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**Title:** ASTERIX & LANL Experiences

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# ASTERIX & LANL EXPERIENCES

SOFIA PINZON

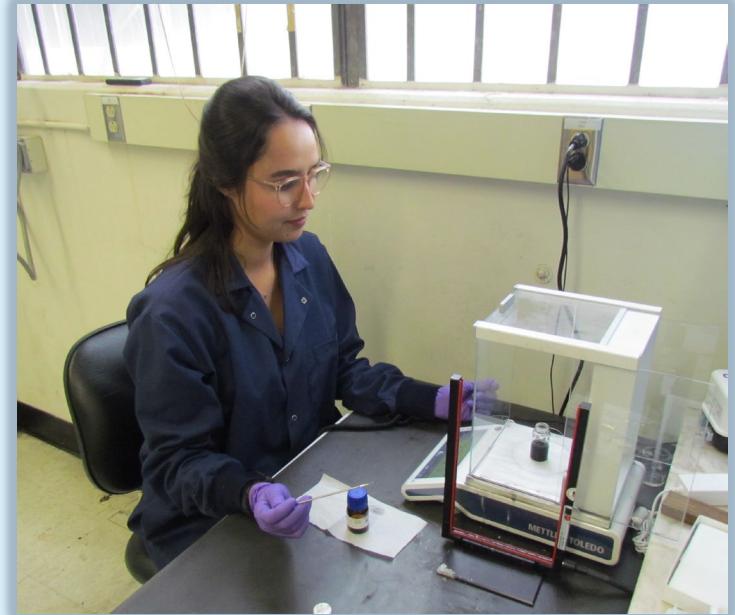


# ASTERIX TIMELINE



# GRADUATE RESEARCH ASSISTANT

- Fuel Cells
  - Fabrication and characterization of Pt inks
  - Fabrication and characterization of MEAs
- Thin Films
  - Fabrication of thin films using PVD
  - Characterization of thin films
  - Assembly of new PVD system
- Mentoring
  - Collaborating and assisting FIU senior design teams
  - Assisting new summer students



# THIN FILMS RESEARCH

RESEARCH ARTICLE | MARCH 24 2023

## Effects of processing parameters on the morphologies of complex sesquioxide thin films

Sofia K. Pinzon  ; James A. Valdez  ; Vancho Kocevski  ; J. K. Baldwin  ; Blas P. Uberuaga  ; Cortney R. Kreller  ; Benjamin K. Derby  



*Journal of Vacuum Science & Technology A* 41, 033404 (2023)

<https://doi.org/10.1116/6.0002398>

# JVSTA

Journal of Vacuum Science & Technology A | 2nd Series | Volume 41, Number 3 | May/June 2023

### Atomic Layer Etching

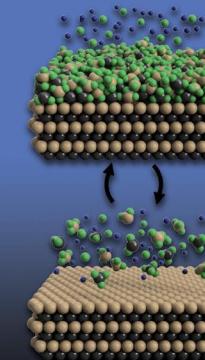


Image Credit: J. A. Michaels, N. Delega, Y. Tsal'yanyan, J. R. Perino, D. D. Arochakom, J. G. Eder, and F. J. Heijmans, JVST A-41 (3), 101108/0002447 (2023).

**Review Articles:**  
Influence of local chemical environment and external perturbations of porphyrins on surfaces  
José J. Ortí-García and Rebeca C. Quinteros

### Perspective

Perspective on improving the quality of surfaces and material data from the literature with a focus on x-ray photoelectron spectroscopy (XPS)  
George H. Major, Joshua W. Pinder, Daniel E. Austin, Donald R. Baker, Steven L. Castle, Jan Cechal, B. Maxwell Clark, Hagai Cohen,  
Jonathan Counsell, Alberto Herrera-Gómez, Pavitra Govindan, Seong H. Kim, David J. Morgan, Robert L. Ogall, Cedric J. Powell, Stanislaw Prusa,  
Adam Roberts, Mario Rocca, Nando Shirahata, Tomás Skoda, Emily F. Smith, Regina C. So, John E. Stavila, Jennifer Strunk, Andrew Teplyakov,  
Jeff Terry, Stephen G. Weber, and Matthew R. Linford



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A photograph of a hand holding a cylindrical container with a red, maze-like pattern. The container is made of a translucent or reflective material. In the background, there are other cylindrical containers of different colors (green, blue) and some metal components. The text "2022 R&D 100 ENTRY" is at the top, and "ADDITIVELY MANUFACTURED TAMPER EVIDENT CONTAINER" is in large bold letters at the bottom. A small paragraph and a bulleted list of benefits are also present.

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- Additive manufacturing creates one-of-a-kind container
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- Encrypted electronics offer continuous knowledge of container security in real time
- Digital time-stamping records any successful tamper attempts
- Cost effective, accessible, and versatile technology



# ASTERIX/LANL EXPERIENCE

- Specialized hands-on learning and experience
- Exposure to different projects
- Collaboration with other scientists/engineers/students
- Expand network
- Access to many resources

