

Program, Tuesday June 4

0800	Registration		
0830	Opening of the 8th SPHERIC Workshop		
0845	Keynote	SPH - How I learnt to stop worrying and love Lagrangians	Daniel Price
0935	Session 1	Boundary treatment	Chair: David le Touzé
	Paper 1-1	Application of the unified semi-analytical wall boundary conditions to incompressible SPH	A. Leroy, D. Violeau, M. Ferrand & C. Kassiotis
	Paper 1-2	SPH approximate Zeroth and First-order consistent boundary conditions for irregular boundaries	G. Fourtakas, R. Vacondio, & B. D. Rogers
	Paper 1-3	Consistency analysis of flow field extension models into ghost fluid regions for SPH solid body boundary condition implementations	P.E. Merino-Alonso, F. Macià, A. Souto-Iglesias & A. Colagrossi
	Paper 1-4	Semi-Analytical Conditions for Open Boundaries in Smoothed Particle Hydrodynamics	C. Kassiotis, M. Ferrand & D. Violeau
1040	Coffee Break		
1110	Session 2	Theoretical & Numerical aspects of SPH	Chair: Damien Violeau
	Paper 2-1	Waves and swimming bodies in a stratified fluid	J.J.Monaghan & J.B.Kajtar
	Paper 2-2	An improved corrective smoothed particle method approximation for second-order derivatives	S.P. Korzilius, W.H.A. Schilders & M.J.H. Anthonissen
	Paper 2-3	Pressure-corrected SPH with innovative particle regularization algorithms and non-uniform, initial particle distributions	P. H. L. Groenenboom & B. K. Cartwright
	Paper 2-4	A Simple and Effective Scheme for Dynamic Stabilization of Particle Methods	N. Tsuruta, A. Khayyer, H. Gotoh & H. Ikari
	Paper 2-5	An implicit SPH solution of the Burgers equation	L.M.González & J.L.Cercós
1230	Lunch		
1330	Session 3	Multiphase	Chair: Joe Monaghan
	Paper 3-1	A Novel Error-Minimizing Scheme to Enhance the Performance of Compressible-Incompressible Multiphase Projection-Based Particle Methods	A. Khayyer, H. Gotoh, H. Ikari & N. Tsuruta
	Paper 3-2	A generalized SPH-DEM discretization for the modelling of complex multiphase free surface flows	R.Canelas, A. Crespo, J.Domínguez, & R.M.L.Ferreira
	Paper 3-3	Modelling of Phase Decomposition Using a Fourth-Order Derivation for SPH	M. Hirschler, M. Huber, W. Säckel & U. Nieken
	Paper 3-4	The SPH Modeling of the Deformation of a Droplet under the Effect of Constant External Electric Field	A. Rahmat, M.S Shadloo & M. Yildiz
1435	Session 4	Coupled Methods	Chair: Paul Groenenboom
	Paper 4-1	Multi-purpose interfaces for coupling SPH with other solvers	B. Bouscasse, S. Marrone, A. Colagrossi & A. Di Mascio
	Paper 4-2	Coupling of a SPH-ALE and a Finite Volume Method	M. Neuhauser, F. Leboeuf, J.-C. Marongiu, M. Rentschler, & E. Parkinson
	Paper 4-3	On the use of particle based methods for cosmological hydrodynamical simulations	M. Schaller, R. G. Bower & T. Theuns
1535	Coffee Break		
1600	Session 5	Turbulence	Chair: Andrea Colagrossi
	Paper 5-1	Density diffusion terms and solid wall models in weakly compressible SPH	A.Valizadeh & J.Monaghan
	Paper 5-2	SPH hyperviscosity model for incompressible turbulence	Y.L. Shi, M. Ellero and N.A. Adams
	Paper 5-3	Direct numerical simulation of 3-D turbulent wall bounded flows with SPH	A. Mayrhofer, D. Laurence, B. D. Rogers, D. Violeau & M. Ferrand
1700	Discussion	Grand Challenges of SPH	Damien Violeau & Ben Rogers
1800	Reception		

Program, Wednesday June 5

0830	Keynote	Numerical Stability of SPH for Weakly Compressible Viscous Flows: Optimal Time-Stepping	Damien Violeau
0920	Session 6	Free surface & interface modelling	Chair: Antonio Souto-Iglesias
	Paper 6-1	SPH modelling of 3D body transport in free surface flows	A. Amicarelli, R. Albano, D. Mirauda, G. Agate, A. Sole, & R. Guandalini
	Paper 6-2	Application of SPH on study of a deep water plunging wave	M. H. Dao & E. S. Chan
	Paper 6-3	SPH surface tension model without need for calibration or evaluation of curvature	A.C.H. Kruisbrink, F.R. Pearce, T. Yue, H.P. Morvan & K.A. Cliffe
	Paper 6-4	Volume reformulation of spatially varying interactions using the example of moving contact lines for a complete surface tension description	M. Huber, W. Säckel, M. Hirschler, U. Nieken & S. M. Hassanizadeh
1025	Coffee Break		
1055	Session 7	Theoretical & Numerical aspects of SPH	Chair: Xiangyu Hu
	Paper 7-1	Several approaches to achieve better accuracy of a single precision SPH code	V.Titarenko, B.D.Rogers & A.Revell
	Paper 7-2	Measures of Particle Disorder	M.Antuono, A.Colagrossi, S.Marrone & B.Bouscasse
	Paper 7-3	A Switch for Artificial Resistivity and Other Dissipation Terms	T.S.Tricco & D.J.Price
	Paper 7-4	Accuracy and performance of implicit projection methods for transient viscous flows using SPH	N.Trask & M.Maxey
	Paper 7-5	PySPH: A Python framework for SPH	K.Puri, P. Ramachandran, P.Pandey, C.Kaushik & P.Godbole
1215	Lunch		
1315	Session 8	Multi-resolution techniques	Chair: Ben Rogers
	Paper 8-1	Particle refinement and derefinement procedure applied to Smoothed Particle Hydrodynamics method	D. A. Barcarolo, D. le Touzé, G. Oger & F. de Vuyst
	Paper 8-2	A multiscale SPH modeling of near-wall dynamics of leukocytes in flow	B.Gholami, A.Comerford & M.Ellero
	Paper 8-3	Shock interactions with dusty gases using multi-phase RSPH	M. G. Omang & J. K. Trulsen
	Paper 8-4	SWIFT: Fast algorithms for multi-resolution SPH on multi-core architectures	P.Gonnet, M.Schallery, T.Theunsyz & A.B. G. Chalk
1420	Session 9	High Performance Computing	Chair: Daniel Price
	Paper 9-1	FPM Flow Simulations Using an Adaptive Domain Decomposition Strategy	C. Vessaz, E. Jahanbakhsh, M. Reclari and F. Avellan
	Paper 9-2	Integration Of Spring Physics With The SPH Method For Quasi-Solid To Fluid Interaction Using GPGPU Programming	S.M.Longshaw, B.D.Rogers & P.K.Stansby
	Paper 9-3	AQUAghusph, a free 3D SPH solver accelerated with OpenCL	J.L. Cercos-Pita, A. Souto-Iglesias, L.M. Gonzalez, F. Macià
	Paper 9-4	Simulating more than 1 billion SPH particles using GPU hardware acceleration	J.M. Domínguez, A.J.C. Crespo, B.D. Rogers & M. Gomez-Gesteira
1525	Coffee Break		
1550	Session 10	Solids & Structural Mechanics	Chair: Paal Skjetne
	Paper 10-1	The Way to an Enhanced Smoothed Particle Hydrodynamics Formulation Suitable for Machining Process Simulations	F.Spreng & P.Eberhard
	Paper 10-2	Shock loading of layered materials with SPH	I.Zisis & B.van der Linden
	Paper 10-3	SPH Simulations of Abrasive Processes at a Microscopic Scale	C. Nutto, C. Bierwisch, H. Lagger & M. Moseler
1630	Steering Committee Meeting		
1800	Workshop Banquet		

Program, Thursday June 6

0900	Session 11	Maritime applications	Chair: Peter Stansby
	Paper 11-1	SPH modelling of the flow field with spilling generated by a hydrofoil	S.Sibilla, D. D.Padova & M.Mossa
	Paper 11-2	Slam Modelling with SPH: The Importance of Air	S. J. Lind, P. K. Stansby, B. D. Rogers
	Paper 11-3	Comparison of SPH and VOF simulations with experimental measured wave-induced impact loads due to Green Water Events	C.Pakozdi & SINTEF SPH Team
	Paper 11-4	Simulation of extreme waves impacts on a FLNG	P.-M. Guilcher, J. Candelier, L. Béguin, G. Ducrozet & D. Le Touzé
1005	Coffee Break		
1020	Session 12	Multiphase	Chair: Stefano Sibilla
	Paper 12-1	Modelling Sediment Resuspension in Industrial Tanks using SPH on GPUs	G. Fourtakas, B. D. Rogers, D. Laurence
	Paper 12-2	GPU Acceleration of 3-D Multi-phase SPH Simulations for Violent Hydrodynamics	A.Mokos, B.D.Rogers, P.K.Stansby, J.M.Dominguez
	Paper 12-3	SPH Modelling of Bed Erosion for Water/Soil-Interaction	M.Leonardi & T.Rung
	Paper 12-4	A pool boiling model with SPH	S.Litvinov, D.Gaudlitz & X.Hu, N. Adams
1125	Session 13	Exotic applications and methods	Chair: Thomas Rung
	Paper 13-1	Application of Modified SPH to Quantum Mechanical Problems	S.Sugimoto, Y.Zempo
	Paper 13-2	Simulation of particulate suspensions with SPH and application to tape casting processes	P. Polfer, T. Kraft
	Paper 13-3	SmoothViz: An Interactive Visual Analysis System for SPH Data	V. Molchanov, A.Fofonov, S.Rosswog, P.Rosenthal & L.Linsen
	Paper 13-4	<MPS> \equiv <SPH>	F. Macià, A. Souto-Iglesias, L. M. González & J.L. Cercos-Pita
1230	Lunch		
1330	Session 14	Turbulence	Chair: Jean-Christophe Marongiu
	Paper 14-1	A transport-velocity formulation for Smoothed Particle Hydrodynamics	S. Adami, X.Y. Hu & N.A. Adams
	Paper 14-2	SPH simulations of elastic turbulence and mixing in a periodic channel flow	M.Grilli, A.Vazquez-Quesada & M.Ellero
	Paper 14-3	Simulating 3D turbulence with SPH	S. Adami, X. Y. Hu and N. A. Adams
1430	Session 15	High Performance Computing	Chair: Abbas Khayyer
	Paper 15-1	Dynamic Load-Balancing for Parallel Smooth Particle Hydrodynamics	P.Godbole, K.Puri & P.Ramachandran
	Paper 15-2	Effective memory layout and accesses for the SPH method on the GPU	K.O.Lye, C.Dyken, J.Seland & SINTEF SPH Team
	Paper 15-3	Efficient Massive Parallelisation for Incompressible Smoothed Particle Hydrodynamics with 10^8 Particles	X.Guo, S. Lind, B. D. Rogers, P. K. Stansby, M. Ashworth
1525	Closing and Awards		
1545	Coffee and Goodbye		