Peter Craig

Your Background and Experience

This section of the survey aims to gather information about your expertise in these areas to ensure that our board is equipped with the necessary skills and experience to effectively lead and support our mission. Your responses will help us assess your fit for a potential board role and identify areas where we may need additional training or support.

We don't expect any candidate to have relevant background in all these areas. Please respond to the topics for which you do bring experience, and feel free to skip the others.

Strategic Plan Implementation

The new strategic plan expands AAVSO's mission and goals to encompass all aspects of astronomy where amateur activities (making observations, analyzing data, and educating the public) can contribute to scientific discovery. Our focus is now on implementation, working closely with the Executive Director to enhance current programs and develop new initiatives that will help achieve these goals.

How much experience do you have with strategic planning and implementation?
Moderate Experience: Actively participated.

Please describe your experience and accomplishments in strategic planning and implementation.
My experience with strategic planning is mostly derived from planning and implementing research activities. It is usually the case that there are more interesting things to work on than there is time to work on them, so it's important to have a well thought out set of priorities about what we would really like to accomplish, and how to go about getting this science done. I maintain a strategic plan for where research efforts will be spent, and to keep track of anticipated publications (or other research products) over the next year or two and the associated work that needs to get done.

Please discuss your willingness to critically assess the implementation and effectiveness of the Strategic Plan if performance metrics and "gut feel" show that the plan is NOT working? Do you have experience with plans that failed to perform as expected?

Yes, I am generally willing to critically assess strategic plans, whether plans are working well or not. It is important for effective planning that we be willing to make adjustments based on what we learn along the way. My own plans for my research rarely work out fully; sometimes things that I predicted to be straightforward turn out to be quite complex, and whatever plans I had

before the project got underway proved to be quite far from reality, so we end up having to make changes. Unexpected developments are somewhat inevitable in research (and for plans in general for that matter) , since you never know for sure what you're going to find when you start something. My most recent paper, which just got submitted to a journal, has had delays of several months with probably half a dozen new bits of analysis added. None of this was part of the plan, but it's important to remain some flexibility to pursue new ideas as things develop.

Governance and Oversight

Governance and Oversight, including policy development, financial oversight, resource allocation, program evaluation.

How much experience do you have in Governance and Oversight?
No Experience: No involvement.

Please describe your experience and accomplishments in the area of governance and oversight.
N/A

Advocacy and Public Relations

Including community engagement, campaigns and initiatives, being a spokesperson, event promotion, application of social media, storytelling, media relations, product and organization branding, government agency relations:

How much experience do you have with Advocacy and Public Relations?
Basic Experience: Assisted, or have basic understanding.

Please describe your experience and accomplishments in the area of advocacy and public relations.
Pretty limited; I am somewhat involved with organizing and running our local observatory's outreach activities, and spoke at a press conference once, but that is the extent of my experience in this area.

Fundraising

Including managing fundraising campaigns, soliciting sponsors, cultivating donors, preparing or evaluating grant proposals, building partnerships.

How much experience do you have with Fundraising?
Basic Experience: Assisted, or have basic understanding.

Please describe your experience and accomplishments in the area of fundraising.
I have written a number of grant proposals over the last couple of years, the most recent of which was somewhat successful (it has been approved by the science committees, but the future is uncertain because of larger federal funding uncertainties for the time being). I've evaluated telescope proposals that include some funding resources. Beyond working with grant proposals I don't have much experience in this area.

Education and Training

For life-long adult learners will be an important initiative for AAVSO in the next few years (including identification of learning objectives, development of classes/curricula, interaction with colleges/universities and grant agencies, assessment of effectiveness).

How much experience do you have with Education and Training?
Advanced Experience: Lead a successful team.

Please describe your experience and accomplishments in the area of Education and Training.
This is one of my stronger areas, I've been educating and training people across a variety of topics for quite a few years now. I served as a teaching assistant for a few years when I was a student, and was responsible for training other students to use the telescopes at the university observatory. In graduate school, I worked part time as a chess instructor in local schools, offering lessons to various groups of elementary school children (plus some intermittent coaching of older players). Over the last 6 or 7 years, I've been pretty involved in training new undergraduate researchers to perform a variety of research related tasks, ranging from analyzing images from small telescopes to search for supernovae through the data analysis of high-energy gamma-ray data.

Astronomy Research Projects

Identifying and pursuing Astronomy Research projects with Citizen-science activities will be an important initiative for AAVSO in the next few years (including identifying research questions/problems, recruiting participants, organizing and leading teams, defining approaches, forming professional-amateur collaborations, identifying funding needs, evaluating interim results and course-corrections, reaching conclusions, publication).

Please describe your experience and accomplishments in the area of Astronomy Research Projects
I've been actively performing astronomy research in one form or another since 2016, between my PhD research in graduate school and now a postdoc in astronomy. So I now have almost a decade of experience pursing astronomy related research projects. This has spanned a wide range of research areas, ranging from simulating the evolutionary history of the Milky Way, searching for supernovae in strongly lensed galaxies with 1-m class telescopes, through my current observation work on classical novae (which makes heavy use of available AAVSO

photometry). This work has led to six (soon to be seven) first-author publications, and some assorted co-author papers as well. I am quite experienced with evaluating research data to derive meaningful scientific conclusions, and in evaluating results mid-project to determine how the project is going and if we need to course-correct. I think that my research experiences might be useful for finding good research goals and directions for AAVSO data, and building collaborations.

How much experience do you have with Astronomy research projects
Advanced Experience: Lead a successful team.

Citizen Science

AAVSO is one of the oldest and most respected Citizen Science organizations in the world. Expanding on this legacy will be an important initiative during the next few years (including engaging participants both within and beyond the AAVSO community, expanding opportunities for collecting new data and for mining existing databases, maintaining primary focus on achieving tangible scientific outcomes, engaging both professional and non-professional participants, maintaining communication among team members).

How much experience do you have with Citizen Science
Basic Experience: Assisted, or have basic understanding.

Please describe your experience and accomplishments in the area of Citizen Science
I haven't been very directly involved with citizen science in the past, although my recent research has greatly benefited from the availability of data from the AAVSO. I have a lot of experience with mining databases and collecting data for tangible scientific goals, so maybe that will be useful.

Please describe your experience in areas that are NOT science oriented but might provide insight into promoting effective citizen science. For example, many of the challenges of running an arts organization may feed directly effectively managing and motivating volunteers in a Citizen Science organization.
The only thing that comes to mind is that I have some experience organizing chess tournaments, which involves finding ways to attract players to the event. Maybe this is similar to finding new observers.

Other skills & experience: What experiences and skills in your background – NOT directly related to the AAVSO – do you think would be valuable for the AAVSO? We need people who bring diverse perspectives and experiences to the organization.
I am a reasonably experienced public speaker, and have experience planning events.

Your current/past involvement with AAVSO

This section of the survey is designed to gather information about your experience with the AAVSO. Understanding your familiarity and involvement with our organization helps us assess your potential contributions as a board member and ensures that we have a diverse range of perspectives and expertise to guide our mission. Your insights are invaluable in helping us build a stronger, more effective leadership team.

How many years have you been involved with the AAVSO (as a member, a non-member participant, or in other ways)?
No direct involvement, but I've been using AAVSO data extensively for 2 years

Why do you want to serve on the AAVSO Board of Directors?
My research has seen a lot of benefits from AAVSO, and I think that the work being done here is quite important. I'd like to be able to give something back for all for all of the great data being taken, and to help improve the scientific utility of AAVSO data in any way that I can. I'm also quite open to helping AAVSO in any way that I can, and this seems like the most impactful way that I can volunteer.

What are your current and past activities involving AAVSO?
Primarily related to using data from AAVSO, mostly focused on classical novae.

In your opinion, what are the greatest strengths of AAVSO?
AAVSO occupies an important niche in procuring well-sampled light curves for variable stars and transients. It is often the case for novae at least that there is a high demand for high cadence light curves, and a large collection of small telescopes is perfect for monitoring these transients. This is true for many other sources as well, and as new large-sky surveys like LSST come online there will be more and more demand for photometric follow-up and high cadence observations on all of the newly discovered sources, which cannot be effectively filled by large observatories. This is already the case with currently operating facilities, there are too many interesting sources to look at for dedicated follow-up facilities and programs to keep up with. Plus, there are some targets with interesting effects that occur on short timescales, and require dedicated monitoring at much higher cadence than what is available with large surveys. There is a lot of science that can be done with the kinds of light curves that AAVSO has been collecting, that really fills a role that no other facilities can.

If elected to the Board, how would you help AAVSO translate those strengths into opportunities?
If elected, I will help improve the synergy between AAVSO observations and large sky surveys and other research activities. One of the best ways to maximize the scientific return of AAVSO data is to have a clear plan of which sources are the most in demand of data scientifically, so that observers have the option to pick the best sources to monitor in terms of scientific output. This will involve keeping tabs on the LSST alert streams (and other large-sky surveys) to identify good transient targets for high cadence observations. Given the low-ish cadence of

LSST at one image every 3 days, there will be a need for fast, high-cadence follow up of the many new transients expected to be captured by LSST. These kind of targets allow for AAVSO to use the strengths of citizen science observing campaigns to continue producing data sets with large scientific value.

In your opinion, what are the greatest weaknesses of AAVSO?
It is a bit hard to say overall without a bit more information that I have. From my perspective however, the biggest challenges facing AAVSO in terms of scientific utility of the data are from systematic uncertainties (presumably caused by differences in calibrations, techniques, and maybe to some degree instrumentation between observers), which can make it hard to track down subtle effects in some light curves. There also are some cases with concurrent transients where one source gets much more detailed monitoring than the other (at the moment for example, there are two recent abd bright Galactic novae with large differences in their monitoring). This can be a complex issue in some cases due to visibility constraints for many observers, but it would be useful to have more consistent data across systems when possible.

If elected to the Board, how would you help the AAVSO effectively meet those challenges?
As far as systematic uncertainties go, I can help observers with improving their photometric accuracy, and helping to identify sources of photometric variation between observers to try to understand and minimize any of these systematic offsets. I can also help, especially in this upcoming LSST era, set up mechanisms to prioritize targets for follow-up in terms of their scientific return. This would include an observation priority based on the estimated need for data, so that there can be more focus on targets with the most need for follow-up and high-cadence monitoring. If all goes well, this could help improve the utility/relevance of future AAVSO data.

In your estimation, does the AAVSO run the risk of becoming too narrow, when the Strategic Plan (see above) suggests a continuing need to adapt to changing conditions and to think laterally?
I think that adaptation remains quite important, and there is a benefit to branching out to avoid becoming too narrow. This can help discover new ways that AAVSO can contribute to various research efforts. I do not currently feel that there is great danger of becoming too narrow though, as for many sources AAVSO remains the best source of high-cadence light curves, and I don't expect this to change in the near future, so as long as useful data continues to be taken on these sources then AAVSO will remain relevant and continue to be scientifically useful.