# Plenary Session

<span style="color:red">**RÔLE DE L'AGENCE NATIONALE DE LA PROMOTION DE LA RECHERCHE SCIENTIFIQUE (ANPR) DANS LE RAPPROCHEMENT DE LA RECHERCHE DU MILIEU SOCIO-CONOMIQUE**</span>



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Director of the Laboratory of Extremophile Plants (LPE) at CBBC
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Owner of 03 patents
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## *BIOGRAPHY*

- Date and place of birth: September 23, 1957 in Hazeg, Jebeniana, Sfax
- Director General of the National Agency for the Scientific Research Promotion, ANPR since November 2017
- General Director of the Biotechnology Centre of BorjCedria, CBBC, 2011-2017
- Director of the Laboratory of Extremophile Plants (LPE) at CBBC, since 2010
- Director of the Laboratory of Plant Adaptation for Abiotic Stresses, 2002-2010
- Holder of the Doctorate of State in Natural Sciences, Faculty of Sciences of Tunis 1997
- Graduate Diploma from the Higher School of Teaching of Tunis, 1980
- Secondary Education at the school 18 January, 1952 in Jebeniana
- Primary Education: Ellouza Primary School

**Field of research**: achievement and contributiona lot in the fields of Biological Sciences particularly in the following research areas:

- **(i)**characterization of the response of plants to abiotic constraints by physiological, biochemical and molecular parameters in order to contribute to the progression of knowledge in this field
- **(ii)**establishment of a set of tools that would be used to improve the productivity of crops by identifying species and / or tolerant varieties and proposing selection criteria and improving tolerance;
- **(iii)**valorization of extremophilous plants in the rehabilitation of marginal areas and characterization of extremophile plants in order to identify promising species with combined tolerance and economic interest, new sources of biomass for human nutrition and the production of energy biomaterials and biomolecules of interest).

I was undertaken my research within the framework of different projects and I am currently recognized internationally as eco-phyisiological of halophyte species as is clear from my  publications "characterization and economical and ecological valorization of spontaneous plants native from harsh environments (Extremophile plants: halophytes, Xerophytes and Xerohalophytes)

## Scientific Production

- Author of more than 400 publications in specialized journals, indexed and with impact factor,
- H index (Hirsch index): 57, number of citations: 12869 (https://scholar.google.com/citations?user=_62kqDAAAAAJ&hl=en)
- Owner of 03 patents
- Author of specialized book "Biosaline Agriculture and High Salinity Tolerance", ISBN 978-3-7643-8554-5
- -Scientific supervisor of 70 doctoral thesis (PhD thesis) and 37 Masters or Diploma of Advanced Studies in Biological Sciences

## Awards

**(i)** Winner of the Presidential Prize of the Graduation Diploma from the Higher School of Teaching of Tunis (Academic and Pedagogical Training), 1980
**(ii)**Presidential Award for Best Researcher in Biotechnology, 2016
**(iii)**Holder of the National Order of Merit for Science and Education, Rank 3, 2017
**(iv)** Winner of the Presidential Award for the best laboratory in terms of scientific publications, 2018
**(v)** Active member of Tunisian Academy of Sciences, Letters and Arts, May 2019

*ABSTRACT*

The study of control systems has been cited as a subject that is heavily based on abstract mathematical concepts. This theoretical base has been considered a major problem with students unable to apply the coursework that is completed in the classroom to real-life systems. This problem has not gone unnoticed in the field of education today, and there have been great leaps in the creation of more "hands-on" teaching methods that lend themselves to industrial applications. At Howard University, the study of control has been accelerated by the integration of motion controls laboratory, which affords the student an opportunity to interact and utilize an "embeddable dSPACE digital signal processor (DSP)-based data acquisition and control system. This is seen by Howard University as a solution to the need for a cost effective, "hands on instructional laboratory" which would "adequately provide hands on experience necessary for effective learning." Another key aspect of this laboratory is the close integration of the conventional simulation tools MATLAB and SimulinkTM. Under this unique environment undergraduate students may well perform computer simulation, evaluate the simulated response of a system, develop, and verify the performance of traditional and advanced control laws in a simulated mode. The students can then easily install the developed controllers to hardware all within the same routine interface. The fundamental student learning outcomes of the control education with laboratory experimentation are to demonstrate the following:

- An ability to design, build, or assemble a part or product that configures control systems especially adapted to automation applications.
- An ability to achieve adequate learning skills in testing and debugging a prototype using appropriate engineering tools and learn how to be an experimenter.
- An ability to conduct experiments for measurements and analysis of feedback controls, and to write effective laboratory reports.
- An ability to use MATLAB/ Simulink graphical-user-interface (GUI) to build a real-time model.
- An ability to use dSPACE DSP GUI for real-time control.

Through the modeling of different types of controllers, students are expected to gain a better understanding for the differences between various controllers as well as a greater appreciation of how they are applied to real life.