



**"Gheorghe Asachi" Technical University of Iasi, Romania**



---

## HUMAN HEALTH RELATED TO IODINE ENVIRONMENTAL OCCURRENCE AND ITS DEFICIENCY IN WATER AND FOOD

**Cristina Preda<sup>1</sup>, Maria Christina Ungureanu<sup>1\*</sup>, Letitia Leustean<sup>1</sup>, Cristina Cristea<sup>1</sup>, Voichita Mogos<sup>1</sup>, Carmen Vulpoi<sup>1</sup>, Maria Gavrilescu<sup>2,3</sup>**

<sup>1</sup>“Gr. T. Popa” University of Medicine and Pharmacy of Iasi, 1 Independence Blvd., 700111 Iasi, Romania

<sup>2</sup>“Gheorghe Asachi” Technical University, Faculty of Chemical Engineering and Environmental Protection,  
73 Prof.Dr. D. Mangeron Street, 700050 Iasi, Romania

<sup>3</sup>Academy of Romanian Scientists, 54 Splaiul Independentei, RO-050094 Bucharest, Romania

---

### **Abstract**

Iodine is essential for the synthesis of thyroid hormones which are extremely important in the process of growth and development of human body. The effects of iodine deficiency implies thyroid enlargement (goiter) and others disturbances so called iodine deficiency disorders (IDD). The iodine deficiency is an ancient but still existing problem with medical and environmental connotation. Soil and water from various regions worldwide are iodine deficient. This problem is aggravated by deforestation and soil erosion. The determination of iodine deficiency is mainly geological rather than social or economic. Besides the fortification of different types of foods with iodine and iodization of salt, a multidisciplinary approach is necessary in order to provide the right amount of iodine to general population.

**Key words:** ecosystem, goiter, iodine, soil, thyroid hormones

*Received: January 2013; Revised final: May, 2013; Accepted: May, 2013*

---

\* Author to whom all correspondence should be addressed: E-mail: mariachristina11@yahoo.com