

**IMPROVING EARLY CAREER SCIENTIST PARTICIPATION IN DEEP-SPACE MISSIONS.** B. Fernando<sup>1</sup>, I. J. Daubar<sup>2</sup>, A. G. Marusiak<sup>3</sup>, M. Baker<sup>4</sup>, M. P. Panning<sup>5</sup>, S. Smrekar<sup>5</sup>, W. B. Banerdt<sup>5</sup>, S. Stanley<sup>6</sup>,  
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Deep-space missions are unusual in that their lead times are often decadal; and well-bonded teams carry through naturally from one project to the next. For Early Career Researchers (ECRs), especially those without supervisory links to missions, this can be challenging - it often seems like every 'research niche' has been taken, and regardless of the openness of other team members a feeling of being an 'outsider' often prevails at first.

During the lifetime of the InSight mission, the team has launched a number of grassroots initiatives to recognise and alleviate this perception. InSight leadership has been supportive of these efforts, which has been critical to their success. They appear to have been effective and some may be easily reproducible on other missions. Of course, none of these strategies in themselves are sufficient to ensure recruitment and retention of the most talented and diverse group of ECRs possible, and ensuring a healthy working culture is also crucial, but they may provide stepping stones toward said objective.

- Creating a team environment where members are not disadvantaged by youth or lack of seniority, and it is made clear that contributions to papers or discussions are explicitly valued independently of their author
- Creating a 'lightning talk' format where any researcher can present at the science team meeting irrespective of status
- Codifying these sentiments in a code of conduct, which all team members must assent to (e.g. [1])
- Forming a Diversity and Inclusion Working Group to consider and discuss issues relating to ECR participation (amongst many other topics), of equal standing to other science groups [2]
- Ensuring that a rotation of working group chairs occurs throughout the mission, and encouraging one co-chair of each group to be an ECR with the other more senior
- Running an 'observer' program for ECRs, and making particular efforts to recruit from marginalised or under-represented

communities (InSightSeers, inspired by Europa Clipper – [3])

- Forming an ECR group, with space to organise social events (internal and for the entire team)
- Continuing to feature a diverse range of researchers on all social media/website spotlights, including those of relatively junior status
- Inviting a representative of the ECR group to attend team leadership meetings
- Setting aside time during team meetings for interactions/mentoring between ECRs and PIs
- Creating opportunities for ECRs seeking employment to advertise their skills to PIs
- Combining team meetings with other conferences such that those with limited funding are able to combine trips and save funds

The following ideas were identified by the group as options for future development, which for logistical reasons and/or lack of funding we have not yet been able to implement on InSight:

- In-person observer programs, such as a continuation of the virtual InSightSeers
- Offering half-day 'orientation' sessions for new team members before each team meeting, covering roles, rules, data access, etc; thus ensuring proper 'onboarding'
- Continued recruitment of Participating Scientists, such that ECRs are able to gain co-I status where appropriate

As our mission draws towards its close after many years of working together, we wish to share some of our experiences and ideas so that they might live on in other teams and missions.

#### References:

- [1] Diniega, S. et al (2020), LPSC #2482
- [2] Marusiak, A. G. et al (2022), LPSC #1545.
- [3] Daubar, I. J. et al (2022), LPSC #2146