

How to Write an Effective Technical Paper

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IEEE PES Zambia Chapter
Webinar, 23 July 2020



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Education

Ph.D., Electrical Engineering, Virginia Polytechnic Institute and State University, 1978.

M.S., Electrical Sciences, State University of New York at Stony Brook, 1975.

B.Sc., Electrical Engineering, Bangladesh University of Engineering and Technology, Dhaka, 1972

Professional Society Activities

- IEEE Member since 1975, Fellow 1998, Life Fellow 2014
- President, IEEE PES, 2018-2019
- Vice president, Publications, IEEE PES, 2001-2003, 2012-2013
- Vice President, Publications, IEEE, 2006
- Editor-in-Chief, IEEE Transactions on Sustainable Energy, 2010-2012
- Editor-in-Chief, IEEE Electrifications Magazine, 2013-2014
- Launched, the IEEE Power & Energy Technology Systems Journal (Open Access), 2014

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Writing Quality Technical Papers (Webinar)

Authoring Webinar

Presenter
Saifur Rahman, Ph.D.
Professor and Director
Virginia Tech Advanced Research Institute



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IEEE PES Power & Energy Society

IEEE



Audience



Audience

Basic Questions

1. Are you writing this paper for the sake of writing a paper?

2. Or do you want to show how others can benefit from your work?

Audience

Scientific research publishing

- Who writes scientific papers?
 - Engineers, scientists, educators and researchers from:
 - Corporations
 - Academia
 - Government
 - Students typically write and present conference papers before submitting journal articles



Audience

What IEEE editors and reviewers are looking for

- Content that is appropriate, in scope and level
- Clearly written original material that addresses a new and important problem
- Extension of previously published work
- Valid methods and rationale
- Illustrations, tables and graphs that support the text
- References that are current and relevant to the subject

Audience

How does the review process work?

- Editor-in-Chief gets the paper after it goes through content match check (iAuthenticate) and “banned author” check
- If the paper is in scope for the journal, it is assigned to an editor (associate editor)
- Editor assigns the paper to five or more reviewers
- Reviewers send their comments back to the editor
- Editor makes a recommendation to the EIC as follows:
 - Accept
 - Revise & Resubmit
 - Reject
- The EIC makes the final decision and informs the corresponding author

Audience

Why IEEE editors and reviewers reject papers

- The content is not a good fit for the publication
- There are serious scientific flaws:
 - Inconclusive results or incorrect interpretation
 - Fraudulent research
- It is poorly written
- It does not address a big enough problem or advance the scientific field
- Most of the work was previously published
- The quality is not good enough for the journal
- Reviewers have misunderstood the article

Structure

Paper Structure

Elements of a manuscript

Title

Abstract

Keywords

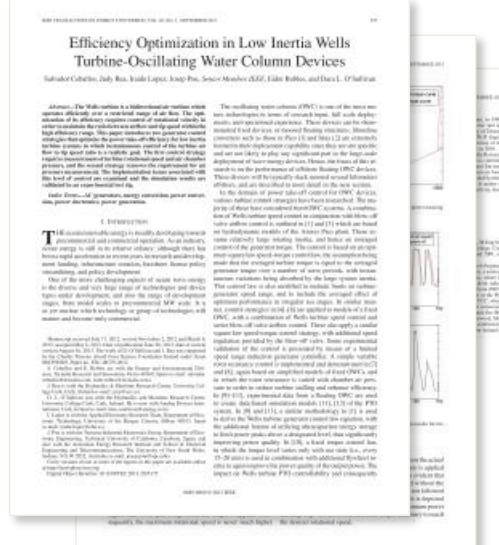
Introduction

Methodology

Results/Discussions/Findings

Conclusion

References



Paper Structure

Title

An effective title should...

- Answer the reader's question:
"Is this article relevant to me?"
- Grab the reader's attention
- Describe the content of a paper
using the fewest possible words
 - Is crisp, concise
 - Uses keywords
 - Avoids jargon

Good
Title

vs.

Bad
Title

Paper Structure

Title Dos and Don'ts



A Human Expert-based Approach to Electrical Peak Demand Management

VS



A better approach of managing environmental and energy sustainability via a study of different methods of electric load forecasting

Paper Structure

Abstract

A “stand alone” condensed version of the article

- No more than 250 words; can use past or present tense
- Uses keywords and index terms

Why you did it

What you did

How the results were useful, important & move the field forward

Why they're useful & important & move the field forward

Paper Structure

Abstract Dos and Don'ts



The objective of this paper was to propose a human expert-based approach to electrical peak demand management. The proposed approach helped to allocate demand curtailments (MW) among distribution substations (DS) or feeders in an electric utility service area based on requirements of the central load dispatch center. Demand curtailment allocation was quantified taking into account demand response (DR) potential and load curtailment priority of each DS, which can be determined using DS loading level, capacity of each DS, customer types (residential/commercial) and load categories (deployable, interruptible or critical). Analytic Hierarchy Process (AHP) was used to model a complex decision-making process according to both expert inputs and objective parameters. Simulation case studies were conducted to demonstrate how the proposed approach can be implemented to perform DR using real-world data from an electric utility. Simulation results demonstrated that the proposed approach is capable of achieving realistic demand curtailment allocations among different DSs to meet the peak load reduction requirements at the utility level.

Vs

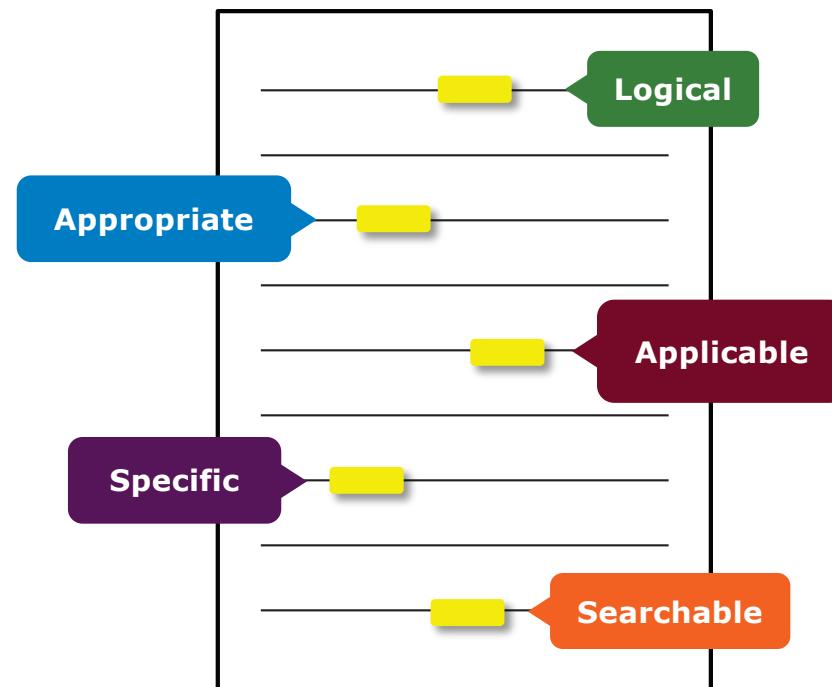


This paper presents and assesses a framework for an engineering capstone design program. **We explain** how student preparation, project selection, and instructor mentorship are the three key elements that must be addressed before the capstone experience is ready for the students. **Next, we describe** a way to administer and execute the capstone design experience including design workshops and lead engineers. **We describe the importance** in assessing the capstone design experience and report recent assessment results of our framework. **We comment** specifically on what students thought were the most important aspects of their experience in engineering capstone design and provide quantitative insight into what parts of the framework are most important.

***First person, present tense
No actual results, only describes the organization of the paper***

Paper Structure Keywords

Use in the Title and Abstract for enhanced Search Engine Optimization



Paper Structure

Introduction

- A description of the problem you researched
- It should move step by step through:

Generally known information about the topic

Prior studies' historical context to your research

Your hypothesis and an overview of the results

How the article is organized

- The introduction should be:
 - Specific, not too broad or vague
 - About 1-2 pages
 - Written in the present tense

Paper Structure

Methodology

- Problem formulation and the processes used to solve the problem, prove or disprove the hypothesis
- Use **illustrations** to clarify ideas and support conclusions:

Tables

Present representative data
or when exact values are important to show



Graphs

Show relationships
between data points
or trends in data



Figures

Quickly show ideas/conclusions that
would require detailed explanations



Fig. A

Paper Structure

Results/discussion

Demonstrate that you solved the problem or made significant advances

Results: Summarizes the Data

- Should be clear and concise
- Use figures or tables with narrative to illustrate findings

Discussion: Interprets the Results

- Why your research offers a new solution
- How can it benefit other researchers professionals

JIMENEZ-MONTOYA ET AL.: LST RETRIEVAL METHODS FROM LANDSAT-THERMAL INFRARED SENSOR DATA

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the SC algorithm over the whole range of w values increases to 3–4 K, except for the TIGR_{TIR} database, with an RMSE of 2 K. This last result is explained by the w distribution, which is biased toward low values of w in this database. When only atmospheric profiles with w values lower than 3 g · cm⁻² are selected, the SC algorithm provides RMSE around 1.5 K with a standard deviation of 0.5 K. The standard deviation, around 1 K in both cases (with a negative bias, thus the SC underestimates the LST). In contrast, when w values higher than 3 g · cm⁻² are considered, the SC algorithm provides RMSE higher than 3 K. In these cases, it is preferable to calculate the atmospheric functions of the SC algorithm directly from (3) rather than approximating them by a polynomial fit approach as given by (4).

DISCUSSION AND CONCLUSION

The two Landsat-8 TIR bands allow the incorporation of two LST retrieval methods based on different physical assumptions, such as the SC (only one TIR band required) and the SW (two TIR bands required). Direct inversion of the SW transfer equation, which can be considered as the "ground-truth" method, is assumed to be a "golden-standard" method [14]. The SC algorithm is accurate enough. The SC algorithm in this letter is a continuation of the previous SC algorithm developed for Landsat-4 and Landsat-5 TIRS sensors, the first ETM+ sensor on board the Landsat-7 platform [9], and it could be used to generate consistent LST products from the historical Landsat data using a single algorithm. An advantage of the SC algorithm is that, apart from surface emissivity, only water vapor content is required as input. However, it is well known that the LST retrieved from the SW requires atmospheric water vapor content (e.g., > 3 g · cm⁻²). This problem can be partly solved by computing the atmospheric functions directly from r , L_w , and L_d values [see (5)], or also by including air temperature as input [15]. A main advantage of the SW algorithm is that it performs well over global conditions, and, thus, a wide range of various vapor contents; however, it only requires atmospheric input (temperature and atmospheric water vapor content) (e.g., > 3 g · cm⁻²). This problem can be solved by comparing the atmospheric functions directly from r , L_w , and L_d values [see (5)], or also by including air temperature as input [15].

A main advantage of the SW algorithm is that it performs well over global conditions, and, thus, a wide range of various vapor contents; however, it only requires atmospheric input (temperature and atmospheric water vapor content) (e.g., > 3 g · cm⁻²). This problem can be solved by comparing the atmospheric functions directly from r , L_w , and L_d values [see (5)], or also by including air temperature as input [15].

The LST algorithms presented in this letter were tested with simulated data sets obtained for a variety of global atmospheric conditions and surface emissivities. The results showed RMSE values of typically less than 1.5 K, although the SC algorithm provided RMSE values in only selected ranges of w values (< 3 g · cm⁻²). Algorithm testing also showed that the SW errors are lower than the SC errors for increasing water vapor, and vice versa, as demonstrated in the simulation study presented in Sobrino and Jiménez-Montero [16]. Although an extensive validation exercise from in situ measurements is required to assess the performance of the two LST algorithms, the results obtained with the simulated data, the sensitivity analysis, as well as the previous findings for algorithms with the same mathematical structure give confidence in the algorithm accuracies estimated here.

Results

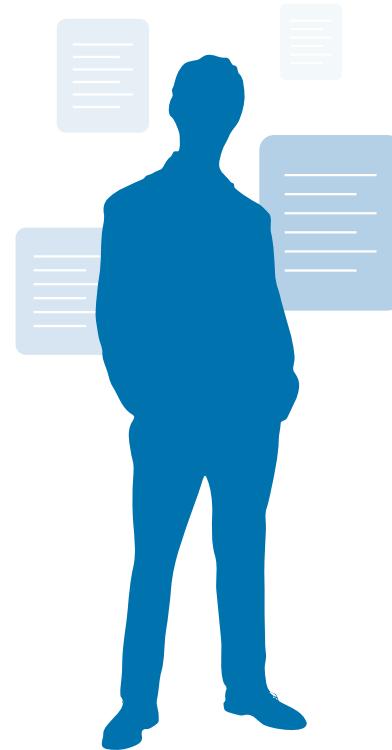
RESULTS

- [1] J. E. Imre, J. L. Dover, and J. A. Routh, "The next Landsat satellite," *Proc. IEEE*, vol. 92, pp. 122–132, Mar. 2004.
- [2] J. E. Imre, J. L. Dover, and J. A. Routh, "Landsat-7 thermal infrared sensor," *Proc. IEEE*, vol. 92, pp. 133–145, Mar. 2004.
- [3] W. Barnes and M. Anderson, "Advances in thermal infrared sensor imaging for land surface modeling," *Agro. Forest Meteorol.*, vol. 149, no. 12, pp. 2071–2081, Dec. 2009.
- [4] J. E. Imre, J. L. Dover, W. Barnes, G. Yilmaz, Z. Wan, I. F. Tsigas, and J. A. Schott, "Remote-derived land surface temperatures: Current status and perspectives," *Remote Sens. Environ.*, vol. 115, pp. 14–37, Oct. 2009.
- [5] Z.-L. Li, X. Wu, N. Wang, S. Qiu, J. A. Sobrino, Z. Wan, R.-H. Tang, and G. Yilmaz, "Land surface temperature retrieval from satellite data," *Int. J. Remote Sens.*, vol. 31, no. 10, pp. 2609–2627, 2010.
- [6] A. M. Mora, "Three decades of remote sensing for land surface temperature," *Photogramm. Eng. Remote Sens.*, vol. 65, no. 7, pp. 659–662, Jul. 1999.
- [7] J. A. Routh, J. E. Schott, P. D. Pederson, D. L. Helder, S. J. Hook, and J. L. Dover, "A comparison of the Landsat TM and ETM+ thermal band calibrations," *Can. J. Remote Sens.*, vol. 29, no. 2, pp. 184–192, 2003.
- [8] J. C. Jiménez-Montero, J. C. Calderón, J. A. Sobrino, C. Alarcón, M. Neyraola, and X. Pous, "Revision of the single-channel algorithm for land surface temperature retrieval from Landsat thermal-infrared data," *IEEE Trans. Geosci. Remote Sens.*, vol. 47, no. 1, pp. 293–303, Jan. 2009.
- [9] L. M. McMillen, "Retrieval of sea surface temperatures from two infrared channels with different sharpening," *J. Geophys. Res.*, vol. 95, no. 14, pp. 11111–11120, 1990.
- [10] J. C. Jiménez-Montero, J. A. Sobrino, M. Neyraola, and X. Pous, "Multi-channel and multi-angle algorithm for estimating sea and land surface temperatures with ATSR data," *Int. J. Remote Sens.*, vol. 17, no. 11, pp. 2093–2114, 1996.
- [11] J. C. Jiménez-Montero and J. A. Sobrino, "Optical-window coefficients for land surface temperature retrieval from low-resolution thermal infrared imagery," *Remote Sens. Environ.*, vol. 5, no. 4, pp. 393–406, Oct. 2008.
- [12] A. Beck, G. P. Anderson, P. K. Acharya, J. R. Christopher, L. S. Edwards, and J. E. Imre, "Landsat-7 Thermal Infrared Sensor (TIRS) Overview," Monrovia, AZ, USA: Ag-Foto Sat, Ltd., 1999.
- [13] A. M. Kalabretta, S. J. Woods, C. J. Grove, and G. Rother, "The ASTER product specification," v1.0, Remote Sens. Amer., vol. 115, no. 4, pp. 711–714, Apr. 2009.
- [14] X. Cifre, J. C. Jiménez-Montero, J. A. Sobrino, M. Neyraola, and X. Pous, "Improvement in land surface temperature retrieval from the thermal infrared sensor of the Moderate Resolution Imaging Spectroradiometer," *J. Geophys. Res.*, vol. 114, no. D08120, 2009.
- [15] D. R. Owe, S. M. Ullah, A. J. S. Sturzaker, R. S. Swanson, P. Poll, R. S. Evans, J. A. Routh, J. E. Imre, J. A. Sobrino, and X. Pous, "The MODIS Land Surface Temperature Product," *IEEE Trans. Geosci. Remote Sens.*, vol. 42, no. 1, pp. 10–19, Jan. 2004.
- [16] C. Mazzoni, C. Dardano, J. C. Jiménez-Montero, and J. A. Sobrino, "An improved atmospheric profile retrieval for thermal infrared (TIR) data for forward simulations in the thermal infrared region," *IEEE Trans. Geosci. Remote Sens.*, 2014, submitted for publication.
- [17] J. C. Jiménez-Montero, J. A. Sobrino, and X. Pous, "Surface temperature retrieval from thermal infrared data: An assessment in the context of the surface processes and ecosystem changes through regression analysis (SWATCA) mission," *J. Geophys. Res.*, vol. 119, no. D16, p. 10510, 2014.

Paper Structure

Conclusion

- Explain what the research has achieved
 - As it relates to the problem stated in the Introduction
 - Revisit the key points in each section
 - Include a summary of the main findings and implications for the field
- Provide benefits and shortcomings of:
 - The solution presented
 - Your research and methodology
- Suggest future areas for research



Paper Structure

References

- Support and validate the hypothesis your research proves, disproves or resolves
- There is no limit to the number of references
 - But use only those that directly support your work (about 30)
- Ensure proper author attribution
 - Author name, *article title*, publication name, publisher, year published, volume and page number, Digital Object Identifier (DOI)

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IEEE TRANSACTIONS ON SMART GRID, VOL. 5, NO. 4, JULY 2014

We then have

$$\begin{aligned} (P_t^{A,+} + P_t^{B,-})^2 - (P_t^{A,+} - P_t^{B,-})^2 &= 4P_t^{A,+}P_t^{B,-} \\ &< (P_t^{A,+} - \hat{P}_t^{B,-})^2 + 4\hat{P}_t^{A,+}\hat{P}_t^{B,-} \\ &\quad - (\hat{P}_t^{A,+} + \hat{P}_t^{B,-})^2. \end{aligned} \quad (32)$$

Since $P_t^{A,+} - P_t^{B,-} = \hat{P}_t^{A,+} - \hat{P}_t^{B,-}$, we then have $\hat{P}_t^{A,+} < P_t^{A,+}$, and $P_t^{B,-} < \hat{P}_t^{B,-}$. Because the operational cost is an increasing function of $[P_t^{A,+}, P_t^{B,-}]$, we obtain that

$$c_{n/m}(P_t^{A,+}, P_t^{B,-}) < c_{n/m}(\hat{P}_t^{A,+}, \hat{P}_t^{B,-}). \quad (33)$$

Therefore the optimal pair $(P_t^{A,+}, P_t^{B,-})$ must satisfy that $P_t^{A,+} + P_t^{B,-} = 0$, i.e., only one of $P_t^{A,+}$, $P_t^{B,-}$ can be non-zero. ■

REFERENCES

- [1] "Renewable Energy: You Can Count On," Tech. Rep. Union of Concerned Scientists, 2010.
- [2] S. Collier, "Ten steps to a smarter grid," *IEEE Ind. Appl. Mag.*, vol. 16, no. 2, pp. 62–68, 2010.
- [3] A. Marinelli and R. D'Amato, "Renewable energy future," *Int. J. Sustainable Dev. World*, vol. 285, no. 5428, pp. 687–689, 1999.
- [4] "Exploration of High-Penetration Renewable Electricity Futures," *Int. J. Sustainable Dev. World*, vol. 285, no. 5428, pp. 687–689, 1999.
- [5] T. Wiedmann and J. Minx, *A Defense of Carbon Footprint*, Springer, NY, USA, Nov. 2010.
- [6] J. Casals, L. Frangopolis, J. Bakashevicius, E. Galvan, R. Cimadeu, M. Paganini, J. Llorente, and G. Giannakos, "Power-electronics systems for the grid integration of renewable energy sources: A survey," *IEEE Trans. Ind. Electron.*, vol. 53, no. 4, pp. 1002–1016, 2006.
- [7] H. Gao, Y. Zhang, S. Zhang, and X. Wang, "Wind power characteristics and comparisons," *Renewable Sustainable Energy Rev.*, vol. 12, no. 5, pp. 1221–1230, 2008.
- [8] J. D. Noh, S. J. Cho, D. Kim, U. Samiee, and A. Gonzalez, "Optimal joint optimization of wind generation and pumped-storage units in an electricity market," *IEEE Trans. Power Syst.*, vol. 23, no. 2, pp. 440–448, 2008.
- [9] T. D. Tran, K.-J. Yang, S. Zhang, and T. D. Nguyen, "On modeling and control of a novel flywheel energy storage system," in *Proc. DEDC-2010*, 2010, pp. 1364–1401.
- [10] J. F. Miller, "Key challenges and recent progress in flywheel and hydrogen storage for clean energy systems," in *Proc. Int. Conf. on Wind Energy and its Use with intermittent Load*, "Energy storage and its use with intermittent load," *IEEE Trans. Energy Conversion*, vol. 19, no. 2, pp. 370–377, 2004.
- [11] C. Atabay and G. Joos, "Compressed air energy storage," *J. Energy*, vol. 2, no. 2, pp. 106–112, 1978.
- [12] C. Atabay and G. Joos, "Supercapacitor energy storage for wind energy applications," *IEEE Trans. Ind. Appl.*, vol. 43, no. 3, pp. 769–776, 2007.
- [13] P. Brown, J. P. Lopez, and A. Matos, "Optimization of pumped-storage systems for the integration of variable energy systems," *IEEE Trans. Power Syst.*, vol. 23, no. 2, pp. 523–531, 2008.
- [14] C. Atabay and G. Joos, "A stochastic optimization approach to rating and scheduling of wind-fuel-cell-based grids," *IEEE Trans. Power Syst.*, vol. 24, no. 1, pp. 418–426, 2009.
- [15] Y. Zhang, N. Gans, and G. Giannakos, "Robust energy management for microgrids with high-penetration renewables," *IEEE Trans. Sustainable Energy*, vol. 97, no. 99, pp. 1–10, 2013.
- [16] S. Boyd, N. Parikh, E. Chu, B. Peleato, and J. Eckstein, "Distributed optimization and statistical learning via the alternating direction method of multipliers," *Foundations Trends Mach. Learning*, vol. 3, no. 1, pp. 1–122, 2011.
- [17] G. Calafore and M. Campi, "A stochastic approach to robust control design," *IEEE Trans. Signal Process.*, vol. 51, no. 3, pp. 742–750, 2003.
- [18] A. Nedic, D. V. Bertsekas, and A. Rabbani, *Convex Stochastic Programming: Modeling and Theory*, Philadelphia, NJ, USA: SIAM, 2009.
- [19] Y. Zhang, N. Gans, and G. Giannakos, "Robust energy management with multiple wind farms," in *Proc. IEEE PES ISGT*, Feb. 2013, pp. 1–4.
- [20] Y. Zhang, N. Gans, V. Kokalis, and G. Giannakos, "Robust energy management of distributed energy resources," in *Proc. Int. Conf. Digital Signal Process.*, Jul. 2013, pp. 1–5.
- [21] Y. Zhang, N. Gans, and G. Giannakos, "Energy storage and generation planning with large renewable penetrations," in *IEEE Int. Workshop Comput. Adv. Multi-Sensor Adaptive Process.*, Dec. 2013, pp. 1–4.
- [22] EPRI, "Wind Energy Storage Technology Options: A White Paper Prepared by Application Council and Director," Tech. Rep. EPRI, Palo Alto, CA, USA, 2010.
- [23] National Solar Radiation Data Base, [Online]. Available: http://rredc.nrel.gov/solar/old_data/nsrdb/.
- [24] S. Wilson, National Solar Radiation Database 1991 – 2010 Update User's Manual, 2012.
- [25] EPRI, "Wind Energy Technical Assessment Guide – TAG-RE-2008," Tech. Rep. EPRI, Palo Alto, CA, USA, 2007.
- [26] ENOCUT Hourly Load Data Archive [Online]. Available: <http://www.enocut.com/>.
- [27] M. Grant and S. Boyd, CVX: Matlab Software for Disciplined Convex Programming, Version 2.0 Beta 2012 [Online]. Available: <http://cvxr.com/cvx>.
- [28] "Market Daily Report," 2011, Electric Power Market Midwest (MISO), FERC [Online]. Available: <http://www.miso.gov/markets-overviews/documents/market-daily-report.aspx>.
- [29] "CAISO Data & Reports," California Power Market, California Transmission Data Report [Online]. Available: <http://www.caiso.com/markets/mts-electric/california/caiso-archives.aspx>.



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Who should be on the Authors' list

A Report

A report documents in detail the work done including results for a project and has a lead author and other multiple authors

A Technical Paper

- It highlights one or more aspects of a report
- Multiple papers can come out of one report
- Include any and all who have contributed to the writing of the paper
- Others can be acknowledged

Ethics

Ethics

Types of misconduct

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Ethics

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 - Paraphrase other's text properly, and include citation
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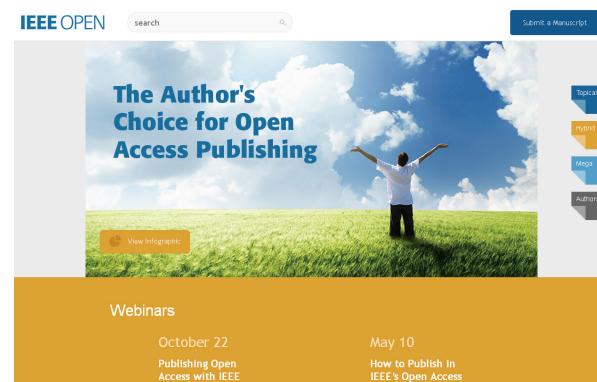
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Other ways of judging a journal's value to the engineering community

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Follow-up Steps

Process of Writing the Paper

Discuss the content among team members
Literature search – Reference List
Description of the Experiment/Model
Results/Discussion
Write the Conclusion
Collect the components – Prepare the draft
All members comment on the draft
Produce the final copy

I would like to see a broader IEEE

We need to ensure that we are “READY FOR RECOVERY”, when we get back to the “NEW NORMAL” after COVID-19. Let us enhance cooperation, collaboration and community spirit.

For this we need to make IEEE broader so that IEEE is more relevant to the work our members do regardless where they work.

We need more participation from volunteers globally in IEEE governance. A broader based IEEE will make the Institute more relevant to technologists and academics from all parts of the world.

I would like to see more **IEEE Senior Members** and **IEEE Fellows** from Regions 8, 9 & 10

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