KEENE STATE COLLEGE
academic excellence conference

The 9th Annual Conference in Celebration of KSC’s Centennial

SATURDAY, APRIL 4, 2009
9 a.m. to 4 p.m.

KSC Science Center
L. P. Young Student Center
Zorn Dining Commons
Welcome

We welcome you to the ninth annual Academic Excellence Conference at Keene State College. We are proud to present some of our most ambitious academic work of the 2008-09 year. You will find presentations located in the KSC Science Center and the L. P. Young Student Center. Presentations in this booklet are listed by academic school beginning on page 2. A chronological list, with abstracts, begins on page 9.

Thank you for attending. We hope you will be inspired.

Special Thanks

Special thanks goes to the luncheon keynote speaker: Dr. Mark Long.

Mark C. Long, associate professor of English and American Studies, joined the faculty in 1998 after two years as a postdoctoral teaching associate at the University of Washington. Dr. Long teaches American literature, with an emphasis in poetry and poetics; American studies, with a special interest in literature and the environment; and expository writing, with a focus on the teaching of first-year writers. He has also taught at Middlebury College’s Bread Loaf School of English and, for the past six years, has co-facilitated a faculty institute on the teaching of writing at Keene State College.

Dr. Long’s scholarly work is concerned with 20th-century American poetry, environmental writing, and the teaching of reading and writing. He also writes about the profession of English studies, with a continuing interest in making visible faculty work in small college departments. Dr. Long’s most recent publications include an essay on bioregionalism in the Indian Journal of Ecocriticism, a collection of essays, Teaching North American Environmental Literature, and a forthcoming special issue of the journal Pedagogy: Critical Approaches to Teaching Literature, Language, Composition, and Culture, dedicated to teaching in the small college department. In addition to his scholarly writing, Dr. Long has delivered more than 100 presentations – from international and national conferences to book discussions at public libraries throughout the state of New Hampshire. He serves as associate editor for the English studies journal, Pedagogy, and as the coordinator of the Mentoring Program for the Association for the Study of Literature and the Environment (ASLE-US). More information about Dr. Long’s professional activities is available at his web page, http://kscenglish.wordpress.com/.

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2 Presentations Listed by Academic School
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Schedule of Events

8:15-9 a.m.
Student Center Atrium
STUDENT AND SPONSOR REGISTRATION
CONTINENTAL BREAKFAST
9:10 a.m.
MORNING PRESENTATIONS BEGIN
12:35-1:45 p.m.
Zorn Dining Commons
PRESENTERS’ LUNCHEON
Keynote address: “The Trouble with Scholarship,” by Dr. Mark Long, 2009 recipient of the Faculty Distinction in Research and Scholarship Award
1:55 p.m.
AFTERNOON PRESENTATIONS BEGIN
4:05 p.m.
CONFERENCE ENDS
4:30 p.m.
Mountain View Room
WHO’S WHO AMONG STUDENTS IN AMERICAN UNIVERSITIES AND COLLEGES CERTIFICATE PRESENTATION
Presentations Listed by Academic School

Presentations at the Conference are listed below according to academic school (Arts and Humanities, Integrative Studies Program, Interdisciplinary, Professional and Graduate Studies, and Sciences and Social Sciences). For abstracts and a chronological listing, see page 9.

Arts and Humanities

Art
THE ART OF NIGHT PHOTOGRAPHY
William Wrobel
Robert Kostick, faculty sponsor
Exhibit • 3:05-4:05 p.m. • Student Center 309

MINSTRELSY AND MIMICRY:
THE BLACK FEMALE FACTOR
IN THE POLICED PURSUIT OF
BLACK MASCUINITY IN THE
JIM CROW SOUTH
Samantha Bardell
Michael Antonucci, faculty sponsor
Oral • 9:10-10:10 a.m. • Science Center 181

TESTIMONY OF A
MOTHER-WITNESS:
ANNA AKHMATOVA'S REQUIEM
Larissa Miller
Anna Schur, faculty sponsor
Oral • 9:10-10:10 a.m. • Science Center 181

English
ABEUNT STUDIA IN MORES:
EVOLUTION OF EDUCATION
IN THE ESSAY
Kristen Loonie
Kirsti Sandy, faculty sponsor
Oral • 1:55-2:55 p.m. • Science Center 181

POSTSTRUCTURALIST GENDER
DYNAMICS IN LE GUIN'S
THE LATHE OF HEAVEN
Stephanie Allen, Sarah Bernatas
Ali Lichtenstein, faculty sponsor
Poster • 3:05-4:05 p.m. • Student Center,
Mabel Brown Room

OTHER FEMINISMS
Chelsea Delnero, Melisa Dicki
Brinda Charry, faculty sponsor
Panel • 11:30 a.m.-12:30 p.m. • Science Center 154

HARRY POTTER AND
THE HOLOCAUST
Trisha Simons
Meriem Pages, faculty sponsor
Oral • 10:20-11:20 a.m. • Science Center 126

RESISTING THE WRITTEN WORD:
ORAL TRADITION IN AMERICAN
INDIAN LITERATURE
Caitlin Spencer
Sally Joyce, faculty sponsor
Oral • 10:20-11:20 a.m. • Science Center 126

THE GLORIOUS CORRUPTION:
AN EXAMINATION OF
ANDREI SINYAVSKY'S THE TRIAL
BEGINS AND YURI OLESHA'S ENVY
Kelly Wass
Anna Schur, faculty sponsor
Oral • 11:30 a.m.-12:30 p.m. • Science Center 127
WHERE THE ROMANTIC MEETS THE MODERN
Thomas Simmons
Anna Schur, faculty sponsor
Oral • 11:30 a.m.-12:30 p.m. • Science Center 127

REDEFINING GENDER: FEMALE CHARACTERIZATION IN SCIENCE FICTION
Steven Gonzalez
Ali Lichtenstein, faculty sponsor
Oral • 1:55-2:55 p.m. • Science Center 181

Film Studies
HONEY MACHINE: FILM SCHOOL IN 26 LETTERS
Jenny Plante
Ted White, faculty sponsor
Oral • 1:55-2:55 p.m. • Science Center 102

MOTION PICTURE
Taylor McIntosh
Ted White, faculty sponsor
Oral • 1:55-2:55 p.m. • Science Center 102

VIEWPOINTS ON CHRISTIANITY IN FILM
Benjamin McPherson, James Hayward, Aiden Broadbent
Theresa Podlesney, faculty sponsor
Panel • 11:30 a.m.-12:30 p.m. • Science Center 129

WELCOME TO THE DOOM GENERATION: AN ANALYSIS OF GREGG ARAKI’S FILMS AS APOCALYPTIC TEXTS
Jessica Correia
Theresa Podlesney, faculty sponsor
Oral • 10:20-11:20 a.m. • Science Center 129

SPANISH
LIVING BILINGUAL: LATINO POPULATION IN NEW ENGLAND
Kelley Cmara, Annelies Spykman, Lauren Stark
Patricia Pedroza, faculty sponsor
Panel • 11:30 a.m.-12:30 p.m. • Science Center 161

RELECTIONS IN SPANISH LITERATURE: STUDENTS’ MODERN INTERPRETATIONS OF HISPANIC POETRY
Megan Allyn, Marc Perreault, Marie Toutaint, Kerstin Yohann, Chelsey Duranteau, Tracy Gilpin
Barbara Ware, faculty sponsor
Panel • 11:30 a.m.-12:30 p.m. • Science Center 126

Theatre and Dance
REVOLUTION VS. EVOLUTION
Jessica Howard
Dancers: Riley Ahern, Shawn Ahern, Hannah Fluet, Angie Hartley, Becky Midler, Lindsay Tafias
Marcia Murdock and William Seigh, faculty sponsors
Performance • 9:10-10:10 a.m. • Student Center, Mabel Brown Room

Professional and Graduate Studies

Architecture
A BRATTLEBORO COMMUNITY LIBRARY FOR THE 21ST CENTURY
Scott Bascom, Keegan Nunley, Travis Streeter
Donna Paley and Bartlomiej Sapeta, faculty sponsors
Exhibit • 3:05-4:05 p.m. • Student Center, Mabel Brown Room

Athletic Training
FROM THE EYES OF AN ATHLETIC-TRAINING INTERN: THE NEW ENGLAND PATRIOTS
Matthew Cutts
Wanda Swiger, faculty sponsor
Oral • 10:20-11:20 a.m. • Science Center 163

Education
TEACHING CROSS-CULTURAL COMMUNICATION
Darya Bushmakin
Susan Theberge, faculty sponsor
Workshop • 1:55-2:55 p.m. • Science Center 175
THE UNITED KINGDOM NATIONAL CURRICULUM: AN EDUCATIONAL APPROACH THAT IS TOO PRESCRIPTIVE, OR A CORE PROGRAM TO BE TREASURED?
Jessica Buttafuoco
Dottie Bauer, faculty sponsor
Oral • 11:30 a.m.-12:30 p.m. • Science Center 163

Education (Masters Program: Curriculum and Instruction)
ANALYZING PRINCIPLES AND PEDAGOGY OF SOCIAL-JUSTICE TEACHER-EDUCATION PROGRAMS IN THE UNITED STATES
Atasi Das
Judith Reed and Janaki Tschannearl, faculty sponsors
Oral • 10:20-11:20 a.m. • Science Center 175

COMMUNITY BUILDING IN THE CLASSROOM: WHAT SHOULD IT LOOK LIKE?
Kelly Meyer
Judith Reed and Janaki Tschannearl, faculty sponsors
Workshop • 9:10-10:10 a.m. • Science Center 163

INCORPORATING THE INTERNET AS AN ELEMENTARY CLASSROOM LEARNING TOOL
John Prior
Judith Reed and Janaki Tschannearl, faculty sponsors
Oral • 10:20-11:20 a.m. • Science Center 175

STANDARDS VS. SOCIAL JUSTICE: IS THERE TIME IN THE CURRICULUM FOR BOTH?
Cristina Casillo
Judith Reed and Janaki Tschannearl, faculty sponsors
Oral • 11:30 a.m.-12:30 p.m. • Science Center 163

THE EFFECTS OF VOCAL VS. INSTRUMENTAL BACKGROUND MUSIC IN THE ELEMENTARY CLASSROOM
Brenda Perry, Michael Ricci
Judith Reed and Janaki Tschannearl, faculty sponsors
Poster • 3:05-4:05 p.m. • Student Center, Mabel Brown Room

Health Science: Nutrition Option
DYNAMIC FLAVORS OF BREAST MILK AND FOOD PREFERENCES IN CHILDHOOD
Liza Drew
Pamela Smith, faculty sponsor
Oral • 9:10-10:10 a.m. • Science Center 161

IMPLICATIONS OF DECREASING HONEYBEE POPULATIONS ON THE U.S. AND WORLD FOOD SUPPLY
Jennifer Gaboury
Pamela Smith, faculty sponsor
Oral • 9:10-10:10 a.m. • Science Center 161

Physical Education and Athletic Training
PHYSICAL ACTIVITY AND ACADEMICS
Matthew Cutts, Allison Franklin, Tracy Gray, Donald Webb
Martha Kenison and Stephanie Lavado, collaborative researchers
Linda Millard, faculty sponsor
Oral • 10:20-11:20 a.m. • Science Center 163

Safety Studies
BEHAVIORAL-BASED SAFETY IN THE COLLEGE KITCHEN
George Klebart, Benjamin Lazich, Allison McPhee, Erin Ridgley, Christopher Stock, Michael Vitone
Wayne Hartz, faculty sponsor
Oral • 1:55-2:55 p.m. • Science Center 129

LIVING FREE AND DYING YOUNG: EXPLORING NEW HAMPSHIRE’S COLLEGE-AGE SEATBELT USE
Corey Miner, Victoria Stoessel
Wayne Hartz, faculty sponsor
Oral • 1:55-2:55 p.m. • Science Center 129

Secondary Education/Social Studies
TEACHING ABOUT THE CHANGING ROLES OF WOMEN IN SOCIETY VIA SIGNIFICANT HISTORICAL EVENTS
Elizabeth Rand
Jason Endacott, faculty sponsor
Oral • 1:55-2:55 p.m. • Science Center 161
Sciences and Social Sciences

**Biology**

DEVELOPMENTAL TOXICITY OF THE PYRETHROID BIFENTHRIN ON THE AMPHIBIAN *XENOPUS LAEVIS*

J-Lynne Brown, Jill Gormley, Nicholas Strizzi
Susan Whittemore, faculty sponsor
Poster • 3:05-4:05 p.m. • Student Center, Mabel Brown Room

EFFECTS OF THE PESTICIDE BIFENTHRIN ON GASTROINTESTINAL TRACK MORPHOLOGY IN METAMORPHOSING *XENOPUS LAEVIS* TADPOLES

Jade Halsey
Susan Whittemore, faculty sponsor
Poster • 3:05-4:05 p.m. • Student Center, Mabel Brown Room

EVOLUTION OF THE SMALL-FLOWEROED PASSIONFLOWERS

Erika Brooks, Jacob Neal
Kristen Porter-Utley, faculty sponsor
Poster • 3:05-4:05 p.m. • Student Center, Mabel Brown Room

**Chemistry**

UNTANGLING THE PASSIONFLOWER VINES: USING GENE SEQUENCES OF CYTGS TO UNDERSTAND THE BIOLOGY AND EVOLUTION OF AN IMPORTANT GROUP OF TROPICAL PLANTS

Lisa Bergeron
Kristen Porter-Utley, faculty sponsor
Poster • 3:05-4:05 p.m. • Student Center, Mabel Brown Room

THE SYNTHESIS AND CHARACTERIZATION OF NEW GERMYLENE-CONTAINING COMPOUNDS OF TRANSITION METALS

Katherine Edes, Elizabeth Neuhardt
Colin Abernethy, faculty sponsor
Poster • 3:05-4:05 p.m. • Student Center, Mabel Brown Room

**Computer Science**

SIMULATING SPACE: THE DEVELOPMENT OF A NEWTONIAN PHYSICS SIMULATOR

Eric Spencer
Michael Hanrahan, faculty sponsor
Oral • 11:30 a.m.-12:30 p.m. • Science Center 181

**Economics**

THE BUDGET SURPLUS OF THE 1990s: BILL CLINTON’S SOLUTION TO THE CROWDING-OUT PROBLEM

Mark Manganiello
Marie Duggan, faculty sponsor
Oral • 10:20 a.m.-11:20 a.m. • Science Center 129

**Geography**

A “KEENE” BILL OF HEALTH: VISION 2020 AND AN ASSESSMENT OF HEALTH IN KEENE, NEW HAMPSHIRE

Addie Gann, Erik Kokal, Shannon Parker, Benjamin Phelps
Christopher Cusack, faculty sponsor
Poster • 3:05-4:05 p.m. • Student Center, Mabel Brown Room

LIVE GREEN OR DIE: RECYCLING IN CHESHIRE COUNTY, NEW HAMPSHIRE

Lauren Evans, Jared Gasco, Laura Jalette, Candra Merreighn
Christopher Cusack, faculty sponsor
Poster • 3:05-4:05 p.m. • Student Center, Mabel Brown Room

**Criminal Justice/Sociology**

VICTIM’S ADVOCACY: RESTORATIVE JUSTICE

Ivy Downing
Rick Van Wickler, Peggy Walsh, faculty sponsor
Oral • 10:20 a.m.-11:20 a.m. • Science Center 102
MAY THE FORCE BE WITH YOU: WORKFORCE HOUSING IN THE MONADNOCK REGION
Sarah Forler, Torin Hjelmstad, Elizabeth Kane
Christopher Cusack, faculty sponsor
Poster • 3:05-4:05 p.m. • Student Center, Mabel Brown Room

NEW KIDS ON THE BLOCK: AN ANALYSIS OF STUDENT-HOUSING TRENDS IN SOUTHEAST KEENE, NEW HAMPSHIRE
Vanessa Ciarleglio, James Cunningham, Lindsay Lambert, Heather Soulard
Christopher Cusack, faculty sponsor
Oral • 1:55-2:55 p.m. • Science Center 161

PRELIMINARY GEOLOGIC-RESOURCE INVENTORY FOR THE TOWN OF MARLOW, NEW HAMPSHIRE
Lauren Cram, Brenton Walsh
Tania Coffin, faculty sponsor
Poster • 3:05-4:05 p.m. • Student Center, Mabel Brown Room

TALKING TRASH: AN ASSESSMENT OF SOLID-WASTE DISPOSAL IN KEENE, NEW HAMPSHIRE
Chelsea Brooks, Michael Jakubowski, Alex Kammler, Leah Maghini
Christopher Cusack, faculty sponsor
Poster • 3:05-4:05 p.m. • Student Center, Mabel Brown Room

THERE IS NO PLACE LIKE HOME: AFFORDABLE HOUSING IN MILFORD, NEW HAMPSHIRE
Virginia Malcolm, Daniel Moylan, Danielle Page
Christopher Cusack, faculty sponsor
Poster • 3:05-4:05 p.m. • Student Center, Mabel Brown Room

SPRING INTO ACTION: THE IDENTIFICATION, STUDY, AND PROTECTION OF VERNAL POOLS IN NELSON, NEW HAMPSHIRE
Kelsi Beausoleil, Beau Darak, Stephen Head, Brian Lacasse
Christopher Cusack, faculty sponsor
Poster • 3:05-4:05 p.m. • Student Center, Mabel Brown Room

Geology
FLUID INCLUSION STUDIES RELATING TO MINERAL PHASES FOUND WITHIN THE WISE MINE, WESTMORELAND, NEW HAMPSHIRE: T, P, AND X FLUID ANALYSIS
Brenten Austin
Peter Nielsen and Stephen S. Howe, Research Geochemist, University at Albany, Albany, New York, faculty sponsors
Poster • 3:05-4:05 p.m. • Student Center, Mabel Brown Room

Mathematics
A MATHEMAGICAL CARD TRICK
Amanda Benware, Christine Griswold
Vince Ferlini, faculty sponsor
Oral • 9:10-10:10 a.m. • Science Center 154

LET’S MAKE A DEAL: THE MONTY HALL PROBLEM
William Clarke
Vince Ferlini, faculty sponsor
Oral • 9:10-10:10 a.m. • Science Center 163

Mathematics Education
MATH-PHOBIA IN OUR CLASSROOMS
Andrew Croteau
Vince Ferlini, faculty sponsor
Oral • 9:10-10:10 a.m. • Science Center 154

PENTABLOCKS: A MANIPULATIVE FOR ALL GRADE LEVELS
William Clarke
Beverly Ferrucci, faculty sponsor
Oral • 1:55-2:55 p.m. • Science Center 163

RELATIONAL GEOSOLIDS
Amanda Benware
Beverly Ferrucci, faculty sponsor
Workshop • 1:55-2:55 p.m. • Science Center 163

Political Science
THE “USEFULNESS” OF POWER AND INFLUENCE IN INTERNATIONAL CONFLICTS
Michelle Sigiel
Wesley Martin, faculty sponsor
Oral • 10:20-11:20 a.m. • Science Center 102

Psychology
THE EFFECTS OF DIFFERENT TYPES OF MUSIC ON ANXIETY
Christine Nelms
Larry Welkowitz, faculty sponsor
Oral • 9:10-10:10 a.m. • Science Center 126
PERCEPTIONS OF THE ADOLESCENT MOTHER
Deanna Toney
Karen Couture, Larry Welkowitz, and Susan Menees, faculty sponsors
Poster • 3:05-4:05 p.m. • Student Center, Mabel Brown Room

THE NEGATIVE IMPACT OF HELICOPTER PARENTING ON PERSONALITY DEVELOPMENT
Alison Marino
Neil Montgomery, faculty sponsor
Poster • 3:05-4:05 p.m. • Student Center, Mabel Brown Room

THEMES IN THE DRAWINGS OF FIRST-GRADE STUDENTS FROM DIVORCED HOUSEHOLDS
Jocelyn Horton
Neil Montgomery, faculty sponsor
Poster • 3:05-4:05 p.m. • Student Center, Mabel Brown Room

Psychology Honors
AFFECT IN THE WORKPLACE AND THE INFLUENCE OF CORE SELF-EVALUATIONS ON EMPLOYEE/EMPLOYER RELATIONSHIPS
Sheri Lantagne
Karen Couture, Larry Welkowitz, and Donna Viverios, faculty sponsors
Poster • 3:05-4:05 p.m. • Student Center, Mabel Brown Room

SOCIAL SCIENCES
THE MEDIA’S PERCEPTION OF INDIVIDUALS NOT OF THE SOCIAL NORM
Charles Maceda-Maciel
Jason Endacott, faculty sponsor
Poster • 3:05-4:05 p.m. • Student Center, Mabel Brown Room

SOCIOLOGY
CONVENTIONAL VS. SUSTAINABLE AGRICULTURE IN BRAZIL
Amanda Abramson
Andrew Abel, faculty sponsor
Oral • 9:10-10:10 a.m. • Science Center 126

Cross Disciplinary

Spanish and Early Childhood Education
SPANISH CHILDREN’S LITERATURE
Kristen Pollock
Dottie Bauer, Barbara Ware, faculty sponsors
Oral • 1:55-2:55 p.m. • Science Center 175

Thinking and Writing
PARADOX OF ABUNDANCE
Gary Beisaw, Caitlin Bramucci, Amanda Izzo, Lauren Ochs
Ali Lichtenstein, faculty sponsor
Panel • 11:30 a.m.-12:30 p.m. • Science Center 102

Integrative Studies Program
Interdisciplinary

**Biology and Chemistry**
DIVERSITY OF POLYCYCLIC AROMATIC HYDROCARBON DEGRADING BACTERIA IN THE ASHUELOT RIVER
David Gutierrez
Loren Launen, faculty sponsor
Poster • 3:05-4:05 p.m. • Student Center, Mabel Brown Room

**Environmental Studies and Biology**
SALAMANDERS’ ROLE IN MERCURY BIOACCUMULATION IN AQUATIC AND TERRESTRIAL ECOSYSTEMS
Joshua Starkey
Renate Gebauer, faculty sponsor
Poster • 3:05-4:05 p.m. • Student Center, Mabel Brown Room

**Geography and Environmental Studies**
SUITABLE HABITAT FOR THE AMERICAN MARTEN (MARTES AMERICANA) IN SOUTHWESTERN NEW HAMPSHIRE
John Lorette
Klaus Bayr, faculty sponsor
Poster • 3:05-4:05 p.m. • Student Center, Mabel Brown Room

**Holocaust Studies**
INHERITING THE HOLOCAUST
Meagan Blais
Henry Knight, faculty sponsor
Oral • 9:10-10:10 a.m. • Science Center 102

RACIAL HYGIENE PRACTICES IN NAZI GERMANY: THE EFFECTS OF STERILIZATION AND EUTHANASIA ON WOMEN
Lauren Dance
Helen Frink, faculty sponsor
Oral • 9:10-10:10 a.m. • Science Center 102

**Psychology Honors and Health Science-Chemical Dependency**
THE IMPACT OF DIVORCE ON ADULT CHILDREN’S ALCOHOL USE
Cristina Sousa
Donna Viveiros, Karen Jennings, and Margaret Smith, faculty sponsors
Poster • 3:05-4:05 p.m. • Student Center, Mabel Brown Room

**Women’s Studies**
PRACTICING THROUGH THE DECADES: A RETROSPECTIVE LOOK AT WOMEN HEALERS AND THEIR ROLE IN SOCIETY
Lindsay Taflas
Patricia Pedroza, faculty sponsor
Performance • 9:10-10:10 p.m. • Student Center, Mabel Brown Room
Presentations Listed Chronologically

For a listing of presentations by academic school, see page 2.

8:15-9:00 A.M.
STUDENT CENTER ATRIUM

Presenters, sponsors, and attendees are welcome to pick up your programs and enjoy a continental breakfast.

9:10-10:10 A.M.
STUDENT CENTER, MABEL BROWN ROOM
PERFORMANCE

REVOLUTION VS. EVOLUTION
Student Presenter: Jessica Howard
Dancers: Riley Ahern, Shawn Ahern, Hannah Fluet, Angie Hartley, Becky Midler, Lindsay Taflas
Sponsors: Marcia Murdock, William Seigh
Discipline: Theatre and Dance

This presentation illustrates my investigation of contemporary choreographers Victoria Marks, Bill T. Jones, David Dorfman, and William Forsythe, who express political and societal activism through their art. Researching these choreographers and the use of print media served as a catalyst in the making of my own political dances. I will present works inspired from environmental and societal themes. The discussion of my creative process and the performance of two original works will be followed by questions from the audience.

PRACTICING THROUGH THE DECADES:
A RETROSPECTIVE LOOK AT WOMEN HEALERS AND THEIR ROLE IN SOCIETY
Student Presenter: Lindsay Taflas
Sponsor: Patricia Pedroza
Discipline: Women's Studies

Gender continues to influence our culture, knowledge, and social practices. From a Women's Studies perspective, this presentation discusses the exclusion of women's ways of gaining knowledge relating to social practices of medicine and ways of healing. This presentation explores three historical stages of such gender exclusion, arguing that gender inequalities still exist today. This presentation also includes a seven-minute dance piece that reinforces this argument, showing the complexities of integrating the study of feminist theory with creating choreography.

9:10-10:10 A.M.
SCIENCE CENTER
ORAL PRESENTATIONS, WORKSHOPS

S102
INHERITING THE HOLOCAUST
Student Presenter: Meagan Blais
Sponsor: Henry Knight
Discipline: Holocaust Studies

How do we “inherit” an experience that is un-inheritable? That existential dilemma confronts second- and third-generation witnesses who wish to transmit the story of the Holocaust to others. According to Primo Levi, a noted survivor of Auschwitz, the Holocaust and its aftermath have radically disrupted western civilization's understanding of itself and the very nature of civilization. How do we in subsequent generations pass on that interruptive witness when we, ourselves, have not experienced anything comparable? This paper discusses the memory of trauma and the limits of its transmission to and by those who have not experienced it. “Inheriting the Holocaust” addresses the “crisis of self” that accompanies the dislocating experience of coming to terms with this history. In addition to consulting works by Spiegelman, Wiesel, and other leading scholars, I use the power of interruptive prose to interject issues I have encountered in my journey through Holocaust Studies to explore the dynamics of powerlessness and shame.
RACIAL HYGIENE PRACTICES IN NAZI GERMANY
THE EFFECTS OF STERILIZATION AND EUTHANASIA ON WOMEN
Student Presenter: Lauren Dance
Sponsor: Helen Frink
Discipline: Holocaust Studies

Adolf Hitler was not fond of “inferior” members of society and believed they were “unworthy of life.” He felt it was his duty to improve the Aryan race by allowing those of “superior” breeding to procreate, and he was strongly opposed to “inferior” individuals reproducing. In essence, Hitler believed women within the Third Reich posed the greatest threat to German society. Consequently, they were most affected by his sterilization and euthanasia policies. Although “good Aryan” women were capable of producing “superior” children that could benefit the Reich, “inferior” women would produce “inferior” offspring who would only contaminate a pure Aryan society. This presentation highlights the impact of sterilization and euthanasia practices on women within the Third Reich.

Nazi theories of racial hygiene and eugenics acted as catalysts to the Final Solution to the Jewish question; racial hygiene was simply an obtuse premise that promoted the disposal of “inferior” individuals, based on contemporary eugenics thinking.

S126
THE EFFECTS OF DIFFERENT TYPES OF MUSIC ON ANXIETY
Student Presenter: Christine Nelms
Sponsor: Larry Welkowitz
Discipline: Psychology
Undergraduate Research Grant

This study examines the effects of different types of music on anxiety levels in approximately 60 college students. Heart rate, self-report, and the State-Trait Anxiety Inventory (STAI) will be used to measure the levels of anxiety in participants. There will be three groups: the control group, the ambient music group, and the rock group. The control group will sit in silence for 4½ minutes; the ambient music group will listen to calming, sedative music for 4½ minutes; and the rock group will listen to a song by the hard rock group Blindside for 4½ minutes. The hypothesis is that ambient music will reduce anxiety ratings and scores on the STAI as well as reduce heart rate significantly more than rock music will, and that rock music will actually increase anxiety ratings and scores and raise the heart rate in some participants.

CONVENTIONAL VS. SUSTAINABLE AGRICULTURE IN BRAZIL
Student Presenter: Amanda Abramson
Sponsor: Andrew Abel
Discipline: Sociology

Agriculture is an important part of South America’s society and economy. Brazil, in particular, has been subject to severe deforestation, and, consequently, agriculture is suffering. Forests are being cleared at a staggering destructive rate, which removes much of the traditional protection for the fragile soil. Soil degradation is one of the largest problems facing farmers in the rainforest region of Brazil. One of the ways that this study has found to combat this crisis is to switch to sustainable agriculture. This means practicing crop and pasture rotation without using chemicals, thereby allowing the environment to naturally replenish itself. This study examines the effects that different variables have on conventional and sustainable farming practices to better understand the problem Brazil is facing and to promote more environmentally friendly, sustainable farming practices.

S154
A MATHEMAGICAL CARD TRICK
Student Presenters: Christine Griswold, Amanda Benware
Sponsor: Vince Ferlini
Discipline: Mathematics

“Pick a card — any card!” Who hasn’t been amazed by a clever card trick? Card tricks are fun and fascinating; they baffle and delight because the audience doesn’t know the logic or secret behind them. This presentation looks at a particular trick: a person will draw five cards out of a standard deck and show four of them to the “mathemagician.” The mathemagician will then tell the audience what the fifth card is. A magician never reveals his or her secrets, but this presentation explains how the trick is performed and the mathematical system behind it.

MATH-PHOBIA IN OUR CLASSROOMS
Student Presenter: Andrew Croteau
Sponsor: Vince Ferlini
Discipline: Mathematics Education

How many times have you heard someone say, “I’m not good at math,” or “I hate math”? Many high school students feel this way, but why? What’s behind this all-too-common “math-phobia”? Based on interviews with high school students and observations of high school classrooms, this study examines the familiar aversion to math and identifies some of the concepts that often stymie
high school math students. This research presents some classroom strategies that math teachers can use to make their students more comfortable.

S161
DYNAMIC FLAVORS OF BREAST MILK AND FOOD PREFERENCES IN CHILDHOOD
Student Presenter: Liza Drew
Sponsor: Pamela Smith
Discipline: Health Science: Nutrition Option
Food preferences that are formed in childhood influence the food choices people make throughout their lives. However, the ways these food choices are developed is not well understood. Through breast milk, a neonate receives a variety of flavors that correspond to the mother’s diet. Early and frequent exposure to flavors has been shown to increase acceptance to those flavors later in childhood. Because infant formula lacks dynamic flavors, infants who are raised on it experience a limited variety of flavors until they begin eating solid foods. This presentation explores the importance of nutritional variety and the incidence of picky eating and food neophobia, as well as the possible relationship between nutritional variety and childhood obesity.

IMPLICATIONS OF DECREASING HONEYBEE POPULATIONS ON THE U.S. AND WORLD FOOD SUPPLY
Student Presenter: Jennifer Gaboury
Sponsor: Pamela Smith
Discipline: Health Science: Nutrition Option
This research examines the effect the declining honeybee population in the United States may have on our food supply. One-third of the agricultural crops in the United States rely on honeybee pollination. These crops include vegetables, fruits, nuts, and seeds — all important products and essential components of a healthy diet. This presentation focuses on the history of the problem, the causal factors, and the research the U.S. government and other organizations are currently conducting to determine solutions. The audience will learn how the decline in honeybees affects their health and future and what they can do to help alleviate the problem.

S163
LET’S MAKE A DEAL: THE MONTY HALL PROBLEM
Student Presenter: William Clarke
Sponsor: Vince Ferlini
Discipline: Mathematics
Remember the Monty Hall Problem, made famous by the popular game show *Let’s Make a Deal?* The show offered each contestant the opportunity to try to pick which of three doors concealed a valuable prize. In this presentation, an audience member chooses one of three doors, but doesn’t open it. Then the host opens one of the two remaining doors, revealing a booby prize – a goat. Given a second chance, should the contestant stick with his or her original choice, or switch to the other unopened door? Does it matter? According to the basic laws of probability, there is a strategy that will maximize your chance of making the winning choice. Come on down and learn how!

COMMUNITY BUILDING IN THE CLASSROOM: WHAT SHOULD IT LOOK LIKE? (WORKSHOP)
Student Presenter: Kelly Meyer
Sponsors: Judy Reed, Janaki Tschannerl
Discipline: Education (Masters Program: Curriculum and Instruction)
This participatory workshop explores the components that are critical to building an interactive, engaging community within the elementary classroom, including a variety of factors that are important in creating a collaborative and safe learning environment. The presentation will include information from the literature on building the classroom community as well as the presenter’s conclusions gained through classroom observations and interviews with teachers and students at a local elementary school.

S181
TESTIMONY OF A MOTHER-WITNESS: ANNA AKHMATOVA’S REQUIEM
Student Presenter: Larissa Miller
Sponsor: Ann Schur
Discipline: English
Anna Akhmatova (1888-1966) is regarded as one of the most influential Russian women poets of the 20th century, though much of her work was banned until after Stalin’s death. Akhmatova’s family also became victims of Stalin’s political repression. Her husband was executed for supposed political crimes and her son was jailed several times. Upon the second arrest of her son, Akhmatova wrote a cycle of poems titled Requiem, illuminating the anguish of her situation. Each poem in the cycle, written at different times, expresses a different narrative persona. This paper examines the shifts in narration that Akhmatova uses throughout all of the poems within Requiem to show the complexities of her personality during this experience. The blending, merging, and ambiguity of the pronouns she employs encode the various aspects of Akhmatova’s private trials, such as her grief, fear, and denial, and raise her deeply personal poem to a public testimonial.
MINSTRELSY AND MIMICRY: THE BLACK FEMALE FACTOR IN THE POLICED PURSUIT OF BLACK MASCULINITY IN THE JIM CROW SOUTH
Student Presenter: Samantha Bardell
Sponsor: Michael Antonucci
Discipline: English

When examining race rituals and race relations within the context of African American experience in the United States, the importance of gender roles and dynamics quickly becomes evident. Close readings of fictional works by 20th-century black writers Richard Wright, Zora Neale Hurston, and Toni Morrison illustrate how black masculinity is shaped by black women's social identities. In Uncle Tom's Children, Their Eyes Were Watching God, and Jazz, masculinity is withheld from and acquired by black male characters when black or white male figures dominate black female characters. For critic Eric Lott, these tensions are made evident in minstrel shows in which white perceptions of black masculinity and black mimicry of white masculinity are preformed. This presentation looks at how the masculinity of black male characters is manipulated, under both Jim Crow segregation in the South and racial caste systems in the North.

10:20-11:20 A.M.
SCIENCE CENTER
ORAL PRESENTATIONS, WORKSHOPS

S102
VICTIM'S ADVOCACY: RESTORATIVE JUSTICE
Student Presenter: Ivy Downing
Sponsors: Rick Van Wickler, Peggy Walsh
Discipline: Criminal Justice/Sociology

Restorative justice is an innovative approach that could be used to reduce recidivism rates and the number of criminals in the United States. This presentation defines restorative justice and explains how it can be implemented in the criminal justice system. By applying a sociological perspective, we can see how victims heal and how a community's spirit can be revived. Research demonstrates that restorative justice can be coupled with incarceration by law or policy. Restorative justice involves bringing the offender, victim, and their families and communities together. Society could become whole by returning the responsibility of crime back to the offender with the injured party and community (also a victim) becoming part of the process.

THE “USEFULNESS” OF POWER AND INFLUENCE IN INTERNATIONAL CONFLICTS
Student Presenter: Michelle Sigiel
Sponsor: Wesley Martin
Discipline: Political Science

If political power and political influence are to have the impact on international politics that analysts of international conflict say they could have, then key differences between power and influence should be made clear to the people and policy makers who are involved in any given conflict. This project draws upon the scholarly literature on “power” and “influence,” and examines the applicability of these important constructs to specific problems that international actors (such as the United States and the United Nations) face when they confront the breakdown of international norms in governance. By giving particular attention to the genocides of Rwanda, Darfur, and Somalia, the presentation shows how the concepts and realities of power and influence vary in their “usefulness” to analysts and political actors.

S126
RESISTING THE WRITTEN WORD: ORAL TRADITION IN AMERICAN INDIAN LITERATURE
Student Presenter: Caitlin Spencer
Sponsor: Sally Joyce
Discipline: English

American Indian literature employs techniques of expression that are exclusive to its culture. One crucial characteristic that separates American Indian literature from other American literature is the use of the oral tradition, the method of expression by which American Indians communicate history and stories. By incorporating the oral tradition into their novels, American Indian authors resist assimilation into conventional white American literary culture. Leonard Crow Dog’s autobiography, Crow Dog, Sherman Alexie’s novel, Reservation Blues, and Anna Lee Walters’ novel, Ghost Singer, are texts that emphasize the resistance of the oral tradition by making it an essential, prominent aspect of the text. This presentation examines how the oral tradition is preserved through these texts and how this method refuses to conform to traditional American ways of conveying history.
HARRY POTTER AND THE HOLOCAUST

Student Presenter: Trisha Simons
Sponsor: Meriem Pages
Discipline: English

In the seventh installment of the Harry Potter series, the magical world seems irreparably fractured: The “mudbloods,” men and women with magical ability, but born to nonmagical parents, are treated by the “pure bloods” as less than human. The evil sorcerer Voldemort spearheads the promotion of this prejudice. This presentation argues that there are also other reasons that Rowling would use this particular prejudice in her novel. There are ties between the Holocaust and the Harry Potter series, and Rowling may be using these books as a tool to teach children about the Holocaust. Throughout the series, Rowling combines the genres of children’s literature and fantasy to produce a highly creative and entertaining story that allows children to understand the horror and trauma of the Holocaust.

THE BUDGET SURPLUS OF THE 1990s: BILL CLINTON’S SOLUTION TO THE CROWDING-OUT PROBLEM

Student Presenter: Mark Manganiello
Sponsor: Marie Duggan
Discipline: Economics

A budget surplus occurs when the federal government receives more in tax dollars than it spends. In 1998 the federal government achieved a budget surplus for the first time in 29 years. An economic boom accompanied this surplus, meaning that jobs were created, salaries increased, businesses were able to sell their products at a profit, and the stock market rose. My research investigates whether it was Clinton’s policies or “luck” that caused the surplus and the boom. President Clinton’s policy at the time was debt reduction by raising taxes, cutting welfare, and reducing government spending. His policies were based on the idea that government debt was negatively affecting markets by raising interest rates for all. Clinton’s approach by the end of his presidency was proven to be the right one, as debt reduction lead to lower long-term interest rates, helping the economy to grow. This presentation analyzes the fiscal accomplishments of the time and looks at where they occurred. I conclude that Clinton’s policies were important in reaching the budget surplus. It was not all luck. It is important to understand what steps Clinton took to reach the budget surplus, so future policy makers can learn from them.

WELCOME TO THE DOOM GENERATION: AN ANALYSIS OF GREG ARAKI’S FILMS AS APOCALYPTIC TEXTS

Student Presenter: Jessica Correia
Sponsor: Teresa Podlesney
Discipline: Film Studies

Since the 1950s, secular visions of apocalypse have permeated American social thought. The apocalypse may be immanent – the inevitable result of a combination of negative effects from contemporary social phenomena such as over consumption, violence, and sexually transmitted diseases. This presentation combines research in film studies and sociology to examine director Gregg Araki’s 1990s films as predicting a social apocalypse in their display of the destructive lifestyles of narcissistic individuals living in the era of HIV/AIDS. Araki’s work will be historically situated in political and stylistic relationship to European modernist cinema and to the U.S. avant-garde through specific reference to the work of Jean-Luc Godard and Kenneth Anger. Durkheim’s theories of division of labor, social solidarity, and suicide and Marx’s theory of conflict will provide the social-theory framework for a discussion of the critical force of Araki’s post-punk film aesthetic.

PHYSICAL ACTIVITY AND ACADEMICS

Student Presenters: Matthew Cutts, Tracy Gray, Allison Franklin, Donald Webb
Collaborative Researchers: Martha Kenison, Stephanie Lavado
Sponsor: Linda Millard
Discipline: Physical Education/Athletic Training

Though it is common knowledge that physical activity is good for the human body, its relationship to academic performance is less well understood. This presentation examines research on the effects of physical activity on academic performance, specifically focusing on its effects on students’ classroom behavior, performance on standardized testing, and overall grades. Three types of physical activity will be highlighted: recess or activity breaks in the classroom, participation in athletics, and more or less physical education time. This presentation intends to provide a substantial amount of evidence indicating that physical activity, in a variety of forms, contributes to higher academic performance.
FROM THE EYES OF AN ATHLETIC-TRAINING INTERN: THE NEW ENGLAND PATRIOTS

Student Presenter: Matthew Cutts
Sponsor: Wanda Swiger
Discipline: Athletic Training

While 3.06 percent of athletic trainers practice in a professional setting, only 0.6 percent enjoy the grind of the NFL. As one of four athletic-training interns, I was privileged to have an experience with the New England Patriots this past season. Because few people encounter life behind the scenes of a professional sports organization, it is important for me to share my experience. This presentation offers outsiders a glimpse into the NFL. The PowerPoint highlights the days and weeks of the 2008-09 season. Moreover, I will illustrate how the experience has given me an appreciation of the real-world application of athletic training through an analysis of classroom theory and evidenced-based medicine.

INCORPORATING THE INTERNET AS AN ELEMENTARY CLASSROOM LEARNING TOOL

Student Presenter: John Prior
Sponsors: Judith Reed, Janaki Tschannerl
Discipline: Education (Masters Program: Curriculum and Instruction)

While Internet-connected computers are becoming increasingly present in elementary school classrooms, their use as educational tools is still limited. New media, such as blogging and Internet video, can be used to show students events and share modern-day, almost real-time experiences from anywhere in the world – places most students in southwest New Hampshire are not otherwise likely to experience. Using the Internet and new media tools, second-graders in Swanzey, N.H., were able to follow their intern teacher’s 10-day trek through Ecuador, experiencing the sights and sounds of South American culture in very-near real time. This presentation showcases the weblog and related media produced through a Keene State College geography department field-study course as well as related lessons implemented in the second-grade classroom.

ANALYZING PRINCIPLES AND PEDAGOGY OF SOCIAL-JUSTICE TEACHER-EDUCATION PROGRAMS IN THE UNITED STATES

Student Presenter: Atasi Das
Sponsors: Judith Reed, Janaki Tschannerl
Discipline: Education (Masters Program: Curriculum and Instruction)

Abscent of a deep understanding of the roots of social injustice, teachers may unintentionally perpetuate supremacist ideology and discriminatory social stratification. In order to address the inequities resulting from race, class, and gender differences, several institutions of higher education have developed teacher-education programs with a social-justice focus. Surveys and interviews were conducted with administrators and educators in social-justice teacher-education programs in order to explore the question: What are we teaching future educators about social justice, and how are we teaching it? Based on the work of Paolo Freire and other critical educators, this presentation includes an analysis of the principles and pedagogy employed in social-justice teacher-education programs, and the implications for future educators.

11:30 A.M.-12:30 P.M.
SCIENCE CENTER
PANEL PRESENTATIONS
(ONE-HOUR PRESENTATIONS)

S102
TOXIC CULTURES: THE EFFECTS OF MERCURY AND LEAD IN VARIOUS CULTURES

Student Presenters: Nathan Rowe, Vanessa Ward, Nicole Ferri, Kelly Payeur, Elizabeth Malone
Sponsor: Karen Jennings
Discipline: Psychology Honors

In recent years, research has revealed the highly toxic nature of lead and mercury, and now we are beginning to understand the effects and troubles these metals have caused and how to prevent such problems. Different cultures and regions of the globe have had their own unique experiences with lead and mercury, and this panel discussion looks at the assorted roles, uses, and effects these substances have had in various cultures worldwide, focusing specifically on the United States, South America, China, and Africa.
REFLECTIONS OF SPANISH LITERATURE: STUDENTS’ MODERN INTERPRETATIONS OF HISPANIC POETRY
Student Presenters: Marie Toutaint, Marc Perreault, Kerstin Yohann, Megan Allyn, Tracy Gilpin, Chelsey Duranleau
Sponsor: Barbara Ware
Discipline: Spanish
This presentation focuses on various Hispanic poets throughout the literary ages, from the times of mysticism through postmodernism. The students conducting this panel have researched a poet and his or her respective era, and they have written an original poem reflecting the stylistic elements of that era and poet. The panelists discuss the various time periods as well as their chosen poets and demonstrate how each panelist’s poetry echoes the Hispanic poet’s works. Students will read their original poems, as well as works by such writers as Manuel Gutiérrez Nájera, José Martí, Pablo Neruda, and Gustavo Adolfo Bécquer. The presentation will be conducted in Spanish.

VIEWPOINTS ON CHRISTIANITY IN FILM
Student Presenters: James Hayward, Benjamin McPherson, Aiden Broadbent
Sponsor: Teresa Podlesney
Discipline: Film Studies
Christian themes and stories have been a rich source of inspiration for films since the beginning of film history. There are Christian references in the characters, plots, message, or subtle imagery of countless films. This project explores Christianity in English-language films, discussing and contrasting three areas. James Hayward investigates the techniques used to incorporate Christian themes into narrative fiction films, with discussion of how this incorporation differs between Christian-financed and secularly financed films. Ben McPherson explores how the representation of Christianity in film has changed over the past few decades, in relation to the evolution of Christianity in U.S. politics and society in general, culminating in the presidency of George W. Bush. Finally, Aiden Broadbent discusses the different characterizations of the Antichrist in film, from overt “devil” characters to average individuals who evolve into the Antichrist through processes of narrative.

OTHER FEMINISMS
Student Presenters: Chelsea Delnero, Melissa Dickie
Sponsor: Brinda Charry
Discipline: English
Participants in this panel examine feminist traditions in subaltern literary traditions. Chelsea Delnero examines post-colonial writing by East Indian women poets writing in English and looks at how these women give voice to “feminist” concern in their verse, in ways different from their Western counterparts. Melissa Dickie examines the writing of black American women during the Black Arts and Power movements and looks at how these women attempt to reclaim their history and situate themselves in the politics and aesthetics of blackness and womanhood.

LIVING BILINGUAL: LATINO POPULATION IN NEW ENGLAND
Student Presenters: Annelies Spykman, Kelley Camara, Lauren Stark
Sponsor: Patricia Pedroza
Discipline: Spanish
New England is not known for its Latino population. However, immigrants from almost every Latin-American country live in the six states that make up the region. Within the Latino population, ongoing discussions over bilingual education and its effectiveness continue in the news, at PTOs, at school boards, and around kitchen tables. On the one hand, bilingual education allows children to learn in their native language, while also learning English, thus increasing their learning capacity. On the other hand, many people feel that it inhibits immigrant children from fully assimilating into the culture and language of the United States. This panel evaluates the multiple contradictions that frame the discussion of bilingual education in the Latino population in New England and examines the challenges Keene State College students face when learning a second language in the college setting. After analyzing statistics and relevant stories, the panel will open the discussion to the room.
11:30 A.M.-12:30 P.M.
SCIENCE CENTER
ORAL PRESENTATIONS

S175
PARADOX OF ABUNDANCE
Student Presenters: Gary Beisaw, Caitlin Bramucci, Amanda Izzo, Lauren Ochs
Sponsor: Ali Lichenstein
Discipline: Integrative Studies Program: Thinking and Writing

Bridging the gap between societies with abundant food sources and others experiencing food shortages and famine is a pressing humanitarian issue. This panel discusses global agriculture, food distribution, and alternative food sources and looks at their worldwide health and socio-economic ramifications. Our research areas include historical examples, present-day media influence, and projections for the future. The global grain obsession and industrial food markets are significant causes of global famine and environmental degradation; local/indigenous practices will improve current harmful agriculture and economic practices. While there needs to be more focus on local food alternatives, research for future alternative food options, such as cultured or lab-produced meat, is also imperative. This panel not only presents its research findings, but also hopes to make its audience more aware of these critical global issues.

WHERE THE ROMANTIC MEETS THE MODERN
Student Presenter: Thomas Simmons
Sponsor: Anna Schur
Discipline: English

This research examines “the creature” from Mary Shelley’s Frankenstein (1818) and Ophelia, a machine named after Shakespeare’s heroine and programmed to feel emotions, from Yuri Olesha’s Envy (1927). Despite the many differences, “the creature” and Ophelia are both man-made living beings who share profound emotions and turn against their creators. Frankenstein comes from the romantic period of early 19th-century English literature and epitomizes romanticism with its sublime images and themes of overpowering emotions and struggles between titanic wills. Envy comes from the Soviet Union of the 1920s and epitomizes modernism with its focus on individual perception of reality and experimental forms and an emphasis on unifying opposites. The existence and shared qualities of the characters “the creature” and Ophelia in these divergent movements of literature evince the similarities between romanticism and modernism.

S127
THE GLORIOUS CORRUPTION: AN EXAMINATION OF ANDREI SINIAVSKY’S THE TRIAL BEGINS AND YURI OLESHA’S ENVY
Student Presenter: Kelly Wass
Sponsor: Anna Schur
Discipline: English

From its emergence to its decline, Soviet ideology routinely rationalized the regime’s violence by reference to history. It argued that the arrival of the communist future would validate all sacrifices and justify the means used to achieve it. Andrei Sinyavsky’s The Trial Begins (1960) and Yuri Olesha’s Envy (1927) both critique this argument and explore its reach in the public and private lives of Soviet citizens. This presentation argues that the novels depict the idea of the ends justifying the means as one that taints not only relationships in the public sphere but also invades private lives and poisons intimate affairs.

S163
STANDARDS VS. SOCIAL JUSTICE: IS THERE TIME IN THE CURRICULUM FOR BOTH?
Student Presenter: Cristina Casillo
Sponsors: Judith Reed, Janaki Tschannerl
Discipline: Education (Masters Program: Curriculum and Instruction)

With the growing demands imposed by state and federal standards and high-stakes testing, “teaching to the test” is becoming more and more common in the public school classroom. Given such inflexible expectations, how can teachers implement new curriculum? This presentation examines the importance of multicultural education within the classroom and demonstrates practical ways in which social-justice principles can be incorporated into the mandated curriculum while still meeting state and federal standards. Examples of experiential learning in the classroom will be showcased as well as ideas for raising awareness and understanding of racism, class inequalities, sexism, and other social-justice issues.
THE UNITED KINGDOM NATIONAL CURRICULUM: AN EDUCATIONAL APPROACH THAT IS TOO PRESCRIPTIVE, OR A CORE PROGRAM TO BE TREASURED?

Student Presenter: Jessica Buttafuoco
Sponsor: Dottie Bauer
Discipline: Education

The United Kingdom National Curriculum was introduced in England, Wales, and Northern Ireland (1989) to ensure that all local education authorities would share a common curriculum that included fundamental material. Ultimately, the curriculum grew to fill the entire teaching time of most schools. As a result, the National Curriculum became highly controversial. Some teachers and U.K. citizens believe that it is too prescriptive, whereas others think that it is a brilliant way of monitoring education throughout the nation. Despite the constant debate, it is evident that the nationwide curriculum is necessary but must be flexible; it should allow teachers to implement creative learning activities that meet the needs of all children. Through this presentation, audience members will gain an understanding of the U.K. educational system and learn about the presenter’s internship experience at St. Clement and St. James schools in London, England.

SIMULATING SPACE: THE DEVELOPMENT OF A NEWTONIAN PHYSICS SIMULATOR

Student Presenter: Eric Spencer
Sponsor: Michael Hanrahan
Discipline: Computer Science

Our universe is an endless set of possibilities built from a limited set of physical rules. How can such complexity grow from such simplicity? This simulation demonstrates how the laws of gravitation can produce some of the more recognizable patterns we see across the universe. This project will use the Java programming language implemented within the Eclipse development environment to apply the laws of Newtonian Physics to aggregate space debris. This simulator will demonstrate how this debris will orbit and collide to form structures that can resemble constellations, stars, and solar systems. The movements and positions of these particles are displayed in a three-dimensional space observable from any position. This simulator can demonstrate how different starting conditions can evolve to yield different orbital patterns and structures, and, in a greater sense, it can portray how, sometimes, apparently complex things are really governed by quite simple rules.

12:35-1:45 P.M.
PRESENTER’S LUNCHEON
ZORN DINING COMMONS

Provost’s Welcome: Dr. Mel Netzhammer

Presentation of President’s Writing Award to Ryan LaLiberty

Keynote address: “The Trouble with Scholarship,” by Dr. Mark Long, English professor, Keene State’s 2009 recipient of the Faculty Distinction in Research and Scholarship Award

1:55-2:55 P.M.
SCIENCE CENTER
ORAL AND WORKSHOP PRESENTATIONS

S102
MOTION PICTURE
Student Presenter: Taylor McIntosh
Sponsor: Ted White
Discipline: Film Studies
Undergraduate Research Grant

This experimental Motion Picture uses the camera to present that there is artistic value in urban settings, and picture frames and filmstrips do not restrict such art. However, it does require a certain awareness to see this beauty. The mundane cityscape of Lewiston, Maine, will be used to flip people’s thoughts about what art is and what art’s restrictions are – or aren’t. This experiment presents three stages to this transition: first will be the uncovering of an art piece entitled Motion Picture, in which people in an art gallery witness reality as art. The second stage involves the demolition of this art gallery, leaving only a single floating picture frame, thereby removing another popular restriction of art. The third stage does not include galleries or picture frames, leaving the audience to explore its own opinions about the nature of art.
HONEY MACHINE: FILM SCHOOL IN 26 LETTERS
Student Presenter: Jenny Plante
Sponsor: Ted White
Discipline: Film Studies
Undergraduate Research Grant
This 30-minute experimental documentary focuses on the issue of sexism in film school and the film business. The film is organized by the 26 letters of the alphabet, representing such things as the names, phrases, themes, and terminology used in film school and the film business. The presentation provides a constructive critique with thoughtful observations, paying special attention to the letter “I,” which stands for “interview.” The presenter will interview a female high school student and ask why she may or may not be considering film as a possible major or career for herself.

BEHAVIORAL-BASED SAFETY IN THE COLLEGE KITCHEN
Student Presenters: Christopher Stock, George Klebart, Ben Lazich, Michael Vitone, Erin Ridgley, Allison McPhee
Sponsor: Wayne Hartz
Discipline: Safety Studies
According to the U.S. Fire Administration, cooking is the second-leading source of fire on American college campuses. Behavioral-based safety deals explicitly with people’s behaviors and tendencies and how they react to certain situations. This approach emphasizes behavioral safety analysis, supportive and corrective conversation, and high-performance teamwork. Using a behavioral-based safety approach, this presentation identifies at-risk behaviors, analyzes why and how the behaviors occur, and determines opportunities for change within on-campus and off-campus college housing. This research project includes working with college students who live on and off campus in order to evaluate and reduce the risk of fires by engaging them in applied behavioral research. Determining risk factors, observing students’ actions, and then implementing a training program involving the students will increase their awareness of the many risks associated with kitchen safety. By promoting behavioral-based safety awareness, we anticipate a dramatic increase of safe cooking and kitchen behaviors.

LIVING FREE AND DYING YOUNG: EXPLORING NEW HAMPSHIRE’S COLLEGE-AGE SEATBELT USE
Student Presenters: Victoria Stoessel, Corey Miner
Sponsor: Wayne Hartz
Discipline: Safety Studies
According to the National Transportation Safety Board, seatbelt use in New Hampshire is the lowest in the country. The leading cause of death nationwide for 18 to 24-year-olds is automobile accidents. Those involved in car accidents in New Hampshire have a much higher fatality rate than do college-age people just south of the border in Massachusetts. Massachusetts has an enforceable seatbelt law, whereas New Hampshire has no adult seatbelt law. This research explores why New Hampshire has the lowest seatbelt usage in the nation and what factors play into the behavioral, psychological, and social influences of choosing not to wear a seatbelt. This presentation also looks at ways to increase seatbelt usage among Keene State College students, with a view to increasing seatbelt usage among all college-age students.

TEACHING ABOUT THE CHANGING ROLES OF WOMEN IN SOCIETY VIA SIGNIFICANT HISTORICAL EVENTS
Student Presenter: Elizabeth Rand
Sponsor: Jason Endacott
Discipline: Secondary Education/Social Studies
Weaving a consistent historical thread throughout a social studies course is an effective way to improve students’ understanding of the past. Through the use of multiple resources, this presentation demonstrates how teachers can use significant historical events to help students understand the changing role of women throughout the evolution of American society. This presentation focuses on the changing roles of women before, during, and immediately after World War II as a way to illustrate its point. Emphasis will be placed on analysis and interpretation of primary sources pertaining to women during this time period as well as how this instructional strategy can be used at different points throughout the curriculum.
**NEW KIDS ON THE BLOCK: AN ANALYSIS OF STUDENT-HOUSING TRENDS IN SOUTHEAST KEENE, NEW HAMPSHIRE**

Student Presenters: James Cunningham, Vanessa Ciarleglio, Lindsay Lambert, Heather Soulard  
Sponsor: Christopher Cusack  
Discipline: Geography

This study identifies the social and physical characteristics of student housing in the residential neighborhood of southeast Keene, N.H. Drawing on secondary research, this study provides the context necessary to comprehend themes set forth. Primary data-collection methodologies consisted of a door-to-door survey and housing-quality assessment. This data is used to detect significant differences between the two major demographics of study: student residents and nonstudent residents of southeast Keene. Student housing is increasing not only in southeast Keene, but also throughout the city. This study reveals that student households comprise 19 percent of the neighborhood; however, they represent a disproportionate rate of building-code violations. If nothing is done to assuage this demographic transition, the social fabric of southeast Keene may continue to deteriorate, a concern commonly voiced by residents. Using other neighborhood revitalization efforts as an example, this study provides an outlook to the future of southeast Keene.

**S163**

**RELATIONAL GEOSOLIDS (WORKSHOP)**

Student Presenter: Amanda Benware  
Sponsor: Beverly Ferrucci  
Discipline: Mathematics Education

Recent research in the field of mathematics education has concluded that students learn differently. Students are considered auditory, visual, or kinesthetic learners. Therefore, it is essential that teachers develop a repertoire of techniques that allows them to teach to all learning styles. This workshop illustrates a teaching tool called Relational GeoSolids that can be used in a mathematics classroom. The study focuses on integrating Relational GeoSolids into various grade levels and gives the audience the opportunity to experience the tool as a student. As a result, the audience will gain first-hand experience on how Relational GeoSolids can positively affect the growth and development of students’ mathematical abilities in K-12 classrooms.

**PENTABLOCKS: A MANIPULATIVE FOR ALL GRADE LEVELS**

Student Presenter: William Clarke  
Sponsor: Beverly Ferrucci  
Discipline: Mathematics Education

Manipulatives are important tools that all teachers should be able to use in teaching mathematics. This presentation examines PentaBlocks, a manipulative that helps enhance mathematical thinking for students of all grade levels. Many mathematical topics can be discussed, learned, and reinforced using PentaBlocks. This study discusses the historical development of the six PentaBlock shapes and the golden ratio, as well as how, why, and when this manipulative can be used in a classroom setting. This presentation will dispel the misconception that manipulatives are only worthwhile during elementary and middle school.

**S175**

**SPANISH CHILDREN’S LITERATURE**

Student Presenter: Kristen Pollock  
Sponsors: Dottie Bauer, Barbara Ware  
Discipline: Spanish/Early Childhood Education

Teachers in schools across the country today have the responsibility to open their students’ minds to cultures of the diverse world we live in. This presentation of Spanish children’s literature highlights one of the many ways a teacher can incorporate another culture into their classroom. The books that were used hit a range of different genres of literature. Along with the books, there are also activities and lessons to use in teaching vocabulary skills and the target culture and in promoting the students’ literacy. This presentation derives from a study-abroad experience in Seville, Spain, with close attention to early childhood education that both language and education majors can find useful and interesting.
TEACHING CROSS-CULTURAL COMMUNICATION (WORKSHOP)
Student Presenter: Darya Bushmakin
Sponsor: Susan Theberge
Discipline: Education

With an increase of immigrants entering the United States and our world becoming more globalized every day, it is important to consider how we teach cross-cultural communication. This workshop, consisting of lecture and hands-on activities, demonstrates how cross-cultural communication education can help build stronger communities, encourage students to learn from each other, and teach valuable lessons regarding critical thinking. The workshop examines the process of using cross-cultural communication to build communities within classrooms and in local geographical settings.

S181
REDEFINING GENDER: FE/MALE CHARACTERIZATION IN SCIENCE FICTION
Student Presenter: Steven Gonzalez
Sponsor: Ali Lichtenstein
Discipline: English

All forms of literature are influenced by the social contexts in which they are produced. This presentation examines the construction of gender in science fiction. Emphasis will be on differences in the portrayal of male and female characters, including those of such canonical authors as Ray Bradbury, Ursula Le Guin, C. S. Lewis, Margaret Atwood, and Frank Herbert. This genre has predicted new scientific innovations and forewarned of potential moral, social, and environmental dilemmas. Science fiction may challenge as well as reproduce social norms. Since gender is arguably the most fundamental of all human divisions – recognized by every known society in history – this presentation explains how gender is reinforced and/or redefined within this genre.

ABEUNT STUDIA IN MORES: EVOLUTION OF EDUCATION IN THE ESSAY
Student Presenter: Kristen Loonie
Sponsor: Kirsti Sandy
Discipline: English

Educational philosophy has been explored, discussed, and developed through numerous literary genres and has been influenced by many thinkers. The essay has been one of the great literary mediums for the examination of educational philosophies. From “the father of the modern essay” Michel de Montaigne and the strict views of Francis Bacon to E. B. White’s 20th-century piece on public versus private schools, the essay has enabled writers to speak about the fundamental beliefs and values of education. This genre in particular enabled educational thinkers to explore the rhetoric associated with education and allowed them to insert their own experiences, stories, and values into their presentation.

3:05-4:05 P.M.
STUDENT CENTER, MABEL BROWN ROOM
POSTER PRESENTATIONS AND EXHIBITS

Exhibits
Student Center 309
THE ART OF NIGHT PHOTOGRAPHY
Student Presenter: William Wrobel
Sponsor: Robert Kostick
Discipline: Art

This digital photography exhibit showcases a collection of 10 to 15 photographs taken between dusk and dawn. These photographs reveal night scenes that would be impossible to see with the naked eye. Because people rarely take the time to stop and examine their surroundings at night, it is my hope that these photographs will invite the viewer to ponder nighttime scenes they might otherwise overlook.
A BRATTLEBORO COMMUNITY LIBRARY FOR THE 21ST CENTURY

Student Presenters: Keegan Nunley, Travis Streeter, Scott Bascom
Sponsors: Donna Paley, Bartlomiej Sapeta
Discipline: Architecture

This project presents the design of a new facility for the Brattleboro Community Library, with a goal of rethinking the traditional role of a library as a container for books. Design goals were established by studying the local landscape, environmental conditions, and social and cultural needs of Brattleboro, Vt. A building program was created to treat the library as an indoor main street lined with reading rooms, book storage units, an internet café, a movie theatre, community indoor and outdoor recreation spaces, and an intermodal transportation facility. A site was chosen adjacent to the Connecticut River, the Amtrak Station, and Main Street to accommodate the multilayered design criteria. The final design offered an environmentally responsible building that reclaimed a riverfront brownfield site, used local materials, reinforced a pedestrian-friendly downtown, and provided active indoor community space for the culture-rich center of downtown Brattleboro.

Posters

UNTANGLING THE PASSIONFLOWER VINES: USING GENE SEQUENCES OF CYTGs TO UNDERSTAND THE BIOLOGY AND EVOLUTION OF AN IMPORTANT GROUP OF TROPICAL PLANTS

Student Presenter: Lisa Bergeron
Sponsor: Kristen Porter-Utley
Discipline: Biology
Undergraduate Research Grant

During the first eight years of the 21st century, the landscapes of many areas of the world have changed rapidly. These changes have certainly impacted the passionflower family. Alterations to the environment are causing many species in this family to be classified as threatened or endangered. Collecting information on these beautiful plants is critical to our understanding of their biology and evolution as well as that of the insects and other animals interacting with them. A genetic marker, the cytosolically expressed glutamine synthetase (cytGS) gene, was sequenced and used to generate a hypothesis of evolution for a subgroup (subgenus Decaloba) of passionflower species. An evolutionary tree is very important in determining the evolutionary fate of these plants and how they are related to one another. The cytGS gene is allowing us to generate this tree before any threatened species disappear.

DEVELOPMENTAL TOXICITY OF THE PYRETHROID BIFENTHRIN ON THE AMPHIBIAN XENOPUS LAEVIS

Student Presenters: J-Lynne Brown, Jill Gormley, Nicholas Strizzi
Sponsor: Susan Whittemore
Discipline: Biology
Undergraduate Research Grant

This presentation examines the potential effects of bifenthrin, a mosquito-control pesticide used in New England, on developing amphibians. The model organism Xenopus laevis is used to identify the most sensitive stages of development in premetamorphic tadpoles. Different groups were exposed to the same dose of bifenthrin for one-week periods at different stages during development. Rates of development and growth were assessed, and tadpoles were examined for developmental defects and abnormal swimming behaviors by comparing treatment groups to control animals. Specific windows of sensitivity will be identified, and more experiments will be conducted in order to narrow down the window, if possible, to a specific stage of development. This study should be useful in determining when spraying for mosquitoes can be done safely and when it should be avoided.

EFFECTS OF THE PESTICIDE BIFENTHRIN ON GASTROINTESTINAL TRACK MORPHOLOGY IN METAMORPHOSING XENOPUS LAEVIS TADPOLES

Student Presenter: Jade Halsey
Sponsor: Susan Whittemore
Discipline: Biology
Undergraduate Research Grant

Amphibian populations are declining worldwide, possibly due to exposure to chemicals that disrupt normal physiological and developmental function. This presentation investigates the effect of environmentally relevant doses (1.0 and 2.5 ppb) of bifenthrin, a commonly used pyrethroid pesticide, on characteristics of the gastrointestinal (GI) tract (including standardized length, weight, and condition of the epithelial lining) of Xenopus laevis tadpoles as they progress through metamorphosis. Tadpoles were examined after six and 12 days of bifenthrin exposure and compared to control tadpoles to determine if there were differences in growth and rate of development. Although Xenopus is a nonnative species, the results of these experiments should help us to understand whether or not pyrethroid insecticides pose a risk to metamorphosing amphibians in the wild.
EVOLUTION OF THE SMALL-FLOWERED PASSIONFLOWERS
Student Presenters: Erika Brooks, Jacob Neal
Sponsor: Kristen Porter-Utley
Discipline: Biology
Undergraduate Research Grant
Passionflowers (genus *Passiflora*) are tropical vines that are known for their beautiful, complex flowers and delicious fruits. This study proposed a hypothesis of evolutionary relationships for a subgroup (subgenus *Decaloba*) of passionflowers. In order to construct an evolutionary tree for the species in subgenus *Decaloba*, we analyzed gene sequences of the nuclear ribosomal internal transcribed spacer (nrITS). We improved pre-existing protocols for the extraction of DNA from dried plant samples and for the amplification and sequencing of the nrITS gene. Projects of this kind are important because they often lead to the discovery of new species and allow scientists to better understand the biology of the organisms studied.

THE SYNTHESIS AND CHARACTERIZATION OF NEW GERMYLENE-CONTAINING COMPOUNDS OF TRANSITION METALS
Student Presenters: Elizabeth Neuhardt, Katherine Edes
Sponsor: Colin Abernethy
Discipline: Chemistry
Undergraduate Research Grant
The goal of our research project is to prepare and fully characterize chemical compounds that contain a germylene molecule that is attached to an atom of a transition-metal element; such compounds are currently not known to science. Germylene compounds contain an atom of the element germanium in a state that can potentially bind to other atoms by donating a pair of electrons. They are analogous to the widely used carbene molecules, which have the same structure but contain a carbon atom with a pair of nonbonding electrons instead of germanium. Compounds containing a carbene molecule attached to transition-metal atoms are now widely used as catalysts in industry. Therefore, germylene-containing transition-metal compounds may display similarly useful properties.

THE EFFECTS OF VOCAL VS. INSTRUMENTAL BACKGROUND MUSIC IN THE ELEMENTARY CLASSROOM
Student Presenters: Brenda Perry, Michael Ricci
Sponsors: Judith Reed, Janaki Tschannerl
Discipline: Education (Masters Program: Curriculum and Instruction)
Throughout all cultures, there is evidence of the existence and profound importance of music. In recent years, researchers have examined the many ways in which music impacts our lives. Research on the effects of background music in schools suggests that it helps to enhance desired student behavior and increase students’ on-task performance. However, studies also show that more research is necessary in these areas. The present study examines how various styles of background music affect the behavior, attention or focus, and perceived academic performance of elementary students in a New Hampshire classroom. The researchers present their findings on the effects of both instrumental and vocal music, including a variety of different musical genres, played during individual, partner, or small-group work time in the classroom.

POSTSTRUCTURALIST GENDER DYNAMICS IN LE GUIN’S NOVEL *THE LATHE OF HEAVEN*
Student Presenters: Stephanie Allen, Sarah Bernatas
Sponsor: Ali Lichenstein
Discipline: English
Poststructuralist authors have employed many techniques, including the intertextualizing of themes and roles, with which they attempt to influence the dominant discourse. This presentation focuses on the poststructuralist reworking of gender dynamics in Le Guin’s *The Lathe of Heaven*, a science fiction novel published in 1971 that questions the very idea of reality itself. In this novel, the three main protagonists deal with the moral and ethical implications of allowing dreams to shape the waking world. This presentation addresses the ways in which the author’s separation of sex and gender in these characters creates a fluidity that redefines the reader’s expectations of “hero” and “villain.”
MAY THE FORCE BE WITH YOU: WORKFORCE HOUSING IN THE MONADNOCK REGION
Student Presenters: Sarah Forler, Torin Hjelmstad, Elizabeth Kane
Sponsor: Christopher Cusack
Discipline: Geography
In conjunction with Heading for Home, a Keene-based nonprofit housing coalition, this study focuses on the issue of workforce housing in Keene and the Monadnock region of New Hampshire. Defined as a household that spends no more than 30 percent of its annual income on housing, affordable housing is becoming increasingly scarce throughout the Monadnock region. To assess the relative housing scarcity, this study employs both primary and secondary data analysis. Primary data was generated through a survey of planners and selectmen throughout the region to ascertain opinions regarding workforce housing. A second closed-response survey was distributed to members of the nursing profession to determine the impact of commuting on health-care professionals. Secondary data was utilized through assessed valuation of Keene property parcels for 2001 and 2008. Using Geographic Information Systems (GIS) mapping, results reveal a striking decline in available housing in the affordable range within Keene.

TALKING TRASH: AN ASSESSMENT OF SOLID-WASTE DISPOSAL IN KEENE, NEW HAMPSHIRE
Student Presenters: Chelsea Brooks, Alex Kammler, Michael Jakubowski, Leah Maghini
Sponsor: Christopher Cusack
Discipline: Geography
The city of Keene, N.H., recently passed an ordinance requiring dumpster screenings for all dumpsters, roll-off containers, or cans greater than 64 gallons on city properties. This project maps the absolute location of all city dumpsters and correlates the presence of dumpsters with the presence of Keene State College students. Geographic Information System (GIS) technology is used to create maps demonstrating all dumpster locations in Keene, as well as all off-campus housing for Keene State College students. A quality-of-life survey was conducted in a neighborhood near Keene State College. Survey results, using the Statistical Package for the Social Sciences (SPSS), indicate that, while dumpsters affect quality of life, they are not a leading variable. Final results of the project show a significant correlation between the number of visible dumpsters and Keene State College students.

A “KEENE” BILL OF HEALTH: VISION 2020 AND AN ASSESSMENT OF HEALTH IN KEENE, NEW HAMPSHIRE
Student Presenters: Addie Gann, Erik Kokal, Shannon Parker, Benjamin Phelps
Sponsor: Christopher Cusack
Discipline: Geography
This community-health assessment of Keene, N.H., was undertaken in collaboration with the Vision 2020 program at Cheshire Medical Center. Vision 2020’s goal is to make Keene the healthiest community in the nation by the year 2020. This health assessment divides the population of Keene into four age groups: children/youth (birth-17), college age (18-24), working force (25-54), and older adults (55+). Hypotheses, tested for each age group, address issues of socioeconomic status, population distribution, and alcohol usage. Project methodology includes primary and secondary data collection, Geographic Information System (GIS) mapping, survey, and associated statistical analysis. Income and rates of alcohol consumption provide the most telling results. Overall conclusions indicate that while Keene is a healthy community relative to other communities, some improvements can be made to enhance overall wellness and health.

PRELIMINARY GEOLOGIC-RESOURCE INVENTORY FOR THE TOWN OF MARLOW, NEW HAMPSHIRE
Student Presenters: Lauren Cram, Brenton Walsh
Sponsor: Tania Coffin
Discipline: Geography
As part of the New Hampshire Department of Environmental Services grant-funded Natural Resource Inventory for the town of Marlow, a preliminary geologic-resource inventory of the town was conducted. Work completed on behalf of the Marlow Conservation Commission included a thorough investigation of publically available resources pertaining to the geology and existing mineral resources of the area, a field investigation of abandoned mineral quarries, the creation of bedrock-geology and stratified drift-resource maps for the town using Geographic Information Systems (GIS) and publically available data files, and a compilation of state and federal regulatory agencies and policies that pertain to use of geologic resources. The work serves as part of the in-kind contribution of volunteer hours required of the Marlow Conservation Commission by the grant.
SPRING INTO ACTION: THE IDENTIFICATION, STUDY, AND PROTECTION OF VERNAL POOLS IN NELSON, NEW HAMPSHIRE
Student Presenters: Kelsi Beausoleil, Beau Darak, Steve Head, Brian Lacasse
Sponsor: Christopher Cusack
Discipline: Geography
Seasonally inundated depressions in the forest floor, vernal pools are small in size, isolated from larger wetland features, and not permanently inundated, making them difficult to find. However, they are immensely important to the species that rely upon them for breeding purposes. New Hampshire is one of the many states that does not classify vernal pools directly under wetland-conservation regulation. Much of vernal pool identification and protection starts with public participation and initiative. To further such efforts in the town of Nelson, N.H., Keene State students worked in conjunction with Nelson residents to document vernal pools. Through field research and Geographic Information Systems (GIS) mapping, a threat assessment of 19 documented pools was generated. Findings reveal the need to increase awareness and foster interest in amending existing ordinances and establish a collection of habitat diversity maps and planning schemes within the town.

LIVE GREEN OR DIE: RECYCLING IN CHESHIRE COUNTY, NEW HAMPSHIRE
Student Presenters: Lauren Evans, Jared Gasco, Laura Jalette, Candras
Sponsor: Christopher Cusack
Discipline: Geography
This thesis tests the viability of a countywide recycling program in Cheshire County, N.H. Many experts in the field of recycling believe that the consolidation of recycling centers can lower per capita costs and increase the profitability of recycling. Larger, more mechanized facilities, such as the Keene Recycling Center, can process large quantities of recyclables in a short amount of time. It makes economic sense for small recycling centers to shut down and join larger nearby facilities. However, this consolidation process is difficult to initiate because of several obstacles, including those relating to social and convenience factors. In order to test whether such factors significantly curtail the consolidation process, secondary and primary data was collected and analyzed through use of Geographic Information Systems (GIS) mapping and statistical analysis. Results indicate that sociability does not play a significant role in attitudes toward recycling, while convenience is a statistically significant factor.

THERE IS NO PLACE LIKE HOME: AFFORDABLE HOUSING IN MILFORD, NEW HAMPSHIRE
Student Presenters: Virginia Malcolm, Daniel Moylan, Danielle Page
Sponsor: Christopher Cusack
Discipline: Geography
Across the United States, the cost of affordable housing, purchase prices, and rental prices have drastically risen over the last 15 years. Income levels have not kept pace with rising housing costs, making affordable/workforce housing a real problem on the national level. Affordable/workforce housing is determined by using the area’s median income (AMI). People making between 60 to 120 percent of the AMI should be able to afford housing, according to the New Hampshire Office of Energy and Planning. Tax-assessment data from Milford, N.H., is used in combination with an affordability calculator to determine the availability of affordable housing within the municipality. The distribution of parcels that are affordable at 80, 100, and 120 percent of the median income are mapped using ArcGIS. Case-study analysis of the town of Milford, N.H., reveals that the town does indeed have an affordable/workforce housing issue.

FLUID INCLUSION STUDIES RELATING TO MINERAL PHASES FOUND WITHIN THE WISE MINE, WESTMORELAND, NEW HAMPSHIRE: T, P, AND X$_{FLUID}$ ANALYSIS
Student Presenter: Brenten Austin
Sponsors: Peter Nielsen and Stephen Howe, Research Geochemist, University at Albany, Albany, New York
Discipline: Geology
Southern New Hampshire provides an excellent setting for studying geology – in particular, the effects of past mountain-building events and super-continent separations. This study focuses on the Triassic rifting event as recorded in Westmoreland, N.H. The breakup of the super continent, Pangaea, created extensive tensional stress and normal faulting throughout southwestern New Hampshire. The study area contains evidence of hot, supersaturated fluids that migrated through the rifted crust and deposited fluorite and quartz veins. These deposits were mined (the William Wise and Stoddard mines) during the mid-1930s. The goal of this project is to map the deposits and analyze and distinguish fluid inclusions found within the mineral phases. This data will then be correlated with previous work done in the region, which will better constrain the model of the breakup of Pangaea and mineralizing-fluids migration.
SUITABLE HABITAT FOR THE AMERICAN MARTEN (MARTES AMERICANA) IN SOUTHWESTERN NEW HAMPSHIRE
Student Presenter: John Lorette
Sponsor: Klaus Bayr
Discipline: Geography/Environmental Studies

The American Marten (Martes americana) has been extirpated from southern New Hampshire because of urbanization and development of the New England landscape in recent times. American Martens are considered a threatened species in New Hampshire, with current populations found only in the northern regions of the state. This small, arboreal mammal prefers the dense cover of coniferous forests and avoids open fields, roads, and urban areas. This project used satellite imagery from Landsat 7 ETM and Raster GIS software to locate coniferous forest tracts with a contiguous area of at least one square mile, an elevation greater than 1,000 feet above sea level, and none of the constraints to marten habitat such as roads and agricultural areas. These tracts could be investigated in the future as possible sites to reintroduce the American Marten to southwestern New Hampshire.

THE IMPACT OF DIVORCE ON ADULT CHILDREN’S ALCOHOL USE
Student Presenter: Cristina Sousa
Sponsors: Donna Viveiros, Karen Jennings, Margaret Smith
Discipline: Psychology Honors/Health Science-Chemical Dependency

This study examines the impact of parental divorce on college students’ alcohol use. Students will be surveyed with respect to their level of alcohol consumption as well as the marital status of their parents. For those students whose parents are divorced, the student’s age at the time of divorce will be assessed. The study will compare alcohol consumption between students whose parents are not divorced and those whose parents divorced when they were under the age of 6, between the ages of 7 and 12, between 13 and 18, or more than 18. The predicted result is that divorce increases the children’s alcohol use, and the effect differs by age at the time of divorce.

DIVERSITY OF POLYCYCLIC AROMATIC HYDROCARBON DEGRADING BACTERIA IN THE ASHUELOT RIVER
Student Presenter: David Gutierrez
Sponsor: Loren Launen
Discipline: Biology/Chemistry
Undergraduate Research Grant

Bioremediation is the process of using microbes at polluted sites to degrade pollutants into less-toxic compounds. Better understanding of the microbes at contaminated sites helps scientists to better comprehend why some pollutants persist in some contaminated sites. I isolated and purified nine bacteria from known coal-tar sites located on the Ashuelot River in Keene, N.H., that were isolated on medium containing the coal-tar pollutants naphthalene and phenanthrene. Using partial DNA sequencing, four isolates have been identified as Pseudomonas putida, Pseudomonas plecoglossicida, and two similar but different strains of Paracoccus aminophilus. Complete 16S rDNA sequence data for one of these isolates has been obtained and used to determine its evolutionary history. This work provides insight into the microbiology of sediments of freshwater rivers that are polluted with coal tar.

SALAMANDERS’ ROLE IN MERCURY BIOACCUMULATION IN AQUATIC AND TERRESTRIAL ECOSYSTEMS
Student Presenter: Joshua Starkey
Sponsor: Renate Gebauer
Discipline: Environmental Studies/Biology
Undergraduate Research Grant

Mercury pollution is widespread in New England, but its effects are not fully understood, particularly in natural ecosystems. This study was done at the Hubbard Brook and Jeffers Brook watersheds in the White Mountains National Forest in order to understand the mercury bioaccumulation patterns in the Red Backed Salamander (Plethodon cinereus). Along streams and at sites away from streams, the tails of Plethodon cinereus and the soil insects this species feeds on were collected and analyzed for the stable isotopes $^{13}$C and $^{15}$N. Expected results of $^{13}$C ratios will show that mercury bioaccumulation occurs at a more rapid pace under anaerobic conditions in aquatic environments. In addition, $^{15}$N results will show that higher mercury levels found in salamanders are due to their higher position in the food chain, compared to the soil insects they feed on.
THE NEGATIVE IMPACT OF HELICOPTER PARENTING ON PERSONALITY DEVELOPMENT  
Student Presenter: Alison Marino  
Sponsor: Neil Montgomery  
Discipline: Psychology  
The term “helicopter parenting” has been used to describe an overly protective parenting style of the “baby boomer” generation. No actual data exists examining the impact of helicopter parenting on personality development. We developed a self-report scale to isolate students that have had helicopter parents. The scale proved to be reliable (alpha.704) and was correlated with 35 personality inventories ranging from self-esteem to narcissism. The subjects were 150 college students who were enrolled in an Introduction to Psychology course. About 10 percent of our subjects had helicopter parents. The helicopter parent tended to be the mother, and the “helicoptered” students were mostly female. The results indicated that helicopter parenting correlates with dependency (.389) and negatively correlates with openness, ego resiliency, and self-esteem. It appears that this new parenting style is not a positive one.

PERCEPTIONS OF THE ADOLESCENT MOTHER  
Student Presenter: Deanna Toney  
Sponsors: Karen Couture, Larry Welkowitz, Susan Menees  
Discipline: Psychology  
Undergraduate Research Grant  
Research has indicated that adolescent mothers are perceived negatively. Previous data suggests that society’s negative stereotypes include assumptions of lower intelligence, dependence, and bad parenting. Over a 65-year period, there has been an increase in the number of adolescent single mothers, according to the CDC’s National Center for Health Statistics. There have also been several relevant social changes during those 65 years, including the rise and decline of “homes for unwed mothers” and the civil rights movement. This study hopes to define the current perception toward this group and discover if the perception will differ in relation to the respondent’s age. Previous studies have also indicated that society perceives African American adolescent single mothers more pessimistically than it does white adolescent single mothers; therefore, this study has also been designed to determine if an adolescent single mother’s race will influence respondents’ perceptions.

AFFECTION IN THE WORKPLACE AND THE INFLUENCE OF CORE SELF-EVALUATIONS ON EMPLOYEE/EMPLOYER RELATIONSHIPS  
Student Presenter: Sheri Lantagne  
Sponsors: Karen Couture, Larry Welkowitz, Donna Viverios  
Discipline: Honors Psychology  
Undergraduate Research Grant  
Participants in this study are divided into groups depending on whether they are employees or employers and are given two surveys to complete. They are given the Core Self-Evaluation, a simple survey that poses questions related to assessment of self and how respondents perceive their behavior in everyday situations, and a survey that asks questions primarily about the relationship between employees and employers. The scores on the two surveys will be compared. The predicted results are that there will be a positive correlation between the two results, suggesting that people who show higher scores on the Core Self-Evaluation will also show higher scores on the employee/employer survey. This indicates that a person’s level of effect in the workplace is ultimately influenced by how they view themselves, and this, in turn, affects relationships within their workplace.

THEMES IN THE DRAWINGS OF FIRST-GRADE STUDENTS FROM DIVORCED HOUSEHOLDS  
Student Presenter: Jocelyn Horton  
Sponsor: Neil Montgomery  
Discipline: Psychology  
Children’s drawings have been widely used in psychology as indicators of a child’s mental health and emotional state. This study used directive and nondirective methods to evaluate the drawings of 11 first-grade students. The drawing assignments included a well-known standardized measure of the House-Tree-Person, as well as drawing of “a fear,” “a hero,” “a family activity,” “a school activity,” and “free drawings.” Of the 11 children, nine were from divorced households. The drawings of the children of divorced parents contained themes of anger, violence, confusion over good and evil, chaos and attempts to develop order, and the world in danger. While these themes sometimes occur in children from intact families, their pervasiveness in the children of divorced parents was startling.
THE MEDIA’S PERCEPTION OF INDIVIDUALS NOT OF THE SOCIAL NORM
Student Presenter: Charles Maceda-Maciel
Sponsor: Jason Endacott
Discipline: Social Sciences

This presentation discusses, from a sociological and psychological viewpoint, how media influence helps to stereotype men and women in regards to appearance and actions in American society. The research addresses stereotypes of individuals who are not of the social norm and focuses specifically on gender, race, physical appearance, and social status as portrayed in the media. This presentation also considers the effects these stereotypes have on children, primarily girls ages 8 to 15. This research suggests that the media not only perceives both males and females within a certain light, but also that the individuals the media views as “different” are either shunned, criticized, mocked, or labeled in a judgmental way, causing not only a bias against such people, but also negatively influencing our children in regards to what is to be “accepted” in our society.
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Acknowledgments

The College appreciates the hard work of the AEC Committee and many others who make this conference successful.

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