How to be an IEEE fellow ?

Dr. Bimal K. Bose, Life Fellow, IEEE

The IEEE (Institute of Electrical and Electronic Engineers) is the largest international professional organization with membership around 271,000. To receive the Fellowship award from the IEEE is highly prestigious and a symbol of status in your profession. It is the recognition of your outstanding professional accomplishment. If you become an IEEE Fellow, the gate will open for you for more prestigious IEEE Medals, Field Awards, Society Awards, and you will be eligible for Distinguished Lectureship offered by some selected IEEE Societies. It is also likely that the door will open to you for promotions and higher responsibilities in life. However, to be an elite member of the Fellow group, you have to face severe global competition. Every year, the IEEE restricts the Fellowship award to only 0.1% of total membership. As the IEEE is expanding globally bringing in more membership, i.e., more Fellowships awards annually, to be an IEEE Fellow remains as competitive as ever.

How can you be an IEEE Fellow? You can deserve this award if you have made significant contributions as research engineer/scientist, application engineer/practitioner, technical leader, or educator although, practically speaking, majority of the awards are bagged by the university professors with doctorate degree and substantial research publications [1]. Industrial engineers/researchers (preferably with doctorate degree) with significant patents and publications also constitute a large number of Fellow recipients every year. Only the first category will be emphasized in this article. The IEEE Fellowship is awarded by nomination, and you must be a Senior Member with Membership status at least for five years. The Fellowship election by the IEEE is a very complex process and is given by the flowchart shown in Fig.1.

Nominator

By the time you become eligible for Fellowship with your "extraordinary record of accomplishments", many senior professional colleagues come to know you and admire your work. The professional visibility is extremely important for being an IEEE Fellow. Attend as many conferences as possible, present papers, chair sessions, participate in panel sessions, review papers, establish contact and impress the senior professional colleagues as much as you can, send your outstanding publications to selected people and ask for comments, etc. Participation in international conferences is becoming more expensive, and therefore, promoting visibility becomes more difficult, particularly for people from the developing countries. However, easy internet communication is a favorable tool for this. At appropriate time, when you think you are eligible to be an IEEE Fellow, propose it to a potential Nominator and ask his opinion. Or else, a Nominator takes initiative and identifies you as a potential Candidate. Although a Nominator can be anybody (except the IEEE officials participating in the Fellowship process), even a non-member of the IEEE, it is better that he is an important professional, preferably an IEEE Fellow. At the same time, help the Nominator to identify 5 (minimum) – 8 (maximum) IEEE Fellows who will be willing to act as Referees admiring highly your contributions. Once the Nominator and Referees have been identified, the next step is completion of Fellow Nomination Form very carefully. At this point, determine the IEEE Society/Council that will evaluate the Nomination Form. If you are active in more than one Society/Council, select one that will tend to give you better evaluation. The Nominator will need your intimate cooperation in filling up the Nomination Form. The salient points in contributions and evidence of accomplishment should be included, but the whole space should not be filled with "dry" and "highly technical" statements which are not comprehensible by persons outside the candidates area of expertise. The number of publications (including journal papers), patents and books (if any) should be mentioned. General comments highlighting the importance of the work should be included. Did the work have any special impact? All the important eye-catching words should be in bold characters. Minimum font size of 10 can be used. If necessary, the space should be filled up using larger font size. Carefully chosen words should be selected in the Form and it should be revised several times until the write-up is optimal. Note that professional ethics is important, and conflict of interest should be avoided in all stages. It is unethical for the candidate (as well as the Nominator) to fill-up the Form and pass it to the Nominator for acceptance as it is. The Nominator forwards the completed Form to the IEEE Fellow Committee with copies to the Referees and one or more Endorsers, if any. All the deadlines shown in the flowchart can be modified by the IEEE for any year.

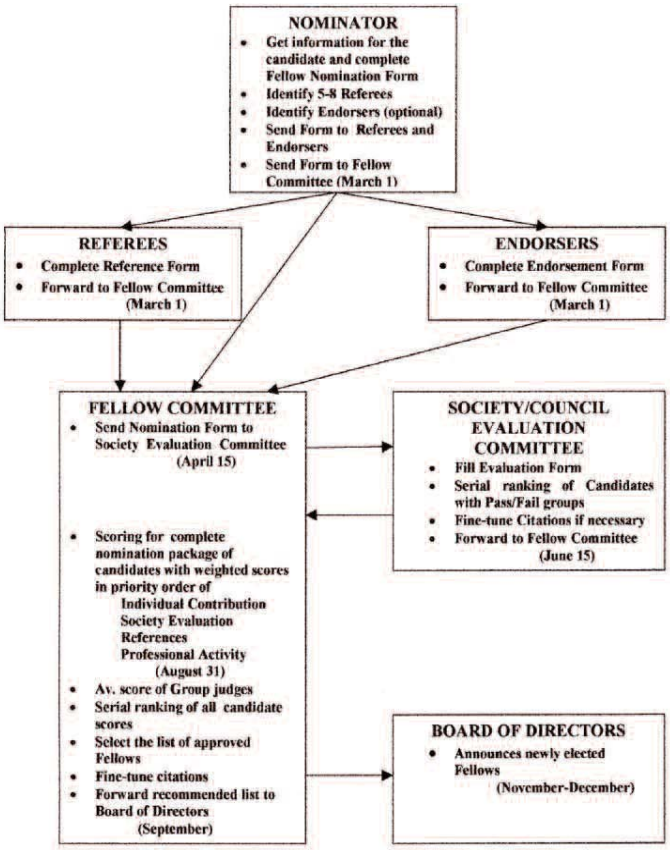

Fig.1 Flowchart for IEEE Fellowship election

Referees

As mentioned above, all the Referees should be IEEE Fellows, and they should fill up the Fellow Reference Form and forward to the Fellow Committee within a deadline. It is better to distribute Referees around the world and among outstanding professionals, if possible. A bad impression is easily created if, for example, only Chinese Referees are selected for a Chinese candidate. Also, concentration of Referees from the local area should be avoided. In the Reference Form, the core accomplishment should be mentioned, but should not be dragged too deep into highly technical points which are incomprehensible beyond the Candidates area of expertise. In general terms, the importance of the work should be mentioned highlighting any special impact of the work. The number of publications (including journal papers), patents and books (if any) should be mentioned. Again, easy, simple and

concise sentences should be selected with emphatic words. The space can be filled up using higher font size (minimum size 10), if necessary. Bold letters should be used for important points to catch the eye. Here, again, the code of ethics and conflict of interest are important. The Referee classifies the candidate in one of the following categories: Not Qualified, Qualified, Highly Qualified and Extraordinarily Qualified. The recommendation statements should match this classification.

Endorsers

The letters of endorsement in Fellow Endorsement Form can be submitted by professional organizations or individuals supporting the nomination of the candidate, but the endorsement is optional. Often, the endorsements go unnoticed for the evaluation of the Fellowship process.

Society/Council Evaluation

Every IEEE Society/Council has an Evaluation Committee with a number of members and the Chair which is responsible for evaluation of the Fellow Nomination Forms forwarded in that Society. Note that the Society evaluator may not be necessarily in the candidate's field of specialization, and may not understand much of the candidate's professional accomplishment. He will try to search for good words about the candidate. The Committee fills up an Evaluation Form scoring the candidates into four groups: Not Qualified, Marginally Qualified, Qualified, Highly Qualified and Extraordinarily Qualified with a corresponding numerical score. All the candidates are then ranked in serial order. The Society evaluation score is extremely important for being an IEEE Fellow. The larger Societies have many nominations and competition tends to be severe. The nomination for low score candidates die at the Society level. On the other hand, in a small Society, normally the score tends to be high because of less competition. In order to get good score at the Society level, the candidate must be highly visible within the Society. Often a good impression comes by the Society work, such as organizing and chairing sessions, tutorials, workshops, being active in various committees, or such visible activities.

Fellow Committee

The IEEE Fellow Committee is the guardian that administers the Fellow evaluation process and sends the final recommendation about the successful candidate to the Board of Directors for formal award of the Fellow grade. It consists of a number of members (called judges) with a Chair on the top. The members are divided into several groups with several members in each group. Each member receives the complete nomination package (Fellow Nomination Form, Reference Forms, Endorsement Forms and Society Evaluation Form), say, of 100 candidates and fills up a score sheet about each candidate. The scores are weighted according to the following priorities:

- Individual Contributions
- Society Evaluation
- References
- Professional Activity

This is the most crucial stage for evaluation. Note that a Fellow judge may be a computer scientist evaluating a power engineer who may not know anything on power engineering. He will try to get impression about the candidate from all the statements and Society scores. The practical approach of evaluation may be as follows:

(1)Have first impression of the candidate by looking into the year of Ph.D. degree, the university, and his employment record. A good university, 8-10 year employment experience and a reputed place of employment gives good impression.

(2) Look into Society evaluation score and comments, and select a score. This early impression is very important. The score may be somewhat different from Society score because he is trying to equalize among different Societies

(3) Look into IEEE and non-IEEE activities of the Nomination Form and select the score for Professional Activity. The awards, offices held, committee membership, etc. determine this score.

(4) Read the Reference Forms and score References with an impression. Often, the Reference Form by an outstanding professional carries weight.

(5)Scoring the Individual Contribution which has the maximum weightage is the most crucial part of the evaluation. By scoring the first three items, the Fellow Judge has made a definite impression about the candidate. He will then look into the Nomination Form and search further impressions about the candidate. He does not really understand the technical jargons of the accomplishment and will look for key words that will highlight the candidate's accomplishment. Sometimes, the help of "scholar.google.com" is taken to evaluate how the nominee's publications are cited by others. Finally, a score will be given from the judgment.

A Fellow judge also gives a Pass/Fail recommendation in the Form with the Fail grade if the candidate appears to be unqualified. All the percentage scores are multiplied with the appropriate weighting factors, added, and averaged for the group members. A final score (with small weightage) that depends on the number of years since receiving the first degree is easily added by the IEEE staff. Similar scorings are done by the other groups, and all the results are blended together in a master list with serial or totem pole ranking of all the candidates. The Fellow Committee members will then meet in a place, discuss discrepancy of scoring, iterate the serial ranking and finalize the citation . At the end, the upper slab (0.1% of total membership) will be selected and forwarded to the Board of Directors with favorable recommendation. Finally, a congratulatory letter comes to the lucky candidate announcing his Fellowship. Then, the official Fellow Certificate is given in an IEEE conference.

Apparently, IEEE Fellowship nomination and evaluation constitute a complicated and painstaking process that requires many man-hours of strenuous work for many people. However, such an effort is justified considering the weight and prestige of the award. Good luck to you.

(Note – The Fellowship policy is determined by the IEEE Fellowship Committee, and therefore, the evaluation procedure may change from year to year.)

[1] www.ieee.org/fellows

IES members appointed as IEEE Fellows in 2005

We are proud to comunicate that recently these IES members have been appointed as IEEE Fellows

Prof. Dushan Boroyevich
Virginia Tech, Blacksburg, USA
dushan@vt.edu
for advancement of control, modeling and design of switching power converters

Prof. Carlo Cecati
University of L'Aquila, L'Aquila, Italy
c.cecati@ieee.org
for contributions to advanced control of power electronics converters and electrical drives

Prof. Hideki Hashimoto
University of Tokyo
Tokyo, Japan
hashimoto@iis.u-tokyo.ac.jp
for contributions to mechatronics systems

Prof. Geza Joos
McGill University, Montreal, Canada
joos@ece.mcgill.ca
for contributions to the theory and application of high power converters in power systems

Prof. Makoto Kaneko
Hiroshima University, Hiroshima, Japan
kaneko@hfl.hiroshima-u.ac.jp
for contributions to design, sensing, and manipulation schemes for robotic hands

Prof. Kazuhiro Kosuge
Tohoku University, Sedai, Japan
kosuge@irs.mech.tohoku.ac.jp
for contributions to multiple robots coordination and human-robot interface

Dr. Alfred Rufer
EPFL, Lausanne, Switzerland
alfred.rufer@epfl.ch
for contributions to supercapacitive energy storage techniques and asymmetrical multilevel inverters

Dr. Dennis Woodford
Electranix Corporation, Winnipeg, Canada
daw@electranix.com
for leadership in the development of digital simulation of DC links and flexible AC transmission devices