URC – ISE
Undergraduate Research Conference
Interdisciplinary Science and Engineering Symposium
Whittemore Center Arena
April 22, 2015
Undergraduate Research Conference
Interdisciplinary Science & Engineering Symposium (ISE)
ORIENTATION AGENDA

Thursday, April 2, 2015
1:00 – 2:00 p.m.
DeMeritt112

• Welcome and Introductions
• What’s New for 2015 URC-ISE?
• ISE Event Overview
• Judging
• Resources:
  • Oral Communications
  • Poster Tips
• Q&A
• Judging Schedule
  • Pick up from your Group Leader
URC Interdisciplinary Science & Engineering (ISE) Symposium
2015 Planning Committee

- Ken Baldwin (MechE)
- Tat Fu (Civil Eng)
- Carole Berry (Co-Chair, CEPS Dean’s Office)
- Ruth Varner (Co-Chair, Earth Sciences)
- Kent Chamberlin (Co-Chair, ECE)
- Kristi Donahue (EOS)
- Kang Wu (Chem Eng)
- Steve Hale (Leitzel Center)
- Tara Hicks-Johnson (Co-Chair, EOS)
- Roy Planalp (Chemistry)
- Nicole MacMillan (CEPS Dean’s Office)
- Collette Matthias Powers (CompSci)
- David Mattingly (Physics/EOS)
- Sharon McCrone (Math & Statistics)
What’s New For 2015 URC-ISE?

• STEM Recruitment Fair
• Lunch provided to students
• Abstract requirement
• Education Research and Outreach Award
ISE Overall Event Schedule
Tuesday, April 21

12:00-5:00 Participants set-up posters and projects at the Whittemore Center

Cars, Canoes, Bridges, etc...
Enter through Zamboni Entrance on lower level of the Whit (unless told otherwise by your Group Leader)

All others...
Enter through Main Entrance between the Whit and Hamel Rec Center

Doors will be locked at 5:00 p.m.
ISE Overall Event Schedule
Wednesday, April 22

9:00 – 1:30  Judging (refer to your group’s Judging Schedule)
- Please arrive 15 minutes prior to your judging time and plan to stay at least 15-30 minutes after.

9:00 – 1:30  STEM Recruitment Fair (on Concourse)

11:30 – 1:00  Lunch with industry reps

1:30 – 2:00  Awards Ceremony – Sit in Section 115

2:00 – 4:00  Open House (Do not take down your poster until after the Open House ends at 4:00)

4:00 – done  Clean-up by everyone
- Participants to return their easels and foam boards (with pins removed) to designated area of the Whit. Look for signs!
- Winning posters should be dropped off in Kingsbury W289 on Thursday, April 23 (between 8:00-5:00)
2015 Abstract Requirements

- All abstracts will be published online
- Maximum character count of 1300, including spaces
- Special characters and LaTeX will not be processed – the text will appear exactly as it is entered.
- Respond to email with link to enter abstract text
  **Due Date: Friday, April 10, 2015**
- Respond to email by emailing poster graphic
  **Due Date: On or before April 24, 2015**
Eligible Projects – YOU HAVE ALREADY IDENTIFIED YOUR PROJECT as including design and implementation of STEM education:

1) Research that advances our understanding of K12 teaching and learning approaches and strategies
2) Outreach that impact K12 teachers or K12 students. Outreach includes intentional efforts to bring rich STEM content to K12 teachers and students through learning experiences and participation opportunities.

FOR THOSE OF YOU WHO IDENTIFIED YOUR PROJECT YOU MUST …

1) Make an appointment and meet with Dr. Stephen Hale in the Leitzel Center (Parsons N117) (steve.hale@unh.edu)
   • Review topics and themes to ensure appropriate fit for competition
   • Guidance on design of poster communication
   • Receive an encumbrance code for poster printing (if needed)
2) Produce a separate poster that communicates the STEM education research/outreach aspects of the project.
3) Have at least one team member available at the poster at the appointed time of judging.
Connors Writing Center

What do we do?
We provide free, individualized writing and oral conferences to all UNH students.

What kinds of projects do we see?
• Proposals
• Research Papers
• Oral Presentations
• Poster Presentations
Connors Writing Center

329 Dimond Library
Monday – Thursday 10 a.m.- 6 p.m.
Friday 10 a.m.- 1 p.m.

Evening Hours
Wednesday 6 - 8 p.m.
Sunday 5 - 8 p.m.

Contact
Phone: 862-3272
Website: www.unh.edu/writing/cwc
*Online scheduling system available through website*
Other Resources

• Your Research Mentor/Advisor
  • Have them review/approve abstract text

• Your URC-ISE Group Leader

• 2014 Winning Posters are on display in Kingsbury 1st floor West Hallway (near Civil)

• Visit URC website: www.unh.edu/urc/presentation-help for online resources and examples

• Darlene Smith, Printing Services
CEPS Machine Shop
(Kingsbury Hall S161)

- Hours: M-F, 8:00 am through 5:00 pm.
  - Extended hours Monday and Tuesday 5:00 to 8:00 pm
- Available only to qualified personnel who have completed TECH 602
- Project assistance is available, first come-first serve, waiting time varies depending on shop workload
- Proper planning and time budgeting are essential to completing projects on time

Questions: call 603-969-0108 or email kevan.carpenter@unh.edu
2015 Rubric for Judging ISE Posters

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<th>Excellent</th>
<th>Good</th>
<th>Fair</th>
<th>Poor</th>
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<tbody>
<tr>
<td>Project/Research</td>
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<tr>
<td>Poster Presentation</td>
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<tr>
<td>Oral Presentation</td>
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Full Judging Rubric can be found online at: [www.unh.edu/urc/ise](http://www.unh.edu/urc/ise)

Judges may be industry professionals, alumni, past winners, professors and graduate students

You will receive judge feedback from your group leader after the ISE
Poster Making Tips

A Poster is a Visual Communication Tool
An effective poster should be:

- Focused – Focus on your message throughout
- Graphic – Let graphs/images do the talking
- Ordered – Keep the sequence obvious

Stay Focused on Your Message

• Simple Messages are Memorable
• Details can be distracting
• Simplify verbiage, reduce sentence complexity
Use Visual Cues

...that help readers identify the most important parts of your poster
Use a Column Format

# XX  My name
       My place

substance X induces Y-cells

Context:
Y-cell require induction; substance x may be
the inducer because:
we know virtually nothing about X,
but we had some on the shelf,
lots and lots of tiny tiny
and lots and lots of tiny tiny
tiny tiny tiny type.

lots of tiny tiny type
lots and lots of tiny tiny type
lots and lots of tiny tiny type
details and lots of tiny tiny type.

lots and lots of tiny tiny type
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details and lots of tiny tiny type.
Balance Text and Graphics

- Horizontal Symmetry
- Horizontal and Vertical Symmetry
- Diagonal Symmetry
- No Symmetry
Can Suburban Greenways Provide High Quality Bird Habitat?

George R. Hess :: NC State University :: Department of Forestry & Environmental Resources :: Raleigh NC 27605-8002 USA :: george_hess@ncsu.edu
Christopher E. Moorman, Jamie H. Mason, Kristen E. Sinclair, Salina K. Kohut :: NC State University :: Department of Forestry & Environmental Resources
www4.ncsu.edu/~grhess/GreenwaysForWildlife

Headings Orient Reader

Birds of Conservation Concern in Decline
- Many bird species of conservation concern – including neotropical migrants, insectivores, and forest-interior specialists – decline with increasing human development
- Greenways might mitigate this effect
- Habitat patch size, vegetation composition & structure, and landscape context are key factors
- Standards are lacking for designing and managing suburban greenways as high quality habitat

Objective: Greenways for the Birds
- Determine how development-sensitive forest birds are affected by
  - forested corridor width
  - adjacent development intensity
  - vegetation composition & structure
- Develop recommendations for greenway designers and planners

Study Design & Independent Variables
- Sampled 34 - 300m corridors in Raleigh & Cary, NC, USA
- Sampled range of
  - Forested corridor widths (20 – 1,200m)
  - Adjacent density (low density residential – office/commercial)
- Additional measures
  - Vegetation composition & structure in corridor
  - Land cover in 300m x 300m adjacent to corridor (context)
- Measured richness & abundance of
  - Breeding birds
  - Neotropical migrant birds during stopovers
  - Mammal nest predators

Breeding Birds of Concern More Common in Wider Greenways with Less Managed Area Surrounded by More Forest Canopy
- 8-minute, 50m point counts at center of corridor
- Revisited 4 times during breeding season

Nest Predators Less Common in Wider Greenways with Narrower Paths
- Five baited scent stations along each greenway segment
- Observed for 5 nights each

Significant Predictors for Predator Abundance
Greenway:
- Corridor width
- (-) Building density
- (+) Trail width
- (+) Mature forest
- (+) Ground cover
- (-) Vine cover

Greenways for Development-Sensitive Forest Birds Might Conflict with Intense Recreational Use
- People & Managers Prefer ...
- Forest Birds Prefer ...

Spring Neotropical Migrant Stopovers More Common in Wider Greenways with More, Taller Hardwood Trees
- 200m x 25m transects along one side of greenway path
- Revisited sites for two spring seasons and one fall season
- Width not significant, but trend consistent with other findings

Significant Predictors for Spring Migrant Abundance
Greenway:
- (+) % Hardwoods
- (+) Canopy Height
- Adjacent Landscape:
  - (-) Bare Earth

Potential Solution: Wide Corridor, Trail Near Edge
- Make corridors at least 50m wide; wider is better
- Don’t split forested corridor
- Keep trails as narrow as possible
- Avoid wide grassy areas along trails within forested corridor
- Locate trails near the edge of forested corridors
Use Simple Clean Graphics

Avoid This!
Use Simple Clean Graphics

Better Graph
Text should be Simple, Direct

- Minimize text – Use graphics instead
- Use phrases
- Use active voice
- At least 24 point in text, 36 point for heading
- Text size in figures must also be large
- Title should be at least 5 cm tall
Don’t Overdo Colors

• Use colors to attract attention, organize, and emphasize
• Use light color background and dark colors for contrast
• Stick to a theme of 2 or 3 colors
• Overly bright colors wear out readers’ eyes
Poster Presentation Tips

• Hang your poster square and neat
• Use your poster as a visual aid – Don’t Read It!
• Prepare a 30 second, 2 minute, and 5 minute tour of your poster
• Tell your audience:
  • The context of your problem
  • Your objective and what you did
  • What you discovered, and
  • What the answer means in terms of the context
Poster Tips

• Maximum Poster Size for ISE: 36” x 48”

• Published URC Posters: www.unh.edu/urc/urc-archives

• URC website: www.unh.edu/urc/presentation-help

• Project on large monitor

• Printing (print early!)
  • Printing Services Deadline is April 17

• Contact your Department about printing
  • Many CEPS departments will either print or pay for printing
Other Need-to-Know Items

Appearance
• What should you wear?

Audience
• E-vite: Use the URC E-vite to invite family and friends to your presentation.
  ❖ www.unh.edu/urc –
  Click on “URC 2015 E-Vite for Family & Friends!”

• Alumni, scholarship donors, community and employers have been invited.

Stay Connected
• Facebook: UNH URC 2015

• Twitter: @UNH_URC  Tweet about ISE ➔ #ISE2015
Judging Schedule

- **Purple** – Chemical Engineering (Wu)
- **Blue** – Chemistry (Planalp)
- **Red** – Civil Engineering–Industrial (Fu)
- **Orange** – Civil Engineering–Research (Collins)
- **Teal** – Computer Science–Applications (Powers)
- **Brown** – Computer Science–Research (Powers)
- **Gold** – Electrical & Computer Engineering (Chamberlin)
- **Light Green** – Earth Sciences/Environmental Science (Varner)
- **Green** – Mechanical Engineering (Baldwin)
- **Lavender** – Physics/Mathematics (Mattingly/McCrone)
- **Light Blue** – Teacher Science & Engineering (Hale)