

## The Contributions of Occupational Ergonomics in Industrial Hygiene

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### • **Research Summary:**

This summary reviews the general features and findings of the research, entitled " The Contributions of Occupational Ergonomics in Industrial Hygiene". The research focuses on clarifying the role of Occupational Ergonomics in the field of studying the risks and security of people in the workplace along with supporting and reinforcing public health, through demonstrating the characteristics of this science in terms of its division into the types of interfacing between Human and the components of the workplace (the Technology of Occupational Ergonomics), which helps classify the types of confrontation and identify the disciplines and sciences that study and analyze risks : it is characterized by the study and analysis of systems , their interaction with each other and the resulting impact on the human (macro ergonomics) , in addition to provide solutions through the program Occupational Ergonomics , which is one of the most practical aspects of this science.

Given that Industrial hygiene is modern science, involved the health and safety of human in the work place, this research reviews the role of Ergonomist and the contributions of this science in general in the stages of Industrial hygiene so as to achieve integration to realize the common goal better, which will be reflected Human health, production efficiency, reducing occupational injuries and diseases in the workplace.

### • **Key words:**

**Occupational Ergonomics - Industrial Hygiene - Systems - macro ergonomics - Interface – Safety and Occupational Health**

### • **Introduction:**

Safety and Occupational health is a Science aiming to protecting workers in factories and work facilities from accidents that may cause injuries or death to the worker. In light of modern industrial and technological developments and the reliance on systems in various forms in the industrial processes and management of institutions , many problems in the interfacing Between the human (worker) and the new elements of the productive process, the reliance on systems resulted in ergonomics problems facing workers in the workplace which led to the emergence of Occupational Ergonomics (OE) to study these interactive relations in the workplace and the relevant harmful effects on human beings, and HSE applications , which have become dependent on proactive processes or prediction of accidents or

occupational diseases, which contributed to the emergence of Industrial Hygiene (IH), which is a Modern science specialized in the study and analysis of industrial stages, the systems used and procedures in order to anticipate the process of man exposure to or being affected by risk.

The applications of Occupational Ergonomics (OE) have a common role in maximizing the use of Industrial Hygiene (IH) through setting standards and considerations that largely assist in studying Postures and Repetitive Movements in the workplace and the physical environment surrounding the worker and other human aspects, which may cause occupational diseases and health problems.

- **The Research Problem:**

The problem of this research is how to determine the contributions of Occupational Ergonomics (OE) as one of the modern fields of Occupational ergonomics in the stages of Industrial Hygiene (IH) to anticipate and study the problems interfacing with systems and their interactions and other types of ergonomic hazards in the workplace.

- **Research Hypothesis:**

If the contributions of Occupational Ergonomics in the Industrial Hygiene stages are determined, this will reduce occupational injuries and diseases and improve the overall health of human beings.

- **Research Objective :**

To manifest the contributions of Occupational Ergonomics through its practical aspects, the method of analyzing systems and their interactions, and how to support the stages of Industrial Hygiene with information on a new type of risks and the ways of detecting it and limiting its impact, in order to realize their common goal represented in support and reinforcing the public health of human.

- **The Research limits :**

The of research it confined to demonstrating the contributions of the practical aspects of Occupational Ergonomics and their characteristics, in the stages of Industrial Hygiene.

- **Research Approach :**

Analytical descriptive approach in a theoretical framework.

- **Research Importance :**

- Coping with modern and rapid technological developments and the relevant different kinds of risks that may affect the health and safety of man and the efficiency of production and products.

- Demonstrating the role of the ergonomist in the stages of Industrial Hygiene.

- Demonstrating sates importance of the contributions of the occupational Ergonomics applications of in the of Industrial Hygiene to reduce the exposure to systems risks and their interactions in the workplace.

### • Research Finding :

The research reached a set of results that achieved the research objectives, as follows:

- The Ergonomist plays an important role in reducing exposure to ergonomic hazards in the Industrial Hygiene stages in the workplace.
- macro ergonomics methods play a major role in reducing the exposure to system risk in Industrial Hygiene stages and helping to anticipate systems risks and interactions
- The Occupational Ergonomics program effectively contributes to the exposure management stage.
- occupational Ergonomics technology provides information on the risks of interfacing and specialized sciences in the stage of prediction, demonstration and evaluation of industrial health .

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