

Alec E. Baines
Curriculum Vitae

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PROFESSIONAL PROFILE

I am an undergraduate at the University of South Florida currently pursuing dual bachelor's degrees in Integrative Animal Biology (B.S.) and Geology (B.A.). I have extensive research experience and high proficiency in basic research skills. My goal is to pursue a career in vertebrate paleontological research.

EDUCATION

Dual Degrees –B.A. in Geology; B.S. in Integrative Animal Biology
University of South Florida, Tampa, FL (expected graduation: Summer 2019)

RESEARCH EXPERIENCE

Department of Integrative Biology – Dr. Ryan Carney
(May 2017 – current)

University of South Florida, Tampa, FL

- Creation and editing of workflow for photogrammetry methods.
- Digital reconstruction combining photogrammetry and segmented CT scans.
- Used the following software: RealityCapture, ZBrush, Maya, Geomagic Wrap, and Agisoft Photoscan.
- Created and utilized criteria to select photosets for best photogrammetric results.

Department of Geosciences – Dr. Jen Bright
(January 2017 – current)

University of South Florida, Tampa, FL

- Segmented a highly damaged *Psittacosaurus sp.* skull via Avizo.
- Created .stl files of separate segmentation labels for future 3D printing.
- Segmented cranial elements of *A. nisus* and *F. tinnunculus* specimens via Avizo.

Department of Geosciences– Kaydee West, MSc and Dr. Gregory Herbert
(May 2016 – August 2016; June 2017 - December 2017)

University of South Florida, Tampa, FL

- Performed large scale data collection (measured and recorded grading, predator drill type, and height of thousands of Chione valves).
- Collected and prepared tissue samples from *Melongena corona* for stable isotope analysis.
- Created a taphonomic grading scale based on research papers and the project's needs.
- Maintained and contributed to project's database via Excel.
- Performed scientific photography.
- Revised project methods based on related research papers.

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Department of Geosciences – Dr. Brian Andres

(January 2015 - April 2016)

University of South Florida, Tampa, FL

- Performed preliminary segmentation of *Laopteryx priscus*.
- Created protocol for segmentation using Materialise Mimics for the *L. priscus* research project.
- Constructed digital endocasts of *Rhamphorhynchus muensteri* and *Anhanguera santanae* skulls and compared results to literature.
- Wrote methods for *L. priscus* research project.

AWARDS AND HONORS

- **On to the Future Cohort** (2016). Travel scholarship awarded to students to increase diversity in the geosciences.
- **Paleontological Society Student Ambassador Program** (2016). Merit-based grant awarded to undergraduates who demonstrate an interest in a career in paleontology. Duties during GSA 2016 include volunteering at the PS booth for at least 5 hrs and communicating their experiences at the meeting via social media.

PRESENTATIONS

- **Smashed: How Psittacosaurus Can Help Us Improve Digital Visualization Methods.** Poster presentation at USF Undergraduate Research and Arts Colloquium, Tampa, FL, April 6, 2017.

SKILLS AND EXPERTISE

Public Speaking

- Presented poster at USF Undergraduate Research and Arts Colloquium.
- Narrated live veterinary procedures as an Educator at Busch Gardens Tampa.

Writing:

- Developed and composed methods for research projects.
- Submitted essays for the travel grants to GSA and Paleontological Society.

Equipment

- Intermediate proficiency with DSLR cameras.
- Beginner proficiency with Artec Eva scanner.
- Beginner proficiency with Sense 3D scanner.
- Beginner proficiency with scale calibration.

Technical Skills:

- Intermediate proficiency in creating digital models and .stl files.
- Intermediate proficiency in scientific photography.
- Intermediate proficiency in 3D printing and post-processing.
- Beginner proficiency in digital measurement.

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- Computer Skills:**
- High proficiency in Microsoft Office including Word, Powerpoint, and Excel.
 - Intermediate proficiency in Geomagic Wrap.
 - Intermediate proficiency in RealityCapture.
 - Intermediate proficiency in MeshLab
 - Beginner proficiency in ZBrush.
 - Beginner proficiency in Autodesk Maya.
 - Beginner proficiency in Agisoft Photoscan.

PROFESSIONAL DEVELOPMENT

Geological Society of America Annual Meeting, Denver, CO

2016 GSA (Fall 2016).

- Participated in On to the Future Cohort
- Participated in Paleontological Society Student Ambassador Program
- Attended Paleontological Society Mentors in Paleontology Career Luncheon
- Attended sessions on the topics of paleontology, geoscience education, and planetary geology.
- Attended Paleontological Society Schuchert Talk and Student Social
- Attended On to the Future Cohort meetings
- Attended Diversity and OTF Alumni Talk/Reception

USF Office for Undergraduate Research (OUR), Tampa, FL

Getting Started in Undergraduate Research workshop (Fall 2016).

- Learned how to communicate my ideas about research and developed an “Action Plan” to guide my research progress.

Creating a Personal Vision Statement and Credentialing Yourself (Fall 2016).

- Learned how to develop a personal vision statement and compose a Curriculum Vitae.

USF Advanced Visualization Center, Tampa, FL

Hands-On 3D Printing Training Session (Spring 2017).

- Learned how to use the 3D printers on campus for research.

Unity3D for Research and Visualization AVC Presentation (Fall 2016).

- Learned how to use the Unity3D development platform for research projects involving digital visualization.

CERTIFICATIONS

- EHS Laboratory and Research

VOLUNTEER AND COMMUNITY ENGAGEMENT

Booth Volunteer for Paleontological Society at GSA (2016)

- Answered questions about the Paleontological Society for exhibit hall visitors.
- Stocked and organized booth supplies.

Booth Volunteer for Geological Society of America at GSA (2016)

- Answered questions about the On to the Future program for exhibit hall visitors.

WORK EXPERIENCE

Student Assistant

(May 2017 – May 2018)
University of South
Florida

University of South
Florida

Assisted with research for the Digital Dinosaurs research team at University of South Florida. Used a combination of digital visualization methods and technology to create digital models of *Archaeopteryx* fossils.

Educator – Animal Care Center

(February 2018 – current)

Busch Gardens Tampa

Narrated live veterinary surgeries and examinations. Performed educational demonstrations, both prepared and improvised, on animal behavior, morphology, ecology, nutrition, and conservation.

Educator I

(May 2016 – August 2016)

Busch Gardens Tampa

Educated middle school and high school students on topics in biology, conservation, and physics. Taught and revised assigned curriculum.