



# INDAH B. HUEGELE

Paleobotanist

## ABOUT ME

My research focuses on Paleogene fruit and seed floras and the fossil history and evolution of sycamore trees (Platanaceae). I am interested in micro-CT applications in paleontology and ways to integrate morphological data into phylogenetic analyses. I have extensive (8+ years) experience with micro-CT scanning and 3D printing. As someone from a non-traditional, homeschooled background, I am passionate about finding ways to disseminate my field to those of unconventional backgrounds.

## CONTACT

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## EDUCATION

August 2018 – July 2023

**Ph.D. in Botany**

University of Florida

August 2015 – May 2018

**B.S. in General Geology**

University of Texas at Austin

August 2014 – May 2015

**Student of Geosciences**

Weatherford College

## AWARDS & GRANTS

2024

**UMPDA Postdoc**

**Conference Award**

2023

**Oliver L. Austin Jr. Award for Graduate Student Excellence in Natural Science Research**

2023 – 2025

**National Geographic Society**  
*Rediscovering North America's Forgotten Fossil Forests and Inspiring the Next Generation of Paleobotanists*

*Awards continued on next page*

## PUBLICATIONS

**8 first-author publications, 2 co-authorships**

ORCID Identifier: 0000-0002-3966-4627

- Nares, F.R, Huegele, I.B., Manchester, S.R. (in press) Compound-leaved Platanaceae in the Eocene of western North America. *International Journal of Plant Sciences*.
- Huegele, I.B., & Correa Narvaez, J.E. (2024) Revisiting the charismatic *Macginitiea* plant and its implications for biogeography, basilaminar lobe development, and evolution in Platanaceae. *International Journal of Plant Sciences*, 185(2), 138-158.

*Publications continued on next page*

## SKILLS

### CT Software

VG Studio

Avizo/Amira

MeshLab

Dragonfly

NetFabb

Slicer

### 3D Printing

Chitubox

UltimakerCura

### Preparatory

Cuticle

extraction

Pollen prep

SEM

### Database

Microsoft Access

Specify

### Morphometrics

Geometric

Elliptic Fourier

### Trees

RAxML

MrBayes

PAUP

Mesquite

BEAST

R-studio

2022 – 2024

**Paleontology in the Parks Fellowship Program** *National Park Service Paleobotanical Resource Inventory.*

2021

**SYNTHESYS Access Program** *Investigating the floral diversity of extinct plane trees (Platanaceae) in Central Europe.*

2021

**Evolving Earth Foundation Grant** *Investigating the diversity of extinct plane trees (Platanaceae) in Eurasia and North America.*

2020

**Honorable Mention, Ford Foundation Predoctoral Fellowship**

2018 – 2020

**Bridge to Doctorate Fellowship**

2017

**Jackson School of Geosciences Undergraduate Scholarship**

2014 – 2015

**Dean's List**  
Weatherford College

## OTHER SKILLS

**Illustration** Adobe  
(Illustrator, Photoshop, InDesign), Blender

**Web** HTML, Wordpress.  
Muse/Dreamweaver

**Collaboration** Miro, Canva,  
Teams, Google Suite

- Correa Narvaez, J.E., Allen, S.E., Huegele, I.B., Manchester, S.R. (2023) Fossil leaves and fruits of Tetramelaceae (Curcubitales) from the Eocene of the Rocky Mountain region, USA and their biogeographic significance. *International Journal of Plant Sciences*, 184(3), 177-200.
- Huegele, I.B., & Wang, H. (2023) An unusual plane tree from the Early Cretaceous of Kansas, USA. *Review of Paleobotany and Palynology*, 309, 104815.
- Huegele, I.B., & Manchester, S.R. (2022) The mid-Paleocene fruit and seed flora from the Fort Union Formation of Newell's Nook, southeastern Montana, USA. *Acta Palaeobotanica*, 62(2), 123-143.
- Huegele, I.B., Manchester, S.R. (2022) Newly recognized reproductive structures linked with *Langeria* from the Eocene of Washington, USA, and their affinities with Platanaceae. *International Journal of Plant Sciences*, 183(5), 367-379.
- Huegele, I.B., Zhu, H., Manchester, S.R. (2022) Trans-Beringial range of *Platimeliphyllum* (Platanaceae) in the Eocene of eastern Asia and western North America. *International Journal of Plant Sciences*, 183(2), 139-153.
- Boonchai, N.B. (2020) *Wonder of Petrified Wood Museum* (EN Editor). Lifestyle and Travel Media Co., Ltd.
- Huegele, I.B., & Manchester, S.R. (2020) An early Paleocene carpoflora from the Denver Basin of Colorado, USA, and its implications for plant-animal interactions and fruit size evolution. *International Journal of Plant Sciences*, 181(6), 646-665.
- Huegele, I.B., Spielbauer, R.J., & Manchester, S.R. (2020) Morphology and systematic affinities of *Platanus dissecta* Lesquereux (Platanaceae) from the Miocene of western North America. *International Journal of Plant Sciences*, 181(3), 324-341.
- Huegele, I.B., & Manchester, S.R. (2019) Newly recognized diversity of fruits and seeds from the late Paleogene flora of Trinity County, East Texas, USA. *International Journal of Plant Sciences*, 180(7), 681-708.
- Huegele, I.B., & Manchester, S.R. (in progress) Rich diversity of Platanaceae from the Dakota Sandstone revealed by geometric morphometrics.

## POPULAR SCIENCE BOOK

Boonchai, N.B. (2020) **Wonder of Petrified Wood Museum** (EN Editor). Lifestyle and Travel Media Co., Ltd

## PRESENTATIONS

- Huegele, I.B. (2024) Evolutionary Mysteries in the Plane Tree Fossil Record. Presented at the XIth International Organization of Palaeobotany Congress, Prague, Czech Republic.
- Huegele, I.B., Kvaček, J. (2023) Uncovering the reproductive morphology of *Ettingshausenia* (Platanaceae) from the Czech Republic. Presented at the 39th Midcontinent Paleobotanical Colloquium 2023, Florida Museum of Natural History, Gainesville, Florida.
- Huegele, I.B. (2022) Platanaceae from the Dakota Sandstone and the potential utility of morphometrics in differentiating fossil taxa. Presented at the 39th Midcontinent Paleobotanical Colloquium 2022, Oak Spring Garden Foundation, Upperville, Virginia.
- Huegele I.B. & Manchester, S.R (2021) Can old fossils still cut the mustard?—exploring the paleobotanical record of Brassicaceae and related families. Presented at Botany 2021, Virtual Conference.
- Huegele, I.B., & Manchester, S.R (2021) Fruits and seeds of the mid-Paleocene Tongue River Member of the Fort Union Formation, southeastern Montana. Presented at the 38th Midcontinent Paleobotanical Colloquium 2021, Virtual Conference.
- Huegele, I.B., Manchester, S.R. (2020) The Dakota Sandstone of Kansas was a hotspot for platanaceous diversity during the mid-Cretaceous. Presented at Botany 2020, Virtual Conference.
- Huegele, I.B. (2020) The history and diversity of plane trees (Platanaceae) with unlobed leaves in the Paleogene of North America. Presented at the 37th Midcontinent Paleobotanical Colloquium 2020, Virtual Conference.
- Huegele, I.B., Manchester, S.R., Smith, S.Y. (2019) Early Paleocene fruits and seeds from the Denver Formation of Littleton, Colorado. Presented at Botany 2019, Tucson, Arizona.
- Manchester, S.R., Spielbauer, R.J., Huegele, I.B. (2019) *Platanus dissecta* leaves in association with unusually large infructescences from the Miocene of western North America. Presented at Botany 2019, Tucson, Arizona.

## EXPERIENCE

January 2024 – Present

### POSTDOCTORAL RESEARCH FELLOW

University of Michigan

- Project to elucidate the origins of angiosperm innovations in the Cretaceous using novel Machine Learning methods and integration of morphological data into phylogenies.

March 2023 – Present

### CO-FOUNDER

Friends of Fossil Forests

- Established a non-profit organization to support petrified wood research, education, and conservation.

*Experience continued on next page*

## OUTREACH ACTIVITIES

- STRATA mentor, North American Paleontological Convention, *June 2024*
- Invited Speaker, K-12 Teacher Education Workshop, Colorado State University, *April 2024*
- 1st-annual Robotics Day at the Ocala Discovery Center, Co-lead and Event Organizer, *December 2023*
- Makerfaire FIRST representative, *November 2023*
- 4H Robotics Open House Host and Event Organizer, *August 2023*

*Activities continued on next page*

October 2022 – Present

## **WEBMASTER (PALAEOBOTANY.ORG)**

International Organization of Paleobotany

July 2022 – March 2024

## **ROBOTICS COACH**

First Tech Challenge

- Mentored high school students and helped them develop crucial soft skills (teamwork, networking, effective presentations, preparing for interviews) and learn 3D printing techniques (how to use resin printers, safety practices, how to use slicing software).

April 2021 – Present

## **PBOT FRUIT AND SEED GROUP LEADER**

EarthCube, University of Wyoming

- Led a group to construct a schema for fruits and seeds that will be used in PBot, a public repository for paleobotanical records.

Spring 2017 – Spring 2018

## **NON-VERTEBRATE PALEONTOLOGY VOLUNTEER**

University of Texas Non-Vertebrate Paleontology Collections

Spring 2017 – Spring 2018

## **UNDERGRADUATE RESEARCH ASSISTANT**

University of Texas Computer Tomography Lab (UTCT)

- Managed local database and client information
- Updated the UTCT's Shortcourse Manual on CT methods.
- Upkept the UTCT Lab website and digimorph repository.
- Processed, iodine stained, and packaged specimens
- Generated 3D files for clients

Spring 2017 – Spring 2018

## **UNDERGRADUATE RESEARCHER**

University of Texas, Jackson School of Geosciences, Tim Rowe Lab

- Used  $\mu$ CT data to examine the skull of Triassic Eucynodont *Exaeretodon argentinus* in order to understand its tooth replacement, ontogeny, diet, and phylogenetic classification.

June 2015 – July 2015

## **BOTANY & PALEOBIOLOGY INTERN**

National Museum of Natural History

- Linked herbarium specimens from National Herbarium with their associated cleared leaf specimens in the Paleobiology department.
- Catalogued the degree of deterioration from bad mounting media in cleared leaf slides from the Hickey collection.

- Wyoming Indian High School summer program educational assistant, *June 2023*
- Makerfaire FIRST representative, *November 2022*
- Volunteer, Crystal River BioBlitz *September 2022*
- Event contributor, Depot Park Paleontology Tabling Event *September 2022*
- Volunteer, Save McCarthy Woods *2021*
- myFOSSIL eMuseum volunteer curator *July-August 2020*
- iDigTRIO Undergraduate Shadowing Mentor *February 2020*
- Montbrook Dig Site Volunteer, FLMNH *November 2019*
- "Pop-up museum" Williston Peanut Festival Booth Attendant *October 2019*
- Presenter, UF Education Workshop for K-12 School Teachers *July 2019*
- Fossil Fest Booth Attendant *November 2015*
- Information Booth Attendant, Dallas Paleontological Society *August 2014*
- Dig Crew Member, Arlington Archosaur Site *June-July 2014*

## **TEACHING EXPERIENCES**

Fall 2020 – Spring 2023

## **TEACHING ASSISTANT**

University of Florida

January 2015 – May 2015

## **MATHEMATICS TUTOR**

Weatherford College

- Tutored students from a wide range of different skill levels from elementary-level mathematics to Calculus II.
- Accommodated students from a wide variety of backgrounds, from teenagers to returning students 40+ years old, including returning veterans, artists starting new career paths, homeschooled students, and disabled students.