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Sonia Garg, Asst. Professor, Dept. of ECE

### REGISTRATION FEE

Sl.No.	Participants Type	FEE
1	Research Scholar /Faculty/ Students	₹500
2	Industry	₹750

The registration fee is to be paid in the form of DD in favour of "The Principal, NIE", payable at Mysore, and send to Co-ordinator.

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## TEQIP - III Sponsored National Conference on COSINE (NCCOSINE-18)

17<sup>th</sup> - 18<sup>th</sup> May 2018



Organized  
by

Department of

Electronics and Communication Engineering

The National Institute of Engineering

(An Autonomous Institution under VTU, Belagavi)  
Manandavadi Road, Mysuru - 570 008



## ABOUT THE INSTITUTE

The National Institute of Engineering (NIE), one of the oldest engineering colleges of the country, was started in the year 1946. The engineers, professors and other good men who labored to establish NIE are many. Their contribution to the cause of technical education is equally noble, whether it has been large or small, whether by money or service. NIE owes its glory to all these Men with a Mission. Among the sixteen eminent founders, three engineers Sri S.Ramaswamy, Retd. Superintending Engineer, Mysore PWD, Sri D.V.Narasimha Rao, Retd. Chief Engineer, Mysore State Railways and Sri T.Rama Rao, Retd. Executive Engineer of Mysore PWD took lead in establishing NIE, the Temple of Learning. In 1958-59, NIE got private-aided institutions status under grant-in-aid code of Karnataka Government.

## RANKING

Today NIE (autonomous) stands in the band of 101 to 150 top engineering colleges in the country that include IITs and NITs as per National Institution Ranking Framework (NIRF-2017) announced by MHRD during April 2017. NIE ranked 22 among India's top 100 Engineering Colleges, as per survey conducted by Outlook magazine (June 2017). It is a grant-in-aid institution and approved by the All India Council for Technical Education (AICTE), New Delhi. Four Undergraduate Programmes; Civil Engineering, Mechanical Engineering, **Electronics & Communication Engineering** and Industrial & Production Engineering have been accredited by the **National Board of Accreditation (Tier-I)**, New Delhi, for **3 years**. It is one of the 14 colleges in Karnataka that has been recognized under Ministry of Human Resources Development-World Bank sponsored Technical Education Quality

Improvement Programme (TEQIP) and one of 10 Engineering Colleges in Karnataka that has accreditation for its Programmes. It is also a recognised QIP Research Centre of both AICTE and VTU.

## ABOUT THE DEPARTMENT

In the year 1971, the institute started the Electronics and Communication Engineering Course for the benefit of students who were keen to know subjects from traditional to modern aspects of Electronics. The full-fledged department started functioning from the year 1987. The department has been continuously striving for excellence in the field of engineering education. The department has always been on a high growth path to keep pace with the ever increasing importance of the major disciplines of study and current technology trends. The programme emphasizes the basics of Electronics, Computers, Communication Engineering and Instrumentation.

## OBJECTIVE OF THE CONFERENCE

The Prime objective of organizing **National Conference on Communication, Signal Processing, IoT, Networking and Embedded Application (NCCOSINE)** is to enable researchers, academicians and students to provide a platform for innovative ideas and technology in Electronics and Communication field.

## CALL FOR PAPER

Prospective authors from academia as well as Industry are invited to submit their full papers that illustrate original/unpublished research, surveying works, and industrial applications that describe advances and significant innovations in following broad areas, but not limited to:

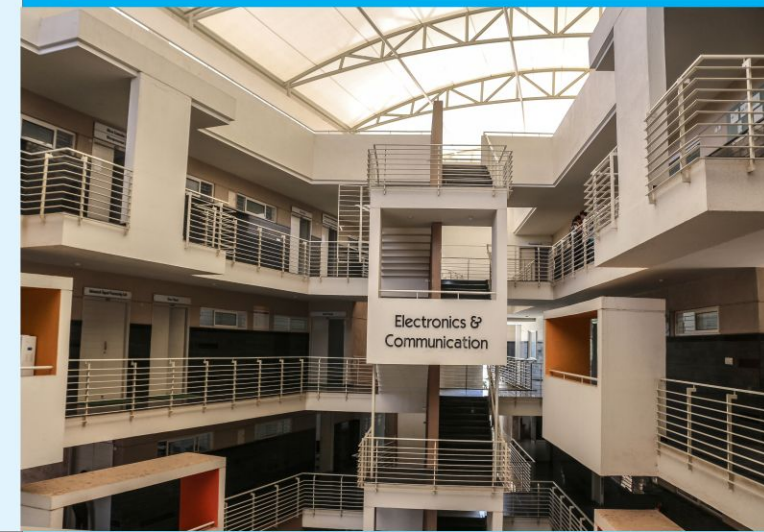
- Wireless communication
- Signal Processing & Image Processing
- Internet of Things
- Networking
- Real Time Embedded Systems
- VLSI Design
- Nano Technology
- Wireless Sensor Networks
- Smart Antennas and wave Propagation
- Artificial Intelligence and Neural Networks

## CONFERENCE GUIDELINES

Conference will have paper presentation including key note lectures from various reputed institutions. Interested authors are requested to submit their research / proposed papers. **Non-Plagiarised** full length paper need to be sent in **IEEE Paper format (.DOC and PDF)** via e-mail to the conference mail id **nccosine\_ec@nie.ac.in** & for more updates visit **www.nie.ac.in**

## CONFERENCE SCHEDULE

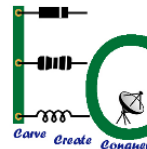
Full Paper Submission	:	30 <sup>th</sup> April 2018
Date of Acceptance	:	10 <sup>th</sup> May 2018
Paper Presentation	:	17 <sup>th</sup> -18 <sup>th</sup> May 2018





**THE NATIONAL INSTITUTE OF ENGINEERING**  
**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**

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## Registration Form

**National Conference on Communication, Signal Processing,  
IoT, Networking and Embedded Application  
(NCCOSINE - 18)**

17<sup>th</sup> and 18<sup>th</sup> May 2018

Name (Corresponding Author): \_\_\_\_\_

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Title of the Paper: \_\_\_\_\_

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Co-authors: 1. \_\_\_\_\_

2. \_\_\_\_\_

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# Sample IEEE Paper for A4 Page Size

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**Abstract**— This document gives formatting instructions for authors preparing papers for publication in the Proceedings of an IEEE conference. The authors must follow the instructions given in the document for the papers to be published. You can use this document as both an instruction set and as a template into which you can type your own text.

**Keywords**— Include at least 5 keywords or phrases

## I. INTRODUCTION

This document is a template. An electronic copy can be downloaded from the conference website. For questions on paper guidelines, please contact the conference publications committee as indicated on the conference website. Information about final paper submission is available from the conference website.

## II. PAGE LAYOUT

An easy way to comply with the conference paper formatting requirements is to use this document as a template and simply type your text into it.

### A. Page Layout

Your paper must use a page size corresponding to A4 which is 210mm (8.27") wide and 297mm (11.69") long. The margins must be set as follows:

- Top = 19mm (0.75")
- Bottom = 43mm (1.69")
- Left = Right = 14.32mm (0.56")

Your paper must be in two column format with a space of 4.22mm (0.17") between columns.

## III. PAGE STYLE

All paragraphs must be indented. All paragraphs must be justified, i.e. both left-justified and right-justified.

### A. Text Font of Entire Document

The entire document should be in Times New Roman or Times font. Type 3 fonts must not be used. Other font types may be used if needed for special purposes.

Recommended font sizes are shown in Table 1.

### B. Title and Author Details

Title must be in 24 pt Regular font. Author name must be in 11 pt Regular font. Author affiliation must be in 10 pt Italic. Email address must be in 9 pt Courier Regular font.

TABLE I  
FONT SIZES FOR PAPERS

Font Size	Appearance (in Time New Roman or Times)		
	Regular	Bold	Italic
8	table caption (in Small Caps), figure caption, reference item		reference item (partial)
9	author email address (in Courier), cell in a table	abstract body	abstract heading (also in Bold)
10	level-1 heading (in Small Caps), paragraph		level-2 heading, level-3 heading, author affiliation
11	author name		
24	title		

All title and author details must be in single-column format and must be centered.

Every word in a title must be capitalized except for short minor words such as "a", "an", "and", "as", "at", "by", "for", "from", "if", "in", "into", "on", "or", "of", "the", "to", "with".

Author details must not show any professional title (e.g. Managing Director), any academic title (e.g. Dr.) or any membership of any professional organization (e.g. Senior Member IEEE).

To avoid confusion, the family name must be written as the last part of each author name (e.g. John A.K. Smith).

Each affiliation must include, at the very least, the name of the company and the name of the country where the author is based (e.g. Causal Productions Pty Ltd, Australia).

Email address is compulsory for the corresponding author.

### C. Section Headings

No more than 3 levels of headings should be used. All headings must be in 10pt font. Every word in a heading must be capitalized except for short minor words as listed in Section III-B.

1) *Level-1 Heading*: A level-1 heading must be in Small Caps, centered and numbered using uppercase Roman

numerals. For example, see heading “III. Page Style” of this document. The two level-1 headings which must not be numbered are “Acknowledgment” and “References”.

2) *Level-2 Heading*: A level-2 heading must be in *Italic*, left-justified and numbered using an uppercase alphabetic letter followed by a period. For example, see heading “C. Section Headings” above.

3) *Level-3 Heading*: A level-3 heading must be indented, in *Italic* and numbered with an Arabic numeral followed by a right parenthesis. The level-3 heading must end with a colon. The body of the level-3 section immediately follows the level-3 heading in the same paragraph. For example, this paragraph begins with a level-3 heading.

#### D. Figures and Tables

Figures and tables must be centered in the column. Large figures and tables may span across both columns. Any table or figure that takes up more than 1 column width must be positioned either at the top or at the bottom of the page.

Graphics may be full color. All colors will be retained on the CDROM. Graphics must not use stipple fill patterns because they may not be reproduced properly. Please use only *SOLID FILL* colors which contrast well both on screen and on a black-and-white hardcopy, as shown in Fig. 1.

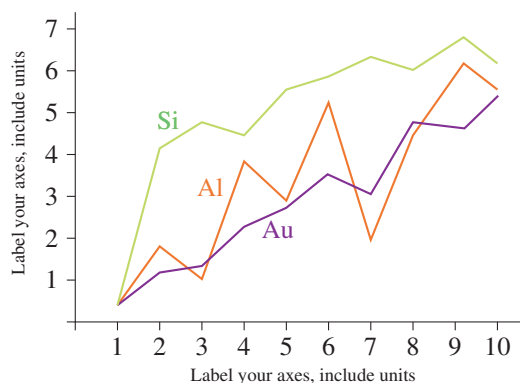


Fig. 1 A sample line graph using colors which contrast well both on screen and on a black-and-white hardcopy

Fig. 2 shows an example of a low-resolution image which would not be acceptable, whereas Fig. 3 shows an example of an image with adequate resolution. Check that the resolution is adequate to reveal the important detail in the figure.

Please check all figures in your paper both on screen and on a black-and-white hardcopy. When you check your paper on a black-and-white hardcopy, please ensure that:

- the colors used in each figure contrast well,
- the image used in each figure is clear,
- all text labels in each figure are legible.

#### E. Figure Captions

Figures must be numbered using Arabic numerals. Figure captions must be in 8 pt Regular font. Captions of a single line (e.g. Fig. 2) must be centered whereas multi-line captions must be justified (e.g. Fig. 1). Captions with figure numbers

must be placed after their associated figures, as shown in Fig. 1.



Fig. 2 Example of an unacceptable low-resolution image



Fig. 3 Example of an image with acceptable resolution

#### F. Table Captions

Tables must be numbered using uppercase Roman numerals. Table captions must be centered and in 8 pt Regular font with Small Caps. Every word in a table caption must be capitalized except for short minor words as listed in Section III-B. Captions with table numbers must be placed before their associated tables, as shown in Table 1.

#### G. Page Numbers, Headers and Footers

Page numbers, headers and footers must not be used.

#### H. Links and Bookmarks

All hypertext links and section bookmarks will be removed from papers during the processing of papers for publication. If you need to refer to an Internet email address or URL in your paper, you must type out the address or URL fully in Regular font.

## I. References

The heading of the References section must not be numbered. All reference items must be in 8 pt font. Please use Regular and Italic styles to distinguish different fields as shown in the References section. Number the reference items consecutively in square brackets (e.g. [1]).

When referring to a reference item, please simply use the reference number, as in [2]. Do not use “Ref. [3]” or “Reference [3]” except at the beginning of a sentence, e.g. “Reference [3] shows ...”. Multiple references are each numbered with separate brackets (e.g. [2], [3], [4]–[6]).

Examples of reference items of different categories shown in the References section include:

- example of a book in [1]
- example of a book in a series in [2]
- example of a journal article in [3]
- example of a conference paper in [4]
- example of a patent in [5]
- example of a website in [6]
- example of a web page in [7]
- example of a databook as a manual in [8]
- example of a datasheet in [9]
- example of a master’s thesis in [10]
- example of a technical report in [11]
- example of a standard in [12]

## IV. CONCLUSIONS

The version of this template is V2. Most of the formatting instructions in this document have been compiled by Causal Productions from the IEEE LaTeX style files. Causal Productions offers both A4 templates and US Letter templates for LaTeX and Microsoft Word. The LaTeX templates depend on the official IEEEtran.cls and IEEEtran.bst files, whereas the Microsoft Word templates are self-contained. Causal Productions has used its best efforts to ensure that the templates have the same appearance.

Causal Productions permits the distribution and revision of these templates on the condition that Causal Productions is credited in the revised template as follows: “original version of this template was provided by courtesy of Causal Productions (www.causalproductions.com)”.

## ACKNOWLEDGMENT

The heading of the Acknowledgment section and the References section must not be numbered.

Causal Productions wishes to acknowledge Michael Shell and other contributors for developing and maintaining the IEEE LaTeX style files which have been used in the preparation of this template. To see the list of contributors, please refer to the top of file IEEETran.cls in the IEEE LaTeX distribution.

## REFERENCES

- [1] S. M. Metev and V. P. Veiko, *Laser Assisted Microtechnology*, 2nd ed., R. M. Osgood, Jr., Ed. Berlin, Germany: Springer-Verlag, 1998.
- [2] J. Breckling, Ed., *The Analysis of Directional Time Series: Applications to Wind Speed and Direction*, ser. Lecture Notes in Statistics. Berlin, Germany: Springer, 1989, vol. 61.
- [3] S. Zhang, C. Zhu, J. K. O. Sin, and P. K. T. Mok, “A novel ultrathin elevated channel low-temperature poly-Si TFT,” *IEEE Electron Device Lett.*, vol. 20, pp. 569–571, Nov. 1999.
- [4] M. Wegmuller, J. P. von der Weid, P. Oberson, and N. Gisin, “High resolution fiber distributed measurements with coherent OFDR,” in *Proc. ECOC’00*, 2000, paper 11.3.4, p. 109.
- [5] R. E. Sorace, V. S. Reinhardt, and S. A. Vaughn, “High-speed digital-to-RF converter,” U.S. Patent 5 668 842, Sept. 16, 1997.
- [6] (2002) The IEEE website. [Online]. Available: <http://www.ieee.org/>
- [7] M. Shell. (2002) IEEEtran homepage on CTAN. [Online]. Available: <http://www.ctan.org/tex-archive/macros/latex/contrib/supported/IEEEtran/>
- [8] *FLEXChip Signal Processor (MC68175/D)*, Motorola, 1996.
- [9] “PDCA12-70 data sheet,” Opto Speed SA, Mezzovico, Switzerland.
- [10] A. Karnik, “Performance of TCP congestion control with rate feedback: TCP/ABR and rate adaptive TCP/IP,” M. Eng. thesis, Indian Institute of Science, Bangalore, India, Jan. 1999.
- [11] J. Padhye, V. Firoiu, and D. Towsley, “A stochastic model of TCP Reno congestion avoidance and control,” Univ. of Massachusetts, Amherst, MA, CMPSCI Tech. Rep. 99-02, 1999.
- [12] *Wireless LAN Medium Access Control (MAC) and Physical Layer (PHY) Specification*, IEEE Std. 802.11, 1997.