



# IEEE Fellow Nomination

IEEE IES FELLOW NOMINATION ADVISORY COMMITTEE



# Outline

- ▶ Introduction to FNAC
- ▶ Current IES IEEE Fellow situations
- ▶ IEEE Fellow Nomination Process

## Some IEEE Fellow Statistics (Jan 2019)

- ▶ # of IEEE Members: 429,825 # of IEEE Fellows: 7,862
- ▶ # of IEEE Senior Members: 43,928
- ▶ # of IES Members: 7,463
- ▶ # of IEEE Fellows in IES: 187 (3% of IES memberships)
- ▶ # of IEEE Senior Members in IES: 1,445
- ▶ Compared to our peer sister societies: PES, IAS, PELS, RAS, CSC
  - ▶ PELS: 3.8%
  - ▶ PES: 4.65%
- ▶ Note that some of our members are also members of other societies, and vice versa



# Current IES Fellow Situations

- ▶ IES members are under-recognized
  - ▶ We have so many highly qualified, IEEE Fellow worthy members. Yet, many of our colleagues are too modest or too busy to apply for this IEEE Fellow recognition.
  - ▶ Sometimes, how to effectively navigate the nomination process can be a factor.
  - ▶ This committee would like to promote and advise our IES members effective ways to be elevated to IEEE Fellow when ready.

# IEEE IES Fellow Nomination Advisory Committee (FNAC)

- ▶ IEEE IES Fellow Nomination Advisory Committee (FNAC) is **NOT** “Fellow Evaluation Committee (FEC)”
- ▶ FNAC and FEC are two completely **independent** from each other – avoid conflict of interest

# IES IEEE Fellow Application Process

- ▶ Typically, IES members interested in being elevated as an IEEE Fellow
  - ▶ Seeks a nominator
  - ▶ Seeks references
  - ▶ Prepare the package
  - ▶ The candidate does most of the work
- ▶ Some other approaches
  - ▶ A nominator believes that an IES colleague deserves the IEEE Fellow recognition, then nominates the person
  - ▶ The nominator works with the candidate to seek references and to prepare the package



# Elevation to IEEE Fellow Grade

The following information are excerpted from IEEE  
Fellow Webpage:

<http://www.ieee.org/fellows>



# Fellow Grade Qualification

- ▶ Unusual distinction in the profession, an outstanding record of accomplishments, advancement or application of engineering, science, and technology, bringing the realization of significant value to society
- ▶ A competitive process as IEEE Bylaw I-305.6 defines the maximum number of elevations that can occur in a current calendar year as 0.1% of IEEE voting membership, in the preceding calendar year.
- ▶ As such, not possible to define a precise closed set of criteria that ensures elevation.
- ▶ Note the 0.1% elevations cap is applied across IEEE as a whole, as per IEEE Bylaws; **it must not be interpreted as a per-Society maximum or guideline.**





# Writing an Effective IEEE Fellow Nomination

- ▶ The Nomination Form is a critical document during the Fellow elevation process, and as such, its content is key to the success of the nomination.
  
- ▶ Reviewed and Assessed by THREE separate audiences:
  1. Fellow Grade References (3-5 IEEE Fellows)
  2. Society/Technical Council Fellow Evaluating Committee (FEC) members Evaluators)
  3. IEEE Fellow Committee members (Judges)

# Flowchart for IEEE Fellowship Election



**NOMINATOR**

- Get Information for the candidate and complete Fellow Nomination Form
- Identify 3-5 Referees
- Identify Endorsers (optional, 3 max.)
- Send Form to Referees and Edorsers
- Send Form to Fellow Committee (**March 1**)

**REFEREES**

- Complete Referee Form
- Forward to Fellow Committee (**March 1**)

**ENDORERS**

- Complete Endorsement Form
- Forward to fellow Committee (**March 1**)

**FELLOW COMMITTEE**

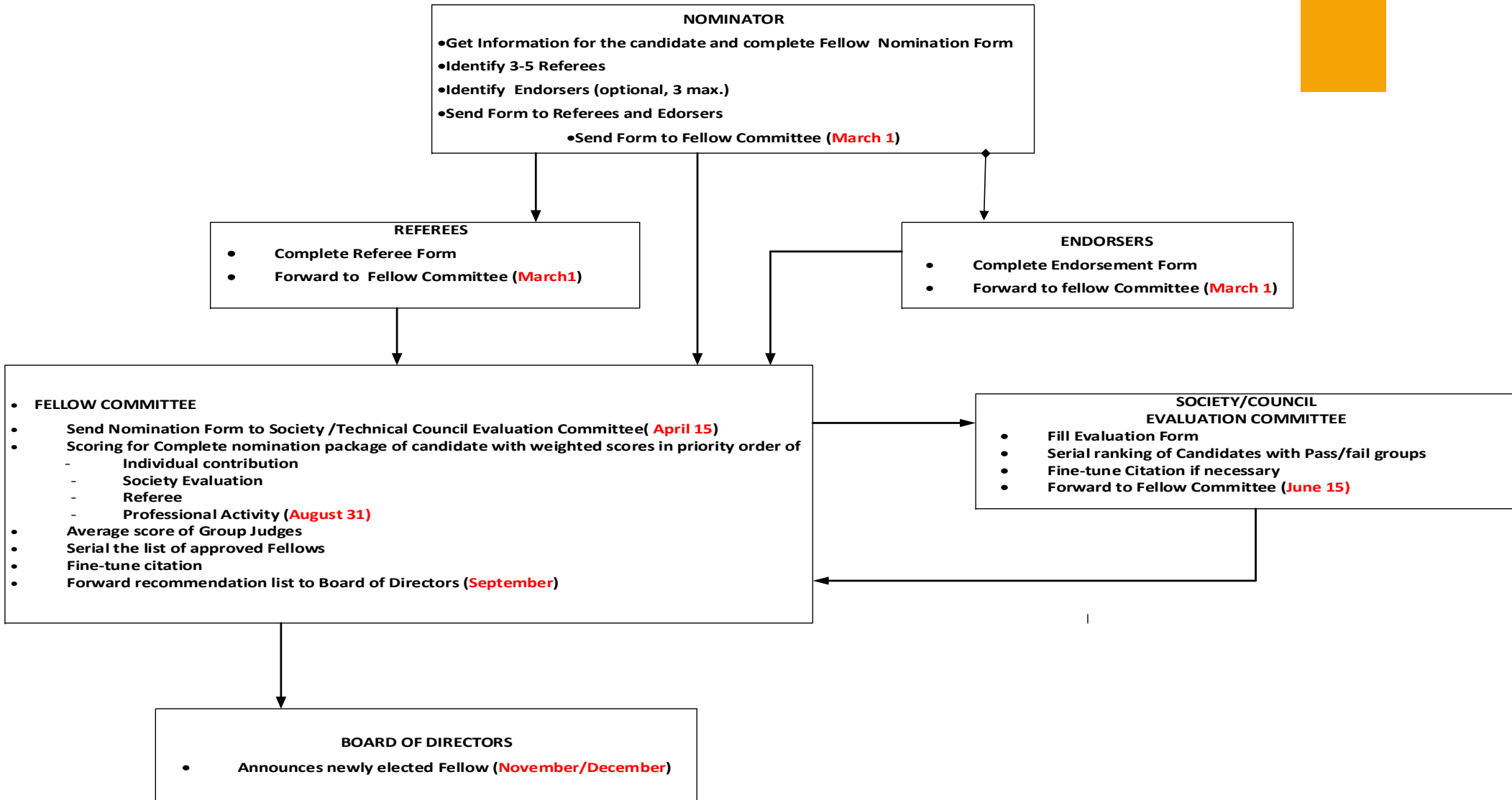
- Send Nomination Form to Society /Technical Council Evaluation Committee (**April 15**)
- Scoring for Complete nomination package of candidate with weighted scores in priority order of
  - Individual contribution
  - Society Evaluation
  - Referee
  - Professional Activity (**August 31**)
- Average score of Group Judges
- Serial the list of approved Fellows
- Fine-tune citation
- Forward recommendation list to Board of Directors (**September**)

**SOCIETY/COUNCIL EVALUATION COMMITTEE**

- Fill Evaluation Form
- Serial ranking of Candidates with Pass/fail groups
- Fine-tune Citation if necessary
- Forward to Fellow Committee (**June 15**)

**BOARD OF DIRECTORS**

- Announces newly elected Fellow (**November/December**)





# The Nomination Form

## ► Three fundamental aspects:

1. The *individual technical contribution(s)* to the field **made by the Nominee**
2. The *impact* from these contributions, which **must have already occurred and be evident**
3. The *evidence* supporting the case.

**Remember: Contribution + Impact + Evidence =  
Success!**



## Individual Contributions (Section 5 of the Nomination Form)

- ▶ The Nominator must describe in this section the one (or two) most distinctive contribution(s) made by the Nominee.
  - ▶ a brief description of what the Nominee has invented, created, or discovered and the lasting impact of the contribution.
  - ▶ impact must have already occurred, and speculation on the Nominee's possible future impact is not helpful to strengthening the Nominee's case.
  - ▶ avoid jargon, define acronyms, and briefly explain the state of the art before the Nominee's contribution.



# Application Engineer/Practitioner (AE/P) - 1

What product development, advancement in systems, application or operation, project management or implementation activity, process design or improvement, manufacturing innovation, codes or standards origination and implementation, etc.,

In the areas of technology application were the direct result of the Nominee's individual contributions?

If contributions were made as part of a group such as a Standards Committee, what is the critical role the Nominee played?



# Application Engineer/Practitioner (AE/P) - 2

- ▶ What innovation and/or creativity have been demonstrated?
- ▶ What has been the importance of the implemented technology development, advancement, or application?
- ▶ What is the most important tangible and verifiable evidence of the Nominee's contributions including, if appropriate?
- ▶ Relevant significant technical publications (patents, reports, articles) and presentations?



# Application Engineer/Practitioner (AE/P) - 3

*Example:*

Mr. Andersson invented a procedure to identify and locate hot spots in a transformer winding insulation.

Such hot spots often occur before transformer failure. The proposed procedure has been implemented by TransformerX Inc.

In their transformer monitoring equipment and has been employed consequently by several leading utilities worldwide. It is estimated that this procedure has saved utilities over \$500M by identifying transformers requiring maintenance before they failed.

Possible evidence: patents, articles, conference presentations, technical reports, standards, company financial statements, media reports.



## Educator (E)

- ▶ What unique and innovative curricula or courses has the Nominee personally developed that have influenced teaching outside the Nominee's home institution? What innovative and unique contributions has the Nominee made to engineering education as an administrator?
- ▶ Has the Nominee written What impact has the Nominee's contribution had on education in the field of interest of the IEEE?
- ▶ A pioneering text in his/her areas of professional specialization?





## Educator (E)

*Example:*

Prof. Balewa has developed a comprehensive undergraduate curriculum on Digital Signal Processing applications. It includes a set of courses based on his textbook “Fundamentals of Digital Signal Processing” accompanied by a series of laboratory exercises, Matlab routines, and demonstrations.

His courses have been a crucial factor in doubling enrollments to the electrical engineering program at his university during the last decade.

His book and curriculum have been adopted by several universities in the Nominee’s country and globally. Possible evidence: books, articles, handbooks, conference presentations, testimonials, university’s and ranking agencies’ data, and education awards.



# Research Engineer/Scientist (RE/S)

- ▶ What inventions, discoveries or advances have been made by the Nominee in the state-of-the-art of the science and/or technology? How do they demonstrate innovation and creativity?
- ▶ What is the importance of the research results and impact of the contributions in advancing the state of the industry or technology?
- ▶ Have they had a substantial influence on the subsequent research literature? Have they found applications in the industry or been implemented in products or systems?
- ▶ Have they been commercialized or used by other organizations?
- ▶ What patents, reports, refereed journal papers, research monographs, commercial software packages and other tangible and verifiable evidence have resulted from the Nominee's R&D accomplishments?



## Research Engineer/Scientist (RE/S)

*Example:*

Dr. Chen was the first person to develop an algorithm for real-time state estimation for power transmission systems.

Her 1990 paper on the topic has been cited over 200 times in the past 25 years and is recognized as one of the seminal articles in this area.

Her algorithm has been integrated into several commercial energy management system software packages, including EnSaver and MyEnergy.

Possible evidence: published journal papers, patents, technical reports, and national or international adoption of license-protected software.



## Technical Leader (TL)

- ▶ What outstanding engineering system implementation, application or scientific accomplishments have resulted from a team or company-wide effort led by the Nominee?
- ▶ What technical innovations, business and financial benefits and other advantages have been achieved?
- ▶ What technological and other challenges and problems, e.g., market acceptability, implementation difficulties, and financial risks have been faced and resolved?
- ▶ What were the crucial technical contributions and technological innovations provided by the Nominee?



# Technical Leader (TL)

## *Example:*

Ms. Das served as Chief Technology Officer for PowerNow Inc. from 2002-2009. During his time with the company, Ms. Das led the efforts to enable power distribution automation in over 500 substations in Southeast USA using the technology he had co-invented, developed, and patented with his PowerNow team.

It has been confirmed that these upgrades significantly decreased the number and duration of the loss of power for customers in Georgia during Hurricane Katrina.

Since 2009, Ms. Das has served as a consultant to several utilities to modernize their distribution systems. He currently serves as the chair of the PES substations committee and spearheaded the development of the standard C57-12.92-2010. Presented evidence includes: patents, standards, reports, articles (including those on the web), key commercial indicators.



# Evidence of Technical Accomplishment/Part 1 (Section 6, Part 1 of the Nomination Form)

- ▶ List the three most important items of tangible and verifiable evidence of the technical accomplishments pertaining to the key contribution(s) specified in the section “Individual Contributions” of the Nomination Form. There should be only three items in this Part 1, not three categories.
- ▶ These should constitute *specific evidence* of the contributions made by the Nominee. The Nominator’s choice of these three items serves to focus the reader’s attention to the three most important pieces of evidence supporting the Nominee’s individual technical contributions.
- ▶ An item of evidence may be (but is not limited to) a journal or conference article, a book, patent, report, standard, policy, product, service, demonstration, or installation. The three items should refer directly to the Nominee’s distinctive contributions. . If articles are used as evidence, it may be helpful to include citation indices as well, preferably from a source such as Scopus or Web of Science.



# On the Use of Publications as Items of Evidence

- ▶ Provide clear information on the *personal* publication contributions of the Nominee, particularly when joint work with co-authors, collaborative teams, standards committees, supervised post-graduates, etc., is involved. This may take the form of a sentence or two following each item,
- ▶ Describing the Nominee's personal contribution into the identified accomplishments, and how it supports the narrative in the "Individual Contributions" section. This is particularly important because not all IEEE communities use the same convention regarding the order of authors' names.
- ▶ A frequently made mistake is to list items that are too recent (this is also relevant to patents and other types of evidence) as it is often hard to demonstrate that the contributions have had a lasting societal impact (which typically would require a relatively extended period – sometimes a decade or even more).



# On the Use of Patents as Items of Evidence - 1

- ▶ The Nominator should clarify:
- ▶ Whether the patent is classified as Design or Utility patent (US patents only). Utility patents typically describe functional use either by structure, method, or a combined set of these type claims. Design patents typically are ornamental, lacking functional components. An explanation of why a Design patent is included as evidence is highly recommended
- ▶ Which patent claims (independent or dependent) were contributed solely by the Nominee, in the case there is more than one inventor associated with a patent?





# On the Use of Patents as Items of Evidence - 2

A summary statement describing the expected use or sale of patent IP should accompany each patent cited as evidence. General questions the Nominator should address are:

- Has the patent been sold or licensed to a third party for use? If yes, what revenues is it generating?
- Is the patent important for the assignee to remain on the cutting edge of the technology area being described? If yes, please explain the competitive edge the patent describes.
- Has the patent initiated new business for the assignee? If yes, please describe the new business venture in terms of how it is benefitting the assignee and the society at large.
- Has the inventor published a refereed technical publication in addition to the patent? If yes please specify where the publication has appeared.
- Has the patent been often cited?
- Has the patent been deemed essential to products or standards?
- What is the specific contribution of the Nominee to the patent?
- Has this patent subsequently created a new family of IP? If yes, a brief summary of the family or families created would be provided and/or supported by a Reference or Endorser.



# Evidence of Technical Accomplishment/Part 2 (Section 6, Part 2 of the Nomination Form)

- ▶ Nominator must not list more than FIVE additional items, which may be subdivided into *one or two distinct areas of contributions* that correspond to the contribution areas indicated previously. Include one or two sentences on how these additional items provide evidence of impact.
- ▶ These additional items should further strengthen the identified main technical accomplishments of the Nominee. They may also present results of different categories of technical achievements linked to the main contribution.
- ▶ For publications, it is important to show a sustained impact of them in a *specific* area – not just that the Nominee is a prolific author. One effective approach is to choose evidence that documents a timeline of the evolution of the Nominee’s contribution to the field.



## Other Major Sections of the Nomination (most are self-explanatory, details in the IEEE Fellow webpage)

- ▶ IEEE Activities (Section 7 of the Nomination Form)
- ▶ Non-IEEE Activities (Section 8 of the Nomination Form)
- ▶ Awards (Section 9 of the Nomination Form)
- ▶ Guidelines for the proposed citation (Section 10 of the Nomination Form)
- ▶ Guidelines for IEEE Society/Technical Council (Section 11 of the Nomination Form)
- ▶ Endorsements (Section 12 of the Nomination Form)



# References

- ▶ The Nominator must secure at least three, but no more than five,
- ▶ References from IEEE Fellows who are able to assess the Nominee's contributions and their impact. These References are chosen by the Nominator to advocate for the Nominee and provide information about the value and impact of the Nominee's contributions. Thus, the References should be experts in the specific field of the Nominee's contributions.
- ▶ The Nominator should communicate in advance with each potential Reference to ascertain their level of support. If a potential Reference is not comfortable to offer a strong positive recommendation, the Nominator may choose to approach another potential Reference. A mediocre level of qualification in a Reference Form is not viewed favorably by the Judges.
- ▶ A good practice for the Nominator to follow is to choose References that are not affiliated with the Nominee but know and understand the Nominee's work. These References strengthen the Nomination as they provide an independent opinion and verification.
- ▶ References for Nominees in IEEE Region 9 may be submitted by Senior Members or Fellows. For Nominees in all other Regions, all References must be Fellows.
- ▶ The Nominator should make References aware of the existence of the IEEE Fellow Committee Recommendation Guide on "Effective References and Endorsements"



## Things to avoid - 1

- ▶ Do not introduce more than **TWO** areas of impact.
- ▶ Do not provide items of evidence that do not directly support the areas of impact. Pieces of evidence that cannot be correlated with one of the impact areas are superfluous. *For example, a paper that has many citations may not be relevant if it does not support the identified area of impact.*
- ▶ Do not neglect clearly focusing on the main contribution(s) of the Nominee – prolific authorship does not indicate impact.



## Things to avoid - 2

- ▶ **Do not submit a Nomination too early.** Carefully consider when might be the right time to prepare a Nomination, taking into account the Nominee's career progression and achieved accomplishments. Allow time for the Nominee's impact to be recognized and adopted as well as for the technical accomplishments to be implemented and utilized.
- ▶ **Do not use the Education category** unless the Nominee has been truly focused on improving technical and engineering education and achieved tangible significant results in the field. Being a good teacher or academic administrator does not constitute sufficient grounds for IEEE Fellow elevation.
- ▶ **Do not use the Technical Leader category** unless the Nominee contributed with creativity and technical innovation to resolving the challenges of the project, and both his/her leadership and technical role were crucial to the success of the project. A Technical Leader is not solely a manager, even if a successful one. Thus, organizational positions alone cannot be used as sole evidence of accomplishments.



# References

- ▶ References are highly valued when provided by experts in the *specific* field of the Nominee's contributions, so **do not choose the most famous References in the field if they do not know the Nominee's work and are not able to address the Nominee's specific accomplishments.**
- ▶ **Do not choose References from only one region of the world.**
- ▶ Do not choose too many References from a single affiliation or all from the same company.
- ▶ **Do not choose only References who have collaborated with the Nominee.**



## Further Reading

- ▶ For further details on the normative requirements for the IEEE Fellow Nomination and Evaluations process as well as the eligibility requirements of all the participants in the IEEE Fellow process, please see the IEEE Fellow Committee governing documents and Recommendation Guides posted at <http://www.ieee.org/fellows>.
- ▶ Also, please note that this Recommendation Guide does not replace the Help Guide for using the Fellow nomination web application