Preparing for
Undergraduate Research Day

Rebecca Alexander on behalf of
the URECA Center committee
This is one of the best days of the year!

3 – 5 p.m.  
Family Weekend

Talks  
Poster session
Oral presentations

Only ~10-12, typically more humanities projects

In two different rooms
Running at the same time as poster session

8-10 minute talks, including questions

Works well if you have a story to tell

Audience is smaller
Okay to use slides or just talk

Best when it’s not reading a paper
Most students will do posters (~120 of these!)
Great way to present images, data, charts
Needs more pre-planning
Bigger audience
Presentation is easier
How to make a poster

Just use PowerPoint!
Format for 36X36” – one big slide
Template available on ureca.wfu.edu

1. Design
2. Slide size
3. Custom size
URECA will pay!

Convert your .pptx to .pdf to make sure nothing changes
Send to copies.wfu.edu
Subject line “to print for Research Day”
Include your name in the file “Alexander_poster.pdf”
We’ll pay for one 36X36 poster
How to make a GOOD poster

Lots of suggestions at http://colinpurrington.com/tips/poster-design

Key points:
Pictures >>> Words
Use color without being too cute
Font large enough to read from 3 ft away
  Title = 60-72 pt
  Headings = 40+ pt
  Text = 36 pt
  Figure legends, citations = 24 pt
Identifying Pre-Columbian Housefloor Dimensions through Lithic Analysis at the Redtail Site (31Yd173)

Maya Krause – Anthropology, Biology Minor

Introduction
This archaeological research analyzes the spatial distribution of lithics in an attempt to identify the dimensions of a housefloor at the Lake Hickory Phase Native American settlement, dating to about AD 1500. The Redtail site (31Yd173) provides archaeologists with a unique opportunity to study the activities and spatial organization of prehistoric communities. Ongoing excavations at Redtail have revealed a potential housefloor, hearth disposal area, and several pit features. Previous results show that an increase in size and concentration in a meter area increases the potential for the development of a housefloor. This pattern generally indicates the existence of a housefloor. The identification of housefloor dimensions would further detail cultural activities and social organization. This work expands on previous studies of housefloors and the cultural context of prehistoric communities in the North Carolina Piedmont.

Site History
In recent years, the New York State Landmarks Preservation Commission designated the 26-27 style house as a significant cultural accomplishment, recognizing its importance to the overall history of the region. Contemporary developments in archaeology and historical research have identified this style house as a significant cultural achievement. The 26-27 style house is characterized by its rectangular shape and large size, typically featuring a center hearth and multiple rooms. The use of this style house varies across the Piedmont, with the Redtail site representing a unique example of this architectural style.

Methods
My research involves the analysis of artifacts from the 26-27 style house found at the Redtail site. This includes the study of lithic tools and materials, which were deposited within the housefloor area. The analysis involves the identification of tool types, their distribution, and their relationship to the housefloor area. The data collected is used to analyze the spatial organization of activities and the social organization of the prehistoric community.

Results & Interpretations
The analysis of artifacts from the housefloor area reveals a well-defined center hearth surrounded by a variety of lithic tools and materials. The presence of a central hearth suggests that the house was designed for heating and cooking, indicating a focus on food preparation and possibly social gatherings. The distribution of artifacts around the hearth is indicative of a specific arrangement of activities, with materials used for various tasks located close to the central hearth.

Discussion
The results of this study indicate that the housefloor area at the Redtail site was extensively used for a variety of activities, including cooking, heating, and social interactions. The central hearth and the placement of artifacts around it suggest a highly organized and functional living space. The housefloor area was likely a central space within the prehistoric community, serving as a focal point for daily activities.

Acknowledgments
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References
Aminotransferase activity of a novel AARS appended domain
Sandhya Bharti Sharma and Rebecca Wagner Alexander
Department of Chemistry, Wake Forest University, Winston-Salem NC 27109

Mycoplasma penetrans
- Bacteria of class Mollicutes
- Opportunistic human pathogen
- Colonizes urogenital and respiratory tracts of immunocompromised individuals
- Small (1.3 Mbp A+T-rich genome)

Methionyl-tRNA synthetase
- Essential for protein biosynthesis
- Catalyzes methionine activation and transfer to tRNAMet or tRNAPro
- Exhibits great structural diversity through evolution:
  a common core with varied appended domains

- What is the role of extra protein domains in MpMetRS?
- Why does a parasitic organism with a condensed genome have an extra long MetRS?

Appended domain is homologous to
Class V PLP-dependent aminotransferases
ABSTRACT:
One ignored benefit of space travel is the potential elimination of obesity, a chronic problem for a growing majority in heavy parts of the world. As NASA's space travel program grows, valuable benefits could arise from studies involving the effects of weightlessness on appetite and body weight regulation. This can be achieved using guinea pigs, which are commonly studied in space research due to their small size and relatively low cost.

INTRODUCTION:
The current obesity epidemic started in the early 1990s with the invention and proliferation of fast food and other high-calorie snacks. Obesity rates have since increased dramatically, and the problem is now considered a global health crisis. In this study, we aimed to investigate the effects of weightlessness on appetite and body weight regulation in guinea pigs using theorbital platform developed by the SpaceEx project.

RESULTS:
Mean weight of pigs in space was 0.73 ± 0.004 g. Some individuals weighed less than zero, which may be due to error in measurement or natural variation. However, these observations do not necessarily reflect the effects of weightlessness on appetite and body weight regulation.

CONCLUSIONS:
Our view that weight and weight gain would be zero in space was confirmed. Although we have not replicated this experiment on larger animals or primates, we are confident that our results would be mirrored in other model organisms. We are currently in the process of obtaining necessary human research permissions, and should have our planned experiment initiated within 80 years, pending expected review by local and federal IRBs.

ACKNOWLEDGEMENTS:
I am grateful for generous support from the National Research Foundation, Black Hole Diet Bars, and the High Fructose Sugar Association. Thanks to SPACEEX, the consortium of wines donated for the space flight program. I am also grateful for comments on early drafts by Melissa Athletic Club, Corpus Christi, USA. Finally, sincere thanks to the Wake Forest Foundation for generously donating animal care after the conclusion of the study.

LITERATURE CITED:
NASAD. 1982. Project BTEX: Guinea Pig. Leaked internal memo.

Here's a BAD poster

Colin B. Purrington
6673 College Avenue, Swarthmore, PA 19081 USA
Practice a 3-minute version of your project
Show enthusiasm
Get to the punch line – what did you learn?
Make sure you can answer questions if people are interested
Only put things on your poster you can explain
“Business casual” dress

- Pants and polo or button-up for men
- Skirt or pants for women
- Don’t need to wear a suit
- Comfortable shoes! 😊

Don’t chew gum
Hands out of pockets
Look people in the eye
Have fun!
How to talk about your summer experience
When might you need to?

Job interview
Grad/Med/etc school interview
Meeting with your academic advisor
Cocktail party with your future in-laws
What to think about

How to use the experience to tell about yourself

How did you grow?
What skills did you develop?
What are you prepared to do now?

The project itself might be peripheral
For a “Behavioral Interview”

Situation/Task
Action
Result
Use the STAR method to answer

What was the most difficult task you performed during your summer project?
Next steps

Keep working on your project
Consider an honors thesis
Follow us on Twitter @WFU_URECA
Sign up for Handshake, LinkedIn
Come to
Undergraduate Research Day - Friday of Family Weekend
Abstract will be due 2 weeks ahead