



Protecting the future of academic discovery: A pro-active approach to Early Career faculty development in the basic sciences

Melissa Wong PhD, Sudarshan Anand, PhD, Christina Lancioni, MD, Andrew Adey, PhD, Kacy Kesecker, BS, Allyson Meyers, MS, and Pepper Schedin, PhD

Background

Proactive mentorship and professional development are fundamental to the success of early career faculty members as they begin their academic careers. Small group, hands-on workshops organized at the basic science departmental level enhance the broader institutional programs that address professional training for early career faculty as they establish their independent careers. The Early Career Advancement Program (ECAP) aspires to address the needs of research junior faculty and support their successful navigation of the pre-tenure years. ECAP originated within the Department of Cell, Developmental and Cancer Biology in 2014, and is currently in its second year of being broadly available to all new investigators within the School of Medicine. Guest speakers and hands-on interactive workshops provide participants with practical experience and real-time feedback from peers and experts.

The Four Pillars of ECAP



Formal Mentoring Committee	Leadership Development Workshops	Business of Science Workshops	Sponsorship
<ul style="list-style-type: none"> Team Approach: 2-3 Mentors per Mentee Junior Faculty and Dept. Chair Jointly Select Members Formal Biannual Meetings Grant & Manuscript Pre-Submission Reviews Career Guidance Review of Finances 	<ul style="list-style-type: none"> Professionalism Conflict Management Self-Assessment Expert Coaching Team Building 	<ul style="list-style-type: none"> Establishing Lab Culture Finance & HR Management Conflict Resolution Intellectual Property & Tech Transfer Promotion & Tenure Communications Public Speaking Scientific Writing 	<ul style="list-style-type: none"> Networking/Advocacy Opportunities for Professional Exposure Identify Targeted Grant Opportunities

To support the four pillars, we offer programmatic workshops focused on four broad areas on Culture (time management, establishing lab/workplace culture), Career Development (promotion and tenure, science writing, owning your research and tech transfer, mentoring committees), The Business of Science (lab economics, people management) and Leadership Development (conflict resolution, public speaking, team science and collaboration).

Sample content: Workshop titles

Culture Matters Time Management: Always Looking Forward	Setting Priorities, Avoiding Top Time Wasters, and Maintaining Momentum
Career Development Promotion & Tenure	Learn the skills, Experiences, and Achievements You Need to Advance your career
The Business of Science Lab Economics	Lab Size, Budgeting, Supply Chain Management and Fiscal Oversight
Leadership Development Public Speaking Workshop	Elevator Speeches External Guest Speaker
Campus Opportunity	Educator's Collaborative Grand Rounds: Peer to Peer Mentoring

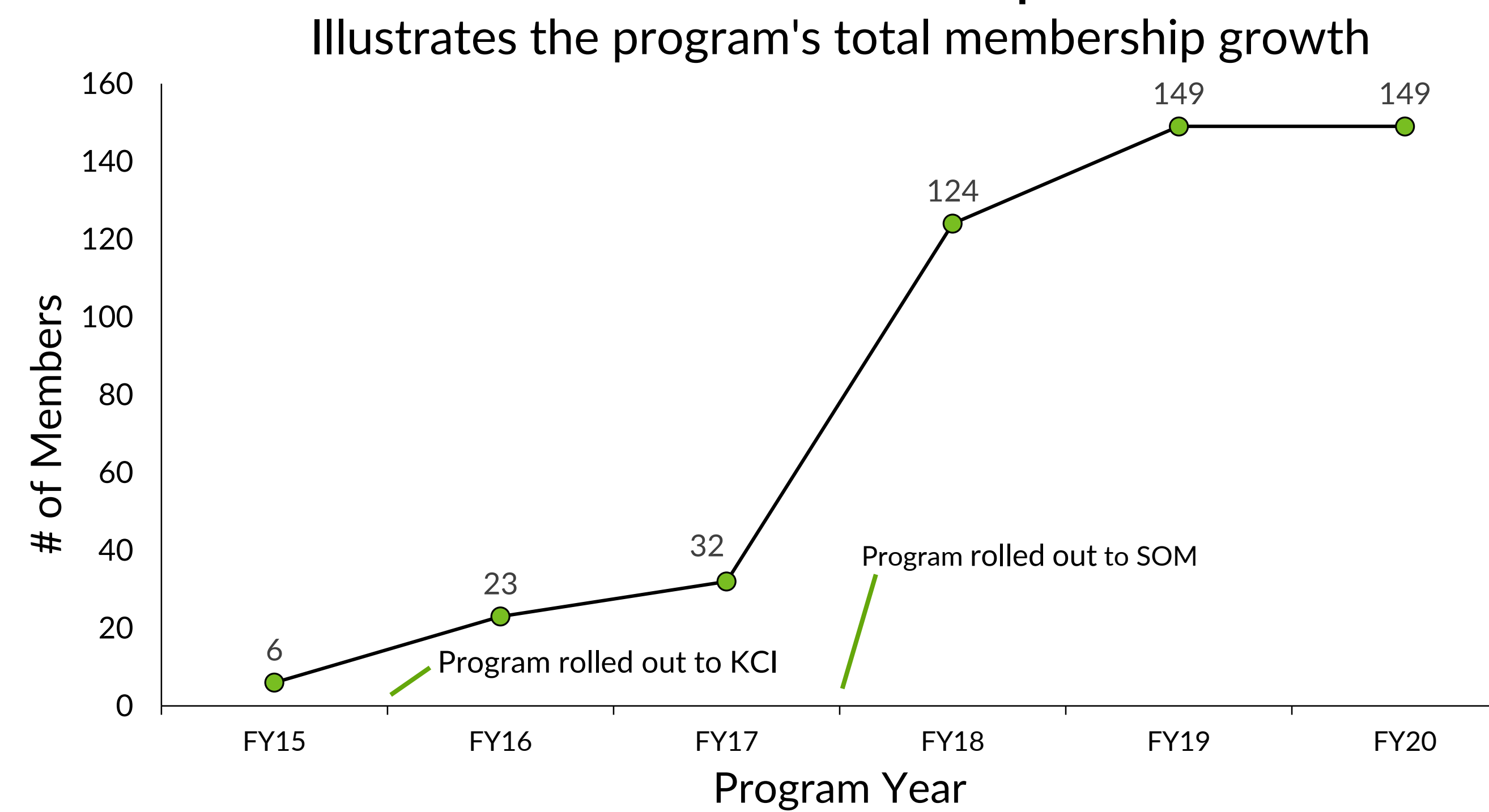
Training the Trainer Component

Embedded within ECAP is a "train-the-trainer" component designed to build the next generation of OHSU leaders, with demonstrated success. In 2020, ECAP faculty graduate Dr. Sud Anand initiated an analogous Postdoctoral Advancement Program within the Knight Cancer Institute, as well as an additional resource in career training through the monthly "Knight Walks" seminar series. Knight Walks provides information, interviews, conversations and activities to highlight and assist in the navigation of key decisions and actions to further the careers of Ph.D. scientists presently in trainee roles.

Outcomes to Date

Since its inception, ECAP has served over 90 faculty across 30 unique departments at OHSU. The initial cohort of junior faculty have all successfully competed for the first NIH R01 awards and 6/7 have been promoted to associate professor (the 7th investigator will submit their portfolio in 2021). ECAP is recognized as a powerful tool to aid early career faculty develop essential skills necessary for academic success.

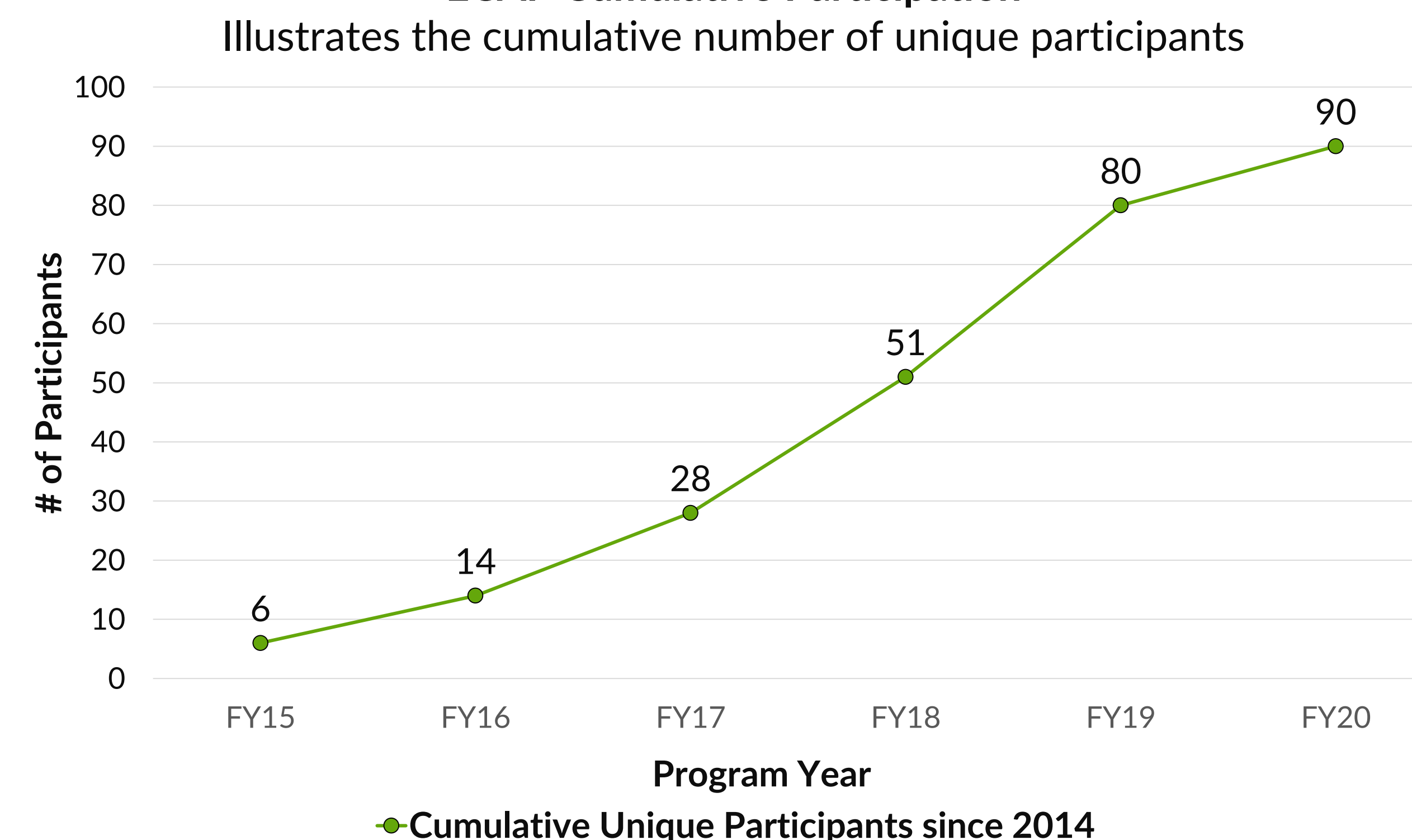
ECAP Membership



- ECAP began in 2014 with 5 junior faculty within the Department of Cell, Developmental, and Cancer Biology.
- It was recognized in the 2016 Cancer Center Support Grant Competitive Renewal & CCSG Site Visit and expanded to 23 faculty within the KCI.
- It was reviewed in 2017 by the Dean's Committee on Faculty Advancement and served as a basis for university-wide faculty development programs. It was then offered to SOM faculty
- The invitation list now includes close to 150 names and the program is growing.
- Figure 1 and Table 1 below show the expansion of the ECAP over time.

Academic Year	# of Invitees	Group of Jr. Faculty Included
2014-2015	5	CDCB Jr. Faculty Only
2015-2016	23	CDCB and select KCI Jr. Faculty
2016-2017	32	CDCB and select KCI Jr. Faculty
2017-2018	124	Entire SOM Jr. Faculty
2018-2019	147	Entire SOM Jr. Faculty
2019-2020	149	Entire SOM Jr. Faculty

ECAP Cumulative Participation



The average attendance for workshops during AY 2019 and 2020 was 17.

ECAP Graduates Time to Promotion 2014-2020

Graduate	Year of Hire as early career faculty	ECAP Module Level	Yrs. post-hire to promotion	# of peer-review pubs from hire to promotion	Pubs /yr	# of Nat-level grant funding since hire	Promotion
male, PhD	2014	I & II (2016 & 2018)	5.5	11	~2	4 + R01	2019: Assoc. Professor
female, PhD	2014	I (2016)	5.5	11	~2	8 + R01	2019: Assoc. Professor
male, PhD	2014	I (2016)	5.5	10	~2	5 SRA's	2019: Assoc. Professor
female, PhD	2012	I (2017)	7.5	42 (Team Science)	~5	3-PI 13-co-PI	2018: Assoc. Professor
female, PhD	2014	I (2018)	5.5	31 (Team Science)	~5	5 +R01	2019: Assoc. Professor
male, MD	2015	I (2019)	5.5	23 (Team Science)	~5	NOGA K08	2020: Assoc. Professor

A new program evolved from ECAP Train the Trainer: KnightWalks – A career development workshop for postdocs, graduate students and lab staff

Leadership & Communication

- Elevator Pitches
- Networking
- Social Media
- Conflict Management
- Idea Factory: a creativity workshop

Mental Health & Well Being

- Emotional Intelligence
- Coping with COVID
- Networking as a 'reciprocity ring'
- Mixers and community building

Academic Career Paths

- Finding Funding
- CVs, Cover letter & Research plan
- Seminars/Chalk talks
- The interviews

Non-academic Career Paths

- Biotech
- Tech Transfer
- Business Development
- Science Communication/Policy

Effectiveness snapshot 2 workshops (N=39)

Director: Sud Anand, Assoc. Professor
Team: Rebecca Ruhl, Lab Manager; Rucha Modak, Postdoc; Andre Walcott, Program Manager; Sarah Carratt, Postdoc
Funded by Knight SciOps grant

Lessons and Perspectives

- Small, interactive working groups to assure program content meets needs of individual faculty & to help establish community.
- High value content. Junior faculty are busy and need to receive maximize benefit per unit training time.
- Innovation. Faculty have low tolerance for didactic lectures. Require interactive, face paced, experience-based learning.
- Needs to evolve with the faculty. One mechanism is to have early adopters of the training transition to trainers and mentors.

Conclusions

- The "Four pillars of the ECAP" utilizes diverse levels and types of expertise, and meet a myriad of junior faculty needs.
- The current program is directly impacting about ~30% of invited junior faculty. It remains to be determined if this 30% participation reflects current need, or signifies lack of program knowledge, barriers to attendance, or mismatch between faculty needs and program content.
- Established blocks of this program are readily tailored and transferable to other Divisions, Departments, and Schools.

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