Career Arcs that Blend Industry, Government and Military Service with Faculty Experiences to Increase Diversity in the Engineering Professoriate

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Abstract

This paper presents a new model of academic careers that allows for more inclusive hiring, tenure and promotion practices across the long arc of individual careers. The traditional model of a faculty career implies and requires a leaky pipeline, where participants who choose careers outside of academia are left behind and are never allowed re-entry. Our new career model describes points of re-entry and strategic exits that allow for building diversity in academia in ways that go beyond what has been practiced when academic stakeholders and systems base hiring and promotion practices on the traditional academic model. The model introduced here provides key points of study and development that can allow for increased diversity in the professoriate.

Introduction

Engineering faculty careers are generally presumed to have a traditional linear trajectory from graduate programs to tenure-track positions, from assistant professor to associate and then full professor, and then a happy retirement as emeritus faculty. However, this traditional pathway has resulted in a national engineering faculty that is overrepresented by white men, compared to both national demographics and the pool of engineers with PhDs.[1] Additionally, this model of a faculty career has not kept pace with changing labor force realities, even though career paths across the nation and in many domains see multiple transitions and have very low expectations of retiring from a single company after 30 years. This faculty career model contradicts career happiness based on reasonable life choices, particularly those described by the Life Career Rainbow[2,3] which defines an arc of life as moving through growth, exploration, establishment, maintenance and disengagement phases of life (see Figure 1). This mismatch means that academia is not able to adapt to shifting demographics, expectations of Millennials, and desires for varied experiences, whether with industry or work-life balance and family. Creating and institutionalizing multiple entry points to the arc of an academic life, as well as exit and return options, will allow for both recruitment and retention of faculty that better represent the face of the nation.

The variety of pathways into an academic career do not necessarily result in equal status for those who become faculty members. The increasing number of non-tenure track options (i.e., adjuncts, instructors and fixed-term faculty) adds complexity to the landscape, potentially providing alternative options for a career, but ones that may be unequal for underrepresented groups.[4,5] The flexibility of academic jobs would ideally include protection for freedom of speech and leaves of absences for professional development, experiences and/or expertise that can be brought back to the classroom, the institutions, the community, and to the next generation of students. Tenure and sabbatical options, which provide for security in seeking varied experiences that help develop a rich and diverse professoriate, are rarely available to people in adjunct or fixed-term positions, yet the number of these positions is growing in all academic fields.

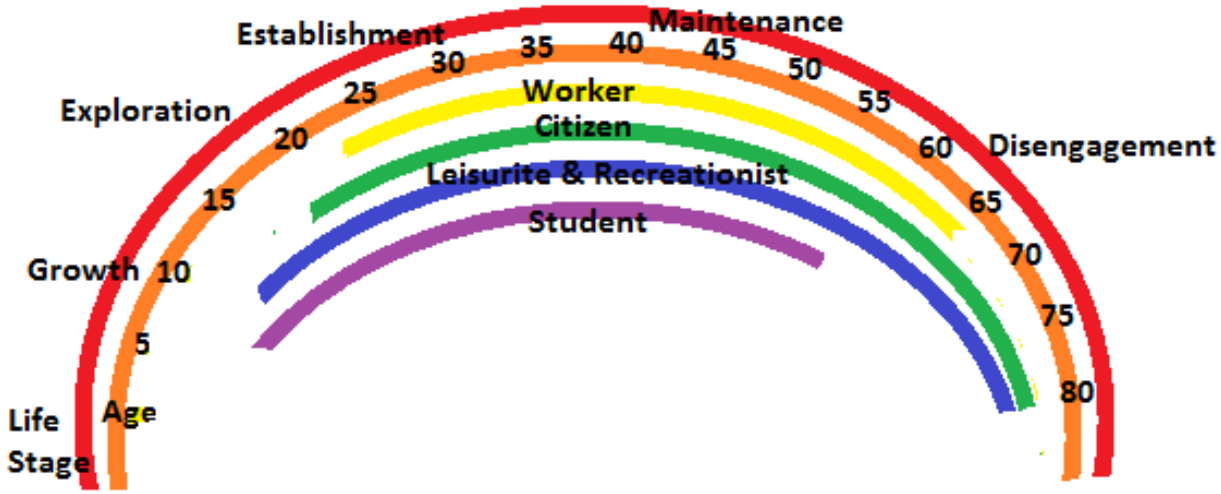

Figure 1: Rainbow of Life (from Super & Minor, 1987)[3]. Homemaking is included from ages ~25 through the end of life.

A faculty career model that includes a variety of entry and exit-return options, particularly one that maintains academic freedom while supporting intellectual creativity and work-life balance is one that will be more inclusive, adaptable and welcoming for women and underrepresented minorities (URMs). As such, institutions of higher education in the United States could greatly expand the academic engineering workforce. This paper will present background information to show the current national context and funding mechanisms that have supported broadening participation. The paper presents an alternate model of academic careers that allows for interaction and pathways with careers and experiences in industry, the military, government and service.

Institutions, hiring committees and faculty mentors follow this implicit model of a straightforward academic pathway to the detriment of a diverse professoriate. We address this by presenting an alternate model that better reflects alternate pathways that currently exist and could be better encouraged and supported through infrastructure and social means.

A Traditional Model of a Faculty Career

A traditional engineering faculty career moves from high school, to a bachelors degree, to a PhD program and then into a tenure track position, followed by promotions to associate and full professor and then eventually a happy retirement, perhaps with an emeritus position to maintain an active mind until death. This is shown in Figure 2. In attempting to follow the traditional model, graduate students in particular have many questions that make it a difficult pathway, such as when to start a family, whether they can live where they hope to, how to integrate the set path with their life, and whether they can be successful in this structured career.

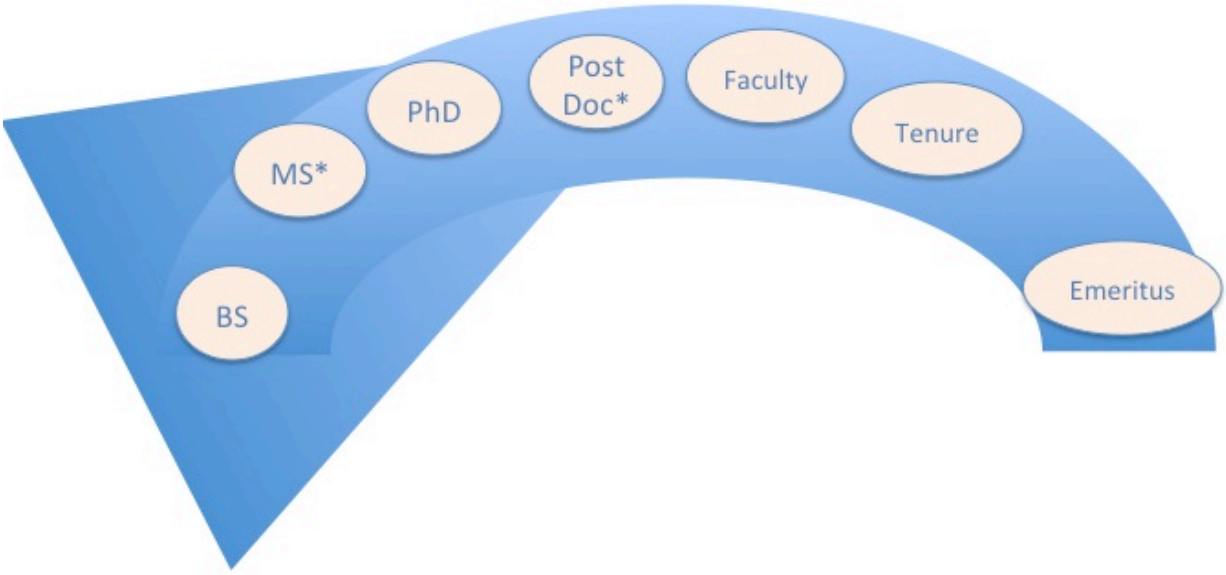

Figure 2: The traditional model of a faculty career arc as a pipeline, with optional MS and Post-Doc, and participants exiting at every milestone.

This model is rigid. When the "rainbow of life" for professionals of different race, ethnic, and gender backgrounds is placed alongside this career arc, conflicts often arise between graduate school, faculty career expectations, and reasonable desires to have children, sustain a family, live in a healthy environment, and have life-work balance. Moreover, the theories and events associated with the Rainbow of Life[2,3] can be overlaid on this model, highlighting events such as child bearing, marriage, family care, attainment of advanced technical knowledge, and creative activity. Many of these arc of life components are ignored or dismissed in this academic model. While strides have been gained to allow for life-work balance in an academic career, the ubiquity of this model means that people more affected by the needs of child or elder care, or with higher education debt, may choose to exit this model. Because there is a mismatch in the arcs, we have a broken model that fails for many, particularly for women and URMs. This failure is due in part to the disproportionate expectations of emotional labor, child and elder care, and family responsibilities, which is well documented[e.g., 6-9].

There are potentially an exponential number of pathways to an engineering faculty career, but these are not included in this traditional model. Non-traditional pathways are taken, with both positive and negative anecdotal results (and we encourage more study of these pathways in engineering since very little is found in the literature). By not formalizing a model that explicitly allows for multiple pathways to and through a career, this model fails to describe what is actually happening for many participants. In addition, because this model strongly informs structures and systems, any variant may be seen as a one-off or exception that needs to be dealt with on a case-by-case basis. By not addressing these frequent cases systematically, it becomes easy for unequal treatment in hiring and promotion to be routinely implemented. Thus, there is a need for an improved model. By making this model explicit and more robust, we can reduce unfair practices and support transitions for all in their career pathways.

Broadening Participation in the Professoriate

Although there have been many efforts over the last few decades to address the "leaky pipeline" in order to build a professoriate that better represents the face of the United States, the fact is that it has not yet resulted in a diverse faculty population in STEM, engineering in particular. Statistics show that in 2014, underrepresented minorities earned up to 8.7% of engineering doctorates, an increase from 6.2% in 2004 and women earning doctorates in engineering went from 11.9% in 1995 to 22.8% in 2014.[10] 6.8% of respondents with engineering doctorates reported having a disability in 2014. 15.5% of engineering faculty were women in 2013 and 8.3% were underrepresented, compared to about 6.2% women and 4.8% underrepresented in 1993.[11] These numbers contrast with all science and engineering faculty in 2013 with 53.1% women and 14.7% underrepresented in community colleges and other four-year programs. Although women are slightly overrepresented overall in college science and engineering faculty because of demographics in natural sciences, they are nowhere near parity in engineering programs. Similarly, with a national demographic of 32.6% of those underrepresented in STEM, we are not close to matching the face of our nation either in STEM or engineering alone. Additionally, these numbers include all faculty levels and do not illustrate disparities in types of faculty position, where women and underrepresented minorities are hired for non-tenure track positions at higher rates than for tenure-track positions.[5] Gains in completion of degrees have not yet translated to gains in faculty numbers.

In 2016, Gibbs and Marsteller suggested that early interventions must be coupled with strategies that address the entire career development pathway, including doctoral education, postdoctoral training, faculty appointments, grant making, and promotion and tenure criteria.[12] The National Science Foundation (NSF) has supported the development of models at various academic levels to broaden participation of underrepresented minorities and women. These programs are housed under the Directorate for Education and Human Resources within the Division of Human Resource Development. The Louis Stokes Alliances for Minority Participation (LSAMP), Alliance for Graduate Education and the Professoriate (AGEP) and Increasing the Participation and Advancement of Women in Academic Science and Engineering Careers (ADVANCE) programs have led to improvements in numbers, but there is still room for improving participation at all levels of the professoriate.

LSAMP[13] has four alliance tracks that assist universities and colleges in their efforts to increase the numbers of students matriculating into and successfully completing high quality degree programs in STEM. Specifically, Bridge to Doctorate (BD) projects are for post-baccalaureate fellowships that provides support to students in the first two years of STEM graduate studies. In 2015, at the 37th Annual Fall Research Conference of the Association for Public Policy Analysis and Management (APPAM), Margaret Sullivan of Mathematica Policy Research presented findings from the evaluation of the LSAMP impact on URM students with support from the BD program. Sullivan stated URM students with BD support are more likely to enter and complete doctoral degrees compared to URM students without such a mechanism of support. Additionally, the findings state that BD has a positive impact on every milestone in the path to doctoral completion.[14] Extending this suggests the value of support mechanisms form URM groups pursuing the faculty career path.

The AGEP program[15] focuses on developing, implementing and testing transformational models of doctoral education, postdoctoral training, and faculty advancement. AGEP research investigates the underlying policies and practices affecting the participation, transition, and advancement of URMs in the STEM academy. The models include targeted interventions at several levels in the path into the professoriate and at advanced professional levels in academia.

There are many pertinent examples from AGEP that can be used to examine and replicate best practices in supporting doctoral completion and preparation for a faculty career. Tull et al. from the Maryland PROMISE AGEP make an illustrative astrophysics comparison between engineering departments and metaphorical black holes. The author suggests that students who fall into metaphorical black holes, leave STEM academia and work in other sectors.[16] To combat this attrition the PROMISE AGEP Alliance has developed trainings to enhance faculty understanding of diversity issues in graduate and postdoctoral education. Additionally, the Alliance has emphasized community by designing graduate student professional development activities that occur in a third space, i.e., outside of program and home, and absent of evaluation and competition. These spaces provide opportunities for community development among doctoral students, faculty, and mentors, and establishes environments that counter individualism and competitive norms.[17]

The Big Ten AGEP Alliance is creating systemic change by offering diversity hiring workshops to faculty search committees at their universities.[18] Participating universities provide opportunities for postdoctoral trainees to have mentorship and guidance for interviews as well as skills needed once becoming faculty.[19] The Alliance has reported that interventions have led to an increase in the rate at which URM faculty were hired within their institutional partner campuses.[17]

These AGEP examples demonstrate that it is possible to increase URM participation in the academic career trajectory. However, even with positive hiring outcomes such as those reported by the Big Ten AGEP Alliance, there is still a need for inclusivity within the professoriate, as well as the need to address structural issues.[20] This can be addressed by institutional change, such as those initiatives AGEP and ADVANCE support.

The ADVANCE program focuses on supporting organizational change in institutes of higher education and STEM professional associations.[21] One goal is to develop systemic approaches to address gender inequities within STEM academics as a means to increase the representation and advancement of women in academic STEM careers. The Institutional Transformational (IT) track supports innovative system approaches to organizational change within an institution of higher education. The Adaptation track supports the implementation of evidence-based organizational change strategies in new settings. The Partnership track supports partnering of two or more institutions/organizations to increase gender equity in STEM academics. Mathematica Policy Research reported in 2011 that the ADVANCE approach has supported a gender-equitable climate, adoption of family-friendly policies, and reoriented recruitment efforts.[22] One example of gains made through ADVANCE funding is at the University of Washington, where data show that following the implementation of systemic change initiatives engineering faculty are 22.2% female compared to the national average of 15.5%.[23]

Research based on data from another ADVANCE IT initiative found evidence of the need for systemic institutional change if increasing the diversity of the STEM academic workforce is the goal. This study investigated the broad implications of embedded diversity initiatives within an institution. They found that in departments that remained more homophilous over time faculty in those departments viewed diversity as less of a priority compared to other department commitments. Conversely, departments with the most increased representation of women reported enabling forces, such as: recognition of historical institutional problems with diversity, having strong champions for diversity from leadership, and proactively pursuing diversity.[24]

It is important to see the progression and interconnectivity of these three NSF broadening participation programs. The programs are needed to increase interest in STEM for underrepresented minority and women students, give them support while making the progression through rigorous programs and provide a work environment that is inclusive. Creating and fostering an inclusive environment improves the retention and advancement of women and URM professionals in STEM and mitigates factors that increase attrition of women faculty. However, Gibbs et al. suggested even with significant broadening participation efforts, the assumption is that if women and URMs are trained, mentored and have productively conducted research, they will choose faculty careers. Conversely, they found scientists, no matter their background, reported less interest in faculty careers (particularly for those at research-intensive universities), and increased interest in careers outside of research over time in graduate school.[25]

Reflecting on the work of these programs and the resulting improvements in completion of PhDs and steps forward in institutional change, a faculty career model that better defines what is happening in best practice situations and that better speaks to the PhDs who are choosing non-academic careers is clearly needed. An improved model can be used by policy makers in developing funding solicitations as well as by institutions interested in increasing diversity in their faculty.

A New Model

We propose a new model that is framed by an expectation of non-abandonment, that is both appealing and flexible for women and underrepresented people. STEM graduates do not stop being potential faculty. Current university barriers have been well-defined through work with programs like ADVANCE and AGEP, but this model illustrates potential transition points to increase diversity in engineering education that could be leveraged to increase the number of URMs and women entering or returning to faculty positions given appropriate policy and support structure development. This model, shown in Figure 3, reflects and supports transitioning into a faculty career at multiple points in an individual's career which allows for maximal use of United States trained talent across industry, government, service and academia. The goal of this model is to explicitly allow for transitions that currently exist and to suggest options for enhancing the diversity of thought, perspective, and experience of the professoriate at multiple points.

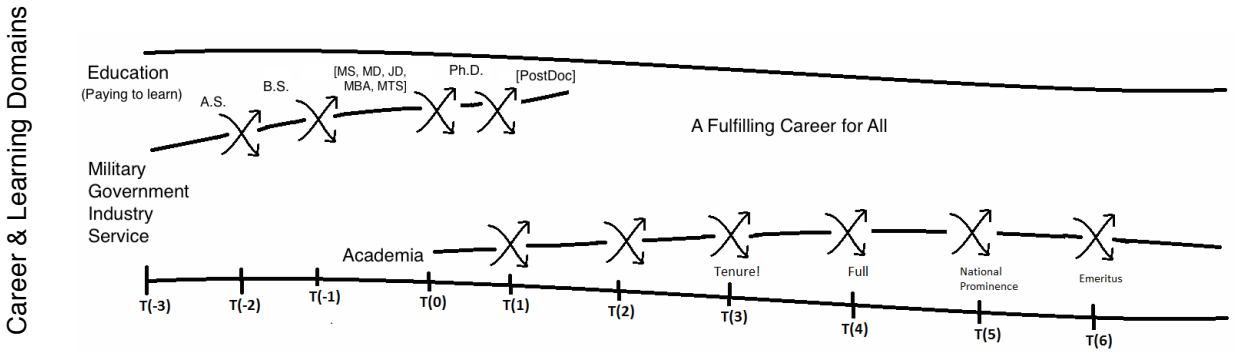

Figure 3: An academic career model that allows exits, entries and returns from other types of careers.

The model introduces the concept of nine key transition points illustrated by T_{-3} through T_6, described in Table 1. The model starts at T_{-3}, a point where a person has earned a GED or high school diploma, and either enters a post-secondary school, the military, a service year (e.g., City Year[26]), or some other job. The final transition is at the point of emeritus faculty, where someone could remain involved in academia, explore options in service (e.g., the Peace Corps[27]), government or industry (or perhaps, one day, the military[28]). The model allows all individuals to choose a career, that includes higher education or not, from roles in the military, the government, industry and service, described in Table 2. Although we have not illustrated transition points within these domains, an example non-academic transition point in this model is illustrated by someone retiring from the military after 20 years and taking a role in government or industry. The nine transition points on the model indicate times that are relevant for education decisions and an academic career. T_0, after earning a master's degree, is the first time an individual could enter an academic career, typically at a community or tribal college, but potentially teaching at a four-year institution (e.g., adjunct, specialized topic classes, or using a terminal degree such as an M.F.A). T_1 is an entry point to a first-year tenure track position, although it could indicate a fixed-term or contract position. This model allows for transitions at the other key time points.

Table 1: Arc of a Fulfilling Academic Life: Academic Transition Points & Levels

Transition Point	Description	Academic Level	Academic Positions
T_{-3}	Starts after HS entry into Military, Community College	Community college (AA/AS), Military	N/A
T_{-2}	Starts after CC to Undergrad or Military to Undergrad	Undergrad, (BS, BA)	N/A
T_{-1}	Starts after Undergrad to professional	MS, MBA, JD, MD	N/A
T_0	Starts after Professional to PhD	PhD, Ed.E,	NTT Faculty CC, Law School, Medical School
T_1	Starts after PhD to Post Doc, Asst. Professor	Post Doc, Adjunct, NTT Position	Post Doc, NTT Assistant Professor
T_2	Start after Post Doc/, NTT Faculty to TT Assistant Professor	Assistant Professor	TT Assistant Professor
T_3	Move from TT Assistant Professor to Tenured or TT Associate Professor	Associate Professor	Associate Professor
T_4	Move from Associate Professor to Professor	Professor	Professor
T_5	Professor to Professor of Distinction	Professor	Professor (Endowed, Named, etc)
T_6	Emeritus Professor	N/A	N/A

Table 2: Arc of a Fulfilling Academic Life: Career Domains and Options

Career Domain	Description	Academic Positions Equivalent
Academia	Academic Positions including Post-Doc, NTT positions, TT Assistant, Associate, and Professors	N/A
Military	Non-commissioned and commissioned	Undergraduate and professional degrees
Government	STEM Federal Agency positions	Undergrad, graduate, PhD, and faculty
Industry	Working with businesses and for profit organizations	Undergrad, graduate, PhD, and faculty
Service	Non-profit organizations, 501c, and related entities	ALL

As discussed above, agencies such as the National Science Foundation, the National Institutes of Health and the Department of Education have invested heavily in the transition from undergraduate to graduate programs (T_{-1}), undergraduates to industry (also T_{-1}), and high school to undergraduate STEM majors (T_{-2}). While there has been study and funding addressing the transition of women and underrepresented minorities at T_1 (e.g., NSF AGEP) and T_2/T_3 (e.g., NSF ADVANCE), this model encourages further study at transition points T_2-T_6 because they allow for potential entry points for underrepresented engineering PhDs who choose not to enter academia immediately after earning a PhD. This model also encourages a balanced view of an entire career, allowing for changes in domain throughout the career, which may be more attractive to people who initially choose non-academic career paths.

We highlight the transitions at T_2 and later time points because of the opportunities to encourage a more diverse professoriate through structural and systemic changes in hiring and promotion practices for people who would bring other career and life experiences into the professoriate.

While it is traditional for faculty members to take sabbaticals, one form of "break" in an arc, these are typically spent doing some portion of faculty work in a different context, whether research at another site or teaching at another institution. There is clearly value to sabbatical experiences, particularly the rejuvenation and preparation for a return to all aspects of a faculty job. However, this could also be an opportunity for exit-return options to develop experience with small business or industry, and to potentially encourage others to consider an academic career.

The national academies recent workshop on STEM workforce strategy identified important themes related to STEM workforce development, including the need for scientists to acquire additional skills that would be outside of the classroom.[29] A limitation is that most funding is focused on integrating these into the classroom. The model presented here allows for this important need being accomplished over the lifetime of the scientists. Along with providing for multiple experiences that can result in a more well-rounded professional, connecting this model to the arc of life supports rather than devalues the life goals that women and underrepresented

minorities have. (We note that supporting this balance will also benefit the overrepresented population.)

Motivating Case

Consider an example of a two colleagues who were hoping to transition from an industry career to an academic career at the same academic institution in the same college with the same hiring authority. Both of these colleagues worked for over 20 years in research centers in Fortune 500 companies. This is where the similarities end. One colleague was brought into the institution as a tenured Professor with a significant start up package. The other colleague was hired as a tenure track assistant professor with no start up package. The second colleague had a very difficult time during third year review, where publications were expected but patents held little weight, and through ultimately successful promotion to associate professor. Reviewing the CVs shows many similarities. However, the second colleague was female. Though other variables such as negotiation skills and hiring administrators came into play, this type of inequity exists when each case is considered an exception to the traditional model of a faculty career rather than options in our transition-heavy career model. We expect that using this more complete model will offset this type of experience since it can support transparency, equity and equality and ensure that we do not exclude important U.S. scientific and engineering talent from faculty careers. By applying the proposed model to this case, as opposed to an implicit bias informed by the traditional model and academic culture, industry experience can be uniformly evaluated to better insure pay equity, title and prestige.

Intervention Strategy to Address Disengagement and Equity

Given this new knowledge we can propose strategies and interventions that could serve to minimize the unfairness in our example. One strategy is a defined Distinguished Career Internship (DCI) model. The Distinguished Career Internship model represents a termed position in an academic related or equivalent career track that can be baselined against an academic career track. For example a Distinguished Government Internship would provide a 2 to 4 year experience for an Academic who wants to work for a federal agency. This example is very similar to a AAAS Fellow and or an Intergovernmental Personnel Agreement (IPA) that are currently available in some agencies. The distinction would not only allow academics to go to government or industry but would create options for government scientists to go to academia and/or industry for a similar period of time. These types of activities already happen for some engineering PhDs through a range of internship-like contractual vehicles, but formalizing them in the context of a model that addresses the multiple ways a fulfilling career can occur makes it more visible and provides motivation to participate. A more standardized approach and language connecting these exit-reentry options to a faculty career model will allow academic institutions to integrate them into the academic life cycle, particularly for important promotion and hiring decisions. This approach would allow for creative work in a new realm, where distinguished interns bring wisdom and expertise from their home domain to a new space. The novelty of the new domain could address end of career disengagement.

This strategy can have an impact on cases of entry (or re-entry) into an academic career. We can apply this model with our career model to our motivating case. If the industrial experiences

described by the two faculty candidates was placed in the DCI model as Distinguished Industry Internship experiences then the activities and time-periods could be equivalently categorized. Other quantification of distinguished activity and what was considered acceptable activity during the internship periods can be described and vetted through a lens that standardizes experiences across candidates, reducing unconscious bias. Hiring deans can provide a consistent and fair strategy when recruiting, retaining, and considering diverse faculty candidates.

Recently, NSF has supported the idea of Graduate Internships at Federal agencies and within industry. The idea of inter-career internships as a mechanism to re-energize, develop and optimize STEM talent in the US should be considered and would fit into the proposed model. Additionally, we propose that if performed in a transparent manner this supports diversity.

Discussion

As a marine might say, no man, or woman, is left behind in the proposed model at any stage of their career. There is always an opportunity to return to an academic career, and the insight and experience that is brought will be valued. The proposed model is not a leaky pipeline model, rather it is an inclusive model of careers and career pathways. This includes supporting and engaging faculty members at points where they might be considered deadwood

Non-linear journeys through a faculty career could start before an appointment with time as a post-doctoral fellow or time in industry. Options such as federal internships can provide a needed break, access to important equipment and contacts, and support agency short term staffing needs. Considering multiple entry points to faculty positions, e.g., at junior, mid or senior appointments, would allow academically qualified candidates to consider switching from an industry career to academia, making a career arc that encourages industry or small business experience before addressing reflection and dissemination of knowledge through teaching. Hiring from industry rather than academia may require institutional responses related to tenure and promotion expectations. Valuing industry experience at a variety of levels and supporting the development of teaching skills will address the need for a more diverse faculty.

While some programs do consider industry experience in the hiring process, encouraging this more widely can provide real world stories and connections for students who are more likely to enter industry than to enter academia. Diverse work experiences, as well as other forms of diversity, all contribute to positive experiences for engineering students.

For individuals, this model allows pathways that can include more lucrative options, addressing the issue that student loan debt affects underrepresented graduates at a higher rate.[30] The model creates a more robust pathway for current engineers to have enriching and satisfying careers, that addresses and respects the needs of a diverse population of engineers, potentially enticing excellent candidates into faculty positions. This model makes explicit alternate pathways to achieving personal goals with respect to metrics such as an enriching and satisfying career, a well-balanced life, lifelong learning, and interesting challenges. It is also worth noting that with the growing trend towards men's increased desire to be involved in parenting, this model would likely gain favor across a broad range of early career professionals.[9]

If this model is used and there are increased transitions into faculty careers, we need to examine what will make this approach successful. Fortunately, existing infrastructure for training faculty and providing professional development in educational methods can be leveraged. The expectations of people who have been successful in industry, for example, is that there will be appropriate training opportunities and clear guidelines about best practices. This approach could ultimately result in better learning experiences for our undergraduate engineering students as they are taught by a diverse faculty with a broad range of life experiences.

Call for Examination and Expansion

We call for colleagues and researchers in engineering education, social science, economics and other fields to examine this model. There is a need to systemically address the pathways to faculty careers at the transition points by making an academic career more appealing, by creating support structures that will insure success of late-entry faculty, and by removing structural barriers. A by-product of this will be allowing faculty to both exit and return with renewed experience, passion and perspective that can improve both faculty productivity and the student experience.

While we propose this model as being more realistic and supportive than the traditional model, we acknowledge that components are missing. The model should be expanded to more fully address the experience of adjuncts, community college and tribal college faculty, instructors, fixed-term and research faculty as well as tenure-track faculty. There are many aspects of a faculty career that could and should be affected by incorporating this model into institutional thinking. A limited list includes the variety of types and lengths of contracts available, personal and institutional economics, sabbaticals, paid and unpaid leaves of absences, grant structures, student enrollment numbers and the impact on supply and demand, and family and life decisions. The impact of hiring tenure-track vs. non-tenure track faculty can create tiered systems where underrepresented minorities may be represented unequally. Developing and using this model can benefit administrators, policy-makers, individual faculty members, and, because of the long-term benefits, engineering students.

We call on colleagues and researchers in engineering education, social science, economics and other domains to examine and expand this model, by investigating the model and transition points and by developing support structures and policies, potentially through alliances, that addresses iniquities in academia. Specific research questions can focus on transition points beyond those emphasized in working to "expand the pipeline" through graduate degrees. Example questions are:

- At T_2: What are the impacts of faculty leaving after the 3 year contract point (half-way to tenure)? What is the impact of Industry PhDs entering academic positions with expedited tenure clocks?
- At T_2 through T_5: What bias exists regarding family and economic choices?
- At T_2 through T_4: What are barriers for underrepresented minorities and women PhDs to enter faculty lines at these points? What disparities are there in hires?
- At T_2 through T_5: What are barriers to transitions from the military/industry/government/ service to faculty positions?

- At all points: How can we increase the number of prominent PhDs cross-fertilizing to improve productivity and representation across sectors? This may relate to how we value the collective wisdom in our community.

The application of this model to recruitment, hiring, and promotion supports the removal of unconscious assumptions that adversely affect women and URMs. While the flexibility of a new faculty career model will benefit all, when it is applied well, it can provide for improved diversity in the professoriate. This model includes not just faculty careers, but the diverse careers that should allow for enriching satisfying careers where individuals have choice in their transitions—to stay or to explore other domains.

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