J and Xu D. *Proceedings of The 10th International Conference On Advances in Discontinuous Numerical Methods and Applications in Geomechanics* 67-72.

## 2011

**Sound scattering by free surface piercing and fluid-loaded cylindrical shells.**

Avital EJ and Miloh T. *Philosophical Transactions of The Royal Society a: Mathematical, Physical and Engineering Sciences* vol. 369, (1947) 2852-2863.

## 2010

**Computations of Nonlinear Propagation of Sound Emitted from High Speed Mixing Layers.**

Punekar J, Avital EJ and Musafir RE. *Open Acoustics Journal* vol. 3, 11-20. Bentham Open.

## 2009

### **Computation of the flow and near sound fields of a free surface piercing cylinder.**

Avital EJ, Yu G and Williams J. *Journal of Computational Acoustics* vol. 17, (4) 365-382.

### **Study of sound generated by large-scale structures in low speed coaxial jets.**

Alonso M and Avital EJ. *Int. J. Aeroacoustics* vol. 8, (3) 261-282. Multi-Science Publishing.

## 2008

### **Large eddy simulation of flow past free surface piercing circular cylinders.**

Yu G, Avital EJ and Williams JJR. *Journal of Fluids Engineering, Transactions of The Asme* vol. 130, (10) 1013041-1013049.

### **Nonlinear Propagation of Screech Noise.**

Punekar J and Avital E. *The Journal of The Acoustical Society of America* vol. 123, (5) 3249-3249. Acoustical Society of America (Asa).

### **Hydrodynamics and sound generation of low speed planar jet.**

Suponitsky V, Avital E and Gaster M. *Journal of Fluids Engineering, Transactions of The Asme* vol. 130, (3) 0314011-0314018.

### **Computational aeroacoustics: The low speed jet.**

Avital EJ, Alonso M and Suponitsky V. *Aeronautical Journal* vol. 112, (1133) 405-414.

## 2006

### **Influence of the position of crew members on aerodynamics performance of two-man bobsleigh.**

Dabnichki P and Avital E. *Journal of Biomechanics* vol. 39, (15) 2733-2742.

## 2005

### **A second look at the role of the fast Fourier transform as an elliptic solver.**

Avital EJ. *International Journal For Numerical Methods in Fluids* vol. 48, (9) 909-927.

### **On three-dimensionality and control of incompressible cavity flow.**

Suponitsky V, Avital E and Gaster M. *Physics of Fluids* vol. 17, (10).

## 2004

### **Advanced bobsleigh design. Part 1: Body protection, injury prevention and performance improvement.**

Dabnichki P, Motallebi F and Avital E. *Proceedings of The Institution of Mechanical Engineers, Part L: Journal of Materials: Design and Applications* vol. 218, (2) 129-137.

### **Advanced bobsleigh design. Part 1: body protection, injury prevention and performance improvement.**

Dabnichki P, Motallebi F and Avital E. *P I Mech Eng L-J Mat* vol. 218, (L2) 129-137.

### **Sound Generation by Vortex Pairing in Subsonic Axisymmetric Jets.**

Jiang X, Avital EJ and Luo KH. *Aiaa Journal* vol. 42, (2).

### **Direct computation and aeroacoustic modelling of a subsonic axisymmetric jet.**

Jiang X, Avital EJ and Luo KH. *Journal of Sound and Vibration* vol. 270, (3) 525-538.

## 2002

### **Assessment of adequacy of ray acoustics approach for prediction of barrier insertion loss in the presence of a reflecting ground.**

Pazos DFP, Musafir RE and Avital EJ. *The Journal of The Acoustical Society of America* vol. 112, (5) 2213-2213. Acoustical Society of America (Asa).

### **Optimized differentiation schemes on non-uniform grids for computational aeroacoustics.**

Avital EJ. *Journal of Computational Acoustics* vol. 10, (2) 195-209.

2000

**Stretched Cartesian grids for solution of the incompressible Navier-Stokes equations.**

Avital EJ, Sandham ND and Luo KH. *International Journal For Numerical Methods in Fluids* vol. 33, (6) 897-918.

1999

**Analysis of sound generated by free shear flows using direct numerical simulations.**

Avital EJ, Luo KH and Sandham ND. *The Journal of The Acoustical Society of America* vol. 105, (2) 1008-1008. *Acoustical Society of America (Asa)*.

**Calculation of Basic Sound Radiation of Axisymmetric Jets by Direct Numerical Simulations.**

Avital EJ, Sandham ND, Luo KH and Musafir RE. *Aiaa Journal* vol. 37, (2) 161-168.

**Calculation of basic sound radiation of axisymmetric jets by direct numerical simulations.**

Avital EJ, Sandham ND, Luo KH and Musafir RE. *Aiaa Journal* vol. 37, 161-168. *American Institute of Aeronautics and Astronautics (Aiaa)*.

**Understanding Turbulence in Fluids using Direct Simulation Data.**

Alam M, Avital E, Craft TJ, Fiddes SP, Horton HP, Howard RJA, Jones DP, Luo KH, Sandham ND, Savill AM, Thomas TG, Voke PR and Williams JJR. *High-Performance Computing* 407-416. *Springer Nature*.

1998

**Mach wave radiation by mixing layers. Part I: Analysis of the sound field.**

Avital EJ, Sandham ND and Lou KH. *Theoretical and Computational Fluid Dynamics* vol. 12, (2) 73-90.

**On an inverse problem of ship-induced internal waves.**

Avital E and Miloh T. *Ocean Engineering* vol. 26, (2) 99-110.

**Mach wave radiation by mixing layers. Part II: Analysis of the source field.**

Avital EJ, Sandham ND and Lou KH. *Theoretical and Computational Fluid Dynamics* vol. 12, (2) 91-108.

1997

**A note on the structure of the acoustic field emitted by a wave packet.**

Avital EJ and Sandham ND. *Journal of Sound and Vibration* vol. 204, (3) 533-539.

**Box-length requirements for simulation of sound from large structures in jets.**

Avital EJ and Sandham ND. *Aiaa Journal* vol. 35, (5) 912-915.

1995

**ASYMMETRIC INSTABILITY OF A VISCID CAPILLARY JET IN AN INVISCID MEDIA.**

Avital E. *Physics of Fluid* vol. 7, (5) 1162-1164.

1994

**On the Determination of Density Profiles in Stratified Seas from Kinematical Patterns of Ship-Induced Internal Waves.**

Avital E and Miloh T. *Journal of Ship Research* vol. 38, (04) 308-318. *The Society of Naval Architects and Marine Engineers*.