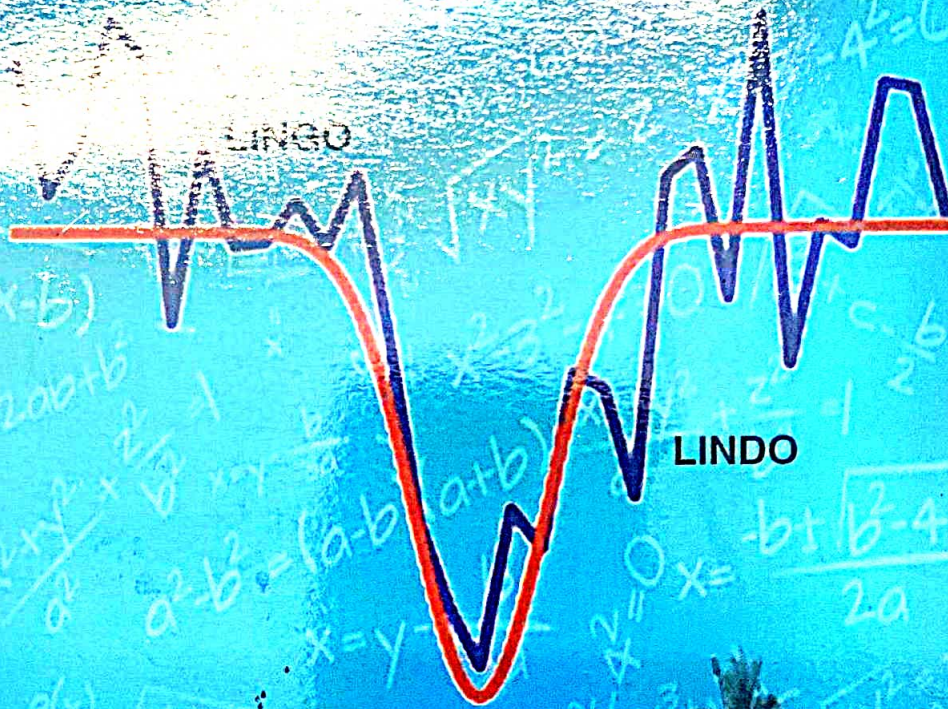




*Diamond Jubilee Celebrations of NIT Warangal*  
**International Conference on  
Numerical Optimization in Engineering and Sciences  
NOIEAS - 2019**  
**19<sup>th</sup> - 21<sup>st</sup> June, 2019**

**N  
O  
I  
E  
A  
S  
-  
2  
0  
1  
9**

**S  
O  
U  
V  
E  
N  
I  
R**



Organized by

**Department of Mathematics  
National Institute of Technology**

Warangal - 506 004, Telangana State, INDIA.  
Website : [www.nitw.ac.in](http://www.nitw.ac.in)





NUMERICAL OPTIMIZATION IN ENGINEERING & SCIENCES  
NOIEAS - 2019  
(Under TEQIP-III)



NATIONAL INSTITUTE OF TECHNOLOGY WARANGAL  
DEPARTMENT OF MATHEMATICS

Certificate

This is to certify that.....**VIKRANT P. KOTHARI**.....  
from *Vidya vardhini's College of Engineering & Technology, Maharashtra* has Presented  
a Paper / Participated in the Three Day International Conference on "*Numerical  
Optimization in Engineering & Sciences*" organized by the Department of  
Mathematics, National Institute of Technology Warangal during 19 - 21 June, 2019.

Prof. Debashis Dutta  
Convener

Prof. L. Krishnanand  
Coordinator, TEQIP-III

Prof. D. Srinivasacharya  
HOD, MATHS

Prof. N.V. Ramana Rao  
Director

using compromise programming Technique. Group Decision approach is employed for combined ranking at each grid point in the study area. Results of this study concludes, BCC-CSM1.1(m), MIROC5, CanESM2, CNRM-CM5 and BCC-CSM1.1 for maximum Temperature and CanESM2, ACCESS1.0, BCC-CSM1.1, MRI-CGCM3 and CNRM-CM5 for minimum temperature were optimized models of thirty-six GCMs.

### **CE122: Analysis of Risks in Residential Building Construction Projects**

**Vikrant P. Kothari<sup>1</sup>, Mohan M. Dusane<sup>2</sup> and Arbaz M. Kazi<sup>3</sup>**

*Department of Civil Engineering, Vidyavardhini's College of Engineering & Technology, Vasai road 401202, Maharashtra, India<sup>1,2&3</sup>*

Email: Vikrant.kothari@vcet.edu.in1, mohan.dusane@vcet.edu.in2 and arbaz.kazi@vcet.edu.in3

Risk management in terms of time, cost, quality and scope becomes crucial task in the construction industry. The risk management plays a vital role in residential building construction projects, so that the time and cost given to the client is duly met. In this study, an implementation of project risk management has been done on regional construction projects from Mumbai region to identify the major risk factors affecting the time and cost of the projects. Based on expert interview and suggestions taken from construction industry experts, the Work breakdown structure of a residential project is developed. Also, Microsoft project is used to develop the critical path for identification of the most important activities i.e. critical activities which affect the duration of a project. After successful study of literature survey and evaluation of expert opinions, a questionnaire form was prepared which include 50 major risks headed under 7 major risk factors and personal opinions were also invited. The Qualitative risk analysis is carried out to define the level of significance of risks parameters by using Relative Importance Index (R.I.I.) method. According to R.I.I. method, the most five important parameters are; Delay in approval of passing Occupancy certificate (OC) and Commencement certificate (CC), Local Calamity, substandard quality of material, Shortage of skilled labors, poor safety management. This study contributes to the risk management and provide a general idea about the important risk parameters in residential building construction project.

### **CE123: 3D Numerical Simulation of Ductile Circular Target Subject to Normal Impact Under Different Velocity**

**Vartika Tripathi<sup>1</sup>, Aman Garg<sup>2</sup>, H.D.chalak<sup>3</sup>,**

*Department of Civil Engineering, NIT Kurukshetra, Kurukshetra, Haryana, India 136119;*

E-mail1; vartika.tripathi.044@gmail.com, amang321@gmail.com, chalakhd@nitkr.ac.in

Finite element simulations have been performed to study the behaviour of ductile circular plate subjected to normal impact. Al 6061-T6 aluminium targets having thickness ten mm are impacted by curved nosed cylindrical impactor. The target is impacted at 100,110,115,125,150,200 (m/s) velocity. While impactor is assumed to be rigid, Johnson-cook is used to characterize damage in plate. The ABAQUS/Explicit finite element method is used for analysis. It is observed that with increase in velocity deformation in plate increases, stress also increases by increment of velocity.