

# LA-UR-23-28554

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**Title:** Tinsley Student Success Journey Slide for Presentation

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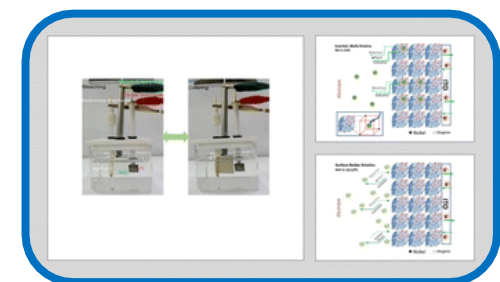
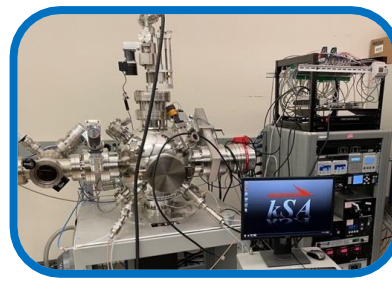
**Intended for:** Student Journey Updates for LANL

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Tinsley DeForest  
Ph.D. Student



Joined Asterix  
Summer 2021  
During Senior  
Design **Fuel  
Cell Project**

Graduated in  
Fall 2021 with  
B.S. in  
Electrical  
Engineering

Enrolled in  
Ph.D.  
Program  
Spring 2022

1<sup>st</sup> Remote  
Internship  
with LANL  
Summer 2022

Remote  
Internship  
Renewed for  
Fall and  
Spring

Hired as an  
In-person  
Graduate  
Student at  
LANL

First introduction to Electrochemistry  
Providing skills to carry me through  
my academic journey

#### Electrochemical Research:

Polymer Electrolyte  
Membrane Fuel Cells

Fluoride Sensors & Electrochromic  
Oxide Thin Films

Dielectric Properties of  
Solid Oxide Thin Films

Increasing Conductivity of  
Solid Oxide Thin Films

#### Leadership Roles:

Student Ambassador 2 ECS conferences

Co-Mentored 2 Senior Design Teams

Encouraged FIU students to participate in LANL internships

#### List of First Author Publications

- Aqueous/non-aqueous electrolyte tradeoffs in charge transfer and electrochromic of pseudocapacitive oxide films DOI: [10.1039/d2ra05851](https://doi.org/10.1039/d2ra05851)
- Review—Micro-Fuel Cell Principal Biosensors for Monitoring Transdermal Volatile Organic Compounds in Humans DOI: [10.1149/2754-2726/aca95b](https://doi.org/10.1149/2754-2726/aca95b)

#### Other Publications and Conferences

- A01-0051 - Coupling Electro-Chemo- Thermodynamics with Water in Salt (WIS) Electrolyte for Enhanced Pseudocapacitive Charge Storage ECS 242
- M01-2256 - Real-Time Continuous Monitoring of Fuel Cell Ionomer Degradation with Electrochemical Inline Micro Sensor Arrays ECS 242
- Multimodal Single-Entity Electrochemical Fluoride Sensor for Fuel Cell Membrane Degradation Diagnostics DOI: [10.1149/2754-2726/ac8aa8](https://doi.org/10.1149/2754-2726/ac8aa8)
- Pseudocapacitive Charge Storage in Electrochromic Transition-Metal Oxide Thin Films DOI: [10.1149/1945-7111/ac86a5](https://doi.org/10.1149/1945-7111/ac86a5)
- Micro-Fuel Cell Sensor-Based Transcutaneous Anesthesia Monitoring Systems (TAMS) DOI: [10.1149/ma2021-02561673mtgabs](https://doi.org/10.1149/ma2021-02561673mtgabs)
- Ionic-gating electrochromic thin solid films WO<sub>3</sub>-x and Ni<sub>1-y</sub>O: Optical transparency, electrical conductivity, and electrochemical impedance DOI: [10.1021/scimeetings.1c00950](https://doi.org/10.1021/scimeetings.1c00950)