

A Brief Online
Workshop on SPH
March 29, 2021
(8:00 – 11:10 GMT)

SPH Online II

This brief online workshop aims to bring SPH experts and potential future developers together to discuss the latest developments and future perspectives corresponding to Turbulence and Boundary Layers

Followed by the first SPH Online workshop on August 17, 2020, we are pleased to announce that the second SPH Online workshop, i.e. **SPH Online II**, will be held on Monday, March 29, 2021. With respect to the panel discussion of SPH Online I, the focus of SPH Online II will be on *Turbulence* and *Boundary Layers*.

We will have two invited talks by Dr. Andrea Colagrossi and Professor Damien Violeau that will be delivered after the opening speech by Professor Frederic Dias. We will invite three presenters after reviewing the applications for presentation. We will also have a panel discussion related to the focus topics that will be chaired by Professor Benedict D. Rogers. SPH Online II will be concluded by a closing remarks speech by Professor Peter Stansby.

SPH experts and researchers who would like to deliver a talk on their latest achievements corresponding to the focus topics of SPH Online II, i) *turbulence* and ii) *boundary layers*, are invited to submit the following *Application for Presentation* form. In particular, we would like to invite experts who have had at least one article published on these focus topics during the past two years in one of the leading international journals. Interested researchers who would like to join this online workshop are invited to fill in the *Application for Participation* form. Please submit the following forms by **February 15, 2021**.

The workshop is free of charge and all participants will receive the recorded Zoom video of the workshop

Application for **Participation**: [completed]

<https://forms.gle/FCxBtTR77CcSyRRf6>

Application for **Presentation**: [completed]

<https://forms.gle/xv52qKiuFVueVkkD6>

For questions or inquiries please contact:

Abbas Khayyer at khayyer@particle.kuciv.kyoto-u.ac.jp

Program

Welcome Message by Dr. Abbas Khayyer (Kyoto University)

8:00 – 8:05 GMT (17:00-17:05 Japan Standard Time) [[Link to Presentation](#)]

Opening Speech by Prof. Frederic Dias

(Professor at University College Dublin and Editor-in-chief of European Journal of Mechanics B/Fluids)

8:05 – 8:20 GMT (9:05 – 9:20 Dublin Time)

Invited Talk* 1 by Dr. Andrea Colagrossi and Dr. Danilo Durante (CNR-INM, INstitute of Marine engineering)

8:20 – 8:45 GMT (10:20 – 10:45 Central European Summer Time)

“Planar viscous flows past 2D bodies at varying Reynolds number: a selection of benchmark test cases for validating enhanced SPH models” [[Link to Presentation](#)]

Invited Talk 2 by Prof. Damien Violeau (Électricité de France R&D)

8:45 – 9:10 GMT (10:45 – 11:10 Central European Summer Time)

“Turbulence modeling with SPH: overview of the existing models” [[Link to Presentation](#)]

Coffee Break (9:10 – 9:20 GMT)

Selected Talk† 1 by Dr. Matteo Antuono (CNR-INM, INstitute of Marine engineering)

9:20 – 9:45 GMT (11:20 – 11:45 Central European Summer Time)

“The delta-LES-SPH scheme: generalization to a quasi-Lagrangian model”

Corresponds to the article: Matteo Antuono, Salvatore Marrone, Andrea Di Mascio and Andrea Colagrossi, “Smoothed particle hydrodynamics method from a large eddy simulation perspective. Generalization to a quasi-Lagrangian model” *Physics of Fluids*, 33, 015102 (2021) [[Link](#)] [[Link to Presentation](#)]

Selected Talk 2 by Prof. David Le Touzé (Ecole Centrale Nantes)

9:45 – 10:10 GMT (11:45 – 12:10 Central European Summer Time)

“Accurate modeling of FSI problems at different Reynolds numbers: current SPH capabilities and limitations”

Corresponds to the article: Peng-Nan Sun, David Le Touzé, Guillaume Oger, A-Man Zhang, “An accurate FSI-SPH modeling of challenging fluid-structure interaction problems in two and three dimensions”, *Ocean Engineering*, 221, 108552, 2021 [[Link](#)] [[Link to Presentation](#)]

* Each talk comprises of an **18-minute**-presentation followed by 7 minutes of discussion

† Talks selected from received applications followed by evaluations by *Scientific Committee* of **SPH Online II**

Selected Talk 3 by Mr. Max Okrashevski (Karlsruhe Institute of Technology)

10:10 – 10:35 GMT (12:10 – 12:35 Central European Summer Time)

“*Implicit Molecular Stresses in SPH*”

Corresponds to the article: Max Okrashevski, Niklas Buerkle, Rainer Koch, and Hans-Joerg Bauer, “Implicit molecular stresses in weakly compressible particle-based discretization methods for fluid flow”, *Physical Review E*, Accepted on January 22, 2021 [[Link](#)] [[Link to Presentation](#)]

Panel Discussion – Chair: Prof. Benedict D. Rogers (The University of Manchester); Panel Members: **Prof. Frederic Dias** (University College Dublin), **Prof. Damien Violeau** (Électricité de France R&D), **Dr Georgios Fourtakas** (The University of Manchester), **Dr Massoud Rezavand** (Technical University of Munich), **Dr Chiaki Tsurudome** (CRIEPI)

10:35 – 11:00 GMT (11:35 – 12:00 British Summer Time)

“*SPH and Turbulence/Boundary Layers*”

*SPH Online welcomes
Registered/Invited
Participants.*

Closing Remarks by Prof. Peter Stansby (The University of Manchester)

11:00 – 11:10 GMT (12:00 – 12:10 British Summer Time)

Zoom URLs

Before the Coffee Break (8:00 – 9:10 GMT): [[Link](#)]

After the Coffee Break (9:20 – 11:10 GMT): [[Link](#)]

SPH Online Awards

*Best Presentation Award**: Congratulations to **Prof. Damien Violeau**

Recorded Videos of SPH Online II

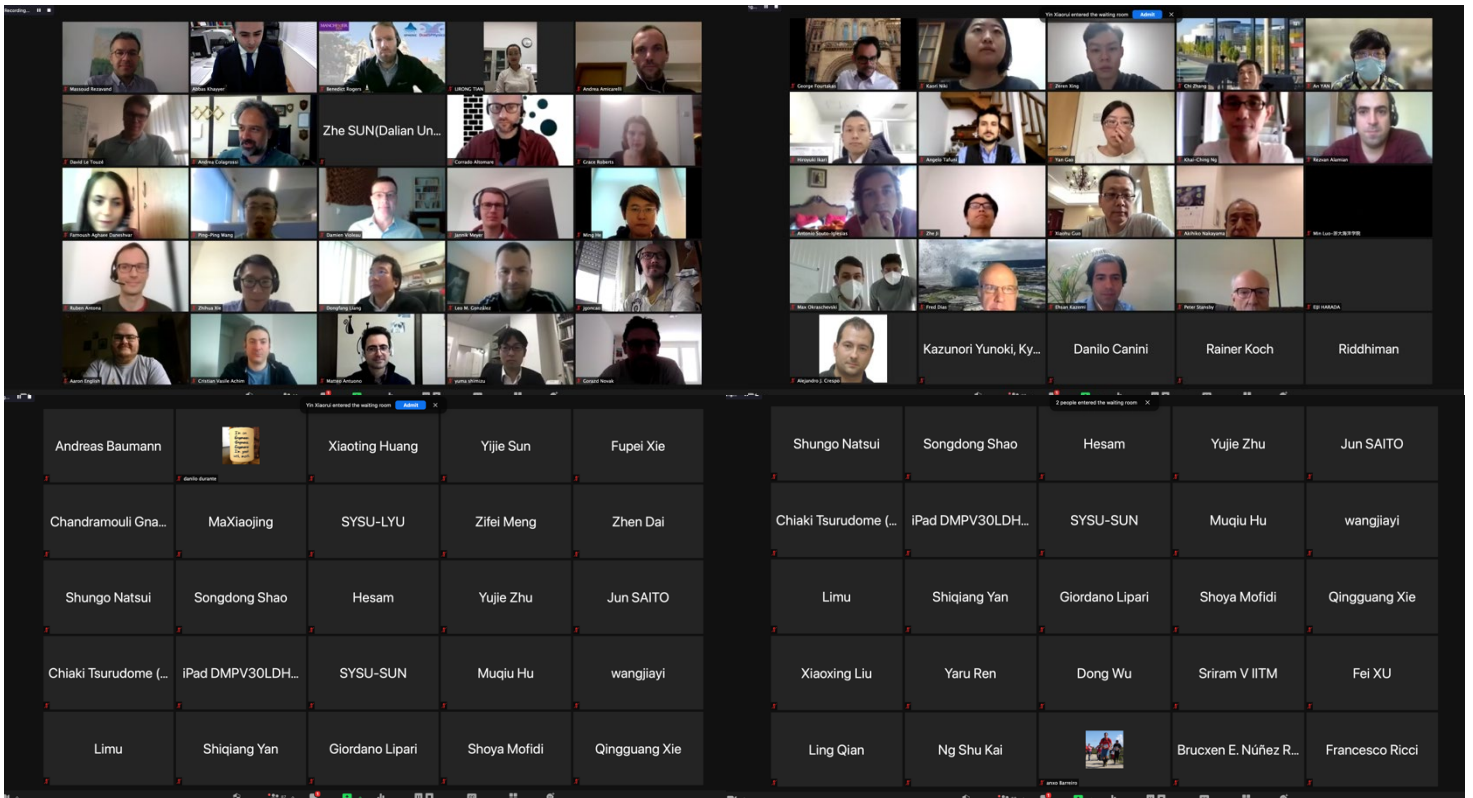
Before the Coffee Break (8:00 – 9:10 GMT): [[Link](#)]

After the Coffee Break (9:20 – 11:10 GMT): [[Link](#)]

* *On the basis of evaluations by seven Scientific Committee members of SPH Online II*

Special thanks to: Prof. Frederic Dias, Prof. Peter Stansby, Prof. Benedict D. Rogers, Dr Andrea Colagrossi, Prof. Damien Violeau, Prof. Qingwei Ma, Prof. Pengzhi Lin, Dr Renato Vacondio, Dr Alex Crespo, Dr Xiangyu Hu, Dr Danilo Durante, Prof. David Le Touzé, Prof. Songdong Shao, Prof. A-Man Zhang, Dr Shiqiang Yan, Dr Matteo Antuono, Prof. Antonio Souto-Iglesias, Dr Angelo Tafuni, Prof. Shaowu Li, Dr Dongfang Liang, Dr Georgios Fourtakas, Dr Corrado Altomare, Dr Massoud Rezavand, Dr Peng-Nan Sun, Dr Chiaki Tsurudome, Mr Max Okrashevski, Prof. Min Luo, Dr Ming He, Dr Yuma Shimizu.

Thank you, Dear All Participants



We look forward to welcoming you to **SPH Online III** which is scheduled to be organized on **Monday, September 6th, 2021** with the focus topic of **Multiphysics**.

For questions or inquiries please contact:
 Abbas Khayyer at khayyer@particle.kuciv.kyoto-u.ac.jp