

August 6, 2020

TO: Dr. Margaret Leinen, Director, Scripps Institution of Oceanography
FROM: Dr. Arthur J. Miller, Head, Oceans and Atmosphere Section
RE: 2020-21 Researcher Hiring Plan for the Oceans and Atmosphere Section



The Oceans and Atmosphere Section is very pleased to have another opportunity to recruit new Researcher positions. This will help us to repopulate our depleted researcher ranks, reward those who have been functioning for years as de facto researchers, and possibly welcome new scientists to enhance our diversity.

We already enjoyed a successful round of Researcher appointments in 2019-20, bringing in a whale acoustics scientist plus four observational oceanographers. Even with that impressive haul, we had to leave out key individuals from the hiring due to the sheer number of those interviewed and the lack of a sufficiently broad advertisement to allow proper comparison with other experts in their specific field. We aim to remedy that in this round of hires.

I solicited the section on July 8 for proposals for hiring in key areas for new researchers. We then held a Zoom section meeting July 28 to discuss an appropriate tack for moving forward. This document is a distillation of those inputs.

Our first target area is a Joint Earth-OA Section search in **Coastal Hazards-Morphology-Erosion-Waves**. This is an area that is a classic Scripps topic and continues to enjoy high-profile visibility in the Center for Climate Change Impacts and Adaption (CCCIA). Coastal impacts of climate change and variability is a socially relevant topic that spans many disciplines. Hence, we propose a broad search that includes topics relevant to both the Earth Section (Coastal Morphology/Hazards/Erosion) and OA Section (Ocean Waves/Sediment Transport). The Earth Section is keen to pursue this joint effort, as I understand the current situation. We have at least one prime internal candidate, Assistant Project Scientist Dr. Adam Young, who has been functioning as an independent researcher here for many years and is well-funded in his multi-disciplinary scientific endeavors.

Our second target is a broad ad in “anything we do as a section,” but with special interest in several key topics that were proposed as focus areas by several section members. These are *Machine Learning*, which is a hot topic that is being highlighted by agencies like NSF for cross-disciplinary developments and that links into the HDSI-SIO joint faculty search; *Coastal Ocean-Atmosphere Interactions*, which is highly relevant for societally important applications of weather and climate forecasting, including CW3E and CCCIA; *Hydrology*, for which Scripps has a grand tradition that is continuing in CW3E and is now starting to be repopulated with the arrival of Prof. Morgan Levy; and *Marine Robotic Sensors*, which is another of the technological

development fields where Scripps has a superb history but now has an aging population. The ad would be written something like this: "We seek one or more candidates in **all areas relevant to the Oceans and Atmosphere Section**, broadly including physical oceanography, atmospheric science, climate science, ocean acoustics, and geochemistry, with particular interest in machine learning, coastal ocean-atmosphere interactions, hydrology, and marine robotic sensors. Strongly preferred at the Assistant level, but exceptional candidates at the Associate level will also be considered." We have two viable internal candidates for this search, Assistant Project Scientist Dr. Rachel Clemesha (coastal climate) and Assistant Project Scientist Dr. Gunnar Voet (deep-ocean mooring technologies) who each has carved a unique and independent niche in our existing research activities.

Our third target is enhancing diversity in our section with a broad ad that parallels a 2011 faculty ad in **Diversity, Equity and Inclusion**. The ad would be written something like this: "We seek one or more candidates in all areas relevant to the Oceans and Atmosphere Section, broadly including physical oceanography, atmospheric science, climate science, ocean acoustics, and geochemistry, whose research, mentoring and service has prepared them to contribute to our commitment to diversity and inclusion in higher education. The primary consideration for this position will be strong demonstrated accomplishments in areas contributing to **diversity, equity, and inclusion**, and a desire to play a leadership role substantial in advancing UC San Diego's commitment to achieving excellence and diversity. Strongly preferred at Assistant level, but exceptional candidates at the Associate level will also be considered. Startup funds are negotiable." If we were successful in attracting diverse candidates external to SIO, we would very likely need to request startup funds from the Director's Office to allow for at least 2 years of salary support in order to make the diversity candidate viable.

Our fourth target is to pursue another joint Earth-OA Section Researcher open search a classic topic that was invented by SIO scientists like Fred Spiess, **Marine Geodesy**, and that is now nearly depleted at SIO due to the retirement of Dave Chadwell who left behind a \$5M grant in that field that is being now led by Dr. Mark Zumberge in IGPP. The field requires expertise both in ocean acoustics and in earth movements, hence the cross-sectional request. This proposal will be discussed later with the Earth Section and decisions on how, or whether, to proceed will be deferred to a later date.

In summary, we request three open ads (one of which is cross-sectional) to meet our needs. Each search committee would be completely independent of any potential internal candidates. We will as usual advertise openly with a wide range of topics and we expect that we will get a very large number of applicants. However, I note that it is very unlikely to get an external candidate that is truly viable, meaning that they can support their own salary at the 75% level from the get-go. That would require them either to (a) have already funded grants that are portable to SIO or (b) have a beneficent SIO PI willing to pay for their 75% salary for at least one year. The latter situation would probably mean they already had a strong SIO connection. What happens in practice is that the SIO internal applicants are both highly competitive in their accomplishments compared to external applicants and also able to pay for themselves. For the diversity search in particular, it would be critical for the DO to provide substantial startup (on the order of two years

of salary support) to attract an external diversity Researcher candidate. It would also require substantial mentoring by current OA Section academics to help them build up their research repertoire, expand their collaboration network, develop their funded grant portfolio, and gain more experience at student mentoring. I know that I would be eager to assume such a role, if called upon, and I am certain many others in the OA Section would jump at this type of mentoring opportunity as well.