2026 IFCB Webinar Series, Webinar #1: Cleaned Q&A and Discussion Record

Webinar date: *Friday, March 20, 2026*
Prepared for: *post-webinar follow-up and speaker record*
Note: *this document consolidates the exported Q&A log and preserves speaker attribution where available. Any unanswered questions are left blank for speaker follow-up.*

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1. Instrument Storage / Bead Running Between Deployments

Question: When not deployed, is there any downside to having the IFCB running continuously for long periods (weeks) on beads before deployment? Beads are refreshed periodically.

Answer (Tom Fougere): Tom noted that he would recommend running on **filtered water only**, and using **beads specifically when checking alignment**. Running beads continuously may make them more difficult to fully flush from the system.

Discussion notes: This discussion centered on best practices for instrument readiness between deployments and maintaining clean flow paths.

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2. Carryover / Debubbler Crossover Between Samples

Question: Do you have a rough estimate of how much crossover there can be with a single debubbler between samples?

Answer (Tom Fougere): Tom indicated that there is **not a specific fixed estimate**, and that the amount of crossover can depend on the sample type and what is being collected. He noted that using **backflush intake** can help reduce this issue.

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3. Backflush Intake and Pre-filter Clogging

Question: Is the backflush sample intake recommended both to reduce carryover and help prevent pre-filter clogs?

Answer (Tom Fougere): Yes and yes.

Discussion notes: This follows directly from the carryover discussion above and should remain grouped with that operational topic.

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4. Shared Calibration Bead Standards Across Institutions

Question: In the European IFCB User Group, we discussed creating a bead sample with different calibration bead sizes at a pre-determined concentration and then sharing this across IFCB users. The aim would be to help reach a standard calibration across IFCBs from different institutions. Would this be a valid approach, or is using purely 6 µm beads sufficient?

Answer (Tom Fougere): Tom confirmed that this is **a valid approach**. He noted that each IFCB will respond slightly differently, but a shared calibration standard should help establish a common baseline. He also mentioned that it may be necessary to **desensitize one or more systems** so that all instruments respond more comparably.

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5. Trigger Count vs. ROI Count Differences

Question: Can you speak more to the trigger vs. ROI count differences and what should be checked on the instrument if there is a large difference between them? This has occasionally been observed during shipboard deployments.

Answer (Tom Fougere): Tom explained that if the **trigger count is much greater than the ROI count**, this suggests the IFCB is successfully triggering an image, but the field of view analysis is not identifying an ROI.

Possible causes mentioned:

- **flow issues**, where flow is diverted outside the field of view
- cells being **too small for ROI recognition**

Discussion notes: This should likely be flagged as a troubleshooting reference item for future shipboard users.

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6. PMT A and PMT B Combined Use

Question: Is there any benefit to using the IFCB with PMT A and PMT B combined?

Answer: *Pending speaker follow-up.*

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7. Additional Chat Discussion – Bleach, Bioside, and Alternatives

Discussion topic: Bleach use, bioside handling, and community alternatives discussed extensively during the live webinar discussion.

Primary discussion points:

Question: A participant noted that after a cleaning cycle, the next normal sample often showed much lower ROI counts and asked whether this could be due to bleach being pushed through the intake and then drawn back in.

Answer (Tom Fougere): Tom explained that this is likely related to the bleach rinse cycle and the physical intake line volume. He noted that the rinse volume must be sufficient to fully clear the intake line after bleach is pushed out through the pre-filter. If the rinse volume is too small relative to the line length, residual bleach may remain in the line and affect the next sample.

Discussion / Community follow-up:

- Heidi and others noted that in field deployments they **no longer use bleach**.
- Several participants shared that even very small bleach leaks have caused **component rusting and internal instrument damage**.
- Additional discussion highlighted that some institutions now prefer **detergent-based cleaning alternatives**.

Alternatives mentioned in chat discussion:

- **Micro 90 / Micro 999** (lab detergent dilution)
- **Decon 90**
- detergent-based cleaning in place of bleach where appropriate

Engineering note (Tom Fougere): Tom also noted that past bleach leaks were often traced to older **Luer lock reagent bag connections**, which could be overtightened and become leak

points. He explained that newer systems now use a **CPC quick-disconnect fitting** as a more robust replacement.

Open community question: A participant asked whether anyone had found a viable alternative to **sodium azide bioside**, as university environmental health and safety teams are increasingly discouraging its use.

Answer: No clear replacement was identified during the webinar discussion. Tom noted that no widely adopted alternative had yet been brought forward by the community.

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8. Additional Verbal Discussion Captured from Webinar Recording

Autonomous Surface Vehicle (ASV / USV) Deployment

Question: What are the considerations for deploying the IFCB on autonomous surface vehicles?

Answer (Tom Fougere): Tom noted that this is an advanced deployment mode.

Key considerations included:

- IFCB often needs to be deployed **horizontally**
- internal plumbing modifications may be required
- vertical orientation remains preferred for debubbling performance
- power and communications constraints are significant
- duty cycling is likely required

Tom emphasized that this should be approached in a **stepwise manner by advanced users**.

Calibration Beads and Standardization Across Systems

Question: Would using multiple bead sizes at known concentrations be a valid approach for standardizing calibration across institutions?

Answer (Tom Fougere): Tom confirmed this is a **valid and useful approach**, particularly when trying to compare capture efficiency across multiple instruments.

He noted that:

- multiple bead sizes can help quantify capture efficiency
- instruments may still respond differently because of alignment differences

- some systems may need to be intentionally desensitized for cross-instrument comparison

Additional discussion (Sophie Clayton / community): Heidi and others suggested that **cultures may sometimes be more useful than beads** when the goal is concentration calibration.

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9. Leftover / Unanswered Questions for Speaker Follow-up

The following question was present in the exported Q&A file and did not receive a documented response during the webinar:

PMT A and PMT B Combined Use

Question: Is there any benefit to using the IFCB with PMT A and PMT B combined?

Answer: *Left blank for speaker follow-up.*