

FIU CARFS Hosts Miami-Dade College and Braddock Senior High School Faculty and Students

- Maira Kerpel dos Santos

The [Center for Advanced Research in Forensic Science](#), a NSF-funded Industry University Cooperative Research Center (IUCRC) at Florida International University, hosted several students and faculty from Miami-Dade College (MDC) and Braddock High School during two separate events.

The Miami-Dade collaborators visited the Almirall research group to participate in a research project that aims to characterize and optimize a colorimetric test that can quickly and inexpensively differentiate between legal hemp plants from marijuana plants. The MDC-FIU collaboration is funded by NSF's Skills Training in Advanced Research & Technology ([START](#)) program.

Miami-Dade college students and Dr. James Ley, Professor of Chemistry at Miami-Dade College visited FIU's [Forensic Toxicology Facility](#) to work with researchers on the Quadrupole Time-of-Flight Mass Spectrometer (QToF-MS) instrument and in the Almirall laboratory. The students learned about liquid and gas chromatography and Direct Analysis in Real-Time Mass Spectrometry (DART-MS).

Professor Jose Almirall and Postdoctoral Associate Dr. Maira Kerpel dos Santos directed the research on the characterization and optimization of 4-Aminophenol colorimetric test. Dr. Martin Quirke, professor of Chemistry and Biochemistry Department also collaborated with the project along with PhD student Alexander Acosta. Dr. Kerpel dos Santos was able to present the results of the research at international and national conferences like the European Academy of Forensic Sciences (EAFS) in Stockholm, Sweden, and the Southeastern Regional Meeting (SERMACS) of the American Chemistry Society at San Juan, Puerto Rico (Picture 1).



Picture 1. Dr. Maira Kerpel dos Santos presenting the results of the 4-AP project at EAFS, Stockholm, Sweden (May 2022) (left); and at SERMACS conference in San Juan, Puerto Rico (October 2022) (right).

Dr. Ley and his students also received funding to attend the SERMACS conference where Dr. Ley had the opportunity to present the preliminary results of the collaboration between FIU and Miami-Dade College (Picture 2.)



Picture 2. Dr. James Ley and his students at SERMACS conference in San Juan, Puerto Rico (October 2022).

CARFS and the START project with assistance from FIU's [Global Forensic and Justice Center](#) also hosted 20 Students and two teachers from Braddock Senior High School. During the visit, the students were able to learn about the different areas of forensic science and different fields at FIU (Picture 3, 4, and 5). Several presentations were given by Dr. Maíra Kerpel dos Santos, Dr. Kenneth Furton (Director of CARFS), Dr. Steve Lee (Professor at FIU), Dr. Julian Mendel (Professor at FIU), Dr. DeEtta Mills (Professor at FIU), Kaylyn Keith (Master student at FIU) and Leonard Maya (PhD student at FIU). The students also visited different forensic laboratories, the FIU Green Library and the FIU Graham Center, where they had lunch before returning to Braddock High School.



Picture 3. Braddock Senior High students after the lectures (September 2022), with Dr. Steven Lee, Dr. Julian Mendel, Dr. Maíra Kerpel dos Santos, Leonard Maya and Kaylyn Keith.



Figure 4. Braddock High School students visit the Forensic and Analytical Toxicology (FATF) at FIU, September 2022.



Picture 5. Braddock students and professors with Dr. Maira Kerpel dos Santos outside the FIU Green Library (September 2022).

The START project enabled the collaboration between the Chemistry departments of Miami-Dade College and FIU, resulting in valuable educational results and empowerment of all parties involved. The results of the research regarding the characterization and optimization of 4-Aminophenol colorimetric test for the differentiation of hemp and marijuana will be submitted for publication with all participants as co-authors. The visit of Braddock High School allowed the high school students to visit FIU and the forensic laboratories. The students also had the opportunity to learn about forensic science, ask questions about the education in forensic science at FIU and how to pursue a forensic career.

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