



K.S.R.M. COLLEGE OF ENGINEERING

(AUTONOMOUS)

Kadapa, AndhraPradesh, India –516003

DEPARTMENT OF CIVIL ENGINEERING

Webinar on Design Philosophy of Earth Quake Resistance Structure

19th July 2021

REPORT

Speaker: Dr. P. JAGADEESAN, Professor in Gurunanak Institution Technical Campus.

Design Philosophy of Earth Quake Resistance Structure:

Earthquake-resistant structures absorb and dissipate seismically induced motion through a combination of means: damping decreases the amplitude of oscillations of a vibrating structure, while ductile materials (e.g., steel) can withstand considerable inelastic deformation. If a skyscraper has too flexible a structure, then tremendous swaying in its upper floors can develop during an earthquake. Care must be taken to provide built-in tolerance for some structural damage, resist lateral loading through stiffeners (diagonal sway bracing), and allow areas of the building to move somewhat independently.

The Concept of the Webinar:

Experience in past earthquakes has demonstrated that many common buildings and typical methods of construction lack basic resistance to earthquake forces. In most cases this resistance can be achieved by following simple, inexpensive principles of good building construction practice. Adherence to these simple rules will not prevent all damage in moderate or large earthquakes, but life threatening collapses should be prevented, and damage limited to repairable proportions.



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Kadapa, Andhra Pradesh, India- 516 003

Approved by AICTE, New Delhi & Affiliated to JNTUA, Ananthapuramu.

DEPARTMENT OF CIVIL ENGINEERING



WEBINAR ON

Design philosophy of Earthquake Resistant Structures

SPEAKER

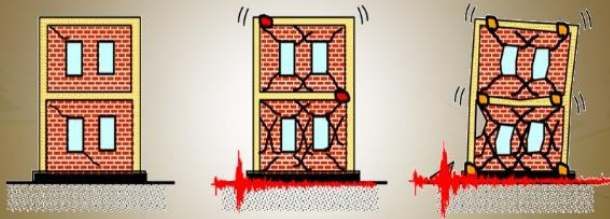
Dr. P. JAGADEESAN

B.E, M.E, Ph.D

Associate Professor,
Guru Nanak Institutions Technical Campus, Hyderabad.

DATE & TIME

19-07-2021, 04:15 pm to 05:15 pm



Coordinator : Sri. Ch. Santosh Kumar,
Assistant Professor,
Dept. of Civil Engineering, KSRMCE

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Dr. N. Amaranath Reddy
HoD

Dr. V.S.S. Murthy
Principal

Prof. A. Mohan
Director

Sri. K. Chandra Obul Reddy
Management Member

Smt K. Rajeswari
Correspondent,
Secretary, Treasurer

Sri K. Madan Mohan Reddy
Vice-Chairman

Sri K. Raja Mohan Reddy
Chairman

Poster of the event: Webinar on **Design Philosophy of Earth Quake Resistance Structure.**

Zoom link:

<https://us02web.zoom.us/j/82712093962?pwd=dHlw1JpdzZFNG1qWkQ3OVVlcTJmUT09>

About the Speaker:

Dr.P.JAGADEESAN, Professor in Gurunanak Institution Technical Campus, HYDERABAD. His Qualifications are B.E. (Civil Engineering), M.E. (Structural Engineering), Ph.D. in Civil Engineering.

He has 14+years of professional experience in Teaching, 6+ years of experience as Head of Civil Department, 1+ years of Professional Experience in Construction Industry. He published 10 papers in International and National Journals & Published 12 papers in International and National Level Conferences. He Worked as Consultant of Structural Design.

He Certified In Architectural CADD & Technically Strong in STAAD Pro and SAP 2000. And technically guided the students for Funding Project. He Initiated and organized various National Level Symposium, Conferences and Workshop. He was Life Membership in ISTE, IEI.

The Sequence of the Webinar

The Webinar was arranged by Department of Civil Engineering for the B.Tech V semester and VII semester Students and faculty of the department. The venue was organized thorough virtual mode using Zoom meeting pro application purchased by Department of Civil Engineering, KSRMCE. The webinar is conducted on 19th July, 2021 in Afternoon session from 4.15 pm to 5.15 PM, and the sessions were hosted by Dr. Amaranath Reddy (HoD), Sri. Ch. Santosh Kumar. A total of 71 students and the faculty members of Department of Civil Engineering were actively participated in the webinar.

Welcome speech:

Sri. Ch. Santosh Kumar (Coordinator of the event), Assistant Professor, Dept. of Civil Engineering, KSRMCE expressed a very warm welcome to the HoD, faculty and students of the Civil Engineering Department. The coordinator introduced the guest of honors to the gathering, the brief of their education and professional experiences was read for the audience.

HoD's words:

Dr. N. Amaranath Reddy, HoD & Associate Professor of the Dept. of Civil Engineering, KSRMCE addressed the gathering by welcoming the Guest of Honors Dr.P.JAGADEESAN, to the event. HoD shared about the dedication towards work and capabilities of speakers as his students and how they evolved to stand in this position by continuous improvement.

Presentation by the Guest:

Session (4.15 pm to 5.15PM, 19thJuly, 2021):

The speakers explained the one day plan of action of this webinar. Session is majorly concentrated on origin Design Philosophy of Earth Quake Resistance Structure. It covers the Earth Quake Resistance Structure. The speakers explained about Seismic Effect On structures. The session ended with the explanation "flow of seismic inertia through all structure components".

Example : You are viewing Jagadeesan's screen View Options

- To elaborate this distinction, consider the analogy of an electric bulb (Figure 3). The illumination at a location near a *100-Watt* bulb is higher than that farther away from it.
- While the bulb releases *100 Watts* of energy, the intensity of light at a location depends on the wattage of the bulb and its distance from the bulb.
- Here, the size of the bulb (*100-Watt*) is like the magnitude of an earthquake, and the illumination at a location like the intensity of shaking at that location.

Figure 3: Reducing illumination with distance

Participants 71 Share Screen Chat Reactions Settings More Leave

Presentation by speakers

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Seismograph

Figure 3: Schematic of Early Seismograph

Figure 4: Some typical recorded accelerograms

Participants (71)

Find a participant

- ch.santosh(Me)
- HOD CE(Host)
- Jagadeesan(Co-host)
- Ch. Santosh Kumar(Co-host)
- VamC
- LE102 Malik
- hyder ali khan
- Sudheer Kumar
- LE-117 DASTAGIRLD
- RE-106 HIMACHANDRASEKHAR BACHU
- RE-1C3 Ganga Swetha
- LE-105 VENUGOPAL REDDY
- 173 Palakondaiah
- 209Y5A0120 G.Harini
- L Venkataiah
- 104 RGV

Invite Unmute Leave

SEISMOGRAPH

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Seismic Effect on Structures

Figure 1: Effect of Inertia in a building when shaken at its base

Figure 2: Inertia force and relative motion within a building

Jagadeesan

Participants (70)

Find a participant

- ch.santosh(Me)
- HOD CE(Host)
- Jagadeesan(Co-host)
- Ch. Santosh Kumar(Co-host)
- LE102 Malik
- hyder ali khan
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- K.Niveditha

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SEISMIC EFFECT ON STRUCTURE

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Figure 4: Flow of seismic inertia forces through all structural components.

(a) Partial collapse of stone masonry walls during 1991 Uttarkashi (India) earthquake

Jagadeesan

FLOW OF SEISMIC INERTIA FORCES THROUGH ALL STRUCTURAL COMPONENTS

ch.santosh

LE 149 S.Chandra mouli

REG-175 Abhish Nanubala

LE102 Malik

ch. Santosh Kumar

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Zoom

Leave

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HoD's words at end of the Event:

At the end of the webinar, Dr. N. Amaranath Reddy, HoD, Dept. of Civil Engineering, KSRMCE expressed his regard to the speakers for sharing his knowledge with the students. HoD wished the speakers to get a better position in future and also asked the speakers to present some more webinars to students of KSRMCE.

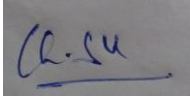
Vote of thanks:

Sri. Ch. Santosh Kumar (Coordinator of the event) delivered vote of thanks by thanking all the students & faculty members for their active participation, (Especially HoD sir) for providing zoom online platform to conduct such events and organization of KSRMCE for encouraging to conduct such events. A total of 71 members containing students and faculty of Department of Civil Engineering, KSRMCE participated in this event

Suggestion/ Comments about the webinar:

- Excellent Lecture
- Communication for good knowledge.
- It is very helpful for us, sir
- Thank you for giving lecture on Earthquakes..
- I would like to listen more webinars.
- Need to upgrade the online method.
- This webinar session is very useful to me thank you so much sir...for giving this pleasant webinar sir once again thanks a lot.
- Thank you sir for providing these kind of sessions please conduct more this kind of session's thank you sir.
- Thanks for explaining about earth quake sir. Still many of this webinar if you conduct is better to us sir.
- Make more live examples.
- Very good explanation.
- Excellent webinar class sir
- Good for students for learning

- IT'S HELP A LOT TO GAIN INFORMATION TO STUDENTS.
- Thank you for giving opportunity.
- Can u Show some videos & pie charts sir.



Ch. Santosh Kumar

Coordinator



Dr. N. Amaranath Reddy

(HoD, Civil Engineering.)

