

**INTERNATIONAL CONFERENCE  
ON INNOVATIVE RESEARCH  
IN ENGINEERING, APPLIED SCIENCE  
& MANAGEMENT  
(IC-IREASM-2019)**

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**Editors**

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## 1. Seismic Analysis and Research of Nanning Metro Station Structure through Water-rich Sand Stratum Dr.A.Krishna Murthy

### ABSTRACT

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After the Great Hanshin Earthquake, the engineering community began to pay attention to the research on the seismic safety of underground structures. A subway station in Nanning, Guangxi is located in a water-rich sand layer. Combining with Nanning's seismic fortification intensity, a variety of seismic design analysis methods are used to study the response law of the two-story frame structure of the underground station under the action of seismic forces. The results show that: (1) The one-dimensional free-field analysis method and the three-dimensional equivalent linear time history analysis method calculate that the relative displacements of the station roof and floor are basically the same, and both decrease with the increase of depth. (2) The bending moment calculated by the three-dimensional equivalent linear time history analysis method and the reaction displacement method is basically the same as the maximum position of the axial force, but the values are different, and the internal force and bending moment at the connection between the station center column and each floor significantly larger than the surrounding area. (3) Using the three-dimensional equivalent linear time history analysis method, the maximum value of the relative displacement of the station structure is 162.2mm, and when using the reaction displacement method, the maximum value is 90.6mm, and they all occur on the roof of the station.

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## 2. Seismic Research of Nanning Subway Tunnel Section Crossing Silty Sand Dr. Rajeev Shrivastava

### ABSTRACT

After the Kobe earthquake, the seismic design of underground structures has been widely valued. Guangxi Nanning Metro passes through a saturated silt fine sand layer, while considering Nanning seismic fortification intensity, different geological conditions and underground structure forms of Nanning Metro are compared and analyzed using different seismic design methods, and combining the characteristics of the actual engineering structure, one-dimensional free-field analysis method, response displacement method and three-dimensional equivalent linear time history analysis method are used to analyze and study soil response and structural response. The results show that: (1) The relative displacement of the structure calculated by the three-dimensional equivalent linear time history analysis method is consistent with the results of the one-dimensional free-site analysis method, and both decrease with the increase of the depth. (2) For the relative displacement changes on the lining structure, when the three-dimensional equivalent linear time history analysis method is used, the maximum relative displacement occurs on the upper part of the lining structure, which is 523.43 mm; when the reaction displacement method is used, the maximum relative displacement occurs At the lower right side of the lining structure, it is 63.89 mm. The calculation result of the three-dimensional equivalent linearization time history method is obviously greater than that of the reaction displacement method.

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## 3. Research on Cultural and Creative Products Design Based on the Aesthetics of Painted Pottery of Majiayao Culture

N. Vidya

### ABSTRACT

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Aesthetics, as an artistic realm, is a supreme state of modern cultural and creative products. The beautiful shapes and exquisite patterns of painted pottery of Majiayao culture reflect the artistic skills and rich life experience of the primitive ancestors at that time. From the painted pottery of Majiayao

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culture, we find that the primitive ancestors' grasp and expression of aesthetic thought reflect their aesthetic ideals and tastes. Exploring the aesthetic thoughts and tastes of the primitive ancestors from the painted pottery of Majiayao culture is also to better guide the application of the painted pottery of Majiayao culture in the design of modern cultural and creative products, so as to inherit and innovate the excellent regional culture, and at the same time to give cultural and creative products more spiritual connotations and cultural heritage

## 4. Simulation to Weapon Target Distributed Assignment of Warship Formation based on JADE

**P.Jyothi**

**ABSTRACT**

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Under the simulating frame of JADE, the weapon target distributed assignment of warship formation is simulated based on the improved contract net protocol. The named regulation, interaction standard, behavior and description of DF are designed, and the program design of weapon Agent and Platform Agent is completed. The simulation test detailed record formation for the distribution results and distribution basis, and also with the traditional contract nets and traffic are compared. Through the simulation results and comparison proved the formation of weapon target distribution distributed simulation feasibility and efficiency.

## 5. Evaluation and Optimization of Fracturing Effects of Carbonate Geothermal Reservoirs in Typical Target Areas in Xian County, Hebei

**D.Anuradha**

**ABSTRACT**

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In order to evaluate the effect of hydraulic fracturing in carbonate geothermal reservoirs in Xian County, this study used COMSOL finite element multi-field coupled numerical simulation software to

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develop a geological model using 2D seismic data. By considering the influence of seepage on the heat transfer process of geothermal reservoirs, we then developed a coupled seepage-heat transfer model for fault-containing geothermal reservoirs. Combined with the "one extraction, one reinjection" well injection mode, the temperature and flow field changes under different fracturing effects during heat extraction in a typical thermal reservoir were analyzed and compared, and the optimal fracturing conditions evaluated. The main conclusions are: (1) Under a water injection temperature of 50°C, the recommended extraction and reinjection well-spacing is 700 m, and the optimal fracturing permeability is  $5.77 \times 10^{-16}$ . When the operation time is 100 years, the temperature at the bottom of the heat extraction well drops 1°C from the initial temperature, and no thermal breakthrough is produced. (2) Faults within the strata will form a dominant seepage channel with a length of about 500 m, with the reinjection water seeping from outside the channel between the extraction and reinjection wells, forming an elliptical seepage channel on both sides. (3) At the recommended well-spacing, the heat extraction wells are still 200 m away from the tail of the seepage dominant channel, and the extension surface of the convex cold front is reduced.

## 6. On Construction of Rural Migrant Workers' Social Integration Indicator System—An Empirical Analysis on Surveyed Data in 2016 based on Structural Equation Modeling

**N.Salma Sultana**

**ABSTRACT**

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Social integration of rural migrant workers (RMWs) is a comprehensive, systematic and challenging problem. In this paper, the author will, based on the surveyed data of Chinese RMWs in 2016, adopt the Quantitative Grading Method to conduct a correlation analysis on occupation integration, livelihood integration, cultural integration, and identity, and construct the RMWs' social integration indicator system through the Structural Equation Modeling (SEM). The study shows that the SEM constructed in this paper matches well the features of the sample. Most indicators (dimensions) in the RMWs' social integration indicator system exert a significant one-way impact, and different

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indicators (content) bear features of interactivity and layered progress, which conforms to the basic situation and features of RMWs' social integration in reality, and proves the different aspects of integration of RMWs is interconnected, correlative, interactive, and it is a consistent and dialectical unity.

## **7. Analyze the Influence of Panofsky's Iconography on the Improvement of Current Aesthetic Education**

**S.ChandraBhanu**

### **ABSTRACT**

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From the perspective of Chinese painting, Chinese painting's formal language is behind the aesthetic ideas in traditional writings such as the Book of Changes, Confucianism and Taoism; the development of Western painting is not only the change of materials but also the evolution of philosophy in different periods. This article combs through the aesthetic thoughts and famous paintings in historical documents and maps these materials one by one according to each historical period, from which we can find the inextricable relationship between aesthetic thoughts and paintings. This article analyzes the three stages of Panofsky's iconography, finds ways to promote the public to enhance their aesthetic appreciation better, and further explores the deep philosophical meaning behind the images. The public has a certain understanding of the creation of artistic works. , Solve the current problems in improving aesthetic education, enhance popular art appreciation, and promote the overall development of social, aesthetic education.

## **8. Spatial Clustering, Coupling Coordination and Its Influencing Factors of Urbanization in Shandong Peninsula Urban Agglomeration**

**V.Srikanth**

### **ABSTRACT**

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The study on the coordinated development of urbanization is currently a hot topic and frontier of research. Founded on the panel data of 17 cities in Shandong Peninsula Urban Agglomeration (SPUA) from 2006 to 2018 through the construction of population-land-economic-social urbanization evaluation index system, using spatial autocorrelation analysis, coupling coordination model and other analytical methods, the paper explored the spatio-temporal evolution characteristics, spatial agglomeration patterns and coupling coordination types, including their spatial distribution laws of the urban agglomeration, and by using the spatial econometric model, the paper made a quantitative analysis about the influencing mechanism of urbanization coupling coordination. The results showed that the gap between the urbanization levels of the cities in SPUA was rather clear and the urbanization level and coupling coordination degree of eastern coastal cities were generally higher than those of inland cities in central and western regions, presenting a "core-edge" structure with "Jinan-Qingdao" dual-core. The study also revealed that population size, economic base and consumption capacity had a significant positive impact on the coordinated urbanization in SPUA, while the impact of land development scale, financial level and social security level was remarkably negative

## 9. Digital Transformation of Physical Education during COVID-19: A Cross-sectional Survey

**P.Swamy**

**ABSTRACT**

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During the COVID-19 pandemic, college physical education has fully turned to digital and smart sports platforms. In the state of physical partition, the needs of physical education are met through virtual technology. Using questionnaire surveys and virtual interview methods to conduct feedback research on the distance teaching experience of 187 physical education teachers from 16 universities in China, and analyze statistical data through IBM SPSS Statistics 20. The research results show that the mastery of information technology capabilities, the support of the digital teaching environment, the teacher's preparation for distance learning, and virtual teaching methods have become the main problems in the implementation of digital physical education. But it also brings new opportunities for digital sports teaching, which requires more professional in-depth discussion. In the digital education

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environment, challenges and opportunities coexist. Although teachers and students face a series of difficulties, they also provide possibilities for the digital transformation of physical education. Therefore, during the COVID-19 period, teachers should be fully prepared, proficient in education platform technology, innovative teaching methods, and carry out remote online sports activities and scientific seminars.

## **10. Simulation Calculation and Orthogonal Analysis of Air Supply Parameters of Air Curtain at the Entrance of Shopping Mall**

**M. Alekya**

### **ABSTRACT**

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The article established the physical model of the air curtain at the entrance of the shopping mall, by orthogonal test method it drew up the scheme about the parameters of air curtain (outlet air temperature, outlet air velocity, outlet width) and calculated different schemes by air flow simulation. It got the value of A, B, C. A- the average PPD (Predicted Percentage of Dissatisfied) in the horizontal plane of height 1.6m, B- the average PPD in the horizontal plane of height 1.6m, air curtain length range and within 2 m from the door, and C- the distance from the door at the center line of the door and height 1.6m when PPD = 10%. B was used as the experimental result and carried out orthogonal analysis. The conclusion was that supply air temperature got higher, the value A became smaller and the value B became larger, which indicated that the high outlet air temperature was conducive to improving the average comfort level of the whole room, but not conducive to improving the comfort level of the area near the door. The value C was basically the same when outlet air temperature was 32, 36 and 40 °C, which was less than the value C when outlet air temperature was 28, 44 and 48 °C, the influence on thermal comfort was small. The value B at the velocity of 5 m/s was obviously larger than that at the velocity of 6 and 7 m/s, and the value B at the velocity of 6 and 7 m/s has little change. When the outlet width increased, the value B increased. When the width was 10 and 15 mm, the value B changed little, but when the width was 20 mm, the value B increased obviously. When the outlet air temperature is 32 ~ 40 °C, outlet air velocity is 7 m/s and outlet width is 10 mm, the better thermal environment evaluation can be obtained.

# MULTICORE ARCHITECTURES AND PROGRAMMING

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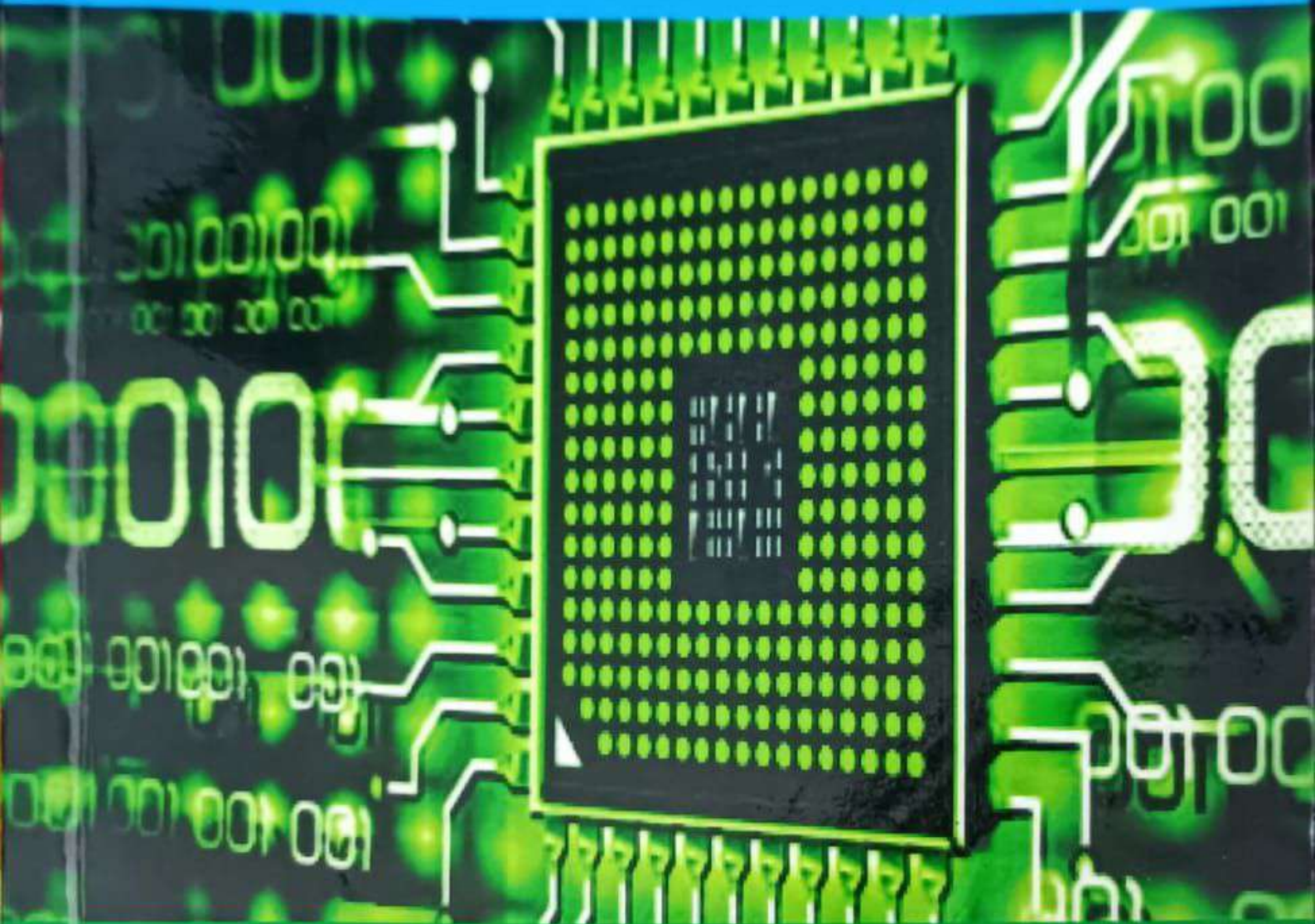
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# MULTICORE ARCHITECTURES AND PROGRAMMING



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### **MULTICORE ARCHITECTURES AND PROGRAMMING**

This book offers the fundamental and programming concepts of Multicore architectures and describes the differences between single-core and multi-core systems. It addresses various parallel programming techniques like OpenMP and MPI to increase program performance in multi-core architectures. The book is organized based on Anna University syllabus and it provides detailed explanation to understand the concepts. The main objective is to facilitate the parallel programming skills for shared and distributed memory architectures. Two marks question answers and Anna University question papers are also included, which will help students for better preparation.

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