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| UTC Project Information – National UTC TriDurLE | |
| Project Title | Current state of simulated deck samples cast with corrosion resistant alloys (>16 years) |
| University | Florida Atlantic University |
| Principal Investigator | Francisco J. Presuel-Moreno |
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| Funding Source(s) and Amount Provided (by each agency or  organization) | TriDurLE: $48,939  FAU (in-kind cost share): $7.289  FDOT for $41,650 |
| Total Project Cost | $97,878.00 (Including Cost Share) |
| Agency ID or Contract  Number |  |
| Start and End Dates | October 1, 2022 to September 30, 2023 (tentative) |
| Brief Description of Research Project | The proposed research will assess the current state of corrosion resistant alloy (CRA) rebars embedded in concrete after prolonged outdoor exposure. Samples were prepared with several types of CRAs. The sample geometry is known as simulated deck slabs. Several sets of samples were prepared between 2003 and 2006. The SDS samples were exposed to 15% by wt NaCl solution for at least 10 years (1 week wet and 1 week dry). The samples that remain have higher grade CRA rebars. After that, the samples continued to be exposed outdoors but the NaCl solution was not refreshed as frequently and during the last five years no additional NaCl solution has been added. Chlorides from ocean spray deposit onto the top of the sample that modestly add to those already on the sample. Besides the outdoors samples, there are two SDS samples exposed indoors that were prepared with a duplex stainless steel in 2008 and these samples were subjected to accelerated chloride transport. Electrochemical tests and rebar potential will be measured periodically on selected samples. At least five samples will be forensically analyzed. Besides characterizing the rebar surface conditions, the chloride concentration above the rebar trace will be measured. |
| Describe Implementation of Research Outcomes (or why not implemented)      Place Any Photos Here |  |
| Impacts/Benefits of Implementation (actual,  not anticipated) |  |
| Web links   * Reports * Project website | www.fau.edu/engineering/ome |