Role of a Chief Scientist

What is the role of a chief scientist, and how can they be effective at leading and facilitating research by a large team on a seagoing cruise? This document provides a set of recommendations and best practices compiled by participants on the 2023 UNOLS/AICC Early Career Chief Scientist Training Cruise on R/V Sikuliaq (cruise SKQ202309T). Participants wish to acknowledge advice and inspiration from Dr. Karla Heidelberg (USC) and Capt. John Hamill, who provided insights before and during the cruise based on their years of seagoing experience. (Edited by E. Eidam)

See https://blogs.oregonstate.edu/arcticcruise/ for more information about the program and a full list of participants.

Definition of Chief Scientist: A leader who coordinates, facilitates, and advocates for a successful and safe scientific expedition.

Coordination (pre-cruise planning)

- Collaborate with other scientists to continually plan and replan trip logistics
- Consider all the needs to ensure logistics, scientific goals, equipment, and outreach needs are met.
- Communications should start with collaborators, technical support personnel and funding officers right after award notification.
- Develop a plan for meaningful and respectful partnerships with Arctic Indigenous communities & other inhabitants on common Arctic issues. Make sure the entire science party is aware of this to not duplicate efforts.
- Start early with checking in with all participants, not just PIs. Understand folks’ backgrounds and needs. Don’t make assumptions about people’s experiences and capacities.
- Understanding and respecting the chain of command on a ship, inclusive of science party and crew.
- Communicating with funding agencies when things change or start to go wrong. Do this early.
- Chief Scientist ensures that data collection procedures are followed according to established protocols before, during, and after the cruise

Facilitation (interpersonal dynamics)

- Give people permission to be stressed and then ideas of what they can do when they get stressed.
• Get out of your own data. You have to be watching the people and not just interested in your own data. Make sure you are aware of everyone’s mood, pay attention to those who might be new to being out at sea, and check-in both about science and how people are feeling. Make sure people are keeping themselves healthy and happy.
• Celebrate wins!
• Define what a successful cruise/day looks like.
• Develop pre-established priorities for groups and backup plans.
• Daily coordination: Have a science meeting and meeting with the Captain everyday. Can adjust based on size and need of the science party.
• When communicating with the Bridge, they need to know the 24, 48, and 72 hour plan so that they can prepare. This is an opportunity for two-way communication, what the crew needs to do and their capacity and what the science is planning.
• Encourage folks to set up and secure/test gear early.
• Team building activities.

Advocacy (safety)

• Chief scientist should establish someone they are able to talk to as well. This could be the co-chief scientists.
• Set the tone: Chief scientists should establish clear lines of communication, including their availability and contact information, comfort with being woken up. Zero tolerance for harassment and discrimination. Be explicit about who is and is not a mandatory reporter.
• Chief scientist cannot ignore issues around personnel, safety, health, security
• Pay extra attention to the first 48 hours. People will likely be sea sick and folks are new to each other.
• Delegation- You can’t do everything so assign people to help you understand the status and mood of the operations and fulfill essential tasks.
• Medical emergencies trump everything. Understand priority goals of the trip for re-planning
• Compliance: MSR clearances and international observers for working in other countries EEZs; EIA/permits, marine mammal permits; export permits (solely the PI’s responsibilities, but ship agents are here to help)