

DISCOVERY DAY

...a forum for student ingenuity



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OVERVIEW

Discovery Day is an annual event for undergraduates at USC, showcasing students' scholarly pursuits in and beyond the classroom. Students present their experiences or findings from research/scholarly projects, study abroad, internships, service-learning and community service activities, leadership activities, and national fellowship competitions. Students have the opportunity to make poster, oral, creative, or artistic presentations (including theatrical, musical, or creative writing) and visual art displays.

WHAT CAN I PRESENT?

(What is an appropriate project or activity to present at Discovery Day?)

ANY activity or experience that enhanced your academic, professional, and/or scholarly pursuits that you would like to share with others may be appropriate for presentation. Some examples include national fellowship competitions, internships, leadership activities, service-learning and community service activities, undergraduate research projects, and study abroad experiences. The project or activity does not have to be finished to participate in Discovery Day but it must be started.

Activities completed in previous academic years are eligible to be presented at any Discovery Day, up until the academic year in which you graduate. There is no time limit. December graduates are eligible to participate in the following spring's Discovery Day.

You may also contact a Discovery Day committee member (See page 7) with questions or to verify if your project is appropriate.

ELIGIBILITY

To be considered eligible to present:

- Students must be:
 - an undergraduate or December graduate (from the current academic year)
 - from any discipline/major, any academic year, any USC campus
 - NOTE: you do **NOT** have to be a Magellan Scholar or in the Honors College to participate (all students are welcome and encouraged to present)
- Activity/project must be started or completed
- Activity/project may have been completed in previous years (no time limit to present)
- Abstract must be reviewed by a USC faculty or staff member, whose name is listed with the abstract (See USC Faculty/Staff Reviewer below)

PRIORITY deadline to participate: 5pm on the Friday before Spring Break

HOW: submit a description of your project or activity or abstract on-line
at <http://www.sc.edu/our/abstracts.php> (see page 2 & 7 for details)

(Applications may be accepted through end of March **IF** space permits)

We expect to accommodate all requests for presentations. However, if space/time should become limited, the Discovery Day event committee reserves the right to limit the number of presentations or offer students the opportunity to present in a different format. If this should occur, students will be notified in early April.

SUBMISSION INFORMATION and GUIDELINES

Deadline

A USC faculty or staff-approved abstract for EACH presentation/display is required by **5pm on the Friday before Spring Break**. Abstracts received after the deadline but before end of March may be considered if space allows but may not be published in the abstract book.

Submission Form

Abstracts or project/activity descriptions must be submitted using the on-line abstract submission form at <http://www.sc.edu/our/abstracts.php>

USC Faculty/Staff Reviewer

A USC faculty or staff member must review your abstract and personal statement. This person should help you revise and focus your abstract, helping you make it as good as possible. Generally, this will be the person who supervised your activity or project. If you did not have a faculty or staff member supervisor, you can ask your academic advisor, one of your professors, a staff member (ex. the writing center), or contact one of the Discovery Day committee members for a suggestion (See page 7).

Abstract Specifications

Titles may not exceed 100 characters and the abstract may not exceed 250 words. If your title or abstract are too long, you will be given ONE chance to revise – if you choose not to do this in the timeframe given, they will be cut for you!

The abstract is a very brief overview of your ENTIRE activity, project, or experience. It is important to be descriptive but concise--say only what is essential, using no more words than necessary to convey meaning. The abstract should briefly state the following (not all of the following may be appropriate for every project/activity, only address those meaningful to your experience):

- WHAT you did, background, introduction to project/activity so reader knows what to expect
- WHY you did it or the purpose of the project/activity
- HOW you did it or how the question or problem was studied, methods
- WHAT you discovered or learned or the principal findings, results
- WHAT it means or the impact on you, USC, community, etc. or discussion and conclusion

See examples of abstracts on page 7.

Personal Impact Statement

REQUIRED (Max 100 words) Your short, personal impact statement should include:

- HOW this experience enhanced your academic, professional, and/or scholarly pursuits
- WHAT you want your audience to get out of your presentation
- WHY you want to present this experience

This will NOT be printed in the abstract program but will be used in selecting presentations.

Abstract Tips and Hints

<http://owl.english.purdue.edu/owl/resource/656/1/>

<http://www.ece.cmu.edu/~koopman/essays/abstract.html>

<http://leo.stcloudstate.edu/bizwrite/abstracts.html>

PRESENTATION GUIDELINES and SPECIFICATIONS

GUIDELINES: Posters

Presenters must be present to display their work.

Posters must be no larger than 3-4 ft high by x 3.5 ft wide [48in (H) x42in (W)]. This is NOT a misprint. Your poster can be taller than it is wide. The display boards are ~7.5 ft wide, so two 4ft wide posters will not fit. If your poster is wider than 3.5 ft – bring rulers or cardboard and tape to attach to the side of the display board to prevent the poster from curling around the side of the board. You will NOT be allowed to have more than half the display board!

Posters must be attachable by pins to the available standing poster boards. Four pins will be provided per poster.

NOTE: If you require a table, electricity, etc. – this must be stated when submitting your abstract.

Where to Print Posters

For ALL campuses:

- USC Printing Services 1600 Hampton Street, Columbia:
Contact Tricia Petty (she's GREAT!!!!) at 777-4194 or tricia@printing.sc.edu.
Costs: Vinyl \$4/sqft and Photopaper \$7/sqft Coupons may be available!
<http://printing.sc.edu/>

In COLUMBIA:

- USC Printing Services 1600 Hampton Street: Contact Tricia Petty (she's GREAT!!!!) at 777-4194 or tricia@printing.sc.edu. Vinyl \$4/sqft and Photopaper \$7/sqft Coupons may be available! <http://printing.sc.edu/>
- CAS computing center lower level of Gambrell Hall: You MUST call 777-7840 before printing. Their pricing: ≥\$4.00/square foot. NOTE: payment info AND one side must be less than 41.5". More info: <http://www.cas.sc.edu/citc/printing.html>
- School of Medicine Instrumentation Resource Facility (Building 1 Room B60): You MUST use the online booking website BEFORE going in to print: <http://dba.med.sc.edu/price/room/login.asp>. Contact Anna McNeal Harper in the Instrumentation Resource Facility (803-216-3858 or anna.mcneal@uscmcd.sc.edu) with questions. (Prices may have changed.)
 - Poster Prints - Matte Paper/foot \$7.00
 - Poster Prints - Glossy Paper/foot \$9.00
 - Poster Prints - Luster Paper/foot \$9.00
- Kinko's, of course, also offers poster printing but the cost is generally much higher.

For AIKEN:

There are three poster printers on campus available for students - ask your mentor which to use:

- 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

For UPSTATE:

All printing is handled through OfficeMax printing services. Please contact (864) 289-0002 with questions and more here: http://www.uscupstate.edu/campus_services/printing/default.aspx?id=7938

To MINIMIZE problems and REDUCE costs:

- 1) Plan AHEAD: It is very likely that Kinko's is the only option available (and that's only a MAYBE) for printing less than 24 hours before Discovery Day. It is ESSENTIAL that you allow sufficient time for printing your poster as this can take a long time (~1.5 hours for 1 poster) and there could be other projects ahead of yours or if errors occur during printing (which happens often – voice of experience)!
- 2) Check printing options FIRST to determine the best/CHEAPEST size BEFORE creating your poster (CAS and SoM have size limits)
- 3) Ask about printing on heavy weight bond paper or vinyl instead of glossy, coated photo paper. These options may be cheaper.

GUIDELINES: Visual Arts

Visual art presentations may be done in drawing, painting, printmaking, photography, sculpture, ceramics, mixed media or ASK, we will try to accommodate your needs. Please indicate your display needs on your abstract submission form (there are no “standard” items provided). Students must be present while the work is displayed.

GUIDELINES: Oral Presentations

You are allotted 15 minutes for your presentation, followed by a 5-minute question and answer period. This schedule will be strictly enforced. Oral presentation rooms will be equipped standard with a laptop*, projector, and screen (wall). Any other audio/visual needs must be submitted with your abstract. **Please note that we have both PCs AND Macs – if you need a particular platform, this must be included on the abstract form.*

GUIDELINES: Creative Presentations

Creative presentations may be musical, theatrical, dance, video, film, or presentations of creative writing (if other not listed here, please contact our@sc.edu or 777-1141). You are allotted 15 minutes for your presentation (which must include a discussion of your activity as well as the “presentation” itself), followed by a 5-minute question and answer period. This schedule will be strictly enforced. Please list ALL equipment needs (laptop, projector, chairs, musical stands, tables, electricity, piano, etc.) on your abstract submission form (there are no “standard” items provided).

PRESENTATION WORKSHOPS

These are not mandatory, but all presenting students are encouraged to attend one if you have never been to a national meeting or conference before. Feel free to stay for only part of the session.

- Workshop location, date, and time: posted on calendar – generally in early April

General Overview

This workshop lasts 15-20 minutes depending on questions and will cover what to expect at Discovery Day and techniques for discussing your project in a symposium setting (particularly for visual arts and creative presentations).

How to Create and Present Your Poster

This session lasts ~30 minutes and includes guidelines and recommendations for putting together a poster, a look at past Discovery Day posters, a discussion on presenting the poster, general tips and hints, and an overview of the judging process for undergraduate research posters.

For more information on how to create posters: <http://www.sc.edu/our/links.shtml#creating>

WHAT TO EXPECT AT DISCOVERY DAY

Schedule

Below is the typical schedule for Discovery Day. Please note that the final schedule may vary. You will receive the final schedule by email prior to the event and it will be posted to the website. All events take place in the Russell House (RH); Columbia campus.

8:00am		Registration opens (judges and participants) RH Lobby (2nd floor)
9:00am	- 11:00am	Poster session and visual art displays I; RH Ballroom
9:00am	- 11:30am	Oral and creative presentations I; RH Theater and rooms 201-315
12:30pm	- 3:00pm	Poster session and visual art displays II; RH Ballroom
1:00pm	- 3:00pm	Oral and creative presentations II; RH Theater and rooms 201-315
3:00pm	- 3:30pm	Reception; RH TBA
3:30pm	- 4:30pm	Closing Ceremony; RH Theater

Discovery Day is open to the public – please invite anyone (and everyone) including faculty, staff, parents, and friends.

Oral and Creative Presentations

- Check in at the registration table in the RH Lobby-2nd floor for your nametag and abstract book
- You will be given 15 min for your presentation and an additional 5 min for Q&A. For courtesy sake, you should attend all presentations in your section. If you absolutely must leave for class, etc., please do so unobtrusively (i.e. between presentations).
- Equipment:
 - ORAL presentations: rooms will be provided with a computer, projector, and screen (wall). If you need anything else you must indicate this with your abstract submission.
 - CREATIVE presentations: facilities have NO “standard” equipment. Any and ALL equipment that you will need for your presentation must be submitted with the abstract (e.g. laptop, projector, music stands, chairs, tables, etc.)
- You are invited to attend the other sessions throughout the day, the reception at 3pm, and the awards ceremony at 3:30.

Visual Arts and Poster Presentations

- Check in at the registration table in the RH Lobby-2nd floor for your nametag and abstract book

- Just inside the Ballroom, is “Information point.” A team of volunteers will assist you in locating your poster spot or art display. All you need to know is your last name.
- Posters will be attached to free-standing display boards, two posters per side - arranged in categories and then alphabetically. The arrangement of Visual Arts displays will be dependent on entries.
- Four T-pins will be provided for attaching posters to displays. These will be found near your poster number. If you require more than 4, you will need to bring your own.
- Each poster/display will be assigned a number. Do NOT cover your number.
- Your poster or display must be set by the session start time (9am for morning; 1pm for afternoon). You must be available to present your poster during the entire session (9-11 or 1-3). If you will be absent for a portion (such as for class), you must put a note to this effect on your poster.
- Equipment requests, such as electricity, tv/vcr, table, etc., must be made on the abstract submission form. NO new requests will be accommodated on Discovery Day.
- Only Research/Scholarly displays will be judged. You must be present to be eligible for an award. Treat everyone as a potential judge.
- You are invited to attend the other sessions throughout the day, the reception at 3pm, and the awards ceremony at 3:30.

Judging

ONLY undergraduate research sessions (oral and creative presentations, posters, and visual arts) will be judged. The judges are faculty, staff, and graduate students of the university. The judges will likely not be experts in your particular research topic but will have a basic understanding of your discipline. Keep in mind: you are just as important (if not more) than your poster, display, powerpoint, etc. – this means that your communication skills (ability to get your point across, answer questions, and general enthusiasm) are very important!! There will be 2 winners per section/category depending on the number of presenters in your section/category.

Judging Criteria

Undergraduate research presentations and displays will be judged based upon:

- Overall organization of presentation, including neatness/appearance of materials, if applicable
- Clarity of presentation, both from the presenter discussing the project and the poster, display, or powerpoint (if applicable)
- Clarity of abstract and how well it reflects/matches the content of the presentation
- Subject matter: understandability and logical presentation
- Novelty, originality, relevance, significance, and/or impact of project
- How effectively student presents, discusses project, and answers questions

Closing Ceremony

Winners are announced at the Closing Ceremony at the end of the day. You do not need to be present to win but it is encouraged. If you will not be able to attend, please write your name on a list at “Information Point” in the Ballroom or notify the Office of Undergraduate Research ahead of time. Prize money is not given out at Discovery Day. The winners receive a letter of congratulations with instructions on how to obtain the prize and the checks are mailed by the university in mid- to late-May. For group winners or ties, the money is divided evenly and a check is sent to each.

DISCOVERY DAY COMMITTEE MEMBER CONTACTS

- Internships: Julie Hutt
jhutt@sc.edu
803-777-7280

- National Fellowships: Jan Smoak
jansmoak@sc.edu
803-777-0958

- Research/Scholarly projects: Julie Morris OR Asheley Schryer
our@sc.edu OR our@sc.edu
803-777-1141 803-777-1141

- Service-Learning and Community Service: Jimmie Gahagan OR Theresa Harrison
jsgahag1@mailbox.sc.edu OR theresa.m.harrison@sc.edu
803-777-1445 803-777-7130

- Study Abroad: Susan Hochreiter
hochreit@mailbox.sc.edu
803-777-7557

- Other or unsure where you fit? Contact: Julie Morris
our@sc.edu
803-777-1141

SAMPLE ABSTRACTS

National Fellowships

As an Anthropology major with plans to become a doctor treating Hispanic patients, I applied for a Rotary Academic-Year Ambassadorial Scholarship to the Universidad de Guadalajara. The goals of Rotary International are ones that are congruent with my own professional aspirations, and their international service projects appeal to my interest in public health. Because the scholarship is ambassadorial in nature, the experience will increase my adaptability, ability to establish rapport, and overall confidence working with people, translatable to my career in medicine. The scholarship would enable me to spend a year studying Spanish to work toward fluency. Using the Office of Fellowships and Scholar Programs, and later, my sponsoring Rotary Club (Forest Acres), I was able to submit a completed application and interviewed for the scholarship at the district level. In order to submit the application, several reviews and revisions of my essays were completed, as well as preparation for the August interview. The process of applying for the Rotary helped me learn more about my proposed country of study, but it also helped refine my perspectives and views of my own career plans. I was able to sharpen both my oral and written communication skills, and my mock interview prepared me for the district interview.

Internships

During the summer of 2008, I worked with the United States Department of State in the Bureau of International Information Programs (IIP). The IIP uses a multimedia approach to engage international

audiences on important foreign policy issues and explain the core values that underlie U.S. policies. IIP communicates with foreign opinion makers and web-savvy audiences through a wide range of print and electronic outreach materials published in English, Arabic, Chinese, French, Persian, Russian and Spanish. As a journalism major at the University of South Carolina, my internship provided me with first-hand experience in online journalism. I had the opportunity to research topics, interview notable figures, and generate and publish materials for the www.America.gov web site. The site covers a broad array of topics including economics, security issues, democracy, human rights, U.S. politics, arts, sports, global health, space exploration and the environment. Specifically, I wrote several short articles about the 2008 Summer Olympics in Beijing, China. I also had the opportunity to attend the 2008 Democratic Convention in Denver and write a blog about my experience. Participating in this internship reaffirmed my decision to pursue journalism as a career and expanded my computer skills. Through this experience I hope to pursue an internship with a foreign newspaper for the summer of 2009.

Research/Scholarly Activities

HUMANITIES

The pattern of social shifts and psychological stresses that make up modernity drew from early 20th-century writers the formal responses we know as Modernism. As these literary experiments indicate, modernity itself demanded new modes of perception and representation, and thus perhaps not surprisingly, esotericism often played a central role in Modernist works. Esotericism was especially important to the writings of those Modernist women writers who were exploring outlets for gender and spirituality that orthodox religion rejected. For my senior thesis, I am researching the place of esotericism in the works of the imagist expatriate poet H.D. (Hilda Doolittle), the newly "rediscovered" novelist Mary Butts and the popular writer and occult leader Dion Fortune (Violet Firth). By studying the archives of Mary Butts and H.D. at the Beinecke library, and Dion Fortunes little known *The Magical Battle of Britain* along with these writers' better known works, I have gained a more thorough understanding of esotericism's role within these writers' works and have created a foundation for further research at the graduate level. My research reveals that these writers used existing symbol systems to create imaginary structures attuned to the female psyche. Furthermore, the wars were a central catalyst to these writers' creations, affirming the impact of the wars on the female imagination.

SOCIAL SCIENCE

Post-Traumatic Stress Disorder (PTSD) affects nearly 1.5 million female survivors of sexual trauma in the United States. Resulting from the psychobiological changes many women undergo after experiencing a sexual assault, PTSD is often characterized by dissociation, chronic muscle tension due to high levels of generalized and trauma-related anxiety and negative body image precipitating harmful health behaviors and poor health outcomes. The purpose of this study is to review current literature to determine the potential benefits of incorporating a structured Pilates-style exercise program within traditional therapies for PTSD. During the first phase, we examine the emotional, cognitive and physical symptoms of patients with post-traumatic stress disorder due to sexual assault and abuse. The second phase reviews current treatment models - traditional and alternative - to determine their efficacy in treating the wide-range of somatic PTSD symptoms. Finally, the study compares the therapeutic needs of PTSD patients with the espoused benefits of Pilates to determine the potential efficacy of incorporating a structured Pilates program into current treatment models. Due to its focus on mind-body awareness and stress reduction, Pilates appears to complement current treatment models for post-traumatic stress disorder, while also providing an additional method for managing the physical symptoms of PTSD. A preliminary review of the current literature suggests that adding Pilates as an

adjunct treatment may help patients achieve desired states of relaxation, attune to internal sensations, and improve body image and overall physical health.

SCIENCE/ENGINEERING

Cerebral amyloid angiopathy (CAA), a cerebrovascular deposition of the amyloid- β ($A\beta$) protein, is a well-known cause of hemorrhagic stroke. Altered $A\beta$ transport may be responsible for vascular $A\beta$ accumulation. However, it remains unclear how the transport of $A\beta$ from the brain to the vasculature is impeded, facilitating $A\beta$ accumulation. If the transport of $A\beta$ monomer is reduced, an accumulation of soluble protein could occur, but more importantly, reduction in the transport of soluble aggregates could leave behind seeds that would dramatically accelerate amyloid formation that leads to deposition. P-glycoprotein (Pgp), an ATPase transporter, interacts with amphipathic molecules and regulates their removal from the brain. It was hypothesized that Pgp is involved in the transport of $A\beta$ soluble aggregates through the BBB. $A\beta$ assembly state(s) transported from the basolateral to the apical side of confluent monolayers of human brain microvascular endothelial cells were compared using endothelial permeability coefficients (P_e). Both $A\beta$ monomer and $A\beta$ aggregates were transported across monolayers. In addition, $A\beta$ assembly state(s) that interact with Pgp were identified using an in vitro assay that measures ATPase activity of Pgp. These results revealed that Pgp preferentially binds soluble $A\beta$ aggregates, but not monomer of fibril. Together, these findings suggest a role for Pgp in transporting soluble $A\beta$ aggregates across the BBB.

See more abstracts from previous Discovery Days at <http://www.sc.edu/our/pastdiscovery.shtml>

Service-Learning and Community Service

A local town has decided to replace the community's water supply. This decision was driven by problems related to the quality and quantity of the current water supply. As a class we were asked to research and develop three proposals about what to do with the old reservoir – taking into account voices and thoughts from community members. Additional information from engineers and scientists about the nature of the dam's structural problems and the cost of repair would also be incorporated into our final recommendations.

Through various methods of research and interviews (community round tables, public meetings, and interviews with community members, engineers, and scientists) we constructed three different proposals that included research on the economic, environmental, and community impact. Our final recommendations included: complete repair of the dam, creation of a lakeside park, and drainage of the reservoir and construction of a shopping mall.

We learned a great deal about the complexities and importance of working together (different perspectives and skills) in conjunction with the community members to create something that was useful to the community.

This project had a significant impact on the way each of us in the class view what it means to be an active participant in our own communities. The impact this project had on our class was invaluable – hands on experience while finding solutions to a real community problem.

Study Abroad

During spring semester of 2008, I studied abroad on exchange at the Otto-Friedrich-University in Bamberg, Germany. I had studied German for five years in high school and two years in college, and I wanted to study in Germany in order to achieve the academic, professional and personal goals I had

set for myself. I was a German major and wanted to achieve fluency in my language skills. Bamberg also offers a wider variety of classes on German topics than any American university could, and these classes would supplement my coursework at USC. As a future German teacher, I wanted to get to know the country and its culture better by travelling as much as possible, in order to enhance my future lessons with cultural knowledge and first-hand experiences. The experience was personally significant because, at the age of 20, I had never left the country and knew that I could not grow without distancing myself from all that was familiar to me. The five months I spent there were a period of growth, exploration, and understanding. My German has improved significantly and I am able to function at a much more advanced linguistic level than before my experience. I met many Germans and travelled to every region of Germany, visiting large cities and small towns, and I feel competent in my ability to convey knowledge of the culture to future students. I also feel that I know myself much better than before the experience: my limits but also my capabilities.