Time	Event	Location
4:00 - 8:00 PM	**Registration Desk Open**	**Mount Washington Rm & Foyer**
6:00 - 8:00 PM	**Welcome Reception with Neri String Quartet**	**Baltimore Foyer**

Monday, May 14, 2018

Start Time	Maryland Ballroom D Paper Number	Title & Authors	Start Time	Maryland Ballroom E Paper Number	Title & Authors	Start Time	Baltimore Ballroom A Paper Number	Title & Authors	Start Time	Baltimore Ballroom B Paper Number	Title & Authors
7:30 AM	**REGISTRATION Foyer & Mount Washington Room**										
8:30 AM	**Welcome**	**Joseph Katz: Johns Hopkins University, Dept of Mechanical Engineering**									
8:45 AM	**KEYNOTE**	**Claus Dieter Ohl: Professor, Otto-von-Guericke University, Magdeburg *"Single Bubbles, with Boundaries, and a Twist"***									
SESSION	**Advanced Numerical Simulation I**		SESSION	**Cavitation Erosion I**		SESSION	**Unsteady Cavitation and Cavitation Instabilities I**		SESSION	**Cavitation Induced Noise & Vibration**	
CHAIR	**Timothy Brungart - Penn State APL**		CHAIR	**Felix Jaegle - Robert Bosch GmbH**		CHAIR	**Jules Lindau - The Pennsylvania State University, ARL**		CHAIR	**Joerg Necker - Voith Hydro Holding GmbH**	
9:15 AM - 9:25 AM		Split Room for Sessions	9:15 AM - 9:25 AM		Split Room for Sessions	9:15 AM - 9:30 AM		***Cloud cavitating flow around an axisymmetric projectile in the shallow water*** Chang Xu; **Yiwei Wang**; Jian Huang; Chenguang Huang	9:15 AM - 9:30 AM		***Investigation on Numerical Prediction of Propeller Induced Hull Pressure Pulses*** **Muye Ge**; Rickard E. Bensow; Urban Svennberg
9:25 AM - 9:45 AM		***Effects of non-condensable gas on cavitating flow over a cylinder*** **Filipe Brandao**; Mrugank Bhatt; Krishnan Mahesh	9:25 AM - 9:45 AM		***Initial findings of an investigation on the removal of the cavitation erosion risk in a prototype control orifice inside a diesel injector*** **Maxwell Brunhart**; Celia Soteriou; Christian Daveau; Manolis Gavaise	9:30 AM - 9:45 AM		***Synchronized Measurement of Cloud Cavitating Flow around a 3D Twisted Hydrofoil*** **Y. T. Cao**; X. X. Peng; L. H. Xu; M. T. Song	9:30 AM - 9:45 AM		***On Higher Order Blade Harmonics of Propeller-Excited Hull Pressures Due to Cavitation - A Review and Discussion*** **Ernst Weitendorf**
9:45 AM - 10:05 AM		***Investigation of an implicit solver for the simulation of bubble oscillations using Basilisk*** **Daniel Fuster**; S. Popinet	9:45 AM - 10:00 AM		***Exploration of a Possibility to Assess Erosive Cavitation by Acoustic Emission Technique*** **Byoung Guk Kim**, Crispin Fetherstonhough, Philip A. Wilson, Stephen R. Turnock	9:45 AM - 10:00 AM		***The effect of gas content on cavitation shedding and test facility dynamics*** Ingrid K. Vilberg; **Morten Kjeldsen**; Roger E.A. Arndt; Torbjørn K. Nielsen	9:45 AM - 10:00 AM		***Numerical study on the effect of turbulence and cavitation model for propeller induced hull pressure fluctuation*** **Jaewook Hur,** Hyungjun Kim, Hyoungsuk Lee
10:05 AM - 10:25 AM		***Direct Numerical Simulations of Gas-Liquid Flows*** **Gretar Tryggvason**; Jiacai Lu; Ming Ma	10:00 AM - 10:15 AM		***Towards development of surface coating for improved cavitation resistance*** Ravikant Kamble; Sureka P; C. Syamsundar; **Dhiman Chatterjee**; M. Kamaraj, Oswald J. Lobo	10:00 AM - 10:15 AM		***Material Bend-Twist Coupling Effects on Cavitating Response of Composite Hydrofoils*** **Yin L. Young**, Nitin Garg, Paul A. Brandner, Bryce W. Pearce, Daniel Butler, David Clarke, Andrew W. Phillips	10:00 AM - 10:15 AM		***Hydro-acoustic analysis of the cavitating model propeller PPTC in oblique flow*** **Huiping Fu**, Jie Li
						10:15 AM - 10:30 AM		***Experimental investigation of turbulence within unsteady cavitation*** **Ilyass Khlifa** , Olivier Coutier-Delgosha	10:15 AM - 10:30 AM		***Cavitation Bubble Collapse Monitoring by Acoustic Emission in Laboratory Testing*** **Markku Ylönen**; Pentti Saarenrinne; Juha Miettinen; Jean-Pierre Franc; Marc Fivel
10:30 AM	**MORNING BREAK - FOYER**										
SESSION	**Bubble Dynamics I**		SESSION	**Bubbly Flows and Cloud Cavitation I**		SESSION	**Unsteady Cavitation and Cavitation Instabilities II**		SESSION	**Nozzles & Pumps I**	
CHAIR	**Magdalena Neuhauser - Andritz Hydro AG**		CHAIR	**Simo A. Mäkiharju - University of California, Berkeley**		CHAIR	**Andrea Prosperetti - University of Houston**		CHAIR	**Fenfang Li - Duke University**	
10:45 AM - 11:00 AM		***Numerical simulations of the shockwave induced collapse of bubbles near surfaces*** **Nikolaos Bempedelis**, Yiannis Ventikos	10:45 AM - 11:00 AM		***Investigation of acoustic streaming and cavitation intensity in water as an analogue for liquid metal*** **Iakovos Tzanakis**; G. S. Bruno Lebon; Dmitry Eskin; Martin Hyde, Patrick S. Grant	10:45 AM - 11:00 AM		***Cavitation Dynamics at Sub-Millimeter Scale*** Kunpeng Long, Matevž Dular, **Olivier Coutier-Delgosha**	10:45 AM - 11:00 AM		***Large Eddy Simulation of the internal injector flow during pilot injection*** **Marco Cristofaro**; Wilfried Edelbauer; Phoevos Koukouvinis; Manolis Gavaises
11:00 AM - 11:20 AM		***Transient Cavitation in Pre-Filled Syringes During Autoinjector Actuation*** **Jean-Christophe Veilleux,** Kazuki Maeda ; Tim Colonius ; Joseph E. Shepherd	11:00 AM - 11:20 AM		***The influence of fluid-structure interaction on cloud cavitation about a hydrofoil*** **Samuel M Smith**; James A Venning; Paul A Brandner; Bryce W Pearce; Dean R Giosio; Yin Lu Young	11:00 AM - 11:15 AM		***Experimental Research on Characteristics of Transitional Cavity Shedding on NACA0015 Hydrofoil*** **Bangxiang Che**; Linlin Cao; Yong Qiu; Dazhuan Wu	11:00 AM - 11:15 AM		***Experimental study of the effect of nozzle geometry on string cavitation and spray characteristics in real-size optical diesel nozzles*** Zhou Chen; **Zhixia He**; Wei Guan; Qian Wang; Genmiao Guo; Han Zhou
11:20 AM - 11:40 AM		***Numerical investigation of the dynamics of pressure loading on a solid boundary from a collapsing cavitation bubble*** **Prasanta Sarkar**, Giovanni Ghigliotti, Marc Fivel, Jean-Pierre Franc	11:20 AM - 11:40 AM		***An Experimental Study of Cavity Shedding Mechanisms for Unsteady Cloud Cavitation*** **Qin Wu**; Guoyu Wang; Mohamed Farhat; Biao Huang; Shuliang Cao	11:15 AM - 11:30 AM		***A Numerical Study on the Effects of Cavitation Number on Cavitating Mixing Layer of Liquefied Natural Gas (LNG) behind a Flat Plate Splitter*** Saeed Rahbarimanesh; **Joshua Brinkerhoff**	11:15 AM - 11:30 AM		***Numerical 3D simulation of the NPSH characteristics of centrifugal pumps with local and integral analysis of void structures*** Phillip Limbach; **Romuald Skoda**; Tim F. Groß; Gerhard Ludwig; Peter F. Pelz
11:40 AM - 12:00 PM		***Experimental investigation on destructive potential of shock-induced bubble collapse*** **Zhaoguang Wang**; Thomas Hopfes; Marcus Giglmaier; Nikolaus Adams	11:40 AM - 12:00 PM		***Cavitation Dynamics in Wakes Behind Bluff Bodies*** **Lisa Deijlen**; Anubhav Bhatt; Juliana Wu; Harish Ganesh; Steven Ceccio	11:30 AM - 11:45 AM		***Mechanism of Lift Increase of Cavitating Clark Y-11.7% Hydrofoil*** Wakana Tsuru; **Yushin Ehara**; Soichiro Kitamura; Satoshi Watanabe; Shin-ichi Tsuda	11:30 AM - 11:45 AM		***An Equation-of-State Tabulation Approach for Injectors with Non-Condensable Gases: Development and Analysis*** **Mathis Bode**; Sutharsan Satcunanathan, Kazuki Maeda, Tim Colonius, Heinz Pitsch
12:00 PM - 12:15 PM		***Bubble-bubble interactions and wall pressures/temperatures produced by the collapse of a bubble pair near a rigid surface*** Shahaboddin A. Beig; **Eric Johnsen**	12:00 PM - 12:15 PM		***Investigation of cloud cavitation passive control method for hydrofoils using Cavitating- bubble Generators (CGs)*** **Ebrahim Kadivar**	11:45 AM - 12: 00 PM		***Experiment Research on Cavitation Control by Active Injection*** Shengpeng Lu; **Wei Wang**; Tengfei Hou; Mindi Zhang; Jianxiong Jiao; Qingdian Zhang; Xiaofang Wang	11:45 AM - 12: 00 PM		***Simulating the effect of in-nozzle cavitation on liquid atomisation using a three-phase model*** **M.G. Mithun**; P. Koukouvnis, I. K. Karathanassis, M. Gavaises
12:15 PM - 12:30 PM		***Circular acoustic microstreaming flows due to pulsating microbubbles near a membrane*** Nima Mobadersany; **Kausik Sarkar**			***X-ray computed tomography of cavitating flow in a converging-diverging nozzle*** **Saad Jahangir**; Evert C. Wagner; Robert F. Mudde; Christian Poelma	12:00 PM - 12:15 PM		***Cavitation dynamics on laser-textured surfaces*** **Martin Petkovšek**; Matej Hočevar; Peter Gregorčič	12:00 PM - 12:15 PM		***Cavitation in Fractal Geometry Orifices*** **Pavel Rudolf**; Dávid Kubina; Martin Hudec; Ondřej Hochman; František Pochylý
						12:15 PM - 12:30 PM		***Experimental and numerical investigation of vortex dynamics in ventilated cavitating flows around a bluff body*** **Zhiying Wang**; Guoyu Wang; Biao Huang; Mindi Zhang	12:15 PM - 12:30 PM		***Behaviors of Free Bubble Nuclei in Inception of Sheet Cavitation*** **Wakana Tsuru**; Satoshi Watanabe; Shin-ichi Tsuda
LUNCH BREAK (ON YOUR OWN) 12:30 PM - 1:30 PM											

Monday, May 14, 2018

Start Time	Paper Number	Maryland Ballroom D Title & Authors	Start Time	Paper Number	Maryland Ballroom E Title & Authors	Start Time	Paper Number	Baltimore Ballroom A Title & Authors	Start Time	Paper Number	Baltimore Ballroom B Title & Authors
1:30 PM	**KEYNOTE**	**Tim Colonius: Professor, California Institute of Technology (Caltech)** ***"Numerical Simulation of Cavitation and Bubble Dynamics in Medicine"***									
SESSION		**Bubble Dynamics II**	SESSION		**Advanced Numerical Simulation II**	SESSION		**Bubbly Flows and Cloud Cavitation II**	SESSION		**Marine Propellers I**
CHAIR		**Eric Johnsen - University of Michigan**	CHAIR		**Harish Ganesh - University of Michigan**	CHAIR		**Hiroharu Kato - University of Tokyo**	CHAIR		**Claudio Zanelli - Onda Corporation**
2:15 PM - 2:30 PM		Split Room for Sessions	2:15 PM - 2:30 PM		Split Room for Sessions	2:15 PM - 2:30 PM		***The influence of nucleation on the spectral content of cloud cavitation about a hydrofoil*** **James Venning**; Dean Giosio; Samuel Smith; Bryce Pearce; Paul Brandner	2:15 PM - 2:30 PM		***Coupling a Numerical Optimization Technique with a Panel Method or a Vortex Lattice Method to Design Cavitating Propellers in Non-Uniform Inflows*** **Weikang Du**; Spyros Kinnas
2:30 PM - 2:45 PM		***Cavitation bubble collapse and wall shear stress generated in a narrow gap*** **Silvestre Roberto Gonzalez-Avila**; Anne Charlotte van Blokland; Qingyun Zeng; Claus-Dieter Ohl	2:30 PM - 2:45 PM		***Investigation of sheet to cloud transition due to the propagation of condensation fronts over a sharp wedge using large eddy simulations*** **Mrugank Bhatt;** Krishnan Mahesh	2:30 PM - 2:45 PM		***A Parametric Study of Bubble Cloud Dynamics near a Wall in an Acoustic Field*** **Chao-Tsung Hsiao** ; Jingsen Ma; Georges L. Chahine	2:30 PM - 2:45 PM		***CFD Analysis of Propeller Tip Vortex Cavitation in Ship Wake Fields*** **Keun Woo Shin**; Poul Andersen
2:45 PM - 3:00 PM		***Laser Induced Breakdown and Bubble Cavitation*** **Giorgia Sinibaldi;** Agostino Occhicone; Francisco Alves Pereira; Davide Caprini; Luca Marino; Francesco Michelotti; Carlo Massimo Casciola	2:45 PM - 3:00 PM		***A level-set based free-surface tracking method for the simulation of bubble collapse and jetting in generalized Newtonian fluids*** **Ratnesh K. Shukla;** Arpit Tiwari; Jonathan B. Freund	2:45 PM - 3:00 PM		***Air-Water Ring in the Vaneless Gap of a Reversible Pump-Turbine Operating in Condenser Mode*** **Elena Vagnoni**; Loïc Andolfatto; Renaud Guillaume; Pierre Leroy; François Avellan	2:45 PM - 3:00 PM		***Size and concentration measurements of cavitation nuclei in the wake of a ship model*** **M. Birvalsk**i, M.X. van Rijsbergen
3:00 PM - 3:15 PM		***Collapse and jet formation of ultrasound contrast microbubbles near a membrane for sonoporation*** Nima Mobadersany, **Kausik Sarkar**	3:00 PM - 3:15 PM		***Cavitation CFD Prediction for NACA0015 Hydrofoil Flow Considering Boundary Layer Characteristics*** **Motohiko Nohmi**; Tomoki Tsuneda; Byungjin An; Takayuki Suzuki; Satoshi Watanabe; Shin-ichi Tsuda	3:00 PM - 3:15 PM		***On the Dynamics of a Torus Cloud Employing the Van Wijngaarden Ansatz and the Gilmore Bubble Dynamics Equation*** **Paul Taubert**; Peter F. Pelz; Johannes Buttenbender	3:00 PM - 3:15 PM		***Study on the Hybrid Method of CFD and Bubble Dynamics for Marine Propeller Cavitation Noise Prediction*** **Satoko Ando**; Koyu Kimura; Kohei Segawa; Koutaku Yamamoto
3:15 PM - 3:30 PM		***On the rebounds of spherical and deformed cavitation bubbles*** Outi Supponen; Danail Obreschkow; **Mohamed Farhat**	3:15 PM - 3:30 PM		***On the Influence of Eddy Viscosity in the Numerical Modelling of Air Cavities*** **Gem Rotte**; Maarten Kerkvliet; Tom van Terwisga	3:15 PM - 3:30 PM		***Asymmetrical propagation of powerful sound in double-layer liquid*** **Weizhong Chen**; Xun Wang	3:15 PM - 3:30 PM		***Experimental estimation for pressure fluctuation on ship stern induced by cavitating propeller using cavity shape measurements*** **Koichiro Shiraishi**; Yuki Sawada; Daijiro Arakawa; Kunihiro Hoshino
3:30 PM - 3:45 PM		***Shape oscillation of an encapsulated bubble in electric fields*** **Yunqiao Liu**; Dongdong He; Xiaobo Gong; Huaxiong Huang	3:30 PM - 3:45 PM		***Multiscale Modeling of Cavitation using a Level Set Method with Cavity Detection*** **Jingsen Ma**; Chao-Tsung Hsiao; Georges L. Chahine	3:30 PM - 3:45 PM		***Investigation of Cavitation Bubble Cloud with discrete Lagrangian Tracking*** **Xiuxiu Lyu**; Xiangyu Hu; Nikolaus A. Adams	3:30 PM - 3:45 PM		***Numerical analysis for the prediction of hull pressure fluctuation and underwater radiated noise induced by marine propeller cavitation*** **Jeong-yong Park**; Milovan Peric; Mark Farrall; Cheolsoo Park
			3:45 PM - 4:00 PM		***Modeling Fluid-Structure Interaction in Cavitation Erosion using Smoothed Particle Hydrodynamics*** **Shrey Joshi** ; Jean Pierre Franc; Giovanni Ghigliotti; Marc Fivel						
4:00 PM		**AFTERNOON BREAK - FOYER**									
		Closed for Conference Dinner Room Change			**Closed for Conference Dinner Room Change**	SESSION		**Nucleation**	SESSION		**REMOTE PRESENTATIONS**
						CHAIR		**Tom J.C. van Terwisga - Maritime Research Institute Netherlands**	CHAIR		**David Bermejo Plana - Universitat Politècnica de Catalunya Barcelona Tech**
						4:15 PM - 4:30 PM		***Cavitation nuclei and tensile strength of water*** **Knud Aage Mørch**	4:15 PM - 4:30 PM	PRERECORDED	***Analysis of the Finite Mass Transfer Models in the Numerical Simulation of Bubbly Flows*** Ebrahim Ghahramani; Rickard E. Bensow
						4:30 PM - 4:45 PM		***Nucleation of bubbles in perfluoropentane droplets under ultrasonic excitation*** **Krishna N Kumar**; Mitra Aliabouzar; Kausik Sarkar	4:30 PM - 4:45 PM	PRERECORDED	***Numerical prediction of cavitation performance for rim driven thruster*** **Li-wei Zhang**; Zi-ru Li; Wei He; Ling-yu Zhu
						4:45 PM - 5:00 PM		***Phase Field/Fluctuating Hydrodynamics approach for bubble nucleation*** Mirko Gallo; Francesco Magaletti; **Carlo Massimo Casciola**	4:45 PM - 5:00 PM	PRERECORDED	***Effect of Gas Content on Tip Vortex Cavitation*** **Ali Amini**; Martino Reclari; Takeshi Sano; Mohamed Farhat
						SESSION		**Accoustic Measurements**	5:00 PM - 5:15 PM	PRERECORDED	***Flow Enhancement and Cavitation Suppression in Nozzle Flow by Viscoelastic Additives*** **Homa Naseri**; Phoevos Koukouvinis; Ioannis Karathanassis; Manolis Gavaises
						5:15 PM - 5:30 PM		***Approach to Quantify Acoustic Cavitation in Absolute Physical Units*** **Claudio Zanelli**; Nicolas Candia; Petrie Yam; Sam Howard	SESSION		
									5:15 PM - 5:30 PM	PRERECORDED	***Experimental and Numerical Investigation of the Cavitating Flows over a Modified NACA0009 Foil*** **Mohammad Hossein Arabnejad**; Ali Amini; Rickard Bensow; Mohamed Farhat
									5:30 PM - 5:45 PM	PRERECORDED	***Jetting of Viscous Single Droplets from Cavitation Induced Rayleigh-Taylor Instability*** **Qingyun Zeng;** Silvestre Roberto Gonzalez-Avila; Sophie Ten Voorde; Claus-Dieter Ohl
7:00 - 10:00 PM		**CONFERENCE DINNER WITH BALTIMORE HISTORIAN WAYNE SCHAUMBERG IN MARYLAND BALLROOMS D,E,F**									

Tuesday, May 15, 2018

Maryland Ballroom D			Maryland Ballroom E			Baltimore Ballroom A			Baltimore Ballroom B		
Start Time	Paper Number	Title & Authors	Start Time	Paper Number	Title & Authors	Start Time	Paper Number	Title & Authors	Start Time	Paper Number	Title & Authors
8:00 AM	**REGISTRATION** Foyer & Mount Vernon Room										
8:30 AM	**KEYNOTE** Tom J.C. van Terwisga: Professor, Maritime Research Institute Netherlands, (MARIN), ***"Do We Understand Cavitation Nuisance in Ship Propulsion? …… and Can We Predict it?"***										
SESSION	**Supercavitation I**		SESSION	**Cavitation Erosion II**		SESSION	**Bio I**		SESSION	**Nozzles & Pumps II**	
CHAIR	**Linlin Cao - Zhejiang University**		CHAIR	**Carlo Massimo Casciola - Università di Roma La Sapienza**		CHAIR	**Dhiman Chatterjee - Indian Institute of Technology, Madras**		CHAIR	**Polychronios Dellis - School of Pedagogical and Technological Education**	
9:15 AM	Split Room for Sessions		9:15 AM	Split Room for Sessions		9:15 AM - 9:30 AM	***Cavitation in Sudden Gap Expansion as a Model for Synovial Joint Cavitation*** Monica S. Li; Marc Krüger-Sprengel; **Simo A. Mäkiharju**		9:15 AM - 9:30 AM	***Investigation on cavitating flow of a novel high pressure nozzle with grooved needle*** **Li-Yun Fan**; Yi-mo Zhang; Peng Liu; Manolis Gavaises	
9:25 AM - 9:45 AM	***Noise from Ventilated Supercavities and its Utility for Inferring Cavity Dynamics*** Samuel Hansford; **Timothy Brungart**; Jules Lindau; Michael Moeny		9:25 AM - 9:45 AM	***Assessment of flow aggressiveness at an ultrasonic horn cavitation erosion test device by PVDF pressure measurements and 3D flow simulations*** **Simon A. Paepenmöller**; Johannes Kuhlmann; Martin Blume; Romuald Skoda		9:30 AM - 9:45 AM	***Numerical simulation of High Intensity Focused Ultrasound (HIFU) using a fully compressible multiscale model*** **Aswin Gnanaskanda**; Chao-Tsung Hsiao; Georges Chahine		9:30 AM - 9:45 AM	***Internal and near nozzle flow simulations of gasoline multi-hole injector (ECN Spray G) with transient needle motion*** Balaji Mohan; **Mohammed Jaasim**; Francisco Hernandez Perez; Jaeheon Sim; William Roberts; Hong Im	
9:45 AM - 10:00 AM	***6DOF motion and Cavity Dynamics of a Ventilated Super-cavitating Vehicle with Control Fins*** Sungtaek Park; Jeonghwa Seo; **Shin Hyung Rhee**; 2Sangdon Lee		9:45 AM - 10:00 AM	***Stochastic processes to model impact events in a vibratory cavitation erosion apparatus*** **Gabriel Taillon**; Kaoruko Onishi; Sumio Saito; Kazuyoshi Miyagawa		9:45 AM - 10:00 AM	***Behavior of bubble induced by fiber-type laser for TUL near soft wall with deformability*** **Yasuhiro Sugimoto**; Daichi Nagata; Keiichi Sato		9:45 AM - 10:00 AM	***Numerical Investigation of the Effect of Dissolved Non-Condensable Gases on Hydraulic Flip in Cavitating Nozzles*** **Mathis Bode**; Florian vom Lehn; Heinz Pitsch	
			10:00 AM - 10:15 AM	***Erosive Aggressiveness of Collapsing Cavitating Structures*** **Sören Schenke**; Tom J.C. van Terwisga		10:00 AM - 10:15 AM	***Dynamics and mechanisms of intracellular calcium waves elicited by tandem bubble-induced jetting flow*** **Fenfang Li**; Chen Yang; Fang Yuan; Defei Liao; Thomas Li; Farshid Guilak; Pei Zhong		10:00 AM - 10:15 AM	***X-Ray Imaging of Transient Cavitation Motion in Nozzles under Steady Injection Condition*** **Rubby Prasetya**; Takashi Miwa; Akira Sou; Seoksu Moon; Yoshitaka Wada; Yoshiharu Ueki; Hideaki Yokohata	
			10:15 AM - 10:30 AM	***Interlaboratory Study on Standard Test Method for Erosion of Solid Materials by a Cavitating Jet*** **Hitoshi Soyama**; Seiji Shimizu; Shuji Hattori; Georges Chahine		10:15 AM - 10:30 AM	***Increasing Cavitation around Dental Ultrasonic Scalers to Improve Biofilm Removal Efficiency: A High Speed Imaging and Image Analysis Study*** **Nina Vyas**, Qianxi Wang, A. Damien Walmsley				
10:30 AM	**MORNING BREAK - FOYER**										
SESSION	**Bubble Dynamics II**		SESSION	**Cavitation Erosion III**		SESSION	**Bubbly Flows and Cloud Cavitation III**		SESSION	**Marine Propellers II**	
CHAIR	**Huang Chen - Johns Hopkins University**		CHAIR	**Ramamurthy Nagarajan - Indian Institute of Technology, Madras**		CHAIR	**Manolis Gavaises - City University London**		CHAIR	**Aswin Gnanaskandan - Dynaflow, Inc.**	
10:45 AM - 11:00 AM	***The Growth and Collapse of a Bubble between Parallel Flat Free Surfaces*** **Toshiyuki Ogasawara**; Seisuke Ito; Hiroyuki Takahira		10:45 AM - 11:00 AM	***Effect of Cavitation Impacts on Crack Propagation in Epoxy Resin subjected to Tensile Loading*** Yoshiya Kawamura; **Farid Triawan**; Kazuaki Inaba; Kikuo Kishimoto		10:45 AM - 11:00 AM	***Numerical Simulation of Unsteady Cavitation in a Submerged Water Jet by Compressible Bubbly Mixture Flow Method*** **Guoyi Peng;** Yasuyuki Oguma		10:45 AM - 11:00 AM	***Prediction of the Propeller-induced Hull Pressure Fluctuation via a Potential-based Method: Study of the Influence of Cavitation and Different Wake Alignment Schemes*** **Seungnam Kim**; Yiran Su; Spyros A. Kinnas	
11:00 AM - 11:15 AM	***Numerical simulation of collapsing vapor bubble clusters close to a rigid wall*** **Daria Ogloblina**; Steffen J. Schmidt; Nikolaus A. Adams		11:00 AM - 11:15 AM	***Fluid-Structure Interaction in Cavitation Erosion*** **Yves Paquette**; Marc Fivel; Giovanni Ghigliotti; Eric Johnsen; Jean-Pierre Franc		11:00 AM - 11:15 AM	***Transient Cavitation by Quick Closing Pincers*** **Francisco A. Godínez**; Margarita Navarrete; Oscar Chávez; Enrique Guzmán		11:00 AM - 11:15 AM	***VISVE, a Vorticity Based Model Applied to Cavitating Flow around a 2-D Hydrofoil*** **Lu Xing**; Chunlin Wu; Spyros A. Kinnas	
11:15 AM - 11:30 AM	***Experimental study of interactions between a cavitation bubble and a spherical particle near solid boundaries*** **Yuning Zhang**; Yongxue Zhang; Yuning Zhang		11:15 AM - 11:30 AM	***On Cavitation Aggressiveness and Cavitation Erosion on Marine Propellers using a URANS Method*** **Themistoklis Melissaris**; Norbert Bulten; Tom van Terwisga		11:15 AM - 11:30 AM	***Ultrasonic cavitation structures in a conical vessel*** **Margarita Navarrete**; Jorge Naude; Francisco Godínez; Olivia Zurita; Federico Méndez		11:15 AM - 11:30 AM	***Propeller Cavitation Noise Radiated from Single and Twin-Screw Cargo Liners: CFD Prediction and Full Scale Validation*** **Nobuaki Sakamoto**; Hikaru Kamiirisa	
11:30 AM - 11:45 AM	***Heating effects during bubble collapse using tabulated data*** **Nikolaos Kyriazis**; Phoevos Koukouvinis; Manolis Gavaises; Richard Pearson; Martin Gold		11:30 AM - 11:45 AM	***High speed observation of damage created by a collapse of a single cavitation bubble*** **Matevž Dular**; Žan Pirc; Tomaž Požar; Rok Petkovšek		SESSION	**Cleaning**		SESSION	**Sonoluminescence**	
11:45 AM - 12: 00 PM	***A method for triggering surface modes by bubble coalescence*** **Sarah Cleve**; Matthieu Guédra; Cyril Mauger; Claude Inserra; Philippe Blanc-Benon		11:45 AM - 12: 00 PM	***Simultaneous Visualization of Nozzle Cavitating flow and Erosion Damage for Modeling of Erosion Risk Prediction*** Wei Guan; **Zhixia He**; Liang Zhang; Lian Duan; Wenquan Zhang; Zhou Chen		11:30 AM - 11:45 AM	***Improvement of Wear Resistance of Steel by Means of a Cavitating Jet and a Submerged Pulse Laser*** **Hitoshi Soyama**; Mitsuru Sato		11:30 AM - 11:45 AM	***Spectroscopic studies of nonequilibrium plasma generated by acoustic cavitation in aqueous solutions*** **Sergey I. Nikitenko**; Rachel Pflieger	
			12:00 PM - 12:15 PM	***Numerical simulation of the micro-jet velocity and cavitation-erosion on an axisymmetric nozzle*** **V Hidalgo**; X Luo; X Escaler; E Valencia; A Aguinaga		11:45 AM - 12: 00 PM	***Gas removal by a spark-generated bubble in a rigid tube*** **Bo Li**; Chen Ji; Jun Zou; Min Pan				
						SESSION	**Specific Fluids**		SESSION	**Sonochemistry**	
						12:00 PM - 12:15 PM	***An experimental study on the cavity evolution of a continuous entry of sphere through viscous liquid into water*** **Sun Tiezhi**; Wang Heng; Zhang Guiyong; Zong Zhi; Li Haitao		12:00 PM - 12:15 PM	***Thermal Effects in Ultrasonic Cavitation of Ionic Liquids*** **Ross M. Elder; Michael L. Calvisi**	
						12:15 PM - 12:30 PM	***Elastic waves generated by laser induced bubbles in soft solids*** **Julien Rapet**; Claus-Dieter Ohl				
LUNCH BREAK (ON YOUR OWN) 12:30 PM - 1:30 PM											

Tuesday, May 15, 2018

Start Time	Maryland Ballroom D Paper Number	Title & Authors	Maryland Ballroom E Start Time	Paper Number	Title & Authors	Baltimore Ballroom A Start Time	Paper Number	Title & Authors	Baltimore Ballroom B Start Time	Paper Number	Title & Authors
1:30 PM	**KEYNOTE**	**Hua Liu: Professor, Shanghai Jiao Tong University, *"Unsteady Cavitating Flow around Axisymmetric Body at Small Angles of Attack"***									
SESSION	**Unsteady Cavitation and Cavitation Instabilities III**		SESSION	**Environmental**		SESSION	**Cavitation in Fluid Machinery I**		SESSION	**Cavitation in Systems, Fuels & Lubricants I**	
CHAIR	**Victor Hidalgo - Escuela Politécnica Nacional**		CHAIR	**Morten Kjeldsen - Flow Design Bureau AS**		CHAIR	**Spyros Kinnas - The University of Texas at Austin**		CHAIR	**Daniel Fuster - UPMC/CNRS Institute D'Alembert**	
2:15 PM - 2:30 PM	Split Room for Sessions		2:15 PM - 2:30 PM	Split Room for Sessions		2:15 PM - 2:30 PM	***Experimental Study of Disappearance Phenomenon of Unsteady Cavitation on NACA16012*** **Yoshiki Odaira**; Wakana Tsuru; Satoshi Watanabe; Yuka Iga		2:15 PM - 2:30 PM	***Cavitating Flow in a Model Diesel Injector Return Valve*** **Alberto Bonifacio**; Russel Lockett; Richard Price	
2:30 PM - 2:45 PM	***Experimental Study of Cavitation in Laminar Flow*** **Kilian Croci**; Florent Ravelet; Jean-Christophe Robinet; Amélie Danlos		2:30 PM - 2:45 PM	***Effect of hydrodynamic induced cavitation and supercavitation on water pollutants*** **Andreas Schmid**		2:30 PM - 2:45 PM	***Experimental and numerical study of cavitation inside sharp-edged multi-hole orifice plate*** Zhi-xin Gao; **Jin-yuan Qian**; Zhi-jiang Jin		2:30 PM - 2:45 PM	***In-Nozzle Flow Visualization of Marine Diesel Injector Nozzles with Different Inlet Radii*** **Reto Balz**; Andreas Schmid; David Sedarsky	
2:45 PM - 3:00 PM	***Suppression of cavity volume and its oscillation using adaptive geometry*** **Tezhuan Du**; Yiwei Wang; Chenguang Huang		2:45 PM - 3:00 PM	***Application of Cavitation Based Micro-Bubbles to Recover Neutrally Buoyant Oil Droplets*** **Greg Loraine**; Georges Chahine		2:45 PM - 3:00 PM	***Assessment of Remote Cavitation Detection Methods with Flow Visualization in a Full Scale Francis Turbine*** **Xavier Escaler**; Ingrid K Vilberg; Jarle V Ekanger; Hakon H Francke; Morten Kjeldsen		2:45 PM - 3:00 PM	***The Role of Diffusion-Driven Nucleation in Hydrodynamic Cavitation*** Tim F. Groß; **Alexander Terwort**; Gerhard Ludwig; Peter F. Pelz	
3:00 PM - 3:15 PM	***Synchronized X-ray Densitometry and Surface Pressure Measurements on a Cavitating NACA0015 Hydrofoil to Estimate Bubbly Shock Properties*** Juliana Wu; Anubhav Bhatt; **Harish Ganesh**; Steven L. Ceccio		3:00 PM - 3:15 PM	***The cavitation flow in the jet pump cavitation reactor and its sterilization of E. coli*** Jiong Wang; **Xinping Long**; Junqiang Zhang; Longzhou Xiao; Bin Ji		3:00 PM - 3:15 PM	***Sensitivity Analysis of Zwart-Gerber-Belamri Model Parameters on the Numerical Simulation of Francis Runner Cavitation*** **Xavier Escaler**; Rafel Roig; Víctor Hidalgo		3:00 PM - 3:15 PM	***Cavitation in engine lubricants: visualisation experiments in both a single ring test rig and a single cylinder motored diesel engine to complement on the theoretical modelling of cavitation*** **Polychronis Dellis**	
3:15 PM - 3:30 PM	***Cavitating structures at inception in turbulent shear flow*** **Karuna Agarwal**; Omri Ram; Joseph Katz										
3:30 PM	**AFTERNOON BREAK - FOYER**										
SESSION	**Bubble Dynamics III**		SESSION	**Supercavitation II**		SESSION	**Cavitation in Micro & Nanoscale**		SESSION	**Cavitation in Systems, Fuels & Lubricants II**	
CHAIR	**Shuhong Liu - Tsinghua University**		CHAIR	**Gina Magnotti - Argonne National Laboratory**		CHAIR	**Krishnan Mahesh - University of Minnesota**		CHAIR	**Christiane Lechner - Georg-August-Universitaet Goettingen**	
3:45 PM - 4:05 PM	***Large eddy simulation of a collapsing vapor bubble containing non-condensable gas*** **Theresa Trummler**; Lukas Freytag; Steffen J. Schmidt; Nikolaus A. Adams		3:45 PM - 4:05 PM	***Experimental investigation of ventilated supercavitation under unsteady conditions*** Siyao Shao; Yue Wu; Joseph Haynes; Roger Arndt; **Jiarong Hong**		3:45 PM - 4:00 PM	***Single Oscillating Bubble from Radiofrequency Fiber Electrode*** **Fenfang Li**; George Sankin		3:45 PM - 4:00 PM	***Fuel nozzle geometry effects on cavitation and spray behavior at diesel engine conditions*** **Brandon A. Sforzo**; Katarzyna E. Matusik; Christopher F. Powell; Alan L. Kastengren; Shane Daly; Scott Skeen; Emre Cenker; Lyle M. Pickett; Cyril Crua; Julien Manin	
4:05 PM - 4:20 PM	***Dynamics of the bubble near a triangular prism array*** **Yuning Zhang**; Shida Li; Yongxue Zhang; Yuning Zhang		4:05 PM - 4:20 PM	***Effect of hole-to-hole spacing and row-to-row spacing as well as inclined angle of venting holes on the pressure-equalizing film along the surface of a vertical launched underwater vehicle*** Guihui Ma, Fu Chen, **Jianyang Yu**		4:00 PM - 4:15 PM	***Luminescence based measurements in micro cavitating flow*** **D. Podbevšek**, D. Colombet, F. Ayela, H. T. T. Lai, M. Martini, O. Tillement, G. Ledoux		4:00 PM - 4:15 PM	***LES Investigation with an Eulerian Stochastic Field Cavitation Model*** **Boxiong Chen**; Michael Oevermann	
4:20 PM - 4:40 PM	***Spark Bubble Collapse near Non-flat Surfaces*** **Pu Cui**; Shiping Wang; A-Man Zhang; Yunlong Liu		4:20 PM - 4:40 PM	***Experimental study of planing motion of a cylinder along the nearly axisymmetric supercavity surface*** Vladimir Moroz; Viktor Kochin; **Vladimir Serebryakov**; John Dzielski		4:15 PM - 4:30 PM	***Hysteresis in Cavitating Flows within Transparent Microchips*** Ece Ozdemir; Berk Ozer; Gokberk Deprem; Ahmad Reza Motezakker, Luis Guillermo Villanueva, **Morteza Ghorbani; A**li Koşar		4:15 PM - 4:30 PM	***Aviation Fuel Cavitation in a CD Nozzle: A Quantitative Experimental Characterization*** **Michael Waldrop**; Flint Thomas	
4:40 PM - 4:55 PM	***Non-spherical Dynamics of Gas Bubbles in Soft Matter*** **Kazuya Murakami;** Renaud Gaudron; Eric Johnsen		4:40 PM - 4:55 PM	***Identification of the cavitation flow parameters on the basis of photofixing of an experimental supercavity*** Vladimir Serebryakov		4:30 PM - 4:45 PM	***Acoustic Cavitation as Process Intensifier: A Phenomenological Study*** **Ramamurthy Nagarajan**; Srivalli Hariharan		4:30 PM - 4:45 PM	***In-Nozzle Cavitation-Induced Orifice-to-Orifice Variations Using Real Injector Geometry and Gasoline-Like Fuels*** **Roberto Torelli**; Katarzyna Matusik; Brandon Sforzo; Alan Kastengren; Christopher Powell; Sibendu Som; Yuanjiang Pei; Tom Tzanetakis; Michael Traver	
4:55 PM - 5:10 PM	***Experimental study on the effects of phase change during a bubble collapse*** **Thomas Hopfes**; Zhaoguang Wang; Marcus Giglmaier; Nikolaus Adams		4:55 PM - 5:10 PM	***Computational Modeling of Dynamic Planing Forces*** **Christopher Smith**; Jules Lindau; Sheri Martinelli; Colin Begg		4:45 PM - 5:00 PM	***Cavitation of Water Confined in Hydrophobic Nanoporous Materials*** **Antonio Tinti**; Alberto Giacomello; Carlo Massimo Casciola;				
5:10 PM - 5:30 PM	***A Reduced Order Gas Pressure Law for Single Acoustic Cavitation Bubbles*** **Can F. Delale**; Şenay Pasinlioğlu		5:10 PM - 5:30 PM	***Probe into internal flow structures of a ventilated supercavity*** **Yue Wu**; Yun Liu; Siyao Shao; Jiarong Hong		5:00 PM - 5:15 PM	***Thermocavitation in a microchannel with a low power light source*** **Loreto Oyarte Gálvez**; David Fernández Rivas				
6:00 PM	**DINNER EXECUTIVE BOARD (Off-Site)**										

Wednesday, May 16, 2018

Start Time	Paper Number	Maryland Ballroom D — Title & Authors	Start Time	Paper Number	Maryland Ballroom E — Title & Authors	Start Time	Paper Number	Baltimore Ballroom A — Title & Authors	Start Time	Paper Number	Baltimore Ballroom B — Title & Authors
8:00 AM	**REGISTRATION** Foyer & Mount Vernon Room										
8:30 AM	**KEYNOTE** Paul Brandner: Professor, Australian Maritime College - University of Tasmania, *"Microbubbles and Cavitation: Microscales to Macroscales"*										
SESSION		**Advanced Numerical Simulation III**	SESSION		**Supercavitation III**	SESSION		**Tip Vortex Cavitation I**	SESSION		**Cavitation in Fluid Machinery II**
CHAIR		**Jorge Luis Naude - Universidad Nacional Autónoma de México**	CHAIR		**Guoyi Peng - Nihon University**	CHAIR		**Pavel Rudolf - Brno University of Technology**	CHAIR		**Nobuaki Sakamoto - National Maritime Research Institute**
9:15 AM		Split Room for Sessions	9:15 AM		Split Room for Sessions	9:15 AM - 9:30 AM		***Numerical simulation of tip leakage flow and cavitation observation on two-dimensional hydrofoil*** **Yuwen Liu**; Xiaoxing Peng; Lianghao Xu; Yantao Cao	9:15 AM - 9:30 AM		***Comparative Assessment of a Barotropic Model and a Void Fraction Transport Model for Numerically Predicting Steady Sheet Cavitation*** **Jeremy Nahon**; Mehrdad Zangeneh; Motohiko Nohmi; Hiroyoshi Watanabe
9:30 AM - 9:45 AM		***Bubble dynamics and High Intensity Focused Ultrasound: experimental observations and numerical simulations using Boundary Element Method*** Siew-Wan Ohl; Evert Klaseboer; **Boo Cheong Khoo**	9:30 AM - 9:45 AM		***Regime Classification Methods for a Gas Jet in a Liquid Co-Flow*** **Melissa Fronzeo**, Samuel Hansford, Zachary Berger, Michael Kinzel	9:30 AM - 9:45 AM		***Influence of the Tip Clearance on the Auto-Oscillation Frequency of a Cavitating Pump*** **Peter F. Pelz**; Paul Taubert	9:30 AM - 9:45 AM		***Detection and Level Estimation of Cavitation in Hydraulic Turbines with Convolutional Neural Networks*** **Andreas Look**; Oliver Kirschner; Stefan Riedelbauch; Jörg Necker
9:45 AM - 10:00 AM		***Cavitation modelling using real-fluid equation of state*** **Songzhi Yang**; Chaouki Habchi; Ping Yi; Rafael Lugo	9:45 AM - 10:00 AM		***An Experimental Study of Unsteady Behaviour of Cavity Flow Over a 2-D Wall-Mounted Fence*** **Luka Barbaca**; Bryce W. Pearce; Paul A. Brandner; Harish Ganesh; Steven L. Ceccio	9:45 AM - 10:00 AM		***Large Eddy Simulations of a tip-leakage cavitating flow with special emphasis on vortex dynamics*** Huaiyu Cheng; **Bin Ji**; Xinping Long; Xiaoxing Peng	9:45 AM - 10:00 AM		***Experimental Study on Correlation between String Cavitation and Spray Angle of Diesel Injector Nozzles with Tapered Orifice*** **Han Zhou**; Wenting He; Zhixia He; Shenxin Sun; Wei Guan; Lian Duan; Qian Wang
10:00 AM - 10:15 AM		***Numerical investigation of cavitation scale effects by bubble acoustic*** **Patrick Schiller**; Moustafa Abdel-Maksoud			***Hydrodynamic Stabilization of Supercavitating Underwater Bodies*** **Oleksandr Mayboroda**	10:00 AM - 10:15 AM		***The effects of air content on unsteady tip vortex cavitation*** **Xiaoxing Peng**, Lianghao Xu, Yuwen Liu, Yantao Cao			
						10:15 AM - 10:30 AM		***Application of Homogeneous and Inhomogeneous Two-Phase Models to a Cavitating Tip Leakage Vortex on a NACA0009 Hydrofoil*** **Jonas Wack**; Stefan Riedelbauch			
10:30 AM		**MORNING BREAK - FOYER**									
SESSION		**Bubble Dynamics IV**	SESSION		**Supercavitation IV**	SESSION		**Cavitation Erosion IV**	SESSION		**Numerical**
CHAIR		**John Schwille - The Aerospace Corporation**	CHAIR		**Romuald Skoda - Ruhr University Bochum**	CHAIR		**Roberto Torelli - Argonne National Laboratory**	CHAIR		**Vladimir Vanovskiy - Moscow Institute of Physics and Technology**
10:45 AM - 11:00 AM		***Details of the collapse of a cavitation bubble next to a flat, rigid wall*** **Christiane Lechner**; Max Koch; Werner Lauterborn; Robert Mettin	10:45 AM - 11:00 AM		***Pulsating Supercavities: Occurrence and Behavior*** **Samuel Hansford**; Timothy Brungart; Jules Lindau; Michael Moeny	10:45 AM - 11:00 AM		***Homogeneous Cavitation Model Used to Predict Erosion*** **Ridha Zgolli;** Ahmed Bel hadj taher; Marwa Ennouri; Hatem Kanfoudi	10:45 AM - 11:00 AM		***Large Eddy simulation of cavitating nozzle flows and primary jet break-up with gas-entrainment into the nozzle*** **Theresa Trummler**; Daniel Rahn; Steffen J. Schmidt and Nikolaus A. Adams
11:00 AM - 11:15 AM		***Numerical simulation of the collapse of bubbles near a rigid wall*** Jing Zhang; Wei Lv; Xueming Shao; **Lingxin Zhang**	11:00 AM - 11:20 AM		***A Computational Assessment of Gas Jets in a Bubbly Co-Flow*** **Melissa Fronzeo**; Michael Kinzel	11:00 AM - 11:15 AM		***Simulation of an Internal Nozzle Flow Using an Euler-Lagrange Method*** **Andreas Peters**; Udo Lantermann; Ould el Moctar	11:00 AM - 11:15 AM		***The numerical scheme for the history force integrals in hydrodynamics*** Vladimir Vanovskiy
11:15 AM - 11:30 AM		***Dynamics of a Laser-induced Bubble Near a Convex Free Surface*** Shengji Wu; Zhigang Zuo; Zibo Ren; Shuhong Liu	11:20 AM - 11:40 AM		***An Experimental Investigation of Artificial Supercavitation with Variation of the Body Shape*** **Byoung-Kwon Ahn**; So-Won Jeong; Sang-Tae Park	11:15 AM - 11:30 AM		***Exploration of cavitation-induced erosion metrics in throttle flow simulations*** **Gina M. Magnotti**; Michele Battistoni; Kaushik Saha; Sibendu Som;	11:15 AM - 11:30 AM		***Optimization of cavitating flows simulation with data driven approach: from data assimilation to machine learning*** **Xinlei Zhang**; Thomas Gomez; Heng Xiao; Olivier Coutier-Delgosha
11:30 AM - 11:45 AM		***Numerical Simulation of the Bubble Cloud Dynamics in an Ultrasound Field*** **Kazuki Maeda**; Tim Colonius				11:30 AM - 11:45 AM		***Spatial Distribution of the Cavitation Aggressiveness in a High Speed Cavitation Tunnel*** **Jan Hujer**; Milos Muller	11:30 AM - 11:45 AM		***Numerical simulations of tip leakage vortex cavitation flows around a NACA0009 hydrofoil*** **Benlong Wang**; Zhihui Liu
						11:45 AM - 12: 00 PM		***Temperature and pressure effects on cavitation erosion in diesel-like fuels*** **Markus Hosbach**; Tobias Sander; Uwe Leuteritz; Michael Pfitzner	11:45 AM - 12: 05 PM		***Cavitation Induction by Projectile Impacting on a Water Jet*** **E. Stavropoulos Vasilakis**; P. Koukouvinis; M. Farhat; M. Gavaises
						12:00 PM - 12:15 PM		***Influence of Collapse of Cavitation Bubble Cloud on Erosion of Solid Surface in Hydraulic Machinery*** **Kohei Okita**; Yuusuke Miyamoto; Teruyuki Furukawa; Shinobu Nagura; Shu Takagi; Hiroharu Kato			
						12:15 PM - 12:30 PM		***Investigation of the Primary Mechanisms of Cavitation-Induced Damages*** Ben Zhao; Shunxiang Cao; Kevin Wang; 1, **Olivier Coutier-Delgosha**			
		LUNCH BREAK (ON YOUR OWN) 12:30 PM - 1:30 PM									

Wednesday, May 16, 2018

Start Time	Paper Number	Maryland Ballroom D — Title & Authors	Start Time	Paper Number	Maryland Ballroom E — Title & Authors	Start Time	Paper Number	Baltimore Ballroom A — Title & Authors	Start Time	Paper Number	Baltimore Ballroom B — Title & Authors
1:30 PM	**KEYNOTE**	**Sang Joon Lee: Professor, Pohang University of Science & Technology (POSTECH), *"Biofluid Flow Phenomena and Xylem Cavitation in Vascular Plants"***									
SESSION		**Advanced Numerical Simulation IV**	SESSION		**Bio II**	SESSION		**Turbines; Pumps; Marine Propellers; Inducers**	SESSION		**Thermodynamic Effects**
CHAIR		**Jingzhu Wang - Chinese Academy of Sciences**	CHAIR		**Benlong Wang - Shanghai Jiao Tong University**	CHAIR		**Yin Lu Young - University of Michigan**	CHAIR		**Stefan Riedelbauch - University of Stuttgart**
2:15 PM - 2:30 PM		Split Room for Sessions	2:15 PM - 2:25 PM		Split Room for Sessions	2:15 PM - 2:30 PM		***Measurements of Cavitation Compliance in the Draft Tube Cone of a Francis Turbine Operating at Part Load*** **João Gomes P. Jr.**; Arthur Favrel; Christian Landry; Christophe Nicolet; François Avellan;	2:15 PM - 2:30 PM		***Experimental Investigation of the Cavitation Effects on the Heat Generation in a Closed Loop Pumping System*** **David Bermejo**; Xavier Escaler; Matevz Dular; Rafael Ruíz
2:30 PM - 2:45 PM		***An Evaluation of CFD Cavitation Models using Streamline Data*** **Michael P. Kinzel**; Jules W. Lindau; Robert F. Kunz	2:25 PM - 2:45 PM		***Investigation of the Energy Shielding of Kidney Stones by Cavitation Bubble Clouds during Burst Wave Lithotripsy*** **Kazuki Maeda;** Adam D. Maxwell; Wayne Kreider; Tim Colonius; Michael R. Bailey	2:30 PM - 2:45 PM		***Comparison of various turbulence models applied to a twisted hydrofoil*** Tingyun Yin; Giorgio Pavesi; Ji Pei; Shouqi Yuan; Nana Adu Daniel	2:30 PM - 2:45 PM		***Interaction between Thermodynamic Suppression Effect and Reynolds Number Promotion Effect on Cavitation in Hot Water*** **Yuka Iga**; Teppei Furusawa; Hiritoshi Sasaki
2:45 PM - 3:00 PM		***Application of the Stochastic Field Method to Cavitating Flows in an Injection Nozzle*** **Martin Raquet**; Andreas Class; Wilfried Edelbauer	2:45 PM - 3:00 PM		***Ultrasound and lipid-coated microbubbles effect on proliferation and osteogenic differentiation of mesenchymal stem cells in 3D printed tissue scaffold*** **Jenna Osborn**; Mitra Aliabouzar; Xuan Zhou; Raj Rao; Lijie Grace Zhang; Kausik Sarkar	2:45 PM - 3:00 PM		***The Influence of Liquid Rocket Engine Inducer Compliance and Mass Flow Gain Factor on Cavitation Surge Frequencies*** David E. Jackson; **John A. Schwille**; James M. Gariffo; Zoltan Spakovszky; Claudio Lettieri; Vincent Wang	2:45 PM - 3:00 PM		***CFD Simulation of Thermodynamic Effect Using a Homogeneous Cavitation Model Based on Method of Moments*** **Shin-ichi Tsuda**; Satoshi Watanabe
3:00 PM - 3:15 PM		***Numerical investigation of cavitation-regimes in a converging-diverging nozzle*** **Polina Gorkh**; Steffen J. Schmidt; Nikolaus A. Adams	3:00 PM - 3:15 PM		***Effects of acoustic parameters and bulk fluid properties on acoustic droplet vaporization threshold of perfluoropentane droplets*** **Mitra Aliabouzar**; Krishna Kumar; Kausik Sarkar	3:00 PM - 3:15 PM		***Experimental Investigations of Cavitation Breakdown in an Axial Waterjet Pump*** **Huang Chen**; Nick Doeller; Yuanchao Li; Joseph Katz	3:00 PM - 3:15 PM		***Cavitating Flows of Varying Temperature Liquid Nitrogen in Converging-diverging Nozzle*** Tairan Chen; Wendong Liang; Mindi Zhang; Biao Huang; **Guoyu Wang**
									3:15 PM - 3:30 PM		***Influence of dissolved gas content on Venturi cavitation at thermally sensitive conditions*** Haochen Zhang; Zhigang Zuo; **Shuhong Liu**
3:30 PM		**AFTERNOON BREAK - FOYER**									
SESSION		**Tip Vortex Cavitation III**	SESSION		**Shockwave & Thermal**	SESSION		**Measurements**			
CHAIR		**Michael Moeny - Penn State University**	CHAIR		**Ki-Han Kim - Office of Naval Research**	CHAIR		**Jingsen Ma - Dynaflow, Inc.**			
3:45 PM - 4:00 PM		***Numerical study of cavitating structure near wake of a circular cylinder*** **Pankaj Kumar**; Dhiman Chatterjee; Shamit Bakshi	3:45 PM - 4:00 PM		***Effect of Solid Surface Wettability on the Formation of Cavitating Wave Front with Fluid-Structure Interaction*** **Tomohisa Kojima**; Kazuaki Inaba; Yuto Takada; Farid Triawan	3:45 PM - 4:00 PM		***Experimental characterization of a cavitating orifice*** **Claudia Esposito**; Jean-Baptiste Gouriet; Maria Rosaria Vetrano; Johan Steelant; Jean-Marie Buchlin			
4:00 PM - 4:15 PM		***Investigation of Reynolds Number Scale Effects on Propeller Tip Vortex Cavitation and Propeller-Induced Hull Pressure Fluctuations*** **Roland Gosda**; Stephan Berger and Moustafa Abdel-Maksoud	4:00 PM - 4:20 PM		***The acoustic pressure generated by the non-spherical collapse of laser-induced cavitation bubbles near a rigid boundary*** **Silvestre Roberto Gonzalez-Avila**; Claus-Dieter Ohl	4:00 PM - 4:15 PM		***Towards real-time optical measurement of microbubble content in hydrodynamic test facilities*** **Patrick S. Russell**; Dean R. Giosio; James A. Venning; Bryce W. Pearce; Paul A. Brandner; V. Aumelas; G. Maj			
4:15 PM - 4:30 PM		***An Improved Tip Vortex Cavitation Model for Propeller-Rudder Interaction*** **Naz Yilmaz**; Mehmet Atlar; Patrick A. Fitzsimmons	4:20 PM - 4:35 PM		***Steel processed by water jet cavitation with ultrasonic irradiation*** **Masataka Ijiri**; Daisuke Nakagawa; Kumiko Tanaka; Toshihiko Yoshimura	4:15 PM - 4:30 PM		***Global mode visualisation in cavitating flows.*** **James A. Venning**; Dean R. Giosio; Bryce W. Pearce;Paul A. Brandner			
4:30 PM - 4:45 PM		***On the Dispersion Relation of a Vortex Cavity*** **Johan Bosschers**	4:35 PM - 4:50 PM		***Surface modification of Cr-Mo steel by a new water jet cavitation technology*** **Masataka Ijiri**; Daichi Shimonishi; Kumiko Tanaka; Toshihiko Yoshimura	4:30 PM - 4:45 PM		***Investigation of The Improvements in Cavitation And Pressure Pulse Due to The Endplate Propeller*** Young-Zehr Kehr; Huan-Jia Xu; **Jui-Hsiang Kao;** Yan-Jhang Lin			
4:45 PM - 5:00 PM		***Insight into tip vortex cavitation using velocity field measurements*** Kyle M. Sinding; David R. Hanson; **Michael H. Krane;** Jeremy Koncoski	4:50 PM - 5:05 PM		***Experimental Study on Interaction of Multiple Cylindrical Bubbles with Underwater Shock Wave*** **Jingzhu Wang**; Akihisa Abe; Yiwei Wang	4:45 PM - 5:00 PM		***Wall shear rates induced by a single cavitation bubble collapse*** **Fabian Reuter**; Hemant Sagar; Bettar el Moctar; Robert Mettin			
5:00 PM - 5:15 PM		***An Investigation of Tip-Vortex Turbulence Structure using Large-Eddy Simulation*** **David Hanson;** Michael Kinzel; Kyle Sinding; Michael Krane; Jonathan Pitt				5:00 PM - 5:15 PM		***Measurements of the temperature variations during the growth and collapse of cavitation bubbles*** Merouan Hamdi; Olivier Couter-Delgosha; Michael Baudoin			
						5:15 PM - 5:30 PM		***GPU-based, parallel-line, omni-directional integration of the acceleration field to obtain the 3D pressure distribution*** **Jin Wang**; Cao Zhang; Joseph Katz;			
						CONFERENCE END					