

## Minutes of the Steering Committee meeting

4, 9 and 10 November, 2022

Teleconference: Zoom

### SC members present:

Renato Vacondio, University of Parma, Italy (Chair)

Stefano Sibilla, University of Pavia, Italy (Secretary) (only on November 4<sup>th</sup> and 9<sup>th</sup>)

Ben Rogers, University of Manchester, UK (Vice chair)

Xiangyu Hu, Technical University of Munich, Germany (Newsletter editor)

Angelo Tafuni, New Jersey Institute of Technology, USA (Webmaster) (only on November 4<sup>th</sup>)

Alex Crespo, University of Vigo, Spain

Nathan Quinlan, NUI Galway, Ireland

Matthieu De Lefte, Nextflow Software, France

David Le Touzé, Ecole Centrale de Nantes, France (only on November 9<sup>th</sup> and 10<sup>th</sup>)

Salvatore Marrone, CNR-INM, Italy

Antonio Souto-Iglesias, Universidad Politecnica de Madrid, Spain (only on November 4<sup>th</sup>)

Abbas Khayyer, Kyoto University, Japan

Pierre Sabrowski, Dive Solutions, Berlin, Germany

Tom De Vuyst, University of Hertfordshire, UK

### Also present:

Georgios Fourtakas, University of Manchester, UK (acted as Secretary on November 10<sup>th</sup>)

Pengnan Sun, Sun Yat-Sen University, China (only on November 4<sup>th</sup> and 9<sup>th</sup>)

## 1. Minutes and Actions from previous SC meeting

**Action 1:** Run SPH Online IV meeting on 12<sup>th</sup> of September

**By:** Khayyer, Rogers, De Vuyst

**Deadline:** September 12<sup>th</sup>, 2022

**Status:** Done: the meeting was very interesting and successful

**Action 2:** Decide on whether to update the rubric for abstract evaluation

**By:** SC

**Deadline:** SC autumn meeting

**Status:** Specific item added in agenda for the present SC meeting

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

**By:** SC

**Deadline:** SC autumn meeting

**Status:** Specific item added in agenda for the present SC meeting

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

**By:** Fourtakas, Vacondio

**Deadline:** June 2022

**Status:** Done

**Actions 5,6,7:** SPHERIC 2023 website online after summer, book conference venue, finalize organization of the Training day

**By:** Fourtakas

**Deadline:** SC autumn meeting

**Status:** Specific item added in agenda for the present SC meeting

**Action 8:** Suggest possible keynote speakers for the SPHERIC event in USA

**By:** Trusk

**Deadline:** SC autumn meeting

**Status:** Specific item added in agenda for the present SC meeting

**Action 9:** Suggest possible keynote speakers for the SPHERIC event in USA

**By:** Trusk

**Deadline:** SC autumn meeting

**Status:** Specific item added in agenda for the present SC meeting

**Action 12:** Link CFD Wikipedia page to SPH page and add link to SPHERIC

**By:** Rogers

**Deadline:** SC autumn meeting

**Status:** Postponed: new deadline end 2022

**Action 13:** Check if an issue similar to action 12 exists for Solid Mechanics

**By:** De Vuyst

**Deadline:** SC autumn meeting

**Status:** Done: a Wikipedia entry for Solid Mechanics does not exist

**Action 14:** Update the SPHERIC benchmark web page

**By:** Marrone, Tafuni

**Deadline:** SC autumn meeting

**Status:** Partly done: all the existing benchmarks were classified; some work is still needed to update the page: it will be checked in the next SC meeting

**Action 15:** Prepare benchmark on monochromatic wave propagation

**By:** Le Touzé

**Deadline:** SC autumn meeting

**Status:** Postponed

**Action 16:** Prepare benchmarks on Gresho Vortex

**By:** Fourtakas

**Deadline:** SC autumn meeting

**Status:** In progress: the template will be sent to Salvatore Marrone before Christmas

**Action 17:** Prepare benchmarks on solid mechanics

**By:** De Vuyst

**Deadline:** SC autumn meeting

**Status:** In progress: some more work is needed to get them on the Web page and they will be ready before Christmas

**Action 18:** Contact Pengnan Sun to look into FSI benchmarks

**By:** Marrone

**Deadline:** SC autumn meeting

**Status:** In progress: Pengnan Sun sent to Salvatore Marrone 2 benchmarks, they will be ready in the next weeks

## 2. Update on the 2023 Rhodes SPHERIC workshop organization

George Fourtakas updates the SC about the organization of the 2023 SPHERIC Workshop in Rhodes by the University of Manchester. The Workshop web page is already online at [www.spheric2023.com](http://www.spheric2023.com)

The workshop will be held on 27-29 June 2023, with the training day on Monday 26 June. The venue will be at the Rhodes Palace hotel, where the Delphi lecture theatre can host up to 160 persons. Lunches, coffee breaks, SC meetings, the reception cocktail and the banquet will be also held at the hotel.

The leisure program will include a visit a visit to historical Rhodes on Wednesday and one to Lindos Acropolis on Friday.

The participation fees will be, for early registration (before april 2023) 450 € (regular) and 300 € (student); for registration before June 550/350 € and for late registration 650/450 €. The Training day fee will be fixed at 50 €. Accomodatoins will be available at the Rhodes Palace hotel at the rate of 85 € (single) and 105 € (double).

Costs include the Delphi theatre (1000 €/day), the SC room (200 €/day), the Training day room (350 €) and the lunches and coffee breaks (35 €/person/day) and the banquet. The expected budget is positive for 90 registrations (+2215 €); for 120 registrations it will reach +5620 €.

The proposed workshop schedule includes 15 sessions, 2 discussion panels and 2 keynote lectures. Renato Vacondio suggests removing the 2 discussion panels and adding a third keynote lecture by one of the Monaghan Prize winners.

Ben Rogers asks to keep the student registration as low as possible. George Fourtakas says that University of Manchester requires to maintain a safe budget and that in Catania the early student registration was 290 €. However, a reduction of 20€ to the student fees can be obtained by increasing the regular registrations consistently (470 € early, 570 €, 670 € late). The SC agrees. The fees will be published on the website after the SC meeting.

The Scientific Committee composition will be the same as in Catania. Renato Vacondio suggests asking if some of the Scientific Committee members did not contribute to the review process last year and, in this case, to remove them from the list. Renato suggests also to send an invitation letter to the Scientific Committee members. Nathaniel Trask and Chris Long will be added to the committee as US based members.

For the keynote lectures, George Fourtakas proposes to contact Viv Kendon (Strathclyde University, UK) on Quantum Computing or Erik Burman (UCL, UK), mathematician, on Coupling and stability of FEM higher order schemes. As agreed, the third Keynote may be given by one of the winners of the JM prize 2022 (such as Peter Stansby or Steven Lind, who however already gave a keynote lecture previously). Ben Rogers suggests also proposing some name from Greece academy. George Fourtakas will widen his research and communicate a wider range of names to the SC.

Finally, the Training Day will be managed by the DualSPHysics Group. The two talks in the Training Day are still to be defined. Possible suggestions include Javier Calderon-Sanchez (UP Madrid) and Joe O'Connor

(University of Manchester). George Fourtakas will verify their availability.

**Action 2a:** Decide keynote speakers and Training Day talks for SPHERIC 2023 Workshop

**Who:** Fourtakas

**When:** December 2022

### 3. Update on the 2024 SPH event in North America

Renato Vacondio reports on the contacts with research groups in the US. An event on SPH will take place in Santa Fe, New Mexico, in late January 2024 and will be jointly organized by Los Alamos and Sandia National Laboratories. The event will focus on SPH, but also on meshless methods in general, and it will be not named SPHERIC as in the case of the Asian Workshops. Renato Vacondio, Ben Rogers and Angelo Tafuni will be the SPHERIC link with the local organizers, who are Nathaniel Trask (Sandia Nat. Lab.) and Chris Long (Los Alamos Nat. Lab.).

A call for abstracts will be issued and the event will host scientific presentations, but no papers will be required by the participants. The organizers asked some suggestions on possible keynote speakers: the SC suggests considering Steven Lind, David Le Touze, Guillaume Oger and Abbas Khayyer.

The organizers also asked the SC to suggest some of its members to participate in the Scientific Committee. Renato Vacondio proposes that the SC members joining the Scientific Committee of the event should also plan to attend it. Renato Vacondio himself, together with Ben Rogers, Angelo Tafuni, Abbas Khayyer, Nathan Quinlan and Stefano Sibilla are available for the participation.

**Action 3:** Suggest keynote speakers and Scientific Committee members to the 2004 US SPH event organizers

**By:** Vacondio, Rogers

**Deadline:** December 2022

### 4. Update on the 2024 Berlin SPHERIC Workshop organization

Pierre Sabrowski relates on the organization of the workshop, which is moving forward. A full commitment has been obtained from Berlin Universities in terms of the available conference rooms. Dates and venues of the Workshop will be finalized before the next SC meeting in Rhodes.

Pierre Sabrowski suggests focusing more the workshop also on industrial applications of SPH, besides the usual focus on academic research. Renato Vacondio underlines that we must avoid having the two communities (academic and industrial) in different rooms for a large part of the meeting: although some parallel sessions can be proposed, common sessions are nevertheless essential.

**Action 4:** Decide dates and venue and announce the 2024 Berlin Workshop

**By:** Sabrowski

**Deadline:** 2023 Rhodes Workshop

## 5. Update on the 2024 Asian SPHERIC workshop in Zhuhai, China

Pengnan Sun reports on the organization of the 2024 Asian SPHERIC Workshop by Sun-Yat-Sen University in Zhuhai, Guangdong, on the sea near the Pearl River estuary.

The proposed dates are October 17-20, 2024: they include a full weekend, because Chinese professors have problems in attending the conference in weekdays because of the classes. The training day will be on Thursday, October 17.

The tentative deadlines are: July 20, for abstract submission, July 31 for the announcement of the selected papers, August 20, for the early registration and August 31, for the final paper submission. The dates will be advertised and put on the website.

The Training day will consist in a first lecture on WCSPH by prof. Zhilang Zhang (Peking University), a second lecture on an introduction on ISPH by a speaker from Europe, while the practice Session will be made on the SPHinXsys software (Multiphysics library based on SPH).

Possible Keynote speakers include: prof. A-man Zhang, Harbin University, China; prof. Seiichi Koshizuka, Tokyo University, Japan; prof. Christian Weissenfels, Computational Material Science and Engineering.

Pengnan Sun suggests including even more than 3 keynote lectures, because they will attract higher attendance from China. Ben Rogers is not against having a 4<sup>th</sup> keynote, but notes also that prof. Koshizuka already gave a keynote in 2011.

Besides the traditional Libersky Student Prizes, Pengnan Sun proposes also to award other two best-paper prizes on (a) fundamental SPH research and (b) practical SPH applications. Renato Vacondio notes that the 2 additional prizes require a lot of additional work by the Scientific Committee, and he and David le Touzé suggest shifting the additional prizes to the best presentations, which is simpler to be assessed than the best paper.

Finally, Pengnan Sun says that the draft Website has been already prepared, and it will be sent to SC members to receive comments, before advertising it on the official Spheric website.

**Action 5:** Decide keynote speakers and publish official Workshop Website

**By:** Sun

**Deadline:** spring 2023

## 6. Future SPHERIC events

Renato received a proposal from Corrado Altomare, UPC Barcelona, who proposes to organize the Spheric 2025 Workshop in Barcelona.

Tom De Vuyst thinks that it would be useful to organize a 1-day event on structures, with a specific focus on stability or BCs. The doubt is if there is space for another event in 2023, considering the number of conferences on these themes (such as the SPHERIC Rhodes Workshop, the Particles Conference in Milan, the US SPH event).

Renato Vacondio underlines the importance that the SPH solid group be involved in the organization of the US SPH event and in the participation to the event.

**Action 6a:** Assign the 2025 Workshop organization

**By:** SC

**Deadline:** Rhodes 2023 Workshop

**Action 6b:** prepare a proposal (topic) for a 1-day SPHERIC event on structures

**By:** De Vuyst

**Deadline:** Rhodes 2023 Workshop

## 7. New SC Membership

Stefano Sibilla and David Le Touzé both express their need to step down from the SC. Renato Vacondio and Ben Rogers thank them for their long participation to the SC.

The usual procedure to search for new candidates to the SC will be put in place. An announcement for new SC candidates will be put online soon. Ben Rogers suggests having an attention to inclusivity and gender equality in the SC.

**Action 7:** Announce the possibility to apply for a SC position on the website

**By:** Vacondio

**Deadline:** After SC meeting

## 8. Creation of a list of SPHERIC Trusted Reviewers for journals

Abbas Khayyer notes that, based on his experience, many published papers are making more harm than help to SPH reputation. Thus, it could be advisable to create a trusted list of reviewers, who are renowned experts in SPH and who would guarantee the quality and reliability of published papers on SPH.

David Le Touzé says that this could be very helpful; however, he has a lot of doubts about the legal and moral feasibility of this idea, because it would give to a small number of people the right to judge what might be acceptable or not in the research on a specific subject. Renato Vacondio says that the problems raised by Abbas is real, but it appears to be very hard to fight this trend. Ben Rogers thinks that the list of the SC and Scientific Committee members already works as a list of suggested reviewers to editors. He also agrees with David Le Touzé's legal/ethical doubts.

Salvatore Marrone thinks that SPHERIC may advise the editors to ask authors to prove the repeatability of their results, which is not always guaranteed. A way could be to propose as a best practice to provide comparisons with SPHERIC benchmarks. Moreover, he thinks that SPHERIC needs to act and influence/lobby journals and editors to include meshless and SPH experts into editorial boards.

Renato Vacondio proposes the creation of a scientific committee to be permanent on the website: this would mitigate the idea of “trusted” or suggested reviewers for journals. Ben Rogers proposes to prepare a “guidance document” for paper review, which would be important on helping new researchers/reviewers to maintain standards in the review process. Alex Crespo is of the same opinion and suggests that the guide can be extended to authors (i.e. how to write a good SPH paper).

Renato Vacondio summarizes the SC decisions: 1) prepare a guidance document on the review of SPH papers; 2) publish the Scientific Committee list on the SPHERIC web page; 3) influence/assist/lobby journals of high quality, asking to include SPH experts in the panel or as reviewers.

**Action 8a:** Identify names for the scientific committee to be published on the website

**By:** Vacondio

**Deadline:** Rhodes 2023 Workshop

**Action 8b:** have a first draft as editors in journals

**By:** Le Touzé, Khayyer

**Deadline:** Rhodes 2023 Workshop

## 9. Option of running future SPHERIC workshops as Hybrid event

Renato Vacondio proposes to the SC to discuss the feasibility of running all future Spheric Workshops as hybrid events, including China, US and Europe.

Alex Crespo prefers to hold events in presence, but suggests waiting to see what other conferences do. Stefano Sibilla is also strongly in favor to workshops in presence, because they foster exchange of ideas much more than online events. Of course, the possibility of exceptional events (China, sanitary constraints, illness of speakers,...) must be considered and managed, but not as a rule.

Ben Rogers and David Le Touzé agree with Stefano Sibilla: of course, they note that SC meetings, one-day events or other short events can be run online or hybrid to reduce travel expenses and carbon footprint and increase attendance. The 4-day workshop should instead remain a physical event.

Salvatore Marrone agrees with Ben Rogers’s proposal to record some sessions or broadcast them in streaming to allow faraway people (such as people from Asia) to partially attend the SPHERIC events.

Nathan Quinlan is slightly more in favor to a hybrid format, because he feels that the understanding of the technology has improved a lot in the last years.

Abbas Khayyer agrees with Stefano Sibilla and David Le Touzé on preferring face-to-face conferences: if one proposes hybrid events, the physical attendance usually drops dramatically and most people attend online.

There is a general consensus of the SC to avoid moving towards a fully hybrid workshop mode: this mode should be limited to short events (meetings, 1-day scientific events). Streaming of some parts of the workshop (keynotes, opening ceremony, ...) can be a good option to increase the impact of the workshop. Online presentation and lectures can be authorized exceptionally, but the rules should be clear and strict.

## 10. Rubric update

Alex Crespo displays the abstract criteria and instruction for reviewers and authors. He also hints if specific instructions for the abstract should be included with a sample abstract. He explains that some abstracts are on the edge of the definition fundamental research and industrial/practical applications and may not reflect/fit on the rubric. Nevertheless, SPHERIC 2022 abstracts have been marked well by the scientific committee and list is as expected. Alex Crespo poses the question if we need to modify the industrial/practical applications criteria as these abstracts may be misjudged (i.e., academic applications abstracts).

Renato Vacondio suggests that the rubric should not be changed drastically and maybe the industrial part can accommodate new/practical applications as hinted by Alex Crespo. A third category makes the rubric cumbersome. Salvatore Marrone had similar experiences last year, as the application-based abstract was of interest to academia but not competitive form an industrial prospective.

Pierre Sabrowski is of the opinion that the SC should not dilute the rubric or push the community away from industrial applications. Tom De Vuyst adds that the rubric should not be too rigid to a point which excludes abstracts from being submitted. Alex Crespo reiterates the idea of an abstract template and suggests a new committee to be formed by old and new members, including himself, Pierre Sabrowski, Matthieu de Leffe, Georgios Fourtakas, Tom De Vuyst, Salvatore Marrone.

**Action 10:** Organize a meeting of the new committee to review the rubric and abstract template

**By:** Crespo

**Deadline:** within 2-3 weeks

## 11. Contributions to ERCOFTAC bulletin

Ben Rogers thanks everyone who has contributed to the ERCOFTAC bulletin. He discusses some difficulties with the LaTeX format and will be sending the editorial back to the authors for checking.

**Action 11:** Link the bulletin on the SPHERIC website when published

**By:** Tafuni

**Deadline:** After ERCOFTAC bulletin publication

## 12. December issue of the newsletter

Xiangyu Hu highlights difficulties with the autumn newsletter, because neither the 1<sup>st</sup> student prize winner nor the JM prize winners replied and he will be forced to proceed without their contributions.

Renato Vacondio suggests that deadlines be set for contributors. Xiangyu Hu is in contact with the US groups (including industrial groups) and possibly the JM prize winners may want to contribute to the winter newsletter. Another contribution is the DualSPHysics Workshop. Xiangyu Hu suggests to include "interviews" with SC members such as David Le Touzé and Stefano Sibilla, who are two obvious candidates for a winter



newsletter interview. Salvatore Marrone adds that possibly new SPH Benchmark Cases can be included in the winter/spring newsletter and Renato Vacondio suggests a contribution from PengNan Sun from the SPHERIC China Workshop 2024. Finally, Ben Rogers suggests new PhD thesis contributions with a short summary to showcase the work of new researchers.

**Action 12a:** contact 1<sup>st</sup> student prize winner

**By:** Le Touzé

**Deadline:** after SC meeting

**Action 12b:** discuss with JM prize winners

**By:** Rogers

**Deadline:** after SC meeting

**Action 12c:** send the newsletter for a final check to parties involved before publishing

**By:** Hu

**Deadline:** after SC meeting

### 13. Secretary role

Renato Vacondio discusses the development of Stefano Sibilla stepping down in the future and the opening of the position of secretary. Renato suggests a few names such as Antonio Souto Iglesias, Tom De Vuyst, Pierre Sabrowski and Abbas Khayyer. Finally, Tom De Vuyst agrees to take up the role of secretary and asks upon the responsibilities of the secretary position.

Ben Rogers suggests that in the future the minutes should be cleaned of names such as possible keynote speakers, sensitive personal information, names, etc.

**Action 13:** Finalize any remaining 2021/2022 minutes to ease Tom De Vuyst take over.

**By:** Sibilla

**Deadline:** after SC meeting

### 14. SPH online

Abbas Khayyer discusses on the success of the SPH online workshops, with 4 workshops so far, and considering the next SPH online workshop to have the topic SPH & Industry, Pierre Sabrowski and Matthieu de Leffe are in favour and possibly can be speakers based on availability. Abbas Khayyer continues by laying the plan of the SPH online workshop with 5 invited talks (as with previous events) with aim to show that SPH can be useful outside of academia. Matthieu de Leffe offers to possibly suggest industrial partners that want

to be involved. Alex Crespo suggests David Le Touzé as a speaker. Pierre Sabrowski suggests increasing the bandwidth of the event by invoking industrial partners.

**Action 14:** provide deadlines and info to Pierre Sabrowski and Matthieu de Leffe.

**By:** Khayer

**Deadline:** after SC meeting

## 15. Social media

Renato Vacondio praises Antonio Souto-Iglesias for maintaining a very active twitter account. Pierre Sabrowski provided an overview and possible shortcomings in terms of social media (i.e., newsletter frequency, improve traffic, etc) and suggested a SLACK community in SPH and SPHERIC, also asked for further ideas. Ben Rogers and Georgios Fourtakas commented that SLACK is better across institutions and that SLACK is not strictly a social media (i.e., used as electronic communication between groups or forum) respectively. Renato Vacondio recalls that the SPHERIC forum was not a success and became inactive fairly quickly.

Pierre Sabrowski suggests LinkedIn and YouTube as alternative formats for social media. In particular, LinkedIn is the next natural step followed by YouTube and SLACK which will have content updated weekly.

Alex Crespo and Georgios Fourtakas note that it is not possible to run all the social media channels which are updated in the suggested frequency by one or more people, and this could be problematic in the future.

**Action 15a:** Identify formats for social media and ways to disseminate SPHERIC.

**By:** Sabrowski

**Deadline:** after SC meeting

**Action 15b:** Define SLACK structure

**By:** Sabrowski

**Deadline:** after SC meeting