Discovery Day

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

View one of the Discovery Day videos ONE and TWO
Review *Discovery Day guidebook* on OUR website

(http://www.sc.edu/our/doc/Guidebook.pdf)
Logistics

Event Date: Friday, April 22nd
Location: Russell House

Registration
8:15 am-2:00 pm  Registration opens  Russell House 2nd floor lobby

Posters
9:00 am-10:30 am  Poster Session - Morning  Russell House Ballroom
11:30 am-1:00 pm  Poster Session - Mid-day  Russell House Ballroom
2:00 pm-3:30 pm  Poster Session - Afternoon  Russell House Ballroom

Oral & Creative Presentations
9:00 am-11:00 am  Oral & Creative Presentations - Morning  Russell House - Rooms vary
11:30 am-1:00 pm  Oral & Creative Presentations - Mid-day  Russell House - Rooms vary
1:30 pm-3:30 pm  Oral & Creative Presentations - Afternoon  Russell House - Rooms vary

Reception & Awards
3:30 pm-4:30 pm  Celebration & Reception  Russell House Ballroom
4:30 pm-5:30 pm  Awards & Recognition Ceremony  Russell House Theater
Logistics

- 3 poster sessions (morning, mid-day, afternoon)
- Assignments random unless abstract submitted by PRIORITY deadline (last Friday before Spring Break)
- Notification on timing: week before (on website and by email)
- At Ballroom door, give your last name and you will be shown to poster location
Logistics

- 2 posters per side of display board
- Poster dimensions: 3-4 ft high x 3.5 ft wide
- 4 t-pins provided to hang
- Angle pins down NOT straight through
- Nametags at registration table
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 in guidebook
• 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*
- Awards: receive envelope with information for certificate
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.
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!
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
People take in information according to a known spatial sequence.

*Capitalize on this and use it effectively!*

Expected layout (3-4 columns of information):

- **Title**
- **Names**
- **Introduction**
- **Methods**
- **Results, data, etc.**
- **Discussion**
- **Conclusions**
- **References, acknowledgements**
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

(much less common)

Title
Names

Introduction and Background

Results, Findings, data, etc.

Discussion and Conclusions

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

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
### Introduction: Chemical Hydride Hydrolysis

- **Chemical hydrides** are a means of storing hydrogen.
- Sodium borohydride (NaBH₄) undergoes hydrolysis to produce hydrogen as follows:
  \[ \text{NaBH}_4 + 2\text{H}_2\text{O} \rightarrow \text{NaBO}_2 + 4\text{H}_2 \]
- The coefficient x represents the hydrogen state of sodium metaborate (NaBO₂).
- Maintaining x minimizes the total weight in the hydride-delivery system while maximizing the efficiency.
- The stable hydride state exists and the formation of these states is temperature-dependent and shown below:

<table>
<thead>
<tr>
<th>Hydration State</th>
<th>Temperatures Where Stable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tetrahydrate (x=4)</td>
<td>65°C</td>
</tr>
<tr>
<td>Dihydrate (x=2)</td>
<td>5°C-30°C</td>
</tr>
<tr>
<td>1/3-hydrate (x=1/3)</td>
<td>13°C-330°C</td>
</tr>
<tr>
<td>Anhydrous (x=0)</td>
<td>200°C</td>
</tr>
</tbody>
</table>

### Water Usage and Reaction Pathway

- **Dissolution** is the process of water vapor in the air adhering to the surface of a solid.
- **Dissolution** goes to the liquid phase and in contact with the solid during dissolution.
- Dissolution usually ends with too much water remaining in the solid, in which case the water will dissolve the solid.

### Hypothesis and Objectives

- **Hypothesis**: NaBH₄ dissolved in water yields the water content in the NaBH₄ solution in the NaBO₂ product.
- **Objectives**:
  - To determine the water content of the final product using Thermogravimetric Analysis (TGA).
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### Apparatus

- Sodium borohydride and water are separated initially.
- Reactor is pressurized before the bomb reactor.
- **Pressure** is supplied to the reactor using six cartridge heaters.
- Temperature is measured using thermocouples at different points in the reactor.
- **Pressure** is recorded by a pressure transducer.

### NaBH₄ Conversion Measured with B¹¹-NMR

- B¹¹-NMR analysis measured the formation of BH₄⁻ and B⁰₂⁻.
- **NMR** analysis measured the formation of BH₄⁻ and B⁰₂⁻.

### Water Content of Product Measured by TGA

- The TGA quantifies the water content in the NaBO₂ product.
- A mass loss of 0.4% indicates 1/3-hydrate form.
- A mass loss of 0.0% indicates dihydrate form.

### Pressure Profile

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

### Conclusions

- The batch reactor was successful in that the steam hydrolysis reaction went nearly to completion for runs with only a slight increase in 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 appear to 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

Expression of Lipocalin-2 in Colorectal Cancer Metastasis to the Liver

Student name; Mentor name

ABSTRACT

Metastasis, frequently from the colon to the liver, is the major cause of death with colorectal cancer, reducing the five-year survival to less than 12%. Metastasis occurs due to productive collaborations between tumor cells and host-derived cells in the tumor microenvironment, where a pre-metastatic niche is created to prime for cancer cell invasion into the target organ. In a highly metastatic colorectal cancer cell line implanted into the cuum of Balb/c mice, microarray analysis showed LCN2 is the novel highly expressed protein in the liver of tumor-bearing mice prior to metastasis. Western blot analysis and examination of broad regions by ELISA illustrated increased levels of LCN2 in tumors progressed into metastases, with similar results when RIF-1 was performed. As greater levels of LCN2 were found in highly metastatic cells in contrast to less metastatic cells, it has been found that LCN2 is highly associated with the promotion of colorectal cancer metastasis in the liver, with increased levels correlated to the advancement of metastatic progression.

INTRODUCTION

Colorectal cancer is the third most common cancer, accounting for approximately 89,000 deaths per year worldwide. In the United States, it is the second leading cause of cancer-related fatalities. When patients are treated for colorectal cancer prior to metastasis, the survival rate is high. Unfortunately, these cases do not typically express outward symptoms of metastasis and it is often diagnosed when very few can be done. More research must be pursued on the biological and molecular hallmarks that direct the early stages of metastasis, which can provide the best opportunity for therapy to slow its progression. Lipocalin-2 (LCN2) is a family of proteins associated with cell regulation, specifically in differentiation and proliferation. There is conflicting evidence on their role in breast cancer growth, some evidence suggests that lipocalins can inhibit the proliferation of breast cancer, while others suggest they promote its progression. These studies examined LCN2 expression in cancer cells, but not in the target organ microenvironment. Thus, further studies must be undertaken to determine the role of LCN2 in establishing and promoting metastasis.

HYPOTHESIS

Increasing presence of LCN2 is positively associated with progression of early colorectal cancer metastasis to the liver.

OBJECTIVES

To assess LCN2 protein levels in various cancer cell lines with different capabilities to metastasize.

To examine whether increasing levels of LCN2 correlates with the development of colorectal metastasis to the liver.

PRELIMINARY DATA

Figure 1. Western blotting to verify presence of LCN2 protein in HT29 (HOS System) and HT29 (HOS System) cells expressing high levels of LCN2 compared to HT29 (HOS System) cells expressing low levels of LCN2.

RESULTS

Figure 2. LCN2 protein levels secreted into the media by over-expressing cells.

REFERENCES

1. ASBMB UAN at USC 2. Department of Biological Sciences, 3. Center for Colon Cancer Research, University of South Carolina, Columbia, SC 29209

CENTER FOR CANCER RESEARCH UNIVERSITY OF SOUTH CAROLINA
“Expected” layouts with height greater than width
Title
Names, departments

Introduction

- Wireless networks are expected to be available and reliable at all times and all locations.
- Environmental conditions like walls, weather, and large crowds cause problems.

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 aimed to use the readings from the sensors to detect situations that 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 Inattentive Drivers (MAID).
- Increasing the reliability of natural interaction systems such as Microsoft’s Kinect.

Methods

Android App

- An app was developed for Android phones that would automatically collect data every 35 minutes.
- This interval was chosen 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, “accident” at that location.

Results and Discussion

Accelerometer

- Cellular Strength: 0.146
- 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: 0.389
- These values are much stronger than the previous two and are the strongest observed.
- There is a possibility of a slight negative correlation.
- The relatively strong 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: 0.193
- 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: 0.205
- Wi-Fi Strength: 0.037
- 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 3: Map Wi-Fi Strength

- The map reveals the clustering of the data points.
- As the project continues, a more even distribution of data points will be collected.
- Wi-Fi signal strength appears to be stronger inside than outside.

Enhancing Kinect with Smartphones

- Wi-Fi uses accelerometer and gyroscope to detect motion.
- Kinect uses video and depth camera to detect motion.
- Combine the two methods together to make a more robust system.
- Use the phone in the pocket to help the Wi-Fi.
- Use the phone to control the remote.
- Allow players Kinect to interact with the system.
- Help the system identify players from a crowd.

WiFi Map

- Figure 1: Map of Wi-Fi Signal Strength
- Figure 2: Detail of LaCant
- Figure 3: Detail of Swearingen

Ongoing and Future Work

- Use newer sensors such as gas sensors, barometers, and thermometers.
- Collect data in diverse scenarios using multiple phones.
- Mobile Assistant for Inattentive Drivers (MAID).
- 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.
- Rear: detect reckless driving.
- Speed: detect when the driver is going too fast.
- Turn signals: detect if the driver properly signaled before turning.
- Stop: detect if the driver obeyed a stop sign.
- Plate: detect if the driver appears to be fast.
- Hard: detect if the driver properly signaled at a yield sign.
- Stop: detect if the driver is causing traffic to back up behind him.
- Drunk: detect drunken driving.
- Lane change: detect lane changes.
- Identify additional situations that might be detectable using the phone’s sensors.
“Expected” layout with great image use
Non-traditional layout

**Title**

Names, departments

**Introduction**

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

**Background**

Chemists are always looking for ways to make reactions more efficient. That is, they are always asking, “How can we obtain a higher yield of our target product quicker, with less reagents, and with minimal environmental impact?” One possible solution can be found in running reactions in a confined environment. By restricting the reaction space, we not only can increase the selectivity of the product of the reaction but also reduce the use of expensive, toxic chemicals. This concept is analogous to the use of enzymes in biological systems, where enzymes drive reactions by binding substrates together and thereby reduce the activation energy for the reaction.

One type of confined environment that is currently being studied employs the use of a porous crystalline tube-like structure known as a macrocycle that is composed of identical monomers. The size of these macrocycles can be accurately adjusted, allowing for control of the overall size of the macrocycle. This in turn provides a wide range of molecules to react within the macrocycle.

**Methodology**

Testing for the best solvent for soak loading

In which solvent does thymine absorbance decrease?

**Data & Discussion**

Analytical absorbance study

Decrease in absorbance was used in conjunction with Beer's-Lambert plot to determine a host:guest ratio of 2.38:1.

**References**


**Acknowledgements**

I would like to thank Dr. Linda Shin for the wonderful opportunity to conduct undergraduate research during the Summer of 2013. I would also like to thank the entire Shin lab Group for their complete support and hospitality during my time as an undergraduate researcher. Finally, I would like to give special thanks to my Graduate Mentor, Michael Giaimo, who guided me through every step of this fantastic journey.
**Non-traditional layout**

**Title**
Name, Department, University of South Carolina

**Problems, Issues, & Plans**

<table>
<thead>
<tr>
<th>Why a Journal?</th>
<th>Site Design and Development</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Provide students multiple formats to showcase research (compliments presentation opportunity through Discovery Day, university’s research conference)</td>
<td>• Time constraints, staff expertise, IT resources</td>
</tr>
<tr>
<td>• Publication experience valuable to complete research process</td>
<td>• Server accessibility (will the site be hosted on or off-site)</td>
</tr>
<tr>
<td>• Publication in professional journals not available for all students</td>
<td>• Content Management System (allows easy updating of website with minimal training; eliminates manual contract with web developer)</td>
</tr>
<tr>
<td>• Marketing tool to showcase student research</td>
<td>• Web presence website (adjusts for desktop, tablet, smartphone)</td>
</tr>
</tbody>
</table>

**Purpose**
This poster portrays the experience of the University of South Carolina from the decision of creating a journal of undergraduate research to the implementation. Each step will be discussed followed by lessons learned.

**WHY: A Journal?**

<table>
<thead>
<tr>
<th>Why Caravel?</th>
<th>Site Considerations and Needs</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Technology advanced to meet the needs of publication for all disciplines</td>
<td>• Time constraints, staff expertise, IT resources</td>
</tr>
<tr>
<td>• Administrative support: editorial, manuscript, indexing, and indexing</td>
<td>• Server accessibility (will the site be hosted on or off-site)</td>
</tr>
<tr>
<td>• Marketing tool to showcase student research</td>
<td>• Content Management System (allows easy updating of website with minimal training; eliminates manual contract with web developer)</td>
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</table>

**Why Caravel?**

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>• Nominated after the type of ship used by explorer Magellan</td>
<td>• Time constraints, staff expertise, IT resources</td>
</tr>
<tr>
<td>• &quot;Magellan&quot; program is in the university’s undergraduate research brand</td>
<td>• Server accessibility (will the site be hosted on or off-site)</td>
</tr>
<tr>
<td>• Research is about the journey not the destination</td>
<td>• Content Management System (allows easy updating of website with minimal training; eliminates manual contract with web developer)</td>
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</table>

**Editorial and Submission Process**

<table>
<thead>
<tr>
<th>Submitter Guidelines</th>
<th>Review and Feedback Process</th>
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</thead>
<tbody>
<tr>
<td>• Guidelines must be discipline appropriate</td>
<td>• Acceptance review</td>
</tr>
<tr>
<td>• All submissions includes a written component</td>
<td>• Two reviewers: editorial board and topic expert</td>
</tr>
<tr>
<td>• Student should address plagiarism, copyright, and compliance issues</td>
<td>• Final decision for publication by Editor-in-Chief</td>
</tr>
<tr>
<td>• Accept with minor changes</td>
<td>• Privacy statement, staff expertise, IT resources</td>
</tr>
<tr>
<td>• Accept with major changes, or revise and resubmit</td>
<td>• Server accessibility (will the site be hosted on or off-site)</td>
</tr>
<tr>
<td>• No declining option as this is viewed as an educational experience</td>
<td>• Content Management System (allows easy updating of website with minimal training; eliminates manual contract with web developer)</td>
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</table>

**Faculty Editorial and Advisory Board**

<table>
<thead>
<tr>
<th>Submitter Guidelines</th>
<th>Review and Feedback Process</th>
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</thead>
<tbody>
<tr>
<td>• Some board used to guide journal development and review submissions</td>
<td>• All students receive feedback</td>
</tr>
<tr>
<td>• Faculty reviews only</td>
<td>• &quot;Review and resubmit&quot; may include a requirement of additional research inquiry and/or writing center consultations</td>
</tr>
<tr>
<td>• Market journal to colleagues and students</td>
<td></td>
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</tbody>
</table>

**Role of Editorial Board**

<table>
<thead>
<tr>
<th>Submitter Guidelines</th>
<th>Review and Feedback Process</th>
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</thead>
<tbody>
<tr>
<td>• Reviews all submissions within discipline or near-discipline</td>
<td>• Acceptance review</td>
</tr>
<tr>
<td>• Identify and solicit member (topic expert) for each submission</td>
<td>• Two reviewers: editorial board and topic expert</td>
</tr>
<tr>
<td>• Provide feedback on submission guidelines and site needs</td>
<td>• Final decision for publication by Editor-in-Chief</td>
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**Moving Forward**

<table>
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**Future Plans**

<table>
<thead>
<tr>
<th>Previous experience</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Final product: Caravel screen captures</td>
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</tr>
<tr>
<td>Caravel homepage: Below, in white space which indicates the title, a view of the entire display shows its text, as abstract, and when submission should occur</td>
<td></td>
</tr>
</tbody>
</table>

**LESNERS LEARNED**

<table>
<thead>
<tr>
<th>Previous experience</th>
<th>Previous experience</th>
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<tbody>
<tr>
<td>Editors submit recommendations for several resources to Managing Editor</td>
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</tr>
<tr>
<td>Editors submit resource to technical writer in timely manner</td>
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</table>

**Faculty and Student Quotes**

Thank you so much for the good news. You bring up a challenge, whose work it was my pleasure to supervise. I also reference the University, yourself and all others who work on the journal for their leadership. A great initiative and the contributing to the development of our students. — Faculty member

Working with my partner and mentor on this project has been extremely beneficial for me. It has given me a thorough understanding of how to construct a proper research project and working well with others to finalise the project. This experience will help me to join my goal of going to graduate school. — Student
Dennis and Dennis Architects: Architecture and Culture in Macon, Georgia

Student Name: [Blank]

Art History, Sociology

Introduction

I am investigating the cultural and architectural histories of the major buildings in downtown Macon, Georgia, by the long-standing firm of Dennis and Dennis. Though the firm produced many recognizable public and private buildings during their long career, no one has thoroughly examined the extent of their influence in Macon. Relying on a variety of primary sources, my project assesses both internal evaluations of the firm's work as well as the public perceptions of these buildings over time. In the course of my research, the evolution of the firm throughout their work on these six buildings has aligned with and borne a parallel to the 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.

Future Work

There is still so much more to be learned about the first and I hope to have opportunities to continue this research. I want to have a more comprehensive idea of the scope of their work and the history of the firm itself, especially attaining a better point 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 stoves behind buildings such as those that so intrinsically shape communities.

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.

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Temple Beth Israel

- Constructed: Completed in 1912
- Designed for the oldest Jewish congregation in the city
- Style: Classical details, portico, and crowning cupola define the symmetrical façade
- Masonry and stucco composition
- White stucco composition, double pilasters, and delicate stained glass in the front-facing elevations and creates an elegant entrance
- Set 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 organization's community involvement and become a physical image of the historic congregation's legacy.

Centenary United Methodist Church

- Constructed: Completed from 1873 to 1875
- Commissioned by a small congregation that started as a Sunday school
- Style: Highly decorative classically detailed
- Richardson-Romanesque form
- Defined by dramatic tower
- Batchelder designed
- Impact: No placement on a major street, next door to Mercer University, and facing public space gave the church access to the community
- From here they have established themselves within the downtown area, focusing on outreach and community engagement
- They are still an active congregation in the area, persisting through various changes in their surroundings.

City Auditorium

- Constructed: 1892–1893
- Style: Neoclassical portico front porch from two sides bays
- Masonry and stone composition
- Very symmetrical, rational form
- Little decoration
- Plaster and stucco interior

Impact: The building site atop Coleman Hill
- It does not face the street, but rather looks over the entire city
- It is an immediately recognizable icon in Macon's landscape

- The building's design is a major landmark
- It is a testament to the city's architectural heritage
- It is a symbol of the city's past and present
- It is a place of social and cultural significance

Macon City Hall

- Constructed: 1889–1894
- Style: Commissioners' style
- Two-story, two-story building
- Front porch on each side

Impact: The building's design is a major landmark
- It is a testament to the city's architectural heritage
- It is a symbol of the city's past and present
- It is a place of social and cultural significance

Insurance Company of North America

- Constructed: 1908
- Style: Neo-Classical Revival
- Two-story building
- Front porch on each side

Impact: The building's design is a major landmark
- It is a testament to the city's architectural heritage
- It is a symbol of the city's past and present
- It is a place of social and cultural significance

Post Office

- Constructed: 1910
- Style: Art Deco
- Two-story building
- Front porch on each side

Impact: The building's design is a major landmark
- It is a testament to the city's architectural heritage
- It is a symbol of the city's past and present
- It is a place of social and cultural significance
Alternative layout with top to bottom flow
“Expected” layout for activities/experiences

Title
Student Name; Mentor Name
Department, University of South Carolina

USC Connect

USC Connect is leading the transformation of students’ educational experiences through a university-wide focus on integrating learning within and beyond the classroom. The ultimate goal of USC Connect is to prepare students to be thoroughly and deeply prepared with core knowledge, developed skills, and the dispositions to contribute and lead in home, community, and work settings. USC Connect strives to enhance the learning of all students by promoting participation in beyond the classroom experiences, and creating opportunities for reflection on these experiences.

Community Service

One thing about me that sets me apart from many others is the dedication I put into my service work here at Carolina. I currently serve as Executive Director of the Waverly After-school Program, President of Students for Big Brothers Big Sisters, President of the USC Chapter of No Kid Hungry, Vice President of Make a Wish Organization, Vice President of Community Service for USC Connect Student Representative Board, as well as a host of other organizations. Besides serving, I have also completed two service-learning components as well.

Reflection

The unique thing that I really enjoy about USC Connect is that the five pathways to success are all different, but connect to each other. Being involved with Community Service is a pathway that can connect you with anything whether you are studying abroad, doing research, or taking part in an internship. USC Connect emphasizes that service is a great way for us to reflect on helping our local and global community & address many grass root problems that fall through the cracks because there are not enough people to help address them.

In Class Experience

In my School’s 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.

Community Service in Action

In my Service Learning in South Carolina class (Univ 201) we took an alternate spring break trip to Anderson, SC. In this photo I am working to restore an abandoned home so it can be turned into an educational facility for community members.

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 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 have learned to create a great learning environment.

Contact Information

In my Speech 140 class I was taught the skills to communicate with any audience. In the photo to the right I am reading a book to a group of kindergarten students at an elementary school.

In the photo below I am tutoring a local high school student who participates in the Waverly Program.
Alternative layout with top to bottom flow for activities/ experiences
Non-traditional layout for activities/experiences
OPTION to avoid the cost of a full size poster print: 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**
• YES, you can have a laptop or display WITH your poster.
• Tables ONLY provided if requested with abstract submission.
• You may only use half of the table (the area below your poster).
• No electricity available.
How To:
Planning your poster
Planning:

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

ASK for assistance!
What do you want the audience to know when finished?

Identify your message!
What information is CRITICAL to understanding this message?

Include ONLY message supporting information!
Outline your message and supporting information

The abstract is a good starting point
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)

Stay message focused!
Map your outline into poster format on paper

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

EXAMPLE

Optional: Purpose of presentation

Background info or details on trip

Situation 1 + pictures

Situation 2 + pictures

Situation 3+ pictures

Title

Names

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**


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


**Discovery Day Poster Size (MAX):** 48in (H) x 42in (W)
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=x-yt-cl=85114404&v=4rekTy8iFbk&t=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

Discovery Day Poster Size (MAX):
48in (H) x 42in (W)
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

**Discovery Day Poster Size (MAX):**

48in (H) x 42in (W)
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
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:

- **Headache**
- **Yikes**
Impacts of sea-level rise on Seattle, WA

Introduction

- The many impacts of global warming and sea-level rise drastically affect people and their communities.
- Understanding the impacts of rising seas is a priority for scientists and urban planners.
- The question of whether understanding the impacts of rising seas is a priority for scientists and urban planners.

Research questions:
- What is the rate and pattern of sea-level rise in the area?
- How do different parts of the area respond to sea-level rise?
- What is the average sea-level rise in the area?

Data

- Seattle Light Detection and Ranging (LiDAR) data and historical data are used to analyze sea-level rise.
- The data is used to identify areas at risk of sea-level rise and to assess the potential impacts.

Methods

- Sea-level change analysis:
  - Use elevation data to estimate the total number of parcels.
  - Use historical data to estimate the rate of sea-level rise.

Results

- Sea-level rise in the study area.
- The study area experiences a range of sea-level rise, from 0.0 ft to 1.0 ft.

Figure 1:
- Comparison of sea-level rise hotspots and surrounding areas.

Figure 2:
- Overview of the study area.

Figure 3:
- Percentage of parcels of each zone type impacted by sea-level rise.

Conclusions

- Seattle experiences a range of sea-level rise, from 0.0 ft to 1.0 ft.
- The study area is a hotspot for sea-level rise, with significant impacts on the surrounding areas.
- The study area experiences a range of sea-level rise, from 0.0 ft to 1.0 ft.

Acknowledgements

- This research is supported by the National Science Foundation.
- Thank you to all the contributors to this project.

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.
Avoid background pictures!
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
**Title**

**Names, departments**

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### Introduction

**Wireless Networks**
- Wireless networks are expected to be available and reliable at all times and all locations.
- Environmental conditions like walls, weather, and large crowds cause problems.

**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 WiFi and GPS.

**Goals**
- This project aims to use the readings from the sensors to detect situations that 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 Inattentive Drivers (MAID)
- Increasing the reliability of natural interaction systems such as Microsoft's Kinect

### Methods

**Android App**
- An app was developed for Android phones that would automatically collect data every 15 minutes.
- This interval was chosen to balance the 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 WiFi 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 WiFi signal strengths.
- The data points corresponding to WiFi signal strength were plotted on a map and color coded to indicate the signal strength of the University wireless network, "wscoutlet" at that location.

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### Results and Discussion

**Accelerometer**
- Cellular Strength: 0.146
- WiFi Strength: 0.099
- These low correlation values indicate the absence of a relationship between acceleration and both cellular and WiFi signal strengths.

**Magnetic Field**
- Cellular Strength: -0.323
- WiFi 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
- WiFi 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.

**Battery Charge**
- Cellular Strength: -0.291
- WiFi Strength: -0.195
- 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: 0.205
- WiFi Strength: 0.017
- 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.

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**Figure 1: WiFi Map**

The map reveals the clustering of the data points.
- As the project continues, a more even distribution of data points will be collected.
- WiFi signal strength appears to be stronger inside than outside.

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### Ongoing and Future Work

**Signal Correlations with Other Sensors**
- Use newer sensors such as gyroscopes, barometers, and thermometers.
- Collect data in diverse scenarios using multiple phones.

**Mobile Assistant for Inattentive Drivers (MAID)**
- 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.
- Reach for: detect reckless driving
- Speed: detect when the driver is going too fast
- Turn signal: detect if the driver properly signaled before turning
- Stop detect: if the driver obeyed a stop sign
- Lock detect: when the driver appears to be lost
- Yield detect: if the driver properly yielded at a yield sign
- Clap: detect if the driver is causing traffic to back up behind him
- Drunk: detect drunken driving
- Lane change: detect lane changes
- Identify additional situations that might be detectable using the phone's sensors.

**Enhancing Kinect with Smartphones**
- WiFi uses accelerometer and gyroscope to detect motion
- Kinect uses video and depth camera to detect motion
- Combine the two methods together to make a more robust system
- Use the phone in the packet in place of the WiFi remote
- 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
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.
Studies show that serifed fonts are easiest to read for long blocks of text.

Limit yourself to two fonts – generally 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.*
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!
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
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?
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/](http://printing.sc.edu/)
• CAS – Gambrell Hall [http://artsandsciences.sc.edu/technology/computingcenter](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/PosterPhtm](http://dba.med.sc.edu/price/irf/PosterPhtm)
• FedEx - $$
Where to print - Aiken: (3 options, ask mentor)
• Biology/Geology department: Students mentored by Bio/Geo faculty print for free, others $25 per poster
• Instructional Services department: $35/poster
• USCA Operations: $25/poster

Where to print - Upstate:
• Contact Adrian Hayes (AHAYES@USCUPSTATE.EDU) for options

Where to print – All Campuses:
• USC printing (COUPON!) [http://printing.sc.edu/]
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!
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!
• 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
Discovery Day

...a forum for student ingenuity!