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

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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**
  - 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

- **Leadership Workshops**
  - Professionalism
  - Conflict Management
  - Self-Assessment
  - Expert Coaching
  - Team Building

- **Business of Science Workshops**
  - Establishing Lab Culture
  - Finance & HR Management
  - Conflict Resolution
  - Intellectual Property & Tech Transfer
  - Communications
  - Scientific Writing

- **Sponsorship**
  - Networking/Advocacy
  - Opportunities for Professional Exposure
  - Identify Targeted Grant Opportunities

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.

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**

- Setting Priorities, Avoiding Top Time Wasters, and Maintaining Momentum
- Learn the skills, Experiences, and Achievements You Need to advance your career
- Lab Size, Budgeting, Supply Chain Management and Fiscal Oversight
- Elevator Speeches
- Educator’s Collaborative Grant BOUNDS: Peer to Peer Mentoring

**Training the Trainer Component**

Embedded within ECAP is a “train the trainer” component designed to build the next generation of OHUS 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 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 OHUS. 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.

**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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