

## *Dr. Denia Marlenis Cid Pérez*

She was born on November 27, 1990 (Santo Domingo, Dominican Republic). At 7 years of age, write a letter to "Participacion Ciudadana" (NGO), asking the children inclusion in their formative activities; which was published and the NGO created several youth formation programs that works all year until now. As result of the impact of that letter, she was included in a local radio and television program "Orientacion Popular" (Barahona, Dominican Republic) with a section for children and teenagers . At 8 years old she won the first place in the provincial Olympiad of Literature. In 2002, the Secretary of State for Education, awarded with a recognition of her outstanding work as a meritorious young person in favour of the school and the community. With 14 years old, on 2004 she was a finalist in the First National Mathematics Contest on television (That included student of ages until 18 years old). In 2005, the Radio and Television Program "Orientacion popular" granted her a recognition for placing Barahona and the Region in the Mathematics Olympics and for the excellence of her work in the section for children and teenagers of the program.

The Secretary of State for Education (SEE), the General Directorate of Curriculum, Area of Nature Sciences, awarded her the Diploma of Honor for obtaining the First Place in the Fifth National Physics Olympiad on 2016; the same year, she traveled to Misiones, Argentina to the Scientific Fair held by the countries belonging to MERCOSUR, together with the National Chemistry Champion and the delegation of the Secretary of State for Education in charge of Natural Sciences, in the which presented a project on Optics. After that, she participated at the XI Olimpiada Iberoamericana de Física (OIBF), on Coimbra, Portugal being the youngest participant (15 years old). The same year The SEE awarded her with the Maximum Excellence Diploma and the Distinction for Outstanding Performance in the Natural Sciences on 2007.

She was president of the Physics student's association (AEF) in 2011 . Have obtained a bachelor's degree in physics (Magna Cum Laude) from the Universidad Autónoma de Santo Domingo (UASD, Dominican Republic). Her undergraduate thesis topic was focused on the simulations of energy formation of O vacancies on CeO<sub>2</sub> and ZrO<sub>2</sub>. As part of her undergraduate research program, she was employed as a research assistant on a similar project entitled "Mobility of oxygen vacancies used as electrolyte materials on solid oxide fuel cells (SOFCs)".

She finished her doctoral degree in 2016 (with 25 years old) which focused on Physics and Quantum Technology at the University of Calabria, Italy. Her doctoral thesis work focused on graphene production by bottom-up and top-down approaches. As part of the thesis work, she has gained extensive experience working with a wide variety of spectroscopy techniques including: Auger, XPS, LEED and HREELS as well as physical and organic chemical analyses.

She was selected by the Ministry of Education, Science and Technology for a Magistral Conference in the Student Congress of Scientific and Technology research (CEICYT).

She won a research grant funded by the Dominican government (Ministry of the Science and Technology) in the last call (winners announced at the start of 2018) as the principal investigator of the project "Production of Carbon based nanomaterials and Crystalline Aluminosilicates for Water Reutilization". In addition to exploring the customization of adsorbent nanomaterials for the removal of specific water pollutants, she is investigating the potential application of these materials in industrial applications e.g., pharmaceutical production.

### **PRODUCTION OF CARBON BASED NANOMATERIALS AND CRYSTALLINE ALUMINOSILICATES FOR WATER REUTILIZATION**

Water pollution and the scarcity of water represents a fundamental problem for the entire world population. In developing countries, there is usually no equal access to the precious liquid, so it is necessary to implement technologies that allow, if not free access, at least the reuse of the liquid, for this reason this project involves the production of adsorbent materials Based on carbon and zeolites that contribute to reuse a fraction of the water consumed at the agricultural and domestic environments in areas where water is difficult to access. During the development of the project, nanomaterials will be made more efficient and less expensive; These will be characterized using XPS, HREELS, SEM, RAMAN, SPM, UV-visible and FT-IR and their uses for applications in other areas will be explored.