

Schmidt Ocean Institute (SIO)

Leonard Pace (virtual)

Ocean Exploration Opportunities



Leonard Pace

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DeSSC NUW

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March 1, 2023

SOI History



R/V Lone Ranger
2010 - 2012

R/V Falkor
2012 - 2022



R/V Falkor (too)
2023 -



ONE OCEAN. SEVEN CONTINENTS.
SEVEN TOPICS. ONE DECADE.



[Interactive Website](#)



**STRATEGIC
FRAMEWORK**
2021 - 2030

The Seven Science Topics



Area of Operations

One Ocean

Seven Continents



One Decade

Seven Topics



Collaborate With SOI

Proposal Submission

- Expression of Interest
 - Broad research plan 2 pages / 5 minute video
- Full Proposal
 - Detailed plans on all aspects of the project plan, 30+ pages / 15+ minute video

Our Partner Opportunity

- Collaborate through an SOI partner
 - National Geographic Society
 - Marine Technology Society
 - Institute of Electrical and Electronics Engineers

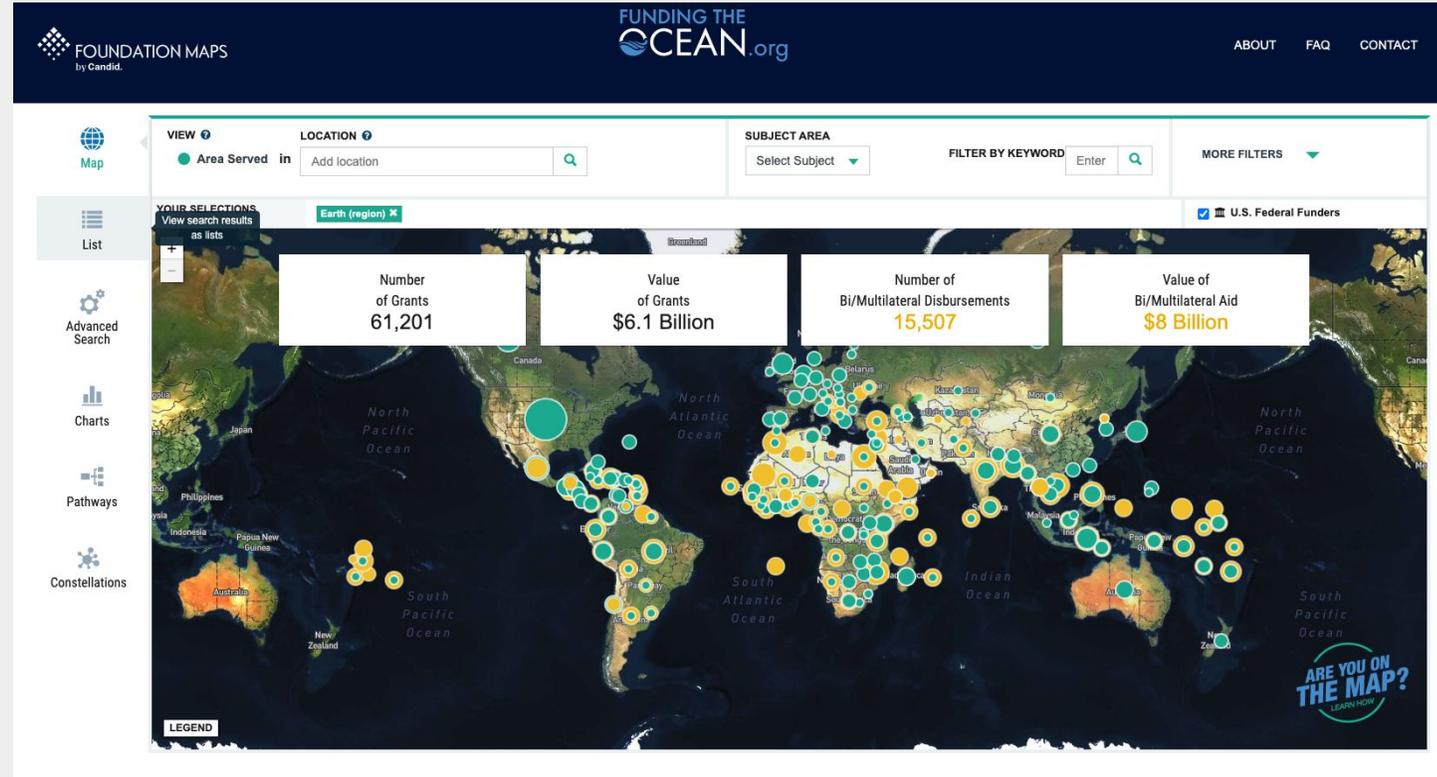
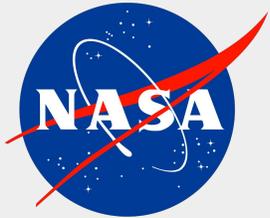
Berth of Opportunity

- Experts who could benefit from participation in at-sea science
- Berths may be identified by SOI as opportunities for engagement

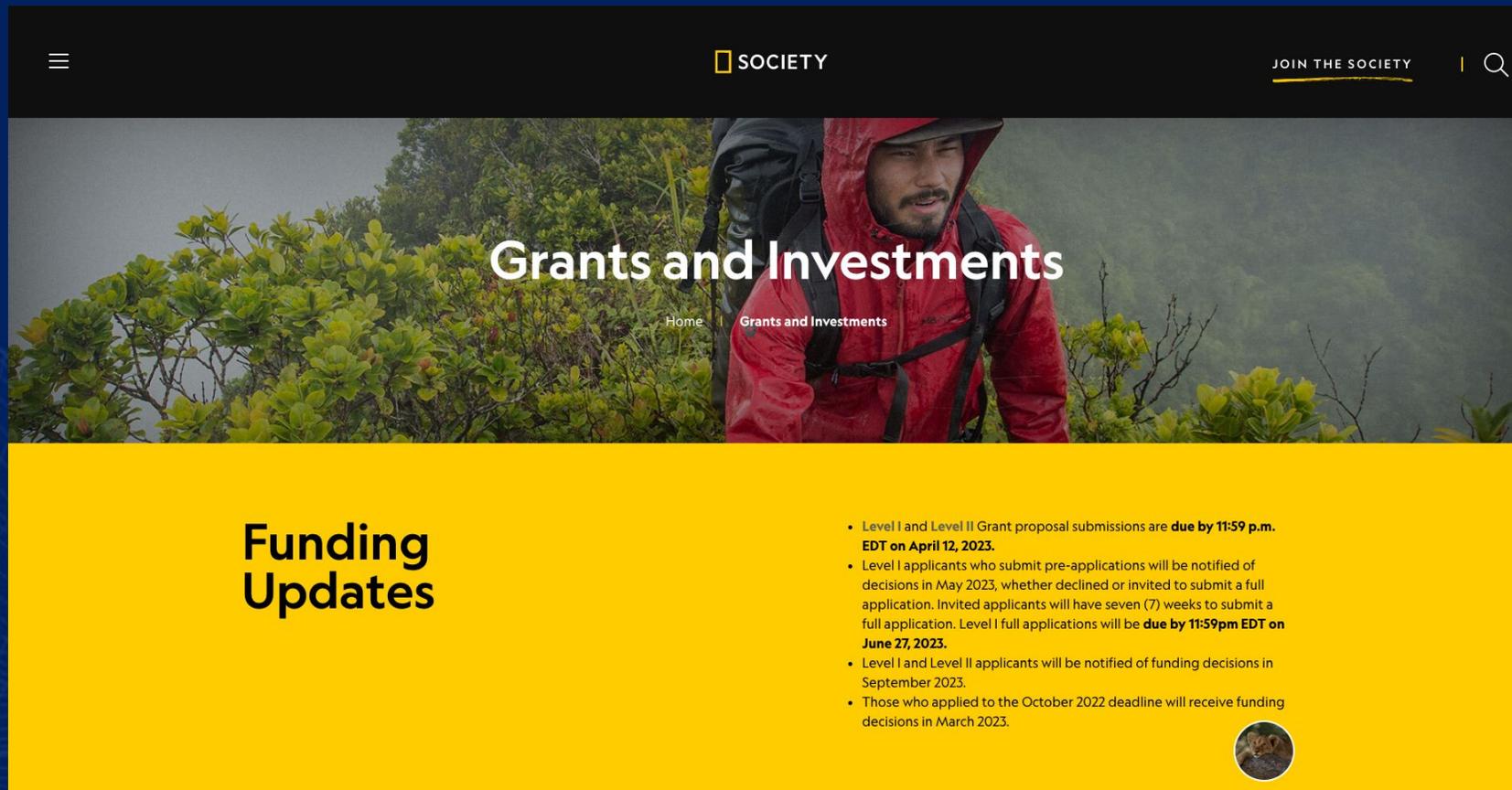
Tips for a Successful Proposal

- Programmatic
 - Alignment with the SOI Strategic Framework
 - Partnerships, collaborations, co-principal investigators included in your proposal
 - Engaging the local region in your research
 - Sharing the work conducted by you and/or your team
 - Plan for the data collected (sharing, accessibility, publicly availability)
- Logistical
 - Tentative cruise plan, route and duration
 - R/V *Falkor (too)* research facility and instrument availability
 - How will diplomatic permit authorization be achieved?
- Funding
 - Additional equipment to be used and where/how will it be obtained?
 - SOI does not offer support for the land-based scientific activities or for the scientist's salaries, travel, or shipping. How will these costs be funded?

A World of Funding



National Geographic Explorers - Call Open Through April 12



Navigation: Home | Grants and Investments

Grants and Investments

Funding Updates

- Level I and Level II Grant proposal submissions are **due by 11:59 p.m. EDT on April 12, 2023.**
- Level I applicants who submit pre-applications will be notified of decisions in May 2023, whether declined or invited to submit a full application. Invited applicants will have seven (7) weeks to submit a full application. Level I full applications will be **due by 11:59pm EDT on June 27, 2023.**
- Level I and Level II applicants will be notified of funding decisions in September 2023.
- Those who applied to the October 2022 deadline will receive funding decisions in March 2023.

NGS Ocean Portfolio POCs:

Lauren Mahle lmahle@ngs.org

Julia Luthringer jluthringer@ngs.org



<https://www.nationalgeographic.org/society/grants-and-investments/>

R/V Falkor (too) - Aft Deck



Area of Operations

One Ocean

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One Decade

Seven Topics



R/V Falkor (too) - Dirty Wet Lab



R/V Falkor (too) - Mission Control Room Panographic



R/V Falkor (too) - Computer Electronics Lab



R/V Falkor (too) - Main Lab



R/V Falkor (too) - Seawater Lab



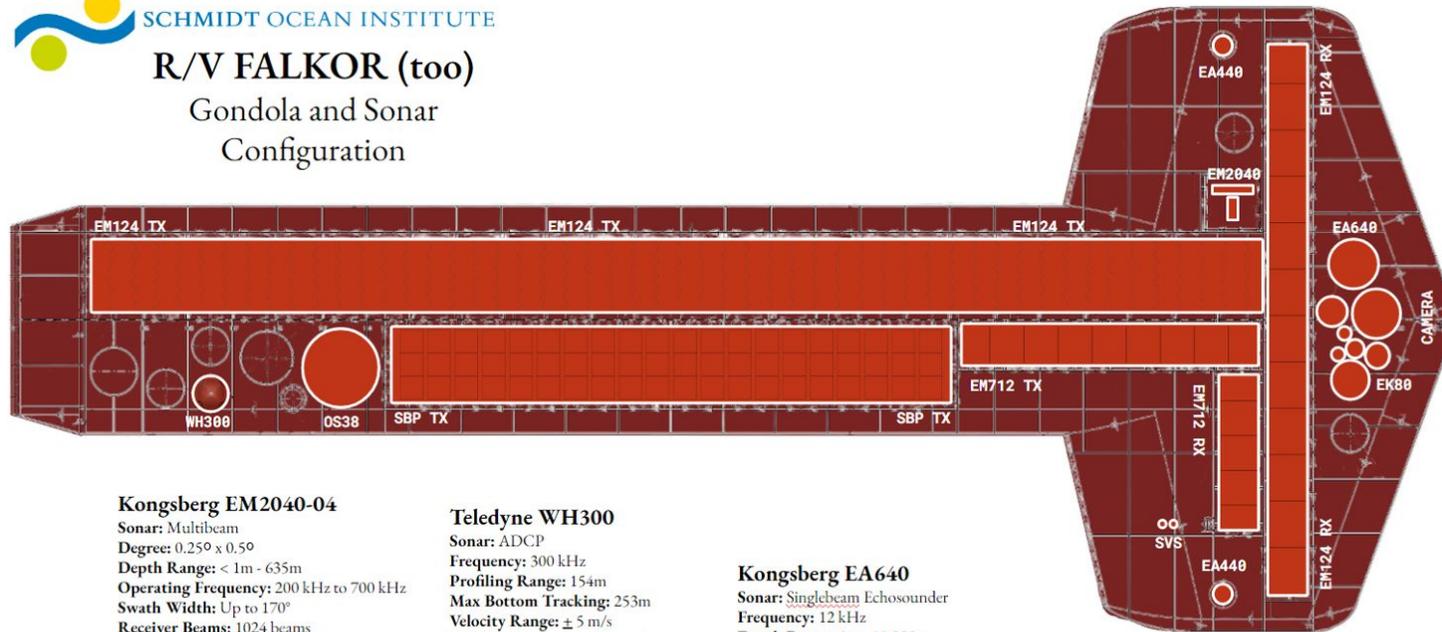
FALKOR (too)

REFIT



R/V FALKOR (too)

Gondola and Sonar Configuration



Kongsberg EM2040-04

Sonar: Multibeam
 Degree: 0.25° x 0.5°
 Depth Range: < 1m - 635m
 Operating Frequency: 200 kHz to 700 kHz
 Swath Width: Up to 170°
 Receiver Beams: 1024 beams

Kongsberg EM712

Sonar: Multibeam
 Degree: 0.25° x 0.5°, full performance
 Depth Range: 3m - 3,600m
 Operating Frequency: 40 - 100 kHz
 Swath Width: up to 5.5 times the depth
 Receiver Beams: 1600 beams

Kongsberg EM124

Sonar: Multibeam
 Degree: 0.5° x 1°
 Depth Range: 5m - 11,000m
 Nominal Frequency: 12 kHz
 Operating Frequency: 10.5 - 13.5 kHz
 Swath Width: up to 6 times the depth
 Receiver Beams: 1600 beams

Teledyne WH300

Sonar: ADCP
 Frequency: 300 kHz
 Profiling Range: 154m
 Max Bottom Tracking: 253m
 Velocity Range: ± 5 m/s
 Velocity Accuracy: ± 0.5 cm/s

Teledyne RDI OS38

Sonar: ADCP
 Frequency: 38 kHz
 Max Profiling Range: >1,000m
 Max Bottom Tracking: 1,700m
 Velocity Range: ± 7 m/s
 Velocity Accuracy: ± 0.5 cm/s

Kongsberg SBP 29

Sonar: Sub Bottom Profiler
 Degree: 3°
 Depth Range: 1m - 11,000m
 Max Penetration: >200m
 Operating Frequency: 2 - 9 kHz
 Pulse Length: 2 to 100ms

Kongsberg EA640

Sonar: Singlebeam Echosounder
 Frequency: 12 kHz
 Depth Range: 1m - 11,000m

Kongsberg EA440

Sonar: Hydrophone
 Frequency: 1 - 90 kHz

Simrad EK80

W/ EC150-3C ADCP
 Sonar: Mid-water echosounder
 Frequency Range: 18 - 333 kHz

Valeport Mini SVS

Sonar: Sound Velocity
 Frequency: 2.5 MHz
 Range: 1375 - 1900 m/s

