Hyperspectral Remote Sensing

of Bahamian Coral Reefs

Results:

- **Reflection Spectra of Corals, Macrophytes, and Sand**
  - Differentiation between these habitats is possible due to their unique spectral characteristics.
- **Derivative Spectra of Corals**
  - Spectral features are transformed to emphasize differences in the reflectance curve.
- **Remote Sensing Reflectance**
  - Remote sensing techniques can provide insights into the health and distribution of coral reefs.

Discussion:

Postcoral generation and algae cover can be distinguished by analyzing the reflectance spectra of these habitats.

Methods:

- **Data Collection and Instruments**
  - Collected data include hyperspectral imagery, field measurements, and laboratory analyses.

Acknowledgments:

- This work was supported by the National Science Foundation and the University of New Hampshire.

36” x 48”

Poster for Michael Lesser, Department of Zoology, University of New Hampshire, Durham NH. (Designed by S. Palmer.)
**IS LACTATE THRESHOLD AN APPROPRIATE TRAINING MARKER FOR COMPETITIVE CYCLISTS?**

**H W Keneffick, N V Mangioi, C O Matten, S T J Quinn, FACSM**

The University of New Hampshire, Durham, NH

**ABSTRACT**

Lactate threshold has been found to be a good indicator of aerobic fitness and performance. However, the exact criteria for defining the lactate threshold is not clear. This study aimed to determine if lactate threshold is an appropriate training marker for competitive cyclists. Subjects were tested on a cycle ergometer at increasing intensities until a lactate concentration of 8 mmol/L was achieved. The lactate threshold was defined as the point where lactate concentration increased above 4 mmol/L. The results showed that lactate threshold was significantly correlated with power output at lactate threshold (r = 0.75, p < 0.01). This suggests that lactate threshold may be an appropriate training marker for competitive cyclists.

**METHODS**

- **SUBJECTS**: 10 competitive cyclists
- **DATA COLLECTION**: Lactate concentration and power output were measured
- **DEFINING LACTATE THRESHOLD**: Lactate threshold was defined as the point where lactate concentration increased above 4 mmol/L

**RESULTS**

- **CORRELATION WITH POWER OUTPUT**: Lactate threshold was significantly correlated with power output at lactate threshold (r = 0.75, p < 0.01)

**CONCLUSIONS**

- Lactate threshold may be an appropriate training marker for competitive cyclists
- Further research is needed to confirm these findings

**REFERENCES**


Photo by Cory Sevior, Photographic Chemistry (Chris Sevior)
Modified Piriform Silk Glands in Adult Male Mimetus (Araneae, Mimetidae)

Abstract

In addition to numerous typical piriform gland spigots, each mature male spider (M. mimetus) possesses a pair of modified piriform glands. These glands are located on the posterior half of the abdomen, near the base of the gonopod sheaths. The modified glands are oval in shape and have large calyces emerging from the typical piriform spigots. They are absent in adult females and juvenile male spiders. Preliminary studies indicate that the modified glands play a role in producing web materials that are not found in typical piriform spigots. This study focuses on the anatomy and function of the modified glands to determine their importance in the production of web materials.

Introduction

The basis for the biology of Mimetidae and other araneids is unclear. However, it is well documented that there is a close relationship between spiders and their webs. This relationship has been described as a pregnancy pheromone observed in adult male Mimetus. The same gland has been observed in other araneids, suggesting a more general relationship among spiders. The modified glands are oval in shape and have large calyces emerging from the typical piriform spigots.

Materials & Methods

Adult male and female Mimetus spiders were obtained from a local source. The spiders were maintained in a controlled environment with a relative humidity of 70% and a temperature of 22°C. The spiders were fed a diet of crickets and fruit flies. The spiders were allowed to deposit their webs, which were then collected and stored in 70% ethanol. The webs were then processed for histological analysis.

Discussion

Monographs of spiders from live and adult male specimens have been published (3, 4), but not to our knowledge the specimens of adult male Mimetus. Given that locations on the araneid lateral system (ALS), the abdominal views of adult male Mimetus resemble other modified piriform glands. The size and shape of the modified glands are consistent with the ALS.

The spigots of the modified glands, with a relatively narrow, tubular opening, are more characteristic of the typical piriform glands. The number of modified glands increases from one side to the other. This is consistent with the observation that the modified glands are not found in juvenile male Mimetus. The modified glands are oval in shape and have large calyces emerging from the typical piriform spigots.

Sensory organs located in the modified glands have also been described in the chelicerate spiders (5). The modified glands are oval in shape and have large calyces emerging from the typical piriform spigots. The modified glands are oval in shape and have large calyces emerging from the typical piriform spigots.

Literature Cited


Acknowledgment

Thanks to the Department of Zoology, University of New Hampshire, for funding this research. Special thanks to S. Palmer for designing the poster.
Cultural Cuisine: A Food-based Program with a Global Perspective

Robin Peters, M.Ed., DTR
Brenda Corey, MA
Terri Schoppmeyer, BS, DTR
University of New Hampshire Cooperative Extension
Durham NH, USA

Cultural Cuisine is a food-based program which introduces food and nutrition to children from a global perspective. It is offered to children in Head Start, classroom, and after-school programs in the Northeast region of the United States. The program is designed to improve nutrition awareness and to provide a global perspective on cultural foods and traditions.

The curriculum includes a variety of cultural foods and traditions from around the world, including recipes, cooking demonstrations, and fun activities that engage children in learning about nutrition and cultural diversity.

Conclusions

A food-based educational program can be an effective way of teaching health and nutrition principles, as well as cultural diversity. This method of teaching also engages children in a way which facilitates learning and behavior change.

Cultural Cuisine gives children a fun and engaging way to learn about nutrition and other cultures and their foods.

Additionally, children can participate in hands-on learning experiences by cooking and eating foods from different countries. This helps them understand the importance of making healthy food choices and how they can incorporate these foods into their daily diets.

References

Acknowledgements

Cultural Cuisine Healthy Eating the United States Children's Education Program (D05-15) and the Food Program for Children's Education Program (D05-16)
Dress Interweave. Inc., Children's Educational Program 2008-10
A great thanks to everyone who contributed to this food-based program.

Contact Information

Robin Peters, UNH Cooperative Extension
University of New Hampshire
Durham, NH

Poster for Robin Peters, UNH Cooperative Extension, University of New Hampshire, Durham NH. (Designed by S. Palmer.)
Using Fictional Species to Teach Real Science

Jessica A. Bolker
Department of Zoology
University of New Hampshire, Durham NH

Cynthia Gannett
Writing Department & Writing Across the Curriculum
Loyola College in Maryland, Baltimore MD

The Assignment:
Students are asked to research and write a poster exploring the use of non-technical language and images to explain scientific concepts. The poster should include at least five unique and interesting ideas and be designed to be visually appealing and engaging.

Introduction
Facts are only beginning.
Students should think twice about the value of their own ideas about evolutionary processes and their outcomes. This poster is an attempt to stimulate students to explore the diversity and complexity of life on Earth.

Methods
How is it done?
The fictional species are very different from the real species used in the classroom. At least two students were involved in designing the poster. The poster is intended to be a resource for teachers and students.

Abstract
Science academics spend much time and energy learning facts. But they also know that facts are only beginning. The goal of this poster is to inspire students to think differently about the world around them. The poster presents a series of images that challenge the students to think about the diversity of life on Earth and to consider the role of imagination in science.

Introduction
Introduction to the scientific community and the importance of using non-technical language and images to explain science.

Methods
How it is done.
The poster presents a series of images that challenge the students to think about the diversity of life on Earth and to consider the role of imagination in science.

Conclusions
How science comes into play, as linear play comes into science.
Science academics spend much time and energy learning facts. But they also know that facts are only beginning. The goal of this poster is to inspire students to think differently about the world around them. The poster presents a series of images that challenge the students to think about the diversity of life on Earth and to consider the role of imagination in science.

Results
1) What Evolves
The poster presents a series of images that challenge the students to think about the diversity of life on Earth and to consider the role of imagination in science.

2) Playing by the Rules
Students explore the characteristics of natural biological principles, which are often used to evaluate new ideas. They are expected to submit their work to the journal Science.

3) Writing
Students work on writing as part of the poster. The poster is intended to be a resource for teachers and students.

44" x 72" Poster for Jessica Bolker, Department of Zoology, University of New Hampshire, Durham NH. (Designed by S. Palmer.)
What's in the grain?

Who decides?

The Citizen Panel Approach:

A Citizen Panel (also called Consumer Surveys) is a public and participatory process of citizen engagement in learning about the grain industry. This approach was developed in the United States because it was seen as a way to engage a wider range of consumers directly in decisions about sustainable agriculture and food systems. In August 2007, with support from the National Center for Food Certification, the Office of Sustainability Programs and Cooperative Extension, University of New Hampshire convened a series of panels in the Durham area involving the following key stakeholders:

- Respiratory: Household One
- Respiratory: Household Two
- Public: Commercial Conference
- Public: Commercial Conference
- Public: Commercial Conference
- Public: Commercial Conference

One goal was to integrate science, consumer information, and regulatory feedback into the grain industry in an inclusive manner. The Citizen Panel was designed to ensure that all voices were heard and that the process was transparent.

The Citizen Panel:

A feasible, voluntary panel of 300 citizens from all walks of life were engaged in a three-month learning process. The panel was divided into 30 subgroups, each with 10 members, and each subgroup was tasked with examining a specific grain-related topic. The topics included:

- Responsible meat production
- Responsible fish production
- Responsible potato production
- Responsible grain production
- Responsible sugar production
- Responsible coffee production
- Responsible grain production
- Responsible meat production
- Responsible fish production
- Responsible potato production
- Responsible grain production
- Responsible meat production

The Learning Framework for Justice in the Grain Industry:

The learning framework is designed to help citizens understand the issues and make informed decisions. It focuses on the following:

- Understanding the implications of grain production and consumption
- Identifying the stakeholders involved in the grain industry
- Exploring the economic, environmental, and social impacts of grain production
- Developing strategies for promoting sustainable and socially just grain systems

The Experts:

- Dr. F. H. Streatfield, Massachusetts Institute of Technology
- Dr. John L. Inman, University of Vermont
- Dr. Sarah C. Bolt, University of Massachusetts
- Dr. Mark W. McKeon, University of New Hampshire
- Dr. Emily A. M. Ebert, University of New Hampshire
- Dr. Steven M. Richardson, University of New Hampshire
- Dr. Jennifer Chang, University of California, Davis
- Dr. Melissa Thomas, University of California, Davis
- Dr. Eliza L. Schaefer, University of California, Davis
- Dr. Robert M. Thomas, University of California, Davis

The Citizen Panel on Genetically Modified Food Calls for Changes in the Food System

Tom Kelly, Office of Sustainability Programs
Stefan Seiter, Cooperative Extension
University of New Hampshire, Durham NH, USA

Citizen's Findings:

- The citizen panel was deeply concerned about the lack of accurate scientific information about the safety and benefits of genetically modified foods.
- The panel requested that all genetically modified foods carry clear labeling to inform consumers.
- The panel recommended that the government provide clear, consistent, and transparent guidelines for the approval of genetically modified foods.
- The panel recommended that more research be conducted on the long-term effects of genetically modified foods on human health.

Citizen's Recommendations:

- The citizen panel called for a moratorium on further approval of genetically modified foods until more research is conducted.
- The panel recommended that the government work with the industry to develop safer and more environmentally friendly practices.
- The panel recommended that the government work with the industry to ensure that genetically modified foods are produced in a way that is fair and just.

For more information:
http://www.sustainablelandscape.edu/codejustfoods

44" x 65" Poster for Tom Kelly, Office of Sustainability, University of New Hampshire, Durham NH. (Designed by S. Palmer)
Sustainable Living: A Case Study of Nuns and Their Beliefs, Attitudes, and Practices

Turvey Benedictine Nuns: The Monastic Community

There are eighteen nuns living at the Priory of Our Lady of Peace, Turvey Abbey, located eight miles from Bedford, and approximately forty miles from London, England.

Nuns and monks began to adopt the Rule of St. Benedict 1500 years ago. Turvey Abbey belongs to the Roman Catholic Benedictine Congregation of Our Lady of Mount Carmel (Congregatio Benedicta) originating with St. Bernard in the 12th century.

Within this Congregation, Dom Constantino Bassiaco, a Belgian Benedictine monk, headed the Vina et Par Foundation for research on monastic life. In 1990, monks, nuns, and laypeople of the Foundation established an English branch in East Anglia, North London.

A group of monks and nuns moved to Turvey from Carlsteine in 1998-99 and established the Priory of Our Lady of Peace (nuns) and the Monastery of Christ Our Saviour (monks), formally called the Turvey Abbey Benedictines.

The Focus of Turvey Abbey Benedictines:

"We are two independent communities, monks and nuns, who live according to the Rule of St. Benedict:

- prayer
- work
- study
- hospitality

The community belong to the Vina et Par Foundation whose main charter is the double role of Liturgy and Ecumenism.

Work and prayer bring to life our engaged values within the monastery, in love and service, open-ended to the needs of the contemporary world. Our prayer forms the basis of the life and affects every aspect of our work, and our relationship with society. By developing a deep spiritual awareness of the unity of all creation and of the simple beauty of everyday life, we seek in our work and prayer — especially in our Liturgy — to embody God’s life and peace to all who work or receive.

Primary Research Question:

How can the way of life of nuns in a monastic community be sustainable?

Secondary Research Questions:

- Do the beliefs, practices, and attitudes of the Turvey nuns constitute a sustainable way of living? If so, how do we know that?
- Who are the nuns of Turvey?
- How do they live?
- Why do they choose a self-sustaining life style?

Methodology:

- approached these research questions in four ways:
  - participant observation across three and a half years,
  - interviewing twelve of the Turvey nuns,
  - making an ecological assessment of the property and community,
  - sending a questionnaire to 25 comparable communities of nuns.

Analysis of Data:

The daily reality of Turvey Abbey reveals that the nuns live according to the Rule of St. Benedict and their main focus is seeking God through prayer, work, study, and hospitality. Their community life is the bedrock to which they live: reflex, encompassing, a balanced life of rhythm and regularity, openness, space to find one’s true self, silence, memory, faith, trust, attachment, and sense, and freedom. The beliefs, attitudes, and practices of the nuns at Turvey Abbey constitute a sustainable way of life.

Interpretation and Synthesis:

Environmental indicators point us in the direction of reconstructing levels of sustainability, yet they cannot give us the whole truth. Sustainable living is qualitative, moving from inputs and outputs, and indirect relationships to self, other humans, and nature as a whole.

Sustainability is not about perfection, yet to achieve “sustainable living”, a better phrase “sustaining living”, shifting the focus from in and out (‘is it sustainable?’) to a process (“How are we sustaining living?”). The source of sustainability is in patterns of processes of relationship, and here these relationships thrive.

A person, the community, or the global economy - whatever level of the system you are looking at – can be said to be:

- moving away from sustaining living if it is exploiting or degrading;
- moving towards sustainability if it is creating beauty, scarcity, and fullness.

Turvey Abbey manifest an inner confidence born of trust rather than fear. “Seeking God”, in a wider context, can be said to be “seeking life.” Recognizing that one’s source in the universe is “in God’s life and peace,” from one of deep sensory encounter, and in its freedom, which allows creativity to flow — the true path of sustaining life.

In seeking life, we are open to possibilities, faith, hope, and love.
The Lesion-Causing Efficiency of Venturia inaequalis on Six Apple Cultivars

Jennifer M. Clifford and William E. MacHardy
Department of Plant Biology
University of New Hampshire
Durham NH

Materials & Methods:

Cultivars:
- McIntosh, Rome, Golden Delicious, Mutsu, Delicious, Paula Red

Inoculum:
- Conidial inoculum from wounded tissue in a McIntosh/Chordard hybrid at the Mari Road Research Orchard, Durham, NH.

Inoculation:
- Conidial suspensions of known concentration were applied unilaterally to the upper surface of leaves (1:100 - 1:1000) on extensive sheets of petri plates (Figs. 2 & 3).

Infection Conditions:
- Inoculated and un inoculated control leaves were incubated at 25°C humidity at 70% RH for 8 days (Fig. 1). The mean number of lesions was then assessed.

Disease Assessment:
- Lesion-Causing Efficiency:
  - The percentage of viable colonies deposited per cm² of a leaf surface that caused sporulating lesions.

Results:

<table>
<thead>
<tr>
<th>Cultivar</th>
<th>Smith Rank</th>
<th>Relative Lesion Categorization (Smith study)</th>
</tr>
</thead>
<tbody>
<tr>
<td>McIntosh</td>
<td>1.00</td>
<td>Low</td>
</tr>
<tr>
<td>Rome</td>
<td>2.0 (0.71)</td>
<td>1.00 (0.00) Low</td>
</tr>
<tr>
<td>Golden Delicious</td>
<td>3.0 (0.43)</td>
<td>High</td>
</tr>
<tr>
<td>Mutsu</td>
<td>3.5 (0.36)</td>
<td>Moderate</td>
</tr>
<tr>
<td>Delicious</td>
<td>5.0 (0.21)</td>
<td>High</td>
</tr>
<tr>
<td>Paula Red</td>
<td>6.0 (0.10)</td>
<td>High</td>
</tr>
</tbody>
</table>

Conclusions:

- Differences in LCE of Venturia inaequalis were greatest in the two younger, un inoculated leaves (Figs. 2 & 3).
- The LCE was greater in McIntosh and Rome compared to the other five cultivars.
- The LCE was measured 13 days after inoculation. Inoculated leaves had developed at 28 days (LCE - 60%).
- Differences in LCE of Venturia inaequalis were greatest in the two younger, un inoculated leaves (Figs. 2 & 3).

Reference:
- Photographs: 

Photographs: 
- The lesion caused under field and controlled conditions in the MC, DO and PR samples. 
- Photographs of the lesion caused in the MC, DO and PR samples.
Servicing the Student with Dyslexia in the Public Schools

Penelope E. Webster
Department of Communication Sciences & Disorders
University of New Hampshire, Durham NH

The Problem:
In the past several decades we have learned that the greatest problem for students with dyslexia is the learning-disabled system.

Unfortunately, we have not yet mastered the art of teaching them, and as a result, many students with dyslexia continue to struggle academically.

Perhaps the best improvement is a combination of technology and instruction, which are often used together to great effect.

One key factor is the availability of assistive technologies, which can help students with dyslexia access and process information more effectively.

Students with dyslexia often benefit from the use of technology, such as text-to-speech software, which allows them to read and understand written material more easily.

The Model in Brief:
The educational model emphasizes personalized instruction and the use of technology to support the unique needs of each student.

The Model provides a structured and systematic approach to teaching, which is essential for students with dyslexia.

The Model includes the following key components:

- Personalized Instruction
- Technology
- Cooperative Learning
- Parent Involvement

Class Description:
Accessible to students with dyslexia and other learning disabilities.

Teaching Method:
Courses are taught with a focus on individual strengths and areas of weakness.

Other Aspects of the Model Program:
- Learning Strategies: Emphasis on personalized instruction and the use of technology.
- Parent Involvement: Regular communication between parents and teachers.
- Social Skills: Emphasis on developing social skills and peer interaction.

Content Areas:
- Language and Literacy
- Mathematics
- Science
- Social Studies

Note: The above information is based on the model developed by Penelope E. Webster, Department of Communication Sciences & Disorders, University of New Hampshire, Durham NH.

(Designed by S. Palmer.)
An Examination of Factors Influencing Entrapment and Burnout among Collegiate Female Field Hockey and Lacrosse Coaches

Karen E. Collins, Ph.D.
Department of Kinesiology
University of New Hampshire
Durham NH, USA

Introduction

Entrapment and burnout are common challenges faced by coaches, especially female collegiate coaches in high-intensity sports. The purpose of this study was to examine the perceptions of collegiate female field hockey and lacrosse coaches regarding factors influencing their experiences of entrapment and burnout.

Methods

Participants: 28 female collegiate coaches from the Division I and III levels.

Instruments:

- Job Satisfaction Scale (Bakker & Schaufeli, 2003)
- Work overload scale (Salanova et al., 2005)
- Job burnout inventory (Maslach & Leiter, 1997)
- Perceived stress scale (Scheier & Carver, 1985)

Results

Demographic Characteristics

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>SD</th>
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<tbody>
<tr>
<td>Age</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Team Size</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Salary</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Institution</td>
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</table>

Perceptions of Resources

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<tr>
<th>Resource</th>
<th>Control</th>
<th>Empowerment</th>
<th>Aesthetics</th>
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<tr>
<td>% Respondents</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mentoring</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Team Size</td>
<td>89.4</td>
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<tr>
<td>Salary</td>
<td>86.7</td>
<td></td>
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<tr>
<td>Institution</td>
<td>85.3</td>
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Significant Predictors of Entrapment

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<tr>
<th>Predictor</th>
<th>Beta</th>
<th>t Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commitment</td>
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<td></td>
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<tr>
<td>Effort</td>
<td></td>
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<tr>
<td>Entrainment</td>
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</table>

Significant Correlation Analysis

<table>
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<th>Predictor</th>
<th>Beta</th>
<th>t Value</th>
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<tbody>
<tr>
<td>Total Staff</td>
<td></td>
<td></td>
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</tbody>
</table>

Implications

Understanding the factors influencing entrapment and burnout can help coaches develop strategies to improve their well-being and performance. Further research is needed to explore the long-term effects of these factors on coaches' health and performance.

References


Field hockey for Karen Collins, Department of Kinesiology, University of New Hampshire, Durham NH. (Designed by S. Palmer.)
**Thirst Sensations are Attenuated during Exercise**

**Cold Exposure in Several Hydration States**

**INTRODUCTION**

Thirst is a common sensation that may occur during exercise, particularly in cold environments. It is important to understand how thirst sensations are influenced by hydration status and cold exposure, as these factors can affect performance and health. The purpose of this study is to investigate the relationship between thirst sensations and hydration status during exercise in cold environments.

**METHODS**

**SUBJECTS (n = 28):** Eighteen test subjects (13 male, 5 female) were recruited to participate in the study. All subjects were in good health and did not have any known cardiovascular or respiratory issues.

**EXPERIMENTAL DESIGN:** A randomized, double-blind, placebo-controlled study was conducted. Subjects were divided into two groups: a control group and an intervention group. The intervention group received an oral solution of electrolytes and water, while the control group received a placebo solution.

**RESULTS**

**HYDRATION STATE**

The results from the study showed that subjects in the intervention group experienced a significant reduction in thirst sensations compared to the control group, even when exposed to cold temperatures. This suggests that hydration status plays a crucial role in regulating thirst during exercise in cold environments.

**CONCLUSIONS**

The findings of this study indicate that maintaining proper hydration is crucial for regulating thirst during exercise in cold environments. This is important for athletes and outdoor enthusiasts to consider when planning their physical activities in cold weather.

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44” x 60” Poster for Robert Kenefick, Department of Kinesiology, University of New Hampshire, Durham NH. (Designed by S. Palmer.)
Posters for Cameron Wake, EOS, University of New Hampshire, Durham NH.

(Designed by S. Palmer.)
Sustainable Building Design and Construction Renovation

A Pilot Renovation of the Office of Sustainability Programs

The University of New Hampshire is committed to sustainable design and construction in the broader sense of the term. Whether it is a small retrofit, design innovation, or new construction, buildings are expected to serve the University for a very long time, today and tomorrow. This space was renovated with a focus on reducing waste and pollution using sustainable practices, creating a building intended to last and serving as an open, bright effective place in which to work. Three years after the renovation, it is in good working order. The renovation project was all recycled or salvaged. The open office concept maximizes the space to be shared with minimal furniture purchases rather than walls and provides for optimal long-term flexibility.

As part of the sustainability learning community at UNH, we hope the renovation at this location will illustrate a new way of thinking about design and construction and acts as a practical demonstration of new materials, methods, and technology.

A Project of the CSEP Climate Education Initiative

Office of Sustainability Programs
University of New Hampshire
Durham, NH 03824
(603) 862-4888
http://www.sustainability.unh.edu/
climate_ed/
http://www.sustainability.unh.edu/
climate_ed/sustain_design_concept/INDEX.HTM

36” x 46” Poster for Tom Kelly, Office of Sustainability, University of New Hampshire, Durham NH. (Designed by S. Palmer.)
The Partnership for Academic Programs in College Teaching (PACT) is a collaborative network of seven institutions, each contributing unique strengths and unique perspectives to a shared response to the challenges of teaching and learning at the college level.

OUR ACADEMIC PROGRAMS
PACT exists to enhance undergraduate learning by addressing the professional development needs of:

- Full-time Faculty
  Our field-based coursework appeals to experienced teachers who want to enhance their understanding and use of college teaching practices that best facilitate student learning.

- Graduate Students Preparing for Faculty Careers
  Research shows that most doctoral students do not consider themselves “teaching ready” at the end of their graduate programs. PACT addresses this problem by building upon such previous initiatives as the Preparing Future Faculty program, a collaborative effort of the Council of Graduate Schools and the American Association of Colleges and Universities.

- Adjunct Faculty
  Our Internet-based programs offer part-time and adjunct faculty the same access to the scholarship of college teaching that their full-time colleagues enjoy.

PACT courses available to faculty and graduate students offer a balanced approach to the theory and practice of college teaching. Materials have the opportunity to serve:

- Cognize in College Teaching
  (which can be added to the Ph.D.)

- Master of Science in Teaching (M.S.T.)
  (with major in college teaching, available to all Ph.D. students, to college and university faculty in an online degree option).

- Certificate in College Teaching
  (offered to nationally by each partner institution, or jointly with UNH)

Using a combination of traditional classroom settings and Internet-based distance instruction, our programs epitomize the construction of an ever-expanding circle of institutions, students, and institutional resources.

THE FOCUS ON COLLEGE TEACHING
"Improving teaching is a pressing need in light of attention to improving the quality of undergraduate education..."

—Cilla Brown, a study initiated by the Post-Charlottesville Task Force

The past few years have seen an unprecedented rise in the amount of research devoted to the art and science of college teaching. Ever-changing expectations of the college experience and ongoing efforts to improve the learning process the study of knowledge is causing PACT to take a leadership position in developing and disseminating that knowledge.

Several recent studies verify what many have known for some time, that college teaching is the approach to research-based education that the campus5175

PACT is committed to the principle that such programsmatic efforts to improve classroom teaching greatly enhance undergraduate learning.

For more information
visit: www.unh.edu/pact
write: Michael Lee, PACT Coordinator Teaching Excellence Program University of New Hampshire 1 Brook Way Durham, NH 03824
phone: 603-862-4872
e-mail: mjlee@unh.edu
fax: 603-862-1928

44” x 53” Poster for Michael Lee, Teaching Excellence Program, University of New Hampshire, Durham NH. (Designed by S. Palmer.)
The Faculty Electronic Resource Center

Studio 521

Studio 521: The Faculty Electronic Resource Center was created as a pilot initiative by Computing and Information Services (CIS) and the UNH Library to help faculty incorporate new technologies into their teaching and scholarship. Studio 521 is centrally located in Memorial Library and consists of twelve networked workstations, an instructor station, a printer, and overhead computer projection. This exciting new facility was funded by a generous grant from the UNH Foundation.

The Faculty Electronic Resource Center offers faculty icons for their use in the UNH Blackboard Project.

One important use of Studio 521 is as a training facility for faculty participating in the UNH Blackboard Project. This project, started in the fall of 1999, has brought Web-based support to over 2,000 students enrolled in 67 courses. The wide range of disciplines this support includes diverse learning environments, collaborative workgroups, online discussions, electronic gradebooks, and live chat. The course tools include electronic portfolios, course management, and communication tools.

Using a program called Course-Link, faculty can:

- Post course materials such as announcements, tests, assignments, or assignments.
- Post office hours and a calendar.
- Load pre-made files that students can download to their desktops.
- Give students links to Web sites that can enrich the curriculum.
- Provide an electronic forum for students that includes e-mail, live chat, and bulletin boards.
- Create workgroups for discussion or collaborative projects.
- Allowing students to hand in assignments electronically.
- Take students on "virtual" field trips.
- Administration tools.
- Manage course grades and submit grades electronically to the Registrar.
- Track student use of different course components.

No longer a pilot, Blackboard is here to stay!

Students Enrolled in Courses Using BlackBoard

and growing!

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<th>Course</th>
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Courses Taught Using BlackBoard

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Collaboration between CIS and the library is an important element of the UNH Blackboard Project. "The project is an excellent opportunity to blend CIS individual expertise with the Library's technical knowledge," says reference librarian Mary Koprowski. "We can assist faculty using Blackboard by helping them load and evaluate appropriate content to add to their site - virtual content, such as Web-based tutorials, research guides, and other online materials. The project also supports student interaction and research on course websites, in accordance with UNH's Social Responsibility Policy." "One of the important features is student access to the library," says David Block, of the UNH Blackboard project team. "Students can work on their courses from any computer on campus with access to the library. They can print materials or just work with them on screen."

What faculty are saying...

"For this semester, the key benefit of Blackboard has been communicating," says psychology professor Stephen Hardy. "One of the problems for groups has always been finding times to meet. Blackboard eliminates this problem by creating virtual meetings, where groups can create discussion boards and show files. After we tried it, we found more of an interactive method." "There is no question that the program will be a great benefit to the faculty and students and help the university to more fully realize its teaching mission," says Stanislaw Popek, Professor of Biochemistry and Molecular Biology.

What students are saying...

"Blackboard helps me focus. I don't have to worry about writing notes or carrying notes around. I can just click on the Blackboard and the notes are there. I can read them and write them."

"The color graphics are great!"

"Blackboard enhances my learning."

"I like having the slides available anytime."

Over 150 faculty will be trained on the use of Blackboard by the end of the semester 2000.

Without a dedicated teaching and learning environment like Studio 521, this would not have been possible.

36” x 60” Poster for CIS Academic Technology, University of New Hampshire, Durham NH. (Designed by S. Palmer.)
Using Technology to Create Collaborative Workspaces

Michael L. Giordano
Instructional Development Center
CIS Academic Technology
University of New Hampshire, Durham NH

Collaboration:

A personal approach people work together on an intellectual, academic, or physical endeavor.

Collaborative learning workspaces encourage cooperation.

Electronic collaborative workspaces connect people via the Internet or other technology.

Technology can help facilitate and promote collaboration between students by allowing them to work in virtual spaces.

Collaborative learning workspaces can be used to help students learn and work together.

Keys to using electronic collaborative workspaces successfully:

1. Identify your goals and select the appropriate technology for the job.
2. Ensure that all technology is easy to access and use.

The Benefits of Technology-based Collaboration

There are several ways that technology-based collaboration tools can facilitate and enhance interactions between faculty and students:

- Students have access to resources anywhere, anytime.
- Students have access to information, ideas, or resources that are not always available in traditional settings.
- Students can communicate and collaborate with each other, both in class and online.

How does technology facilitate collaboration?

The courses are which technology allows collaborative interaction, as the tools are used to facilitate. Although tools such as Canvas Management System provide complete guides of "best of breed" features, one is often left in the air.

Here are just a few ways technology can encourage collaboration:

- 
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Students and instructors are using these, why aren’t you?

Most faculty do not have time or resources necessary to learn new technologies for the sake of integrating such technologies into the pedagogy of their courses. However, there are tools that can be used to create collaborative learning environments. These tools allow students to collaborate and work together even when they are not physically present in the same space.

Students are using these tools in a variety of ways:

- 
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- 
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Instruction @ UNH

Collaborative workspaces provide opportunities for students to work together and create content.

All rights reserved. Poster is the property of Michael Giordano, IDC, CIS Academic Technology, University of New Hampshire, Durham NH. (Designed by S. Palmer.)
Perceptions of Gender Bias in the Courts: The Role of Attitudes and Experiences

Tracey A. Martin & Ellen S. Cohn
Department of Psychology, University of New Hampshire, Durham NH

Poster for Tracey Martin, Department of Psychology, University of New Hampshire, Durham NH. (Designed by S. Palmer.)
Delay Discounting and Elasticity of Demand for Cigarettes in Light and Moderate Smokers

S. H. Mitchell, R. G. Chapman & M. A. Bedell
Department of Psychology
University of New Hampshire
Durham NH USA

Abstract:

The purpose of the present study was to examine the relationship between two measures of value: delay discounting and elasticity of demand. Participants were asked to complete a survey that assessed their attitudes toward smoking and their willingness to pay for cigarettes. The results indicated that there was a significant positive correlation between delay discounting and elasticity of demand, suggesting that individuals who are more willing to pay a higher price for cigarettes are also more likely to suffer from greater degrees of delay discounting. This finding has important implications for the development of future smoking cessation interventions.

Introduction:

In deciding whether or not to purchase a cigarette, smokers must consider the trade-off between the immediate gratification of smoking and the potential health consequences associated with continued smoking. This decision-making process is often influenced by an individual's attitudes toward smoking and their willingness to pay for cigarettes.

Purpose:

The purpose of the present study was to examine the relationship between two measures of value: delay discounting and elasticity of demand. Participants were asked to complete a survey that assessed their attitudes toward smoking and their willingness to pay for cigarettes.

Characteristics of Participants:

The study included 100 participants, 60% of whom were male. The average age of the participants was 21 years old. All participants smoked at least one cigarette per day and had been smoking for at least one year.

Method:

Participants were asked to complete a survey that assessed their attitudes toward smoking and their willingness to pay for cigarettes. The survey included questions that assessed the participants' perceptions of the health risks associated with smoking and their willingness to pay a higher price for cigarettes.

Results:

The results indicated that there was a significant positive correlation between delay discounting and elasticity of demand, suggesting that individuals who are more willing to pay a higher price for cigarettes are also more likely to suffer from greater degrees of delay discounting. This finding has important implications for the development of future smoking cessation interventions.

Conclusions:

The results of this study suggest that delay discounting and elasticity of demand are related, and that individuals who are more willing to pay a higher price for cigarettes are also more likely to suffer from greater degrees of delay discounting. These findings have important implications for the development of future smoking cessation interventions.

Acknowledgments:

This research was supported by a grant from the National Institute on Aging (K01AG029920).
Asymmetries in "Size" as Predicators of Competition Outcomes in Burying Beetles

Sandra A. Slavin and Michelle Pelletier Scott
Department of Biology, University of New Hampshire, Durham NH

Is prothorax width or mass a better indicator of size and predictor of competition outcomes in the burying beetle?

Methods:

Burying beetle (Nicrophorus vespilloides) were reared in the laboratory at 18°C, 12 h light and darkness. Males were reared with gravid females to ensure genetic diversity. Beetles were reared individually in arenas for 14 days before being used in the experiment. Beetles were divided into two groups: group 1 with a larger prothorax width and mass, and group 2 with a smaller prothorax width and mass. Each group was reared individually in arenas for an additional 14 days before being used in the experiment. Prothorax width and mass were measured using digital calipers and a balance, respectively. The prothorax width and mass were standardized for the age of the beetle. The experiment was conducted for 72 hours at 18°C.

Introduction:

Introduction. Burying beetles (Nicrophorus vespilloides) are known to have a larger prothorax width and mass, and can outcompete other burying beetles. The prothorax width and mass are important indicators of size and predictor of competition outcomes in the burying beetle. The larger prothorax width and mass are associated with a higher competitive ability.

Results:

The larger prothorax width and mass are associated with a higher competitive ability. The larger prothorax width and mass are associated with a higher competitive ability. The larger prothorax width and mass are associated with a higher competitive ability. The larger prothorax width and mass are associated with a higher competitive ability.

Conclusions:

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References:


Harmoically Mediated Cost for Recognizing Mate

by Borrowing

Katharine Madi and Michelle Pelletier Scott
Biology Program and Department of Zoology, University of New Hampshire, Durham NH

What does the female burying beetle (Nicrophorus vespilloides) do when she encounters a male burying beetle (Nicrophorus quadripunctatus)?

Experiment one:

Methods:

The female burying beetle (Nicrophorus vespilloides) was placed in a arena with a male burying beetle (Nicrophorus quadripunctatus) and a variety of substrates. The substrates included wood, soil, and a mixture of wood and soil. The male burying beetle was placed in the arena with the female burying beetle and allowed to interact for 24 hours.

Results:

The female burying beetle (Nicrophorus vespilloides) showed a preference for wood as a substrate when her partner was a male burying beetle (Nicrophorus quadripunctatus). The female burying beetle (Nicrophorus vespilloides) showed a preference for wood as a substrate when her partner was a male burying beetle (Nicrophorus quadripunctatus). The female burying beetle (Nicrophorus vespilloides) showed a preference for wood as a substrate when her partner was a male burying beetle (Nicrophorus quadripunctatus). The female burying beetle (Nicrophorus vespilloides) showed a preference for wood as a substrate when her partner was a male burying beetle (Nicrophorus quadripunctatus).

Conclusions:

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References:


Samples from a series of 14 panels, 2’ x 3’ each.

Posters for the Women’s Studies Program, University of New Hampshire, Durham NH. (Designed by S. Palmer.)