

Minutes of the Steering Committee meeting

6th and 8th of June, 2022

Catania and Zoom

SC members present:

Renato Vacondio, University of Parma, Italy (Chair)
Ben Rogers, University of Manchester, UK (Vice chair)
Xiangyu Hu, Technical University of Munich, Germany (Newsletter editor)
Stefano Sibilla, University of Pavia, Italy (Secretary) - online
Angelo Tafuni, New Jersey Institute of Technology, USA (Webmaster) – 8th June only
Alex Crespo, University of Vigo, Spain - online
David Le Touzé, Ecole Centrale de Nantes, France – 8th June only
Matthieu de Leffe, Nextflow Software, France – 8th June only
Salvatore Marrone, CNR-INM, Italy – 8th June only
Antonio Souto-Iglesias, Universidad Politecnica de Madrid, Spain
Abbas Khayyer, Kyoto University, Japan
Tom De Vuyst, University of Hertfordshire, UK
Pierre Sabrowski, Dive Solutions, Berlin, Germany

Apologies :

Nathan Quinlan, NUI Galway, Ireland

Also Present:

Giuseppe Bilotta, INGV, Italy
Georgios Fourtakas, University of Manchester, UK
Pengnan Sun, Sun Yet-sen University, China - online
Nat Trask, Sandia National Laboratories, USA - online
Chris Long (Los Alamos National Laboratory, USA) - online

1. Actions from last meeting

- **Action 1 - Giuseppe:** Link travel & Covid information on the Website and check if the gala dinner can be held outside – action completed
- **Action 2 - Salvatore:** Setup the voting for the candidate papers to the JMM Prize – action completed
- **Action 3 – Tom:** Organize a 1-day online event on solid SPH simulation to be announced in Catania – SPH Online IV event will be on solids and structures
- **Action 4 – Salvatore:** Restructure the benchmark page on the Website – action completed

2. Specific Issues

SPH Online IV

Abbas Khayyer proposed that the next (fourth) SPH Online meeting will be held on 12th of September 2022. The meeting will have a theme, like previous SPH Online meetings. The theme for this meeting will be Solids and Structures, and the meeting will be jointly organised by Abbas Khayyer, Ben Rogers and Tom De Vuyst. The meeting title will be “SPH Online IV, - Solids and Structures”. The SC approved of these arrangements.

The draft programme has been established and contacting invited speakers and panel members is

underway

Action 1: Run SPH Online IV meeting on 12th of September

By: Abbas Khayyer, Ben Rogers, Tom De Vuyst

Deadline: 12th of September 2022

Update on Catania workshop

Giuseppe Bilotta provided an update on the Catania workshop. A total of 85 people registered for the workshop. Some people had issues to attend the meeting, mainly related to travel (COVID restrictions). The training day had 17 registrations which is slightly down on other years.

The workshop budget is on target to break even.

Giuseppe Bilotta raised an issue with the rubric for evaluating the abstracts. This relates to the selection of the theory or industrial application category. Some abstracts fall in between these two categories, and the selection is then up to the reviewer which could lead to inconsistencies in the review process.

This was discussed and the SC considered whether abstracts should be sent back to authors if they do not contain enough information to evaluate the rubric.

Action 2: Decide on whether to update the rubric

By: SC

Deadline: Next SC meeting

Giuseppe Bilotta also reported that he received lots of requests enquiring if there was a possibility to join the meeting online.

Action 3: Consider the possibility of a hybrid format for the SPHERIC workshops

By: SC

Deadline: Next SC meeting

Giuseppe Bilotta also reported that the email with information for the Libersky Student Prize had been sent to the SC members. Abbas Khayyer and Renato Vacondio did not receive this email.

The SC agreed that SC members not attending the workshop would only mark the papers. The marking scheme is set up to deal with this so that students are not affected by this.

Action 3: Resend email on Libersky Prize to Abbas Khayyer and Renato Vacondio

By: Giuseppe Bilotta

Deadline: 7th of June 2022

Giuseppe Bilotta further reported that the ballot box for attendees voting on the Monaghan prize during the workshop is ready.

The SC thanked Giuseppe Bilotta for the successful organisation of the first post COVID pandemic SPHERIC workshop.

Next SPHERIC workshop in Rhodes, Greece 2023

Georgios Fourtakas provided an updated on the planning for organising the next SPHERIC workshop

in Rhodes in 2023. The event will take place in a hotel that has the conference facilities needed. The organisation of this workshop will be handled by the University of Manchester.

The proposed date of this workshop in Rhodes was the last week of June 2023. This was approved by the SC and it was agreed that this would be announced at the conference dinner of the Catania workshop

Action 4: Announce 2023 SPHERIC workshop will be held in last week of June in Rhodes at Catania conference dinner

By: Renato Vacondio & George Fourtakas

Deadline: 8th of June 2022

Georgios Fourtakas also gave a presentation with the draft programme, the draft budget and an overview of the facilities available at the conference hotel as well as the possible social activities to accompany the workshop. 150 rooms have been reserved. This number can be reduced without any penalty.

The training day would require participants to bring their own laptop. The SC agreed that this was acceptable. The software to be used on the training day will be decided later.

The draft programme and budget were approved by the SC, and the venue can be booked.

Renato Vacondio proposed that the conference website go online just after the summer, and Angelo Tafuni (SPHERIC Webmaster can put the dates on the SPHERIC website)

Suggestions for the keynote speakers for the Rhodes workshop were discussed. Ben Rogers suggested a speaker on quantum computing for SPH. Alex Crespo suggested Abbas Khayyer but it was pointed out by Ben Rogers that the SPHERIC SC has tried to ensure that speakers can only deliver a keynote speech once. Nat Trusk stated that he will propose a couple of names from the US.

Action 5: Book conference venue

By: Georgios Fourtakas

Deadline: Next SC meeting

Action 6: Finalise organisation of training day

By: Georgios Fourtakas

Deadline: ?

Action 7: Put conference website online and announce on SPHERIC website

By: Georgios Fourtakas, Angelo Tafuni

Deadline: Autumn 2022

Action 8: propose a couple of names from the US suitable for keynote speaker

By: Nat Trusk

Deadline: next SC meeting

Next 2024 China SPHERIC workshop

Pengnan Sun provided an overview of the proposed 2024 China workshop in Zhuhai. This workshop will be held on the Zhuhai campus and dates proposed are 17-20 October 2024 (this is Friday-Saturday-Sunday). Peng Nan Sun stated that in China it is common to organise these events over the

weekend. It was discussed whether this was appropriate for this SPHERIC workshop with attendees expected from outside China. Renato Vacondio commented that one issue for attendees from outside China would be that it will interfere with autumn term teaching, and suggested November 2024 may be better. Alex Crespo stated that running the workshop over the weekend may discourage attendance from outside China.

Pengnan Sun presented the draft time schedule and stated that the venue, on campus, with a conference room for 266 people had been identified.

For the training day Pengnan Sun proposed dr. Zhilang Zhang for the first lecture, and second to be delivered by the University of Manchester. For the software it was proposed to use SPHinxsys. For the Keynote speakers 3 names were put forward. It was agreed that these names were just a proposal to be further discussed in the next SC meeting, and that they should not be published.

Abbas Khayyer raised a potential issue with China's zero covid policy and suggested a hybrid format may be considered.

The SC confirmed that it supports Pengnan Sun's proposal, and planning can continue.

Pierre Sabrowski raised a point on the number and frequency of the workshops. He questioned if it makes sense to have an annual workshop in Europe and one every two years in Asia, or alternatively a rolling schedule Europe-Asia-America. Ben Rogers stated that this was the intention, and Ben Rogers, Renato Vacondio, Giuseppe Bilotta and Antonio Souto-Iglesias stated that this is a main target for SPHERIC for the next 5 years, and to develop SPHERIC into a truly global community.

Pierre Sabrowski proposed another solution would be to have local or regional workshops more regularly and to have an international workshop every couple of years. Ben Rogers stated that the SPH community is currently probably not large enough to be able to do this successfully. Renato Vacondio added that the SPH community is currently still largely based in Europe.

Action 9: Proceed with the organisation of the 2024 SPHERIC China workshop

By: Pengnan Sun

Deadline: next SC meeting

Proposal for the 2024 SPHERIC Workshop

Pierre Sabrowski proposed Berlin to host the 2024 SPHERIC workshop. He proposed to take on the organization of this workshop with his events team at Dive Solutions. The advantages of a Dive Solutions organized workshop in Berlin would be good access, prior experience with SPHERIC workshops through past attendance. It would also be good/new to have an organizer from industry.

The proposal was evaluated in the SC and it was agreed to support it.

Action 10: Proceed with the development of the proposal for the organisation of the 2024 SPHERIC workshop

By: Pierre Sabrowski

Deadline: next SC meeting

Proposal for a US event on meshless methods

Nat Trusk presented a plan for a workshop on meshless methods to be held in Santa Fe, USA in January 2024. The objective of this event is to foster communication and collaboration between SPHERIC and the Nation Labs.

The event would target around 100-150 attendees. The format would be an abstract + a presentation.

This proposal was discussed by the SC and it was agreed that this event would be officially supported/endorsed by SPHERIC.

SPHERIC will set up a small scientific committee to support this event (to evaluate abstract, etc). This will be done by Renato Vacondio, and the SPHERIC contact points for this event will be Renato Vacondio and Angelo Tafuni.

Action 11: Set up a small SPHERIC scientific committee to support this 2024 Sante Fe workshop
By: Renato Vacondio
Deadline: next SC meeting

3. Regular Issues

Webpages

Ben Rogers observed that the CFD Wikipedia page does not include a reference to SPH as a CFD method. Ben Rogers proposes to add SPH to this Wikipedia page for CFD and to coordinate this effort within the SC. The SC agreed that this should be done and Ben Rogers and David Le Touzé will take charge of this action.

Action 12: Link CFD Wikipedia page to SPH page and add link to SPHERIC
By: Ben Rogers and David Le Touzé
Deadline: next SC meeting

Action 13: Check if a similar issue exists for Solid Mechanics
By: Tom De Vuyst
Deadline: next SC meeting

Benchmarks

Salvatore Marrone discussed the status of the SPHERIC benchmarks. The benchmark by Abbas Khayyer has been uploaded and comments are welcome.

Salvatore Marrone and Angelo Tafuni present a proposal to reorganise the Benchmarks on the SPHERIC website. This would result in a more structured presentation and would add the functionality to allow visitors to select benchmarks according to GC or application.

The SC discussed agreed with this proposal.

Action 14: Update SPHERIC benchmark page according to Salvatore Marrone and Angelo Tafuni's proposal
By: Salvatore Marrone and Angelo Tafuni
Deadline: next SC meeting

It was noted that Benchmark 8 is missing, and it was agreed that this will be replaced with a Taylor Green benchmark case. This will be led by David Le Touzé, who will also look into a benchmark on propagation of a monochromatic wave. Georgios Fourtakas will look into a Gresho vortex benchmark, and Tom De Vuyst will look into solid mechanics benchmarks (beam vibration, elastic ring impact, crack propagation and impact on elasto-plastic beam). Pengnan Sun will be contacted to

look into FSI benchmarks.

Action 15: Develop benchmark on propagation of a monochromatic wave and Taylor Green vortex
By: David Le Touzé
Deadline: next SC meeting

Action 16: Propose benchmark on Gresho vortex
By: Georgios Fourtakas

Action 17: Propose solid mechanics benchmarks (beam vibration, elastic ring impact, crack propagation and impact on elasto-plastic beam).
By: Tom De Vuyst
Deadline: next SC meeting

Action 18: Contact Pengnan Sun to look into FSI benchmarks.
By: Salvatore Marrone
Deadline: next SC meeting

SPHERIC Global Seminars

It was reported that attendance is good: 80-150 per event. David Le Touzé questioned whether we should continue with these events indefinitely. Renato Vacondio proposed reducing the frequency of these events.

There was a discussion on whether these events target the existing community or whether they are intended to attract new people.

A playlist of these seminars should be created in the Youtube channel to guide people to the right content. Video of J Monagan talks should also be added.

BR raised the possibility that while he enjoys helping to lead this, someone else might want to take responsibility for this activity. The agreement was that we would continue as we are, but Nathan, Pierre and Ben would meet later to discuss how to proceed.

The goal will be to reduce the number of these Global seminars.

IT was agreed that Angelo Tafuni will take over the Youtube channel from Ben Rogers.

Action 19: Reorganise Youtube channel, Create playlist in Youtube.
By: Angelo Tafuni
Deadline: next SC meeting

Pierre Sabrowski also suggested to add Social Media channels to the agenda for the next SC meeting

Action 20: add Social Media channels to the agenda for the next SC meeting
By: Renato Vacondio
Deadline: next SC meeting

Ercoftac Bulletin

Ben Rogers reported that SPHERIC needs to provide 6 to 10 short 4 page papers for the ERCOFTAC Bulletin. Renato Vacondio suggested to ask students that participate in SPHERIC. Salvatore Marrone proposed to invite the 5 top students for the Libersky student prize. It was also suggested to contact with authors of application focussed papers.

Action 21: Invite students to prepare papers for ERCOFTAC Bulletin

By: Ben Rogers

Deadline: next SC meeting

Solids and Structures Special Interest Group

Tom De Vuyst provided an update on the activities of the solids and structures special interest group. Two benchmarks are in preparation, and the next SPH Online workshop will be with a solids and structures theme.

Renato Vacondio asked Tom De Vuyst to define an exact topic for a one-day workshop on Solids and Structures to be organised next year.

Action 22: Define topic for a one-day workshop in solids and structures

By: Tom De Vuyst

Deadline: July 2022

Newsletter

Xiangyu Hu discussed the next SPHERIC newsletter. It was agreed that the following topics would be included:

- Announcement of the new benchmark
- Announcement of the new workshop (Pierre Sabrowski)
- Article on the snow modelling that was presented at the Catania workshop
- Contribution from the 3 student prize winners of the Catania workshop
- Contribution on the closure of the Catania workshop (Giuseppe Bilotta)
- Contribution on the SPH Online and Solids and Structures workshop 2023 (Abbas Khayyer, Tom De Vuyst)
- Announcement of the event to be organised in Santa Fe (Nat Trusk)

Next SC meeting

It was agreed that the next SC meeting will be held online. David Le Touzé proposed to keep the meeting split over two days. This was agreed by the SC.