Pinned

Meeting recordings
Meeting recordings live in this Google Drive folder:
https://drive.google.com/drive/folders/1OfoKEWRK5nVa57qK6taFoD-ZpUaNsRF8?usp=drive_link

Technical contribution welcome
A list of ongoing community items looking for technical help
- DAVE maintenance, answering tickets and reviewing pull requests. Ping Mabel on Matrix or ROS Discourse
- ROS 2 integration (Goby-ROS bridge) for JaiaBot (GitHub) from Jaia Robotics . Ping Mabel to get in touch with Gobysoft.

Looking for users
- Pilot users for Bristlemouth; interested in ROS 2 integration? Bristlemouth Discourse forum
- Pilot users for MBARI WEC Gazebo Sim, GitHub discussion board
- Test users for UW APL marine_msgs message standardization

Quick links
OSRF Discord (#marine-robotics channel)
Kanban
Google Group (only used to send meeting calendar invites)

For records, we have **76 total participants from 48 organizations (as of 2024-09-24)**

Meeting agendas

~~TBD~~

- [Reminder to record meeting, send link to this Agenda Doc, ask attendees to add names and affiliations]
- Standup (< 20s each) around the room: Name and affiliation.
  - What are you dying (or living) to encounter at sea? E.g. the Nautilus, a pink dolphin, puffins, Atlantis, aurora
- Community updates / release / event announcements (add yours to the list)
  - Discord channel #marine_robotics created on Open Robotics server for ROS Maritime Community Group. Invite link: https://discord.gg/open-robotics-1077825543698927656 Join and invite!
  - OSRF organization is accepted to Google Summer of Code 2025 (open source internships for students). Projects list and internship application template

- - - Arjo is hosting "Raytracing enabled Faster-Than-Realtime GPU based lidar plugin for Gazebo" and "Gazebo Plugin For Gaussian Splatting"
    - Woensug + Rakesh + Mabel are hosting "Physics-based sonar simulation and new examples with commonly used hardware for underwater robotics"
  - (Mabel) ICRA 2025 underwater simulation full-day workshop AQ²UASIM (Call for Papers, Call for Demos). We are co-organizing it.
  - (Mabel) Climate Robotics Network whitepaper 2025 version is out. Climate Robotics Summit 2025 May 6–9 (virtual) registration open.
  - (Mabel) Recap on Impossible Things deep sea research workshop in Madeira Mar 17–19
  - ~~(Mathew S.) Hosting ocean sciences hackathon at MIT on June 7–8~~
  - …
  - [add your updates here]
- Upcoming speakers tentative lineup
  - Let us know on Open Robotics Discord #marine-robotics channel if you're interested in speaking
- **Speaker presentation**:
- Open floor discussions, networking exchanges, feedback for Working Group organization, suggestions, concerns, hopes and dreams
- Attendees: add your name to the list
  - …
  - [add your name here]
- Original meeting announcement (TBP) on Discourse
- Meeting recording TBP

2025-02-18: UnitySim (Unity + ROS) for AUV competitions

- [Reminder to record meeting, send link to this Agenda Doc, ask attendees to add names and affiliations]
- Standup (< 20s each) around the room: Name and affiliation. What is one new skill you want to learn in 2025 related to marine robotics?
- Community updates / release / event announcements (add yours to the list)
  - Gazebo 11 reached End of Life Jan 2025
  - OSRF Google Summer of Code call for mentors closed 9 Feb 2025. Projects list. 26 Feb decisions from Google whether org is accepted
  - (Mabel) Some of us are co-organizing the ICRA 2025 underwater simulation full-day workshop AQ²UASIM (Call for Papers, Call for Demos)
  - (Mabel) Climate Robotics Network whitepaper 2025 version is out. Climate Robotics Summit 2025 May 6–9 (virtual) registration open.
  - (Mabel) I will be at Impossible Things workshop in Madeira (Portuguese island off North African coast) Mar 17-20, to brainstorm how to enable deep sea marine

biology and environmental research capability locally at low cost on a remote island. Funded by EU, endorsed by UN Ocean Decade.
- ○ Looking for speaker recommendations for next months
- Upcoming speakers tentative lineup
  - ○ Speaker suggestions welcome!
- **Speaker presentation**: Tien Luc Vu (Swedish Maritime Robotics Centre) – UnitySim for AUV competitions
- Kanban board and repo
- Open floor discussions, networking exchanges, feedback for Working Group organization, suggestions, concerns, hopes and dreams
  - ○ Content for rest of year?
    - ■ (Mathew) Speakers are good
    - ■ (Mathew) Would like opportunities for collaboration.
      Discord instead of Matrix - Mathew thinks beneficial, Michael thumbs up, Jorge thumbs up
      - ● `Done item` Update: Discord channel #marine_robotics created on Open Robotics server for ROS Maritime Community Group. Invite link: https://discord.gg/open-robotics-1077825543698927656 Join and invite!
    - ■ LinkedIn posts? Jorge & Akash & Alessandro found on LinkedIn
      - ● LinkedIn group for people to subscribe to get to know about meetings. More visible than ROS Discourse
      - ● Could be separate purpose than Discord - LinkedIn just for marketing to new people. Discord for people already in the WG trying to connect and collaborate
      - ● Update: we'll give LinkedIn publicity a few more tries before we decide whether to create a group. We don't know how it works and whether it's worth the effort. It could be more administrative overhead for the group organizers, who are voluntary members of the community. If you have followup tips on this, we are all ears.
- Attendees: add your name to the list
  - ○ Mabel Zhang (Heriot-Watt University Orkney)
  - ○ Kimberly McGuire (ROS aerial)
  - ○ Mathew Schwartzman (SeaMachines Robotics)
  - ○ Roland Arsenault (University of New Hampshire)
  - ○ Rakesh Vivekanandan (Oregon State University)
  - ○ Michael Scherer (Chance Maritime Technologies)
  - ○ Edward Morgan (Louisiana State University)
  - ○ Akashnepak (Manipal university, India)
  - ○ Alessandro Puglisi (Politecnico di Milano)
  - ○ Daniel Regner (Federal University of Santa Catarina)
  - ○ Edward Morgan (Louisiana State University)
  - ○ Helena Moyen (University of São Paulo)
  - ○ Jorge Aguirregomezcorta Aina (Institut de Ciences del Mar (ICM))

- - Scott Koehler
    - Tien Luc Vu (Swedish Maritime Robotics Centre / NTU Singapore)
    - rithvik
    - Zi-Hao Zhang
    - Will Ard (Integer Technologies)
    - Kyle
    - Hugo Ferreira
    - David Dorf (Triton Systems Inc)
- Original meeting announcement on Discourse
- Meeting recording on Vimeo

2024-11-12: Trisect, an open source underwater camera

- [Reminder to record meeting, send link to this Agenda Doc, ask attendees to add names and affiliations]
- Standup (< 20s each) around the room: Name and affiliation. What are you working on lately?
- Community updates / release / event announcements (add yours to the list)
    - (Arjo) Annual Maritime Birds of a Feather (BoF) meetup at ROSCon 2024 in Odense, Oct 21–23.
        - Arjo to recap?
- **Speaker presentation**: Aaron Marburg (UW APL) on Trisect, an open source underwater camera
- Kanban board and repo
- Open floor discussions, networking exchanges, feedback for Working Group organization, suggestions, concerns, hopes and dreams
- Attendees: add your name to the list
    - Rakesh Vivekanandan (Oregon State University)
    - Evan Palmer (Oregon State University)
    - Mabel Zhang (Heriot-Watt University Orkney)
    - Laura Lindzey (UW APL)
    - Roland Arsenault (Center for Coastal and Ocean mapping, University of New Hampshire)
    - Aaron Marburg (UW APL)
    - Mathew Schwartzman (WHOI)
    - Bill Carron
    - Braulia CA
    - David Alejandro Soni Cuevas
- Original meeting announcement on Discourse
- Meeting recording on Vimeo

2024-10-29: Goby3 in ROS 2

- [Reminder to record meeting, send link to this Agenda Doc, ask attendees to add names and affiliations]
- ~~Standup (< 20s each) around the room: Name and affiliation. What are you working on lately?~~
    - Skipping this month in favor of discussion at the end
- Community updates / release / event announcements (add yours to the list)
    - (Arjo) Annual Maritime Birds of a Feather (BoF) meetup at ROSCon 2024 in Odense, Oct 21–23.
        - Arjo to recap?
    - (Mabel) Climate Robotics Network monthly informal chat (online) Oct 10 (Slack). They're considering establishing a non-profit organization.
    - (Woensug) ROS-Gazebo installation on Mac OS (Apple Silicon)
    - …
    - [add your updates here]
- Upcoming speakers tentative lineup
    - 12 Nov: Aaron Marburg (University of Washington) - Trisect underwater camera
- **Speaker presentation**: Toby Schneider (GobySoft) on Goby3 in ROS 2
    - GItHub
    - Goby3 paper: T. Schneider, Goby3: A new open-source middleware for nested communication on autonomous marine vehicles. IEEE AUV 2016 / Tokyo.
- Kanban board and repo
- Open floor discussions, networking exchanges, feedback for Working Group organization, suggestions, concerns, hopes and dreams
    - (Toby) NSF POSE proposal for ecosystem OpenOcean.software, inclusive of MOOS-IvP, ROS, Goby, etc. communities
    - Contact Toby
- Attendees: add your name to the list
    - Matthew Ferro (JaiaRobotics)
    - Brian Bingham (NPS)
    - Jake Russell (Orpheus Ocean)
    - Markus Buchholz (Heriot-Watt University)
    - Evan Palmer (Oregon State University)
    - Toby Schneider (GobySoft)
    - Isaac Vandor (WHOI)
    - Michael Kim (Chance Maritime Technologies)
    - Nathan Figueroa (WHOI)
    - Scotty
    - Mathew Schwartzman (Sea Machines Robotics, WHOI)
    - Mabel Zhang (Heriot-Watt University Orkney)
    - Michael Scherer (Chance Maritime Technologies)
    - Jessica Herman (NPS)
    - Vasutorn Siriyakorn (Kasetsart University)
    - Akira Techapattaraporn (UTLN)
    - Edward Morgan (LSU)

- ○ Arjo Chakravarty (Intrinsic, SUTD)
  - ○ joe
- Original meeting [announcement](#) on Discourse
- Meeting [recording](#) on Vimeo

2024-09-24: Community Show & Tell

- [Reminder to record meeting, send link to this Agenda Doc, ask attendees to add names and affiliations]
- Standup (< 20s each) around the room: Name and affiliation. What are you working on lately?
- Community updates / release / event announcements (add yours to the list)
  - ○ (Mabel) [Climate Robotics Network](#) inaugural monthly informal chat (online) Sep 10 ([Slack](#), [meeting notes](#))
  - ○ (Mabel) [IEEE AUV Symposium 2024](#) in Boston Sep 18–20. Anyone attended?
  - ○ (Mabel) Gazebo Ionic release on Sep 30. [Notes and highlights](#)
  - ○ (Arjo) Annual Maritime Birds of a Feather (BoF) meetup at [ROSCon](#) 2024 in Odense, Oct 21–23. [RSVP on ROS Discourse](#)
  - ○ (Woensug) ROS-Gazebo installation on Mac OS (Apple Silicon)
    - ■ Woensug not present. Move to next month
- Upcoming speakers tentative lineup
  - ○ Oct 29 GobySoft
  - ○ Nov ? Aaron Marburg
  - ○ Dec no meeting
- **Speaker presentations**: Community Show & Tell ([signup + agenda](#))
  - ○ Edward Morgan / Louisiana State University / A differentiable underwater vehicle dynamics in body and ned(euler & quaternion) / https://github.com/edxmorgan/diff_uv
  - ○ Nathan Figueroa / Woods Hole Oceanographic Institution / ROS2 Hackathon at WHOI
    - ■ Urgency of moving to ROS 2 depends on the team
  - ○ Michael Scherer / Chance Maritime Technologies / MC-40 Long Endurance Hydrographic Vessel / https://chancemaritime.com/
    - ■ Leasing vehicles for all sectors
  - ○ Markus Buchholz / Heriot-Watt University / GazeboSim simulations for research objectives
    - ■ Markus can provide configuration, info, code for how to run the things shown, launch 2 ArduPilots in the same simulation, etc., before official release.
    - ■ Submitted to ICRA and will open source soon.
  - ○ Farhang Naderi / University of Rhode Island / MVP Framework current state https://github.com/uri-ocean-robotics
    - ■ Hardware Designs and codes are open source

- [Kanban board](#) and [repo](#)
- Open floor discussions, networking exchanges, feedback for Working Group organization, suggestions, concerns, hopes and dreams
  - (Arjo) Brainstorming session to elicit ideas for the next Gazebo release
    - Evan: Find a way to load all of Fossen's parameters using SDF and retrieve those in ros2_control
    - Markus: Simulation crashing (not in Gazebo, but when applied to other framework or plugin) and inconsistent when simulating ocean currents. Didn't spend a lot of time on it.
      - Arjo: We should figure out where it is crashing
    - Rakesh & Gaurav: Center of buoyancy can't be specified in SDF, only center of gravity can be specified right now
      - Arjo: Buoyancy plugin is separate. Currently using collision mesh to compute center of buoyancy in a hacky way.
- Attendees: add your name to the list
  - Markus Buchholz (Heriot-Watt University)
  - Mabel Zhang (Heriot-Watt University Orkney)
  - Evan Palmer (Oregon State University)
  - Rakesh Vivekanandan (Oregon State University)
  - Edward Morgan (Louisiana State University)
  - Philip Roan (Ingot Robotics)
  - Nathan Figueroa (WHOI)
  - Steven Seeberger (Bedrock Ocean Exploration)
  - Gaurav Kumar (VJTI)
  - Byron Reins (Bedrock Ocean Exploration)
  - Arjo Chakravarty (Intrinsic, SUTD)
  - Jay Herpin (Chance Maritime Technologies)
  - Michael Scherer (Chance Maritime Technologies)
  - Farhang Naderi (University of Rhode Island)
- Original meeting [announcement](#) on Discourse
- Meeting [recording](#) on Vimeo

2024-08-20: GSoC on DAVE migration to ROS 2 / new Gazebo

- [Reminder to record meeting, send link to this Agenda Doc, ask attendees to add names and affiliations]
- Standup (< 20s each) around the room: Name and affiliation. What are you working on lately?
- Community updates / release / event announcements (add yours to the list)
  - (Evan) The MIT Climate and Robotics Workshop has made the session recordings available on YouTube [here](#).
  - (Mabel) In [ROS News of the Week](#) 5 Aug 2024: [TURTLMap](#) (University of Michigan) ROS-based underwater SLAM, to be published at IROS 2024

- ○ (Mabel) [Njord Challenge 2024](#) on 12--16 Aug in Trondheim, Norway ([LinkedIn](#) post of teams)
    - ○ (Mabel) [Climate Robotics Network](#) inaugural monthly informal chat (online): 10 Sep at 4 pm Switzerland time ([Google Calendar](#), [Slack](#))
    - ○ (Mabel) [ROSCon](#) 21--23 Oct 2024 Odense - anyone going? Arjo might be running a Maritime Birds of a Feather? We've run these at ROSCon for the past 3 years
- Upcoming speakers tentative lineup
    - ○ Sep show and tell sign up form announcement on [Discourse](#)
    - ○ Oct 29 Toby Schneider on GobySoft
- **Speaker presentation**: GSoC contributors (Rakesh Vivekanandan representing self + Gaurav Kumar + Helena Moyen + community volunteer Abhimanyu Bhowmik) on [DAVE](#) migration (in [fork](#)) to ROS 2 and new Gazebo
    - ○ Open Robotics [blog post](#) about the GSoC contributors
    - ○ Q&A: Achille Martin (achille.martin@noc.ac.uk) has fixed some bugs in UUV Simulator (example fork: https://github.com/nocs-ocs/uuv_simulator) that he may look at whether exist in DAVE too, and maybe open an issue in DAVE pointing to his fixes for future reference. Wind, subsurface conditions, etc.
    - ○ Update: GSoC final reports on ROS Discourse
        - ■ Helena Moyen: [Worlds, Models and Plugins](#)
        - ■ Rakesh Vivekanandan: [Launch Files, Robot Models and Sensor Plugins](#)
        - ■ Gaurav Kumar: [Sea Sensor, Ocean Current, Sensors](#)
- [Kanban board](#) and [repo](#)
- Open floor discussions, networking exchanges, feedback for Working Group organization, suggestions, concerns, hopes and dreams
- Attendees: add your name to the list
    - ○ Mabel Zhang (Heriot-Watt University Orkney)
    - ○ Jay Herpin (Chance Maritime)
    - ○ Michael Scherer (Chance Maritime)
    - ○ Abhishek Shankar
    - ○ Christian Westerdahl (Technical University of Denmark, Master Thesis group in Autonomous Maritime Technology)
    - ○ Eric Hanaman (Naval Postgraduate School)
    - ○ Yuri Oliveira (Technology Innovation Institute)
    - ○ Gerard
    - ○ Matheus Santos (Technology Innovation Institute)
    - ○ Tal Maital (Nakai Robotics)
    - ○ Utku Esen
    - ○ Mathew Schwartzman (Sea Machines Robotics, WHOI)
    - ○ Rakesh Vivekanandan (Oregon State University)
    - ○ Brian Bingham (Naval Postgraduate School)
    - ○ Benny (Nakai Robotics)
    - ○ Jessica Herman (Naval Postgraduate School)
    - ○ Javier Navarro (Asimovo)

- ○ Evan Palmer (Oregon State University)
  - ○ Abhimanyu Bhowmik (NTNU)
  - ○ Mark Moll (Metron)
  - ○ Achille Martin (National Oceanography Centre UK)
  - ○ Rick Hernandez
  - ○ Steven Seeberger (Bedrock Ocean Exploration)
  - ○ Markus Buchholz (Heriot-Watt University)
  - ○ David Dorf
  - ○ Harold van Heukelum (Boskalis)
- ● Original meeting [announcement](#) on Discourse
- ● Meeting [recording](#) on Vimeo

2024-07-23: Kraken Robotics

- ● [Reminder to record meeting, send link to this Agenda Doc, ask attendees to add names and affiliations]
- ● Standup (< 20s each) around the room: Name and affiliation. What are you working on lately?
- ● Community updates / release / event announcements (add yours to the list)
  - ○ (Mathew) WHOI is hosting a ROS Hackathon in July, which will be led by Nathan Figueroa. Not open to the public but will summarize lessons learned
  - ○ (Woensug) The GSoC contributors are still working on their respective contributions. You can track their progress and current work on their [Kanban board](#). Work is in a [fork](#) of DAVE.
  - ○ (Anyone) RSS Delft recap?
  - ○ (Rakesh) Hydrodynamics plugin seems to fail in some cases (when the added mass value is greater than the rigid body mass) - Arjo and I are looking into it. Additionally, planning to add support for cylindrical objects in the Buoyancy plugin.
- ● August 20: GSoC contributors on DAVE
- ● **Speaker presentation**: Gabriel Pacheco ([Kraken Robotics](#)) on simulation, dynamics, control and fault response for underwater robotics.
- ● [Kanban board](#) and [repo](#)
- ● Open floor discussions, networking exchanges, feedback for Working Group organization, suggestions, concerns, hopes and dreams
- ● Attendees: add your name to the list
  - ○ Desiree Van Heerden (Kraken Robotics)
  - ○ Henrique Baqueiro (Kraken Robotics)
  - ○ Evan Palmer (OSU)
  - ○ Rakesh Vivekanandan (OSU)
  - ○ Jessica Austin (Bedrock Ocean Exploration)
  - ○ Gabriel Pacheco (Kraken Robotics)

- - Roland Arsenault (Center for Coastal and Ocean mapping, University of New Hampshire)
    - Steven Seeberger (Bedrock Ocean Exploration)
    - Byron Reins (Bedrock Ocean Exploration)
    - Jan Albiez (Kraken Robotics)
    - David Gillard (Kraken Robotics)
    - Estavao Ferrao (Kraken Robotics)
    - Joao Britto (Kraken Robotics)
    - Matheus Santos (Kraken Robotics)
    - Pedro Vaz Teixeira (WHOI)
    - Romulo Cerqueira (Kraken Robotics)
    - Sascha Arnold (Kraken Robotics)
    - Simon Bolivar (Kraken Robotics)
    - Wesley Fisher (Kraken Robotics)
    - Andrew Snelgrove (Kraken Robotics)
    - Brad Garagan (Kraken Robotics)
    - Nick Hetherington (Cellula Robotics)
    - Arjo Chakravarty (Intrinsic, SUTD)
    - Mabel Zhang (Heriot-Watt University Orkney)
- Original meeting [announcement](#) on Discourse
- Meeting [recording](#) on Vimeo

2024-06-25: Angler UVMS Framework

- [Reminder to record meeting, send link to this Agenda Doc, ask attendees to add names and affiliations]
- Standup (< 20s each) around the room: Name and affiliation. What (marine) robot are you currently using/are interested in? What version of ROS do you use with it??
- Community updates / release / event announcements (add yours to the list)
    - (Evan) Edvart released a new Unity simulator for autonomous surface vessels. You can find the announcement on [Discourse](#) and the repository [here](#).
    - (Evan) Mabel started her new job with Heriot-Watt University in Orkney Islands, Scotland! Congratulations, Mabel!
    - (Evan) ROS 2 Jazzy Jalisco has been released. The official announcement was made on [Discourse](#).
        - Mabel: Highlight notes of Gazebo Harmonic release: https://github.com/gazebosim/gz-harmonic/blob/main/highlights.md
        - Arjo: Big thing in Harmonic is Python support
    - (Woensug) The GSoC contributors have started working on their respective contributions. You can track their progress and current work on their [Kanban board](#). Work is in a [fork](#) of DAVE.
        - Mabel to ask for ROS 2 meeting invite for GSoC student
            - Update: Not open now. Will be open in July by default.

- - - Arjo: Reach out to me for any questions about hydrodynamics
    - ○ (Mathew) WHOI is hosting a ROS Hackathon in July, which will be led by Nathan Figueroa. Not open to the public but will summarize lessons learned
    - ○ (Evan) We are considering a "show-and-tell" style meeting for Q3 or Q4, where folks can give updates and share progress on projects that they are working on. Is there any interest in doing this?
        - ■ (Evan) Add a sign-up sheet
        - ■ (Mabel) Another option is to have quick 30-60 second image shares in updates section of meeting, if don't want to dedicate a whole meeting to it. Could be a regular thing
- Upcoming speakers tentative lineup
    - ○ July 23: Gabriel Pacheco (Kraken Robotics)
    - ○ August: GSoC contributors (Woensug to confirm?)
        - ■ Rakesh + Gaurav said they're interested
        - ■ Update: Woensug confirmed. Gave heads up to all GSoC students on DAVE
- **Speaker presentation**: Evan Palmer on [Angler UVMS framework (ICRA 2024)](#) (GitHub [angler](#), [blue](#), Blue [Documentation](#)).
- [Kanban board](#) and [repo](#)
- Open floor discussions, networking exchanges, feedback for Working Group organization, suggestions, concerns, hopes and dreams
- Attendees: add your name to the list
    - ○ Mabel Zhang (Heriot-Watt University Orkney)
    - ○ Evan Palmer (Oregon State University)
    - ○ Mark Moll (Metron)
    - ○ Emir Cem Gezer (NTNU)
    - ○ Mathew Schwartzman (Sea Machines Robotics, WHOI)
    - ○ Arjo Chakravarty (Intrinsic, SUTD)
    - ○ Rakesh Vivekanandan (Oregon State University)
    - ○ Gaurav Kumar (VJTI)
- Original meeting [announcement](#) on Discourse
- Meeting [recording](#) on Vimeo

2024-05-21 US / 2024-05-22 Asia-Pacific: technical working meeting

- [Reminder to record meeting, send link to this Agenda Doc, ask attendees to add names and affiliations]
- Standup (< 20s each) around the room: Name and affiliation. What are you working on lately?
- Community updates / release / event announcements (add yours to the list)
    - ○ (Mabel) World Turtle Day is in a few days, May 23, which means ROS Jazzy release

- ○ (Mabel) Climate Robotics [Summit](#) ([agenda](#)) had an ocean robotics panel breakout. Summit recordings will be available. Next summit is Mar 2025.
  - ○ (Anyone) ICRA Yokohama recap?
  - ○ (Woensug) 3 students accepted to OSRF [Google Summer of Code](#) project on [DAVE](#) + [multibeam sonar migration to ROS 2 / new Gazebo](#). GSoC official [timeline](#)
    - ■ 3 GSoC contributors(Rakesh(OSU), Gaurav(VJTI), Helena(USP)) + Tester (Abhimanyu(NTNU-UTLN))
    - ■ It seems it would be almost complete rebuild of Dave (incl replacements of maritime robot plugins imported from UUV Simulator to ones that of new Gazebo's) : [Master Plan](#)
  - ○ (Mabel) Marginally relevant: 1 student accepted to OSRF [GSoC](#) project "[Benchmarking physics engines](#)." This is meant to be a low-level physics evaluation that can be numerically proven and analyzed. It is meant to be done by simulation developers who know best how to get the performance from their own simulators. Its end goal is an open source repository under OSRF Github org, that can be expanded with more complex scenarios, by developers of other simulators.
    - ■ Collaborations are intended and welcome, though the infrastructure needs to be built up this summer first for Gazebo, to demonstrate the purpose of the benchmark.
    - ■ I'm no longer mentoring this project. Steve Peters is the main mentor
  - ○ (Mabel/Evan) OSRA hasn't come up with a REP review and approval process (this can take months). Until that happens, all the REP PRs are hanging. We are free to move the REP [PR](#) as far along as we can, which I think we already have. Thank you everyone for the PR approvals.
  - ○ (Matt) WHOI ROS Hackathon in July led by Nathan Figueroa. Not open to public but will update WG on lessons learned
- ● Upcoming speakers tentative lineup
  - ○ June: Evan Palmer underwater framework ICRA 2024
  - ○ July: Kraken Robotics (Evan is scheduling)
- ● [Kanban board](#) and [repo](#)
  - ○ Movement last month on
    - ■ https://github.com/ros-maritime/issue_tracking/issues/9
    - ■ https://github.com/ros-maritime/issue_tracking/issues/21
  - ○ (Woensug) [DAVE GSoC](#) (allowed to comment but can't edit)
    - ■ `Feedback welcome` Community comments welcome on things that don't look right or unrealistic amount of work
    - ■ `Feedback welcome` Soliciting community usage of side scan and 3D sonar at bottom of document - make comment or contact Woensug
- ● Open floor discussions, networking exchanges, feedback for Working Group organization, suggestions, concerns, hopes and dreams
- ● Attendees: add your name to the list
  - ○ Arjo Chakravarty (Intrinsic)

- ○ Woen-Sug Choi (KMOU, wschoi@kmou.ac.kr)
- ○ Mabel Zhang (former OSRC, Heriot-Watt University in near future)
- ○ Laura Lindzey (UW-APL)
- ○ Jay Herpin (Chance Maritime Technologies)
- ○ Gaurav Kumar (VJTI Mumbai / OSRF GSoC)
- ○ Helena Moyen (University of Sao Paulo / OSRF GSoC)
- ○ Michael Scherer (Chance Maritime Technologies)
- ○ Matt (Sea Machines Robotics / WHOI)
- ○ Tarun (DEKA R&D, New Hampshire)
- ○ Nathan Edwards (Greenroom Robotics, Sydney)
- ● Original meeting announcement on Discourse
- ● Meeting recording on Vimeo

2024-04-16 ROS-MVP

- ● [Reminder to record meeting, send link to this Agenda Doc, ask attendees to add names and affiliations]
- ● Standup (< 20s each) around the room: Name and affiliation. What are you working on lately?
- ● Community updates / release / event announcements (add yours to the list)
  - ○ (Mabel/Evan): Mabel on 2 month vacay Apr-May and moving to new job. Evan will help with WG this summer.
    - ■ Using Evan's Zoom (instead of Mabel's Google Meet) now because have institutional account to record meetings
  - ○ (Evan) Marine ROS Enhancement Proposal (REP) PR opened https://github.com/ros-infrastructure/rep/pull/398
    - ■ (Mabel) Not sure if ROS 2 REP processes changes with OSRA. I see only one mention of enhancement proposals in OSRA documents, in the "Policies and Procedures of Technical Governance of the OSRA," which doesn't seem to change anything yet
    - ■ `Action item` Mabel to ask ROS 2 core team about process
  - ○ (per Michele Grimaldi at Heriot-Watt U) CfP Apr 15: ICYMARE (International Conference for Young Marine Researchers) 2024, Bremen. Call for Abstracts
    - ■ Session 4.4 on robotics and algorithms in the maritime domain
  - ○ (per Levi Cai at WHOI) CfP Apr 22: RUNE (Robots for Understanding Natural Ecosystems) Workshop at ICRA 2024, Yokohama, Japan
  - ○ (Mabel) Climate Robotics Summit, online, May 2-3, 2024. There's a breakout section on ocean robotics. Climate robotics white paper
  - ○ (Evan) MIT Robotics & Climate Workshop, Cambridge, MA, May 7th, 2024
  - ○ (Woensug/Mabel) OSRF GSoC project on DAVE multibeam sonar applications are being reviewed. GSoC official timeline
  - ○ …

- ○ [add your updates here]
- Upcoming speakers tentative lineup
  - ○ May tentative APAC-friendly: Technical working meeting
    - ■ Action item Mabel to ask Arjo & Woensug for APAC date/time to schedule meeting
  - ○ June: Evan Palmer underwater framework ICRA 2024
  - ○ Q3 2024 possibly: Gobysoft
- **Speaker presentation** (30 mins): Emir Cem Gezer (NTNU) on ROS-MVP (OCEANS 2022)
- Kanban board and repo
- Open floor discussions, networking exchanges, feedback for Working Group organization, suggestions, concerns, hopes and dreams
- Attendees: add your name to the list
  - ○ Arjo (Intrinsic/SUTD)
  - ○ Jay Herpin (Chance Maritime Technologies)
  - ○ Michael Scherer (Chance Maritime Technologies)
  - ○ Mabel Zhang (formerly Open Robotics)
  - ○ Emir Cem Gezer (NTNU)
  - ○ Giancarlo Troni (MBARI)
  - ○ Evan Palmer (Oregon State University)
  - ○ Rakesh Vivekanandan (Oregon State University)
  - ○ Yuri Oliviera (TII)
  - ○ Bart Boogmans (TU Delft)
  - ○ Jan Witte (Fraunhofer IOSB)
  - ○ Tarun Chintalapati (DEKA R&D, New Hampshire)
- Original meeting announcement on Discourse
- Meeting recording on Vimeo

2024-03-19 Stonefish

- [Reminder to record meeting, send link to this Agenda Doc, ask attendees to add names and affiliations]
- Standup (< 20s each) around the room: Name and affiliation. What are you working on lately? What simulator do you use - **if you use Stonefish, what do you use it for, and how is your experience?**
- Community updates / release / event announcements (add yours to the list)
  - ○ (Mabel) OSRA (Open Source Robotics Alliance) announced yesterday. Community working groups such as this one will be called "Community groups" going forward, to differentiate from official "Working groups" which are run by OSRA (Source: OSRA FAQ).
  - ○ (Evan) Official Marine ROS Enhancement Proposal (REP) discussion thread on ROS Discourse. Gradually converging

https://discourse.ros.org/t/new-ros-enhancement-proposal-for-marine-robotics/36218

- ■ Next step: PR will be opened here
  https://github.com/ros-infrastructure/rep/pulls
- ○ (Roland) UW APL marine_msgs release PR, take 2, has been released into Noetic (thanks Roland!) https://github.com/ros/rosdistro/pull/39899
- ○ (Mabel + Woensug) OSRF was accepted to participate in Google Summer of Code this year! See project ideas list https://github.com/osrf/osrf_wiki/wiki/GSoC24 Woensug is mentoring a project to port DAVE multibeam sonar sim to new Gazebo. Mabel is mentoring a project on simulation benchmarking with Gazebo and another simulator (O3DE potentially). Looking for interns. Apply here Mar 18-Apr 2.
- ○ …
- ○ [add your updates here]
- Upcoming speakers tentative lineup [if there is one]
  - ○ 16 Apr: Emir Cem Gezer (Norwegian University of Science and Technology) on ROS-MVP
  - ○ Q2 2024 possibly: Gobysoft
  - ○ Q2 2024 possibly: Woensug's colleague at KMOU (who worked Tug Boat pull simulation with Hyundai (HD KSOE)) in APAC-friendly meeting time
- **Speaker presentation** (30 mins): Michele Grimaldi (Heriot-Watt University, previously Girona) on Stonefish
  - ○ Emir Cem Gezer
    2:46 PM
    here is an example of vehicle in stonefish
    https://github.com/uri-ocean-robotics/alpha_std_auv/tree/noetic-devel/alpha_std_stonefish/description
    and another one:
    https://github.com/uri-ocean-robotics/alpha_auv/tree/noetic-devel/alpha_stonefish/description
  - ○ Stonefish ROS 2 https://stonefish-ros2.readthedocs.io/en/latest/
  - ○ Michele's PR for various sensors
    https://github.com/patrykcieslak/stonefish/pull/45
- Open floor discussions, networking exchanges, WG comments, suggestions, concerns, hopes and dreams
- Attendees: add your name to the list
  - ○ Roland Arsenault (University of New Hampshire)
  - ○ Kimberly McGuire (Bitcraze)
  - ○ Isaac Vandor (WHOI)
  - ○ Mabel Zhang (Open Robotics team at Intrinsic)
  - ○ Rakesh Vivekanandan (Oregon State University)
  - ○ Emir Cem Gezer (NTNU Norwegian University of Science and Technology)
  - ○ Evan Palmer (OSU)
  - ○ Sebastián Rodríguez (MBARI)

- ○ Giancarlo Troni (MBARI)
  - ○ Kristopher Krasnosky (Seaward Science for: Pelagic Research, Ocean Exploration Trust)
  - ○ Markus Buchholz (Heriot-Watt University)
  - ○ Michael Scherer (https://chancemaritime.com/)
  - ○ Jay Herpin (https://chancemaritime.com/)
  - ○ Michele Grimaldi (Heriot-Watt University)
  - ○ Rhys Mainwaring
  - ○ Ryan Govostes (WHOI/Inkfish)
  - ○ Magnus Maynard (Vaarst)
- ● Original meeting announcement on Discourse
- ● Meeting recording (same video on Vimeo), chat, transcript

2024-02-20 HoloOcean

- ● [Reminder to record meeting. Send link to this Agenda Doc, and ask attendees to add names and affiliations]
- ● Standup (< 20s each) around the room: Name and affiliation. What are you working on lately? What simulator(s) do you use?
- ● Community updates / release / event announcements (add yours to the list)
  - ○ University of Delaware 2024 ABLE Summer Autonomous Systems Bootcamp, press release
- ● Upcoming speakers tentative lineup [if there is one]
  - ○ 19 Mar: Michele Grimaldi (Heriot-Watt University) on Stonefish
  - ○ 16 Apr: Emir Cem Gezer (Norwegian University of Science and Technology) on ROS-MVP
  - ○ Q2 2024 possibly: Gobysoft
  - ○ Q2 2024 possibly: Woensug's colleague at KMOU (who worked Tug Boat pull simulation with Hyundai (HD KSOE)) in APAC-friendly meeting time
- ● **Speaker presentation** (30 mins): Joshua Mangelson (Brigham Young University) - HoloOcean
- ● Open floor discussions, networking exchanges, WG comments, suggestions, concerns, hopes and dreams
  - ○ (Mabel+Evan) Update on REP discussion with community since last meeting
    - ■ (Mabel) The not-quick process of how a REP gets approved
      - ● Community comment on REP PR -> ROS 2 core team -> ROS 2 TSC
      - ● Note first PR will always be merged as "Draft" REP status
      - ● A new REP for a new domain makes it easier to go through
    - ■ Start small by stating a local vehicle frame convention
      - ● The combination of small and everyone agreeing on it, will make it easier to go through

- NED seems to be overwhelmingly favored over ENU, at least for underwater
- If surface vehicles prefer ENU, can have 2 sections in the REP, one for underwater, one for surface.
- Could have a static transformer (Woensug's idea last meeting) to convert between ENU and NED, once standard is established
- Laura Lindzey, Kris Krasnosky, et al. have discussed this extensively in marine_msgs previously https://github.com/apl-ocean-engineering/marine_msgs/issues/8 Results are adopted in the messages and documented in the README: https://github.com/apl-ocean-engineering/marine_msgs/blob/main/marine_acoustic_msgs/README.md
  - Leave messages/interfaces for future because a LOT of work.
  - Map conventions complicated because different for different parts of the world. ENU works well for UTMs and other local-fixed-frames. For geodetic coordinates, WGS84 is common in N. America, but Gulf of Mexico uses NAD27, and other parts of the world use other things. (Brian Bingham)
  - `Action item` [Everyone] **Official REP discussion thread** live on ROS Discourse! Please chime in https://discourse.ros.org/t/new-ros-enhancement-proposal-for-marine-robotics/36218
- Attendees: add your name to the list
  - Arjo Chakravarty (Intrinsic/SUTD)
  - Evan Palmer (OSU)
  - Edvart Bjerke (Norway)
  - Isaac Vandor (WHOI)
  - Jan Witte (Fraunhofer IOSB, Rostock)
  - Joshua Mangelson (Brigham Young University)
  - Kimberly McGuire (BitCraze)
  - Mabel Zhang (Open Robotics team at Intrinsic)
  - Markus Buchlholz (Heriot-Watt University / Edinburgh Centre for Robotics)
  - Mathew Schwartzman (WHOI)
  - Woensug Choi (Korea Maritime and Ocean Univ)
  - Zebin Huang (Edinburgh Centre for Robotics)
- Original meeting announcement on Discourse
- Meeting recording (same video on Vimeo), chat, transcript

2024-01-30 US / 2024-01-31 Asia-Pacific: technical working meeting

[Reminder to record meeting, send link to this Agenda Doc, ask attendees to add names and affiliations]

- Standup (< 20s each) around the room: Name and affiliation. What are you working on lately?
- Community updates / release / event announcements (add yours to the list)
  - (Ryan) New Gazebo maritime tutorials from Ryan + Carlos Aguero merged https://gazebosim.org/api/sim/8/tutorials.html
    - (Ryan) Currently buried in gz-sim tutorials. Would be nice to be at top-level Gazebo tutorials on https://gazebosim.org/docs/harmonic/tutorials
      - (Mabel) Gz-dev team is working on Gazebo website so we can combine those tutorials and Doxygen-generated per-library tutorials e.g. gz-sim
    - (Ryan) Would be nice if Gz-dev / community can keep those examples working, else tutorials go outdated
      - (Mabel + Arjo) We don't currently run CI on examples. Would be good to keep them working
      - Post-meeting update (thanks Carlos Aguero for the idea!): We do test the tutorials at every Gazebo distribution release, i.e. once a year in September. However, the coverage of the tutorials is not guaranteed and depends on if the Gazebo-dev team or volunteers get to it. Ongoing consideration It would be an idea for people in the ROS Maritime WG to volunteer to test the maritime tutorials prior to release time. We can mention this in a future Aug/Sep WG meeting.
  - (Mabel) Cool spreadsheet of ROVs: "A Sea of Small ROVs - 2023 Info Compilation" https://docs.google.com/spreadsheets/d/103WVZVyarG6aKzrrGbQLgzl6hiT3YMfXZFhS6NfQCa0/edit#gid=0
  - (Mabel) SailBot annual robotic sailing regatta (next one is Jun 2024) on Lake Attitash in Amesbury, Massachusetts https://www.sailbot.org/
  - (Rhys) BlueBoat Gazebo sim with waves in ArduPilot repo: PR https://github.com/ArduPilot/SITL_Models/pull/103 and README https://github.com/ArduPilot/SITL_Models/blob/master/Gazebo/docs/BlueBoat.md
    - Model is in Blender, not published, but Rhys can make available if asked
  - (Arjo) Added mass in the physics engine vs. in the hydrodynamics plugin
    - Possibly should deprecate the added mass implementation in the built-in Gazebo Hydrodynamics.cc plugin (documented in this tutorial), and instead use the <fluid_added_mass> SDF tag http://sdformat.org/spec?ver=1.11&elem=link#inertial_fluid_added_mass . Dharini Dutia (Intrinsic) has context

- - - (Woensug) Have used this in Python. Will it change current behavior if change to the other?
    - (Mabel) <fluid_added_mass> was added as part of MBARI WEC project, after the hydrodynamics plugin was initially implemented as part of the MBARI LRAUV project. Supposed to be more accurate
    - Need community help to compare between the two approaches, so can decide whether to keep only one, or keep both but document the difference and allow people to choose which one.
      - Action item [Arjo] will open gz-sim issue to document this as "help wanted"
- Upcoming speakers tentative lineup
  - Feb: HoloOcean authors
  - ~~Mar~~ Apr: ROS-MVP
  - Q2 2024 possibly: Gobysoft
  - Q2 2024 possibly: Woensug's colleague at KMOU (who worked Tug Boat pull simulation with Hyundai (HD KSOE)) in APAC-friendly meeting time
- Kanban board and repo
  - (Woensug) Go over Done column (DAVE tickets Woensug merged)
    - Answered many community issues of things not working. Many of them solved by Fuel URL fix ignitionrobotics.org to gazebosim.org https://github.com/Field-Robotics-Lab/dave/pull/282
    - Action item Mabel to respond to new comments
  - (Mabel) As promised, DAVE meta-ticket for ROS 2 / new Gazebo migration https://github.com/Field-Robotics-Lab/dave/issues/283
    - ROS 2 Jazzy (what Rolling will become) + Gazebo Harmonic, both LTS, is an officially recommended pairing to consider
    - (Brian Bingham) Migrating VRX to ROS 2 and new Gazebo was a 1-year effort among multiple people at NPS + Carlos Aguero. Architecture model of new Gazebo takes getting used to. ROS 2 was relatively simple
      - (Carlos post-meeting) Content to be ported was a combination of many plugins, models created with PBR, ros_gz bridge, ROS 2 launch files, upstreaming along the way, and new tutorials. Porting to ROS 2 was not trivial.
    - Evan has experience porting Blue Robotics to ROS 2 and new Gazebo
    - Woensug is hoping to find help to do this, currently a priority
- Open floor discussions, networking exchanges, WG comments, suggestions, concerns, hopes and dreams
  - (Evan Palmer) REP for marine?
    - Existing subdomain REPs (ROS Enhancement Proposal)
      - Aerial REP (deferred) https://www.ros.org/reps/rep-0147.html
      - Humanoids REP (active) https://ros.org/reps/rep-0120.html
      - Mobile robots REP (active) https://ros.org/reps/rep-0105.html
      - REP index https://ros.org/reps/rep-0000.html
    - Coordinate frame conventions, axes orientations, map

- - - (Woensug) 🗋 SNAME Convention.png
    - ■ (Mabel) Per Tully (author of aerial REP), aerial REP came out a little late to be adopted, hence "deferred" status. Worthwhile to have marine REP. Talking to Kim McGuire from aerial WG. `Action item` Will email a few groups who may be interested / have input.
    - ■ (Markus) Convention for (underwater) manipulators is relevant to our work
    - ■ (Arjo) Build on existing REPs as much as possible, e.g. surface vehicles should use mobile robots REP 105. Can see how it can be confusing for underwater especially e.g. ENU and NED
    - ■ (Evan) Will this impact people using nav2 / MoveIt 2 that follow mobile REP?
    - ■ (Mabel) Aerial REP has other things like messages etc
    - ■ (Markus) Stonefish
    - ■ (Evan) What other things do people expect from a marine REP? Companies incorporating ROS into their systems can be part of discussion
    - ■ (Arjo) Message standardization people e.g. Laura Lindzey
    - ■ (Woensug) Wonder whether this marine convention should be supported as standard or just served with a TF transform plugin to publish marine coordinate frames.
  - ○ (Woensug) BrainStorming of ROS-Gazebo + [Cesium](#) (3D geospatial platform) : [Figma Board Link](#)
- Attendees: add your name to the list
  - ○ Arjo Chakravarty (Intrinsic)
  - ○ Brian Bingham (Naval Postgraduate School)
  - ○ Carlos Argueta
  - ○ Evan Palmer (OSU)
  - ○ Mabel Zhang (Open Robotics team at Intrinsic)
  - ○ Pratap Bhanu Solanki (ASML)
  - ○ Ryan Govostes (Inkfish)
  - ○ ty k
  - ○ Woensug Choi (Korea Maritime and Ocean University)
- Original meeting [announcement](#) on Discourse
- Meeting [recording](#), [chat](#), [transcript](#)
  - ○ We now also post recordings to Vimeo (thanks to Kat Scott) https://vimeo.com/908359234

2023-12-05 HoloOcean ROS 2 bridge

[Reminder to record meeting. Send link to this Agenda Doc & ask attendees to add names and affiliations]

- Standup (< 20s each) around the room: Name and affiliation. What are you working on lately?
  - Jan Witte: Confusion in Gazebo community which version to use for marine simulation, Gazebo-classic or new Gazebo
- Community updates / release / event announcements (add yours to the list)
  - (Mabel) Nov 29 Gazebo Community Meeting on Team Aritra's participation in VRX and Njord using ROS and Gazebo
  - (Mabel) Gazebo maritime tutorials are in the works (1, 2, 3, 4) by Carlos Aguero
  - (Mabel) Participated in US National Robotics Roadmap meeting in Austin last week. Roadmap is updated every 4 years, briefed to US Congress, and looked at by funding agencies and academics, government, and industry. Marine robotics needs to be better represented in these funding planning meetings. Consider submitting a whitepaper next cycle.
    - 2020 roadmap: https://www.hichristensen.com/pdf/roadmap-2020.pdf
    - 2023 mid-cycle update: https://cra.org/ccc/wp-content/uploads/sites/2/2023/04/Robotics-Mid-Cycle-White-Paper.pdf
      - News release https://cccblog.org/2023/04/12/the-ccc-releases-mid-cycle-update-to-the-us-national-robotics-roadmap/
  - (Mabel) Jason Webster et al. at Jaia Robotics hosted me and colleagues yesterday, drove around robot in the water https://www.jaia.tech/
- Upcoming speakers tentative lineup
  - Tentative: January 2024, maritime shipping speaker - Arjo to schedule
  - Feb 2024: Technical working meeting
  - Possibly: HoloOcean Q1 2024
  - Possibly: Gobysoft Q2 2024
- **Speaker presentation** (30 mins): Gergely Kis on ROS 2 bridge for HoloOcean
  - Slides: https://docs.google.com/presentation/d/193l-0UvICQdQl0aCa6EQ3Ae-J2HXb8pgAWtoMa2l-5c/edit#slide=id.g11589a4ba3b_0_0
  - GitHub: https://github.com/migeran/holoocean_ros and https://github.com/migeran/holoocean_tools
  - Contact Gergely with questions https://github.com/kisg
  - Q&A - see recording
    - Physics vs rendering. Gergely: Co-simulation between Gazebo and Isaac Sim, e.g. one for visuals, one for physics. Could do similar with Gazebo (physics) and HoloOcean (visuals)
      - ROSCon 2022 presentation https://vimeo.com/767140085
      - GitHub https://github.com/gazebosim/gz-omni
- Kanban board and repo
  - (Mabel) WG charter updated in PR to reflect current status.
  - Kanban tickets from last week have movement

- ○ (Mabel) DAVE tickets have movement from community. I got DAVE Docker running again but troubleshoot from me will be slow.
  - ○ Woensug has addressed many DAVE issue tickets and merged a couple important PRs
  - ○ Tyler Haden: trying to find time for DAVE tickets
  - ○ Gazebo development Roadmap https://gazebosim.org/docs/harmonic/roadmap
  - ○ `Done item` Mabel to create meta-issue ticket for porting to new Gazebo and ROS 2. Current discussion here https://github.com/Field-Robotics-Lab/dave/issues/276
- ● (as time permits) Open floor discussions, networking exchanges, WG comments, suggestions, concerns, hopes and dreams
- ● Attendees: add your name to the list
  - ○ Evan Palmer (OSU)
  - ○ Gergely Kis (Migeran)
  - ○ Jan Witte (Fraunhofer IOSB)
  - ○ Laura Lindzey (UW APL)
  - ○ Mabel Zhang (Open Robotics team at Intrinsic)
  - ○ Mark Moll (Metron)
  - ○ Markus Buchholz (Edinburgh Centre for Robotics)
  - ○ Nathan Figueroa (WHOI)
  - ○ Tyler Haden (Sunfish)
  - ○ Zebin Huang (Edinburgh Centre for Robotics)
- ● Original meeting announcement on Discourse
- ● Meeting recording, chat, transcript (parts of the auto-generated transcript are pretty messed up this time)
  - ○ Same recording on Vimeo: https://vimeo.com/902381234

2023-11-07 technical working meeting

- ● Standup (< 20s each) around the room: Name and affiliation. What are you working on lately? Can you realistically contribute in a technical way?
- ● Community updates / release / event announcements (add yours to the list)
  - ○ ROSCon 2023 Maritime BoF recap: ~40 attendees, very good turnout. 5 breakout groups. Various companies and institutions, US/Canada, Netherlands, Spain, Korea, Singapore, etc.
  - ○ Open Simulation Platform (OSP) Conference on 14 Nov 2023 from GCE Blue Maritime, SINTEF, DNV, and Kongsberg Maritime, in Ålesund, Norway
  - ○ [add your updates here]
- ● Upcoming speakers tentative lineup
  - ○ November Gazebo Community Meeting (Nov 29?) - VRX/Njord surface vehicle competition participants. Will be announced on Gazebo Community
  - ○ Tentative: December 5, Gergely Kis on HoloOcean ROS 2 bridge

- - - Tentative: January, maritime shipping speaker
    - Possibly: HoloOcean Q1 2024, Gobysoft Q2 2024
  - General technical work
    - (Mabel) DAVE needs maintenance help
      - Tyler: looked into lots acoustic modeling / mapping with DAVE
    - (Mabel) Gobysoft + Jaia want help to write ROS (2) bridge
      - Jaia is open source
      - Isaac: thinks Gobysoft came out of MOOSE IVP work. ROS bridge would be useful
  - Kanban board (general WG tickets are created in issue tracking repo)
    - (Mabel) Arjo & Mabel met in-person and tidied up and updated kanban
      - `Done item` (Mabel) Will update WG charter
    - `Ongoing consideration` (Mabel) Linking repos to kanban - food for thought. marine_msgs? DAVE?
      - Can use backlog column so old cards don't flood board
    - (Evan & Yuri) Kanban cards on velocity control etc.
      - Yuri updated velocity control ticket with work on plankton https://github.com/ros-maritime/issue_tracking/issues/20
      - Evan working on standardizing platform, beyond Blue. Specifically currently working on ros2_control with Denis Stogl
        - Related to kanban ticket https://github.com/ros-maritime/issue_tracking/issues/21
        - Evan's issue ticket https://github.com/Robotic-Decision-Making-Lab/blue/issues/33
        - Evan, Yuri, and Denis will move forward on ros2_control work
      - `Action item` Evan wants to talk to Rhys about drivers for ArduSub
      - Evan has been doing related work on DVL, drivers, etc., which have tickets on the kanban
        - `Action item` Evan to make comments to relevant tickets in kanban
    - (Mabel) DAVE PRs and issues triaged and added to kanban. This repo is community-maintained now. Help wanted.
      - Make sure to use dockwater Dockerfile as environment for testing PRs
      - First-time open source contributor? Many resources out there for best practices for pull requests and code reviews
        - https://blog.codemagic.io/10-tips-for-better-pull-requests-and-code-review/
        - https://leoneperdigao.medium.com/pull-request-best-practices-fa20f7daeb3c
        - Search the Internet for "how to be a good pull request reviewer"
      - PR review: Tyler possibly on https://github.com/Field-Robotics-Lab/dave/pull/246 and https://github.com/Field-Robotics-Lab/dave/pull/244
      - Ravi possibly to take "first good issue" https://github.com/Field-Robotics-Lab/dave/issues/227

- Open floor discussions, networking exchanges, WG comments, suggestions, concerns, hopes and dreams
  - Many people found this technical meeting to be helpful. Will have at least 1 every quarter in the future.
- Attendees: add your name to the list
  - Bart Boogmans (17:45 onwards - University Delft)
  - Evan Palmer (OSU)
  - Isaac Vandor (WHOI)
  - Mabel Zhang (Open Robotics team at Intrinsic)
  - Markus Buchholz (Heriot-Watt)
  - Raunak Kulkarni (Universität Bremen)
  - Ravi Namuduri (Nauticus Robotics)
  - Tijmen van Enckevort (AquaSmart Engineering)
  - Tyler Haden (Sunfish)
  - Yuri Oliveira (TII)
- Original meeting announcement on Discourse
- Meeting recording, transcript
  - Same recording on Vimeo https://vimeo.com/902380273

2023-10-10 Bristlemouth

- Standup (< 20s each) around the room: Name and affiliation. What are you working on lately? Why are you here?
  - Attendees please add names to last bullet below
  - Catch up with community
  - Give back to open source
  - Some doing this in free time
- Community updates / release / event announcements (add yours to the list)
  - (Mabel) IROS 2023 workshop Robotics for the Blue Economy and Climate Resiliency (Oct 5) recap
  - (Zack) OCEANS 2023 Gulf Coast (Sep 25-28) recap
    - Saab announced production and licensing agreement with MBARI LRAUV, at OCEANS 2023 Gulf Coast
  - (Mabel) ROSCon 2023 New Orleans (Oct 18-20) upcoming
    - **ROSCon Maritime Birds of a Feather (BoF), Day 1 lunch, Thur Oct 19 12:40 pm, 4th floor, room Imperial 2.** Posted on BoF table on ROSCon website. Announced on ROS Discourse
  - (Mabel) Ubuntu Summit in Latvia Nov 3-5 MAY(?) still be looking for physical marine robot demo
- Upcoming tentative speakers
- **Speaker presentation (30 mins):** Zack Johnson & Charles Cross on Bristlemouth open hardware protocol and underwater connector

- - - ○ Q&A: Shipping kits overseas? Yes fully global
      - ○ Other questions see recording
- ~~Kanban board and repo~~
- ~~Open floor discussions, networking exchanges, WG comments, suggestions, concerns, hopes and dreams~~
- Attendees: add your name to the list
    - ○ Akira Techapattaraporn
    - ○ Alaa El Jawad (Forssea Robotics)
    - ○ Arjo Chakravarty (Open Robotics team at Intrinsic)
    - ○ Bart Boogmans (Technical University of Delft)
    - ○ Charles Cross (Mission Robotics)
    - ○ Evan Palmer (Oregon State University)
    - ○ Justin Eskesen (Reefgen)
    - ○ Lin Zhao (University of Rhode Island)
    - ○ Mabel Zhang (Open Robotics team at Intrinsic)
    - ○ Mathew Schwartzman (WHOI)
    - ○ Michael DeFilippo (MIT)
    - ○ Rhys Mainwaring
    - ○ Vasutorn Siriyakorn (Kasetsart University)
    - ○ Wai Yen Chan (NTNU)
    - ○ Zack Johnson (Sofar Ocean)
- Original meeting announcement on Discourse
- Meeting recording, transcript
    - ○ Same recording on Vimeo: https://vimeo.com/902380066

2023-09-19 WG rebirth

- Status of Working Group, heads up for call for community involvement at the end. Previous people who signed up in March still committed?
    - ○ Overview on 2 types of ROS Working Groups (WG): https://docs.ros.org/en/rolling/The-ROS2-Project/Governance/Working-Groups.html
- Introduce this agenda doc (modeled after Gazebo Community Meetings)
    - ○ Attendees please add names to last bullet below
- Short intros (< 20s each) around the room: What are you working on? Why are you here?
    - ○ Roland getting ready to sail on Nautilus. Footage will be on Nautilus Live https://nautiluslive.org/
- Community updates / release announcements (add yours to the list)
    - ○ MBARI Wave Energy Converter Gazebo simulation initial release and looking for pilot users in buoy controls
    - ○ VRX 2.3.1 simulation release

- ○ (Mabel) Will give talk at IROS workshop [Robotics for the Blue Economy and Climate Resiliency](#) on Oct 5
- ○ (Laura) Status on UW APL marine_msgs. Previous rosdistro [ticket](#). There's a ticket updating in [DAVE](#)
  - ■ Bloom release documentation
    - ● https://github.com/ros/rosdistro/blob/master/CONTRIBUTING.md
    - ● http://wiki.ros.org/bloom
    - ● http://wiki.ros.org/bloom/Tutorials/FirstTimeRelease
  - ■ `Action item` Emir can help with release process
  - ■ Meeting time may be late for Vatan
- ○ [DAVE](#) can use help on tickets. Tickets come in every month but no active maintainer.
  - ■ `Done item` Mabel will email Bingham and cc Woensug, to ask if we can merge tickets. Woensug can approve tickets.
  - ■ Especially PR adding virgil robot needs to be merged https://github.com/Field-Robotics-Lab/dave/pull/244
  - ■ Roland's PR updating vcs repo marine_msgs needs to be merged https://github.com/Field-Robotics-Lab/dave/pull/269
  - ■ `Action item` Mabel to add GitHub repo link to dave.doc to README, Woensug to approve PR
  - ■ Issue tickets from community need responding to. Mabel can try to find time
- ○ (Gergely) [HoloOcean ROS 2 Bridge](#)
- ○ (Zack) [Bristlemouth](#) giving out kits
- ○ [add your updates here]
- ● Tentative speakers for Oct/Nov/Dec lined up
  - ○ Possibly a joint speaker with Gazebo Community Meeting in Nov
- ● [Kanban board](#)
  - ○ Repo: https://github.com/ros-maritime/community
- ● Open floor feedback (<10 mins): What would you like to see from the WG? What can be improved? How can the WG work for you? How would you like to get involved?
  - ○ `Ongoing consideration` (Mabel & Laura) What should be the goal of this Working Group (WG)?
  - ○ `Ongoing consideration` (Laura) Standup-type 15-30 second updates at beginning of each meeting?
  - ○ `Ongoing consideration` (Mabel & Laura) What is the scope - do presentations need to be ROS, if they are from regular members?
  - ○ `Ongoing consideration` Always open to feedback, let us know anytime on [ROS Discourse Maritime category](#) in reply to this meeting, [Matrix chat](#), etc.
  - ○ Notes
    - ■ Kanban
      - ● Justin: wouldn't mind seeing kanban board, getting consensus on what's on there

- - - Arjo: some projects get started but not finished, nature of open source
    - - Mabel: perhaps a list in the charter for finished features source code location, kanban is WIP
  - ■ Why are you here:
    - Justin looking to contribute in the technical sense
    - Zack looking to do outreach, open hardware is a passion
  - ■ Ongoing consideration Meeting time is very late for Korea, Singapore, Japan. Consider rotating some meeting times?
- ROSCon 2023 Maritime Birds of a Feather? What would you like to discuss? Last year's BoF community notes
  - ○ In the room, only Mabel + Arjo will be at ROSCon
  - ○ So will have WG meetings in Oct, Nov, Dec, to keep monthly cadence
  - ○ Done item (Mabel) Will keep it simple this year, see if there are new faces to add to WG
- Call for community involvement, rotating volunteers, to build a core group of attendees.
  - ○ Because WGs are usually run by community members, and maybe someone from Intrinsic can't run a Maritime WG outside business interest forever
  - ○ Always ongoing, let us know of your interest on Discourse, Matrix, etc.
  - ○ [add signups here]
- Attendees (13): add your name to the list
  - ○ Arjo Chakravarty (Open Robotics team at Intrinsic)
  - ○ Emir Cem Gezer (NTNU)
  - ○ Justin Eskesen (Reefgen)
  - ○ Laura Lindzey (UW APL)
  - ○ Mabel Zhang (Open Robotics team at Intrinsic)
  - ○ Mathew Schwartzman (WHOI)
  - ○ Michael DeFilippo (MIT)
  - ○ Nathan Figueroa (WHOI)
  - ○ Roland Arsenault (UNH)
  - ○ Tom Schmidt (Fraunhofer Research Institute, Smart Ocean Technologies)
  - ○ Woen-Sug Choi (KMOU)
  - ○ Matosinho / Yuri Oliveira (TII)
  - ○ Zack Johnson (Sofar)
- Apologies (1):
  - ○ Rhys Mainwaring
- Original meeting announcement on Discourse
- Meeting recording, transcript, chat log
  - ○ Same recording on Vimeo https://vimeo.com/902382013

Agenda template

- [Reminder to record meeting, send link to this Agenda Doc, ask attendees to add names and affiliations]
- Standup (< 20s each) around the room: Name and affiliation. What are you working on lately?
- Community updates / release / event announcements (add yours to the list)
  - …
  - [add your updates here]
- Upcoming speakers tentative lineup [if there is one]
- **Speaker presentation** [if there is one]
- [Kanban board](#) and [repo](#)
- Open floor discussions, networking exchanges, feedback for Working Group organization, suggestions, concerns, hopes and dreams
- Attendees: add your name to the list
  - …
  - [add your name here]
- Original meeting announcement (TBP) on Discourse
- Meeting recording TBP

Roundtable standup ice breaker questions
- How did you get into marine robotics (as in career path), or if you aren't in marine robotics, how did you become interested?
- What did you do before you got into marine robotics, or if you aren't in marine robotics, what are you doing now?
- What's one thing you wish you knew about marine robotics?
- If you can't be doing marine robotics, what's the second thing you'd want to be doing?
- Where is the next geographical place in the world (e.g. a lake, a town, a piece of land, an astronomical body, etc.) you wish you could go to work on marine robotics?
- What's your favorite thing / What keeps you motivated about marine robotics?
- What are you dying (or living) to encounter at sea? E.g. the Nautilus, a pink dolphin, puffins, Atlantis, aurora