Making a research poster?
Helpful hints to make it memorable!

February 22, 2018
WCC255, 4:30pm – 6:00pm
• What do research posters look like?

• ACSC poster presentation 2016
What information should a research poster contain?

Poster template from ACSC website—download this template to start with

Abstract
Copy and paste your final abstract into the space here. May be smaller text in order to achieve greater fit.

Introduction
Briefly summarize the relevant background information and significance of the project.

Figure 1. Include legends for your figures. The first sentence should be a title for the figure (be conclusive over descriptive here). You should also use legends for brief methods descriptions.

Figure 2. Multi-panel figures can be very helpful in explaining your story.

Figure 3: Use bold, bright, primary colors to illustrate your images, with a consistent color theme.

Figure 4.

Figure 5.

Conclusions
• A bulleted list works best.

Future Directions
• Include where you may go with this project in the future. A bulleted list works best.

Acknowledgements
Any funding sources, former students who helped with the project, committee members, not authors.

References
You may add a references section, but it is often unnecessary.
HOW TO DESIGN
A CAPTIVATING RESEARCH POSTER

Introduction:
This is an exhibition of your research:
- Summarize
- Appeal Visually
- Be Clear
- Look Organized

Results:
Concisely display your thesis:
What visually represents your study? How does your logic flow?
- Be succinct and consistent
- Use one to three fonts

Discussion:
What makes your research important?
What are other scholars and studies suggesting?
Engage People!

Method:
People need to be able to read it.
Your text should be readable from four feet away, and your title legible from ten.

Conclusion:
Include your references.
(Yes, this includes photos!)
Have fun ©

Laura-Lee Bowers 2014

https://www2.viu.ca/research/create/PosterTips.asp
What's wrong with this poster?

- Giant chunks of tiny, unreadable text
- Not visually appealing—no pictures, no figures
• Visualized the data
• Created digestible chunks of text
• Called out key points

This version of the poster has the same information included – what is different?
This version of the poster has the same information included – what is different?

• Added photos for visual interest
• Chose a color scheme that relates to the subject
• Sectioned out text using more columns
Ghrelin is a recently discovered hormone which has profound effects on food intake and lipogenesis in mammals. The golden-mantled ground squirrel (Spermophilus lateralis) is a diurnal mammal that hibernates. Hibernating mammals have a robust annual cycle of weight gain and loss which is profoundly impacted by food intake. In diurnal mammals, ghrelin levels are highest during nocturnal fasting and increase during obesity. (2, 3)

DISCUSSION

• First report of ghrelin levels and feeding condition in a mammalian hibernator.

• Ghrelin is known to increase during the first hours of sleep and promote slow wave sleep (SWS) (5.6) — SWS is necessary for entry into torpor.

• Ghrelin levels tend to drop through the night, but peak again on waking (6).

• Serum ghrelin levels were significantly higher during dark hours when squirrels had gone the longest without eating (p<0.05).

• Ghrelin levels dropped after squirrels ate at start of light period.

• Ghrelin levels increased significantly (p<0.05) between control animals and short term fasted animals, concurrent with previous studies.

• Ghrelin still present in low tissue temperature hibernating GMGS in January, although lower than summer levels.

• Euthermic and low tissue temperature GMGS had significantly different January serum ghrelin levels.

• Ghrelin levels increased significantly (p<0.05) from January to February (when some GMGS are arousing for sleep), dropped slightly in July, and increased again in September, when animals are hyperphagic (all samples taken at 1200).

• No sex differences were seen in GMGS ghrelin levels.

• Ghrelin may be important for regulation of prehibernation food intake cycles in hibernators — possibly linked with the cyclic obesity shown in these animals.

REFERENCES


Effects of a High Fat Diet on Physiological Parameters in Prehibernatory Golden-Mantled Ground Squirrels

Isaac Groover, Siena Krueger, Austin Gaddis, & Jessica Healy
Austin College, Biology Department, Sherman, TX

Abstract
The emergence of Golden-Mantled Ground Squirrels—Colispeza caninus—into southeastern hibernation becomes is prevented and regulated by a complex change in homeostatic, metabolic, and endocrinological characters. The oxidative
hormones, growth, the female sex hormones estriol and dehydroepiandrosterone such as non-mammalian rodents and birds, is an increase in the mass, increase in body size, increase in mass, increase in mass, and increase in mass. We hypothesized that a high fat diet would increase food intake, increase food intake, increase food intake, and increase food intake. We also hypothesized that a high fat diet would increase NEFA, increase NEFA, increase NEFA, and increase NEFA. The regulation of energy availability and energy availability and energy availability is the major problem in several
seasonal hibernators typically increase fat stores in autumn (adaptive obesity).
Hibernators reach fat levels that would be considered pathogenic in humans.
 Estradiol and Ghrelin affect metabolism.
Non-esterified fatty acids (NEFA) react to energy availability.

Introduction
- Human obesity is major problem in several
- Seasonal hibernators typically increase fat stores in autumn (adaptive obesity).
- Hibernators reach fat levels that would be considered pathogenic in humans.
- Estradiol and Ghrelin affect metabolism.
- Non-esterified fatty acids (NEFA) react to energy availability.

Question & Experimental design
How does high fat (HF) diet affect pre-hibernation physiology?

• Visual separation of sections in boxes
• Bulleted text
• Use of images for experimental design
• Still lots of text
Tells story through images

Little reliance on text

Uneven color scheme

Space could be used better
**Motivation**

Interactive story telling requires a computer engine platform to act as the medium for generated stories. This research is focused on discovering techniques to model and animate 3D characters in Autodesk Maya and export these models to work within the Unreal Tournament 3 (UT3) Game Engine. Furthermore, this research also entails coding the AI scripts and agents so that these 3D characters can be used for interactive story telling purposes. Specifically, I am designing 3D dinosaurs and animating them for an interactive Dinosaur Library. This project has moved towards accomplishing this task by thoroughly researching Maya modeling and animation, as well as modification of the UT3 Engine.

Currently, we have discovered the pipeline to create fully customizable models with their own animations within the engine and have also discovered how to give these models their own customizable properties for further manipulation. Further research will allow these models to be manipulated within an interactive environment, in this case a library, which is the end overall goal.

This project will provide a valuable reference tool for working in the Unreal Engine with non-humanoid actors as well as code that is easier to deal with than existing code. The end product needs to provide easy maintainability as well as an easily modifiable design.

---

**Process**

UT3 Maya 2008 was used to model, rig, animate, and (with Adobe Photoshop) texture the dinosaur models (Figure 2).

Models were imported into the Unreal Tournament 3 Editor (UT3 Ed). Here, the model was placed in its own package that included information about materials, physics, and animations.

Configuration files and scripts written in UnrealScript, UT3’s Java-like programming language, were created to enable the packages to work within the UT3 Game Engine.

UT3 Ed also was used to create custom jungle environments for the dinosaurs to propagate.

A.I. scripts converted the dinosaurs to actors with basic navigation ability. These A.I. scripts will later be replaced with A.I. agents generated outside of UT3.

The scripts and actors combine together to create a custom modification for UT3. This modification lays the foundation for an interactive narrative dinosaur library.

**Results**

The methods for creating and importing dinosaurs into UT3 has successfully been established. The current state of the system runs a basic simulation on Dino Island where raptors, triceratops, and tyrannosaurus run around and display basic interaction with the environment (Figure 3). Currently, the A.I. is generated by simple behavioral scripts. Realistic dinosaur animations and textures has also been established in some of the later models developed, such as the tyrannosaurus (Figure 4).

**Explanation of Figure 1**

Autodesk Maya 2008 was used to model, rig, animate, and (with Adobe Photoshop) texture the dinosaur models (Figure 2).

Models were imported into the Unreal Tournament 3 Editor (UT3 Ed). Here, the model was placed in its own package that included information about materials, physics, and animations.

Configuration files and scripts written in UnrealScript, UT3’s Java-like programming language, were created to enable the packages to work within the UT3 Game Engine.

UT3 Ed also was used to create custom jungle environments for the dinosaurs to propagate.

A.I. scripts converted the dinosaurs to actors with basic navigation ability. These A.I. scripts will later be replaced with A.I. agents generated outside of UT3.

The scripts and actors combine together to create a custom modification for UT3. This modification lays the foundation for an interactive narrative dinosaur library.

**Discussion**

This project thus far has primarily been about discovering the process needed to successfully import and manipulate dinosaurs into the UT3 Engine. The discovery of this process came with a great deal of problems to overcome, such as nuisances in game modeling and particular caveats of the UT3 Engine. The initial timeline to get the first dinosaur into the engine took over two months of browsing topics concerning enhancing the UT3 Engine, modeling, animating, texturing, and rigging. At this stage in the project, making a new dinosaur and getting it to work within UT3 takes just a few days. The increased speed of this process will allow the dinosaur library to easily be expanded.

The current A.I. system is temporary. Basic scripts allow the dinosaurs to navigate and engage in basic interactions within the environment. The Triceratops eats grass as he moves around, for example.

---

**Future Research**

This research project is far from completion, as it is currently in the framework development phase. Further research will be applied to researching dinosaur behaviors and applying them to A.I. agents to allow the dinosaurs to interact realistically. These agents need to allow the user to interact with the narrative yet still let the computer generate stories based on the A.I. of the dinosaur characters. These A.I. agents will be created outside of the UT3 Engine, to avoid scripting, the current technique being employed.

Future work will also consist of creating more realistic looking dinosaurs. Better models, textures, and animations have become evident as the team’s experience with the project increases.

---

**Acknowledgements**

This research was funded by Mark Reid and the Interactive Narrative Computing Lab. I would like to thank past researchers Rachel Kielanowski, Richard Klose, Kang Lee, Jacob Sommer, and Jenny Schilt for their work, as well as the UT3 community and the Maya community.

---

**Research Objectives**

- Discovering techniques in modeling, texturing, animating, and rigging for the UT3 game engine.
- Understanding how to import custom material into the UT3 Engine.
- Creating interactive A.I. for narrative computing possibilities within the game engine, in this case, for an interactive narrative dinosaur library.

---

**Non-scientific process poster**

Good use of pictures


https://charlottelwood.files.wordpress.com/2012/10/researchposter3.jpg
• Numbered sections make it easy to follow
• Good use of pictures
• Text too small to read

Source: https://phdposters.com/gallery.php
Hints for research posters:

• Use large font – needs to be readable from 3-7 feet away
• Minimize text – use images & fewer words where possible
  • Bullets are your friends
  • 40% images, 40% white space, 20% text
• Use colors for figures & headings – attract your audience!
• Organize top to bottom & left to right
• Make sure images are high resolution
• Tell the story of your research – what was the question? Why care?
  • Poster should step logically through research process
• Print out small color handouts of poster at travel conferences
Printing poster for ACSC?

• Must be submitted electronically before March 7
• Size requirements: 4’ wide x 3’ high
• Background must be plain white
• Abstract should be included on poster
• Start with template here: http://www.austincollege.edu/academics/experiential-learning/student-scholarship-conference/
Other helpful references:

• Brief video on academic poster format:
  https://www.youtube.com/watch?v=J-SRWog-5Is

• Websites on scientific poster design:
  • http://uwm.edu/freshwater/pesc-guide/posters/
  • http://p2i.eval.org/index.php/research-poster/
  • https://www2.viu.ca/research/create/PosterTips.asp