

Minutes of the summer (June) SPHERIC Steering Committee meeting 2025, UPC, Spain
(taken by GF in absence of TDV)

SC members present:

Renato Vacondio (Univ. of Parma, Italy, chair) - RV
Ben Rogers (Univ. Manchester, UK, vice chair) - BDR
Angelo Tafuni (New Jersey Inst. Technology, USA, webmaster) - AT
Giuseppe Bilotta (INGV, Catania, Italy, newsletter editor) - GB
Xiangyu Hu (Technical Univ. of Munich, Germany) - XH
Alex Crespo (Univ. of Vigo, Spain) - AC
Matthieu de Leffe (Nextflow Software, France) - MdL
Salvatore Marrone (CNR-INSEAN, Italy) - SM
Nathan Quinlan (Nat. Univ. Ireland, Galway, Ireland) - NQ
Peng-Nan Sun (Sun Yat-sen University, Zhuhai, China) - PNS
Guillaume Oger (Ecole Centrale Nantes/CNRS, France) - GO

SC co-opted members

George Fourtakas (Univ. Manchester, UK) - GF
Corrado Altomare (UPC, Spain) CA

Not present

Tom De Vuyst (University of Hertfordshire, UK, secretary) TDV
Abbas Khayyer (Kyoto University, Japan) - AK

Meeting 1 (Monday 16/06/2025)

1. Actions from last meeting

Action 1:

CA to add a 1hr slot in parallel to the Wednesday SC meeting to convene early career researchers to discuss appointment of an “early career researcher rep”. Quick introduction to this discussion to be given by one or couple of SC members.

Status: Completed

Action 2:

BDR, CA, AT to convert SPHERIC World Congress proposal document into a form that can be uploaded on the website (e.g. PowerPoint/block diagram). To include examples of previous events (i.e., type of rooms, etc.) and change the submission deadline from 2.5 to 3 years prior to event. A requirement is to be included for support (e.g. letter) from proposer’s institution/school/faculty.

Status: Finalise after SPHERIC 2025 conference – ongoing

Action 3:

AT to update and restructure bibliography related pages on the SPHERIC webpage.

Status: Ongoing

Action 4:

RV to organise a Marketing Committee meeting to be held before 31/12/24 to create a marketing plan including a plan for social media activities. Include AK in meeting for WeChat related aspect.
Status: Ongoing

Action 5:

TDV contact XH and CH to help creating solid mechanics benchmarks.

XH advised that this is ongoing and discussed some difficulties on pinpointing reference solutions as there is quite a bit of diversity of results reported in the literature. RV suggested that three validation benchmarks for SPH solvers should be used, AK should be invited to contribute to the group. SM confirmed he has not received a benchmark to date.

Status: Ongoing

Action 6:

CA to investigate the refund policy for the 2025 SPHERIC World Congress and update on ERCOFTAC funding.

Refund policy updated on the website. ERCOFTAC will not provide any further funding due to change of name from “Workshop” to “World Congress”

Status: Completed

Action 7:

GB to collect more contributions (from CA, BDR, AK, potentially MO) for the next Newsletter by 15th of December 2024 and publish Newsletter by 15th of January 2025.

Status: Completed

Action 8:

All SC members to propose nominations for the Joe Monaghan prize.

14 nominations received

Status: Completed

Action 9:

BR to extend the deadline for submission of nominations for Joe Monaghan prize to align with submission deadline for SPHERIC 2025 abstracts.

Status: Completed

End of actions

2. SPHERIC Scientific Committee vacancies

RV discusses that 4 high quality nominations have been received and makes a point for the importance of industrial representation to the SC. AC announces that he will be stepping down, which brings the vacancies to two and RV suggest the possibility of appointing two members which is supported by AC as it would help with the continuation of the SC. BDR expresses his opinion that as AC is stepping down there is little scope for further announcements with one position advertised (due to a resignation) second has become definite and advanced notice of the 3rd is given. The SC votes unanimously to appoint three SC members.

After voting using a single-vote-per SC member, Dr. Corrado Altomare, Dr. Shreyas Joshi, and Dr. Chun Hean Lee are elected unanimously. Dr. Zhen Chen is to be co-opted as the organiser of “*SPHERIC 2027 Shanghai International Workshop*”.

3. Update on the 2025 SPHERIC world congress (Corrado)

CA gives an update on SPHERIC 2025: 82 abstracts accepted, 6 withdrawn and 72 presentations are scheduled. CA inform that there have been no poster submissions. There is a drop in the numbers of abstracts from industry in comparison with SPHERIC Berling 2024. There are 130 register participants with 26 Libresky prize candidates and the SciC should distribute evenly among parallel sessions. Further, the Joe Monaghan voting ballot system has been set up and GO, GB volunteer to oversee in addition to CA.

BDR enquires on any sponsorship received and suggests maintaining the call for posters which might spark the interest of the newly formed Early Career Forum with support from GB. Further BDR enquires if any unforeseen difficulties have raised. CA replies negatively to sponsorship and confirms that the organisation did not face any major issues however, the lead times were short and there are always minor issues with handling registrations, etc.

RV discusses possibilities for SPHERIC World Congress 2028.

4. Updates on the SC young member representatives in the SC

NQ informs the SC that a meeting between RV, MdL and AT where a discussion took place on appointing 2 early career representatives to the SC which will be non-voting members, are PhD students or up to 2 years after graduation. BDR suggests not to restrict to 2nd years only PhD students and GB enquire on how the 2 early career representatives are elected which RV and AC suggest by voting on the Early Career Forum. NQ to facilitate the first young meeting on the first SPHERIC day around the visit to BSC.

5. SPHERIC regional (e.g. Asia) subcommittee

PNS informs the SC that Dr. Zhen Chen (Shanghai Jiao Tong University, China) will propose to organise in a regional SPHERIC conference in 2027. Dr. Zhen Chen will join SC meeting for a presentation. Further, PNS suggests these regional events to travel to Korea, Japan etc.

6. Newsletter issue for Summer 2025

GB informs that he will be seeking contributions form:

- CA first SPHERIC world conference,
- Libresky prize winners,
- Joe Monaghan prize winners,
- SPHERIC World Congress 2026 (MO)
- SPHERIC 2027 Shanghai International Workshop 2027 Asia from Zhen Chen
- NQ to provide a contribution in early career representatives members with possibly short interview
- BDR suggests a short article on the new members committee or announcement (1/2 page),
- SM New benchmarks possibly
- Summer & Winter SPH online by Abbas
- MdL suggests that a contribution from industry should be considered in the future

7. Benchmarks and Benchmarks web page

SM gives an update on the benchmarks:

1. Number 8 – The Gresho vortex has been completed but it was greatly delayed by the suggester
2. Number 21 - by Suzuki FSI on vegetation has been completed
3. Number 22 – Weakly compressible Taylor Green vortices by M. Antuono has been completed

Under review:

1. SPH-EXA developers' astrophysical benchmark

2. T. Gotoh proposal on solid mechanics manufactured torsional deformation

SM informs the SC that there is a delay from the Solids group to suggest a benchmark (see action point 5) and suggests AT can now upload to the webpage with the help of a possible volunteer. BDR probes into what the benchmarks are lacking currently and SM informs the SC that we need more benchmarks on solids, biomechanics/bioengineering and automotive. MdL suggests a gearbox benchmark would be advantageous as the industry is using SPH extensively in gearboxes.

Action: MdL and Shreyas Joshi (Fifty2) to suggest a benchmark with a generalised geometry which is possible already available in the literature.

Action: for GF on suggesting a test case for biomedical flows – heart valves/thrombus formation

Action: for GO/BDR to suggest a geotechnics and landslides benchmark

SM discusses that the reference papers and web page should be acknowledged and RV suggests the benchmarks are assigned a DOI

Action: for SM, AT to investigate the DOI suggestion by RV

8. Bibliography database in webpage

RV is discussing that this is not well managed as Antonio Souto-Iglesias has stepped down and this remains stagnant. Further, AK had issued a list of review papers but the status of this in Zoltero is questionable. T

he SC agreed on the following:

Action: for AT (as webmaster)

- Remove Zoltero
- Add review papers from AK
- Update SPH related books
- Remove journals section
- Add Published special issues (from SPHERIC)

End of meeting 1

Meeting 2 (Wednesday 18/06/2025)

RV welcomes new members of the SC:

- Shreyas Joshi – Fifty2 (SJ)
- Chun Hean Lee - Glasgow University (CHL)

In addition, RV welcomes the ECR members:

- Efstathios Chatzoglou (EC) - University of Thessaly, Greece
- Clement Dufour (CD) – Ecole Centrale Nantes, France

In attendance:

- Daniel Price (DP) - Monash University, Australia
- Zhen Chen (ZC) - Shanghai Jiao Tong University, China

9. Round table discussion on table of activities

Skipped

10. Grand Challenges Review/Update Skip

Skipped

11. Creation of a marketing sub-committee

RV discusses the urgency of the marketing sub-committee and the use of Soc. Media to promote SPHERIC especially LinkedIn with conference material, part of the newsletter, etc., and GF and GB

suggest the ECR members to assist in this role/sub-committee.

EC and CD enthusiastically accept the challenge as long as a permanent member of the SC steps in to coordinate efforts. CA suggests YouTube as a media however, MdL is unconvinced on the copyrights of the platform. EC suggests TikTok for younger or more Soc. Media active audience however, SJ is unconvinced if this is the right platform.

CA volunteers to be the social secretary – unanimously accepted by the SC.

Action: EC and CD to coordinate with CA and come up with a proposal on marketing

Action: SJ to give feedback on the proposal and posts.

Sub-committee: Lead by CA and SJ, with EC and CD

12. Update on the NAFEMS Particle Methods Technical Group

MdL updates the SC on NAFEMS and their activities on SPH where the objective is on best practice for SPH and knowledge transfer currently. Currently MdL, RV and BDR are members of NAFEMS. There are some initiatives such as an open call for authorship of a book (with funding) targeting industrial audience. BDR suggests the SC members should bid and CHL expresses that they are interested on industrial benchmarks, which is confirmed by RV as they target industry. SM shares his views on the difference between industrial and academic benchmarks. RV/SM agrees and suggests if there is scope for a subcommittee to be formed on this matter.

Action: MdL, SJ and XH to setup the case with gearbox related to Item 7 above.

Action: RV, SM to possibly discuss a sub-committee on industrial/academic benchmarking

13. Update on the 2026 SPH event in North America

MO gives an update on the progress of the 2026 event. The keynote speakers have been invited:

- J.S. Chen - University of California San Diego
- Phill Hopkins - California Institute of Technology
- Joe Monaghan prize winners

MO confirms prices for the venue remain the same as per initial quotation and provides a brief plan and confirms the dates 9-11/June 2026 – Venue SF centre near China town. The website which is being worked/uploaded/ possibly next week.

MO/RV discuss if any issues relating to attendance especially with SPHERIC Asia in 2027 is an issue and RV asks the SC to support the event. BDR rises some concerns with the current political climate and entry to specific nationalities to the USA. It is suggested that foreign nationals apply for a visa as soon as possible. Nevertheless, RV does not see a strong reason to cancel the event due to geopolitical reasons.

EC probes on the cost of the event and possible restriction for ERCs (due to the associated cost traveling from Europe). AT is of the same opinion and points out that we should start the process early to allow for participants to apply for visas including pushing for participation from the US. MdL confirms that there are cost restrictions from industry. GO suggests speakers from last event in the US to be contacted in order to increase participation from the US.

14. Proposals for next SPHERIC Asian conference

RV invites Dr. Zhen Chen to present their slides on the regional SPHERIC conference in Shanghai.

After a presentation with the proposal and a number of videos showcasing the location Dr Zhen Chen puts forward the nomination:

- SPHERIC 2027 Shanghai International Workshop, Shanghai, China, 2027
- Local organising committee Dr Zhen Chen and Co.
- Scientific Committee for Barcelona to be carried forward
- Dates: 29 June 1st July 2027
- Venue: Mulan Building – Lecture theatre with 200 participants capacity, visit to a towing tank facility and the large flume facility

- Transport by Plane: Hongqiao/Pudong International airport (transportation for airport to be provided when needed)

After a short discussion and voting the proposal is accepted unanimously from the SC. Dr. Zhen Chen is appointed co-opted member as per SC regulations.

15. Proposal for new marking scheme for the abstracts based on Linear Mixed-Effects Modelling
Skipped for next meeting.

End of meeting 2