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## INTERACTIVE PLANT CELL : EDUCATIONAL ROBOTICS PROJECT


### Patent

ES1167808U

### Code

TIC\_UAH\_20

### Application areas

- Biological Sciences 
- Other Industrial Technologies

### Type of Collaboration

- Technical cooperation
- Commercial agreement and Technical assistance
- License agreement
- Interested in companies or institutions to conform a consortium for a project proposal to make it the system real.

### Main Researchers

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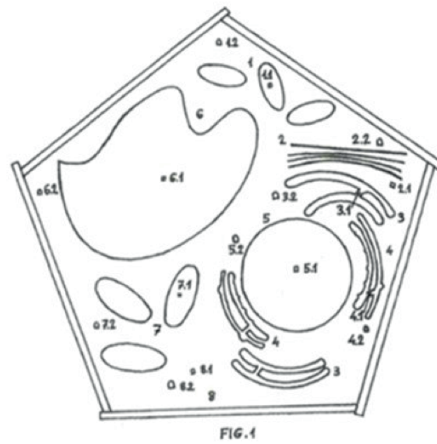


Figura 1: Muestra la composición de la maqueta didáctica interactiva con las piezas armadas mostrando la estructura de la célula vegetal con sus orgánulos. (1) Mitocondria; (2) Aparato de Golgi; (3) Retículo endoplasmático liso; (4) Retículo endoplasmático rugoso; (5) Núcleo; (6) Vacuola; (7) Cloroplasto.; (8) Estructura pentagonal verde.

### ABSTRACT

The present invention proposes the creation of an interactive and buildable didactic mock-up. This model can be used in both primary and secondary education. The mock-up comprises the base of the cell and on the outside the cell walls. The base of the model comprises hollow spaces corresponding to the organelles of the plant cell they represent, including the mitochondria module, the chloroplast module, the nucleus module, the smooth endoplasmic reticulum module, the reticulum module Rough endoplasmic, the vacuole module and the Golgi apparatus module.

To allow a comfortable use of the model and that is easily manipulate, the pieces that conform it fit in their corresponding holes. In this way the user can separate, press and manipulate the parts that interest him at any time without having to disassemble the complete set. Thanks to its three-dimensional shape, the didactic model facilitates the compression of the structure of the plant cell.

In addition, the present invention provides the physical contact necessary to improve the assimilation of concepts and to understand the structure of a plant cell in a simple and affordable way at the cognitive level of the user.

### ADVANTAGES AND INNOVATIONS

The combination of the 3D printing of the cell and the interactive robotic parts, becomes a novelty in the market.

- Nothing similar has been found in the scientific literature consulted.
- Nothing similar has been found in a report full search.