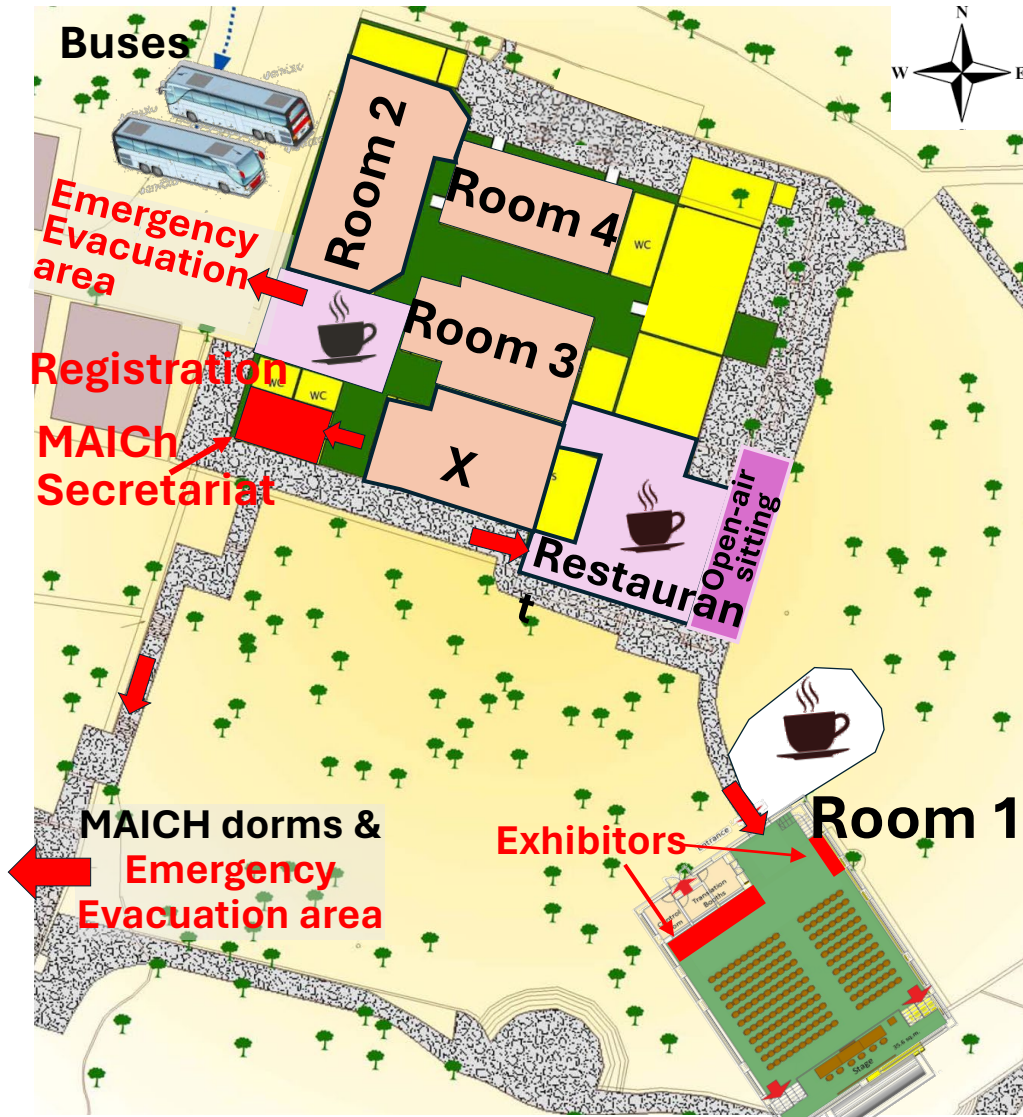


Programme Overview

Time	SUNDAY 2 nd June 2024	MONDAY 3 rd June 2024	TUESDAY 4 th June 2024	WEDNESDAY 5 th June 2024
08:15 - 8:45		Registration / Coffee	Coffee will be available	Coffee will be available
08:30 - 08:45		Welcome address		
Plenary Talks 08:45 - 09:30		Prof Konofagou	Prof Adams	Prof Leighton
09:30 - 09:45		Parallel session presentation's setup		
Parallel Sessions 09:45 - 11:15		R1: Soft matter (S10) R2: Bubble experiments (S03) R3: Fuel injection (S12) R4: Hydrofoils (S11)	R1: Propellers,Turbines(S14) R2: CFD/Bubbles (S06) R3: Modelling (S01) R4: Bubble-Surface (S07)	R1: X-ray diagnostics (S16) R2: Bubble-Surface (S07) R3: Supercavitation (S15)
11:15 - 11:45		Coffee break / Parallel session presentation's setup		
Parallel Sessions 11:45 - 13:00		R1: Erosion (S08) R2: Soft matter (S10) R3: Propellers,Turbines (S14) R4: Hydrofoils (S11)	R1: Propellers,Turbines(S14) R2: Experiments (S05) R3: Bubble experiments (S03) R4: Bubble-droplets (S09)	R1: Erosion (S08) R2: Nano/Nucleation (S02) R3: Modelling (S01)
13:00 - 14:15		Lunch		
Plenary Talks 14:15 - 15:00		Prof Koumoutsakos	Prof Liu	Dr Karathanassis
15:00 - 15:15		Sponsor presentations	Parallel session presentation's setup	
Parallel Sessions 15:15 - 16:15			R1: Experiments (S05) R2: Impellers, Pumps (S13) R3: Modelling (S01) R4: Vortices (S04)	R1: CFD/Bubbles (S06) R2: Supercavitation (S15) R3: Modelling (S01)
16:15 - 16:45		Coffee break		
Plenary Talks 16:45 - 17:30		Prof Vogel	Dr Supponen	Prof Dular
Plenary Talk 17:30 - 18:15		Parallel Sessions R1: Nano/Nucleation (S02) R2: CFD/Bubbles (S06) R3: Experiments (S05) R4: Impellers, Pumps (S13)	Governing Board & Scientific Committee Meeting (17:45 – 19:15)	Prof Farhat
18:15- 18:30				Closing Remarks
Social events (MAICfh Conference Centre)				
	19:30-21:30 Registration, Welcome Reception & Dinner	19:00 - 23:00 Group photo Dinner & Traditional Greek Music		18:45 - 23:30 Refreshments Gala dinner Cretan night & Dance

- ✓ On-site Registration at MAICh Conference Centre (office secretariat) available at any time.
- ✓ Room (R) abbreviation: **R1: Poseidon, R2: Aristotle, R3: Pythagoras, R4: Thales.**
See map for location.
- ✓ Plenary lectures, Sponsor presentations and Exhibitor desks in R1.
- ✓ Coffee at 08:15-08:45 and 16:15-16:45 offered outside R1 and MAICh restaurant. Coffee break at 11:15-11:45 offered outside all conference rooms.
- ✓ Lunches and dinners (including Gala) at MAICh Restaurant.
- ✓ Buses (see **Schedule/Stops** page) will be available in the morning (from Hotels to MAICh) and in the evening (from MAICh to Hotels) for the participants non-residing at MAICh premises.

Map of MAICH Conference Centre



Room 1: Poseidon
Room 3: Pythagoras

Room 2: Aristotle
Room 4: Thalys



confer.maich.gr



maps.app.goo.gl/B6n9cwVgHDXkx6zt5

Guidelines for presentations

Plenary talks

- ✓ Take place in Room1.
- ✓ **45min**, including Q&A and introduction from Chair.
- ✓ 15min have been allocated after plenary talks, to allow presenters and audience to move to parallel sessions.
- ✓ Invited speakers to check their presentations prior to their session; a PC will be available to upload files, but own laptops can be also used.

Parallel Session Presenters

- ✓ **15min**; limit your presentation to **12min** to allow for Q&A and time-lag between successive presenters.
- ✓ Presenters must check their presentations prior to their session; check detailed programme for allocated time and refer to your session Chair and dedicated person for assistance; to avoid delays, please upload your files prior to the session to conference-room PC available.

Sponsors/exhibitors

- ✓ In Room 1 during the 3 days of the conference; desks/equipment can be set-up in the afternoon/evening of Sunday 2nd June (prior to welcome reception). Equipment can be taken after the conference; please contact MAICh personnel for instructions.
- ✓ **15min** presentation in dedicated session in Room 1, including Q&A and time-lag between successive presenters; please check presentation prior to session.

Chairs

- ✓ To get in touch with presenters prior to the session and make sure all session presentations are playing/displayed properly prior to the session.
- ✓ To make sure presentations **do not start before** the indicated starting time.
- ✓ To make a short introduction to the presenter prior to the talk.
- ✓ To notify the presenters **2min before** the end of the 12min presentation duration time.
- ✓ To coordinate and encourage Q&A after each presentation; request name and affiliation of the colleagues asking questions.

Posters

- ✓ Posters must be setup on Sunday evening (prior to welcome reception) in Room 1. Boards with size 0,85m (width) x 1,20m (height) will be available.
- ✓ Become available to discuss your posters with participants stopping by during the conference.
- ✓ Posters can be taken after the conference; please contact MAICh personnel for instructions.

Participants

- ✓ You are kindly advised not to enter rooms while presentations take place, to avoid disturbance.
- ✓ Change conference room (if needed) during the last minute prior to the indicated starting time of each presentation.
- ✓ During Q&A identify yourself (name/affiliation).
- ✓ You are encouraged to visit and talk to the sponsors/exhibitors during the days of the conference.

MONDAY, 3rd June 2024

08:00-08:30	Coffee (outside Room 1 and MAICH restaurant area)			
08:30-08:45	Welcome address (R1), Prof M. Gavaises			
08:45-09:30	Plenary Lecture 1 Chair: Prof Joseph Katz	Prof Elisa Konofagou (University of Columbia, USA) Cavitation as a metric of the blood-brain barrier opening volume and degree of immunomodulation in ultrasound-induced brain disease treatment		
09:30-09:45	Time for participants to move to parallel sessions & presentations' setup (R1, R2, R3, R4)			
Parallel Sessions	R1: Bubble-soft matter interact. (S10) Chair: Prof Elisa Konofagou	R2: Bubble experiments (S03) Chair: Prof Iakovos Tzanakis	R3: Fuel injection, Nozzles (S12) Chair: Prof Vladimir Serebryakov	R4: Hydrofoils (S11) Chair: Prof Tom Terwisga
09:45-10:00	S10 P1: E. Koukas¹, P. Papoutsakis², M. Gavaises¹ Shock induced bubble collapse within a blood vessel', ¹ City University of London, UK; ² University of Hertfordshire, UK	S03 A1: D. Preso¹, D. Fuster², M. Farhat³, and J. Kwan¹ Cavitation in aqueous ammonia University of Oxford UK, ² Sorbonne Université, France, ³ EPFL, Switzerland	S12 P1: W.Guan¹, Z.He², L.Zhang², Ch. Wang², D. Thevenin¹ Characteristics of jet primary breakup affected by in-nozzle string cavitating flow. ¹ University of Magdeburg, Germany. ² Jiangsu University, PR China	S11 P1: S.Ichiki, J.Okajima, Y.Iga, Experimental Study of Turbulent Thermodynamic Parameter by Internal Temperature Measurement in Hot Water Cavitation. Tohoku University, Japan
10:00-10:15	S10 P2: E. Koukas¹, P. Papoutsakis², M. Gavaises¹ 'Numerical investigation of needle-free injections on human skin', ¹ City University of London, UK. ² University of Hertfordshire, UK	S03 P1: D.Han¹, Q.Zhong¹, Z.Yao¹, Y.Tian², F.Wang¹ Interference-free Evolution of laser-induced nonspherical bubble. ¹ China Agricultural University, China. ² Ocean University of China, PR China	S12 P2: J.Lindau¹, A. Gnanaskandan², F.Thomas³, R.Kunz¹, D.Leonard¹ Study and Analysis of Aviation Fuel Flow Cavitation. ¹ Pennsylvania State University, USA. ² Worcester Polytechnic Institute, USA. ³ University of Notre Dame, USA	S11 P2: L.Barbaca, B.W. Pearce, P.A. Brandner Hydrodynamic performance of an intercepted base ventilated hydrofoil. University of Tasmania, Australia
10:15-10:30	S10 P3: G.Guerriero, O.Supponen Characterization of ultrasonic horn cavitation on the surface of an artificial skin model. ETH Zürich, Switzerland	S03 P2: V.Agrež, J.Zevnik, Ž.Lokar, M.Dular, R.Petkovšek. Laser driven cavitation induced micro pumping. University of Ljubljana, Slovenia	S12 P3: Ch.Habchi¹, H.Gaballa^{1,2}, J.-Ch. de Hemptinne¹ A new real-fluid modelling framework applied to cavitation simulation. ¹ IFPEN, France. ² Safran Aircraft Engines, France	S11 P3: T.Irie, E.Shiokawa, Y.Katayama, K.Miyagawa The interaction mechanisms between flutter and cavitation types on a flat-plate hydrofoil. Waseda University, Japan
10:30-10:45	S10 P4: P.Guida,W. L..Roberts Numerical Modeling of Histotripsy Induced by High Intensity Focused Ultrasounds. KAUST, Saudi Arabia	S03 P3: R.Comanici¹, P.A Prentice², M.J Conneely³, P.A Campbell^{1,3} Automated analysis of ultrasound-activated microbubble interactions using machine learning: preliminary results. ¹ University of Dundee, UK. ² University of Glasgow, UK. ³ Ten Bio Ltd, UK	S12 P4: C. Rodriguez¹, R. Bellini¹, E. Geber¹, I.K. Karathanassis¹, L. Pickett², M. Gavaises¹ 'Advancing Multiphase Flow Simulation: Integrating PC-SAFT and VLE in Cavitating Nozzle Flows and Spray Dynamics', ¹ City University of London, UK. ² Sandia National Laboratories, USA	S11 P4: G.Hatzissawidis, E.Henn, MMG Kuhr, GJ.Ludwig, PF.Pelz Experimental study on the influence of surface roughness on cloud cavitation dynamics and nucleation. Technische Universität Darmstadt, Germany

10:45-11:00	S10 P5: D.Vaca-Revelo, K.Vuong, M.Averkiou, A.Gnanaskandan Investigating the role of MBs and focused US in tissue temperature elevation. Worcester Polytechnic Institute, University of Washington, USA	S03 P4: E.S.C Allan, L.Barbaca, P.S Russell, J.A Venning, B.W Pearce, P.A Brandner Microbubble Generation via Wall Shear. University of Tasmania, Australia	S12 A1: C.Wang¹, Y.Duan¹, Y. Shen¹, W.Guan¹, W.Du¹, Z.He¹, M.Gavaises² Comparison of HEM and ZGB cavitation model in predicting the thermal effects within the nozzle under ultra-high pressure. ¹ Jiangsu University, Institute for Energy Research, Jiangsu University, PR China. ² City, University of London, UK	S11 P5: G.Hatzissawidis¹, P.S.Russell², J.A.Venning², B.W.Pearce², M.M.G. Kuhr¹, P.F Pelz¹, P.A Brandner² Multimodal dynamics of cloud cavitation about a hydrofoil at varying incidence. ¹ Technische Universität Darmstadt, Germany. ² University of Tasmania, Australia
11:00-11:15	S10 P6: Y.Fan, C.D. Ohi Cavitation induced perforation of bio-membrane covered soft matter. University of Magdeburg, Germany	S03 P5: Ž.Lokar, D.Horvat, J.Petelin, V.Agrež, R.Petkovšek Shockwave measurements very close to their origin. University of Ljubljana, Slovenia	S12 A2: W.Huang, Z.He, C.Li, Y.Yang, C.Wang Phase Transition Model Considering Thermal Effects and Its Application in High-Pressure Liquid Ammonia Internal Cavitating Flow and Flash Boiling Spray. Jiangsu University, PR China	S11 P6: N.Yang, J.Okajima, Y.Iga Transition from attached cavitation to nucleate boiling on heated NACA0015 hydrofoil. Tohoku University, Japan
11:15-11:45	Coffee break (outside all rooms), Time for participants to move to parallel sessions & presentations' setup (R1, R2, R3, R4)			
Parallel Sessions	R1: Cavitation erosion (S08) Chair: Prof Mohamed Farhat	R2: Bubble-soft matter interact. (S10) Chair: Prof Michel Versluis	R3: Propellers, Turbines (S14) Chair: Dr Magdalena Neuhauser	R4: Hydrofoils, noise (S11) Chair: Prof Tom Terwisga
11:45-12:00	S08 P1: M.Ozgunoglu¹, M.Persson², D.Ahl², R.Bensow¹ Numerical cavitation erosion assessment of a water jet pump. ¹ Chalmers University of Technology, Sweden. ² Kongsberg Hydrodynamic Research Center, Sweden	S10 A1: J.M. Rosselló^{1,2}, S.I.Ghasemian², C-D. Ohi² Liquid Injection and Shear Waves from Laser-Induced Bubbles in Tissue-Mimicking Materials. ¹ University of Ljubljana, Slovenia. ² University of Magdeburg, Germany	S14 P1: R.Stigter¹, M.Birvalski², R.Schouten², M.X. van Rijsbergen², T.van Terwisga^{2,1}, J. Westerweel¹ An early assessment of the effect of water quality and sea-state on propeller cavitation inception of a full-scale vessel. ¹ TU Delft, Netherlands. ² MARIN, Netherlands	S11 P7: Y.T Cao, L.H Xu, X.X Peng Singing phenomenon of tip clearance vortex cavitation around a hydrofoil. National Key Laboratory on Ship Vibration & Noise, Ship Scientific Research Centre, PR China
12:00-12:15	S08 P2: K.Okita¹, Y.Miyamoto², W.Sumino², S.Nagura², S.Takagi³, H.Kato³ Prediction of Material Damage in Hydraulic Cavitation Jet Erosion Test by using Machine Learning based on Vibration Measurement. ¹ Nihon University, Japan. ² KOMATSU Ltd., Japan. ³ University of Tokyo, Japan	S10 A2: N.Bempelelis¹, T.A.Smith² Numerical simulations of bubbles impacted by impulsive shock waves. ¹ Queen Mary University of London, UK. ² University College London, UK	S14 P2: A.Khaware¹, A.Sivanandham¹, V.K.Gupta¹, F.Kelecyc², W.Bauer³ Numerical Simulation of Open Water Test Propeller Performance and Cavitation Prediction for Potsdam Marine Propeller. ¹ Ansys Software Ltd, India. ² Ansys Inc. Lebanon, USA. ³ Ansys Inc. Germany	S11 P8: K.Tamura, Y.Iga Oscillation Characteristics of Tip Leakage Vortex Cavitation Arising in a Twisted Hydrofoil with Tip Clearance. Tohoku University, Japan

12:15-12:30	S08 P3: M.Nohmi, H.Nakamoto, T. Nogami, T.Tsuneda, K.Masuya, S.Kagawa Long-term Observation of Cavitation Erosion Geometry Changes and Application to Calibration of Erosion Prediction. EBARA Corporation, Japan	S10 A3: S.Ichihara, Y.Tagawa Non-contact acoustic pressure-field measurement in water and soft material. Tokyo University of Agriculture and Technology, Japan	S14 P3: Q.S.Khraisat¹, M.Persson², R.E. Benschow¹ Prediction of Cavitation and Underwater Radiated Noise for a Propeller Operating In-behind Condition. ¹ Chalmers University of Technology, Sweden. ² Kongsberg Hydrodynamic Research Centre, Sweden	S11 P9: Y.Lin, E.Kadivar, O.Moctar Decomposition of unsteady cavitation around a hydrofoil with and without passive cavitation control method using spectral proper orthogonal decomposition. University of Duisburg-Essen, Germany
12:30-12:45	S08 P4: M.Wheeler¹, D.Frisk¹, A.Peters², B.O. ElMoctar², M.Persson³, A.Gunderson⁴ Evaluation of Cavitation Erosion Models on Industrial Maritime Applications Using Commercial CFD Software. ¹ Siemens Digital Industries Software, Germany. ² University of Duisburg-Essen, Germany. ³ Kongsberg Hydrodynamic Research Centre, Germany. ⁴ Mercury Marine, USA	S10 A4: P. Pfeiffer¹, I. Karathanassis³, Y. Fan¹, F. Reuter¹, T. Sato², J. Koliyadu², Š. Birnštejnová², N. Taulier⁴, S. Cherkaoui⁵, C.-D. Oh¹, C. Contino-Pépin⁶, P. Vagović², M. Gavaises³ Visualization of microbubbles in an artificial blood stream exposed to ultrasound using ultra high-speed X-ray imaging. ¹ Magdeburg Un., Germany, ² XFEL, Germany, ³ City University of London, UK, ⁴ University of Sorbonne, France, ⁵ Bracco Ltd, Switzerland, ⁶ University of Avignon, France	S14 P4: W.Du¹, R.You², S.Kinnas², J.Scherer¹ Application of Machine Learning in Predicting the Performance of Cavitating Propellers. ¹ Mercury Marine, USA. ² University of Texas at Austin, USA	S11 P10: L.Li^{1,2,4}, Q.Hai^{2,4}, W.Guo^{2,4}, Y.Chen^{2,3,4}, L.Xu^{2,4} Research on Propeller Anti-singing Edge Machining and Tip Vortex Cavitation Observation Based on Real-scale Model. ¹ Harbin Engineering University, ² Ship Scientific Research Centre, ³ Zhejiang University, ⁴ Taihu Laboratory of Deepsea Technological Science, PR China
12:45-13:00	S08 P5: T.Melissaris, I.Hubbard An Overview of Cavitation Erosion Risk Assessment on Propeller Blades in Full Scale. Wärtsilä BV, Netherlands	S10 A5: F.Li, Y.Cai, Y.Shen Evaluation of acoustic parameters on the microbubble dynamics within small channels of different width. Shenzhen University, PR China	S14 A1: J. Ha, S.H. Rhee Experimental Investigation of Propulsion Performance of a Partially Submerged Propeller. Seoul National University, S. Korea	S11 A1: J. Hong, Y.Kim, A.K. Hilo, B.-K. Ahn Experimental study on cavitation noise suppression by air injection on a hydrofoil. Chungnam National University, S. Korea.
13:00-14:15	Lunch (MAICh Restaurant)			
14:15-15:00	Plenary Lecture 2 Chair: Prof Peter Pelz	Prof Petros Koumoutsakos (Harvard University, USA) Reinforcement Learning for Flow Modelling and Control		
	Chair: Prof Manolis Gavaises	Sponsor presentations		
15:00-15:15	GERMAN RESEARCH FOUNDATION DFG, Prof Peter Pelz, Dr Benjamin Lambie 'Interaction between Transport and Wetting Processes'			
15:15-15:30	ANDRITZ, Dr Simon Weissenberger 'Cavitation in hydraulic turbines'			
15:30-15:45	SPECIALISED IMAGING, Dr Jolyon Cleaves 'An introduction to Specialised Imaging'			
15:45-16:00	PHOTRON, Dr Tim Nicholls 'High-speed imaging of cavitation – applications and challenges'			
16:00-16:15	SHIMADZU, Dr Raphael Opitz 'HPV-X2 Capturing the moment'			
16:15-16:45	Coffee break (outside Room 1 and MAICh restaurant area)			

16:45-17:30	Plenary Lecture 3 Chair: Prof Claus-Dieter Ohl		Prof Alfred Vogel (University of Lubeck, Germany) Laser-induced micro- and nanocavitation: bubble dynamics, memory, and amnesia	
17:30-17:45	Time for participants to move to parallel sessions & presentations' setup (R1, R2, R3, R4)			
Parallel Sessions	R1: Nanobubbles, Nucleation (S02) Chair: Prof Alfred Vogel	R2: CFD - Bubble dynamics (S06) Chair: Dr Steffen Schmidt	R3: Experiments (S05) Prof Mohamed Farhat	R4: Impellers, Pumps (S13) Chair: Prof Tadd Truscott
17:45-18:00	S02 P1: S.Rezaee¹, E.Kadivar², O.Mohtar² Nanobubble collapse dynamics near a porous nickel foam surface: A molecular dynamics simulation. ¹ Amirkabir University of Technology, Iran. ² University of Duisburg-Essen, Germany	S06 A1: J.Mur^{1,2}, H.Reese¹, R.Petkovšek², C-D.Ohl¹ Ring-shaped breakdown, toroidal bubbles and their interaction with a spherical bubble. ¹ University Magdeburg, Germany. ² University of Ljubljana, Slovenia	S05 A1: N.A. Lucido, S.L Ceccio, H.Ganesh The Influence of Model Dimension and Blockage on Partial Cavitation. University of Michigan, Ann Arbor, USA	S13 A1: D-A.Nguyen^{1,2}, J-H.Kim^{1,2} Influence of impeller tip clearance on hydraulic performance and cavitation formation in axial flow pump. ¹ University of Science & Technology, ² Korean Institute of Industrial Technology, S. Korea
18:00-18:15	S02 P2: G.Viciconte, P.Guida, T. T. Truscott, W.L. Roberts On the effect of physical properties on the cavitation threshold. KAUST, Saudi Arabia.	S06 A2: U.Lantermann, O.Mohtar Numerical Study of Cavitation Bubble's Dynamics near a Wall using a Mass Transfer Model. University of Duisburg-Essen, Germany.	S05 A2: J.Yuan, N.Qiu, H.Zhu Experimental and Numerical Investigation on the Control of Cloud Cavitation Using Vortex Generators. Jiangsu University, PR China	S13 A2: F.Zhang, S.Yuan, Y.Wang, K.Chen Influence of cavitation on unsteady vortical flows and energy loss in a side channel pump at different flow rates. Jiangsu University, PR China
18:15-18:30	S02 P3: E.S.C Allan, L.Barbaca, J.A Venning, P.S Russell, B.W Pearce, P.A Brandner Cavitation nucleation and inception in structured turbulence. University of Tasmania, Australia	S06 P1: Y.Jiao, D.Bezgin, St. J. Schmidt, A.Buhendwa, A.Bußmann, O.Messe, B.Traenkenschuh, N. A. Adams Modelling of Acoustic Bubble Dynamics and Simulation of Ultrasonic Cleaning in JAX-Fluids. TU Munich, Germany	S05 P1: A.Schmid, J.Acosta-Carrascal, O.Simek, A.Wolfram Influence of hydrodynamic cavitation on biogas formation of laundry wastewater. Institute for Hydrogen and Energy Technology, University of Applied Sciences Hof, Germany	S13 P1: T.Tanaka Influence of the Thermodynamic Effect of Cavitation on the Suction Performance of a Centrifugal Pump under Liquid Nitrogen Operation. National Institute of Technology, Japan
18:30-18:45	S02 P4: M.Jelenčič¹, U.Orthaber¹, J.Mur^{1,2}, J.Petelin¹, R.Petkovšek¹ The mechanism for laser-based excitation of nanobubbles. ¹ University of Ljubljana, Slovenia. ² University of Magdeburg, Germany	S06 P2: Ch.Lechner¹, M.Koch², M.Tervo², R.Mettin² Dynamics of wall attached bubbles excited by an acoustic field. ¹ TU Wien, Austria. ² University of Gottingen, Germany	S05 P2: R.Rahul, S.K Sahu, Dh.Chatterjee, Sh.Bakshi Numerical and experimental study on cavitating flow over a blunt cylinder. Indian Institute of Technology, Madras, India	S13 P2: T.Krimm¹, G.Hatzissawidis¹, R.Abou-Ack², S. Rasmussen², N.Pedersen², P.F Pelz¹ Qualitative assessment of cavitation severity–Modelling and dynamics on a hydrofoil and a pump impeller. ¹ Darmstadt University, Germany. ² Grundfos, Denmark
18:45-19:00	Group photo (open-air theatre next to Room 1)			
19:00-23:00	Dinner, Traditional Greek Music (MAICh Restaurant)			

TUESDAY, 4th June 2024

08:15-08:45	Coffee (outside Room 1 and MAICh restaurant area)			
08:45-09:30	Plenary Lecture 4 Chair: Prof Peter Pelz	Prof Nicolaus Adams (Technical University of Munich, Germany) Advances in numerical modelling of cavitating flows		
09:30-09:45	Time for participants to move to parallel sessions & presentations' setup (R1, R2, R3, R4)			
Parallel Sessions	R1: Propellers, Turbines (S14) Chair: Dr Simon Weissenberger	R2: CFD - Bubble dynamics (S06) Chair: Prof Nicolaus Adams	R3: Modelling (S01) Chair: Dr Ioannis Karathanassis	R4: Bubble-surface interactions (S07) Chair: Prof Claus-Dieter Ohl
09:45-10:00	S14 A2: M.Guggenberger, M.Neuhauser, B.Nennemann, R.Peyreder Some aspects of cavitation observations and cavitation homology in hydraulic turbine context. Andritz, Austria	S06 P3: K.Okita Collapse Pressure of Wall-attached Bubble in a Bubble Cloud. Nihon University, Japan	S01 P1: J.Decaix Coupling of laminar/turbulent transition model with cavitation model to better predict attached cavitation on hydrofoil. University of Applied Sciences and Arts, Switzerland	S07 P1: M.Cattaneo, L.Presse, G.Shakya, O.Suppenon Jetting and singularity dynamics of ultrasound-driven microbubbles near a substrate. ETH Zürich, Switzerland
10:00-10:15	S14 A3: M.A. Shahzer^{1,2}, J-H. Kim^{1,2} Examining Instabilities of Cavitating Vortex Ropes and their Mitigation in a Francis Turbine Model through Suction Head variations. ¹University of Science & Technology, ²Korea Institute of Industrial Technology, S. Korea	S06 P4: F.Deng, D.Zhao, L.Zhang Kinematic and acoustic radiation of bubble clusters with high volume fractions. Zhejiang University, PR China	S01 P2: T.Chai, H.Cheng, X.Long Large eddy simulation and vorticity analysis of cavitating flow in an annual jet pump. Wuhan University, PR China	S07 P2: J.Mur^{1,2}, F.Reuter¹, V.Agrež², C.D. Ohl¹, R.Petkovšek² Transition from laser-induced cavitation to acoustic cavitation driven by a sonotrode. ¹University of Magdeburg, Germany, ²University of Ljubljana, Slovenia
10:15-10:30	S14 P5: B.Al Bishtawi¹, F.Gerini², G.Scribano¹, E.Vagnoni² Oscillation characterization of cavitating tip leakage vortices in a dynamically controlled Kaplan turbine. ¹University of Nottingham Malaysia, ²EPFL, Switzerland	S06 A3: T.A Smith¹, N.Bempedelis² Numerical study of the impact of a bubble on an impulsive shock wave. ¹University College London, UK, ²Queen Mary University of London, UK	S01 P3: N.N.Quoc¹, T.Mabuchi², T.Kanagawa¹ Characteristics of Weakly Nonlinear Ultrasound Propagation in Liquids containing Multiple Shell-Encapsulated Contrast Agents. ¹University of Tsukuba, Japan, ²Tohoku University, Japan	S07 P3: Y.Sun^{1,2}, Y.Fan², Z.Yao¹, C.D. Ohl² The collapse and jet formation of a cavitation bubble near a confined free surface. ¹College of Water Resources and Civil Engineering, China Agricultural University, ²University of Magdeburg, Germany
10:30-10:45	S14 P6: S.Stalikas^{1,2}, P.Romero-Gomez¹, E.Kontoleonos¹ Labyrinth-induced gap cavitation in high head Francis turbines: CFD analysis and experimental observations. ¹Andritz Hydro GmbH, Austria, ²National Technical University of Athens, Greece	S06 A4: E.Johnsen, B.Fonkwa, Z.Huang, W.White Phase-Field Modeling for Bubble Dynamics and Collapse. ¹University of Michigan Ann Arbor, USA	S01 P4: C.F Delale¹, Ş.Pasinlioğlu² On the polytropic indices for the gas pressure in bubble dynamic acoustic and hydrodynamic cavitation models. ¹MEF University, Istanbul, Turkey, ²Istanbul Technical University, Turkey	S07 P4: M.Petkovšek¹, J.M. Rosselló¹, M.Hočevar², P.Gregorčič¹ Cavitation bubble manipulation by laser-functionalized surfaces. ¹University of Ljubljana, Slovenia, ²Institute of Metals and Technology, Slovenia

10:45-11:00	S14 P7: S.Kim, H.Lee Cavitation Performance of a Composite Propeller on KVLCC2: a Numerical Study with RANS-FEM based FSI. Hyundai Heavy Industries, S. Korea	S06 P5: Y.Ze-Rui, N.Bao-Yu, W.Qi-Gang, R. Xu-Chen, X.Yan-Zhuo Numerical simulation of bubble dynamics of two compressed gas-bubbles based on ALE method. Harbin Engineering University, PR China	S01 P5: K.I Matveev Numerical Modelling of Hydrogen Flashing Flow. Washington State University, USA	S07 P5: L.Han¹, M. Zhang¹, Q.Wu¹, T.Liu¹, G.Wang¹, M.Farhat², B.Huang¹ On the interaction of a cavitation bubble with an elastic plate. ¹ Beijing Institute of Technology, China. ² EPFL, Switzerland
11:00-11:15	S14 P8: X.Wang^{1,2}, H.Cheng¹, B.Ji¹, M.Farhat² A numerical study on the surface waves of tip vortex cavitation and its induced noise. ¹ Wuhan University, PR China. ² EPFL, Switzerland	S06 P6: D.Zhao¹, F.Q Deng¹, L.X Zhang¹ Numerical investigation on wall impacts induced by the collapse of cavitation bubble clusters. ¹ Zhejiang University Hangzhou, PR China	S01 P6: M.Lavari, D.Vaca-Revelo, A.Gnanaskandan Multiscale Modelling of Sheet to Cloud Cavitation Transition. Worcester Polytechnic Institute, USA	S07 A1: Ch.Bruecker¹, V.Mikulich² Visualization of joint cavitation in a cracking rod. ¹ City, University of London, UK. ² TU Bergakademie Freiberg, Germany
11:15-11:45	Coffee break (outside each room), Time for participants to move to parallel sessions & presentations' setup (R1, R2, R3, R4)			
Parallel Sessions	R1: Propellers, Turbines (S14) Chair: Prof Spyros Kinnas	R2: Experiments (S05) Chair: Prof Tim Leighton	R3: Bubble experiments (S03) Chair: Prof Matevz Dular	R4: Bubble-droplet interactions (S09) Chair: Dr Outi Supponen
11:45-12:00	S14 A4: M.van Rijsbergen, M.Kerkvliet, B.Schulling On the use of leading-edge roughness to induce sheet cavitation on propeller models. MARIN, Netherlands	S05 P3: P.S Russell, L.Barbaca, E.S.C Allan, J.A Venning, B.W Pearce, P.A Brandner Cavity Leading-Edge Interfacial Dynamics. University of Tasmania, Australia	S03 A2: M.Roudini¹, J.M Rosselló², O.Manor³, C-D.Oh², A.Winkler¹ Cavitation-induced Atomization in SAW Aerosol Generation. ¹ Leibniz Institute for Solid State and Materials Research, Germany. ² University of Magdeburg, Germany. ³ Technion, Israel	S09 P1: A.Prasanna, S.Fiorini, G.Shakya, O.Supponen Jetting of acoustic cavitation bubbles within micrometric droplets. ETH Zürich, Switzerland
12:00-12:15	S14 A5: Ö.B. Perçin², T.van Terwisga^{2,3}, G.Elsinga², D.Fiscaletti² Hydroacoustic analysis of tip-vortex cavitation behind a ship propeller. ¹ Middle East Technical University, Turkey. ² TU Delft Netherlands. ³ MARIN, Netherlands	S05 P4: S.Tebyani¹, F.R.Talabazar¹, M.Ghorbani², A.Kosar¹ Cavitating Flow Patterns in a Roughened "HC on a Chip" Reactor with Multiple Microchannels. ¹ Sabancı University, Turkey. ² Oxford Brookes University, UK	S03 A3: P.A Campbell High speed observation of microbubble cavitation with single and multi-trap holographic spatial control: Progress and Prospects. University of Dundee, UK	S09 P2: S.Li, Z.Zhao, A-M.Zhang, R.Han Cavitation inside a droplet suspended in a different host fluid: Two fluid-mixing mechanisms. Harbin Engineering University, PR China
12:15-12:30	S14 A6: A.Peters, U.Lantermann, O.Moctar Numerical Prediction of Propeller Cavitation and Acoustic Emissions Based on a Multi-Scale Euler-Lagrange Method. University of Duisburg-Essen, Germany	S05 P5: I.Tzanakis¹, A.Priyadarshi¹, A.Kaur¹, J.Mi², P.Prentice³, D.Eskin⁴ Unveiling the impact of shock waves on grain refinement in Aluminium alloys and synthesis of 2D nanomaterials. ¹ Oxford Brookes University, Oxford. ² University of Hull, University of Glasgow. ⁴ Brunel University, UK	S03 A4: R.Stigter¹, D.Fiscaletti¹, G.Elsinga¹, T.van Terwisga^{2,1}, J.Westerweel¹ Measurements of microbubble size and concentration with Interferometric Particle Imaging and compared with Long-range Microscopic Shadowgraphy. ¹ TU Delft, Netherlands. ² MARIN, Netherlands	S09 A1: Z.Ren¹, H.Han¹, H.Zeng², C.Sun^{1,2}, Y.Tagawa³, Z.Zuo¹, S.Liu¹ Interactions of a collapsing laser-induced cavitation bubble with a hemispherical droplet attached to a rigid boundary. ¹ Tsinghua University, PR China. ² University of Twente, Netherlands.. ³ Tokyo University of Agriculture and Technology, Japan

12:30-12:45	S14 P9: A.Saraswat, C.Panigrahi, J.Katz Role of tip leakage flow structure in the inception of cavitation in ducted marine propellers. Johns Hopkins University, USA	S05 P6: H.Wen¹, Z.Yao¹, Q.Zhong¹, Y.Tian², D.Zi¹ Energy partition of the laser-induced spherical bubbles at the high ambient pressure. ¹China Agricultural University, China. ²Ocean University of China, PR China	S03 A5: X-G. Cheng¹, X-P. Chen¹, X. Huang¹, H-B. Hu¹, A. Zhang², Y-L Liu², L.Bing³ Generation of high speed jet from coupling of a surface defect and collapsing bubble. ¹Northwestern Polytechnical University, PR China. ²Harbin Engineering University, PR China. ³University of Strathclyde, UK	S09 A2: H.Reese¹, C.D. Ohl¹, J.M. Rossello^{1,2} Jet ejection from acoustic cavitation in a free-falling water drop. ¹University of Magdeburg, Germany. ²University of Ljubljana, Slovenia
12:45-13:00	S14 P10: K.Tamura¹, Y.Okada¹, A.Okazaki¹, T.Kawase², S.Takiguchi², T.Kanai², M.Wakahara³ Measurement of pressure fluctuation induced by propeller on actual ship using FBG pressure sensor. ¹Nakashima Propeller Co., Ltd., ²Ship building Research Centre. ³CMIWS Co., Ltd., Japan	S05 P7: W.Qi-Gang, Z.Chen-Xi, N.Bao-Yu, Y.Ze-Rui, X.Yanzhuo Experimental study on the motion law and load characteristics of air gun bubbles under various boundary conditions. Harbin Engineering University, PR China	S03 A6: M.Versluis¹, H-J. Kamphof^{1,2}, G.Lajoinie¹, M.van Rijsbergen², T.van Terwisga^{2,3} Single bubble hydrodynamic cavitation from micropits in a venturi microchannel. ¹University of Twente, ²MARIN, ³TU Delft, Netherlands	S09 P3: R.Shannon¹, K.Nguyen², M.Kinzel², S.Grace¹ The role of bubble dynamics on the development of instabilities on a cylindrical droplet. ¹Boston University, USA. ²University of Central Florida, USA
13:00-14:15	Lunch (MAICH Restaurant)			
14:15-15:00	Plenary Lecture 5 Chair: Prof Peter Pelz	Prof Shuhong Liu (Tsinghua University, China) Particulate Projectiles Driven by Cavitation Bubbles		
15:00-15:15	Time for participants to move to parallel sessions & presentations ¹ setup (R1, R2, R3, R4)			
Parallel Sessions	R1: Experiments (S05) Chair: Prof Shuhong Liu	R2: Impellers, Pumps (S13) Chair: Prof Tadd Truscott	R3: Modelling (S01) Chair: Dr Chawki Habchi	R4: Vortices (S04) Chair: Prof Mohamed Farhat
15:15-15:30	S01 P13: Y.Li, L.Zhang, F.Deng, D.Zhao Numerical investigation on the application of dimpled roughness in tip vortex cavitation inception mitigation. Zhejiang University, PR China	S13 P3: S.Watanabe Stability Analysis of Rotating Cavitation in Pumps by Improved Ramped Parameter Model. Kyushu University, Japan	S01 P7: B.Al Bishtawi, G.Scribano, K.B Mustapha Influence of toroidal vortex dynamics on acoustic cavitation development under different ultrasonic horn tip vibration modes. University of Nottingham Malaysia	S04 P1: M.Costa, J.Westerweel, D.Fiscaletti, T.van Terwisga Cavitation onset in counter-rotating vortices from diverging disks. TU Delft, Netherlands
15:30-15:45	S05 A4: Cl.Inserra¹, G.Regnauld², C.Mauger², Ph.Blanc-Benon², A.A. Doinikov² Interacting acoustic bubbles at short distances. ¹Univ Lyon, INSERM, France. ²Univ Lyon, INSA France	S13 P4: V.Gentis^{1,2}, M.Pereira¹, F.Ravelet¹, F.Bakir¹, L.Pora², P.Tomov² Experimental study of the interaction between an inducer and impeller at very low flow rates. ¹HESAM University, ²Safran Aircraft Engines, France	S01 P8: J.Pinho, A.Simonini, A.Scarponi The effect of depressurization on a cryogenic tank: macroscopic and local analysis. von Karman Institute for Fluid Dynamics, Belgium	S04 P2: A.Madabhushi¹, K.Mahesh^{1,2} Towards cavitation mechanisms in counter-rotating vortex pair interactions. ¹University of Minnesota, USA. ²University of Michigan, USA

15:45-16:00	S05 A5: Z.Zuo¹, P.Xu¹, Z.Wang¹, B.Li^{1,2}, Z.Ren¹, L.Yu³, Z.Pan⁴, S.Liu¹ Understanding large cavitation bubbles in a tube during a transient process: Onset criteria, collapse characteristics, and viscous effects. ¹ Tsinghua University, China. ² Beijing Union University, China. ³ Research Institute of Chemical Defense, China. ⁴ University of Waterloo, Canada	S13 P5: K.Kishimoto¹, R.Kanai², S.Takada³, M. Uchiumi⁴ Suppression Mechanism of Synchronous Rotating Cavitation in a Turbopump Inducer by an Inlet Casing with Tapering Step. ¹ Muroran Inst. of Tech. ² Interstellar Technologies Inc., ³ Kakuda Space Center, Japan ⁴ Aerospace Research Center, Japan	S01 P9: O.Z.Mehdizadeh, L.Mangani, E.Casartelli Barotropic cavitation model in an industrial coupled pressure based CFD solver. Cadence Design Systems, Belgium	S04 P3: M.Song^{1,2,3}, P.Zhao⁴, Z.Liu^{1,2}, X.Gu^{1,2}, Y.Gu^{1,2}, Y.Chen^{2,3} Experimental Investigations on Micro-hole Technology for Propeller Cavitation Noise Control. ¹ National Key Laboratory on Ship Vibration & Noise, ² Ship Scientific Research Centre, ³ Taihu Lake Laboratory of Deep Sea Technology & Science, ⁴ CSIC Shanghai Marine Energy Technology Development, PR China
16:00-16:15	S05 A6: C.Syamsundar¹, G.Venkatasubbaiah² Innovative Testing Facility for Evaluating the Synergy Between Cavitation and Silt Erosion for Hydro Turbine Components. ¹ CMR Engineering College, India. ² MVSR Engineering College, India	S13 P6: W.Jian¹, L.Houlin², M.Dular³ Unsteady cavitation patterns in a centrifugal hydrodynamic cavitation generator. ¹ Taizhou University, China. ² Jiangsu University, China. ³ University of Ljubljana, Slovenia	S01 P10: X.Qin, B.Zhang, Y.Li, J.Deng Numerical simulation of tip vortex cavitation using a multiscale method. Zhejiang University, PR China	S04 A1: D.Knister, H.Ganesh, S.L. Ceccio Cavitation Inception Due to Vortex Interactions of a Counter-Rotating Vortex Pair. University of Michigan-Ann Arbor, USA
16:15-16:45	Coffee break (outside Room 1 and MAICh restaurant area)			
16:45-17:30	Plenary Lecture 6 Chair: Prof Manolis Gavaises	<u>Dr Outi Supponen</u> (ETH Zurich, Switzerland) Physics of acoustic cavitation in biomedical applications: ablation and drug delivery		
17:45-19:15	Governing Board and Scientific Committee meeting			

WEDNESDAY, 5th June 2024

08:15-08:45	Coffee (outside Room 1 and MAICh restaurant area)		
08:45-09:30	Plenary Lecture 7 Chair: Prof Spyros Kinnas	Prof Timothy G. Leighton (University of Southampton, UK) Less than inertial cavitation – when it is all you need	
09:30-09:45	Time for participants to move to parallel sessions & presentations' setup (R1, R2, R3)		
Parallel Sessions	R1: X-ray diagnostics (S16) Chair: Prof Christoph Bruecker	R2: Bubble-surface interactions (S07) Chair: Prof Shuhong Liu	R3: Supercavitation (S15) Chair: Prof A-M Zhang
09:45-10:00	S16 P1: S.Fiorini¹, G.Shakya¹, G.T Bokman¹, S.Nikolaou¹, A.Prasanna¹, B.Lukić², A.Rack², O.Supponen¹ Shock-induced vapor nucleation in perfluorocarbon droplets. ¹ ETH Zürich, Switzerland. ² ESRF - The European Synchrotron Radiation Facility, France	S07 P6: P.Cui, Y.Liu, A-M. Zhang Experiments on ice breaking with jet induced by anti- and in-phase bubble pairs., Harbin Engineering University, PR China	S15 P1: V.V Serebryakov, N.F Dimitrieva Study of possibilities for drag reduction of cavitating bodies. Institute of Hydromechanics of National Academy of Sciences, Ukraine
10:00-10:15	S16 P2: S.A Mäkiharju, A.M Ali On the Added Uncertainty due to Unsteadiness in Time-Averaged X-Ray Measurements. University of California, Berkeley, USA	S07 A2: Y.Tagawa¹, A.Kiyama² Cavitation dynamics near a wall and a free surface. ¹ Tokyo University of Agriculture and Technology, Japan. ² Saitama University, Japan	S15 P2: S.Bulbule, U.Chauhan, P.Kumar Experimental and numerical study of supercavitation induced by air injection around a high-speed underwater projectile. SRM Institute of Science and Technology, India
10:15-10:30	S16 P3: G.T Bokman¹, L.Biasiori-Poulanges¹, B.Lukić², C.Bourquard^{1,3}, E.Baumann¹, S.R Brill⁴, B.J Olson⁴, A.Rack², O.Supponen¹ Experiments on shock-induced collapse and unstable jetting of bubbles. ¹ ETH Zürich, Switzerland. ² ESRF – The European Synchrotron, Grenoble, France. ³ Silicon Austria Labs GmbH, Austria. ⁴ Lawrence Livermore National Lab, USA	S07 A3: P.Patel¹, T.Appleford², M.Jalaal², O.Supponen¹ Characterizing acceleration-induced bubble dynamics in ultrasoft solids. ¹ ETH Zürich, Switzerland. ² University of Amsterdam, Netherlands.	S15 P3: L.Barbaca, P.S. Russell, B.W. Pearce, P.A. Brandner Topological features of a gas jet injected into a liquid crossflow. University of Tasmania, Australia
10:30-10:34	S16 A1: A.Sieber¹, G.Shakya¹, B.Lukić², G.Bokman¹, M.Belau³, M.Schlötter³, A.Kühl³, K.Schmidmayer⁴, L.Biasiori-Poulanges¹, A.Rack², O.Supponen¹ Investigating the Contribution of Cavitation Damage in Kidney Stone Ablation through X-ray High-speed Imaging and Microtomography. ¹ ETH Zürich, Switzerland. ² The European Synchrotron, Grenoble, France. ³ Storz Medical AG, Switzerland. ⁴ Inria Center, University of Bordeaux, France	S07 A4: J.Feng, J.Xing, S. Wang, A. Zhang Experiments on single bubble cavitation-induced pitting on the aluminum plate with an oil layer. ¹ Harbin Engineering University, ² Nanhai Institute of Harbin Engineering University, PR China	S15 P4: L.Barbaca, B.W. Pearce, P.A. Brandner Unsteady behaviour of ventilated cavity flow over a 3-D wall-mounted fence. University of Tasmania, Australia

10:45-11:00	<p>S16 A2: P. Vagović^{1,2}, J.Koliyadu², Š.Birnštejnová², R.Letrun², Chan Kim², G.Giovanetti², E.Sobolev², J.Uličný³ P.Szelesz³, D.Moško³, V.Bellucci², R.Graceffa², L.Adriano², L.Gelisio², A.Mancuso^{2,4,5}, A.Meents¹, T.Sato², H.Chapman^{1,6,7}, R.Bean²</p> <p>Development of MHz X-ray imaging at EuXFEL: 2D single projection imaging ¹DESY, Germany, ²European XFEL, Germany, ³Šafárik University, Slovakia, ⁴La Trobe University, Australia, ⁵Diamond Light Source, UK, ⁶The Hamburg Centre for Ultrafast Imaging, Germany, ⁷Hamburg University Germany</p>	<p>S07 A5: H.J. Sagar^{1,2}, O. Moctar² Fluid-Structure Interaction between Single Cavitation Bubble & Elastic Metal Foil. ¹Indian Institute of Technology, India. ²University of Duisburg-Essen, Germany</p>	<p>S15 P5: R.You, S.A Kinnas VISVE Applied to Supercavitation in Turbulent Flow over Hydrofoils. University of Texas at Austin, USA</p>
11:00-11:15	<p>S16 A3: P. Vagović¹, J.Koliyadu², Š.Birnštejnová², R.Letrun², C.Kim², G.Giovanetti², J.Uličný³, P.Szelesz³, D.Moško³, W.Yashiro⁴, V.Bellucci², R.Graceffa², L.Adriano², P.Villanueva-Perez⁵, L.Gelisio², A. Mancuso^{2,6,7}, A.Mazzolari⁸, D.Eakins⁹, M.Shahsavari⁹, H.Soyama¹⁰, A.Meents¹, T.Sato², H.Chapman^{1,11,12}, R.Bean²</p> <p>Development of MHz X-ray imaging at EuXFEL: MHz X-ray Multi-projection imaging aka MHz-Tomoscopy ¹DESY, Germany, ²European XFEL, Germany, ³Šafárik University, Slovakia, ⁴SRIS, Japan, ⁵Synchrotron Radiation Research and NanoLund, Sweden, ⁶La Trobe University, Australia⁵, ⁷Diamond Light Source, UK, ⁸INFN Italy, ⁹University of Oxford, UK, ¹⁰Tohoku University, Japan, ¹¹The Hamburg Centre for Ultrafast Imaging, ¹²Hamburg University, Germany.</p>	<p>S07 P7: B.C.Depp, N.Cannata, M.M.G Kuhr, G.J.Ludwig, P.F. Pelz Mass Transfer Analysis of Wall-Bound Nuclei during Convective-Diffusive Growth. Technische Universität Darmstadt, Germany</p>	<p>S15 P6: K.Zhang, Z.Wang, K.Yan, P.Li, C.Zhang Numerical study on the influence of internal gas jet on the ventilated cavity. National Key Laboratory of Hydrodynamics, China Ship Scientific Research Center, PR China</p>
11:15-11:45	Coffee break (outside each room), Time for participants to move to parallel sessions & presentations' setup (R1, R2, R3)		
Parallel Sessions	<p>R1: Erosion (S08) Chair: Prof Alfred Vogel</p>	<p>R2: Nanobubble, Nucleation (S02) Chair: Prof Matevz Dular</p>	<p>R3: Modelling (S01) Chair: Dr Ioannis Karathanassis</p>
11:45-12:00	<p>S08 A1: S.Safaei, C.Mehring Effect of Dissolved Carbon Dioxide on the Interaction of a Single Laser-Induced Cavitation Bubble with a Pre-Tensioned Micro-Wire: Wire Vibration and Surface Erosion. University of Stuttgart, Germany</p>	<p>S02 A1: A.Radhakrishnan, S.H. Bryngelson A statistics-based sub-grid model for cavitation inception and its application to complex flows. Georgia Institute of Technology, USA</p>	<p>S01 A1: U.Shimon, A.Stern Mapping of the Rayleigh-Plesset Equation to the dynamics of a Particle in a Potential. Weizmann Institute of Science, Israel</p>
12:00-12:15	<p>S08 P6: Y.Yang, C.Xiong, S.Wang, Q.Dong Cavitation erosion risk prediction on the NACA0009 hydrofoil using a multi-scale method. Harbin Engineering University, PR China</p>	<p>S02 A2: M. Dawoodian, O.Moctar Effects of oxygen molecules on nucleation and growing of nanobubbles. University of Duisburg-Essen, Germany</p>	<p>S01 A2: Y.Cai, Y. Liu, B.Wang Modelling of sound propagation through inhomogeneous and polydisperse bubbly liquids. Shanghai Jiao Tong University, PR China</p>

12:15-12:30	S08 P7: J.Hofmann¹, M.Riondet¹, L.Tôn-Thát², P.Lhuissier¹, S.Gaudion³, M Fivel¹ Influence of cavitation type on damage kinetics on a low-carbon martensitic stainless steel. ¹ Univ. Grenoble Alpes, France. ² Research Institute of Hydro-Québec, Canada. ³ Laboratory General Electric Advanced Technology, Grenoble, France	S02 A3: P.A. Quinto-Su¹, U.J. Gutiérrez-Hernández¹, H.Reese², C.D. Ohl² Nanocavitation control with structured laser-induced shocks and surface waves. ¹ Instituto de Ciencias Nucleares, Universidad Nacional Autónoma de México. ² University of Magdeburg, Germany	S01 A3: A.Kumar¹, Y.Huacallo-Aguilar¹, M.Meier², W.Ding¹, S.F.Reinecke¹ The combination of experimental and numerical investigations on the hydrodynamic cavitation-based advanced oxidation process for wastewater treatment. ¹ Clean Water Technology Lab (CLEWATEC), Institute of Fluid Dynamics, Germany. ² AIR LIQUIDE Forschung und Entwicklung GmbH, Germany
12:30-12:45	S08 P8: U.Bauerschäfer, L.Ledig, K.S Schulz, S.L Gai, K.Krüger Cavitation erosion reduction through self-regenerating trapped free gas surfaces under water. GMBU e. V. Halle (Saale), Germany	S02 A4: Y.Sharma¹, C-D. Ohl¹, J.M Rosselló² Bulk Nanobubble Generation using Laser-heated Gold Nanoparticles. ¹ University of Magdeburg, Germany. ² University of Ljubljana, Slovenia	S01 A4: K.Choi¹, S.Kim¹, H.Kim², C.Kim¹ Computations on the Non-isothermal Phase Change in Cavitation Bubble Dynamics. ¹ Seoul National University, S. Korea. ² Korea Atomic Energy Research Institute, S. Korea
12:45-13:00	S08 A2: E.Andrews, H.Ganesh, S.Ceccio Relationship between erosivity and cavity topology on modified NACA series hydrofoil. University of Michigan, USA	S02 P5: P.Pfeiffer, C.D Ohl Are liquid impurities cavitation nuclei? University Magdeburg, Germany	S01 A5: D.Pechetti, Dh.Chatterjee, M.Kamaraj Numerical investigation of the effect of orifice surface roughness on cavitation. Indian Institute of Technology Madras, India
13:00-14:15	Lunch (MAICh Restaurant)		
14:15-15:00	Plenary Lecture 8 Chair: Prof Spyros Kinnas	Dr Ioannis Karathanassis (City, University of London) High-flux irradiation imaging and optical diagnostics for wall-bounded viscoelastic cavitating flows and influence on atomising jets	
15:00-15:15	Time for participants to move to parallel sessions & presentation's setup (R1, R2, R3)		
Parallel Sessions	R1: CFD - Bubble dynamics (S06) Chair: Dr Steffen Schmidt	R2: Supercavitation (S15) Chair: Prof Vladimir Serebryakov	R3: Modelling (S01) Chair: Dr Themis Melissaris
15:15-15:30	S06 A5: J.R. Chreim¹, M. Rodriguez Jr², T. Colonius¹. A phase change model for the simulation of cavitating droplet aerobreakup using interface-capturing schemes. ¹ California Institute of Technology, USA ² Brown University, USA	S15 P7: V.D.Pham, J-W.Hong, B-K.Ahn Investigation of interaction between natural and ventilated supercavitating flow. Chungnam National University, S. Korea	S01 A6: L.Toledo¹, K.Choi¹, H.Kim², C.Kim¹ Generalized Physics-based Cavitation Model Covering the Entire Cavitation Regimes. ¹ Seoul National University, ² Korea Atomic Energy Research Institute, S. Korea
15:30-15:45	S06 A6: M.Carcana Barbosa¹, J.Yang², J.B. Estrada³, S.Bryngelson⁴, M.Rodriguez Jr.¹ Numerical simulations of inertial bubble collapse near a hyperelastic object. ¹ Brown University, ² The University of Texas at Austin, ³ University of Michigan, ⁴ Georgia Institute of Technology, USA	S15 P8: S.Sun, K.Yan, W.Han, Z.Zhang, Z.Wang Study on influence of initial parameters on stability of projectile entering water at small incident angle. China Ship Scientific Research Center, China	S01 P11: N.Kornev, M.Kazemi Scale resolving simulation of cavitating flows in ship bow thrusters. University of Rostock, Germany

15:45-16:00	S06 A7: S.Remillard, M.Rodriguez Jr Energy analysis of an initially non-spherical, inertially collapsing bubble. Brown University, USA	S15 P9: J.X Duan, S.C Feng, T.Z Sun Study on supercavitation flow characteristics of ventilated submerged vessel with forward propeller near free-surface. Dalian University of Technology, PR China	S01 P12: S.Tsuda¹, R.Iida¹, Y.Higa¹, L.Yan², S.Watanabe¹ Cavitation CFD analysis with a simple non-condensable gas model based on the mass conservation law. ¹ Kyushu University, Japan. ² Jiangsu University, PR China
16:00-16:15	S06 A8: Q.Zeng, W.Wu, S.Wang On the shock-wave self-focusing dynamics of a single collapsing bubble: a 3D numerical study. Harbin Engineering University, PR China	S15 P10: W.Zou, H.Gan, R.Qiu Free motion characteristics of the ventilated supercavitating bodies under different fin parameters. Shanghai Jiao Tong University, PR China	S01 A7: Reed W. Forehand, Khanh C. Nguyen, Michael P. Kinzel A Numerical Investigation into Scaling Effects of Hypersonic Shock-Droplet Interaction and Breakup. University of Central Florida, USA
16:15-16:45	Coffee break (outside Room 1 and MAICh restaurant area)		
16:45-17:30	Plenary Lecture 9 Chair: Prof Manolis Gavaises	Prof Matevz Dular (University of Ljubljana, Slovenia) Cavitation – transition from an engineering nightmare to a tool for water treatment	
17:30-18:15	Plenary Lecture 10 Chair: Prof Manolis Gavaises	Prof Mohamed Farhat (EPFL, Switzerland) On the cavitation barrier in high-speed sailing boats	
18:15-18:30	Closing Remarks (R1), Prof Peter Pelz		
18:45-23:30	Refreshments, Gala Dinner, Cretan night and dance (MAICh Restaurant)		

Papers without oral presentation

S01 P14: R F.Patella¹, A.Archer² Some Comments on Cavitating Flow Simulations in Venturi and Hydrofoil Geometries. ¹**Grenoble University INP-LEGI, France.** ²**EDF R&D, France**

S01 P15: H. Xia, Y. Xiao; S. Xie, Numerical simulation of bubble flow around bulbous bow using DEM method. **China Ship Scientific Research Center, PR China**

S04 P4: Y.Liu¹, Q.Wu¹, B.Huang¹, G.Wang¹, M.Farhat² Influence of bend-twist coupling on the vortex induced vibration with emphasis on lock-in. ¹**Beijing Institute of Technology, R.P. China.**

²**EPFL, Switzerland**

POSTERS

Poster 1: L.Han¹, M. Zhang¹, Q.Wu¹, T.Liu¹, G.Wang¹, M.Farhat², B.Huang¹ On the interaction of a cavitation bubble with an elastic plate. ¹**Beijing Institute of Technology, RP China.** ² **EPFL, Switzerland**

Poster 2: U.Shimon, A.Stern Mapping of the Rayleigh-Plesset Equation to the dynamics of a Particle in a Potential. **Weizmann Institute of Science, Israel**

Poster 3: P.A Campbell High speed observation of microbubble cavitation with single and multi-trap holographic spatial control: Progress and Prospects. **University of Dundee, UK**

Poster 4: R.Comanici¹, P.A Prentice², M.J Conneely³, P.A Campbell^{1,3} Automated analysis of ultrasound-activated microbubble interactions using machine learning: preliminary results. ¹**Dundee University,** ²**University of Glasgow,** ³**Ten Bio Ltd, UK**

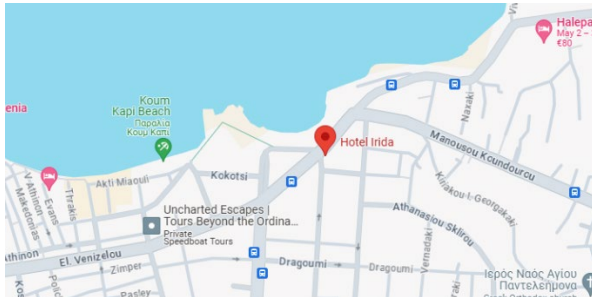
Poster 5: M.J Conneely^{1,2}, P.A Campbell^{1,2} Ultrasound stimulated cavitation for ectoparasite reduction in fish: The State of the Art. ¹**University of Dundee, Scotland, UK.** ²**Ten Bio Ltd, MSI-WTB Complex, Scotland, UK**

Poster 6: A.Lotton¹, A.A. Doinikov¹, P.Blanc-Benon¹, C.Mauger¹, C.Inserra² Numerical investigation of bubble-induced shear stress in the bulk of a fluid. ¹**Univ Lyon, INSA France.** ²**Univ Lyon, INSERM, France**

Bus Schedule and Stops (for non-MAICh residents)

Bus Stop	Sunday 2 nd June	Monday 3 rd June	Tuesday 4 th June	Wednesday 5 th June
Hotels to MAICh (Morning)				
1	19:00	07:30	07:45	07:45
2	19:05	07:35	07:50	07:50
3	19:10	07:40	07:55	07:55
MAICh to Hotels (Evening)				
MAICh	21:45	23:15	17:45	23:45

STOP 1: Outside hotel IRIDA (serves also hotel HALEPA)



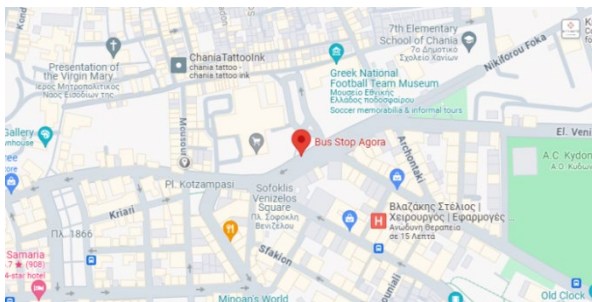
maps.app.goo.gl/V9aNyyeSf6ei7c7j8

STOP 2: Outside hotel AKALI



maps.app.goo.gl/Pk5927UP8p4gurUE9

STOP 3: Outside AGORA (serves hotels Kydon, Kriti, Porto Venenzano, Arkadi)



maps.app.goo.gl/syTjPm3o5WVs8jbV6