**Proposal for Hosting One-Day Workshop and Ongoing Discussion Group on the SWOT Satellite Mission at the Scripps Institution of Oceanography**

**Description of Proposed Workshop:**

The proposed workshop aims to bring together researchers from Scripps Institution of Oceanography to showcase their work related to the Surface Water and Ocean Topography (SWOT) satellite mission. SWOT is a joint satellite mission between NASA and CNES (the French space agency) designed to provide high-accuracy, high-resolution global measurements of the Earth's surface water and its topography, with a focus on oceans, rivers, and lakes. Launched in December 2022, SWOT has revealed new insights into small-scale ocean dynamics, internal tides propagation, marine tectonic features, and river discharge. It also shows promise in understanding climate-change-related phenomena, such as iceberg calving, sea ice melting, coastal sea level change, estuarine processes, flooding, and water resource availability. SWOT presents numerous opportunities for interdisciplinary research and understanding the Earth as a whole system. The workshop will serve as a platform for researchers to present their findings, discuss potential research areas, explore collaborations, and inspire more participation from Scripps' students and early-career scientists in SWOT-related research.

**Description of Scripps SWOT Discussion Group:**

In addition to the one-day workshop, we propose to establish a Scripps SWOT discussion group that will meet monthly. Each meeting will last for one to one and half hours, featuring presentations from one or two researchers reporting their progress on SWOT-related research. These meetings will provide an informal setting for researchers to share their work, receive feedback, and foster collaborations.

**Explanation of How the Earth Section Small Grant Enhances This Work:**

The Earth Section Small Grant will enhance this work by providing financial support for organizing the workshop, making it accessible to researchers from diverse backgrounds and career stages. The grant will help cover catering for the workshop. Funding from the Earth Section Small Grant will be used to provide lunch to attendees at the Scripps SWOT discussion group, encouraging long-term participation and networking.

**Detailed Budget:**

- Venue (assuming using Scripps facility): $0

- Catering for one-day workshop (30 attendees, breakfast, lunch, and coffee): $1200

Breakfast: $300

Lunch: $750

Coffee: $150

- Lunch for monthly meetings (10 times, expecting 15 attendants each time): $225\*10=$2250

- Miscellaneous Expenses: $200

- Total Budget: $3650

**About me:**

I am Yao Yu, and I am a Schmidt AI in Science postdoc fellow, working with David Sandwell (geophysicist), Sarah Gille (physical oceanographer), and Julian McAuley (computer scientist) at Scripps Institution of Oceanography. Here is my google scholar page:

<https://scholar.google.com/citations?user=2kFAjToAAAAJ&hl=en&oi=ao>

I have a strong passion for interdisciplinary research, with SWOT as my primary focus. I work closely with the SWOT science team members from JPL and the French side. I anticipate that SWOT will lead to numerous discoveries in the next 5 to 10 years. My interactions at Scripps with professors, researchers, and students from diverse fields have highlighted a clear need for collaboration and knowledge-sharing around the SWOT mission. Hosting the SWOT workshop will not only provide a platform for this exchange but also inspire me to explore new research areas and innovative methods for processing and analyzing SWOT data.

**Conclusion:**

In conclusion, by hosting a one-day workshop on the SWOT satellite mission at the Scripps Institution of Oceanography, we will provide a platform for researcher at all stages to showcase new work, learn from others in the field, and explore potential collaborations. Additionally, having monthly meetings to discuss SWOT-related research progress will help maintain a collaborative working environment. The Earth Section Small Grant will play a crucial role in supporting this initiative, making it possible to organize a successful and impactful workshop and to support the SWOT discussion group. Furthermore, the grant will foster a sense of community among Scripps researchers working on different aspects of the SWOT mission.

Yao Yu

May 20, 2024

**From the advisor:**

SWOT is a revolutionary new tool for ocean exploration that connects several broad research areas at Scripps as discussed in an excellent article from our SIO communications office. <https://scripps.ucsd.edu/news/science-watch-swot> I strongly endorse this proposed workshop, followed by monthly meetings, that will strengthen interactions among research groups at SIO.

