



**RAMAIAH  
UNIVERSITY  
OF APPLIED SCIENCES**

**Report on**

**Distinguished Lecture Series (Online)  
by Professor J. N. Reddy**

***“Theory and Analysis of Laminated Composite and  
Functionally Graded Structures”***

**Organized by:**

**Center of Excellence for Computational Mechanics of  
Ramaiah University of Applied Sciences (RUAS)**

**Ramaiah University of Applied Sciences,**

**Date: 08 - 11 September 2020**

**Venue: Online**

# **Report on Distinguished Guest Lecture Series (Online) by Professor J. N. Reddy**

## **“Theory and Analysis of Laminated Composite and Functionally Graded Structures”**

### **Summary:**

Distinguished Lecture Series entitled “*Theory and Analysis of Laminated Composite and Functionally Graded Structures*” has been presented by Professor J. N. Reddy, Oscar S. Wyatt Endowed Chair Professor and Regents Professor of Mechanical Engineering, Texas A&M University, USA, at the Center of Excellence for Computational Mechanics of Ramaiah University of Applied Sciences (RUAS).

The Distinguished Lecture Series has engaged Participants across the country along with RUAS Internal Faculty Members and Ph.D. Scholars.

### **Event Description:**

Professor J. N. Reddy, Oscar S. Wyatt Endowed Chair Professor and Regents Professor of Mechanical Engineering, Texas A&M University, USA, has delivered a Four Day Online Course on "Theory and Analysis of Laminated Composite and Functionally Graded Structures" at the Center of Excellence for Computational Mechanics of Ramaiah University of Applied Sciences from 08 September to 11 September 2020.

The Distinguished Lectures Series has been initiated at RUAS in 2018 and has become since then a place for renowned academics, scholars, qualified experts and scientists to share their knowledge and debate on topics of current relevance. Distinguished Lectures Series delivered by outstanding scientists and academicians aims to:

- Create a scientifically advanced and challenging context for academic work and development of knowledge on topics of interest and importance to global scientific community
- Serve as one of the means to stay aware of the most recent scientific and technological developments,
- Provide benefits to professional peer networking to all Participants.

### **(Organizers)**

Dr. S. S. Sritharan, Vice Chancellor, RUAS

Dr. G. R. Kadambi, Pro Vice Chancellor – Research, RUAS

Dr. Rahul M. Cadambi, Associate Professor, Centre Coordinator, Centre of Excellence for Computational Mechanics; Head, Composites Materials and Technology Research Centre, RUAS

Dr. Sharath Kumar, Director – Research, RUAS

Ms. Lyubov Kulikovich, Deputy-Director, ICPM

**Objectives:**

1. To review and analyze laminated composite and functionally graded structures

**Budget:** INR 40,000

**Program and Speakers:**

Sl. No.	Resource Person	Title of the Distinguished Lecture	Date and Time
1	<b>Professor J. N. Reddy</b> Oscar S. Wyatt Endowed Chair Professor and Regents Professor of Mechanical Engineering, Texas A&M University, USA	<i><b>“Theory and Analysis of Laminated Composite and Functionally Graded Structures”</b></i>	08 September 2020 (6.00 pm IST)
2	Oscar S. Wyatt Endowed Chair Professor and Regents Professor of Mechanical Engineering, Texas A&M University, USA	<i><b>“Theory and Analysis of Laminated Composite and Functionally Graded Structures”</b></i>	09 September 2020 (6.00 pm IST)
3	Oscar S. Wyatt Endowed Chair Professor and Regents Professor of Mechanical Engineering, Texas A&M University, USA	<i><b>“Theory and Analysis of Laminated Composite and Functionally Graded Structures”</b></i>	10 September 2020 (6.00 pm IST)
4	Oscar S. Wyatt Endowed Chair Professor and Regents Professor of Mechanical Engineering, Texas A&M University, USA	<i><b>“Theory and Analysis of Laminated Composite and Functionally Graded Structures”</b></i>	11 September 2020 (6.00 pm IST)

## Summary of the Event

**RAMAIAH UNIVERSITY OF APPLIED SCIENCES**

**RAMAIAH Institute of Technology**

Online **Distinguished Lecture Series**  
by  
**Professor J. N. Reddy**  
*Oscar S. Wyatt Endowed Chair Professor and Regents Professor of Mechanical Engineering  
Texas A&M University, College Station, Texas, USA*

A four-day course on  
**THEORY AND ANALYSIS OF LAMINATED COMPOSITE  
AND FUNCTIONALLY GRADED STRUCTURES**  
**08 September 2020 to 11 September 2020**

Organized by  
Center of Excellence for Computational Mechanics, Ramaiah University of Applied Sciences

For Registration and  
Please Contact: Dr. Rahul M. Cadambi  
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For Sponsorship and  
Please Contact: Dr. K.M. Sharath Kumar  
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Event Partners  
**VALDEK** | **RAMAIAH-GATE**

Professor J. N. Reddy, Oscar S. Wyatt Endowed Chair Professor and Regents Professor of Mechanical Engineering, Texas A&M University, USA, has delivered a Four Day Online Course on "Theory and Analysis of Laminated Composite and Functionally Graded Structures" at the Center of Excellence for Computational Mechanics of Ramaiah University of Applied Sciences from 08 September to 11 September 2020 as part of Distinguished Guest Lecture Series.

Distinguished Guest Lecture Series (Online) has been organized and moderated by RUAS. RUAS Key Participants attended the event were: Dr. S. S. Sritharan, Vice Chancellor, Dr. G. R. Kadambi, Pro Vice Chancellor – Research, Dr. Rahul M. Cadambi, Associate Professor, Centre Coordinator, Centre of Excellence for Computational Mechanics; Head, Composites Materials and Technology Research Centre, Dr. Dr. Sharath Kumar, Director – Research, and Ms. Lyubov Kulikovich, Deputy-Director, ICPM. Speaker was Professor J. N. Reddy. The event has been made available to Participants with minimal Registration Fees.

- **Programme:**

Distinguished Guest Lecture Series began with the introduction of the Speaker by Dr. G. R. Kadambi, Pro Vice Chancellor – Research, RUAS. Professor J. N. Reddy went ahead with his talk. Dr. Rahul M. Cadambi coordinated the event which had a Q&A session every day, and after four day run, the event has been concluded.

Professor J. N. Reddy is known worldwide for his significant contributions to the field of applied mechanics through the authorship of widely used textbooks on the linear and nonlinear finite element analysis, variational methods, composite materials and structures, and continuum mechanics. His pioneering works on the development of shear deformation theories of laminated composite plates and shells (that bear his name in the literature as the Reddy third-order plate theory and the Reddy layerwise theory) have had a major impact and have led to new research developments and applications.

Course provided participants with the theory and analysis (and some design considerations) in dealing with composite structural components in the form of beams, plates, and shells

laminated of fiber-reinforced materials and two-constituent functionally graded beams and plates. Theoretical formulations and applications were also presented to illustrate the concepts.

Around 75 participants logged in every day for the course. There has been an informative and lively Q&A session each day. Overall the course has been a huge success with most positive feedback from all Participants.

Therefore, the objective to review and analyze laminated composite and functionally graded structures has been successfully achieved. The Distinguished Lectures have engaged around 75 participants across country every day along with RUAS Internal Faculty Members and Ph.D. Scholars.

## **Conclusion and Outcomes**

- **Programme outputs:**

During the Distinguished Guest Lecture Series, the objective to review and analyze laminated composite and functionally graded structures has been achieved successfully. The Distinguished Lectures have engaged around 75 Participants across the country every day along with RUAS Internal Faculty Members and Ph.D. Scholars.

## **Annexures**

### **Link to the Recordings:**

#### **Day 1 Video Link**

[https://drive.google.com/file/d/1vi69MW-JMGGleYjoRbYvknfVMif\\_8uFA/view?usp=sharing](https://drive.google.com/file/d/1vi69MW-JMGGleYjoRbYvknfVMif_8uFA/view?usp=sharing)

#### **Day 2-4 Video Links**

<https://1drv.ms/u/s!AsJj5Cid4nqNcixYzPjEYUu1GQo?e=F50HzD>

Alternatively, participants who have Institutional or Organisational Microsoft Teams id, can access the video through following links

#### **Day 1:**

<https://web.microsoftstream.com/video/55568140-8403-4c29-99c2-ed918b5e00b3>

#### **Day 2 Part 1:**

<https://web.microsoftstream.com/video/e4295dd0-c689-49b0-86cd-92671a9e9ffe>

#### **Day 2 Part 2:**

<https://web.microsoftstream.com/video/1ad0d5a4-2b99-43a6-9ab3-ab93daa586de>

#### **Day 3:**

<https://web.microsoftstream.com/video/3ae835c3-c880-408f-acad-c2b929144714>

#### **Day 4:**

<https://web.microsoftstream.com/video/43f10fab-c49c-40bc-8155-2a9e76b4ee48>