Discover USC

Tips for Successful Posters
What do we mean by **Poster Session**?
NOT this...
See it for yourself:

These videos and articles are from Discovery Day, which transformed into Discover USC in 2017 – bigger & better but at its heart, still the same 😊

1 2 3
Review presenter guidance at Discover USC (sc.edu/DiscoverUSC)
Event Date: Friday, April 21, 2017
Location: Columbia Convention Center & Alumni Center

8:00 am-until  Registration  Convention Center

8:30 – 9:45 am  Welcome (Dr. Harris Pastides)  Convention Center
Keynote speaker introduction (Dr. Prakash Nagarkatti)
Keynote Address – Dr. Shuji Nakamura, Nobel Laureate in Physics

9:45 – 10:15 am  Break and poster setup

10:15 – 11:45 am  Session 1 Orals, Posters, 3MT  Convention & Alumni Centers

11:45 am – 1:00 pm  Lunch Break and poster setup  Convention Center

1:00 – 2:30 pm  Session 2 Orals, Posters, 3MT  Convention & Alumni Centers

2:30 – 3:00 pm  Reception  Convention Center

3:00 – 4:00 pm  Award Ceremony  Convention Center
Logistics

• If requested a poster, you will VERY likely get a poster. Plan accordingly.

• Assignments of format and timing are based on preference but finalized as space allows

• Notification on timing/format: early-mid April (on website and by email)

• Know your poster number; signs will be posted in hall to direct you
Logistics

- 2 posters per side of display board
- Poster dimensions:
  - Max: 4 ft high x 3.5 ft wide
  - Min for GLD: 2 ft x 3 ft (templates at USC Connect)
- 4 t-pins provided to hang
- Angle pins down NOT straight through
- Nametags at registration
Logistics

- Posters sub-divided into categories
- Categories based on topic/mentor department
- Judged within categories (IF selected yes on abstract submission; can only change to NO)
Logistics

• Judging guidelines on webpage and guidance
• Judges: faculty, staff, and grad students
• Judges: 2-3 per section
• Judges are NOT experts in field
• No judging if NOT present at poster
Logistics

• Award Ceremony:
  • *Attendance expected*
  • Will receive envelope with information regarding certificate pick-up

• Award certificates:
  • pick up at OUR end of following week
How To:
General Overview
A successful poster...

• conveys a clear message,
• by high-impact visual information,
• with minimum text

...grabs attention!
A great poster is...

- **Readable** – use clear language and good grammar in all poster text
- **Legible** – all poster text should be readable from 5 feet away
- **Well-organized** – group items logically and visually for maximum impact
- **Succinct** – you have 10 seconds to grab your audience’s attention
Remember: Do NOT duplicate the full text of your work on your poster.

Hit the high points!

Provide handouts for more information.
Overview: Content - *OPTION 1*

Sections you may wish to include:
(will vary depending on your desired message)

- Introduction, background, or overview
- Hypothesis (Question you explored)
- Motivation or purpose (Why you did it)
- Methods (How you did it)
- Results (What you found)
- Conclusions (What you learned)
- Significance (What it means)
- Future plans or next steps
- References (Works cited)
- Acknowledgements

Abstract is not needed!
Overview: Content - Option 2

Sections you may wish to include:
(will vary depending on your desired message)

- Introduction, background, or overview
- Activity/Event description (What you did)
- Motivation or purpose (Why you did it)
- Reflection (What you learned; What was the impact on you)
- Significance (What it means; what you want others to learn/know from your experience)
- Future plans or next steps
- References (Works cited)
- Acknowledgements
Overview: Layout

People take in information according to a known spatial sequence.

*Capitalize on this and use it effectively!*

Expected layout (3-4 columns of information):
Overview: Layout

Activity or Experience

Expected layout (3-4 columns of information):

- Title
- Names
- Background/Introduction/Overview of activity or experience
- Activity/Experience Description
- Reflection/Significance
- References, acknowledgements
Overview: Layout

Alternative layout: Progression of information
(less common)

Title
Names

Introduction and Background

Results, Findings, data, etc.

Discussion and Conclusions

References

Acknowledgements
## Overview: Layout

### Activity or Experience

<table>
<thead>
<tr>
<th>Title</th>
<th>Names</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Background/Introduction/Overview of activity or experience</th>
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</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Activity/Event Description (what did you do)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</table>

<table>
<thead>
<tr>
<th>Reflection/Significance</th>
</tr>
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<table>
<thead>
<tr>
<th>References</th>
<th>Acknowledgements</th>
</tr>
</thead>
<tbody>
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<td></td>
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</tr>
</tbody>
</table>
Overview: Layout

YES!!!

You can use a different format than “expected.”

- The key is to make the flow of information logical.
- Be sure your chosen layout emphasizes your message!

See examples in the next section
How To:
Examples
Title
Names, departments

Introduction: Chemical Hydride Hydrolysis

Chemical hydrides are a means of storing hydrogen.

Sodium borohydride (NaBH₄) undergoes hydrolysis to produce hydrogen as follows:

NaBH₄ + 2 H₂O → NaBO₂ + 4 H₂

The coefficient n represents the hydration state of sodium borohydride (NaBO₂).

Maintaining n minimizes the total weight in the hydrogen delivery system while maximizing the efficiency.

Four stable hydration states exist and the formation of these states is temperature dependent and shown below:

<table>
<thead>
<tr>
<th>Hydration State</th>
<th>Temperature °C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tetrahydrate</td>
<td>&lt;54</td>
</tr>
<tr>
<td>Dihydrate</td>
<td>5.6 - 8.8</td>
</tr>
<tr>
<td>1/3-Fluoride</td>
<td>180 - 300</td>
</tr>
<tr>
<td>Anhydrous</td>
<td>&gt;300</td>
</tr>
</tbody>
</table>

Water Usage and Reaction Pathway

- First attempted to hydrolyze sodium borohydride with liquid water.
- Required approximately 30 times more water than stoichiometric feed.
- Experimental conditions were limited to below 100°C, yielding low reaction rates.
- Experimental temperature range increased with steam hydrolysis reactor.
- Steam would adhere, or deliquescence, to the surface of sodium borohydride.
- Expanded temperatures to over 180°C.
- Low relative humidities prevented reaction at high temperature conditions.

Deliquescence

- Sodium borohydride undergoes deliquescence in the presence of water vapor.
- Deliquescence is the process by which water vapor from the air adhering to the surface of a solid.
- Water vapor goes to the liquid phase while in contact with the solid during deliquescence.
- Deliquescence usually ends with too much water surrounding the solid, in which case the water will dissolve the solid.
- Water vapor uses as little as 10% of the liquid water needed to pre-dissolve the NaBH₄.
- As less water is needed to dissolve the NaBH₄, the necessary weight of the reactor lessens which, in turn, increases the efficiency.

Hypothesis and Objectives

- Construct and utilize a high pressure batch reactor to hydrolyze solid sodium borohydride with water vapor.
- Predict the reaction progress as a function of time using the pressure profile.
- Determine the amount of NaBH₄ conversion using 85% NMR.
- Determine the water content of the final product using Thermogravimetric Analysis (TGA).
- Higher selectivity of 1/3-hydrate is correlated to a lower water content in the final product.
- TGA analysis suggests that the mass loss lies somewhere between 8.4% and 35.4%, consistent with the idea that a mixture of 1/3-hydrate and dihydrate would be formed.
- Runs with higher feed of water favored the formation of the 1/3-hydrate form.
- At lower temperatures, 1/3-hydrate selectivity decreases with the water ratio.
- The effect of water to NaBH₄ feed ratio is minimal at higher pressures.

Apparatus

- Sodium borohydride and water are separated initially.
- Nitrogen was pressurized in the bomb reactor.
- Heat is supplied to the reactor using six cartridge heaters.
- Thermocouples measure three temperatures at different points to ensure gradient.
- Pressure measurements were recorded by a pressure transducer.

NaBH₄ Conversion Measured with B¹¹-NMR

- B¹¹-NMR analysis measures the exchange of B and O in the solution.

Pressure Profile

- Experimental pressures were recorded using a pressure transducer.
- Expected pressures could be calculated for each of the four possible hydration states of NaBO₂.
- Expected pressures were calculated with the Redlich-Kwong equation of state.

Water Content of Product Measured by TGA

- The TGA quantifies the water of hydration in the NaBO₂ products.
- A mass loss of 8.4% indicates 1/3-hydrate form.
- A mass loss of <8.4% indicates dihydrate form.

Conclusion

- The batch reactor was successful in that the steam hydrolysis reaction went nearly to completion for runs with only a slight increase of water over the stoichiometric ratio.
- A stable 1/3-hydrate form of sodium metaborate was produced under the reaction conditions, significantly reducing the amount of water tied into the solid product.
- The decreased water in the solid product increases the efficiency of hydrogen delivery.
- The stable hydration states did not change with pressure.
- Although the pressure measurements were not as precise as desired, new reactor designs are being examined to address any potential problems.

Acknowledgements

- University of South Carolina Magellan Scholarship

References

Role of P-glycoprotein in the Transport of Amyloid-β Protein in Cerebral Amyloid Angiopathy

University of South Carolina, Biomedical Engineering Program, Columbia, SC 29208

ABSTRACT

Central amyloid angiopathy (CAA) is atherosclerotic deposition of amyloid-β protein in cerebral arteries. The understanding of this process is essential to the development of therapeutics that can mitigate brain damage following vascular events. P-glycoprotein (Pgp) is an ATP-dependent efflux transporter that is highly expressed in vascular endothelial cells and contributes to drug resistance. Pgp is also expressed in the brain, where it is involved in the transport of several molecules, including amyloid-β (Aβ) protein. Aβ is a major protein involved in the pathogenesis of Alzheimer's disease (AD) and is also implicated in CAA. The aim of this study is to investigate the role of Pgp in the transport of Aβ in CAA. The study involves cell culture experiments and in vivo studies using mouse models of CAA.

METHODS

Assessing Patient Information (Pre-event trial): Before patients enter the program, they must sign a waiver in order for their health information to be used. Their health information will be used for the purpose of guiding the impact of the program on the patient's health in the future. Assessment of the patient's health will be done in accordance with available health information, but information that is not relevant to the treatment plan will not be used.

Conclusions

Based on our results, we can conclude that the use of this program is beneficial. Participants with previous negative outcomes who completed the program reported improvement in their overall health. Further studies are needed to better understand the mechanisms underlying these improvements.

Acknowledgements

We would like to thank the members of the CAA community who have contributed to this research. This work was supported by the National Institutes of Health (NIH) grant number 1R01AG040725-01A1.
“Expected” layouts with height greater than width
“Expected” layout when few pictures available
“Expected” layout with great image use

Modular Nano-Enabled Sorption Cartridge for Water Treatment

Student Name; Mentor Name
Civil and Environmental Engineering, University of South Carolina, Columbia, SC

Motivation:
- World-wide potable water crisis needs affordable treatment technologies
- Nanomaterials have promising capabilities (sorption/filtration)
- Lack of strategy for useful application

Materials:
- Carbon Nanotubes (CNTs)
- Organic Solvent: N,N-Dimethylformamide
- Commercial Water Filter

Underlying Mechanism:
- Untreated Filter Surface (No Affinity)
- Chemically Treated Filter Surface (Thermodynamic Affinity)

Methods:
- Prepare stock filter by cleaning and chemically pretreating
- Create uniform CNT suspension
- Characterize suspension uniformity
- CNT deposition on filter surface
- Electron Microscopy to characterize modified filter surface

Results:
- Figure 1: SEM Images
- Figure 2: Hydrodynamic Radius
- Figure 3: Scattering Intensity

Conclusions:
- CNTs can be deposited on functionalized surfaces
- The attachment is irreversible thus results in immobilized CNT coated surfaces

Invention Disclosure (SCRF# 00939): Carbonaceous Nanomaterials Immobilized on Porous Matrices to Remove Organic Contaminant from Water
Non-traditional layout

Title

Names, departments

Introduction

How are certain photochemical reactions influenced by being carried out in a confined environment?

Macrocycles

- Porous self-assembling monomers
- Form tubular crystals
- Can increase selectivity of certain reactions
- Reusable

2-Cyclohexenone

- Phenyl ether macrocycle used as host
- Increased selectivity

Background

Chromes are always looking for ways to make reactions more efficient. Thus, they are always asking, “How can we obtain a higher yield of our target product, smaller, less?” Nanomaterials, with minimal environmental impact, One possible solution can be found in using reactions in a confined environment. By increasing the reaction time, we can not only increase the selectivity of the product of the reaction but also reduce the cost. By changing the ratio of reactants, researchers can control the overall yield of the macrocycle. This is shown by molecular models that react within the macrocycle.

Testing for the best solvent for soak loading

In which solvent does thymine absorbance decrease?

Loading

- Solvent was found to be the best solvent candidate for soak loading.

Data & Discussion

- Analytical assay study
- Decrease in absorbance was used in conjunction with Beer’s-Lambert plot to determine a host:guest ratio of 2.38:1

Irradiation

- Thymine in EDD
- Thymine loaded in BMPC
- IH-NMR Spectra

References


Acknowledgements

I would like to thank Dr. Linda Shiraizu for the wonderful opportunity to conduct undergraduate research during the Summer of 2016. I would also like to thank the entire Shiraizu Group for their warm support and hospitality during my time as an undergraduate researcher. Finally, I would like to give very special thanks to my Graduate Mentor, Michael Gates, who guided me through every stage of this fantastic journey.
Non-traditional layout
Dennis and Dennis Architects: Architecture and Culture in Macon, Georgia

**Student Name**

**Art History, Sociology**

**Introduction**

I am investigating the cultural and architectural histories of six major buildings in downtown Macon, Georgia by the long-existing local firm of Dennis and Dennis. Through this firm produced many recognizable public and private buildings during their long career, none has thoroughly examined the extent of their influence in Macon. Building on a vast network of the firm’s work as well as the public perception of these buildings over time, the course of my research the evolution of the firm throughout their three decades of contributions by architects of city’s own commercial growth. The products of this research combine architectural histories of each building with analysis of the unique cultural impact that the firm and their buildings have had on the city.

**Resources**

My research comes from the firm’s private archives, the records of The Macon Telegraph, and the Historical Room at the Washington Memorial Library.

**Future Work**

There is still so much more to learn about the firm and I hope to have opportunities to continue this research. I want to have a more comprehensive look at the scope of their work and the history of the firm itself, eventually completing a better paper of comparison for their work across the country and within the Middle Georgia area. As I prepare to begin graduate coursework for Historic Preservation, I hope to eventually foster a career of highlighting the great stores behind buildings such as these that acutely shape communities.

**Temple Beth Israel**

- **Construction:** Construction completed in 1902.
- **Style:** Classical details, portion, and a crowning cupola define the symmetrical façade.
- **Materials and stone composition:**
- **Walls:** Stone composition, wall partitions, and delicate stained glass line the street-facing elevations and create an elegant entrance.
- **Impact:** Situated on Cherry Street, it binds the residential area on one end with the civic sector on the other. Its design and longevity have fostered the congregation’s community involvement and become a physical image of the historic congregation’s legacy.

**Centenary United Methodist Church**

- **Construction:** Construction lasted from 1903 to 1912.
- **Style:** Highly decorative classical details. Richardsonian Romanesque forms characterized by dynamic turrets, arches, and试点工作.
- **Import:** Its placement on a major street, next to Mercer University and facing public space, gave the church access to the community.
- **Impact:** The church provides a place for community events and Botanical Garden gatherings.

**City Auditorium**

- **Construction:** Constructed in 1903.
- **Style:** Neoclassical with a grand entrance with columns and pediment.
- **Materials:** Wood, plaster, and brick.
- **Impact:** It serves as a major cultural and social center for the city, hosting concerts, lectures, and community events.

**Macon City Hall**

- **Construction:** Constructed in 1932.
- **Style:** Beaux Arts and classical.
- **Materials:** Marble and stone.
- **Impact:** It serves as a major cultural and social center for the city, hosting concerts, lectures, and community events.

**Insurance Company of North America**

- **Construction:** Constructed in 1937.
- **Style:** Streamline Moderne.
- **Materials:** Brick and stone.
- **Impact:** It serves as a major cultural and social center for the city, hosting concerts, lectures, and community events.

**Post Office**

- **Construction:** Constructed in 1964.
- **Style:** Modern.
- **Materials:** Glass and steel.
- **Impact:** It serves as a major cultural and social center for the city, hosting concerts, lectures, and community events.
Alternative layout with top to bottom flow
Title

Student Name; Mentor Name
Department, University of South Carolina

In Class Experience

In my School in Community (EDFN 300) class I have been able to learn what it means to be an educator. I have researched several different regions and learned how education looks differently where ever you go. Being able to take the information I have learned inside the classroom has created a gateway to what I participate in outside the class. Learning strategies such as how to tutor students makes a difference.

Waverly Program

I take the most pride in the transformation the Waverly program has taken since I started to work with it. The 2012-2013 school year was the first year that I took over the program as Executive Director. I have been able to improve the program. We not only expanded our volunteer base, but we also expanded the program so that we could help even more students. This year, we partnered with St. Lawrence Place, a transitional shelter for single mothers, and brought the Waverly Program there so that their children could have access to the same resources as those who attend Melrose Park. Everyday I see significant similarities between what I have learned in my classes and the work that I do with Waverly. Being able to make a connection between the two helps a lot, especially since the work I do directly correlates to my future career plans.

Waverly embodies what USC Connect stands for when it comes to outside experiences.

Reflection

In my work with Waverly I am preparing myself to be an educator. My goals consist of expanding the program I have grown as well as working more on learning exactly what it means to be an educator.

Conclusion

When I created an e-portfolio I was able to look back at all the work and accomplishments I have participated in and reflect on those experiences. Creating an e-Portfolio not only helps me reflect on what I learned, but may also help me attract future employers.

What I Learned?

I have learned the art of true reflection from working on this project. I was able to take one pathway from USC Connect—Community Service, and expand on the one aspect of how everything we do inside the classroom connects with what we do outside. I learned that you should always keep a journal of every organization and event that you take part in. It is important to record the purpose of the event and what you got out of it.

Future Career

I have learned that everything I do helps prepare me for when I have my own class and am teaching. Working both at the Waverly center combined with my experiences inside the classroom helps to ensure that I have the proper tools needed to be a successful educator.

Learning Never Stops

What I will take away from this experience is that learning never stops. As I learn within my classes, I am able to use that information in my community service position. As I work with students, I am constantly learning from: how a particular teaching style works, how to create lasting relationships with students, and how to appeal to their learning styles. I know that as I begin my career as an educator, I will repeat this cycle. I will reflect on my experiences I will be able to use what I learned to create a great learning environment.
Alternative layout with top to bottom flow for activities/experiences
Non-traditional layout for activities/experiences
NOTE not permitted for GLD

OPTION: Create individual “slides” of information in powerpoint using the traditional sections expected in a poster; print out each “slide” on standard 8.5”x11” paper; attach to display board in separate pieces

**MUST bring your own push pins or thumbtacks**
Want to provide additional information or handouts during your presentation?
- add a folder or envelope of info to bottom of the display board

**MUST bring your own push pins or thumbtacks**
Display format

By permission and special request ONLY
This format is for static or visual arts; some demonstration based projects/experiences

- Contact our@sc.edu to discuss needs
- Table
- Poster encouraged
- No electricity available
How To:

Planning your poster
REMEMBER:
You are not in this alone – talk with your mentor!

ASK for assistance!
Planning: Identify Message

What do you want the audience to know when finished?

Identify your message!
Planning: Support Message

What information is CRITICAL to understanding this message?

Include ONLY message supporting information!
Planning: Outline Information

Outline your message and supporting information

The abstract is a good starting point
Planning: Outline Information

Possible questions/issues to consider in your outline:

1) Clarify your message
2) What activities or results support message
3) What information is needed to understand the results/experience and how you got to those results
4) Are there images that can help explain or support the message
5) Introduce or explain the activity to put it in context
6) Are there any future plans or next steps
7) Review “typical” sections ([Slide #10](slide-10))

Stay message focused!
Planning: Mapping Poster

Map your outline into poster format on paper

#5

Review critically; focus on the message!
Planning: Mapping Poster

**EXAMPLE**

- **Optional:** Purpose of presentation
- Background info or details on trip

- **Title**
- Names

- **Situation 1 + pictures**
- **Situation 2 + pictures**
- **Situation 3 + pictures**

- **Conclusions:**
  - Skill development & convincing others to go abroad

- **Future plans**

- **References, acknowledgements**

Review critically; focus on the message!
Planning: Resources

• **Creating Effective Poster Presentations** by George Hess, Kathryn Tosney, Leon Liegel [http://www.ncsu.edu/project/posters/](http://www.ncsu.edu/project/posters/)

• **How to Write a Research Poster** by Lorrie Faith Cranor [http://xrds.acm.org/resources/how-to-write-research-poster.cfm](http://xrds.acm.org/resources/how-to-write-research-poster.cfm)

• **Building Your Presentation Poster** by Dr. Linda Vick [http://www.npuphysics.org/resources/comp/building_your_poster.pdf](http://www.npuphysics.org/resources/comp/building_your_poster.pdf)

• **Poster Design Resources: Design & Presentation** by UNC Health Sciences Library [http://guides.lib.unc.edu/poster_design](http://guides.lib.unc.edu/poster_design)
How To:
Creating your poster
PowerPoint Resources: Web links

*Poster-making 101* by Brian Pfohl and Greg Anderson, Bates College
http://abacus.bates.edu/~bpfohl/posters/

*Designing Effective Posters* by UNC Health Sciences Library
http://guides.lib.unc.edu/posters

*Creating a Poster in PowerPoint* by Eastern Michigan University
http://www.emich.edu/apc/guides/apcposterpowerpoint2010.pdf

**Discover USC Poster Size**

**MAX:** 48in (H) x 42in (W)
**MIN (GLD):** 24in x 36in
PowerPoint Resources: Video links

YouTube videos: Creating posters in PowerPoint

Creating posters using PowerPoint 2010 (part 1 of 2)
by University of North Carolina Chapel Hill Health Sciences Library tutorial
https://www.youtube.com/watch?v=OxBQ1F4EMyE

Creating posters using PowerPoint 2010 (part 2 of 2)
by University of North Carolina Chapel Hill Health Sciences Library tutorial
https://www.youtube.com/watch?v=85114404&v=4rekTy8iFbk&x-yt-ts=1422579428

Making an academic research poster using Power Point
by Jerry Overmyer (Mathematics and Science Teaching Institute (MAST), College of Natural and Health Sciences, University of Northern Colorado) http://www.youtube.com/watch?v=MqgjgwIXadA
Creating posters in InDesign

Create professional posters using Adobe InDesign
by University of North Carolina Chapel Hill Health Sciences Library tutorial
http://guides.lib.unc.edu/c.php?g=8592&p=44030
How To:
Details: Making it GREAT
Guidelines: Color

Use color, photos, charts, and graphs to support your poster and message.

Remember: A little color goes a long way. Stick to two or three colors for text.
GOOD:
1) use of color to highlight and separate sections;
2) uses color and pictures effectively in results;

BAD: text small
Guidelines: Color

When choosing colors for your poster, err on the side of conservatism.

 ➢ Chartreuse and pink? **Not so much!**

Certain colors “vibrate” when side-by-side, making text difficult to read:
GOOD: 1) use of color and contrast; 2) sections highlighted and separated for emphasis; 3) good focus on data/results; BAD: too much text
Guidelines: Color

Color can be used to accentuate, separate, and/or highlight information.
Guidelines: Color

Avoid background pictures!
Background overwhelming text; text too small
Introduction

Play behavior in juvenile rats is important for the recognition of social cues and behaviors in adulthood. One of the biggest indicators of play in juveniles is pinning (Panksepp & Beatty 1986), which is when one play partner is laying dorsal-side down with another partner laying on top (Vanderschuren et al 1997). Pins are usually preceded by contact with the dorsal area of the pinned rat.

In the past, play has been shown to be affected in models of Fetal Alcohol Syndrome (FAS) (Meyer & Riley 1986). While FAS models show that alcohol affects both duration and rate of social behavior (Kelly et al 2000), relatively little research has been done on play.

Silvy & Panksepp (1987) found that juvenile rats with their dorsal body surface anesthetized show a concentration-dependent reduction in play behavior. The current experiment uses an FAS model to analyze the effect of alcohol exposure on play behavior in rats with varying degrees of sensory impairment induced by local anesthetic.

Results

The amount of mean pins for each xylocaine treatment in the ET group was significantly more than the IC or NC groups, except for 1.0% and 4.0%. These data are collapsed across sex.

Conclusions & Future Directions

The data at this point suggest that the effect of xylocaine treatment did not interact with group. This suggests that the change in play behavior seen here in ethanol-exposed rats is not a function of somatosensory processing changes, and instead must be a function of some other aspect of the social behavior system.

The heightened number of pins in the ET group suggests that either the ethanol-exposed rats are more motivated to engage in play behavior, are more sensitive to play initiation by another animal, or are more likely to exhibit play responses. The lack of differences in dorsal contacts across groups suggests that there are no differences in play responses and the lack of interaction between group and xylocaine dose suggests no differences in sensory sensitivity to play initiation. Therefore, it may be that motivation to play is altered in alcohol-exposed animals. This suggests that alcohol exposure may be altering social motivation during the juvenile period. FAS is known to increase the likelihood of impulsive, and subsequently delinquent, behavior, at least in males (Tremblay et al 1994), and this may be due to changes in motivation.

References

[List of references]

Background overwhelming & inconsistent with message; too much text and too small
Guidelines: Text

Break text into easy-to-read chunks:

• Use paragraphs sparingly
• Use lists/bullets
• Use audience appropriate language
• Use distinctive section headers
  • Emphasize with text size, color, or font
<table>
<thead>
<tr>
<th>Introduction</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Wireless Networks</strong></td>
</tr>
<tr>
<td>• Wireless networks are expected to be available and reliable at all times and all locations</td>
</tr>
<tr>
<td>• Environmental conditions like walls, weather, and large crowds can cause problems</td>
</tr>
</tbody>
</table>

| **Smartphones** |
| • Smartphones have a variety of sensors built into them that can gather information about the surrounding environment |
| • These sensors include accelerometers, compasses, light detectors, and proximity detectors |
| • They also have Wi-Fi radios and GPS |

| **Goals** |
| • This project aims to use the readings from the sensors to detect situations where reduced signal strength will cause reduced signal strength |
| • It may be possible to predict when the user is going to have poor reception so the phone can plan accordingly |

| **Other Work** |
| • A number of other projects are underway that also make use of the sensors available on smartphones |
| • Mobile Assistant for Inertial Drivers (MAD) |
| • Increasing the reliability of national interaction systems such as Microsoft’s Kinect |

| Methods |
| • An app was developed for Android phones that would automatically collect data every 15 minutes |
| • The app was designed to balance frequency of collection with battery life |
| • The app was allowed to run constantly on the user's phone to collect data in real-world situations |
| • The app uploaded data after each collection to a MySQL database |

| Data Collected |
| • Data collected included time, proximity, battery level, location, cellular signal strength, and Wi-Fi signal strength |
| • The data were downloaded from the database into an Excel spreadsheet |
| • The correlation function in Excel was used to determine if acceleration, magnetic field, proximity, battery charge, or light appeared to have an influence on cellular and Wi-Fi signal strengths |
| • The data points corresponding to Wi-Fi signal strength were plotted on a map and color coded to indicate the signal strength of the University wireless network, "connecting" at that location |

| Results and Discussion |
| **Accelerometer** |
| • Cellular Strength: 0.344 |
| • Wi-Fi Strength: 0.069 |
| • These low correlation values indicate the absence of a relationship between acceleration and both cellular and Wi-Fi signal strengths |

| **Magnetic Field** |
| • Cellular Strength: -0.123 |
| • Wi-Fi Strength: -0.022 |
| • These correlation values were even smaller than the ones for acceleration, so there is again little evidence to suggest a relationship between magnetic field and the signal strengths |

| **Proximity** |
| • Cellular Strength: -0.302 |
| • Wi-Fi Strength: -0.289 |
| • These values are much stronger than the previous two and are the strongest observed |
| • There is a possibility of a slight negative correlation |
| • The relative strength correlation could also be explained by the phone being in a pocket versus in the open |

| **Battery Charge** |
| • Cellular Strength: 0.291 |
| • Wi-Fi Strength: 0.153 |
| • These values are weaker than the proximity values and slightly negative |
| • There may be a negative correlation between battery charge and the signal strengths |

| **Light** |
| • Cellular Strength: 0.215 |
| • Wi-Fi Strength: 0.019 |
| • These values were opposite the proximity values and much weaker |
| • This difference supports the possibility of being in the pocket reducing signal strength and being in the open increasing it |

| Figure 1: Wi-Fi Map |
| The map reveals the clustering of the data points. |

| Arena for Research on Emerging Networks and Applications |

| Wifi Map |
| Ongoing and Future Work |
| **Signal Correlations with Other Sensors** |
| • Use new sensors such as gyroscopes, barometers, and thermometers |
| • Collect data in diverse scenarios using multiple phones |

| Mobile Assistant for Inertial Drivers (MAD) |
| • Link the phone to the car's diagnostics port to get real-time data from the car's sensors |
| • Identify the fingerprint for each event and create the abstract sensor modules |
| • Prior to detecting reckless driving |
| • Speed detected when the driver is going too fast |
| • Turn signal detected if the driver properly signaled before turning |
| • Stop detected if the driver obeyed a stop sign |
| • Rear detected when the driver appeared to be lost |
| • Yorks detected if the driver properly yielded at a yield sign |
| • Clap detected if the driver is causing traffic to back up behind him |
| • Drink detected using driving |
| • Lane change detected at lane changes |
| • Identify additional situations that might be identifiable using the phone's sensors |

| Enhancing Kinect with Smartphones |
| • Will use accelerometer and gyroscopic sensors to detect motion |
| • Kinect can be used to detect motion |
| • Combine the two methods together to make a more robust system |
| • Use the phone in the packet to detect events |
| • Use its accelerometer/gyroscope sensors to aid Kinect |
| • Allow players Kinect cannot see to interact with the system |
| • Help the system identify players from a crowd |

Good use of color and contrast; sections highlighted and separated for emphasis; bulleted lists easier to read
Use an easy-to-read font for all text at a minimum size of 24pt.

Avoid ALL-CAPS for extended blocks of text, as they are HARD TO READ.
Guidelines: Text

Limit to two fonts:

*one serifed and one non-serifed*
Guidelines: Text

Use “standard” fonts, such as:

**Serif:**
- Times New Roman
- Garamond
- Georgia

**Sans Serif:**
- Arial
- Calibri
- Verdana

**Symbols, math:**

Use only the most basic symbols needed
Using “standard” fonts limits printing concerns.

Unknown fonts might be changed during the printing process, resulting in changes to your design and layout.

*To avoid font substitution, see “how to” docs for embedding fonts prior to printing*
Guidelines: Text

Suggested font sizes:

• **Title** - sans serif, Title Case, 90-120pts

• **Sub Titles** (names, etc) - sans serif, 72 pts

• **Section Titles** - sans serif, 45 pts

• **Main Text** - serif font, minimum 24pts (bigger is better!)
Guidelines: Images

Pictures, graphs, etc = **GOOD**!

Clip art = **BAD!!!!**

If your work depends on illustrations but you can’t draw to save your life, make friends with someone who can or do without.
Guidelines: Images

• Check the quality of your image, picture, graph, etc. BEFORE printing (check it at 100% size – find this under “View” in PowerPoint)

• Avoid pixilated pictures and graphs!
Guidelines: Images

Don’t use images you find on the internet for your poster unless you know:

1. The images are not copyrighted

2. The images are large enough to print well on your poster
Guidelines: Aesthetic

Simplify!
Excellent example of image use and extremely limited text
Guidelines: Aesthetic

Question everything!

• Does it support the message
• Is the language understandable
• Is it too wordy
• Is it too busy
How To:

Viewing and Editing
Viewing and Editing

Throughout the process, view layout and contents at full size and overall!

In PowerPoint:
• To view full size: View-Zoom-100%
• To view overall: View – “fit-to-window”
Viewing and Editing

Share drafts with mentor and peers:

• HONEST opinions
• Editing assistance (grammar, spelling, language usage, layout, aesthetics, etc)

In PowerPoint:
• Email PowerPoint file
• Convert to PDF (Office button-Save As-PDF)
• Print on 8.5x11 paper (Office button-Print-check box: Scale to fit paper-preview to confirm-Print)
Viewing and Editing

Full size editing:

If possible, it’s a great idea to print out a full size draft for editing

HOW: (tips under “how to”: http://www.sc.edu/our/discovery.shtml)

- Printers
- Adobe Acrobat
- Publisher
- Excel
- Other?
Formatting and Printing (1 of 2)

Poster size (MAX) 48in H x 42in W (not a typo!)

Contact the printer BEFORE to confirm printing requirements, issues, etc

Where to print - Columbia:

• USC printing (COUPON!) http://printing.sc.edu/
• CAS – Gambrell Hall http://artsandsciences.sc.edu/technology/computingcenter
• Marine Science – ask in department
• Engineering and Computing? Ask student services or the computing center
• Honors fellowship recipient? Contact Susan Alexander
• School of Medicine http://dba.med.sc.edu/price/irf/PosterP.htm
• FedEx - $$
Formatting and Printing

Where to print - Aiken: (3 options, ask mentor)
• Biology/Geology department: Students mentored by Bio/Geo faculty print for free, others ask
• USCA Operations
• Instructional Services department

Where to print - Upstate:
• Contact Adrian Hayes (ahayes@uscupstate.edu) for options

Where to print – All Campuses:
• USC printing (COUPON!) http://printing.sc.edu/
Remember:

A successful poster...

• conveys a **clear message**,  
• by **high-impact** visual information,  
• with **minimum** text

...grabs attention!
How To:

Presenting
Presenting

The TALK

• Prepare a 30sec, 2min, and 5min overview of your project/activity
• Possible topics (think message and outline):
  • the context of your problem/experience and why it is important (Introduction/Background)
  • your objective and what you did
  • what you discovered or results
  • what the answer means in terms of the context or the impact

Spread the message!
Presenting

Consider Audience

• Be prepared to talk with experts and non-experts
• Know definitions
• Critically review your poster and talk for potential questions
• Don’t be scared of “I don’t know,” “I hadn’t thought of that,” and “Great idea!”

Don’t assume knowledge!
Engage the viewer

• Invite the viewer to ask questions or offer to “walk them through it”

• Use the poster as a visual aid to emphasize points and share information (point to things)

• Don’t stand in front of your poster (can move in while pointing to things)

Be welcoming!
Presenting

Attitude

• If you are bored – your audience will be bored!
• Show your enthusiasm for your topic

Share your passion!
Presenting Appearance

• Don't distract the audience with your own appearance

• Be neatly neutral OR complement colors

• Business casual (suits not required)

• Sensible shoes (remember standing!)

Don’t clash!
Presentation Resources

• Creating Effective Poster Presentations: Present Your Poster by George Hess, Kathryn Tosney, Leon Liegel
  http://www.ncsu.edu/project/posters/PresentPoster.html

  In video form (this is great, but a little long):
  https://www.youtube.com/watch?v=vMSaFUrK-FA

• A Guide to Presenting a Poster by the Cain Project in Engineering and Professional Communication
  http://www.owlnet.rice.edu/~cainproj/presenting.html
As **Gamecocks**, our expertise has **No Limits.**