

Minutes of the Steering Committee meeting

27 November – 4 December, 2020

Teleconference: Zoom

SC members present:

Benedict Rogers, University of Manchester, UK (Chair)
Stefano Sibilla, Università di Pavia, Italy (Secretary)
Renato Vacondio, Università di Parma, Italy (Newsletter Editor)
Alex Crespo, Universidade de Vigo, Spain (Webmaster)
Nathan Quinlan, NUI Galway, Ireland
Matthieu de Leffe, Nextflow Software, France
Salvatore Marrone, CNR-INM, Italy
Angelo Tafuni, New Jersey Institute of Technology, USA
Xiangyu Hu, Technische Universität München, Germany
Rade Vignjevic, Brunel University, UK
Antonio Souto-Iglesias, Universidad Politecnica de Madrid, Spain

Also present:

Giuseppe Bilotta, INGV, Italy
Tom De Vuyst, University of Hertfordshire, UK (only on 4th December, point 5)
Georgios Fourtakas, University of Manchester, UK (only on 4th December, point 9)

Apologies:

David Le Touzé, École Centrale de Nantes, France

Actions from previous SC meeting

1. SPH Patent issue

- Action 1.a - Report of University of Manchester IP opinion (Rogers): still needs to be completed.
- Action 1.b - Report of Nextflow Software response (de Leffe): still needs to be completed.
- Action 1.c - Produce draft guidance note for PhD students/Postdocs on SPH patents (Rogers): still needs to be completed.

2. SPHERIC Global seminars

- Action 2 - Subcommittee meeting, definition and organization of seminars (Rogers, Tafuni, Quinlan): done.

3. SPHERIC Minutes and actions from SC meeting in Harbin

- Action 3.a - Minutes produced and circulated within 2-4 weeks after SC meeting (Secretary): done.
- Action 3.b - Confirm to prof. Fei Xu the approval of Northwestern Polytechnical University's proposal to hold a SPHERIC Workshop in 2022 in Xian (China) (Rogers): confirmation to be sent after minutes approval.

4. SPHERIC Forum spam

Action 4 - Remove Forum from SPHERIC Webpage (Crespo): done.

6. SPHERIC Governance: New SC Members

Action 6 - Issue open call for 2 vacant positions on the SC to be appointed by Autumn 2020 SC meeting (Rogers, Sibilla): to be done before December 4 meeting.

7. APS DFD 2020 Conference

Action 7 - Interested members encourage to submit an Abstract (all): done; 6 presentations on SPH and an invited talk by Daniel Price with more than 250 participants at APS Conference.

8. Benchmark Test Cases

Action 8.a - Inform Valentin Heller and Peter Stansby of feedback on previous proposals (Iceland tsunami; free heave response of axisymmetric bodies) and upload to website (Rogers, Crespo): done.

Action 8.b - Update 3-D Taylor-green vortex case as above and resubmit to SC (Antuono, Marrone): done.

Action 8.c - Prepare 2 benchmark cases for surface tension (Le Touzè): still needs to be completed.

Action 8.d - Prepare aircraft ditching benchmark (de Lefte): being completed.

9. ERCOFTAC Memberships

Action 9 - Inform ERCOFTAC of membership status (Rogers, Quinlan, Hu, Crespo): done.

10. Autumn Meeting

Action 9 - Organise Autumn SC meeting using Doodle poll (Rogers): done.

Specific Issues

1. New York 2021 SPHERIC workshop

The SC discusses the viability of the New York SPHERIC workshop, already rescheduled to June 8-10, 2021, considering the current Covid-19 situation and the possibility of organizing a true physical event within 7 months. Angelo Tafuni communicates that, at present, the expenses for the Gala dinner have been recollected and the reservation of rooms and spaces at NJIT can be easily released.

The considered options are to postpone the New York workshop to 2022, the Catania one to 2023 and to hold SPHERIC 2021 online, or else to hold the scheduled New York workshop in 2021, either in blended or fully online mode.

The SC decides that 2021 workshop will be still organized in New York by Angelo Tafuni in the scheduled dates (possibly stretched to a one-week duration), but it will be held online. The same domain name will be retained. Low fees should be required both for presenters and attendees.

The training day remains feasible, but it may be held in a flexible mode, possibly split on more days.

The workshop format must be adapted to the online mode: the stretching of the program on more days may yield the time to schedule one keynote lecture in each day; the time slots of the presentations must be optimized to catch people living in different time zones in Europe, US and Asia.

Action 1.a: Organization of a LOC composed by people from NJIT and SC, decision on dates and announcement of the Workshop

By: Tafuni

Deadline: December 2020

Action 1.b: Proposal on the online format (platform, fees, student prizes, keynote speakers, training day)

By: Tafuni, LOC

Deadline: extra SC meeting, January 2021

Abbas Khayyer proposed to include selected papers from Spheric 2021 in a Special Issue on SPH on European Mechanics B/Fluids. The opportunity may be offered to Libersky prize winners and to other relevant contributions selected by the Scientific Committee.

The SC agrees with the proposal.

Action 1.c: reply to Abbas Khayyer to accept the SI proposal

By: Rogers

Deadline: December 2020

2. Catania 2022 SPHERIC workshop

The 2022 SPHERIC workshop remains scheduled in presence in Catania. Giuseppe Bilotta informs the SC that there is no problem in postponing the workshop by one year, because the Covid-19 emergency occurred just before any decision was taken or reservation made.

Renato Vacondio will share with Giuseppe Bilotta the organization document with the bullet list of all the points which need to be addressed in the organization.

The tentative dates for the workshop are June 14-17, 2022, with the training day scheduled on June 13.

Action 2: present the project and the budget for Catania 2022 workshop

By: Bilotta

Deadline: SC June 2021 meeting

3. New SPHERIC SC Webmaster

Alex Crespo, who has been Webmaster for the last six years, intends to resign from this position.

The company which has developed the system on which the SPHERIC Website is presently based does not give support anymore, so that the Website needs to be moved to a new system. The domain, which costs 15 €/year, is hosted on UVigo servers.

Angelo Tafuni had previously expressed his interest in the position and accepts to serve as Webmaster; he only asks for some help by Alex Crespo in the transition phase.

Action 3: Angelo Tafuni appointed as new Webmaster

By: Rogers

Deadline: once Minutes from this meeting are confirmed

4. SPHERIC Global Seminars

Ben Rogers reports that the system for the seminars has been set up on a Zoom platform with the help of Alex Crespo and Orlando Garcia Feal. Advertisement have been sent through Twitter, LinkedIn, and the SPHERIC Website. 357 people registered, of whom 160 attended the first seminar.

The first seminar was given in November by Daniel Price and received a positive response from everybody. The video of the seminar is now online on the Spheric YouTube channel.

The next seminar is scheduled on December 10 and will be given by Steven Lind. The next speakers for the seminars scheduled in 2021 are Joe Monaghan, Moubin Liu, Renato Vacondio, J.C. Marongiu and Fei Xu.

The SC notes that advertisement of the seminars may be improved by use of the same mailing list adopted to advertise the Workshops.

Action: None

By: n/a

Deadline: n/a

5. SPH4solids

Rade Vignjevic and Tom De Vuyst note that SPH solid mechanics in the various SPHERIC activities is not always as well represented as fluid mechanics: there is the need to develop specific benchmarks for solids and to improve participation of the SPH solid mechanics community to SPHERIC workshops.

The SC agrees that a Solid Mechanics Group should be set up within SPHERIC to propose benchmark problems (impact related problems, elastic walls, crack propagation and fracture problems, ...) on the website and promote participation to the SPHERIC workshop (for instance, by contacting people specifically and encouraging them to submit their contributions). This group may benefit from the experience, among others, of the research groups in Brunel, Hertforshire, Stuttgart and Leuven universities and in Sandia National Laboratories, as well as of former SC member Paul Groenenboom.

Ben Rogers notes that it would be useful to prepare also training days lectures on solid mechanics. Alex Crespo suggests to parallelize the second lecture of the training day in the morning and the practical session in the afternoon. Other suggestions by Renato Vacondio and Ben Rogers include the organization of a keynote lecture on solid mechanics at Spheric 2022, of a one-day event on SPH for solid mechanics and a Newsletter issue dedicated (in part or totally) to SPH in solid mechanics.

Action 5a: set up a Solid Mechanics Group to set up benchmarks and improve participation of the solid mechanics community

By: Vignjevic, De Vuyst

Deadline: February 2021

Action 5b: include lectures and practical sessions on solids in the training day

By: Vignjevic, De Vuyst, Bilotta

Deadline: program of Catania 2022 workshop, November 2021

6. Benchmark Test Case Supervisor

Ben Rogers suggests that the SC should select a proactive member as a Supervisor for the approval of the benchmark test cases, of their high-quality publication on the Website and of the suggestion of new ones.

Salvatore Marrone is available to serve in this position.

Action 6: Salvatore Marrone appointed Benchmark Supervisor within the SC

By: Rogers
Deadline: once Minutes from this meeting are confirmed

7. New SC members

Stefano Sibilla and Ben Rogers report that two Expressions of Interest have been received in response to the call for two new SC members in substitution of Damien Violeau and Jean-Christophe Marongiu: one from Abbas Khayyer, Kyoto University, and one Pierre Sabrowsky, Dive Solutions GmbH, as representative of the industrial world.

The SC, acknowledging the valuable contributions given by both applicants to the SPH research, unanimously accepts both SC memberships.

Rade Vignjevic communicates that he also plans to step down from the SC within a year, so the SC decides that a call for a new SC membership will be made with a specific focus on solid mechanics.

Antonio Souto suggests that a free registration to the SPHERIC Workshop should be offered to the SC members serving as Secretary, Newsletter Editor, Webmaster and Benchmark Test Case Supervisor, as these are all time-consuming tasks on a voluntary base.

The SC approves unanimously the proposal and decides that the free registration will be extended also to those who had held the same position in the past.

Action 7a: Inform Abbas Khayyer and Pierre Sabrowsky of the acceptance of their applications
By: Rogers
Deadline: December 2020

Action 7b: Free registration to the SPHERIC Workshop for Secretary, Newsletter Editor, Webmaster and Benchmark Test Case Supervisor
By: SPHERIC Workshop LOCs
Deadline: once Minutes from this meeting are confirmed

8. December issue of the newsletter

Xiangyu Hu will be in charge of the new Newsletter number. Different possible templates, such as Sway or Canva, may be used and the previous layout set up by Renato Vacondio may be maintained or changed slightly. Hu will investigate the different options and send a possible layout to the SC. The format will be maintained to the usual 8-10 pages.

Angelo Tafuni, Nathan Quinlan and Ben Rogers can write an article on the seminars and Ben Rogers can also prepare a short editorial on the changes in the SC.

Action 8: prepare a draft of the December Newsletter number
By: Hu
Deadline: December 2020

9. Proposal for 2023 Spheric Workshop in Greece

Georgios Fourtakas proposes to host the SPHERIC 2023 Workshop in Rhodes (Greece), in June 2023.

Two scenarios can be imagined: (i) workshop and banquet both at Rhodes Palace International hotel; (ii) workshop at the National Theatre of Rhodes or at the Aegean University in old Rhodes and banquet at the Grand Master's Palace (venue and banquet offered by Rhodes municipality, to be confirmed).

The SC approves the proposal and asks Georgios Fourtakas to prepare a detailed proposal for the 2023 workshop organization to be discussed in the summer SC meeting.

Action 9: prepare an updated proposal for the Rhodes 2023 Workshop

By: Fourtakas

Deadline: SC meeting, June 2021

10. New SPHERIC members

Ben Rogers refers that 7 new members have joined SPHERIC. The member list on the Web page will be updated accordingly.

11. SPHERIC Website – benchmarks – YouTube Channel

Alex Crespo refers that the new benchmark cases have been added to the Website and that the video recording of the SPHERIC Global Seminar given by Daniel Price in November was uploaded on the YouTube channel.

12. Bibliography database and Wikipedia SPH page

Antonio Souto-Iglesias refers that the number of hits on the SPH Wikipedia page is similar to the one of the Lattice-Boltzmann page and is slowly growing and surpassing that one.

He points out that the imagery of the SPH Wikipedia page is below the standards for the method and indicates that the new figures to be uploaded on the Wikipedia page require necessarily a Creative Commons license. He will come back to Daniel Duque to discuss how to improve this imagery.

Regarding the references, he informs that Daniel Duque keeps adding references to Zotero database and that Corrado Altomare does the same with Mendelay. Use of both is limited but there seems to be no reason to remove them at this stage.

13. Meetings in 2021

An extra SC online meeting will be scheduled in January to discuss the advancement of the organization of the 2021 New York SPHERIC online workshop.

The regular summer meeting of the SC will be also held online during the 2021 Workshop.