





REPORT ON THE PROJECT PROGRESS

Wireless Sensor Group of the Microelectronics Research Center (CIME), Faculty of Telecommunications and Electronics, Technological University of Havana, Cujae, Havana, Cuba.

PhD. Ing. Juan Carlos Cruz. E-mail: juan.cruz@cime.cujae.edu.cu



Development of contents to different themes in the field of agrobiodiversity.



In this sense, the design of a subject that integrates aspects such as: soil fertility, precision farming and urban farming, with the technology for environmental monitoring and precision farming, using wireless sensor networks with free hardware and software.

This proposal will be an optional subject. The subject will teach in the cujae, at the beginning. The objective will be to extend the teaching of the subject to other universities.

Development of a methodological part

The methodological design of the subject topics sequence was made to obtain a synergy of the issues associated with farming precision, with technology topics.




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Specification of joint research topics

I participated in an academic exchange, one month in the University of Rostock (UROS). In this stay, an investigation project was designed, associated with environmental monitoring and a subject that integrated topics of precision farming and urban farming, with topics of electronic design using hardware and free software. Professor Dr. Raymundo Vento, from the University of Pinar del Río, will also help us in the review of the agricultural topics of the designed subject. The Research project will be sent to Professor Prof. Dr. Ralf Bill for review.


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Current research activities

We are selecting the sensors that I will use in the proposed project. On the slide we show some of the sensors we show in the presentation, but they should use more. Professor Dr. Ralf Bill will give us information related to the sensors to be used in a wireless sensor network. Professor Dr. Raymundo Vento will also help us in the selection of the sensors.


We are implementing the wireless sensors network for the environmental monitoring using transmitters of low cost and low consumption, how the NRF24L01.




PH Sensor




Humidity sensor



Humidity and temperature
Sensors






NRF24L01




Conductivity probe

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Interests and project ideas

The interests or goals are: to implement a wireless sensors network for soil monitoring and to measure weather parameters, in Cuba and / or Germany, in a parcel of reduced area, at the beginning. It is possible that the wireless sensor network can be implemented in the CIME areas.



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Participation of students in this region

Incorporate students to the proposed development research project. With the optional subject, we hope to obtain these students.

Kind of activities

The students will participate in investigation projects and end-of-degree works.

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