

# Report on ACL Nomination Procedures and ACL Fellows

This is the report of an *ad hoc* committee appointed by the ACL executive to examine the organization's nomination and selection procedures. The committee was established in response to several initiatives suggesting that the representation of different groups have become more unbalanced over time, in particular with respect to gender. More precisely, the committee was given the following instructions at the outset:

*The charge of the committee is to re-examine ACL policies and practices on the make-up of and procedures of nominating committees and the ACL Fellows program, and to make concrete recommendations to the ACL Executive on whether and how the current policies and practices should be changed. The remit encompasses the lifetime achievement awards election committee, the ACL Executive Nominating Committee, the ACL Fellows selection committee, and the ACL Fellows program. A primary concern is to consider whether there are appropriate ways of improving the actual or perceived openness, inclusiveness, diversity, and impartiality of these programs. The committee may also want to consider roles and responsibilities for ACL Fellows. The ACL Exec requests that the committee make a final report by June 30, 2016, so that any changes can be considered at the 2016 ACL Exec meeting, and put in place for the following year.*

Later on, the committee was asked by the ACL executive to also consider the selection of general and program chairs for ACL conferences, after it had been pointed out that the last nine general chairs have been male.

The committee has consisted of four members: Yejin Choi, Min-Yen Kan, Joakim Nivre (chair), and Marilyn Walker. We have met regularly over a period of 6 months and have assembled a large collection of data and statistics, as well as relevant literature, to support our analysis and conclusions. We are grateful to Hal Daumé III, Christopher Manning, Paola Merlo and Bonnie Webber for commenting on a preliminary version of this report.

The report starts with an executive summary of our recommendations. This is followed by background information in the form of a description of existing nomination procedures, a comparison of the fellows program to the programs of some neighboring organizations, and an empirical survey of representation. We conclude with a discussion to further motivate our conclusions and recommendations.

## 1 Recommendations

The recommendations of the committee are based on the view, forcefully expressed by Hal Daumé III in a letter to the ACL executive, that “healthy organizations are diverse [...] and diverse organizations are successful.”<sup>1</sup> They are based on research showing that implicit bias is counteracted by having diverse representation in the committees responsible for nomination and selection, by having a large and diverse pool of candidates, by having clear and transparent selection criteria that are established beforehand and actually applied in the selection process, and by raising awareness of diversity issues both in committees and in the community as a whole.<sup>2</sup> To improve the openness, inclusiveness, diversity and impartiality of the procedures used to nominate and elect the ACL executive committee, ACL fellows, lifetime achievement award (LTA) winners, and ACL conference chairs, we therefore make the following recommendations:

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<sup>1</sup> See, for instance, [how-diversity-makes-us-smarter](#) and [defend-your-research](#).

<sup>2</sup> See, for instance, [a-ladder-made-for-men](#), [amstat-award-guidelines](#) and [quality-of-evidence](#).

1. The old nominating committee and LTA committee should be replaced by a single larger committee, hereafter referred to as the *new nominating committee* (to avoid confusion), responsible for
  - a. nomination of new members of the executive committee,
  - b. selection of LTA awardees,
  - c. election of new fellows based on nominations from the membership.

In case a, the final decision is made by the membership through elections as before. In case b and c, the new nominating committee makes the final decision without explicit consent from the ACL executive committee, whose role is only to implement the decisions. (Note that ACL conference chairs are *not* selected by the new nominating committee. They are appointed by the coordinating committee for each conference as before.)

2. The new nominating committee should consist of 9 members: the 3 most recent ACL presidents and 6 ACL fellows who have not been members of the ACL executive for the past 5 years. The fellows should be selected in such a way that the committee as a whole comprises
  - a. at least 3 women and 3 men, defined inclusively,
  - b. at least 2 representatives from each of ACL's main geographical areas (currently the Americas; Europe, Middle East and Africa; and the Asia-Pacific region).

All members would serve for a period of 3 years, and one third of the members should be renewed each year (1 past president, 2 fellows).<sup>3</sup> The list of members should be publicly displayed on the ACL website.

*The purpose of recommendations 1–2 is to ensure that nomination and selection processes are handled by a larger committee with diverse representation that is partly independent of the ACL executive. In addition, it is a simplification as it replaces two committees with one.*

3. Explicit selection criteria should be defined for all awards and functions that are subject to nomination or selection by a committee of the ACL. This pertains to the following committees and awards/functions:
  - a. The new nominating committee: ACL fellow, LTA awardee, and ACL exec member.
  - b. Conference coordinating committees: general chair and program chair.<sup>4</sup>

These criteria should be diverse and consider as many relevant qualifications as possible for a given award/role.<sup>5</sup> In addition, they should be explicitly stated in the nomination form and the responsible committees should always document how the criteria have been applied in the nomination or selection process.

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<sup>3</sup> When first introducing the system, 2 fellows will have to leave the committee after 1 year, and 2 more after 2 years. After that, everyone will serve for 3 years.

<sup>4</sup> Criteria for selecting general chair and program chairs already exist in the ACL Conference Handbook: [selecting-the-general-chair](#). However, we recommend that these criteria be reviewed to make sure that they satisfy the new diversity recommendations.

<sup>5</sup> The committee will provide a draft of these criteria in time for the executive meeting in Berlin.

*The purpose of recommendation 3 is to ensure, first of all, that explicit criteria exist and, secondly, that they are actually used by the relevant committees (by requiring documentation).*

4. All nominations for awards and functions should be stored in a database together with the committee's documentation of how they have been evaluated with respect to the selection criteria. Nominations should be kept for a window of 3 years. The relevant committee is charged with ensuring a large and diverse pool of candidates.

*The purpose of recommendation 4 is to guarantee a large and diverse pool of candidates by facilitating update and resubmission of old nominations, by keeping nominations in the system for a 3-year period, and by giving committees a special responsibility for soliciting nominations if necessary. In addition, it serves the purpose of helping committees maintain consistency in the application of selection criteria.<sup>6</sup>*

5. Members of the new nominating committee and conference coordinating committees should be strongly encouraged to take an online course in diversity training.<sup>7</sup>
6. ACL should maintain and publish diversity statistics for the executive committee, the fellows program, the LTA award, and general and program chair positions.<sup>8</sup>

*The purpose of recommendations 5 and 6 is to raise awareness about diversity issues both in the committees responsible for nomination and selection and in the community as a whole.*

7. Specifically for the ACL fellows program, we further propose:
  - a. The ACL executive should monitor the development of the fellows program to ensure that the currently observed bias in the program, discussed in Section 4 below, is corrected over time by the consistent application of more unbiased selection criteria. We make this recommendation instead of proposing the immediate appointment of a group of fellows as a one-time correction, because we fear that this could reflect negatively on the fellows so appointed.
  - b. The requirement that new fellows must have been members of the ACL for the last 3 consecutive years should be relaxed to 3 out of the last 5 years to promote the inclusion of fellows that are (also) active in other sectors of society.
  - c. The number of new fellows appointed in a year should not represent more than 0.2% of the current ACL membership (approximately 4 members per year based on current membership of around 2000) to preserve the prestige of the fellow title.
  - d. Fellows should be charged with taking more responsibility for generating a large, diverse set of nominations for new fellows.
  - e. Fellows should be called upon as mentors for junior researchers in the association, possibly in connection with an annual function that honors the ACL fellows.

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<sup>6</sup> The committee has been in touch with SoftConf to investigate whether the START system could be used as the platform for the nomination database. We hope to have a first prototype in place for the Berlin meeting. In any case, we think the current software used for nominations to the fellows program is inadequate and must be replaced.

<sup>7</sup> See, for instance, [microsoft-diversity-training](#).

<sup>8</sup> Some of this statistics will be reviewed later in Section 4.

In the following sections, we will further motivate these recommendations through a review of the current and past practices of the ACL and, in the case of the fellows program, some of its neighboring associations.

## 2 Current Committees and Procedures for Nomination

The ACL constitution stipulates that there should be a nominating committee composed of past presidents of the organization:

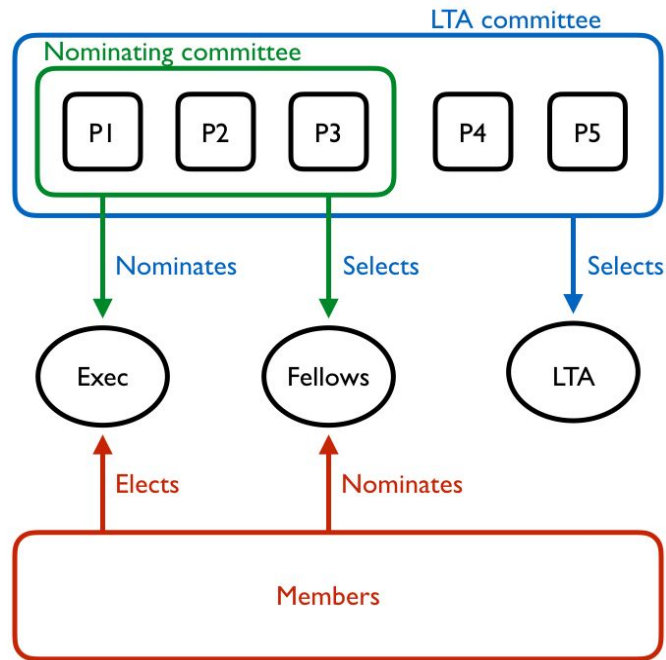
*There shall be a Nominating Committee consisting of the three most recent Past Presidents, each serving for the three years following their own Presidency. The member whose term is about to expire shall chair the Committee. In case of a vacancy the Executive shall appoint a member to serve for the appropriate period.*

The primary responsibility of the nominating committee is to nominate (normally two) people who are willing to serve in each executive position to be filled in the annual election (normally two to three positions, including the vice-president elect who will eventually become president). The membership votes to decide which of the nominees will fill each respective position. The membership can also make additional nominations before the election, something that happens regularly.

Since the introduction of the fellows program in 2011, the nominating committee has in addition been given the responsibility of electing new fellows, among candidates nominated by the membership. (This system has been in place since 2012, whereas the founding fellows appointed in 2011 were appointed directly by the executive committee.) However, the committee has not been charged with ensuring that there is a large and diverse pool of nominations, and the actual number of nominations each year appears to have been very small. The lack of a large pool of candidates is problematic from the point of view of diversity.

In addition to its role in nominating executive members and electing fellows, the nominating committee is also involved in the selection of LTA awardees, which is the responsibility of a committee consisting of the nominating committee plus the current president and vice-president, thus five consecutive ACL presidents. In the case of the LTA, there are no nominations from outside the committee.

The different roles of the nominating committee (and the five consecutive presidents P1–P5) are shown in Figure 1. A further dependency that is not directly shown is the fact that a subset of the executive members nominated will later themselves become presidents and part of the nominating and LTA committees. In this way, the current system gives a lot of influence to a small group who also nominates their own successors. Moreover, while the general chair and program co-chairs of ACL conferences are appointed by a special coordinating committee set up individually for each conference, half of these committee members are also drawn from the ACL executive, again reinforcing the influence of a small group of people. Spreading the responsibility for nomination and selection to a larger and more diverse group of people is therefore highly desirable, which is the purpose of recommendations 1–2.



**Figure 1.** Current committees and procedures for nomination and (s)election.

### 3 Fellows Programs of the ACL and Neighboring Associations

The ACL constitution states that distinguished scholars in the field may be elected fellows of the association. Up to 2011, the constitution also stated that fellows should be elected by members at the business meeting, based on nominations from the nominating committee to the executive committee, and that there should be at most 25 living fellows and at most 3 new fellows elected per year. However, no fellows were ever elected under this version of the constitution.

In 2011, the executive committee approved a resolution to reform the fellows program in preparation for the 50th anniversary of the association. This involved a change to the constitution such that fellows are instead elected by the executive committee based on recommendations from the nominating committee. The resolution also states an expectation of 15 founding fellows, 15 new fellows in year 2, 10 new fellows in year 3, and 4–8 new fellows per year in steady state. The actual outcome was 17 founding fellows in 2011, 5 new fellows in 2012, 4 new fellows in 2013, 6 new fellows in 2014, and 4 new fellows in 2015. This means 36 fellows in total after 5 years, compared to the expectation of at least 48 and at most 56.

It is worth noting that there is a discrepancy between the selection procedure described in the resolution and the actual amended constitution. The former states that the nominating committee should review nominations and award fellow titles and work without communication with the executive committee. The latter states that fellows should be elected by the executive committee based on recommendations from the nominating committee. If the (new) nominating committee is enlarged in line with our recommendations, we recommend that this committee elect new fellows directly. However, this seems to require an additional amendment to the constitution.

Neither the constitution nor the resolution is very specific about the criteria for being awarded the title of fellow. The constitution mentions “distinguished scholars in the field”. The resolution instead talks about “the most accomplished members of the association”. In the call for nominations, this is rephrased as “ACL members whose contributions to the field have been most extraordinary”. These formulations are

all compatible with an open interpretation where different types of accomplishments can be rewarded, but our empirical survey below suggests that they have mostly been interpreted narrowly as implying scientific excellence as measured by publications and citations. Since one of the most robust findings concerning implicit bias is that it can be counteracted by having explicit selection criteria established beforehand and applied consistently, it is of utmost importance that such criteria be established (and not only for the fellows program). This is the purpose of recommendation 3, which is also in line with what other associations do, as we shall see shortly.

Regarding eligibility, finally, the resolution states that a candidate must have been member of ACL for the past three consecutive years. As additional motivation for this rule, it is said that this will encourage many people to maintain their ACL membership independently of conference participation. On the negative side, we note that this may exclude candidates whose engagement in the association may be interrupted because of commitments in other sectors of society, parental leave, or illness.

After this brief review of the ACL fellows program, we will give a comparative perspective by reviewing the fellows program of some relevant neighboring organizations, namely the Association for Computing Machinery (ACM), the Association for the Advancement of Artificial Intelligence (AAAI), the Institute of Electrical and Electronics Engineers (IEEE), and the Linguistic Society of America (LSA). We will structure the review by considering five aspects: nomination and selection committee, nomination and selection procedure, selection criteria, eligibility, and selection rate.

### **3.1 Nomination and Selection Committee**

The current nomination committee of ACM consists of 9 members, of which 3 are women. The composition of the committee is publicly available,<sup>9</sup> which may help promoting the transparency of the nomination and selection procedures. The selection committee of AAAI also consists of 9 fellows. AAAI replaces 3 of their committee members every year, which may help promote a diverse and balanced selection. IEEE, whose membership reaches 400,000, has a considerably larger selection committee with 51 members. LSA, finally, has no separate nomination or selection committee. Fellows are both nominated and elected by the membership through a voting procedure.

We believe ACL should follow the example of AAAI and ACM and have a large public committee responsible for electing new fellows, with a majority of the members being fellows themselves. This is the main motivation for recommendation 2.

### **3.2 Nomination and Selection Procedure**

ACM maintains highly elaborate nomination and selection procedures. Such procedures are likely to be necessary given their very large membership with over 100,000 members. Their procedure also requires more work from nominators, for example, requiring the nominator to secure five ACM members who will officially endorse the candidate. The nominator also carries the duty to verify the membership of the candidate, as well as the membership status of all of the endorsers of the candidate. The nominator must also be a member of ACM.

The procedures are relatively less demanding in organizations with smaller membership. For example, AAAI, whose membership is about 4,000, requires one nomination with two reference letters and nominations remain active for 3 years. LSA has a similar, simpler procedure and in addition inducts previous officers (president, secretary-treasurer, journal editor) as fellows automatically at the conclusion of their service.

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<sup>9</sup> See [acm-fellow-committee](#).

The nomination procedure of ACL is comparable to that of AAAI or LSA, but we do not have automatic induction in place like LSA. We believe the nomination procedure can remain essentially as it is, but it needs better support by having a persistent record of nominations that can remain active for a longer period (as in the system of AAAI). This is one of the motivations for recommendation 4.

### **3.3 Selection Criteria**

Most scientific societies with a long history of a fellows program have explicitly stated selection criteria with emphasis on a balanced consideration of multiple types of contributions. ACM, and many others, emphasizes either or both of two categories of accomplishments: achievements related to information technology and outstanding service to the larger computing community.

AAAI further divides the scientific contributions into two categories: the first is about making significant contributions to the literature of AI, while the second is about pioneering new and developing fields of AI technology and AI applications. Thus, AAAI aims to acknowledge not only the contributions to well-established research topics but also contributions that promote new research directions or that broaden the scope of AI studies and their practical impact through new applications.

Most organizations also place a strong emphasis on the recognition of leadership and administrative or service contributions to the scientific community at large. The reference form of AAAI, for example, makes this point explicit by requiring rating of the candidate in terms of the following four factors: (1) contributions to AI knowledge, (2) contributions to society through applications of AI knowledge, (3) contributions to society through management of technical resources, and (4) service to the artificial intelligence community. As another example, IEEE requires evaluation along the following criteria: (1) significant contributions as application engineer/practitioner, educator, research engineer/scientist, and technical leader, (2) evidence of technical accomplishments and realization of significant impact to society, (3) evaluation by the IEEE Society/Technical Council selected by the nominator, (4) confidential opinions of references and endorsers, (5) service to professional engineering societies, (6) total years in the profession. Similarly, ACM requires ratings in a number of distinct categories that include industrial and pedagogical excellence in addition to scientific excellence. Candidates will be considered for a significant contribution in any one dimension, instead of requiring excellence in all dimensions.

Having explicitly stated diverse selection criteria will help both the nominators and the selection committee to consider diverse representation in the fellows program. We therefore recommend the development of explicit criteria and integration of these criteria into the nomination and selection procedure. This is part of recommendation 3.

### **3.4 Eligibility**

All societies have some kind of membership requirement for eligibility. In a large society like IEEE, there are multiple levels of membership, and only senior members are eligible for fellow nominations. ACM requires 5 years of continuous membership; AAAI requires 3 consecutive years; and LSA requires that the nominee be “a member in good standing”.

The current requirement for ACL fellows is the same as AAAI, and some kind of membership requirement is obviously needed, because fellows should be outstanding members of the association. However, we believe that relaxing the constraint on consecutiveness may lead to the inclusion of more fellows who are active in several different areas of academia, industry or society, or who for other reasons have an interruption in their ACL membership. This is the basis for recommendation 7b.

### **3.5 Selection Rate**

The selection rate for the fellows program of a scientific organization seems to vary depending on the size of the community and/or the duration for which the fellows program has been run. ACM, the world's

largest scientific computing society, has more than 100,000 as of 2011 and limits their fellows to be the top 1% of the membership. IEEE, the world's largest association of technical professionals with more than 400,000 members, limits newly inducted fellows each year to be no more than 0.1% of their membership. AAAI, whose membership (4000 members) is more comparable to that of ACL (2000+ members), still aims to limit their fellows to be 1% of their members (like ACM). However, since their program started in 1990, they have allowed 5–10 new fellows each year and currently have 99 fellows, which is well in excess of their targeted rate of 1%. LSA, whose membership is also about 4,000 members but whose fellows program started only in 2006, allow up to 5% of the members to be fellows, with at most 10 new fellows per year.

Notably, some societies with a large membership maintain a more structured membership with different grades. For example, ACM, whose membership reached more than 100,000 in 2011, has the *senior members* and the *distinguished members* constituting the top 25% and 10% of the overall ACM members respectively. Each of this membership rank requires a separate process of being nominated and endorsed. Its topmost grade is fellow, which constitute the top 1% of the membership.

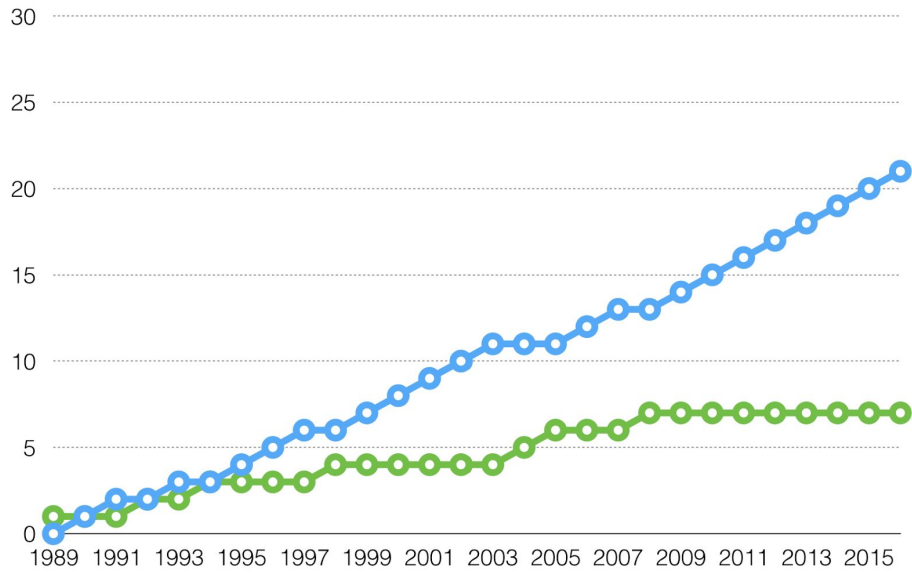
Many of the above data points are for larger organizations. We believe strict percentage limits could be too hard for a smaller organization like the ACL. The ACM model, which limits the total number of fellows to 1% of the membership, could lead to starvation (no new fellows after 10+ years). A reasonable compromise therefore seems to be to adopt the IEEE model (new fellows limited to 0.1% of the membership) but double the limit to 0.2% of the membership, which would currently translate into about 4 new fellows per year. Hence our recommendation 7c.

## 4 An Empirical Survey of Representation

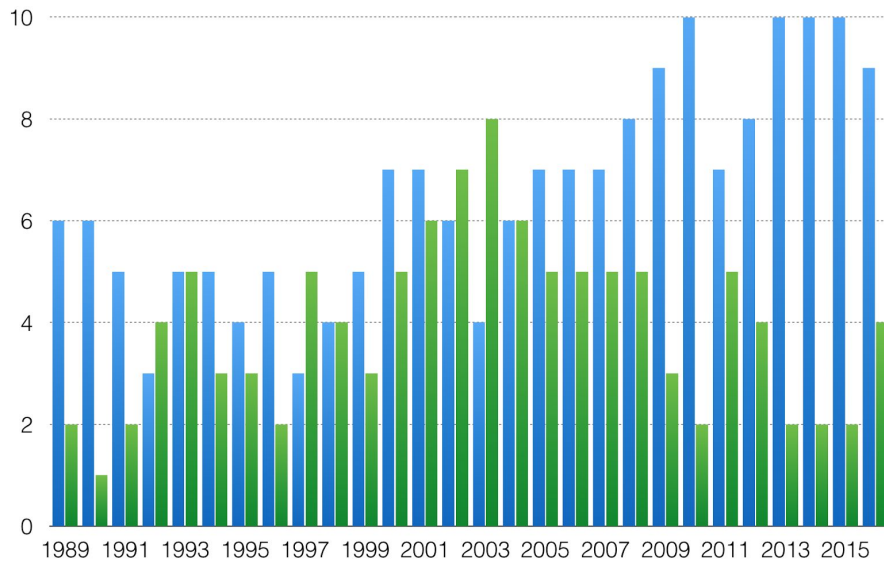
One of the starting points for our work is the observation, communicated to the ACL executive on multiple occasions, that there is an increasing imbalance in the gender distribution of the executive (not least with respect to the function of president), the fellows program, and the LTA award. To get a clearer picture of the situation, we have therefore carried out an empirical survey of representation in three different groups: executive members, LTA awardees, and fellows. Ideally, this survey should also have taken into account other possible grounds of discrimination, such as ethnicity, age and religion, but it has proven impossible to collect the necessary data in a systematic and reliable fashion. We will therefore focus on gender balance, and limit ourselves to a few observations about geographical origin or affiliation.

Figures 2 and 3 summarize the statistics on gender representation in the executive committee over the period 1989–2016. Figure 2 shows the cumulative count of men (blue) and women (green) in the role of president; Figure 3 shows the number of men (blue) and women (green) in the committee as a whole in each year. Both graphs show a relatively balanced representation of men and women during the first twenty years (1989–2009), albeit with a majority of male presidents, but an increasingly unbalanced distribution from 2009 and onwards. The nominating committee during the same period has mostly consisted of both men and women, but because it is always composed of the three most recent presidents, there have been all-male nominating committees in 1998, 2002–2004 and 2012–2016. It is worth noting that, whereas this seems to have led to an increase in female nominations in 2002–2004, it seems to have perpetuated male dominance in 2012–2016.





**Figure 2.** Cumulative count of male (blue) and female (green) presidents of the ACL.

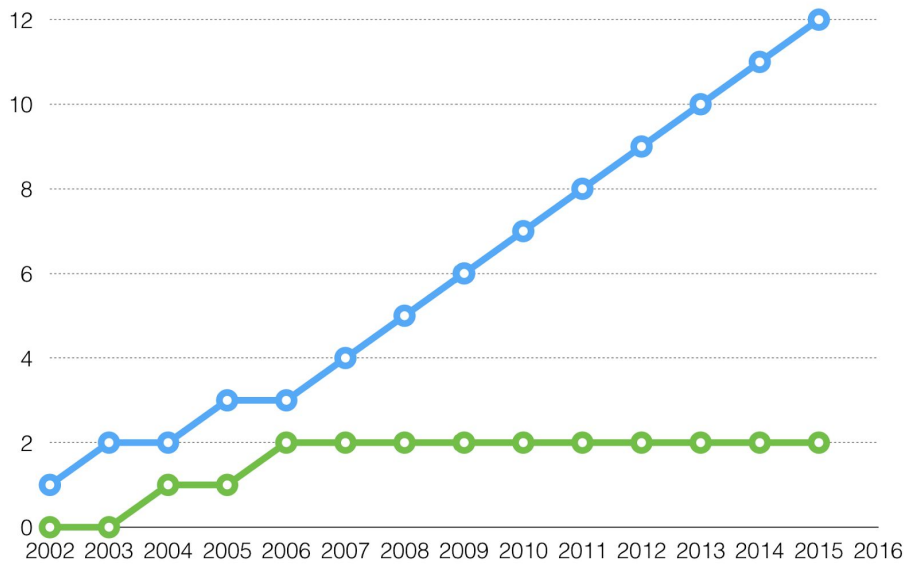


**Figure 3.** Number of male (blue) and female (green) ACL executives in each year.

Studying the geographical distribution in the executive and among presidents is less straightforward. It is only during the last decade that ACL has adopted the policy of letting the presidency rotate between the Americas, Europe and the Middle East, and Asia and the Pacific, and there is still no Asian Chapter of the ACL (corresponding to NAACL and EACL), even though the AFNLP has been given a similar status and now has a representative in the executive. For what it is worth, we have found that during 1989–2016, there have been 16 presidents with a North American affiliation, 9 presidents with a European affiliation, and 3 presidents with an Asian affiliation. If we go by place of birth instead of affiliation, the numbers are 13 for North America, 9 for Europe, and 6 for Asia-Pacific.

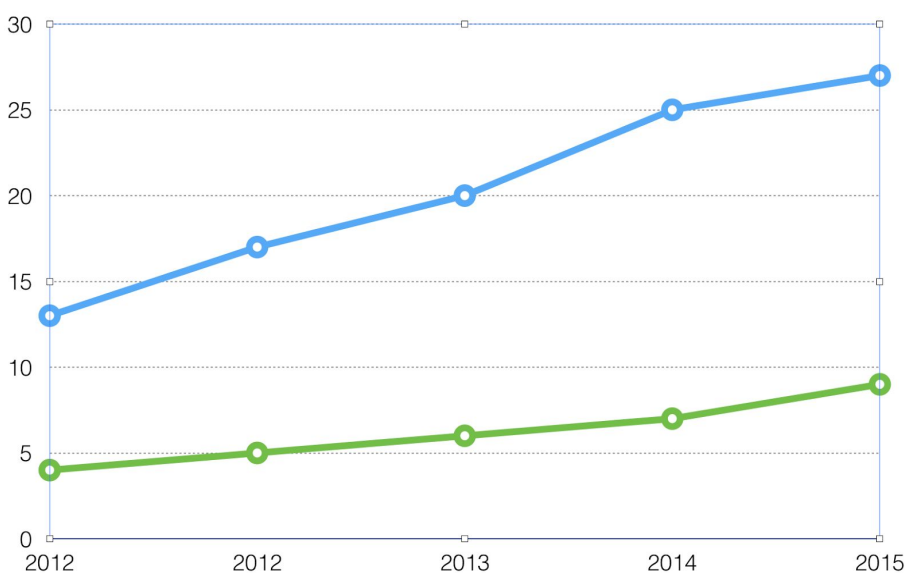
Turning to the LTA, Figure 4 shows the cumulative count of men (blue) and women (green) among LTA winners over the period 2002–2015. As the graph shows, there has not been a woman awarded the LTA

since 2006, and a distribution that was balanced at that point has become extremely imbalanced in the last ten years. When it comes to geographical distribution, it again makes a difference whether we consider origin or affiliation. When considering affiliation at the time of the award, there is a strong majority from North America (9), followed by Europe (4) and Asia (2). When considering place of birth, the majority of LTA winners are instead from Europe (6), followed by North America (5) and Asia (3).



**Figure 4.** Cumulative count of male (blue) and female (green) LTA awardees.

For the fellows program, Figure 5 shows the cumulative count of men (blue) and women (green) during the five years that the program has existed. The relative proportion of women started out just above 30%, dropped to 28% in 2014, and went up to 33% in 2015. Here we have to keep in mind that we are dealing with very small numbers, so that even in 2015 a single individual accounts for almost 4% of the entire group.



**Figure 5.** Cumulative count of male (blue) and female (green) ACL fellows.

**Supplementary Analysis:** In order to get a better empirical basis for analysis of the fellows program, we created a spreadsheet detailing objective criteria that could contribute to a candidate's selection as fellow. These included the citation metrics **h-index** and **number of citations** overall, as measured by the ACL Anthology Network<sup>10</sup> (AAN), which largely tracks authorship and citation within the ACL Anthology, and Google Scholar (GS), a more general overall index. It also included number of years since the fellow graduated from their doctorate, termed **seniority** in what follows, **years of service** to the ACL,<sup>11</sup> **geographical region**, and **gender**.

We then supplemented the list of 36 current fellows along with their data with a secondary pool of 41 candidates who the committee perceives as meeting many of the explicit selection criteria that we recommend applying in future, which we refer to as “non-fellows” in the subsequent analysis.<sup>12</sup> We were concerned that differential criteria in terms of scientific contribution might be applied according to gender or geographic region, and the expanded pool was thus intended to introduce more diversity for both of these criteria. We conducted several empirical analyses of the resulting pool, exploring whether gender and geographical region are strong predictors of fellow status.

As a summary, our exploration yields strong correlations for seniority and citations, which is expected and indicates that scientific impact has been rated highly in the selection. However, it is important to note that citation statistics, despite their apparent objectivity, are susceptible to bias as well.<sup>13</sup> We found a weak correlation for gender and for geographical location, and there was also a weak negative correlation for years of ACL service in our sample. In more detail, our exploratory data analysis of the expanded pool attempted:

- Linear and SMO regressions of the pool – predicting fellow or non-fellow status – with respect to varying criteria, sub-selected from the full inventory from those mentioned in the introduction to this section. Regressions were ten-fold cross validated to ameliorate problems with overfitting. Both models yielded moderate correlation, where both seniority and the CL/NLP specific h-index sourced from AAN were significant strong predictors. Our SMO regression additionally picked a number of additional criteria, including gender (positive bias for male gender), and geographical location (positive bias for North America), at the expense of weaker overall correlation and higher overall mean error. A more optimal SMO regression that removed both gender and geographical location correlated better, which may be due to the data being sparse for the underrepresented groups. The SMO regression also showed a negative correlation between fellow/non-fellow status and years of service to the ACL, suggesting rather surprisingly that service to the ACL community is not preferred for the current fellows selection.<sup>14</sup>

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<sup>10</sup> AAN version 2013, the latest release available at the time of analysis.

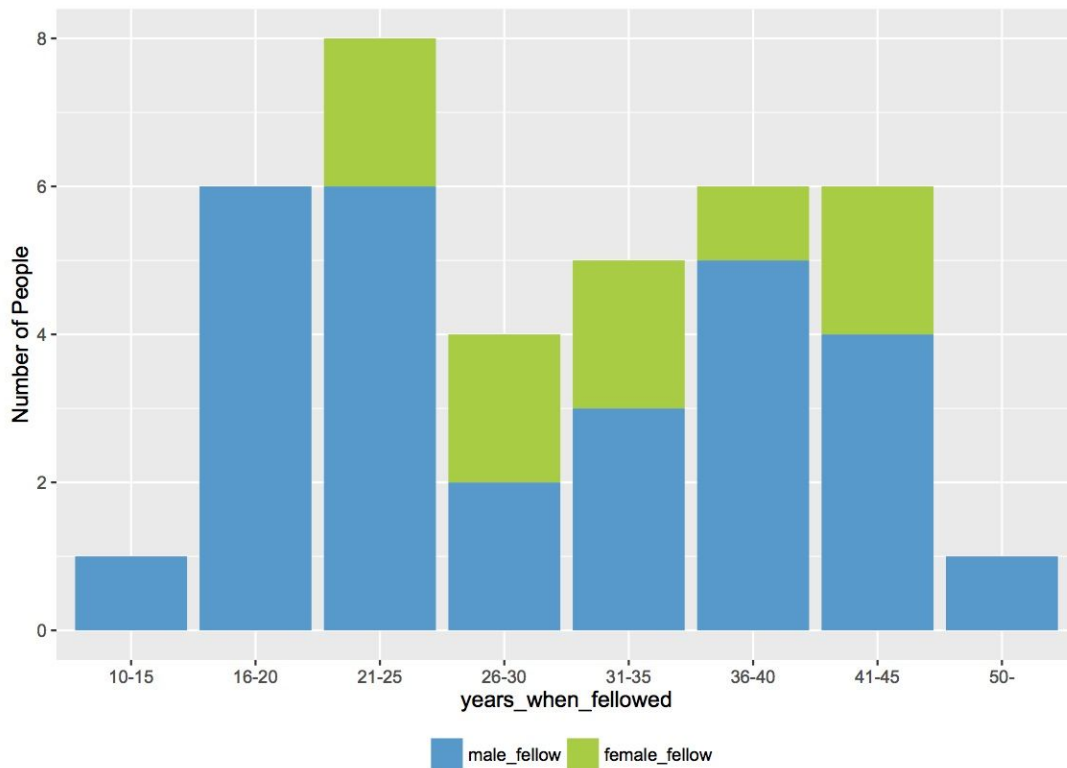
<sup>11</sup> As service to the ACL, we counted service on the ACL executive and nominating committees and the corresponding bodies of the EACL and NAACL chapters, service as program chair at ACL, EACL and NAACL, and as editor (but not editorial board member) of CL.

<sup>12</sup> It is difficult at present to randomly sample from the ANN database using features such as ANN h-index along with features indicating diversity, such as gender or geographical region, so we had to settle for a sample constructed by asking each committee member to propose candidates. We did make sure, however, that our pool included every person in the top-20 according to ANN h-index as well as every ACL president since 1989.

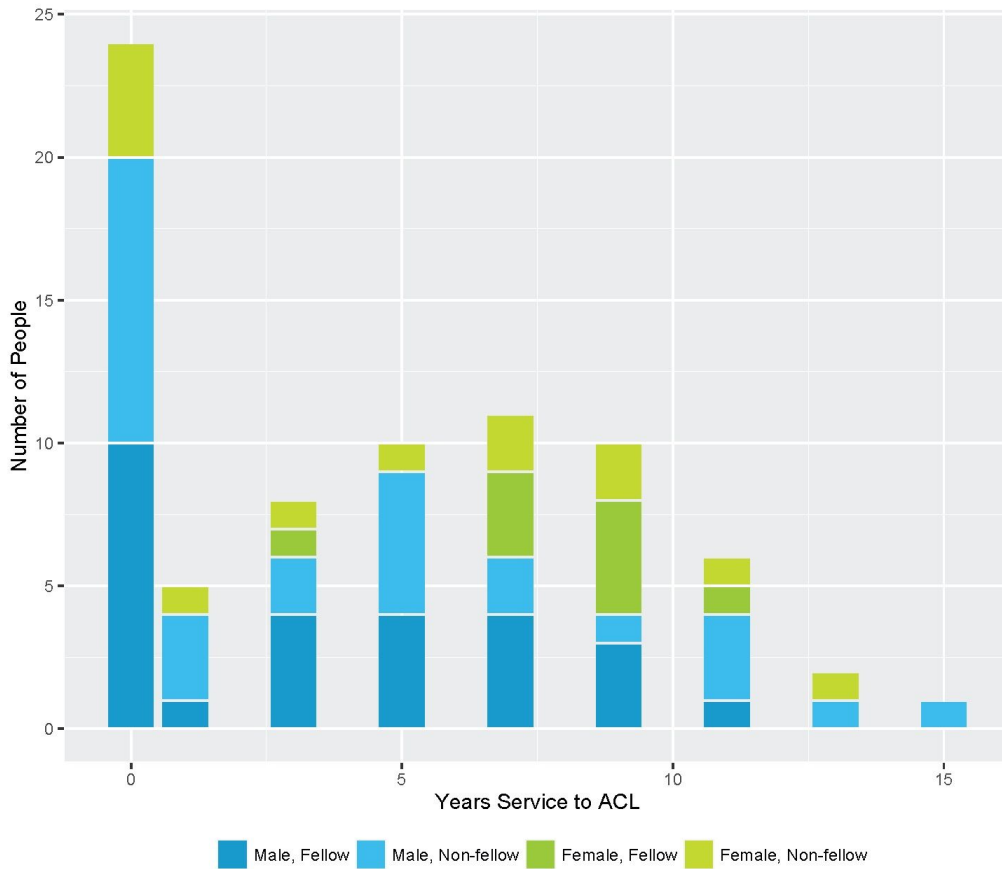
<sup>13</sup> See, for example, [nepotism-and-sexism](#), which showed that women in the life sciences had to publish 2.5 times as much as men in first-rank journals to reach the same perceived level of competence.

<sup>14</sup> A closer analysis reveals that this correlation comes from the fact that there are 10 fellows whose value is 0 for service and 1 whose value is 1. In other words, there are many fellows who, as far as we can tell, have done little or no service to the organization, while there are both male and female non-fellows with comparable scores for citations and seniority with many years of service to the organization. One thing to keep in mind, though, is that serving members of the executive cannot be made fellows, which may explain some of the “missing” fellows with many years of service.

- Plots and t-tests of different combinations of variables on both the fellows pool and the expanded pool. Of note is Figure 6, which shows the current distribution of male and female fellows as a function of seniority. During the first 4 years of the fellow program's existence, female researchers appeared to require considerably more seniority to be named ACL fellow than male researchers. Thus, in 2014, there were 7 female and 26 male fellows, where the female average year past PhD was 35.3 and the male average was 27.4. This was a statistical trend ( $p = .06$ ). There were no females who were made a fellow with less than 25 years experience past PhD, but there were 9 males who were made a fellow with years past PhD ranging between 13 and 20. Nominations for female fellows in 2015 explicitly focused on correcting this trend, bringing the mean for females down to 32.6 at present as compared to a male mean of 28.3. However, as the graph shows, the distribution is still highly skewed. Also of note is Figure 7, which shows the distribution of male and female fellows and non-fellows as a function of years of service to ACL. Women (mean = 7.5 years) have on average done twice as much service to ACL as men (mean = 3.8 years) before being made fellows ( $p = .006$ ). Moreover, there are many members of the ACL community who have performed a great deal of service without being recognized as a fellow, as well as many ACL fellows who have not provided much in the way of service to the association.



**Figure 6.** Distribution of male and female fellows by years since PhD when made a fellow.



**Figure 7.** Distribution of male/female fellows/non-fellows as a function of years of service to ACL.

Summing up the results of our empirical survey, we must conclude that the association has not given sufficient attention to maintaining a balanced representation, most clearly with respect to gender. Female representation on the executive committee, among LTA awardees, and among fellows has decreased over the last decade. At the same time, at least according to one study, female representation in the community as measured by authorship in the AAN has increased steadily from 1980 to 2012.<sup>15</sup> In addition, our supplementary analysis strongly suggests that the election of fellows has not been consistent with the broad selection criteria that we think are appropriate and that are implied by the phrase “distinguished scholars” in the constitution.

## 5 Concluding Discussion

The current system for nomination and selection of executive members, LTA awardees and fellows has developed gradually over time. While the nominating committee was originally responsible only for nominations to the executive committee itself, its duties have been extended first to the selection of LTA awardees (in collaboration with the president and vice-president) and later to the selection of new fellows (based on nominations from the membership). As argued in Section 2, a weakness of this setup is that there are very strong dependencies between different parts of the system and that it puts both a heavy burden and significant influence on a relatively small group of people. Past and current presidents are involved in the selection of LTA awardees and fellows, as well as in the nomination of new executive members, and the composition of the committees changes slowly. This means that any imbalance that arises runs the risk of perpetuating itself over a number of years. Our empirical survey shows that such

<sup>15</sup> See [he-said-she-said](#).

imbalances have been observed in the past, some of them quite recently, and there is clearly a risk that these procedures may lead to inequality and bias. We therefore think that there are good reasons to try to improve the current system.

We are recommending that part of the solution is to keep the single committee but make it larger, more diverse, and more independent of the ACL executive. An alternative option would be to break the strong dependencies by having a larger number of committees. However, this runs the risk of making the whole system difficult to manage, not to mention the need to recruit people for several different committees. Having a large and diverse committee is a well-established strategy for preventing bias and is part of many guidelines for avoiding implicit bias in award committees and similar.<sup>16</sup> We also note that all the neighboring associations we have reviewed have a larger nominating committee (at least for fellows). With a larger committee, it is easier to ensure that there is a good balance in the representation of different groups. By requiring that only a subset of the members come from the executive itself, we break the strong dependency between the executive and nominating committees, and by further requiring that the committee have a balanced composition, we guarantee gender and geographical diversity in the committee. We are aware that the use of quotas can be controversial, but there is good evidence that it not only improves equality and diversity but also has a positive impact on quality.<sup>17</sup> With these measures in place, we think it is appropriate that the committee elects new fellows directly, without direct approval from the executive, as stated in the original resolution (but not in the constitution), and similarly for the LTA award. This is the essence of recommendations 1–2.

Having a larger and more diverse committee is one way of preventing bias, but studies have shown that it is even more important to have explicit and transparent selection criteria, to establish these criteria before the selection process starts, and to document how the criteria have been applied.<sup>18</sup> It has also been shown that different groups of members within an association excel and enhance the association through different forms of achievement,<sup>19</sup> and failure to take this into account in the criteria could lead to unwanted bias in the selection and lack of diversity as a result. Hence, we recommend that explicit criteria should be established for all awards and functions that are in the purview of the new nominating committee or a conference coordinating committee, and that these criteria take into account different relevant types of qualifications. These criteria should be made explicit in the nomination process and the respective committees should be charged with documenting how the criteria have been applied. This is recommendation 3.

One question that has been discussed in the committee is whether the establishment of explicit criteria, especially for the fellows program, would necessitate a retroactive one-time correction, especially in view of our supplementary empirical analysis, which suggests that the current pool of fellows would not be fully representative of the new and diverse criteria. After careful consideration, we have decided not to recommend this, because there is a clear risk that fellows who were appointed in such a process could be perceived as less worthy in the community. Instead, we therefore recommend that the ACL executive should monitor the development of the fellows program to ensure that the currently observed bias in the program is corrected over time by the consistent application of the new selection criteria. Hence recommendation 7a.

It is important to note that a more diverse committee and explicit criteria will only be effective if there is also a larger and more diverse pool of candidates under consideration. We recommend the creation of a persistent database of nominations that remain active over a window of 3 years, and that the nomination process be viewed as one where nominations can be easily updated, improved, and resubmitted if

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<sup>16</sup> See, for instance, [amstat-acguidelines](#), [maa-implicit-bias-statement](#), [women-in-science-best-practice](#).

<sup>17</sup> See, for instance, [ways-quotas-for-women-raise-quality](#).

<sup>18</sup> See, for instance, [a-ladder-made-for-men](#).

<sup>19</sup> See, for instance, [maa-implicit-bias-statement](#).

unsuccessful. In fact, this was anticipated (but not implemented) in the original resolution for the fellows program, which states: “Files will be carried over from year to year, so if a candidate is not accepted, re-consideration is possible.” Our recommendation to relax the membership requirement to 3 out of the last 5 years is also intended to have a positive influence on the diversity of the nomination pool. However, we believe that the new nominating committee must also be explicitly charged with generating a large and diverse pool of candidates, by spreading information and soliciting nominations. In addition, the existing pool of fellows should be charged with enhancing the robustness and diversity of the nomination pool (over and above being involved in the nominating committee). This is captured by recommendations 4, 7b and 7d.

Finally, perhaps the single most important way of promoting diversity and preventing bias is to raise awareness of these issues both in the committees responsible for nomination and (s)election and in the community at large.<sup>20</sup> We make two recommendations to this effect. The first is that members of the new nominating committee and conference coordinating committees should be strongly encouraged to take an online course in diversity training – recommendation 5. The second is that ACL should maintain and publish diversity statistics for the executive committee, the fellows program, the LTA award, and general and program chair positions so that members can track the development of these statistics over time – recommendation 6. Needless to say, these are only two simple steps towards a more open, inclusive and diverse computational linguistics community, but they can also send an important signal that the ACL executive is taking these matters seriously. And together with the other measures recommended, we believe that they can make a real difference.



Yejin Choi



Min-Yen Kan



Joakim Nivre (chair)



Marilyn Walker

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<sup>20</sup> See, for instance, [reducing-impact-negative-stereotypes-careers-minority-and-women-scientists](#).