

# PROCEEDING OF INTERNATIONAL CONFERENCE 2024

**HYBRID EVENT**

**INTERNATIONAL CONFERENCE 2024**  
**27<sup>th</sup> – 28<sup>th</sup> December 2024**

Organized By



Co-organized by



ScienceLeagues

Publisher: Institute for Technical and Academic Research (ITAR)

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# Editorial

We are delighted to extend a warm welcome to all participants attending the International Conference 2024 on 27<sup>th</sup> – 28<sup>th</sup> December 2024. This conference provides a vital platform for researchers, students, academicians, and industry professionals from all over the world to share their latest research results and development activities in multidisciplinary fields. It offers delegates an opportunity to exchange new ideas and experiences, establish business or research relationships, and explore global collaborations.

The proceedings for International Conference 2024 contain the most up-to-date, comprehensive, and globally relevant knowledge across various disciplines. All submitted papers underwent rigorous peer-reviewing by 2-4 expert referees, and the papers included in these proceedings were selected for their quality and relevance to the conference. We are confident that these proceedings will not only provide readers with a broad overview of the latest research results but also serve as a valuable summary and reference for further studies.

We are grateful for the support of many universities and research institutes, whose contributions were vital to the success of this conference. We extend our sincerest gratitude and highest respect to the professors who played an important role in the review process, providing valuable feedback and suggestions to authors to improve their work. We also appreciate the efforts of the technical program committee, reviewers, and authors for their dedication.

Since September 2024, the Organizing Committee has received more than 40 manuscript papers, covering various aspects of multidisciplinary research. After review, approximately 16 papers were selected for inclusion in the proceedings of International Conference 2024.

We thank all participants for their significant contribution to the success of the conference. Our gratitude extends to the keynote speakers, individual speakers, technical program committee, reviewers, and the organizing committee for their efforts in making this conference a reality.

# Acknowledgement

The International Conference 2024, was successfully held in 27<sup>th</sup> – 28<sup>th</sup> December 2024. We extend our heartfelt gratitude to our colleagues, staff, professors, reviewers, and members of the organizing committee for their unwavering support in making this conference a success.

We would also like to thank all the participants who traveled far and wide to attend this conference and those who attended the event virtually, making it a truly global event. This conference provided a platform for students, professionals, researchers, and scientists to share their latest research and developments in various disciplines.

The aim of the conference was to promote research and development activities and to encourage scientific information exchange between researchers, developers, professionals, students, and practitioners from all around the world. Once again, we thank everyone who contributed to making this conference a resounding success.



**Dr. Albert Munroe**

President

Institute for Technical and Academic Research (ITAR)

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## Exploring the Past to Inform the Future: The Role of Historical Illustrations in Modern Anatomy

**Dr. Julia Wimmers-Klick**

University of Northern British Columbia, Canada

### **Abstract:**

In the contemporary study of anatomy, medical students utilize a diverse array of resources, including lab handouts, lectures, and increasingly, digital media such as interactive anatomy apps and digital images. Notably, a significant shift has occurred, with fewer students possessing traditional anatomy atlases or books, reflecting a broader trend towards digital approaches like Virtual Reality, Augmented Reality, and web-based programs. This paper seeks to explore the evolution of anatomy education by contrasting current digital tools with historical resources, such as classical anatomical illustrations and atlases, to assess their relevance and potential benefits in modern medical education.

Through a comprehensive literature review, we trace the development of anatomical illustrations from the textual descriptions of Galen to the detailed and artistic representations of Da Vinci, Vesalius, and later anatomists. We examine how the printing press facilitated the dissemination of anatomical knowledge, transforming covert dissections into public spectacles and formalized teaching practices. Historical illustrations, often influenced by societal, religious, and aesthetic contexts, not only served educational purposes but also reflected the prevailing medical knowledge and ethical standards of their times.

We raise critical questions about the place of historical illustrations in today's anatomy curriculum. Specifically, we explore their potential to teach critical thinking, highlight the history of medicine, and offer unique insights into past societal conditions. With a critical lens, seeing these resources in their context, including the lack of diversity and the presence of ethical concerns, such as the use of illustrations from unethical sources like Pernkopf's atlas.

In conclusion, while digital tools offer innovative ways to visualize and interact with anatomical structures, historical illustrations provide irreplaceable value in understanding the evolution of medical knowledge and practice. The study advocates for a balanced approach that integrates traditional and modern resources to enrich medical education, promote critical thinking, and provide a comprehensive understanding of anatomy. Future research should investigate the optimal combination of these resources to meet the evolving needs of medical learners and the implications of the digital shift in anatomy education.

## Transforming Language Education: Opportunities and Challenges of AI

**Dr. Aslıcan Çopur Bilgi**

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### **Abstract:**

This study explores the diverse applications of artificial intelligence (AI) in language education and its potential to create more engaging, accessible, and efficient learning environments. A descriptive research methodology is employed in this study to explore the applications and impacts of AI in language education. A comprehensive review of existing literature forms the backbone of the research, allowing for an assessment of various AI-driven technologies and their effectiveness in enhancing learner engagement and language proficiency. Data is collected from a range of sources, including academic journals, case studies, and reports on the implementation of AI in educational settings. With rapid technological advancements, AI has become an integral part of daily life, including the education sector, which has embraced these developments. As AI technologies evolve, their role in education has expanded, introducing innovative approaches to language learning. The integration of AI into language education is transforming traditional teaching and learning methods by offering advanced tools that support and enhance the educational process. This study examines various AI-driven technologies, such as intelligent tutoring systems, language learning applications, and conversational agents, and evaluates their effectiveness in improving learner engagement and language proficiency. In addition to its benefits, the study addresses the challenges and limitations of AI in language instruction. Key issues include accessibility, data privacy concerns, and the irreplaceable value of human interaction in the learning process. While AI provides significant advantages, the findings emphasize that it should be used to complement, rather than replace, traditional teaching methods. Ultimately, AI has the potential to reshape education by enhancing learning experiences, improving accessibility, and increasing efficiency. Neglecting its integration would mean missing significant opportunities for growth and innovation. Therefore, educators and institutions are encouraged to adopt AI responsibly and effectively to maximize its benefits in language education.

### **Keywords:**

AI in Education, Language Learning, EdTech, AI Tools, Digital Learning.



## Desktop Acousmonium & Live Coding Performance

**Noriki Amano**

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### **Abstract:**

We are exploring new ways to enjoy music. As part of this, we work on enjoying music of various genres in a unique 3D sound in this study. Specifically, we aim to realize a multi-dimensional sound system called Acousmonium in a simple and flexible way and control it by live coding. Acousmonium is a performance tool equivalent to an instrument in electroacoustic music, but it is a simple device that operates many speakers with faders and can only adjust the speaker volume. In addition, electroacoustic music is a unique type of music that does not have a clear melody and is generally unfamiliar to most people. In this study, we will realize such an Acousmonium on a PC in a simple manner (Desktop Acousmonium), and make it a performance tool that allows us to flexibly enjoy music of various genres in 3D sound. Specifically, we will change the physical fader operation to a live coding operation, and make it possible to flexibly change the output speaker for each tone and soundtrack. Through this study, Acousmonium will become a live coding tool that allows you to enjoy the music of various genres in a unique 3D sound.

### **Keywords:**

Acousmonium, Live Coding, 3D Sound, Acousmatic Music.

## The Power of the Mind and Body Connection: Positive Behavioral Change

**Dr. Michele M. Mahr**

Assistant Professor, Health Sciences Center, Texas Tech University, 2500 Broadway Lubbock, Texas

### **Abstract:**

The purpose of this presentation is to educate and inform participants on how implementing a biopsychosocial and holistic approach when integrating the mind and body can assist individuals in positive behavioral change. Research has supported the need for a comprehensive approach to assist in behavioral change and wellness. Wellness is vital for optimal health and is often defined as a state of well-being that is conceptualized in three dimensions: spirit, mind, and body (Walker et al., 2015).

This presentation will focus on how health care professionals, psychologists and rehabilitation counselors can recognize and implement a biopsychosocial approach which entails addressing the biology, psychology, and sociology aspects of changing behaviors. Additionally, psychoeducation on the neurobiology for individuals with a desire to behavioral change can be significant during the treatment process. The focus on optimism, hope, and interdisciplinary collaboration may positively impact their resilience and motivation to implement strategies for behavioral change.

In the holistic approach to mental health care, we recognize the profound interconnectedness of mind, body, and spirit, supplemented by an intricate interplay of resources and cognitive processes. Central to this understanding is the concept of “pathway thinking.”

### **Learning Objectives:**

1. Participants will learn about the strong connection of the mind, body, and soul when working with individuals with a desire of behavioral change
2. Participants will conceptualize key components of neuroscience and how to implement these strategies.
3. Participants will engage in critical thinking discussions related to the biopsychosocial components to behavioral change.

## Air Emissions Measurements at a California Landfill

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### **Abstract:**

The Yolo County Central Landfill (YCCL) in California, USA was given an Authority to Construct (ATC) permit to build an Anaerobic Composter (AC) Facility in 2018 by the Yolo-Solano Air Quality Management District. The ATC contained limits on emissions of volatile organic compounds (VOCs) and ammonia (NH<sub>3</sub>). To ensure that these limits were met, VOCs and NH<sub>3</sub> emissions were measured at YCCL between September and October 2020 at the YCCL AC facility after the AC started operation. The monitoring followed the standard methods for flux measurements set by the local Air Quality Management District and the U.S. Environmental Protection Agency (EPA). The AC Facility consists of seven cells that process organic waste (green and food waste). Each cell goes through five different phases that each may emit VOCs and NH<sub>3</sub> into the atmosphere. The five phases are (1) filling phase with biogas collection off, (2) filling phase with biogas collection on, (3) anaerobic digestion, (4) aerobic digestion, and (5) excavation. Flux measurements showed that filling phase, with biogas collection turned on and off, and excavation phase had NH<sub>3</sub> emissions that were significantly below the ATC limit while aerobic phase emissions were significantly higher. For VOCs, the filling phase, with biogas collection system turned on and off, had VOC emissions that were significantly below the ATC limit while aerobic phase and excavation phase were significantly higher. Considering all phases, the overall emissions for both VOCs and NH<sub>3</sub> were considerably lower than the ATC limit.

## Designing a Survey to Explore Omani SMEs' Capital Budgeting Practices and its Determinants

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Arab Open University, Oman

### **Abstract:**

Questionnaires are an important research tool enabling the systematic collection of relevant data. Accurate questionnaire design is necessary to minimize potential biases and errors. However, researchers often encounter challenges in constructing effective questionnaires, particularly in terms of content, format, and implementation, which can compromise the validity and reliability of findings. This paper outlines a step-by-step approach to designing a questionnaire aiming to investigate capital budgeting practices and their determinants among Omani Small and Medium-Sized Enterprises (SMEs). The discussion will delve into defining information needs, selecting appropriate survey types and question formats, drafting questions, and constructing the questionnaire framework. Furthermore, the paper will explore pre-testing techniques and finalization strategies to ensure the successful execution of the target survey.

## Climate Responsive Techniques of Vernacular Architecture: A Sustainable Approach

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### **Abstract:**

India is recognized for its architecture, particularly its regional vernacular constructions. Vernacular structures have been constructed in response to local climates and thermal human comfort. The characteristics of Rajasthani havelis' vernacular architecture located in Jaisalmer have been examined in this study for its climatic responsiveness. This vernacular structure in Jaisalmer possesses fascinating details regarding how they were built & how they coped with the dry, scorching climate of the region. It has also been discussed how the traditional building techniques can be incorporated into energy efficient contemporary architecture following examples from the vernacular architecture. The identified haveli has been documented on site and various practices have been identified which promote energy efficiency thus addressing the principles of sustainability. Various Parameters of energy efficiency, i.e., orientation of building block with respect to sun & wind, selection of building material, ventilation system and building form have been considered for analysis.

### **Keywords:**

Vernacular construction, energy efficiency, human thermal comfort, sustainability.

## When is a Subgroup of a Ring an Ideal?

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Illinois State University

### **Abstract:**

Let  $R$  be a commutative ring. When is a subgroup of  $(R, +)$  an ideal of  $R$ ? We investigate this problem for the rings  $\mathbb{Z}^d$  and  $\mathbb{Q}^d_{i=1, \dots, Z_n}$ . In the case of  $\mathbb{Z} \times \mathbb{Z}$  and  $\mathbb{Z}_n \times \mathbb{Z}_m$ , our results give, for any given subgroup of these rings, a computable criterion for the problem under consideration. We also compute the probability that a randomly chosen subgroup from  $\mathbb{Z}_n \times \mathbb{Z}_m$  is an ideal.

### **Keywords:**

Ring, subgroup, ideal, Mathieu subspace, Goursat.

## A Study on the Overseas Luxury Consumption Behavior of Global Chinese Consumers from a Behavioral Economics Perspective

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### Abstract:

**Purpose:** This research aims to better understand global Chinese luxury consumers' purchase behavior overseas in the context of behavioral economics. This study would identify the decision-making process of Chinese luxury consumers when travelling abroad, investigate the psychological factors that can impact the purchasing behavior of global Chinese luxury consumers, comprehend the expectations of Chinese luxury consumers regarding shopping destinations, and formulate strategies to encourage Chinese luxury consumers to make purchases at travel retail stores. The study uses a conceptual framework and scale items to examine global Chinese luxury consumer shopping behavior. This contribution enriches the existing body of knowledge in the field of tourism and luxury marketing literature.

**Design / Methodology / Approach:** This study's research philosophy is positivism, which would measure consumption behavior and generalize conclusions of global luxury Chinese consumers, consistent with positivist views of discovering the facts. This study employed a quantitative research method to gain a deeper understanding of the consumption behavior of global Chinese luxury consumers in the context of travel retailing. The investigation examined Chinese luxury buyers' rationale and preferences when purchasing luxury products overseas. In addition, questionnaires were performed in order to understand the consumption behavior of Chinese luxury consumers and their buying behavior intentions towards luxury shopping overseas. The survey was first written in English and subsequently translated into Chinese. A professional business research organization was in charge of distributing the surveys. All respondents were required to have traveled overseas and engaged in luxury consumption.

**Findings:** Following the easing of border controls in 2023, many Chinese tourists started traveling abroad because of the convenience, accessibility, and appeal of new destinations (Interesse, 2023; Blazyte, 2024). According to McKinsey & Company, while Chinese abroad travel has not returned to pre-pandemic levels, overseas spending has rebounded rapidly (Chen et al., 2023; Shamdasani, 2024). Multiple psychological factors influence the purchase behavior of luxury customers; yet these individuals exhibit a similar shopping pattern. The research examined critical factors affecting global luxury consumption among Chinese consumers abroad, and examined the statistics through the lens of behavioral economics, a perspective that is relevant to luxury businesses and scholars. Furthermore, the study compares the luxury purchasing behavior of consumers who purchase luxury items abroad 2 to 3 times yearly with those who do so more than 4 times annually, providing distinct insights for the luxury industry and tourism destinations.

**Research Limitations:** The study examined the luxury consumption behavior of global Chinese luxury consumers abroad, although it solely assessed the data from a behavioral economics viewpoint, resulting in an exclusion of other aspects that may influence consumer behavior. Macroeconomic policy, international market dynamics, and the financial circumstances of the

individual are some examples. The absence of a comprehensive investigation has limited the assessment of study data.

**Practical Implications:** By comprehending the psychological aspects, luxury retailers may more effectively align with the demands of Chinese luxury consumers, therefore enhancing their shopping experience and fostering more consumer engagement and brand loyalty in travel retail. A tourism-dependent destination might leverage the survey findings to refine its marketing strategies with the objective of fostering tourism growth. Overseas destinations and luxury stores might partner to offer lavish shopping experiences for Chinese consumers, consequently enhancing revenue. Luxury businesses should invest in payment systems like Alipay and implement targeted marketing techniques that correspond to the behavioral features highlighted in the study.

**Social Implications:** The literature and study indicate a shift in Chinese consumers' luxury consumption behavior over a five-year period. Individuals can gain insights from the outcomes. Scholars and retailers should incorporate psychological aspects into their future strategies, whether faced with a pandemic or economic changes. And the preference of Chinese consumers to purchase luxury items abroad may affect the expansion of the local luxury business, necessitating innovative marketing techniques for dealing with this challenge.

### **Keywords:**

Travel retailing, Global Chinese luxury consumers, Luxury consumption, Behavior and Behavioral economics.



## Cybersecurity Training and Emerging IT Threats: Unintended Consequences for Digital Natives

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### **Abstract:**

As organizations increasingly integrate information technologies into their operations, the cyber threat landscape has correspondingly expanded. Cybersecurity threats continue to escalate, presenting substantial risks to individuals and organizations worldwide. Higher education institutions, often targeted for their valuable data and extensive digital infrastructure, face increasing cyberattacks due to perceived vulnerabilities. Undergraduate students, widely recognized as digital natives, exhibit high reliance on online environments for education and personal use, making them especially susceptible to cyber threats such as phishing and identity theft. This vulnerability is compounded by limited cybersecurity awareness and risky online behaviors, posing risks to both personal data and university systems. Although cybersecurity training is crucial for fostering secure behaviors, it does not always yield the desired outcomes. Research indicates that, in some cases, such training can have unintended, counterproductive effects. Psychological and behavioral factors may even lower protection motivation following cybersecurity training. While Protection Motivation Theory (PMT) is widely applied to examine cybersecurity behaviors, it is predominantly studied in organizational settings, with limited focus on university students. To address the research gaps, this study conducted cybersecurity training intervention to a group of undergraduate students to compare its impact on cybersecurity behaviors. Findings indicate that, although training increased awareness, it paradoxically reduced protection motivation among students. These results highlight the complex psychological dynamics at play and emphasize the need for carefully designed training to balance awareness and anxiety, thus maximizing its effectiveness.

### **Keywords:**

Cybersecurity, digital natives, cyber threats, training, protection motivation, cyberpsychology.

## A Study of Factors Affecting the Use of Industrialized Building System (IBS) Construction in Sabah

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### **Abstract:**

The Industrial Building System (IBS) has been implemented in Malaysia as early as the 1960s where it has many advantages including reducing construction costs, short construction time, being able to control construction quality and so on. Therefore, the objective of this study was to identify the factors that influence the use of IBS systems in construction in Sabah. The research instrument is using a questionnaire, where four items are considered, namely perception (P), knowledge (G), skills (K) and technology (N) towards the use of the IBS system. The analysis method is to use descriptive analysis to obtain the mean value. The item that obtained the highest mean was considered as a factor in the use of IBS. A total of 182 respondents were involved in this study consisting of government agencies, private sector, developers, contractors, educational institutions and also training providers. The findings of the study show that the respondents' perception of the IBS system is high, with a mean value between 4.16 and 4.29. In the context of knowledge, respondents also agree that individuals involved with the IBS system have knowledge and experience where the mean value is between 4.19 to 4.40. There are issues related to skills in the use of the system where the mean value is quite low which is between 3.48 to 4.01 where on average the respondents are still unsure or doubt the level of skills of the employees involved in the IBS system. Next, the technology aspect. The IBS system is considered less safe where the mean value is quite low which is 3.81, this factor is driven by the lighter structure of the IBS system compared to the conventional system. By identifying the response to the items as above, this study is very important for certain parties to formulate a strategy to give awareness and encouragement to the construction industry about the advantages of IBS, especially in construction projects in Sabah.

### **Keywords:**

Industrialized, Building, System, Technology, Skills, Knowledge.

## Economic Assessment of Philips Nasal Alar SpO<sub>2</sub> Sensors Compared to Reusable and Disposable Alternatives in Germany

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### Abstract:

**Introduction:** Traditional SpO<sub>2</sub> sensors, particularly finger sensors, are costly and generate significant medical waste when disposable ones are used. This study evaluates whether the innovative Philips Nasal Alar SpO<sub>2</sub> Sensor can reduce both costs and environmental impact in Germany.

**Methods:** An economic model was developed to compare costs, operational efficiency and medical waste between the Philips Nasal Alar SpO<sub>2</sub> Sensor and traditional reusable and disposable sensors in an average German hospital. The model assumes that one-quarter of patients use disposable sensors, while three-quarters are monitored with reusable sensors.

**Results:** The economic model demonstrated that using the Philips Nasal Alar SpO<sub>2</sub> Sensor in an average (255 beds) hospital in Germany could reduce overall SpO<sub>2</sub> monitoring costs by 36% (€314,88 per year), due to its reusability for/on one patient and extended lifespan. The savings in the model are primarily driven by the costs associated with disposable materials and the cleaning expenses for reusable sensors.

The average cost of SpO<sub>2</sub> consumables with Philips Nasal Alar SpO<sub>2</sub> Sensor remains below €1.93 per patient per day. This is substantially more affordable than other reusable and disposable sensor alternatives, costing €5.32 per patient per day.

Using Philips Nasal Alar single patient use SpO<sub>2</sub> sensors will generate significantly less medical waste compared to other reusable and disposable sensors in an average hospital, with an annual waste reduction from 567kg to 2.241kg. The lightweight design of the Philips Nasal Alar SpO<sub>2</sub> sensor supports more environmentally conscious healthcare practices.

The Philips Nasal Alar SpO<sub>2</sub> Sensor may enhance workflow efficiency in clinical settings by reducing consumption of sensors. Its user-friendly design and reliable performance reduce the time and effort required for sensor repositioning, allowing healthcare providers to focus more on patient care. This improvement streamlines hospital operations and optimizes overall healthcare facility functionality.

**Conclusions:** The Philips Nasal Alar SpO<sub>2</sub> Sensor provides a comprehensive solution to the financial, operational, and environmental challenges of SpO<sub>2</sub> monitoring. The economic model highlights clear cost savings up to 36% (€314,880 per year), while its operational efficiency and promotion of environmentally conscious healthcare practices underscore the sensor's value in modern medical settings.

**Keywords:**

SpO<sub>2</sub> monitoring, costs, economic model, operational efficiency, sustainability.

## Charting the Evolution from Multichannel to Omnichannel Banking: A Bibliometric Analysis and Future Directions in Digital Banking Technologies

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**Lafraxo Younes**

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### **Abstract:**

The banking sector has undergone a significant transformation, moving from traditional single-channel approaches to adopting multichannel, cross-channel, and ultimately omnichannel strategies to meet the evolving needs of tech-savvy customers. However, existing research lacks a holistic analysis that maps the development of digital banking technologies, especially regarding customer interaction models. This study addresses this gap by conducting a bibliometric analysis of research published from 2000 to 2024, based on the Scopus database, to trace the evolution from multichannel systems to omnichannel platforms. The analysis identifies key trends and research gaps in the adoption of digital banking, providing insights into the sector's responses to demands for seamless, integrated services. This study emphasizes the need for future research to focus on underexplored areas and the conceptual foundations that shape the development of digital banking technologies. Findings offer valuable guidance for future innovations, aiming to enhance customer experiences and operational efficiency in an industry characterized by rapid technological change.

### **Keywords:**

Multichannel, Cross-Channel, Omnichannel, Adoption, Banking sector, Digital Transformation, Bibliometric Analysis.

## Urban Regeneration Agenda: A New Paradigm for Development of Distressed Urban Areas in Iran

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### **Abstract:**

Urban renovation policies in distressed urban areas have been confronted an evolutionary process in Iran. Renovation policies and the concentrations on just physical aspects of development and minimal dimensions of participation in the years after the Iran-Iraq war have evolved to consider different dimensions of integrated development, the issue of public involvement, and the role of various actors involved in development, etc. in recent years. In this regard, urban regeneration initiatives were considered as essential policies for improving and renovating these urban contexts by the government. In this article, we will first try to conduct a comprehensive review of the development approaches of inefficient urban structures in Iran during the previous four decades. We will evaluate each perspective in its specific period under a critical view. We also will examine the advantages and disadvantages of various perspectives according to their particular context. Finally, the emergence of urban regeneration in dealing with under-developed urban fabrics has been discussed. Different aspects of development such as economic, social/cultural, and environmental are considered in this innovative perspective. This paper also shed light on the principles of urban regeneration programs and shows that how promoting economic, social and institutional capabilities of the neighborhoods, capacity building and providing fiscal and legal support for implementing the programs plays an important role in this process. mainstreaming and conducting a sustainable flow of actions are also essential for facilitating public participation.

### **Keywords:**

Public participation, under-developed urban neighborhoods, urban regeneration initiatives, and urban renovation policies.

## The Effect of Radiology Methods in the Diagnosis of Patients' Wounds

Yaser Kianpour

Jondi Shapour Medical Science

### Abstract:

**The importance of imaging in the accurate diagnosis of wounds:** Ulcers are common complications in **diabetic patients**. They are in different health conditions. The use of radiology and imaging methods can help in accurately diagnosing the condition of wounds. These methods include radiography, ultrasound, mammography, **CT scan**, and MRI.

The use of radiology and imaging methods provides a more accurate diagnosis of the type and severity of patients' wounds. to improve the situation.

**Using radiology methods to accurately diagnose wounds:** The best method for accurate diagnosis of patients' wounds is to use radiology and imaging methods. These methods make it possible to obtain more accurate information about the dimensions and condition of wounds and fully assess the **depth of the wound** and the type of damage to the surrounding tissues should be provided.

**The role of radiology in imaging wounds:** Radiology methods such as radiography, ultrasound, CT scan and MRI are used to accurately diagnose the condition of wounds. Each of these methods has its own characteristics and uses that help diagnose and treat wounds.

**The use of imaging in the diagnosis of wounds:** One of the most important advantages of using radiology and imaging methods to diagnose wounds is the speed and accuracy in their diagnosis. By creating high-quality images, these methods provide doctors with enough information for accurate diagnosis and appropriate treatment of wounds. Also, the use of these methods allows patients to benefit from imaging tests without pain and without the need for major surgeries.

## Simple Mathematical Description of Age Related Changes in Human Crystalline Lens Geometry in Indian Population

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### **Abstract:**

Significant changes occur in the eye physiology with age. A simplified mathematical approach to describe the age related changes in the human eye crystalline lens geometry is presented here aimed at overcoming the resolution and depth of penetration limitations of the two most popular imaging modalities in Ultrasound Biomicroscopy and Optical Coherence Tomography.

### **Keywords:**

Age Related Changes, Geometry, Human Crystalline Lens, Indian Population.



