Siddaganga Institute of Technology, Tumakuru
Department of Nanotechnology

Paper and presentation competition
Topic: Nanotechnology in My Engineering Discipline
10 March 2018

About this event

Purpose: Our societal problems are many: Low energy supply, weak national defence, lack of affordable high-quality housing and healthcare, human-made pollutions and environmental damages, looming water crisis, etc. These are complex problems requiring effective and long-term solutions. Increasingly, technological solutions to these problems are becoming viable across the globe. Solving them requires teamwork and collaboration of many engineers having technical and managerial expertise in diverse science and engineering disciplines. Engineers called upon for such teamwork are required to master the world of materials and effectively communicate their ideas to others. Therefore, graduating engineering students should acquire a wide array of problem-solving and design skills as well as demonstrate effective written and oral communication skills in meaningful ways to advance solutions to these problems. Systematically researching, designing, experimenting, writing, and presenting papers on discipline-specific topics helps the engineering students develop these invaluable engineering and communication skills.

With this purpose, Department of Nanotechnology at Siddaganga Institute of Technology is hosting a student paper and presentation competition. It consists of written presentations followed by oral presentations.

Eligibility: PG students and final year BE/B. Tech. students of engineering colleges affiliated to Visvesvaraya Technological University (VTU) are eligible to participate in this contest. A student may collaborate researching, writing, and presenting the paper with other students (up to a maximum of two), all of whom meet this eligibility requirement.

Subject Matter: Eligible students are invited to submit papers on technology, engineering, management, and societal aspects of nanotechnology

1ˢᵗ Prize
रू. 5000.00

2ⁿᵈ Prize
रू. 3000.00

3ʳᵈ Prize:
रू. 2000.00

processes and applications as evidenced in their specific engineering disciplines towards solving the above-noted problems. The submitted work need not be original in content but should be original in treatment and presentation. It may be based on the student's project work, or based on studying the current state of the art, provided the nanotechnology content is demonstrated. In addition, student's contribution to synthesizing knowledge from multiple sources and concisely presenting in an original manner should be evident in the work. Some of the discipline-specific topics of interest are listed below, although, in the finer analysis, many are cross-disciplinary.

Civil and Mechanical Engineering
  (1) Nanocomposite fibers and structural materials
  (2) Nano-manufacturing of high-strength steel
  (3) Heat pipes, heat exchangers, sodium salt coolants and their nano-materials
  (4) Nano cement
  (5) Natural habitats
  (6) Nano coatings
  (7) Fuel cells for energy storage and transportation
  (8) Internal combustion engines
  (9) Nano-composite electrical insulators, high-performance rubber, elastomers, etc.
  (10) Conventional energy generation technologies: clean coal, biomass, ethanol, etc.

Electrical, Communications, and Electronics Engineering
  (11) Technologies behind computing (that has not just semiconductors but all kinds of nano-materials): processors, memory, and man-machine interfaces
  (12) Solid-state emitters and detectors of radiation (optical, radio, X-ray, etc.)
  (13) Beyond CMOS materials and processes
  (14) 5G and beyond wireless communications: materials, software, and deployment
  (15) Optical fibers and guided communications
  (16) Ultra-high strength magnets for magnetic memories and electric motors/generators
  (17) Renewable energy generation technologies: hydro, wind, solar, and nuclear
  (18) Electrical energy transmission, distribution, and storage technologies

Chemical Engineering and Biotechnology
  (19) Non-invasive health diagnosis processes and tools
  (20) Drug delivery
  (21) Telemedicine
  (22) Artificial organs and implants
  (23) Technologies for Indic systems of medicine
  (24) Technologies in agro-industry for enhancing the yield and life of food

Cross-disciplinary topics
  (25) Hybrid and electric transport vehicles
  (26) Advances in battery technologies
  (27) Technologies for sensors, nano-sensors, and bio-sensors

(28) Autonomous cars

(29) Unmanned aerial systems

(30) Automotive sensors

(31) Internet of Things

These are a few of the technologies that are the engineered manifestations of nanotechnology. You may know one or more in your engineering discipline where nanotechnology has already changed the ways humanity lives now. Share them in this paper and presentation competition at SIT.

Instructions and Rules:

- Paper and presentation topic: **Nanotechnology in My Engineering Discipline**
- Interested student authors should send through their Heads of Department **only pdf copies** of their papers by email to nanosit2018@gmail.com on or before 27/01/2018. In the email message, your Department Head should endorse that the paper being submitted is solely your (or your team's) work. He/she also should provide your full name and email for the purpose of tracking your paper and intimating you about the status of your paper.
- **Paper Preparation** rules:
  - Paper should cover nano fundamentals, technology processes, and applications of your discipline-specific topic or cross-disciplinary topic that involves your discipline.
  - Paper must be typewritten using Word or similar software, in Calibri with font size 14 for the title and font size 12 for the rest, double-spaced on one side only of standard A4 size paper. Equations and special symbols should be written using suitable software tool features (such as the Equation Editor and Symbols in Word). Figures should be drawn using the drawing feature in Word. Hand-written content should be avoided.
  - The pages of the paper must be numbered consecutively on the lower right corner using the page numbering feature in the writing software. Introduction, Body, Summary/Conclusion, Tables, and Figures should be limited to 10 pages and the total length of the paper should be limited to 15 pages.
  - The paper should be arranged as follows:
    - **Title page:** Only the title of the paper that accurately reflects the content of the paper should be given (in Calibri font size 14). Neither the author's name nor affiliation should be listed on the title page.
    - **Table of Contents:** This should consist of a list of parts or sections of the paper and the page numbers in the order they appear in the paper. Section headings should be left-justified and the page numbers should be right-justified. Sub-headings should be indented. Sub-sub-headings should be avoided.
    - **Abstract:** Abstract should briefly cover the essential facts of the entire paper. It should be limited to 100 words. There should be a statement

each on the topic's relevance, problem or objective, and method (if unique) of investigation, followed by key findings and conclusions.

- **Introduction:** In this section, state-of-the-art of your topic leading to the statement of the problem and the substance of your paper should be provided. Method of approach of your investigation and key findings also should be summarized in this section.

- **Body:** For ensuring the impartiality and objectivity of the judges, your and your college names should be provided only in your email message that accompanies your paper. These should not be given anywhere in your paper. In the paper, if a reference to the place of work is necessary, you should give your college name only as "the college" without giving the actual name. You should present the main work of your paper in this section. You should do this with an outline and expanding on the outline with supporting data and findings. Your writing should be in the third person. To be effective, you should provide your supporting data in charts, curves, figures, and tables. You may use well known abbreviations but should define at first use followed by abbreviation in brackets. Figures and Tables should supplement the text; they should not duplicate other materials in the paper.

- **Summary (or Conclusions):** In this section, you should concisely present the findings and importance of your paper. If there is more than one conclusion, you should present each in its own paragraph in a logical sequence.

- **Table and Figures:** You should place tables or figures in the vicinity of the text where you reference them. Tables should be numbered as Table 1, Table 2, etc., with each table's heading placed above the table. Figures should be numbered as Figure 1, Figure 2, etc., with figure's caption placed below the figure. Table headings or figure captions should be concise and provide sufficient information about the tables or figures, without having the need to read the text to understand, while the descriptions should not be wordy.

- **Appendices:** You should provide supporting materials – such as notes, derivations, software codes, mathematical proofs, etc. – that are secondary to understand the substance of your paper in the appendices. Numbering of the figures, tables, or equations, if any, in the appendices should be continuation of the numbering in the main paper.

- **References:** You should cite any content taken out or para-phrased from other sources by numbering the sources as 1, 2, etc. and listing them in the reference section in the following forms:
  - For a periodical: R.N. Hall, "Power Rectifiers and transformers," Proc. IRE, Vol. 40, pp. 1515-1518, November 1952.

- For a book: W.A. Edison, "Vacuum Tube Oscillators," John Wiley and Sons, Inc., New York, New York, pp. 170-171, 1948.
- For an article: B. Lawrence, B. H. Weil, and M. H. Graham, "Making online search available in an industrial research environment," Journal of the American Society for Information Science, pp. 364-369, Nov-Dec. 1974

- o Papers with plagiarism in any form will be rejected. See the plagiarism policy at the end of this webpage for more details.
- ➢ Authors will be notified about the acceptance of the paper by **10 Feb. 2018**
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- ➢ **Oral Presentation rules:**
  - o Authors of accepted papers are required to email through their Heads of Department their Power Point Presentations (.ppt or .pptx format only) with compatibility of MS office-2007 to nanosit2018@gmail.com on/before 24/02/2018. Use of pen drive or CD/DVD during the competition presentation will not be permitted.
  - o Authors accepted for oral presentation should do on-site registration before 9:00 am on 10/03/2018; oral presentations of the accepted papers are compulsory and all the listed authors of accepted papers must orally present.
  - o Each paper will be given ten (10) minutes for oral presentation and five (5) minutes for queries from the other participants and judges. However, these times are subject to change depending on the number of participants. Judges may impose a penalty of 5 points for running overtime.
  - o Your oral presentation should consist of only PPTs, slides, charts, viewgraphs, or video clips. Any kind of demonstration is prohibited in this competition.
  - o Presentation slides' preparation rules:
    - ▪ You should read and follow Guy Kawasaki's rules to make effective presentation.
    - ▪ You should not use font size less than 30 on any slide.
    - ▪ You should use good quality pictures with legible labels.
    - ▪ Your presentation must be free of plagiarism. Read plagiarism policy provided at the end of this page for more details.
- ➢ **Judging:** Decisions of the paper reviewers, judges, and the organizing committee are final. Your written and oral presentations will be evaluated based on the assessment rubric. 55% of the weight will be given to the paper and 45% weight will be given to the oral presentation. Your final score will be the sum of each judge's total "written and oral scores." If there is tie for any prize, majority vote of all the judges will be used to break the tie. Judges may also elect to "interview" the tied contestants and decide the winner.
- ➢ Certificates will be issued only after valedictory function on 10/03/2018. You should be present to accept your certificate. Certificates will not be mailed.

> If accommodation is required, please inform us over e-mail on or before 24/02/2018. Accommodation will be provided on request with the collection of additional nominal charges.

Registration:

> Authors of the accepted papers must register for the oral presentation by **24 Feb. 2018**
> Individual registration for each participant is compulsory.
> Registration and payment should be made through NEFT.
>> o   Registration fee: Rs. 200 per participant.
> This fee is payable only online via http://erp.sit.ac.in/external.aspx. For 'Fee Head' choose 'Student Paper Competition Center of ART', for 'Fee Type' choose 'Student Seminar' and click 'Confirm'.

Key dates:

Last date for manuscript submission:	**27 Jan. 18**
Notification of acceptance by:	**10 Feb. 18**
Last date to register:	**24 Feb. 18**
Emailing final presentation:	**24 Feb. 18**

Venue:

Center of Applied Research and nano-Technology,
4th Floor, Sree Sivakumara Swamiji Centenary Building,
Siddaganga Institute of Technology, Tumakuru 572103

Tentative Program:

TIMING	SCHEDULE
8:30-9:00 AM	Registration
9:00-9:10 AM	Lighting the lamp, Invocation song
9:10-9:30 AM	Talk by chief guests and vote of thanks
9:30-10:45 AM	Presentation Session 1
10:45-11:00 AM	Tea break
11:00 -12:30 PM	Presentation Session 2
12:30-2:00 PM	Lunch
2:00-3:30 PM	Presentation Session 3
3:30-3:45 PM	Tea break
3:45-4:45 PM	Presentation

	Session 4	
4:45-05:15 PM	Valedictory function	

Contact:

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Assessment rubric:

Judging criteria for written (55%) and oral (45%) presentations

	Written form 35%	Max. Score
1.	Concise, informative abstract	10
2.	Adequacy of introduction	10
3.	Logical development and analytical treatment in the body	10
4.	Adequacy of conclusion	10
5.	Compliance with paper contest guidelines on format	10
6.	Clarity and direction in exposition	10
7.	Grammar, spelling, style, and choice of words	10
	Total	70
	Written subject matter 20%	
8.	Originality of ideas, experimental procedures, processes, designs, results, or conclusion due primarily to the author	10
9.	Originality of analysis, interpretation, restatement of inference based upon the work of others	10
10.	Quality and level of technical, social, or management content, appropriateness, interest, and importance	10
11.	Factual and technical accuracy	10
	Total	40
	Oral form 30%	
12.	Organization - has introduction, body and conclusions with transitions between each	10
13.	Logical development	10
14.	Poise, eye contact, platform manners	10
15.	Grammar, fluency, and choice of words	10
16.	Clarity and directness in exposition (does not "read" the slides)	10
17.	Use of graphic aids	10
	Total	60
	Oral subject matter 15%	
18.	Apparent technical and factual accuracy and grasp of the subject	10
19.	Use of examples and analogies	10
20.	Discussion	10
	Total	30

Source and credit to IEEE http://sites.ieee.org/r1/files/2013/03/2013-R1-Student-Paper-Contest.pdf

Plagiarism Policy:

It is unethical and offensive to use others' work without proper citation and credit. Any such act of copying and plagiarizing in your paper or presentation slides will result in a rejection. When you rely on others' published or unpublished work, it is your responsibility to fully indicate the citation as footnotes or as references to your work in a manner acceptable in the engineering profession. Please read this page and understand the various forms of plagiarism: https://www.msu.edu/~ombud/academic-integrity/plagiarism-policy.html. We will not make any room for any form of plagiarism in this competition. Your best future lies in your truthful conduct throughout life.