The Astrobiology Community

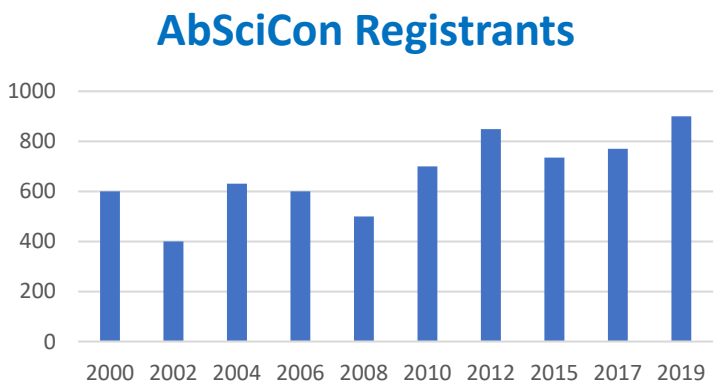
Melissa Kirven-Brooks, PhD

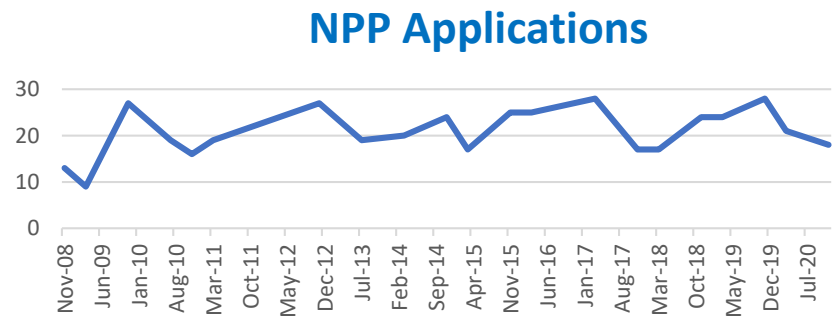
Astrobiology Future Workforce Lead

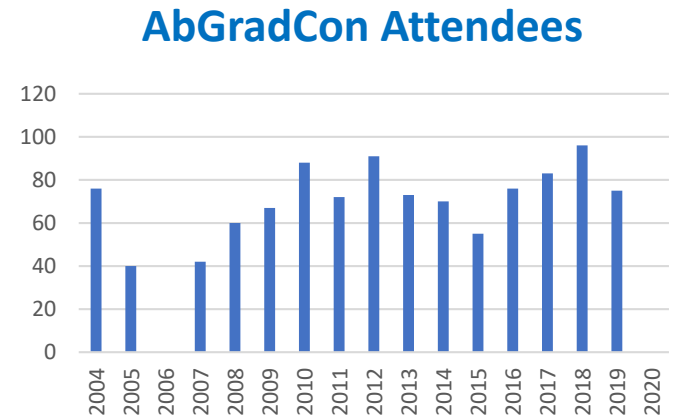
1. Size of the Astrobiology community

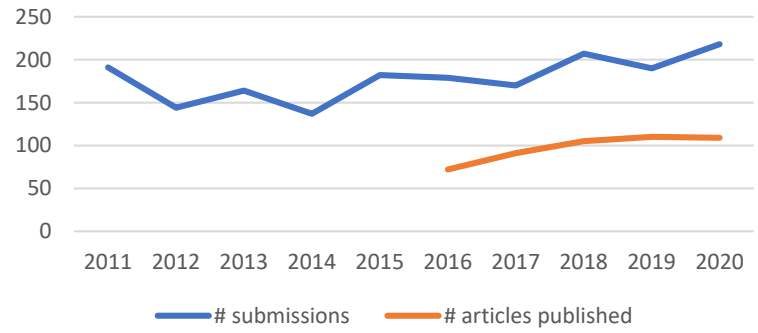
- As measured by
  - AbSciCon numbers (estimates)
  - AbGradCon attendance/applications
  - International Summer School in Astrobiology (applications)
  - NPP applications
  - *Astrobiology* submissions/articles published

1. Some Community Data









2. Differences Between the Astrobiology and the Planetary Science community

a. Diversity - good gender balance, highly receptive community, relatively more early career, perhaps higher retention
b. Culture – collaborative nature, focus on science communication, sharing/exchanging/networking to answer big, meaningful questions
c. Funding – early career/current insecurity
d. Management Structure at NASA – NAI/RCNs creating communities, vs ROSES Program managers

2 continued Diff between AB and PS

e. Career paths – interest continues to grow, advice to undergraduates to develop depth in one traditional discipline and acquire breadth in relevant other areas, the number of degree programs, certificates and courses increasing

f. Sense of belonging – participation in schools/conferences, development of primary and secondary identities

g. Collaboration across disciplines – greatest strength of AB, much effort/budget was expended to evolve from from competitors to collaborators, RCNs. Postdoctoral Fellow calculated disciplinary diversity, doi: 10.1093/reseval/rvv028

3. AB Program Fostering EDIA

- AbGradCon/Summer/Winter School activities – encourage early career researchers to avoid jargon, teach each other, engage in outreach
- Astrobiology Primers 1 - 3.0
- NAI mission:
  - carry out, support and catalyze collaborative, interdisciplinary research;
  - train the next generation of astrobiology researchers;
  - provide scientific and technical leadership on astrobiology investigations for current and future space missions;
  - explore new approaches using modern information technology to conduct interdisciplinary and collaborative research amongst widely-distributed investigators;
  - support learners of all ages by implementing formal, informal, and higher education programming and public outreach
- Courage to speak out

4. Lessons Learned from EDIA activities

- MIRS

Active from 2002 to 2018 to increase the number of:

1) faculty from Minority Serving Institutions (MSIs) actively and competitively engaged in astrobiology research and related pursuits,

2) students from underrepresented groups pursuing careers in astrobiology

- Supported MSI faculty sabbaticals in the laboratories of NASA Astrobiology Program investigators and follow-up funding for student stipends, materials, travel, etc.
- 31 MIRS Fellows supported
- Collectively, these NAI-MIRS fellows:
  - published more than 50 research papers and abstracts in astrobiology, with the majority containing student authors
  - directly impacted 50 students each (on average) with either new research or curriculum

4 - 5 EDIA Lessons Learned/Support

- The **Minority Institution Astrobiology Collaborative (MIAC)** http://phl.upr.edu/projects/miac
- NAI PIs developed curricula/coursework to attract undergraduates
- Develop a strong early career community and they will self organize
  - BMSIS/SAGANet
  - Astrobiology Science Communication Guild
- Support from management/NASA HQ – NAI CANs, beginning in 2013 included language to report teaming with MSIs

6. Diversity/climate data

- UCLA survey AbSciCon 2012
- Prepared survey in 2018
- Nicolle Zellner gender data from AbSciCon and GRC OoL
- NPP applicant data on ethnicity
- AbSciCon 2019 personal pronoun buttons
- (Dis)ability/gender in planning events – location/logistics/access
  - As evidenced at AbSciCon 2019

Others

- Barriers – early career grad awards FINESST/NASA Fellowship Activity
- Harriet G. Jenkins
- Include technologists
- Need to involve diversity professionals