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# A Day of Celebration of Student and Faculty / Staff Collaborations 2006

St. Norbert College

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**A Day of Celebration of  
Student & Faculty/Staff  
Collaborations**



**Friday  
April 7, 2006**

**9:00 - 3:00  
Presentations and Posters**

**3:00  
Reception and Recognition**

**Sensenbrenner Student Union — 2<sup>nd</sup> floor**

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## **A Day of Celebration**

**focuses on the rich tradition at St. Norbert  
College of collaborations taking place  
in labs, in studios,  
and in other scholarly  
or creative settings,  
resulting in a rich array of  
scholarly research and  
creative works.**

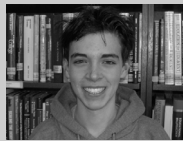
## **A Day of Celebration**

**features collaborative projects  
that grew out of  
independent studies, class assignments,  
and hallway conversations  
as well as those collaborations  
supported through  
Student-Faculty Development  
Endowment Grants or the  
Research Fellows Program.**

*Co-sponsored by the  
Office of Faculty Development  
and the  
Office of the Dean of the College*

# Presentations

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Ryan Pavlik  
Computer  
Science/Math

9:00-9:40  
Shield Room

## ***Measuring Circularity and Finding Intersection Points Numerically***

*Kyle Diederich, Ryan Pavlik  
Bonnie McVey, Assistant Professor of Computer  
Science  
Rick Poss, Professor of Mathematics*



Faculty Sponsor,  
Bonnie McVey

We will define a measure for the circularity of a plane region and then show how to find the circularity of some simple geometric shapes. Finally, we will present some numerical techniques that will help us in finding the circularity of some less specialized regions.



Faculty Sponsor,  
Rick Poss



“No pessimist ever discovered the secret of the stars or sailed an uncharted land, or opened a new doorway for the human spirit.”

*Helen Keller (1880-1968)*



9:40-10:00  
Shield Room

### ***Spirituality and Jazz***

*Bryan Rezin*

*Tom Reynolds, Assistant Professor of Religious Studies*

Though the worlds of religion and jazz have been often separated by a social stigma, compelling connections can be made between the two realms. Many jazz artists have derived compositional and improvisational inspiration from spiritual resources—that is, from literature and practices that convey a sense of personal connection to a higher power or life-force. This kind of connection has spawned several classic recordings. This paper and presentation will explore the mutual influences between spirituality and jazz through examining the first-hand accounts. This paper will be presented at the American Academy of Religion Midwest Conference on April 1, 2006.



Bryan Rezin  
Business/  
Ethnomusicology



Faculty Sponsor,  
Tom Reynolds





John Moss  
Computer Science



Ted Trisco  
Computer Science



Faculty Sponsor,  
Jim Blahnik



10:00-10:30  
Shield Room

### ***Tutor Database System***

*John Moss, Ted Trisco*

*Jim Blahnik, Associate Professor of Computer  
Science*

This project came out of an assignment in Professor Blahnik's programming languages class. The project reflected an idea that involved tutors electronically submitting information to the Academic Support Services Office. While talking with Ms. Carole Basak in the office, we learned she was interested in a way to search for tutors more efficiently. With this system, tutors can log into the system to view and update their data such as personal information, courses they can tutor, group sessions they tutor, and schedule of availability. This information is then able to be viewed by the office to find the best match between tutors and students.



“The greatest obstacle to discovery is not  
ignorance—it is the illusion of knowledge.”

Daniel J. Boorstin



11:00-12:10  
Room 201BC

### **Women's Studies and Feminist Activism at Religiously-Affiliated Schools**

Three St. Norbert students will present their papers that have been accepted at the National Women's Studies Association Conference, the flagship conference in Women's and Gender Studies in California this June.

- *Cassandra Voss*, "Fear of Feminism: Exploring Undergraduate Perceptions"  
This paper investigates why undergraduate students often feel hesitant to identify as feminist or be involved in gender studies at religiously-affiliated schools. I examine how those who do identify as feminist cope in sometimes hostile environments. How does education driven by a religiously-affiliated mission orient students in their feminist identity development?
- *Catherine Orecchia*, "Analyzing Strategies for Women's Centers at Religiously-Affiliated Schools"  
At religiously-affiliated schools, how do administrative offices, like the Women's Center, best support women's and gender issues? If the goals of the Women's Center are ever at odds with church teachings, how can the Women's Center navigate this terrain? If the Women's Center supports all women and addresses feminist concerns, how can it achieve these goals while remaining in dialogue with campus members?
- *Laura Miller*, "Community and Conflict: LGBTQ Issues In the Catholic Institution"  
How do LGBTQ issues and Catholicism work together? In what ways does Catholic social teaching promote safe-spaces for LGBTQ persons in the college or university setting? How also is Catholicism in conflict with LGBTQ issues and Women's and Gender Studies? In these contexts, what are the most useful strategies to promote inclusive and progressive LGBTQ community building?

**Faculty Sponsor: Karlyn Crowley,**  
**Assistant Professor of English & Director of Women's and Gender Studies**



Laura Miller  
Philosophy/  
English



Catherine  
Orecchia  
English/Spanish



Cassandra  
Voss  
English/WAGS



Faculty  
Sponsor,  
Karlyn Crowley



11:00-11:20  
Shield Room



Amber Schuh  
Biochemistry

***Effect of Modafinil on the  
Human Dopamine Transporter***

*Amber Schuh*  
*Cynthia Ochsner, Assistant Professor of Chemistry*



Faculty Sponsor,  
Cynthia  
Ochsner

Rotating disk electrode voltammetry (RDEV) was used to measure the time-resolved transport of dopamine into human embryonic kidney (HEK) cells expressing the human dopamine transporter (hDAT). Dopamine transport was first ordered with a  $K_m$  and  $V_{max}$  of  $1.2 \mu\text{M}$  DA and  $20.2 \text{ pmol DA/sec}/10^4 \text{ cells}$  respectively. Modafinil, a drug used to treat narcolepsy, was shown to inhibit the human dopamine transporter. The mechanism of inhibition appears to be uncompetitive, however more experiments are needed to conclusively determine the mechanism of inhibition and the  $K_i$ .



11:20-11:40  
Shield Room

### ***The Process of Vocal Performance***

*Matt Kimmeth, Lyric Baritone*

*Elaine Moss, Adjunct Instructor of Music and  
Accompanist*

*Michael Rosewall, Associate Professor of Music*

The goal of this project is to illustrate how music majors prepare their music for recital performance along with collaborations with their accompanist. The presentation will be a performance of two pieces of music followed by a discussion of how vocalists learn and develop their music into art. The discussion will include text study, memorization, acting, expression, and pedagogy.



Matt Kimmeth  
Music Performance



Faculty Sponsor,  
Elaine Moss



Faculty Sponsor,  
Michael Rosewall



“With regard to excellence, it is not enough to know, but we must try to have and use it.”

Aristotle





Christina Aho  
Music Education



Faculty Sponsor,  
Elaine Moss



Faculty Sponsor,  
Fred Schmidt



11:40-12:00  
Shield Room

### ***Finding Eugene***

*Christina Aho, Soprano and Alto Saxophone*  
*Elaine Moss, Adjunct Instructor of Music and*  
*Accompanist*  
*Fred Schmidt, Professor of Music*

While selecting pieces for the junior recital, along with the traditional literature for saxophone, Christina wanted to play a fun crowd-pleaser. We have listened to a lot of recordings by Eugene Rousseau, a famous saxophonist who currently teaches at the University of Minnesota. One particular piece that caught our attention was a medley from Porgy & Bess by George Gershwin and arranged by Rousseau for soprano and alto saxophone. As soon as we heard it, we were hooked! It was light, it was fun, it was jazzy, it was Gershwin. This was the piece for the recital. However, there was a slight problem. The music was not on the market so there was no way to order it. To get this music, our only hope was to contact the man himself, Eugene Rousseau...

12:20-1:30  
Room 201BC

***Student Paper Presentations at the  
Sigma Tau Delta English Honor Society  
Undergraduate Conference***

*Julie Ennenbach, Hilary Pamperin,  
Amber Hartl, Dani Reindl  
John Pennington, Associate Professor of English*

Several SNC Sigma Tau Delta members submitted and presented critical and creative papers at the annual Sigma Tau Delta Conference in Portland, Oregon. Critical pieces, written on both classic and contemporary works, included papers on Chaucer's *Canterbury Tales*, French's *The Women's Room*, Dickens' *Oliver Twist*, Danticat's *Breath, Eyes, Memory* and Feinberg's *Stone Butch Blues*. Creative pieces included both short stories and poetry. Preparation included the students producing and revising their papers and practicing reading in front of a mock audience. At the conference, each student individually presented their critical or creative work on a panel with students from other national chapters and afterwards, took questions from the audience.



Amber Hartl  
English



Dani Reindl  
English



Faculty Sponsor,  
John Pennington





Emily Osby  
Music Education



Faculty Sponsor,  
Elaine Moss



Faculty Sponsor,  
Heather Schmidt



12:20-12:40  
Shield Room

### ***A Flute...or Two***

*Emily Osby, Alto and C Flutes*

*Elaine Moss, Adjunct Instructor of Music and  
Accompanist*

*Heather Schmidt, Adjunct Instructor of Music*

As a music major, the junior recital is a culmination of six semesters of study with a private teacher and many hours of collaboration with an accompanist. It is the time to really shine and share the love of music with peers, family, professors, and friends. To include something unique in the recital, in addition to playing on the usual C flute, we also chose to expand the repertoire and perform a solo on alto flute as it is a beautiful sound that people are not accustomed to hearing. We will talk about the process to find a certain alto flute piece and the work it took to become proficient on the instrument in order to perform it at Emily's junior recital.

12:40-1:00  
Shield Room

## ***Dynamic Web Design***

*Bennett Giesler, Josh Domina, Pete Sola  
Kathy Molnar, Assistant Professor of Business  
Administration*

This project is a Perl driven dynamic website. The website's purpose is to display news which a user posts via the Internet. Old news is automatically archived. All news is sorted by date (recent to old). Behind the scenes, the website uses Perl scripts to generate HTML code and JavaScript. All information is stored in a file system managed by the Perl programs.



“The great aim of education is not knowledge but action.”

Herbert Spencer



Bennett Giesler  
Computer Information  
Systems



Josh Domina  
Computer Science



Faculty Sponsor,  
Kathy Molnar





Erin Grams  
English



Jeremy Mitchell  
English



Faculty Sponsor,  
John Pennington



1:40-2:50  
Room 201BC

***Student Paper Presentations at the  
Sigma Tau Delta English Honor Society  
Undergraduate Conference***

*Erin Grams, Abby Rush, Jeremy Mitchell  
John Pennington, Associate Professor of English*

Several SNC Sigma Tau Delta members submitted and presented critical and creative papers at the annual Sigma Tau Delta Conference in Portland, Oregon. Critical pieces, written on both classic and contemporary works, included papers on Chaucer's *Canterbury Tales*, French's *The Women's Room*, Dickens' *Oliver Twist*, Danticat's *Breath, Eyes, Memory* and Feinberg's *Stone Butch Blues*. Creative pieces included both short stories and poetry. Preparation included the students producing and revising their papers and practicing reading in front of a mock audience. At the conference, each student individually presented their critical or creative work on a panel with students from other national chapters and afterwards, took questions from the audience.

1:40-2:00  
Shield Room

***The Social Construction of Asante Masculinity  
in the Colonial Era***

*Casey Golomski*

*Victoria Tashjian, Associate Professor of History*

Until recently, historical and ethnographic studies of the Asante culture group of Ghana have largely ignored issues of gender, including the social construction of masculinity. Drawing upon ethnographic interviews and secondary sources, this presentation will give a brief overview of idealized norms of Asante masculinity. We will also show that the development of Asante male identities are critically affected by networks of male-male relations, and assistance from male kin. For example, men depend upon assistance from other men in making marriage proposals and payments, finding and traveling to apprenticeships, and funding entrepreneurial endeavors. Further, the father-child relationship is bound by obligations of educational support, childcare, and elder care. Finally, changing inheritance laws have affected a man's relationship to his wife, children, and matriline.



Casey Golomski  
Anthropology



Faculty Sponsor,  
Victoria Tashjian





2:00-2:20  
Shield Room



Adi Redzic  
Political Science/  
International Studies

***Exchange Celebration: Bringing International  
High School Exchange Students Together to  
Celebrate Education***

*Adi Redzic*

*Bridget Krage O'Connor, Interim Associate Vice  
President of Enrollment Management*



Staff Sponsor,  
Bridget Krage  
O'Connor

The 1st International Exchange Celebration is a program that has been created to bring foreign exchange students, currently enrolled in high schools in this area of Wisconsin, to a one day event at SNC, in order to offer them an opportunity to learn what it means to be a student at an American College.

This Exchange Celebration was held on Saturday, February 4, 2006; and we had 54 students from over 20 different countries from around the world attending this event.



# Scheduled Posters & Exhibits

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9:00-9:50, 11:00-12:10, 1:40-2:50  
2nd Floor Lounge

## ***A Comparison of Composition and Texture of Selected Hawaiian Sands***

*Derrick Maurer, Dan Costello, Casey Knuteson  
Tim Flood, Associate Professor of Geology*

Sands occur in a number of different environments in the Hawaiian Islands. The texture and composition of sands can be used to determine provenance, and can sometimes be used as a guide to infer weathering conditions. Sand, primarily beach sand, was collected from four islands in Hawaii and analyzed for texture and composition. Variable textures and compositions were noted, reflecting different source areas, depositional environments and weathering conditions. It appears the main controls on the texture and composition of sand throughout Hawaii are related to the relative age of the island and the geographic location on the island.



Derrick  
Maurer  
Geology



Dan  
Costello  
Geology



Casey  
Knuteson  
Geology



Faculty  
Sponsor,  
Tim Flood

9:00-9:50, 10:00-10:50, 11:00-12:10  
2nd Floor Lounge

***Textures as an Indicator for the Origin and Deterioration  
of Volcanic Rocks in Hawaii***

*Jake Steimle, Megan Mitchell, Travis King  
Tim Flood, Associate Professor of Geology*

Textures of igneous rocks can often be used to infer conditions related to their formation and subsequent deterioration. This study analyzed various textures associated with volcanic rocks from the Hawaiian archipelago. Sixteen samples were collected from four Hawaiian Islands that range in age from approximately 5 million years to the present. Sample textures were collected from lava flows, various pyroclastic deposits, hydrothermal vents, and highly weathered outcrops. Some textures, such as Pele's hair, provide direct understanding of their formation. Other textures, such as stalactitic-like features, require a more regional conceptualization of their formation. Some textures provide few insights.



Jake  
Steimle  
Geology



Megan  
Mitchell  
Geology



Travis  
King  
Geology Minor



Faculty  
Sponsor,  
Tim Flood

9:00-9:50, 1:40-2:50  
2nd Floor Lounge

***Lesson Plan Development for Middle School  
Students Based on Field Experience in Hawaii***

*Kimberly Patton, Marissa Greuel  
Tim Flood, Associate Professor of Geology*

Lesson plans are written tools used by educators to teach students. They have specific learning objectives designed to engage students yet follow prescribed national and state standards. Multiple lesson plans for a unit are developed when an educator is teaching a specific concept or topic. This unit for middle school students, grades six through eight, was developed based on an eighteen day geology field trip to four Hawaiian Islands. The focus was on Hawaii's geology, natural history, and culture. The lesson plans within this unit will be used as a teaching tool in a middle school setting.



Kimberly Patton  
Education



Marissa Greuel  
Education



Faculty Sponsor,  
Tim Flood





Kristi Keller  
Chemistry



Kayla Baudhuin  
Chemistry



Faculty Sponsor,  
Cynthia Ochsner

9:00-9:50, 11:00-12:10  
2nd Floor Lounge

### **Calcium Binding Drives Conformational Changes to Synaptotagmin I, II, and III**

*Kristi Keller, Kayla Baudhuin  
Cynthia Ochsner, Assistant Professor of Chemistry*

Synaptotagmin I, a transmembrane protein located on neuronal vesicles, acts as the  $\text{Ca}^{2+}$  sensor for exocytosis. Sixteen isoforms of synaptotagmin have been identified, all of which contain two  $\text{Ca}^{2+}$  binding domains, C2A and C2B. The functions of isoforms II-XVI are unknown. Limited proteolysis with chymotrypsin was used to determine the  $\text{EC}_{50}$  of  $\text{Ca}^{2+}$  binding to isoforms I, II and III. Synaptotagmin isoforms I, II, III all showed conformational changes in response to  $\text{Ca}^{2+}$ .



9:00-9:50, 12:20-1:30, 1:40-2:50  
2nd Floor Lounge

### **Synthesis and Photochemistry of 1,10-phenanthroline Derivatives of Copper(I)**

*Tim Berto, Laura Kubista, John Sabo*

*Kurstan L.H. Cunningham, Assistant Professor of Chemistry*

Subtle changes to the 1,10-phenanthroline framework, [NN], of bis-copper(I) complexes,  $[\text{Cu}(\text{NN})_2]^+$ , will profoundly influence the MLCT state. The continuing goal of this project is the synthesis of novel 1,10-phenanthroline derivatives and the corresponding copper(I) complexes in an effort to create a complex with a reactive MLCT state that would allow for the development of photochemical devices utilizing the high energy electron created in this enhanced excited state. The absorbance and emission spectra for a series of  $\text{Cu}(\text{NN})_2\text{PF}_6$  salts were examined in  $\text{CH}_2\text{Cl}_2$ . Luminescent data show the electronic and steric enhancement of the electronically active excited state.



Tim  
Berto  
Chemistry



Laura  
Kubista  
Chemistry



John  
Sabo  
Chemistry



Faculty Sponsor,  
Kurstan  
Cunningham



Jamie Wieting  
Chemistry



Faculty Sponsor,  
Larry Scheich

9:00-9:50  
2nd Floor Lounge

### ***Integrating Mobile Technology into the General Chemistry Curriculum***

*Jamie C. Wieting*

*Larry A. Scheich, Professor of Chemistry*

This project, supported by an HP Technology in Teaching Grant, reports an ongoing effort to enhance the educational experience for general chemistry students through the use of mobile technology. Traditionally, in the introductory chemistry sequence, a sharp distinction existed between classes and labs: classes were for "learning" while labs were for "doing." Often, students do not recognize the connection between lab exercises and lecture topics. Wireless, mobile technologies offer an innovative solution to this pedagogical problem. Wireless Tablet PCs allow students to easily transport their work from laboratory to classroom and, more importantly, allow them to take ownership of their laboratory work.



10:00-10:50  
2nd Floor Lounge

**Charles Dickens's Own Frauds on the Fairies:  
The Limits of the Fairy Tale in Great  
Expectations**

*Erin Grams*  
*John Pennington, Associate Professor of English*

In *Dickens and the Invisible World*, Harry Stone writes that in *Great Expectations* (1860-61) readers can "study the genesis, evolution, and fulfillment of one of Dickens's most beautiful designs--to demonstrate how Dickens translated ordinary encounters and everyday circumstances into rich fairy-tale fabling." Our project challenges Stone's assured reading of *Great Expectations*. We argue that Dickens hit an impasse in *Great Expectations*, as the novel shows the limitations of such fairy-tale fabling. Specifically, we argue that the binary oppositions that drive the fairy tale can no longer contain the complexity of characters that become composites of positive and negative characteristics, Miss Havisham the central character. Havisham is both fairy godmother and wicked witch, and the novel is unable to adequately resolve this tension because it relies on tried-and-true fairy-tale structures. While our project entails a detailed reading of *Great Expectations*, we also explore the growing debate about fairy tales during the mid-Victorian times. Our project examines Dickens's 1853 essay--"Frauds on the Fairies"--an attack on didactic fairy tales that Dickens felt undermined the integrity of fairy tales. We argue that Dickens performed his own frauds on the fairies in his attempt to use the fairy tale as a structuring device in *Great Expectations*, a novel that works primarily on ambiguity and leads the way to Dickens's other mature works, particularly *Our Mutual Friend* (1864-65).



Erin Grams  
English



Faculty Sponsor,  
John Pennington





10:00-10:50, 1:40-2:50  
2nd Floor Lounge

***The Pathology and Immunology of Haematoloechus Species  
in Leopard Frog Rana pipiens***

*Justin Richter, Maria Jaberg, Breanna Mayer  
Anindo Choudhury, Assistant Professor of Biology*

*Haematoloechus* spp. are parasitic flukes commonly infecting the lungs of the leopard frog, *Rana pipiens*. The infection and inherent pathology caused by *Haematoloechus* spp., however, has not been well documented. Consequently, we expanded on the histological studies by Hsu and his colleagues (Hsu et al. 2004) who researched the pathology of *Haematoloechus* spp. Immunological experiments, as well as histological analyses implementing specialized staining techniques, addressed the pathological effects of the lung fluke on *Rana pipiens*. In accordance with previous research (Hsu et al. 2004), we found limited gross pathology, with little inflammation as evidence by the small number of mast cells present in lung tissue. However, the high concentration of eosinophils in the lung tissue of heavily infected frogs, in contrast to the considerably lower concentration of these granulocytes in uninfected samples, showed that *Rana pipiens* may have an antibody-dependent cell cytotoxicity (ADCC) immune response to *Haematoloechus* spp. High eosinophilic concentration in lung epithelia may not have induced noticeable inflammation. Negative Ouchterlony Immunodiffusion (OID) results did not strengthen the evidence for an immune response, yet did not discount the possibility of a response, as a more sensitive analyses such as Enzyme-Linked Immunosorbent Assay (ELISA) could have been performed.



Justin  
Richter  
Biology



Maria  
Jaberg  
Biology



Breanna  
Mayer  
Biology



Faculty Sponsor,  
Anindo  
Choudhury

10:00-10:50, 12:20-1:30  
2nd Floor Lounge

**Age Class Diet Ontogeny and Associated Parasites in  
*Lepomis macrochirus***

*Brian Grebliunas, Charlie Piette*

*Anindo Choudhury, Assistant Professor of Biology*

*Jim Hodgson, Professor of Biology*

We sampled bluegills from Lily Lake, located in Bellevue, WI throughout the early fall. We then performed necropsies on the fish in order to obtain the stomach contents, and parasites found throughout the digestive tract. Scales were also collected in order to determine age classes of the sampled fish. A correlation will then be drawn between the diet and parasites found.



Brian  
Grebliunas  
Biology



Charlie  
Piette  
Biology



Faculty Sponsor,  
Anindo  
Choudhury



Faculty  
Sponsor,  
Jim Hodgson



Jeanne Wall  
Education



Staff Sponsor,  
Krissy Lukens



Faculty Sponsor,  
Susan Landt



10:00-10:50, 11:00-12:10  
2nd Floor Lounge

### ***Multimedia and Multiple Intelligences***

*Megan Scheibe, Jeanne Wall*

*Krissy Lukens, Instructional Technology Specialist*

*Susan Landt, Assistant Professor of Education*

Using multimedia authoring software, sophomore education students collaboratively author and illustrate original choose-your-own-adventure stories. While constructing the stories, students are immersed in a process that fosters creative writing with the use of technology. As students take on the role of artist, animator, sound-effects specialist, editor, narrator, technician, or programmer, they are able to excel in many aspects of the project. Self-reflection allows the opportunity to apply both the process and the technology used, to other aspects of education. Come see the wonderful stories these students have authored.

10:00-10:50  
2nd Floor Lounge

**Lake Size and the Diet Diversity in  
Largemouth Bass**

*Elsa Hansen*

*Jim Hodgson, Professor of Biology*

The impact of lake size on the diet diversity of largemouth bass (*Micropterus salmoides*) was studied in 2004 on 3 lakes of varying size: Paul Lake (1.5ha), Long Lake (3.4ha) and Crampton Lake (25.8ha). We hypothesized that as lake size increases, diet diversity and the number of prey items would decrease. Analysis showed no difference in the diet diversity between lakes, but showed a decline in the number of prey taxa with an increase in fish prey as lake size increased. This foraging behavior might be exhibited as a result of the size and population density of the largemouth bass.



“To live a creative life, we must  
lose our fear of being wrong.”

Joseph Chilton Pearce



Elsa Hansen  
Environmental Science  
& Biology



Faculty Sponsor,  
Jim Hodgson





Scott Werley  
Graphic Design



Staff Sponsor,  
Jerry Donahue

11:00-12:10  
2nd Floor Lounge

***SNC Alumni Activity Database and  
the Class of 2003 Graduate Survey Document***

*Scott Werley*

*Jerry Donahue, Director of Career Services*

As a Research Fellow with Jerry Donahue in Career Services, we gathered data on the SNC graduates of 2003 to see what and how they are doing in their careers. Using the CSO database, these alumni were researched and contacted regarding their current salary range, employment history, employer, and continuing education. The project included editing, organizing, and forming a document to reflect their standing a year after graduation. The result was an alumni profile database that will help prospective and current students identify alumni of interest and connect our institution directly with the real world of work.

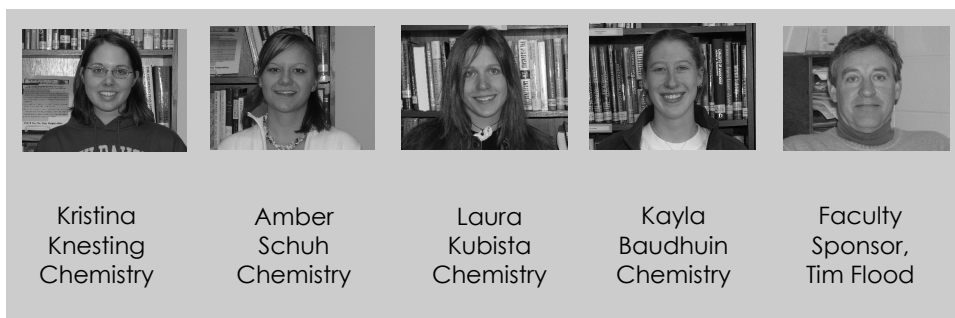


11:00-12:10, 12:20-1:30, 1:40-2:50  
2nd Floor Lounge

### ***A Comparison of Selected Metal Ions from Hawaiian Streams***

*Kristina Knesting, Amber Schuh, Laura Kubista, Kayla Baudhuin  
Tim Flood, Associate Professor of Geology*

Metal ions in streams result from a combination of natural factors including climate, weathering, rock type and age, as well as human factors primarily dependent on land usage. The Hawaiian Islands are an isolated island chain composed of basalt. Freshwater stream samples were collected from Kauai ( $\approx 5$  million years old), Maui ( $\approx 1$  million years old), and Hawaii ( $\approx 0.4$  million years old). This study characterizes the concentrations of Ca, Mg, Fe, Al, K, and Na using atomic absorption. Some of the metal concentrations can be inferred to be the result of specific natural processes, human influences, or a combination thereof.





Ryan Johnson  
Biology



Faculty Sponsor,  
Anindo Choudhury



12:20-1:30  
2nd Floor Lounge

***Species Boundaries in Bothriocephalus  
cuspidatus (Cestoda: Bothriocephalidae): A  
Parasite of North American Freshwater Fishes***

*Ryan Johnson*

*Anindo Choudhury, Assistant Professor of Biology*

*Bothriocephalus cuspidatus* is a widely distributed tapeworm of North American freshwater fishes including walleye (*Sander vitreus*), centrarchids of the genus *Lepomis*, and hiodontids including mooneye and goldeye (*Hiodon alosoides*). This relationship of a single species of tapeworm inhabiting several distantly related yet geographical overlapping host species indicates a possible scenario of historical host-shifting events. Morphological examination of tapeworms recovered live from these respective hosts revealed consistent similarity within each host species type, but also consistent disparity among different host species. This prompted molecular phylogenetic analysis of *B. cuspidatus* retrieved from walleye and goldeye in Central Canada, from walleye in North Central U.S., and from centrarchids in North Central U.S. Sequences of regions (18S, ITS, and 5.8S) of the rRNA genome were amplified and sequenced for characterization and phylogenetic analysis. The results showed consistent sequence differences between tapeworms from pumpkinseed and walleye. Tapeworms of the two hosts can also be differentiated based on scolex morphology and body size. The molecular and morphological data taken together provide strong evidence that the two entities are actually distinct species with their own host specificity and that speciation may have resulted from host-shifting into walleye. Tapeworms from goldeye indicated closer similarity with *B. cuspidatus* from walleye, both genetically and morphologically.

12:20-1:30  
2nd Floor Lounge

### ***Study Abroad Marketing Project***

*Eric Bieniasz*

*Joe Tullbane, Associate Dean for International Education*

Our student-faculty research project created a marketing consultancy firm aimed at developing new methods of marketing semester abroad that will significantly increase the number of SNC students who participate in SNC study abroad programs. We developed a campus circulation plan to determine optimal sites to maximize advertising exposure. We gathered data on student preferences, study abroad myths, and styles/methods of presenting information — through surveys, focus groups and direct observation. We brainstormed new ideas, devised methodology for implementing these ideas, and collected and assessed feedback on their relative success. The project culminated in the creation of a viable marketing plan for the Study Abroad Office.



Eric Bieniasz  
Business  
Administration



Faculty Sponsor,  
Joe Tullbane







Margaret Herriges  
Biology



Faculty Sponsor,  
Anindo Choudhury



12:20-1:30  
2nd Floor Lounge

***Phylogenetic Analysis of Diclybothrium  
(Diclybothriidae) within the Monogeneans  
Inferred by 28S rRNA Gene Sequences***

Margaret Herriges  
Anindo Choudhury, Assistant Professor of Biology

*Diclybothrium* is a genus of monogeneans that has not been studied using molecular techniques. This study tests the current hypothesis of the phylogenetic relationships of the *Diclybothrium* by using partial 28S rRNA sequence. It will utilize one of the *Diclybothrium* species; *Diclybothrium atriatum*, for genetic analysis. This species will serve as a representative of the family in this research. After sequence analysis of a 345 base partial 28S rRNA sequence, sequence homology suggests the possibility of another ancestry. Although the hypothesized sister taxon of *Hexabothrium appendiculatum* is present as a partially matching sequence it is not the most homologous.



“The real voyage of discovery consists not in seeking new landscapes but in having new eyes.”

Marcel Proust



1:40-2:50  
2nd Floor Lounge

***Arginine Decarboxylase and Water Stress in  
Primitive Plants***

*Bonnie St. John*  
*Russ Feirer, Associate Professor of Biology*

Polyamine biosynthesis is increased in response to abiotic stress, such as drought stress. The enzyme arginine decarboxylase (ADC) contributes to this increase, as it is responsible for converting arginine into the polyamine putrescine. In higher plants, the level of ADC activity has been shown to increase in *Arabidopsis thaliana* exposed to osmotic stress. To study the relationship between this enzyme and the evolution of a plant's response to stress, the level of ADC was studied in a liverwort, *Conocephalum conicum*, and in the fern *Ceratopteris recharidii*. The liverwort showed a slight increase in ADC activity when thalli were exposed to osmotic stress. The *Ceratopteris* did not show an increase in ADC activity when osmotically stressed, but further investigations are ongoing.



Bonnie St. John  
Biology



Faculty Sponsor,  
Russ Feirer





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2nd Floor Lounge

***Tolkien's World: A Collection  
of Essays, Stories and Poems  
from the Senior English Seminar***

*Students from the ENGL 400 Class, Fall 2005  
Ed Ridsen, Associate Professor of English*

As one of the great Twentieth-century philologists, J.R.R. Tolkien is a novelist who created a vast, fantastic, and heroic world who make a lasting contribution to scholarship in medieval studies. Tolkien and his fictional world influence the public imagination as have few authors before or since. This volume represents the intensive effort of the fifteen students in Tolkien's World Seminar from the Fall Semester of 2005. As they engaged in careful, detailed study of both Tolkien's own works and a selection of those books that most powerfully influenced his imagination, the members of the class undertook substantial writing projects of their choice in research essay, personal essay, fiction, or poetry so that each might express his or her own appreciation, and add to the growing body of Tolkien scholarship.



2nd Floor Lounge

***Authoring Arthur: A Collection  
of Essays and Narratives***

*Students from the ENGL 400 Class, Spring 2004*  
*Ed Ridsen, Associate Professor of English*

Since its earliest days the world of King Arthur has attracted a great deal of treatment by scholars, writers and artists. It continues to elicit activity from generations who find fascination in the stories, characters, magic, and pageantry of artifacts medieval or medievalistic. In Arthur's world we find charm, romance, a distant echo of our modern yearning for equality, and endless possibility.

This volume comprises the work of students in the Spring 2004 ENGL 400 class, who committed themselves to a semester of Arthurian studies and who, as a result of their dedicated reading, have sought to add something of their own to the continually evolving tradition. Some have chosen scholarly essays, some fiction, poetry, and artwork, but each has aimed to express in a personal response appreciation for all the *makers* whose products and spirits have informed their labors and spurred their imaginations.



Faculty Sponsor,  
Ed Ridsen





On behalf of  
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we extend

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All Participating Faculty, Staff  
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Thanks for helping make this another  
successful year!



# Notes

