

**THE TANNER
CONFERENCE**

**WELLESLEY
IN THE
WORLD**

**TUES
NOV 1
2005**

new
directions
in liberal
education

THE TANNER CONFERENCE

It is our privilege to invite your participation in the 2005 Tanner Conference. Established through the generosity of trustee emerita Estelle “Nicki” Newman Tanner ’57, the Tanner Conference explores the relationship between the liberal arts classroom and student participation in an increasingly diverse and interdependent world. The conference is premised on the belief that a greater understanding of the learning that takes place off campus—combined with critical inquiry into the purpose, value, and effect of such learning—has the potential to move liberal education in new directions.

Encompassing the diversity of student experiences and interests, the Tanner Conference takes as its subject internships and service learning, international study, experiential learning in courses, research conducted away from Wellesley, and fellowships. The conference provides a venue for faculty, staff, and students to discuss the challenges to teaching and learning presented by new definitions of what constitutes the classroom. It also invites alumnae to return to campus to discuss how their decisions to participate in these experiences as Wellesley students later proved to be ones of consequence.

Representing the work of nearly 300 Wellesley students, alumnae, faculty, and staff, the 2005 Tanner Conference is organized around four broad themes: Cross-Cultural Interaction; Learning, Service, and Youth; Politics, Economics, and Activism; and Science, Medicine, and Public Health. The conference includes an exhibition featuring information on internships, service learning opportunities, international study, and fellowships.

We wish to thank all those presenting in the Tanner Conference for their roles in helping us to better understand Wellesley’s place in the world. We invite you to join the conversation that they are seeking to foster.

The 2005 Tanner Committee

Mary Allen
Department of Biological Sciences

Judith Black
Department of Art

Amy Capman
Center for Work and Service

William Coleman
Department of Chemistry

Erin Herzeelle ’03
Center for Work and Service

Lidwien Kapteijns
Department of History

Barry Lydgate
Department of French

Joanne Murray ’81
Center for Work and Service

Markella Rutherford
Department of Sociology

Andrew Shennan
Office of the Dean of the College

Jennifer Thomas-Starck
Office of International Study

Winifred Wood
Writing Program

THEMATIC OVERVIEW

Cross-Cultural Interaction

Ice Cream vs. Gelato	panel	9:15 A.M.	Pendleton West 212
Evaluating Study Abroad Programs and Experiences: A Faculty Exploration	roundtable	9:15 A.M.	Pendleton East 349
Learning Through Teaching Abroad	individual presentations	9:15 A.M.	Pendleton West 116
Outsiders' Reflections on Life in France	panel	10:45 A.M.	Pendleton East 129
Fellowship Travels	panel	10:45 A.M.	Pendleton East 251
One Size Doesn't Fit All: Higher Education Abroad	individual presentations	10:45 A.M.	Pendleton East 127
Culture and Identity from the Inside Out	individual presentations	1:30 P.M.	Pendleton East 127
Accessing History Through Artifacts	individual presentations	1:30 P.M.	Pendleton East 351
Shifting Issues, Shifting Identities	individual presentations	3:00 P.M.	Pendleton West 212
Dissecting the Black Experience Abroad	panel	3:00 P.M.	Pendleton East 139

Learning, Service, and Youth

Spring Break with the Sandanistas	panel	9:15 A.M.	Pendleton East 339
Ex-Offenders and the Homeless: Voices of the Forgotten	panel	9:15 A.M.	Pendleton East 127
Student-Centered Teaching	panel	10:45 A.M.	Pendleton East 139
Experiential Learning: Redefining Our Boundaries	individual presentations	10:45 A.M.	Pendleton West 117
Educating in America's Cities	individual presentations	1:30 P.M.	Pendleton West 212
Creating Hope for Children	individual presentations	1:30 P.M.	Pendleton West 116
Empowering Adolescent Girls	individual presentations	3:00 P.M.	Pendleton West 220
Educating for Citizenship	roundtable	3:00 P.M.	Pendleton East 349
<i>Harbor at Night</i> : Common Ground on Water	art presentation	3:00 P.M.	Pendleton Knuckle

Politics, Economics, and Activism

Shaping Public Opinion	individual presentations	9:15 A.M.	Pendleton East 239
Protecting the Rights of Women	individual presentations	9:15 A.M.	Pendleton East 351
Perceptions of Gender Inequality	individual presentations	9:15 A.M.	Pendleton East 139
Wellesley in Washington: Confronting Contradictions	panel	10:45 A.M.	Pendleton West 212
Economic Equity and Ethics	individual presentations	10:45 A.M.	Pendleton East 339
Demographics and Development	individual presentations	10:45 A.M.	Pendleton East 351
How Do We Think About Class in America Pre- and Post-Katrina?	roundtable	1:30 P.M.	Pendleton East 349
Reconciling History	individual presentations	1:30 P.M.	Pendleton East 139
Active Politics: Serving Local Communities	individual presentations	1:30 P.M.	Pendleton East 239
Opportunities and Dilemmas of NGOs	individual presentations	1:30 P.M.	Pendleton East 251
Global Humanitarian Efforts	individual presentations	3:00 P.M.	Pendleton West 116
Bank, <i>Banco</i> , <i>Banka</i> : A Cross-Cultural Comparison of Banking	panel	3:00 P.M.	Pendleton East 251
Architecture and Urban Development—Past and Present	individual presentations	3:00 P.M.	Pendleton East 339

Science, Medicine, and Public Health

Adventures in Central American Ecology	individual presentations	9:15 A.M.	Pendleton East 251
Cognitive Development and the Brain	individual presentations	9:15 A.M.	Pendleton East 129
The Intersection of Pure and Applied Mathematics	individual presentations	9:15 A.M.	Pendleton West 117
Lake Baikal: Perspectives on Preservation	panel	10:45 A.M.	Pendleton East 239
The Prevention and Treatment of Student Athletes' Injuries	panel	10:45 A.M.	Pendleton West 220
Animals and Their Environments	individual presentations	10:45 A.M.	Pendleton West 116
Cancer Research and Analysis	individual presentations	10:45 A.M.	Pendleton East 349
Blending Blackholes, Blobs, and Banks: Applications of Computer Science	panel	1:30 P.M.	Pendleton East 129
Public Health: The U.S. Perspective	individual presentations	1:30 P.M.	Pendleton East 339
The Ecology of Our Lakes and Coasts	individual presentations	1:30 P.M.	Pendleton West 117
Laboratory-Based Medical Research	individual presentations	1:30 P.M.	Pendleton East 151
International Public Health	individual presentations	3:00 P.M.	Pendleton East 239
From the Nano to the Galactic	individual presentations	3:00 P.M.	Pendleton East 127
New Approaches to Medical Technology	individual presentations	3:00 P.M.	Pendleton East 129

CONFERENCE SCHEDULE

8:30–9:15 A.M.

Continental Breakfast

Pendleton Atrium

9:15–10:25 A.M.

Cross-Cultural Interaction

Ice Cream vs. Gelato (panel)

Pendleton West 212

Lisa A. McDonald, Erika M. Torres, Nicole C. Paxton, Kathryn N. North, Sarah E. Kellogg, and Thelma S. Segbedzi

Evaluating Study Abroad Programs and Experiences: A Faculty Exploration (roundtable)

Pendleton East 349

Christopher Candland, Anastasia Karakasidou, Catherine Masson, Phyllis McGibbon, Andrew Shenman, Joseph Swingle, Jennifer Thomas-Starck, and Carlos Vega

Learning Through Teaching Abroad (individual presentations)

Pendleton West 116

Pamela P. Hu and Alexis A. Frank, Going Beyond the Stereotype of Teaching Abroad

Nayantara S. Mukherji and Sandy Chen, Who's Teaching Whom? Getting Schooled in Shanghai

Christine L. Ingram, Romping with Les Romarins: Volunteering with Children in the South of France

Learning, Service, and Youth

Spring Break with the Sandanistas (panel)

Pendleton East 339

Megan C. Gross, Dafna Ashkenazi, Talia M. Schatz, Caitlin S. Hu, and Sarah R. Steward

Ex-Offenders and the Homeless: Voices of the Forgotten (panel)

Pendleton East 127

Elizabeth M. Donat, Michelle Iandoli, and Dana K. Stelmokas

Politics, Economics, and Activism

Shaping Public Opinion (individual presentations)

Pendleton East 239

Catherine H. Lee, Alexander Hamilton, Sam Seaborne, and Me: Speechwriting and Political Rhetoric

Rebecca C. Ellis, A Forum for Public Reason: Life at a Nonprofit Magazine

Sara C. Mabry, More Than Just the Money: The Role of Communications in Campaign Politics

Lillian E. Nin, Marketing for Massachusetts General Hospital

Ruth Valenzuela, Tea or Pills? Moving Away from Traditional Healthcare in Rural Mexico

Protecting the Rights of Women (individual presentations)

Pendleton East 351

Jessica L. Urban, Is Machismo or Politics the Culprit? Successes and Setbacks in Struggling Against Sexual Harassment

Jee-Yeon Hong, Transforming the Lives of Women: An Asian Nonprofit's Mission

Paige L. Shevlin, Coming to America: The Challenges Confronting Refugee Women in Atlanta

Perceptions of Gender Inequality (individual presentations)

Pendleton East 139

Louren E. Hernandez, Pentagon Tour: The Mechanisms of Military Politics and Power

Karen H. Robertson, Peggy Chen, and Lam Mai P. Huynh, Eradicating the "Salaryman" Stereotype: Changing Business Practices in Japan

Science, Medicine, and Public Health

Adventures in Central American Ecology (individual presentations)

Pendleton East 251

Kristen L. Granger and Katherine J. Lenoir, Fish, Plants, and Fun: Tropical Ecology in Belize and Costa Rica

Kathleen E. Moseley and Anne A. Madden, Blinded by the Light: Light Studies in Costa Rica's Wet Tropical Rainforest

Cognitive Development and the Brain (individual presentations)

Pendleton East 129

Gabriela A. Hayes, Mapping Concept Formation in the Brain

Emily M. Carrigan, Katharine D. Saunders, and Laura K. Case, Behind the Numbers: Realities of Research in Cognitive Development

The Intersection of Pure and Applied Mathematics (individual presentations)

Pendleton West 117

Ameera A.S. Hiary, Circle Packing and Discrete Analytic Functions

Iuliana Pascu, Mathematics and Coins: On the Generalization of the Frobenius Problem

Katelyn S. Parker, Frustration with Symmetry: Researching 3-D Crystallographic Groups

10:25–10:45 A.M.

Break

Refreshments will be served in the Pendleton Atrium.

10:45–11:55 A.M.

Cross-Cultural Interaction

Outsiders' Reflections on Life in France (panel)

Pendleton East 129

Leah E. Lyman, Evangeline E. Rich, Danielle M. Friedland, Maria K. Zade, Megan K. Gallagher, and Katherine C. MacInnes

Fellowship Travels (panel)

Pendleton East 251

Robyn Susan Greenstone '95, Kristen Elizabeth Looney '01, and Suzanne Zito Slezak '03

One Size Doesn't Fit All: Higher Education Abroad (individual presentations)

Pendleton East 127

Erin A. Krizay, Conjecture and Proof: Reflections on Studying Mathematics in Budapest

Lily Balloffet, "Free for All": A Study of Free Public Education in Argentina

Jacqueline D. Barba and Natalia M. Topik, From Wellesley to University College London: Why Study Abroad?

Learning, Service, and Youth

Student-Centered Teaching (panel)

Pendleton East 139

Shayla D. Adams, Katie M. Hutchinson, Annie Chang, Lindsay C. Frank, and Sara L. Hess

Experiential Learning: Redefining Our Boundaries (individual presentations)

Pendleton West 117

Ariel E. Axelrod-Hahn, Bridging the Divide Between the Liberal and the Fine

Alyssa J. Kwok, Are Pageants Antifeminist and Outdated? Behind the Scenes with a Wellesley Woman

Ryann E. Price, Meat Market: My Summer on a Cattle Ranch

Kiira K. Gustafson, Intuition, Creativity, and Offensiveness: An Improvised Comedy Workshop

Politics, Economics, and Activism

Wellesley in Washington: Confronting Contradictions (panel)

Pendleton West 212

Eleanor M. Blume, Sophia Kim, Katherine M. O'Connor, Jacquelyn B. Stone, Tracy G. Bassett, and Farah F. Hussain

Economic Equity and Ethics (individual presentations)

Pendleton East 339

Robin N. Miller and Priyanka Ramamurthy, The Triple Bottom Line: Ethical Standards in Supply Chain Management

Cortni M. Jones, Tax Day, April 15th: Fighting for Justice Through Taxes

Felice A. Espiritu, Wal-Mart: The High Costs of Low Prices

Demographics and Development (individual presentations)

Pendleton East 351

Carla F. Holleran, Global Business and Rural Argentina: Creative Thinking for Alternative Development

Anisa Berdellima, Credit Does Not Make Justice Real

Anna E. Basevich, Births, Deaths, and Money: Demographics and Economics in Investment Management

Science, Medicine, and Public Health

Lake Baikal: Perspectives on Preservation (panel)

Pendleton East 239

Rebecca I. Kapler, Erin R. Doherty, Halina J. Dour, Kirstin L. Neff, Tori J. Walters, and Sarah A. Abraham

The Prevention and Treatment of Student Athletes' Injuries (panel)

Pendleton West 220

Rebekah C. Rubin, Courtney E. Pelley, Laura M. Weslander, Elinor M. Milder, and Gloria Rosales

Animals and Their Environments (individual presentations)

Pendleton West 116

Katherine G. Garlo, Kiwi: Bird, Fruit, or Person? A Geological and Biological Introduction to New Zealand

Maria V. Banica, Wildlife Adventures "Down Under": A Summer Internship in the Winter of New Zealand

Julianna E. Mullen, Cheetah Conservation in Botswana

Emily S. Knurek, Set It on Fire: Management Strategies for the Karner Blue Butterfly Habitat

Yuki Nakayama, Surviving Kitten Season: The Tale of Hope and Despair at the Humane Society

Cancer Research and Analysis (individual presentations)

Pendleton East 349

Camille P. Inducil, Exposing a Hidden Accomplice: How Hsp90 Supports the Proliferation of Cancer Cells

Katherine G. Roth, NO for Melanoma

Nicole R. Maddox, Dr. Internet: Web-Based Cancer-Risk Calculators

Alejandra Ellison-Barnes, Connecting the Dots: Mapping Global Cytogenetic Aberration Data

12:00–1:30 P.M.

Tanner Exhibition and Luncheon

Jewett Arts Center

The Tanner Exhibition provides students the opportunity to learn about Wellesley College's international study, internship, and fellowship programs. Faculty, staff, and student representatives from Wellesley's programs will be available to speak with students.

All members of the Wellesley College community are invited to lunch, which will be served in the Pendleton Atrium and the Jewett Archway. Vegetarian and Kosher options will be available at both distribution sites.

In the event of inclement weather, lunch will be served in the Pendleton Atrium and in the Jewett Lower Lobby. Inclement weather changes will be announced on the Community and Faculty-Staff FirstClass conferences on the morning of the Tanner Conference.

Specialty desserts will be available at the Exhibition in the Jewett Arts Center.

1:30–2:40 P.M.

Cross-Cultural Interaction

Culture and Identity from the Inside Out (individual presentations)

Pendleton East 127

Abigail Bob, Jerusalem Diary: Exploring Religion in the Jewish State

Tedhar E. Setton, A Civilian's Introduction to the Israel Defense Force

Jennifer K. Shin, Seoul-Searching: Rediscovering the Korean Culture As a Korean American

Sue Y. Rim and Ji Hyun Lim, Unveiling North Korea

Accessing History Through Artifacts (individual presentations)

Pendleton East 351

Allie L. Thompson, Snakeskin, Slipcases, and Subjectivity: Cataloging a Collection of Rare and Artists' Books

Elizabeth L. Kingsley, Courses in Couture: An American at the Paris Fashion Institute

Valerie H. Magolan, Responsibility, Feasibility, and Futility: Preserving Frescoes Calls "Making a Difference" into Question

Learning, Service, and Youth

Educating in America's Cities (individual presentations)

Pendleton West 212

Elsbeth A.I. Rigney and Amber L. Evans, Teaching Awareness and Compassion at the East Harlem School

Maureen M. Higgins, Closing Achievement Gaps in Newark, New Jersey

Joanna E.S. Swafford, The Importance of Educational Enrichment in Ithaca, New York

Kim Y. Alston and Julianne H. Mark, Teaching and Learning in Boston's Multicultural Contexts

Creating Hope for Children (individual presentations)

Pendleton West 116

Andrea R. Villagran, Art: An Agent of Change for Children in Guatemala

Jenny L. Jourdain, Silenced Voices: Working with Children in the Streets of Santiago, Dominican Republic

Julia Shalnova, Wanted: A Part-Time Mother for the Summer

Politics, Economics, and Activism

How Do We Think About Class in America Pre- and Post-Katrina? (roundtable)

Pendleton East 349

Judith Black, William Coleman, Julie Matthaei, Julie Norem, Wilbur Rich, and Markella Rutherford

Reconciling History (individual presentations)

Pendleton East 139

Julia C. Duncheon, Education in Chile: Perceptions of Pinochet Past, Present, and Future

Andrea D. Hobby, Slavery, the Rise of Capitalism, and the Question of Reparations: A Study of the United Kingdom's Corporate History

Ariella R. Huff, Defining Europe: Enlargement After the "Non"

Sarah E. Olsen, Exploring Modern German Attitudes Towards Post-World War II Refugees

Active Politics: Serving Local Communities (individual presentations)

Pendleton East 239

Katharine M. Derrick, From Piedmont to Fruitvale: Balancing the Legislative Needs of Oakland, California

Aliya S. Khalidi, “All Politics Is Local”: Building Community Activism Through Government Internships

Shara C. Collins and Elizabeth H. Eiseman, Do You Like to Eat? Encountering the World of Agriculture in Politics

Opportunities and Dilemmas of NGOs (individual presentations)

Pendleton East 251

Heather A. Hausladen, Between Two Worlds: A Chinese NGO Evolves

Wen Yi Tan, From the Check Book to the Hospital Bed: The Ins and Outs of a Healthcare Charity

Alissa R. Cohen, Sirens in the City of Gold: Emergency Medicine in Israel

Science, Medicine, and Public Health

Blending Blackholes, Blobs, and Banks: Applications of Computer Science (panel)

Pendleton East 129

Hitomi Yoneya, Stella P. Del Rosario, Rebecca H. Shapiro, and Vasumathi S. Raman

Public Health: The U.S. Perspective (individual presentations)

Pendleton East 339

Angela A. DiGioia, How Safe Are Our Hospitals? The Country’s Journey Towards Perfecting Patient Safety

Monica Fung, Sex and the City: Maintaining the Sexual Health of San Francisco’s Public

Ashmita Banerjee, Mortal Combat: Battling Alzheimer’s Disease and Lessons in Medical Research, Public Health, Courage, and Caring

Lisa M. Selker, Off the Hill: Influencing Public Health Through Health Policy Research

The Ecology of Our Lakes and Coasts (individual presentations)

Pendleton West 117

Linnea K. Rajala, Aquatic Invaders: A Look at the Invasive Species Threatening the Great Lakes

Jessica R. Bell, Natural Cleaners: The Effect of Oyster Aquaculture on a Polluted Cape Cod Bay

Sara E. Huckabone, Lion’s Paw Scallops: Beautiful and Tasty

Laboratory-Based Medical Research (individual presentations)

Pendleton East 151

Nan Chen, Mice Have Hearts, Too: Using Mouse Models to Investigate RhoB

Jing Cao, Might Erythropoietin Help in the Fight Against Glaucoma?

Erin K. Burke, Switching Genes On and Off by Modifying Transcription Factors

Christina M. Woo, Novel Derivatives of the Suzuki Cross-Coupling Reaction

2:40–3:00 P.M.

Break

Refreshments will be served in the Pendleton Atrium.

3:00–4:10 P.M.

Cross-Cultural Interaction

Shifting Issues, Shifting Identities (individual presentations)

Pendleton West 212

Eleanor E. Bastian and Mimi Szeto, Hong Kong Identity in the Arts and Politics

Erica J. Fitzhugh, Katherine R. Broad, Ashley A. Richardson, and Krista Kateneva, From School to Samba and Back: Life’s Rhythms in Brazil

Dissecting the Black Experience Abroad (panel)

Pendleton East 139

Daphne Francois, Patsy C. Wilson, Terrika E. Duckett, and N’Mah F. Yilla

Learning, Service, and Youth

Empowering Adolescent Girls (individual presentations)

Pendleton West 220

Alison Carney, Small Steps: Rebuilding Unity Through Girls’ Sports

Keely J. Sayers, Building Therapeutic Relationships: Experiences Working with Troubled Adolescent Girls

Laura K. Van der Pol and Judy S. Ho, Beyond the Physical: A Self-Defense Response to Interpersonal Violence

Educating for Citizenship (roundtable)

Pendleton East 349

Lee Cuba, Lidwien Kapteijns, Joanne Murray ’81, Paul Wink, and Ali Yannias ’04

Harbor at Night: Common Ground on Water (art presentation)

Pendleton Knuckle

Kaitlyn S. Lucey

Politics, Economics, and Activism

Global Humanitarian Efforts (individual presentations)

Pendleton West 116

Safia J. Lakhani, Protecting the Rights of Forgotten Peoples and Places

Jemma L. McPherson, Individuals Standing Up for Individuals at Amnesty International U.K.

Christine S. Chu, U.S. Landmine Removal Program and International Security

Bank, Banco, Banka: A Cross-Cultural Comparison of Banking (panel)

Pendleton East 251

Evangelina M. Arapoglou, Julia Hunter, and Pinar Yurekli

Architecture and Urban Development— Past and Present (individual presentations)

Pendleton East 339

Tara M. Spence and Jane E. Gette, Crusader Castles, Ancient Amphorae, and the Largest Disco in the Mediterranean

Magdalena I. Naydekova, Experiencing the Art and Architecture of Venice and the Veneto

Marjorie M. Mocco, New Urbanism: Revitalizing America's Cities

Wai Kai Lok, Beautiful Chaos: Architectural Development in Greater Shanghai

Pamela L. Chinn, Housing the Masses: Multi-Unit Housing in Amsterdam, Florence, and New York City

Science, Medicine, and Public Health

International Public Health (individual presentations)

Pendleton East 239

Lilian G. Perez, Tropical Medicine on the Coast of Mexico

Kathleen C. Smith and Sara F. Stein, Development Challenges in Rural Mexican Communities

Emily M. Newberg, Healthcare in the Developing World: Life on a Maternity Ward in Ghana

Shaheli Guha, Poor but Healthy: Treating Urban India's Ailing Population Through a Grassroots Effort

Dong Eun S. Park, Behind the Locked Door: Observations of a Korean Psychiatric Ward

From the Nano to the Galactic (individual presentations)

Pendleton East 127

Merideth A. Frey, Characterizing Quantum Dots: Nanocrystals with a Big Future

Rachel A. Hock, Fun in the Sun: Working and Living at the National Solar Observatory

Rebecca A. Stoll, Comparing Groups of Galaxies: Earthly and Ethereal Challenges

Kelly A. Wallenstein, Spacecraft Instrument Database Formation at NASA's Jet Propulsion Laboratory

New Approaches to Medical Technology (individual presentations)

Pendleton East 129

Courtney L. Klaipts, Noninvasive Bioassay Development for Toxicity Using Boar Spermatozoa Polymorphisms

Nooshin Hosseini, Biomedical Optics: Using Light to Diagnose Disease

Mackensie A. Yore, Tissue Engineering: Clinical Medicine and Engineering Join Forces to Develop Biological Substitutes

9:15–10:25 A.M.

Cross-Cultural Interaction

Ice Cream vs. Gelato (panel)

Lisa A. McDonald '06, Italian Studies and Environmental Studies; Erika M. Torres '06, Italian Studies; Nicole C. Paxton '06, Art History; Kathryn N. North '06, Italian Studies and Cinema and Media Studies; Sarah E. Kellogg '06, History and Italian Studies; and Thelma S. Segbedzi '06, Italian Studies

Advisor: *Flavia Laviosa, Italian Studies*

Living in America, we interact with different cultures in our everyday routines. However, when Wellesley women are taken out of their American comfort zone and immersed in Italian society, they are forced to become the minority. They must break stereotypical barriers imposed upon them as well as eliminate their own stereotypes of Italian women and men. In this presentation, we will outline the prejudices and differences between the North and South of Italy, detailing cultural expectations and social activities as compared to American traditions. Just as we can savor the differences between gelato and ice cream, so can we appreciate the individual customs of Italian and American societies.

Evaluating Study Abroad Programs and Experiences: A Faculty Exploration (roundtable)

Christopher Candland, Political Science; Anastasia Karakasidou, Anthropology; Catherine Masson, French; Phyllis McGibbon, Art; Joseph Swingle, Sociology; and Carlos Vega, Spanish

Organizers: *Andrew Shennan, Office of the Dean of the College and History; and Jennifer Thomas-Starck, Office of International Study*

Each year at Wellesley College, just under half of the junior class leaves campus in favor of a semester or year of international study. Credits earned abroad may account for as much as one-fourth of a student's Wellesley degree. Yet, the quality of the academic experiences can be uneven. Many students argue that study abroad is not about academics, but rather is an essential part of undergraduate education. It is clear that the College supports and encourages study abroad (as evidenced in the funding model to commence in fall 2006), but what are the desired outcomes of the study abroad experience? What are the criteria for approving programs? How can/should programs be monitored for quality? Aside from academic or cultural immersion, what issues should be considered? Safety? Location? Relationship to the Wellesley curriculum? This faculty-organized roundtable will address some of these issues, which are central to the current work of the

International Study Committee, charged with the oversight of Wellesley's study abroad program.

Learning Through Teaching Abroad (individual presentations)

Going Beyond the Stereotype of Teaching Abroad

Pamela P. Hu '07, International Relations; and Alexis A. Frank '07, Peace and Justice Studies

Advisor: *Ann Velenchik, Economics*

Uganda, the “Pearl of Africa,” is a country in transition: verdant and dusty, modern and behind, westernized yet culturally rich—it is a nation of contradictions. As teachers at the Aga Khan Education Services, Uganda, through the Wellesley Internships in Africa Program, we used our backgrounds in the American education system to teach information technology, business, language arts, and global studies, while learning about the Ugandan realities of survival and success from our colleagues and students. Our East African experiences ranged from rafting on the Nile, going to weddings, shopping in busy marketplaces, and holding student-parent conferences to visiting village schools, learning Lugandan, taking public transportation, and playing rugby. While both teaching and traveling, these experiences changed our perceptions of the region and

its people. We were witness to events that the world media never talks about: the incredible workings of everyday life in an East African capital city.

Who's Teaching Whom?

Getting Schooled in Shanghai

Nayantara S. Mukherji '06, International Relations; and Sandy Chen '08, Undeclared
Advisor: *Verónica Darer, Spanish*

Teaching in Shanghai is a unique educational and cultural experience. As the popularity of English grows in China, the number of schools, both government-owned and privately funded, has risen dramatically. Each having taught in different environments, we compare our varying experiences and find that although we taught under contrasting circumstances, the lessons learned about English as a second language (ESL) instruction are universal. Since we had no significant pedagogical training, we obtained invaluable firsthand insights about ESL instruction, mostly by trial and error. As our students guided us through Shanghai, we were left asking who the real *lao shi* (teacher) was.

Romping with *Les Romarins*: Volunteering with Children in the South of France

Christine L. Ingram '06, French
Advisor: *Melissa Hawkins, Center for Work and Service*

This summer, I had the opportunity to volunteer at the Jean Paul Coste Socio-Culturel Centre in Aix-en-Provence, France. When I was hired to teach English to French children ages four to five as part of the Centre's day camp, I knew it would be challenging, but I never imagined that I would be asked to abandon my curriculum after the first week. With no set program, I was able to observe the children and the structure of the camp from a fresh

perspective. In this presentation, I will share my observations as an American volunteer in France and the role of the French Socio-Culturel Centre in building strong communities. A special emphasis will be placed on the different nutritional standards of American and French programs for children and on how I believe the Centre's summer camp can serve as an international model for providing quality childcare.

Learning, Service, and Youth

Spring Break with the Sandanistas (panel)

Megan C. Gross '07, Cognitive and Linguistic Sciences and Russian; Dafna Ashkenazi '08, Undeclared; Talia M. Schatz '08, Undeclared; Caitlin S. Hu '07, International Relations; and Sarah R. Steward '08, Undeclared
Advisor: *David Bernat, Religion*

During spring break, we traveled to Condega, Nicaragua—a midsize rural town in Northern Nicaragua near the Honduran border—for a community service program, under the auspices of the American Jewish World Service. Our host organization was La Red de Mujeres, The Women's Network of Condega. During the week, members of the group worked with a women's pottery cooperative, a women's construction association, a youth center, and a school for children with disabilities. Interwoven with the work, the group studied about global responsibility in the context of Jewish ethics. Throughout, we participated in the life of the town and heard presentations by members of communal organizations dealing with the history, religion, politics, and economics of Nicaragua and the Condega region.

Ex-Offenders and the Homeless: Voices of the Forgotten (panel)

Elizabeth M. Donat '06, Italian Studies; Michelle Iandoli '06, Sociology; and Dana K. Stelmokas '07, Psychology
Advisor: *Winifred Wood, Writing Program*

Do you think that homeless people could fix their lives if they could just find jobs? Would you hire an ex-offender? Have you ever avoided a homeless person on the street? On a daily basis, the homeless population of Boston is forced to work within a system that fosters these misconceptions. As interns at the Moving Ahead Program of St. Francis House, we witnessed how the members of Boston's homeless populations worked hard to overcome financial obstacles to adequate healthcare, legal barriers to jobs and housing, and social factors leading to prison recidivism. Through factual information and anecdotal accounts, we will attempt to give voice to the people who helped us to see the world through their eyes.

Politics, Economics, and Activism

Shaping Public Opinion (individual presentations)

Alexander Hamilton, Sam Seaborne, and Me: Speechwriting and Political Rhetoric
Catherine H. Lee '08, Undeclared
Advisor: *John Rhodes, Art*

What gets your attention? From ancient times to the present, leaders have tried different rhetorical means to find an answer. Words, for most of history, have been a politician's main tool to build support and change minds. But these words do not come easily—so, as long as we've had orators, we've had speechwriters. My internship with Senator Kay Bailey Hutchison (R-TX) focused on writing personalized letters to constituents and government agen-

cies, as well as speeches to be read on her behalf at events around the state. Even mundane notes commanded a full political and rhetorical examination. While interning, I studied rhetoric in books by grammarians, editors, and former speechwriters. In this presentation, I will highlight certain rhetorical tools and demonstrate how I used them in my internship assignments. I also will discuss the speechwriting process, the relationship between writers and speakers, and the ethics of rhetoric in the public arena.

A Forum for Public Reason: Life at a Nonprofit Magazine

Rebecca C. Ellis '06, English
Advisor: *Alison Hickey, English*

When most people think about not-for-profit organizations, magazines aren't the first things that come to mind. But through my internship at the *Boston Review*, a not-for-profit magazine dedicated to public reason and literary imagination, I learned the importance of bringing social ideals not just to our actions, but also to our public discourse. As an editorial assistant in a small but ambitious organization, I participated in almost every step of the publishing process, from copyediting to Web-site maintenance to reviewing submitted articles. In examining and editing the work of activists, intellectuals, poets, and others, I was able not only to develop my own understanding of the work required to produce a high-quality publication, but also to contribute to the production of a set of articles that reflected a commitment to raising the level of our national debate and to striving for a more democratic world.

More Than Just the Money: The Role of Communications in Campaign Politics

Sara C. Mabry '06, History and French
Advisor: *Lidwien Kapteijns, History*

Communication is everything in politics. Conventional wisdom holds that money is everything, but money doesn't stand up on a podium and speak to voters, nor does it write emails to potential donors. Conversely, fundraising without a message is next to impossible. I spent two summers interning in campaign politics, focusing on the communication of political messages and on communication as a fundraising tool. While working on a congressional race in Iowa, I helped develop and implement a coherent communications plan; as an intern with the Democratic Senatorial Campaign Committee in Washington, D.C., I learned about direct marketing and direct voter/donor contact. In my presentation, I will discuss the role and impact of communication in campaign politics, especially the emerging role of Internet resources as fast-paced, low-priced methods of communication and fundraising. I also will reflect on how my experiences have helped to shape my plans for life after Wellesley College.

Marketing for Massachusetts General Hospital

Lillian E. Nin '08, Undeclared
Advisor: *Mared Alicea-Westort, Office of the Dean of Students*

"Why does a hospital need marketing anyway?" Although healthcare marketing is a new and unique niche within the field, it has quickly emerged as a necessity, enjoying a prominent role in the most prestigious hospitals. This summer, I worked with the marketing department of Massachusetts General Hospital (MGH) as it

embarked on a mission to solidify and pinpoint the MGH brand and image. As we delved into this project, I quickly realized that by encompassing all the diverse functions of the hospital into a single brand image, we would be affecting all the hospital's communications, both internal and external. In my presentation, I will share my knowledge about the importance of a reliable and recognizable image within the context of marketing, while exploring its significance to hospitals such as MGH.

Tea or Pills? Moving Away from Traditional Healthcare in Rural Mexico

Ruth Valenzuela '08, Undeclared
Advisor: *Jeff Hughes, Biological Sciences*

Many Americans are comfortable in dealing with a doctor's appointment to address the smallest discomfort. However, many people in rural Mexico still opt for home remedies that have been passed down for generations. Herbal tea can do the trick for a lot less than a visit to the doctor. Furthermore, discussing their medical histories is not something many people are willing to do with a total stranger. Due to financial obstacles and traditional values, many will postpone a visit to the doctor until their symptoms worsen. This summer, I interned at a health center in the rural town of Jalisco, Mexico, where I witnessed such healthcare attitudes and practices. While distributing information about regional healthcare concerns, the health promoter and I struggled to encourage the population's trust in modern medicine and its practitioners.

Protecting the Rights of Women (individual presentations)

Is *Machismo* or Politics the Culprit? Successes and Setbacks in Struggling Against Sexual Harassment

*Jessica L. Urban '06, Political Science
and Spanish*

Advisor: *Lois Wasserspring, Political Science*

Interning with the Defensoría de la Mujer, the women's rights division of the Costa Rican government's human rights' watchdog, I undertook an analysis of sexual harassment in the 10 years since Costa Rica passed legislation designed to eradicate this practice. Having learned that 62 percent of women asserted having been sexually harassed in the workplace prior to the law's enactment, I hoped to find that the law had accomplished its goal of preventing and punishing such violence against women. Instead, I discovered that the number of reported cases increased in this period. Is the Latin American phenomenon of *machismo* to blame for the continued presence of harassment? Is the government at fault for not doing more? And what are the consequences for women when a tradition of *machismo* combined with political bureaucracy and apathy allows harassment to persist? Answering these questions, I suggest strategies for more effectively combating this harmful practice.

Transforming the Lives of Women: An Asian Nonprofit's Mission

*Jee-Yeon Hong '08, Undeclared
Advisor: Joy Renjilian-Burgy, Spanish*

Abandonment, dependence, family, violence, turmoil, and death—for domestic violence victims, these words and feelings haunt their minds and destroy their souls. Women live in constant fear of being attacked and killed. When they have lost all

hope and their reasons for living, not-for-profit organizations, such as the Asian Task Force Against Domestic Violence (ATFADV), help women to gain control of their lives. While working at ATFADV's domestic violence shelter this summer, I witnessed the transformation of these women from being distraught and hopeless to becoming confident and optimistic. I met immigrants from Asia and Africa who had survived life-threatening situations and who still persevered. I will share my experiences of helping these women to reclaim their lives by defining the role of the Asian not-for-profit organization in empowering women of all cultures.

Coming to America: The Challenges Confronting Refugee Women in Atlanta

*Paige L. Shevlin '06, International Relations
Advisor: Akila Weerapana, Economics*

Each year, nearly 30,000 international refugees enter the United States. Despite their diverse ethnic and cultural backgrounds, they are asked to follow our laws. For women, the task is especially daunting because they are afforded more rights and responsibilities than in their home countries. Married women are told they have control over their bodies, but will their old cultural contexts permit them to report domestic violence and engage in family planning? Single mothers face financial challenges, yet can a mother with three children survive on \$450 per month? While working at the International Rescue Committee this summer, I met many refugee women and witnessed their struggle to adapt to life in the United States. I will share their stories, both uplifting and heartbreaking, while discussing how the government provides services for these women and how old cultural values are reconciled with a new way of life.

Perceptions of Gender Inequality (individual presentations)

Pentagon Tour: The Mechanisms of Military Politics and Power

*Louren E. Hernandez '08, Undeclared
Advisor: Katharine Moon, Political Science*

Working for the Defense Intelligence Agency gave me a firsthand view of what guides U.S. military policies, where the information to formulate those policies comes from, who shapes them, and how the communication link (or lack thereof) connects policy-makers to governing troops. Surprisingly, military and civilian leaders oftentimes base their decisions on outdated and inconsistent political theories, despite the cutting-edge resources available. This experience not only has reshaped my perception of power and politics, but also has made me question the priorities of military leaders, the efficiency of our intelligence community, and the scarcity of gender and racial diversity within these two groups.

Eradicating the "Salaryman" Stereotype: Changing Business Practices in Japan

*Karen H. Robertson '06, Japanese; Peggy
Chen '06, Economics; and Lam Mai P.
Huynh '07, Women's Studies
Advisor: Eve Zimmerman, East Asian
Languages and Literatures*

Since the 1980s, Japanese business culture has been portrayed as a strictly conformist social construct. From the bursting of the economic bubble a decade ago, Japan's social development has been closely watched by experts and the world alike. The roles of women and women's equality in the workplace continue to be critical issues in Japanese society. Furthermore, as population growth declines, women have begun to leave the home to return to work in overwhelming numbers. Some educated women

have found employment in corporate settings still controlled by male superiors, while others have settled for whatever they can find. The foreign media has proven to be a useful tool in highlighting Japan's cultural quirks in the modern age, but little is done to expose the plight of women who fall through the cracks. We will address how business, the media, and activist groups can work together to further feminism in Japan.

Science, Medicine, and Public Health

Adventures in Central American Ecology (individual presentations)

Fish, Plants, and Fun: Tropical Ecology in Belize and Costa Rica

Kristen L. Granger '06, Biological Sciences; and Katherine J. Lenoir '06, Biological Sciences and English

Advisors: *Martina Königer, Biological Sciences; and Simone Helluy, Biological Sciences*

Venturing into the wild—is it a researcher's greatest dream or nightmare? Last Winter-session, we visited a coral reef off Belize and a rainforest in Costa Rica as part of Wellesley's Tropical Ecology course, BISC 308. While staring down barracudas, mosquitoes, and Belizean men, we were able to study some of the world's most precious, yet threatened environments. We designed our own studies, including the examination of damselfish behavior in the reef, cataloging insect larvae in Heliconia bracts, and investigating the effect of flooding on tropical plants in the rainforest. From our experiences, we learned the difficulties and realities of fieldwork. Despite discomfort and various challenges, we enjoyed the problem-solving and satisfying work. We hope to further our study of ecology on the graduate level and to continue exploring our ever-changing and endangered planet. In

this presentation, we will share our important research, gratifying experiences, and beautiful images of the reef and rainforest.

Blinded by the Light: Light Studies in Costa Rica's Wet Tropical Rainforest

Kathleen E. Moseley '06, Biological Sciences and Spanish; and Anne A. Madden '06, Biological Sciences

Advisor: *Nicholas Rodenhouse, Biological Sciences*

Covering only two percent of Earth's land surface, hosting two-thirds of all living species, and acting as major carbon sinks, tropical rainforests are one of Earth's most valuable, yet endangered resources. In Costa Rica, previously cut, damaged rainforests are beginning to regenerate, giving rise to research on forest succession. One such study is the Bosques Project conducted by Dr. Robin Chazdon. Climbing through a web-laced forest, avoiding deadly snakes, and armed with light-sensor equipment, we collected data for the study by measuring the quality of light available to plants under the canopy in secondary and primary forest. Although this study continues and data analysis has just begun, the results to date indicate that light is one of the major factors limiting forest regeneration. By assisting one of the leading tropical ecologists in the world, our work this summer not only contributed to a pioneering study, but also was a memorable and life-altering experience.

Cognitive Development and the Brain (individual presentations)

Mapping Concept Formation in the Brain

Gabriela A. Hayes '08, Undeclared

Advisor: *Mark Goldman, Physics*

How are objects represented and processed in the brain? The research in which I participated examined the role of the anterior

medial temporal lobe in the association of multimodal objects (audio and visual) in concept formation. Using functional magnetic resonance imaging (MRI) and electroencephalography (EEG), my colleagues and I probed the mysteries of the brain. However, the brain does not give up its secrets easily. Although the most important component of any research is creating an effective experimental procedure that will yield conclusive results, this method is not as simple as it sounds. Even with a successful cognitive paradigm, MRI and EEG do not always work perfectly, and the data may be corrupted by artifacts and noise. My research experience at the Brain and Cognition Lab, Oxford University, enabled me to appreciate the practical challenges of scientific research. I hope to provide not only a glimpse into the wonder of the brain, but also insight into the real world of the experimental process.

Behind the Numbers: Realities of Research in Cognitive Development

Emily M. Carrigan '06, Cognitive and Linguistic Sciences and Italian Studies; Katharine D. Saunders '06, Psychology and Economics; and Laura K. Case '06, Neuroscience and Philosophy

Advisors: *Margery Lucas, Psychology; and Andrea Levitt '71, French*

"If I see one more video clip, I'm gonna explode—KABOOM!" Somehow, 15 minutes of child combustion became one more data point on a black-and-white figure. This summer, three of us interned with researchers at Harvard's Lab for Developmental Studies to investigate the mysterious process by which scientists design play sessions and transform observable behaviors into interpretable results. Our projects varied in methodology and subject matter, from studies about language acquisition to

theory of mind, but our experiences and observations were surprisingly similar. We each took on substantial responsibility within our lab and were involved in virtually all aspects of our individual research projects, including designing experiments, running subjects, and analyzing and presenting data. We will share our experiences, both frustrating and exhilarating, and will present our insights about the rollercoaster ups and downs of progress in developmental research.

The Intersection of Pure and Applied Mathematics (individual presentations)

Circle Packing and Discrete Analytic Functions

Ameera A.S. Hiary '06, Mathematics
Advisor: *Alexia Sontag, Mathematics*

The study of circle packing was started by William Thurston in the 1980s. The discrete nature of circle packings makes them amenable to computer exploration and experimentation, and also provides fascinating visual realization. Striking analogies between discrete analytic functions (mappings between circle packings preserving tangencies and orientation) and classical analytic functions provide many problems to investigate. Using a program called “Circle Pack,” I created and manipulated circle packings, as well as explored a discrete analog for the classical Koebe Theorem. I also worked on Mathematica

code for a circle packing algorithm of Collins and Stephenson. In order to understand circle packings, I studied a range of other mathematical topics, including non-Euclidean geometry. The reading and experimentation that I did for my research gave me a richer understanding of what mathematical research entails. Now, I see mathematics from a vantage point that merely taking courses would not have allowed.

Mathematics and Coins: On the Generalization of the Frobenius Problem

Iuliana Pascu '07, Mathematics
Advisors: *Stanley Chang, Mathematics; and Mira Bernstein, Mathematics*

If we have coins of denominations five and seven, there is a maximum amount that cannot be obtained with any combination of such coins. This number is known as the Frobenius number of five and seven. Despite the simplicity of the problem and the extensive research that has been done on the topic, no closed formula exists for the Frobenius number, even for four denominations. This summer, I participated in a Research Experience for Undergraduates (REU) in Mathematics at Trinity University, Texas. My research project focused on an analogue of the Frobenius number for vectors. Using this new approach, my colleagues and I were able to generalize several one-dimensional theorems proven in earlier papers, and to prove new structural facts that are unique to higher-dimensional cases. During this presentation, I will share our findings and talk about my experience in the research program.

Frustration with Symmetry: Researching 3-D Crystallographic Groups

Katelyn S. Parker '07, Mathematics
Advisor: *Ann Trenk, Mathematics*

The subject of three-dimensional (3-D) crystallographic groups is not a standard topic in undergraduate mathematics, but this summer, while on a Research Experience for Undergraduates (REU) at Valparaiso University, my research partners and I delved headfirst into this 3-D world. To understand these groups, it is easier to visualize the two-dimensional groups or simply a repeating wallpaper design. While coping with the humbling experience of being around brilliant math majors from across the country, I also was struggling to learn an upper-level math that I had never before seen. By the end of the summer and after completing six different research projects, my group found all of the virtually cyclic subgroups of the 3-D crystallographic groups. Although the path from learning basic concepts to finishing the paper was often frustrating and mind-boggling, the overall experience broadened my mathematical abilities and deepened my confidence.

10:45–11:55 A.M.

Cross-Cultural Interaction

Outsiders' Reflections on Life in France (panel)

Leah E. Lyman '06, French; Evangeline E. Rich '06, English and French; Danielle M. Friedland '06, Psychology and French; Maria K. Zade '06, Political Science and French; Megan K. Gallagher '06, International Relations; and Katherine C. MacInnes '06, French

Advisor: *Anne Gillain, French*

What does an outsider notice that members of a society do not? Newcomers to any culture enjoy a unique perspective on intrinsic, sometimes paradoxical, cultural phenomena. As exchange students, we observed and participated in many facets of French life and were confronted with questions not often asked by the French themselves: How does a society reconcile aristocracy and chronic homelessness? What do separate higher-education systems reveal about societal values? How do the French respond when national (or foreign) votes don't go quite as planned? How does the status of extracurricular music reflect the attitude of the French toward nonprofessional pursuits? How does family life demonstrate underlying cultural and gender conflicts? What happens when pop-culture perceptions collide with reality? We will discuss glimpses of French life from an external perspective, as well as the sociological inferences that such views allow.

Fellowship Travels (panel)

Robyn Susan Greenstone '95, Luce Scholar; Kristen Elizabeth Looney '01, Fulbright Full Grant to China and Mary Elvira Stevens Traveling Fellowship; and Suzanne Zito Slezak '03, Thomas J. Watson Fellowship
Advisor: *Ellie Perkins '65, Center for Work and Service*

A fellowship brings more than a period of intense learning and adventure. Its effects will reach into the future and transform plans in subtle and significant ways. How have their fellowship experiences influenced the personal and professional lives of these Wellesley alumnae?

One Size Doesn't Fit All: Higher Education Abroad (individual presentations)

Conjecture and Proof: Reflections on Studying Mathematics in Budapest

Erin A. Krizay '06, Mathematics and Cognitive and Linguistic Sciences
Advisor: *Alexia Sontag, Mathematics*

According to the immensely prolific Hungarian mathematician Paul Erdős, a person is only alive so long as he or she continues to conjecture and to prove. While studying abroad in a program initiated by Erdős himself, I was able to live by this philosophy and to experience the tradition of Hungarian mathematics. Despite having a population of only 10 million, Hungary is known for producing an inordinate number of world-famous mathematicians,

particularly in the fields of discrete mathematics, such as combinatorics, graph theory, and number theory. Hungary also is regarded for having one of the most successful educational systems in pure mathematics. In my studies, I was encouraged to cultivate a love of creative problem solving, collaborative work, and intellectual curiosity. I will share my experience of total immersion in mathematics and, in particular, how it helped me to develop mathematical maturity and a sense of empowerment.

“Free for All”: A Study of Free Public Education in Argentina

Lily Balloffet '06, Latin American Studies and Spanish
Advisor: *Lorraine Roses, Spanish*

As a Latin American Studies major enrolled at the Universidad Nacional de Cuyo, I experienced university life in one of Argentina's largest public universities. I became accustomed to the spectacle of student demonstrations and constant faculty strikes. Additionally, I was intrigued by the complexities of tuition-free and federally funded higher education—a cornerstone of the Argentine academic system since its implementation by President Sarmiento 140 years ago. For my course on development in Argentina, I researched the history of public education, its benefits and liabilities, and its implications for my fellow students in a country recovering from a profound economic crisis. As a participant-

observer, I explored the dynamics of a free university system at a time when private institutions are growing in popularity. I will reflect upon this dual experience and will share the new perspectives that I am bringing back to Wellesley College.

From Wellesley to University College London: Why Study Abroad?

Jacqueline D. Barba '06, English; and Natalia M. Topik '06, Art History
Advisor: *Jennifer Thomas-Starck, Office of International Study*

Often, the idea of leaving Wellesley College to study humanities elsewhere seems superfluous to sophomores considering an academic experience abroad. With limited time left in their college careers to take advantage of courses in their majors, and distribution requirements swallowing up free space in each semester's schedule, students may find abandoning the strong humanities program here for even one term undesirable or impractical. We will focus on the benefits, both intellectual and social, of stepping away from the academic dependability of Wellesley and experiencing the cultural and scholastic dissimilarities of an institution abroad. Furthermore, we will discuss both the major and minor differences of studying humanities at a large university in a central urban setting, specifically focusing on English, psychology, and other liberal arts courses at the University College London.

Learning, Service, and Youth

Student-Centered Teaching (panel)

Shayla D. Adams '08, Undeclared; Katie M. Hutchinson '07, Spanish and Psychology; Annie Chang '08, Undeclared; Lindsay C. Frank '08, Undeclared; and Sara L. Hess '08, Undeclared

Advisor: *Verónica Darer, Spanish*

Global Learning, an international not-for-profit organization, seeks to fight the inadequacies in public education through student-centered teaching. While teaching in underserved communities in Costa Rica, Nicaragua, and Mexico, we worked with volunteers from diverse backgrounds sharing a cooperative living and working experience. In an effort to promote critical thinking and creativity, we collaborated to produce hands-on lessons in which we encouraged active learning from the students. We will review the alternative teaching methods used to counter some of the ineffective styles of teacher-centered education so commonly employed in underserved communities.

Experiential Learning: Redefining Our Boundaries (individual presentations)

Bridging the Divide Between the Liberal and the Fine

Ariel E. Axelrod-Hahn '07, Undeclared
Advisor: *Judith Black, Art*

At a time when academic majors are often chosen for their value on the job market, why do some people still turn to areas of study considered harmless anachronisms at best and pointless endeavors at worst? I spent two years studying in the ceramics department at the University of the Arts in Philadelphia. During my time as a fine arts student, I was surprised by the level of professionalism, self-motivation, and self-

education demanded of the student body. I will discuss the problems posed by my decision to join a program unaffiliated with Wellesley College and the rewards of studying in a learning environment in which to be discomfited is to be educated.

Are Pageants Antifeminist and Outdated? Behind the Scenes with a Wellesley Woman

Alyssa J. Kwok '07, Psychology
Advisor: *Julie Norem, Psychology*

When asked what I did this summer, I readily reply "research." Then, I shamefully add as an afterthought, "I also was in the Miss Chinatown Houston Pageant." Why present at the Tanner Conference on this experience and not my research? I realized that as self-proclaimed feminists who insist that women should do what they're passionate about, we have a restrictive idea of what feminists should do, and we often look down upon traditional female roles. The entire process of being in a pageant taught me about the nature of women in competition, my own internalized racism, and the individuality I fight to express when winning means both conforming with and distinguishing myself from the rest. Participation in the pageant was a microcosmic trial of realistic pressures. I won by becoming a stronger woman and by breaking stereotypes of body image, culture, and feminism itself.

Meat Market: My Summer on a Cattle Ranch

Ryann E. Price '06, Cinema and Media Studies
Advisor: *Judith Black, Art*

Ranchland, as locals call it, is an area in southwestern Alberta where the cowboy rules the range, where horses are a primary mode of transportation, and where age-old

traditions live on for generations. This summer, I spent a month living and working on The Rocking P cattle ranch, where I became exposed and accustomed to the ways of the cowboy. As a Cinema and Media Studies major, I brought my camera everywhere with me, capturing the lifestyle and culture of ranch living. In America, the cowboy is idealized as an emblematic symbol of a “man’s man” and a treasured piece of our historic wild west. My photo-essay and presentation provide a glimpse into the life of today’s cowboy and how modern-day feminism, environmentalism, and economic pressures are being integrated into a 100-year-old lifestyle.

Intuition, Creativity, and Offensiveness: An Improvised Comedy Workshop

Kiira K. Gustafson '06, English
Advisor: *Alison Hickey, English*

Improvised comedy was conceived in 1376 by a wry monk cloistered at Oxford University who hid subversive hymnals beneath his robes. To do good improv at that time, you simply had to sacrifice a blind eunuch at the Altar of Comedy. Today, improv is a noble and an intellectual art that exists only for a few moments and then disappears forever. In this interactive Tanner presentation, led by a Wellesley comedian fresh from a run with the Oxford Imps at the Edinburgh Fringe Festival, you will learn the standard “Five Elements” of a scene, the Keith Johnstone method, and the value of trusting your instincts. Come and discover when to make mistakes, when to spiral up the “Curve of Absurdity,” and when to let the blind eunuch live. Learn to be funny, or at least spontaneous, and the world will become your oyster. BYOE: Bring your own eunuch.

Politics, Economics, and Activism

Wellesley in Washington: Confronting Contradictions (panel)

Eleanor M. Blume '06, Sociology; Sophia Kim '06, Political Science; Katherine M. O'Connor '06, Political Science; Jacquelyn B. Stone '06, Africana Studies; Tracy G. Bassett '06, Political Science; and Farah F. Hussain '06, English and Studio Art
Advisor: *Alan Schechter, Political Science, emeritus*

Extreme poverty and absolute power, passion and frustration, red tape and invention—they all converge in the halls and streets of Washington, D.C. Working in a congressional office, advocacy organizations, the judicial system, and a government agency, we experienced the profound energy and paradox of the capital city. In these various sectors of public and civil society, we were challenged to question the inefficiencies of the system, as well as to seek a balance between our passion for social change and the reality of politics. While attempting to reconcile the contradictions encountered in the city, we also were inspired by our various passions, questions, and experiences.

Economic Equity and Ethics (individual presentations)

The Triple Bottom Line: Ethical Standards in Supply Chain Management

Robin N. Miller '07, Sociology; and Priyanka Ramamurthy '07, Economics
Advisor: *David Lindauer, Economics*

In the age of globalization, inhumane labor standards worldwide have become a domestic issue. However, the common practice of boycotting companies and implementing trade sanctions can force wages lower and encourage sweatshops.

Through a voluntary corporate social responsibility standard, Social Accountability International (SAI) uses a proactive approach for improving the lives of workers in farms and factories around the world. As summer interns at this organization’s New York headquarters, we learned how SAI has reached more than 400,000 workers in 52 industries across 45 countries by using a system based on transparency, credibility, and verification. This innovative approach is sending children back to school, increasing factory productivity and profits, and ensuring that the goods we buy are ethically sourced. In this presentation, we will share how we grappled with questions such as: “How accountable are companies to their stakeholders?” and “Are management motives relevant when workers benefit?”

Tax Day, April 15th: Fighting for Justice Through Taxes

Cortni M. Jones '07, Economics
Advisor: *David Lindauer, Economics*

The poorest Americans pay 11.4 percent of their income to the government, while the richest citizens pay only 5.2 percent. This taxation injustice is found at the federal, state, and local levels nationwide. Through my work in the Everett Public Service Internship Program at the not-for-profit Citizens for Tax Justice, I analyzed public policy to identify the discrimination in our tax system and to find solutions. In effect, I applied the economic theories learned at Wellesley College to the U.S. tax system. Often, my goal simply was to educate our policy-makers about how their choices regarding taxes affect every one of us. With big money as a major obstacle to reform, I concluded that economic logic, together with an unflinching resolve, is the crucial combination to make a difference.

Wal-Mart: The High Costs of Low Prices

Felice A. Espiritu '06, Philosophy and Economics

Advisor: *Julie Matthaei, Economics*

Families look to Wal-Mart for everything from clothes to haircutting services at unbeatably low prices. Business leaders look to the world's largest retailer as a model of how technological and strategic innovation can lead to annual profits of \$10 billion. While interning this summer at the Wake-Up Wal-Mart campaign in Washington, D.C.—a grassroots campaign that Wal-Mart CEO Lee Scott called “the largest, most well-financed corporate campaign in the history of business”—I witnessed the other side of Wal-Mart's wildly successful business model. Many low-income families depend on Wal-Mart for affordable necessities and employment. However, after the dust of abandoned small businesses settles, is increased employment the result of Wal-Mart's net impact on communities, and are these the types of jobs that people want? I will raise questions such as these and will present what I learned about Wal-Mart's compliance with workplace laws, cost to the taxpayer, and impact on local economies.

Demographics and Development (individual presentations)

Global Business and Rural Argentina: Creative Thinking for Alternative Development

Carla F. Holleran '06, Sociology

Advisor: *Peggy Levitt, Sociology*

How does a consulting firm relate to *campesinos* in rural Argentina? Drawing upon my field research project in Santiago del Estero, Argentina, as well as my American Cities internship at Global Business Network (GBN) in Emeryville, Cali-

fornia, I will explore these disparate, yet interrelated experiences. Although it may seem that most U.S. firms do not understand the situation of rural farmers, many companies, indeed, are able to engage in broader discourse on the subject. My work at GBN allowed me to further analyze the complex conceptions of development that I encountered in Argentina through a process called “scenario planning.” While some firms may prescribe a single solution to the “problem” of rural poverty, GBN has an innovative approach that can provide a better framework for the analysis of similar issues. This presentation will bring to life two rich experiences that stress the importance of questioning one's own worldview.

Credit Does Not Make Justice Real

Anisa Berdellima '06, Economics

Advisor: *Christopher Candland, Political Science*

Institutions offering micro-credit are sprouting up around the world. In South Asia, the Bangladesh Rural Advancement Committee (BRAC) provides poor people, mainly women, with small loans for self-employment projects that generate income, thereby allowing them to care for themselves and their families. Working with BRAC in a rural area in northern Bangladesh, I identified certain flaws that are often omitted in the early reports. Some of the questions I posed include: Do the women who receive the money actually utilize it? Is this credit reaching the poorest of the poor? Do people escape the poverty trap or become caught in a web of debt? What role do loans play in people's lives? In this presentation, I will challenge the effectiveness of micro-credit programs and will introduce supplementing alternatives that work towards alleviating poverty.

Births, Deaths, and Money: Demographics and Economics in Investment Management

Anna E. Basevich '06, Economics and Political Science

Advisor: *Courtney Coile, Economics*

Did you know that Niger has the highest fertility rate of any country in the world, with the average woman giving birth to eight children, or that the life expectancy in Japan is almost 82 years? Though this type of research may not be what you'd expect to be studied at an investment firm, investors constantly make predictions about economic growth, and economies are directly impacted by changes in population. At The Fremont Group, a private investment management company, I worked as the comparative international demographics intern, reviewing data from the United Nations and a range of economic organizations. Having studied demographic and economic factors for countries around the world, I will discuss the relationships between various demographic indicators and economic progress, as well as the relevance of my research in an investment firm.

Science, Medicine, and Public Health

Lake Baikal: Perspectives on Preservation (panel)

Rebecca I. Kapler '06, American Studies; Erin R. Doherty '07, French and Russian; Halina J. Dour '08, Undeclared; Kirstin L. Neff '08, Undeclared; Tori J. Walters '06, Russian; and Sarah A. Abraham '07, Russian
Advisors: *Marianne Moore, Biological Sciences; and Sarah Clovis Bishop, Russian*

Lake Baikal, the oldest and deepest lake in the world, contains one-fifth of Earth's freshwater. Although designated a world heritage site, the lake still faces many environmental threats, from a potential oil

pipeline to global climate change. While spending three weeks at Lake Baikal this August, we assessed the impact of human activity on the littoral zone through scientific experiments and interactions with local people. To many people, including the Russians we encountered, the lake's size makes it impervious to environmental threats. Yet, in our own investigations, we found that the benthos of the littoral zone is vulnerable to runoff from areas of human development. In our presentation, we will discuss our scientific results in the broader context of the environmental challenges confronting Lake Baikal today. While most Russians' beliefs about environmental protection and the political processes of the country are not conducive to the sustainable use of the lake, their deep love and respect for the lake offer hope for the region's future.

The Prevention and Treatment of Student Athletes' Injuries (panel)

Rebekah C. Rubin '06, Political Science; Courtney E. Pelley '08, Undeclared; Laura M. Weslander '06, Psychology; Elinor M. Milder '06, Neuroscience; and Gloria Rosales '08, Undeclared
Advisor: *Connie Bauman, Physical Education and Athletics*

As a woman, have you ever realized that you have reoccurring pain in your ankles, knees, or back? Have you ever wanted to know why you are having these pains, along with other physical problems? Student Athletic Training Aides (ATAs), with training from the Certified Athletic Trainers and the Sports Medicine class, can help you learn what to do when you are having physical pain. This interactive panel will focus on the evaluation, treatment, and rehabilitation

of sports-related injuries. We will present live demonstrations on the evaluation of injuries and will provide information on the process for rehabilitation.

Animals and Their Environments (individual presentations)

Kiwi: Bird, Fruit, or Person? A Geological and Biological Introduction to New Zealand

Katherine G. Garlo '06, Biological Sciences
Advisor: *Jeff Hughes, Biological Sciences*

An active fault zone in the Southern Alps, a rising magma plume under the northern volcanoes, and rapidly advancing glaciers scattered throughout the west coast—New Zealand is a geological “hot spot.” I wish to share the spectacular beauty of New Zealand through a geological exploration of the country's landscapes. I also will introduce the endemic flora and fauna of New Zealand, such as flightless birds like the Moa and Kiwi, and mysterious trees like the Kauri and Pohutakawa. Lastly, I will explain how the first inhabitants of New Zealand, the Maori, and European settlers have changed the landscape and its plants and animals. I will discuss topics from the classes I took during my year abroad, as I share images from my own travels, backpacking, and mountaineering. These geological and biological stories will add scientific meaning to the scenery of *The Lord of the Rings*.

Wildlife Adventures “Down Under”: A Summer Internship in the Winter of New Zealand

Maria V. Banica '06, Biological Sciences
Advisor: *Emily Buchholtz, Biological Sciences*

New Zealand, a biodiversity hot spot, is home to an extraordinary number of endemic species of plants, reptiles, and birds. Many of these suffer as a result of

extensive habitat destruction and introduced pests. As an aspiring wildlife vet who spent a semester abroad at Massey University, New Zealand, I chose to spend the summer interning at the Wildlife Ward of the veterinary teaching hospital on campus. I worked up close and personal with rare avian species, including the emblem of New Zealand, the kiwi bird. I will describe my work at the ward, where I assisted with daily treatments, anesthesia, postmortems, and radiography. Some highlights include designing a physiotherapy program for a paralyzed kiwi, force-feeding birds of prey, and keeping up with three knowledgeable, young vets.

Cheetah Conservation in Botswana

Julianna E. Mullen '07, English
Advisor: *Nicholas Rodenhouse, Biological Sciences*

Protecting wildlife populations is much more involved than simply declaring an animal endangered. This summer, I worked in Botswana with Cheetah Conservation Botswana to learn firsthand about cheetahs and the dangers posed to them. Because Botswana is believed to sustain one of the last thriving populations of cheetahs, conservation efforts within the country are particularly important. However, as one of the wealthiest African nations, Botswana is developing rapidly. Loss of habitat, coupled with a misconception of the danger that large cats pose to humans and domestic animals, has caused the cheetah to be killed on sight in farming areas. My work in the Jwana Game Park included spoor tracking to understand cheetah movements as well as capturing, collaring, and radio tracking cheetahs. This data is being used to assess the viability of the population of this magnificent species.

Set It on Fire: Management Strategies for the Karner Blue Butterfly Habitat

Emily S. Knurek '07, Biological Sciences
Advisor: *Daniel Brabander, Geosciences*

Do not breathe as she crawls down the stem. Wait to see if she will curl her body and leave an egg. The federally endangered Karner blue butterfly will only lay these eggs on lupine. To sustain a population, Karner blues must have plenty of lupine. Historically, natural wildfires kept abundance high, and today habitat managers mimic this technique through prescribed burning. However, Karner eggs cannot survive a fire. What, then, should habitat managers do? Should they kill precious Karner eggs to ensure lupine for the next generation, or should they risk lupine decline and forgo burning? My study examined this dilemma by looking at the behavioral responses of Karner blues to burning. If Karner females preferred to lay their eggs in recently burned areas, then fewer eggs would be in adjacent unmanaged units. What would I suggest habitat managers do with unmanaged habitat the following year? Set it on fire. I will discuss this advice, as well as my management strategies for sustaining the habitat.

Surviving Kitten Season: The Tale of Hope and Despair at the Humane Society

Yuki Nakayama '08, Undeclared
Advisor: *George Caplan, Physics*

Animal shelters nationwide must kill over 6.5 million animals each year. As a veterinary assistant at the Peninsula Humane Society & Society for the Prevention of Cruelty to Animals, I learned firsthand what this means. During the summer, pets are frightened by fireworks, abandoned during vacations, and left unsupervised with children. Summer is also kitten season.

Consequently, dozens of animals are brought into humane societies every day. Understaffed and overpopulated, shelters must make tough decisions. Is it fair to euthanize every unweaned kitten? Should shelters risk adopting out pit bulls? Is it okay to kill animals just because they're scared and shy in a shelter environment? Often, these decisions are undisclosed to the public and seem baffling or unacceptable to many. Most decisions are unethical, but, ultimately, whose fault is that? I will take you inside a shelter to share my experiences, and how I have come to terms with the realities of humane societies.

Cancer Research and Analysis (individual presentations)

Exposing a Hidden Accomplish: How Hsp90 Supports the Proliferation of Cancer Cells

Camille P. Inducil '06, Neuroscience
Advisor: *Mark Goldman, Physics*

Heat shock proteins (HSPs) construct a vital support system for cell function, ensuring the conformational maturity and activity of client proteins that regulate cell cycle, survival, and death. Several oncoproteins have also been chaperoned by HSPs, conferring a strong survival advantage to cancer cells. One hypothesis suggests that Hsp90 plays a role in protecting cancer cells against lethal mutations in essential genes. Therefore, I sought to determine whether mutagenesis can cause any protein not natively bound by Hsp90—such as URA3—to become a novel Hsp90 client, and whether the activity of mutant alleles is restored by chaperoning function. My research at the Fred Hutchinson Cancer Research Center in Seattle involved a yeast two-hybrid system that screened for interactions between an Hsp90 analog and a mutagenized URA3. This project was an

excellent opportunity to identify the role of Hsp90 in cancer cells and to enrich current studies on cancer treatment.

NO for Melanoma

Katherine G. Roth '08, Undeclared
Advisor: *Nolan Flynn, Chemistry*

Melanoma accounts for four percent of skin cancer cases, but causes 80 percent of skin cancer deaths. Understanding the biological basis of melanoma and regulating the biological pathways in melanoma could lead to more effective treatments. This summer, at the University of Texas, M.D. Anderson Cancer Center in Houston, I conducted research on inducible nitric oxide synthase (iNOS), an enzyme that produces NO (nitric oxide). NO promotes the growth and survival of melanoma cells. The goal of my project was to determine the relationship between tumor progression and tumor iNOS expression. To test for a correlation between metastatic spread and tumor iNOS, samples of primary melanoma and metastases from lymph nodes and other organs from the same patient were immunohistochemically stained for iNOS. In conclusion, iNOS expression in melanoma cells indicates poor prognosis, and persists throughout the metastatic process to distant organs. I will discuss how this project not only strengthened my interest in oncology, but also expanded the scope of my research experience.

Dr. Internet: Web-Based Cancer-Risk Calculators

Nicole R. Maddox '06, Biological Sciences
Advisor: *Carla Verschoor, Chemistry*

The 21st-century technology boom is dominating mainstream markets, from the confines of the workplace to the personal desktops in homes. With one simple click,

the Internet becomes a powerful tool serving as a dictionary, as an encyclopedia, and, for some, as a physician. Research has shown increased interest in patients obtaining fast advice via the Internet before notifying their physicians. The enormous wealth of health sites provides a vast amount of information that extends into patients' abilities to calculate their risks for developing particular diseases. However, information found online without physician consultation can be misleading and biased. In addition, the language used to describe patients' conditions or risks may be unfamiliar to the general public. My study evaluated the constructs and purposes of Internet-based risk appraisals for developing cancer. By specifically investigating the 13 identified sites for cancer

risks, I examined the different strategies used among these sites for effective risk communication. In conclusion, my findings reiterated the importance for these Web sites to consider patients' background knowledge when providing supportive explanations as well as incorporating comprehensible models to display results.

Connecting the Dots: Mapping Global Cytogenetic Aberration Data

*Alejandra Ellison-Barnes '08, Undeclared
Advisors: Paul Reisberg, Chemistry; and
Brian Tjaden, Computer Science*

As technical advances provide increasingly detailed analysis of the genome, the number of studies exploring genetic abnormalities leading to cancer expands. However, each study is released as an independent entity, with no way of comparing data to

previously published work. Progenetix, a publicly accessible online database designed by Dr. Michael Baudis at the University of Florida, serves as a repository for cytogenetic aberration data from over 13,000 human cancer cases included in hundreds of studies worldwide. Progenetix allows for the instant comparison by cancer type or locus, including colorful ideograms. This summer, I extracted and prepared data from dozens of studies for importation into the database. Using PubMed, I also located additional studies to be included. In this presentation, I will share how this experience increased my knowledge of cancer research and the medical applications of bioinformatics, while highlighting the importance of releasing research data in an easily accessible format.

1:30–2:40 P.M.

Cross-Cultural Interaction

Culture and Identity from the Inside Out (individual presentations)

Jerusalem Diary: Exploring Religion in the Jewish State

Abigail Bob '06, Middle Eastern Studies

Advisor: *Frances Malino, History and Jewish Studies*

Growing up in middle America, I always felt like somewhat of an outsider as the only Jewish kid on my block and at my school. I arrived for my year abroad in Israel finally expecting to feel completely at home; yet, once again, I felt like an outsider—this time as an American. In Jerusalem, I was exposed to new representations of Judaism and divisions in Jewish society that challenged the cultural and religious traditions of my liberal American Jewish upbringing. Through study, internships, and personal relationships, I sought to understand how Israelis connect with their religion and how I could connect with my own. My presentation will explore the role of Judaism and religion in Israeli society; the relationship between religion and the state in Israel; and my search for a meaningful Jewish identity within the constraints of contemporary Israeli society.

A Civilian's Introduction to the Israel Defense Force

Tedhar E. Setton '07, Biological Sciences

Advisor: *Anna Ronell, Jewish Studies*

A two-month mock basic training program, Marva takes young Jews, puts them into uniform, gives them (nonfiring) M-16s to care for, and instills in them *Ruach Tzahal*—the army's core values that make not only for humane soldiers, but also for responsible individuals. Given entirely in Hebrew, Marva is an unconventional experiential approach to understanding the complex cultural and political environments in Israel. Though sometimes painfully, I learned a great amount: There is no comparison between learning in a classroom and living the language; there is no way to make a country yours, unless you walk it yourself (and I did). A combination of academic and field experiences, Marva reveals the army's multifaceted mission: It is an institution of protection and service that thrives on the idea of *beyachad*—togetherness. Marva provided me with an exceptional opportunity for intellectual growth, emotional maturity, and personal development.

Seoul-Searching: Rediscovering the Korean Culture As a Korean American

Jennifer K. Shin '06, English

Advisor: *Winifred Wood, Writing Program*

As a Korean American living in Seoul, I was accepted as a Korean based on my physical appearance, but my ability in the

Korean language would instantly single me out as a foreigner. The six months I spent there, first studying at Yonsei University and then working as a full-time intern at the Korean National Commission for UNESCO, were eye opening. I struggled to reconcile both my Korean and American identities in completely different environments: as a college student living and studying among young Koreans and foreigners, and as a professional working alongside native Koreans at a not-for-profit organization. My developing fluency allowed me to integrate into the Korean society, enabling me to observe the differences between the Korean and American cultures, the ways in which the two groups perceive one another, as well as how these different cultures and preconceptions interact and conflict.

Unveiling North Korea

Sue Y. Rim '07, Economics and Sociology; and

Ji Hyun Lim '06, Economics and Studio Art

Advisor: *Joseph Swingle, Sociology*

What do you know about North Korea? This country has been in the media spotlight, especially since its suspected possession of nuclear weapons. After attending a Korea Reunification Camp for college students in Pohwang, Korea, we were able to gain a deeper understanding of the people of North Korea, beyond what is portrayed in the media. The problems of North Korea go well past the nuclear issue. The stories

of North Korean refugees who participated in the camp reveal the gravity of the human rights' issues in the country. As Korean Americans, we will share what we learned from hearing the experiences of these North Korean refugees and also will present our own opinions, which were formulated as a result of these interviews.

Accessing History Through Artifacts (individual presentations)

Snakeskin, Slipcases, and Subjectivity: Cataloging a Collection of Rare and Artists' Books

Allie L. Thompson '06, *Cognitive and Linguistic Sciences*

Advisor: Ruth Rogers, *Library, Special Collections*

Cataloging is the systematic response to the organizational and referential demands of book collecting. Decisions must be made about the order in which books are shelved and what basic information can be accessed in their records. This summer, I cataloged a library of exquisite rare and artists' books for a private collector, which forced me to adjust my standard approach, based on cataloging public collections. Instead of established categories and proper subject headings, I confronted an exuberant library arranged around the books' visceral appeal to the collector, in whose volumes rich gilt and wild snakeskin bindings intertwined with the stories of artists, dealers, and collectors. I was challenged to represent the collection in a way that would do justice to the books and be useful to the collector. This experience cultivated both my sensitivity to the subjective appeal of beautiful books and my understanding of the essence of cataloging.

Courses in Couture: An American at the Paris Fashion Institute

Elizabeth L. Kingsley '08, *Undeclared*
Advisor: Nora Hussey, *Theatre and Theatre Studies*

When the Wellesley student occasionally abandons *The Economist* or *The New Yorker* for the restorative powers of *Vogue* or *W*, she may see the clothes on the pages as nothing more than a temporary escape from her studies. However, the incredible time and effort that go into constructing a couture gown can rival that of a double major completing her double thesis. This summer, I had the opportunity to study the fashion industry firsthand through a month-long seminar at the Paris Fashion Institute. The highly refined art of haute couture has endured the tests of time by acting as a tangible response to the mood of the time. Through an explanation of the history of couture and a presentation of how it works today, I hope to expose my audience to the intricacies of one of the largest commercial markets in the world and to the beauty of a fabulous fine art.

Responsibility, Feasibility, and Futility: Preserving Frescoes Calls "Making a Difference" into Question

Valerie H. Magolan '06, *Architecture*
Advisor: John Rhodes, *Art*

This summer, I focused on rehabilitating the frescoes in cave churches, which are common in the Puglia region of Italy. Subterranean frescoes suffer from water damage, salt deposits, mold, algae, bacteria, disintegration, and vandalism: all nearly impossible to correct. Studying and simply stabilizing the thousands of paintings hidden in caves throughout the landscape would be a prohibitively enormous, painstaking project; one that lacks manpower, funding, and interest. I discovered

that the most dangerous threat to these frescoes is the indifference of the local Italians, to whom an irreplaceable antique (to an American) is simply old. For my small team, questions of relative value and preservationists' accountability arose— Could we spend our efforts on select frescoes, while consciously leaving others to decay? If the community does not care and the rehabilitated frescoes will not be seen, are we still personally obligated to give all we can? In my presentation, I will consider these questions and whether our efforts are even worthwhile.

Learning, Service, and Youth

Educating in America's Cities (individual presentations)

Teaching Awareness and Compassion at the East Harlem School

Elspeth A.I. Rigney '08, *Undeclared*; and
Amber L. Evans '08, *Undeclared*

Advisors: Kenneth Hawes, *Education*; and
Barbara Beatty, *Education*

Schools in Harlem have a troubled reputation. Most people imagine large, crowded schools with little discipline, unmotivated students, and a low rate of placement to good colleges and universities. Although this image is not far from the truth in many cases, the East Harlem School at Exodus House is a compelling example of a school that does not fit this mold. Instead, this school is producing future leaders by instilling the core precepts of awareness and compassion in its student body. We will explore the fascinating history of this school, share our experiences as two privileged white women teaching low-income African American and Latino students, and demonstrate how this seemingly large barrier was not so great an obstacle after all.

Closing Achievement Gaps in Newark, New Jersey

Maureen M. Higgins '06, Psychology and Women's Studies

Advisor: *Barbara Beatty, Education*

In Newark, New Jersey, only about 25 percent of high school seniors say they plan to attend a four-year college. In June 2005, the North Star Academy Charter School of Newark sent 100 percent of its graduating class to college for the second year in a row. This summer, I interned at North Star and learned firsthand the hard work and reflection that went into making that statistic a reality. I realized how testing can be a powerful tool as I developed assessments to help students better prepare for the SATs. Through my experiences in the office and in the classroom, I began to attribute the school's high achievement to its constant analysis, unique culture, and dedicated staff. My internship at North Star taught me a valuable lesson: In order to be great, you have to stop being good.

The Importance of Educational Enrichment in Ithaca, New York

Joanna E.S. Swafford '06, English and Music

Advisor: *Alison Hickey, English*

Imagine the thrill of holding a violin in your hands for the first time. Imagine standing next to the skeleton of a woolly mammoth. Then, imagine moving to a new school in the same district that lacks the funding to give you these opportunities. My hometown, Ithaca, New York, has three colleges, eight museums, and an ever-decreasing school budget. This summer, I worked for the Ithaca Public Education Initiative, an organization that helps bridge the gap between the schools and the community, and for its subsidiary, the Fine Arts Booster Group. With these not-for-profit groups, I worked on projects

designed to improve the quality of educational enrichment, focusing on equity and access. I will discuss the value of offering all students the educational enrichment programs that I enjoyed as a student in Ithaca's public schools, as well as the importance of volunteers in providing opportunities that the schools cannot afford to fund.

Teaching and Learning in Boston's Multicultural Contexts

Kim Y. Alston '06, English; and Julianne H.

Mark '06, English and Music

Advisor: *Verónica Darer, Spanish*

As part of the Rockefeller Brothers' Fund Teaching Fellowship Summer Project, we were tutors and teacher aides in three different programs in the Boston area: B.E.L.L. Summer Program, BCNC Summer Camp, and MATCH Summer Academy. We taught literacy, math, art, and music to predominantly minority students of all ages. Yet, our students were not the only ones learning. Through these programs, we discovered the critical needs of these underserved communities. Moreover, we found that teaching requires dedication not only to challenge students' minds, but also to understand their attitudes, their family backgrounds, and their self-image as individuals in a multicultural society. We will discuss how our teaching experiences have influenced our choices as future educators.

Creating Hope for Children (individual presentations)

Art: An Agent of Change for Children in Guatemala

Andrea R. Villagran '08, Undeclared

Advisor: *Lidwien Kapteijns, History*

Spending a summer with Fundación Contexto profoundly affected my life, for I became an agent of change in the lives of

disadvantaged children. A small, local, not-for-profit organization located in a poor area of Guatemala City, Contexto introduces children to the world of contemporary art, while enabling them to express their feelings, emotions, and worries. Through art, Contexto students learn to communicate, stand up for themselves, and strengthen their self-esteem. With their newfound confidence, they aspire to higher goals, such as attending high school and college. As part of a new curriculum at Contexto, I taught mathematics and English. In this presentation, I will share my newly developed passion for teaching and social change, which I plan to make the focus of my studies at Wellesley College, so that I can continue to support Contexto and similar organizations.

Silenced Voices: Working with Children in the Streets of Santiago, Dominican Republic

Jenny L. Jourdain '07, Political Science

Advisor: *Lois Wasserspring, Political Science*

The stories of children living, working, and surviving on the streets often go unheard. During my summer in the Dominican Republic, I had the opportunity to hear these children's stories firsthand through my work in a bilingual program for the children and youth served by Acción Callejera. La Fundación Educativa Acción Callejera is a not-for-profit institution that advocates for the human rights of street children by meeting with their families and educating the wider community concerning their rights. Additionally, this organization provides educational, health, and legal services to ensure the future of this often-forgotten population. My work with Acción Callejera allowed me to better understand these children, share their stories, and help to build a better future for them.

Wanted: A Part-Time Mother for the Summer

Julia Shalnova '08, Undeclared

Advisor: *Mary Ucci, Child Study Center*

As a volunteer administrative assistant at the Children's City Hospital in Nizhny Novgorod, Russia, I aspired to learn about the difficulties confronting Russian not-for-profit organizations and explore possible solutions to their problems. I was in charge of educational and fun programming for the patients of the neurological ward. However, I also was asked to nurture the orphaned pediatric patients. I soon discovered the many challenges that interns with little nursing or educational background face. In this presentation, I will share my findings on the problematic socio-economic issues in the Russian healthcare system, the challenges of adoption, and my interaction with Russian children of all ages.

Politics, Economics, and Activism

How Do We Think About Class in America Pre- and Post-Katrina? (roundtable)

Julie Matthaei, Economics; Julie Norem, Psychology; Wilbur Rich, Political Science; and Markella Rutherford, Sociology
Organizers: *Judith Black, Art; and William Coleman, Chemistry*

In addition to exposing many weaknesses in our disaster-response systems, the tragedy on the Gulf Coast exposed many Americans to issues of race and class that they often try hard to avoid. Faculty members from art, economics, political science, psychology, and sociology will reflect on their views of class issues in America at this particular time, and on how the intensive coverage and images of the aftermath of hurricane Katrina should inform the much-needed national conversation about race, class, and culture.

Reconciling History (individual presentations)

Education in Chile: Perceptions of Pinochet Past, Present, and Future

Julia C. Duncanson '06, History

Advisor: *Nathaniel Sheidley, History*

On September 11, 1973, General Augusto Pinochet overthrew the democratically elected president of Chile, Salvador Allende. During the 17-year dictatorship that followed this coup, Pinochet's government murdered, arrested, exiled, or tortured over 300,000 Chileans. Although 15 years have passed since the country's peaceful return to democracy in 1990, Chile remains divided between those who want to forget a painful past and those who seek justice and reconciliation. Because this tension creates an atmosphere of silence in which national progress is limited, if not impossible, educators must take the lead in speaking out. I spent several weeks visiting Chilean schools, interviewing teachers and students, and studying textbooks to determine how the Pinochet regime is currently portrayed in high school classrooms. My presentation will depict how the education system both succeeds and fails in shedding light on this significant period in history and its invaluable lessons in human rights.

Slavery, the Rise of Capitalism, and the Question of Reparations: A Study of the United Kingdom's Corporate History

Andrea D. Hobby '06, Spanish

Advisor: *Selwyn Cudjoe, Africana Studies*

During the transatlantic slave trade, companies made trillions of dollars from the stolen labor of people of African descent. In turn, this money helped to finance the industrial revolution that took place in the United Kingdom. As a result, numerous jobs were created, which helped to support the U.K.'s working class. Today, there is a

movement to seek compensation for the lost wages of slaves. While studying the history of prominent U.K. companies with links to the slave trade, I discovered that the economic impact of slavery was enormous. If reparations were to be given to people of African descent for slavery, this exchange would result in a total collapse of the world's major businesses and financial institutions. Analyzing the historic relationships that these corporate institutions had with those of African descent following slavery will provide important insights into the changes needed in today's society.

Defining Europe: Enlargement After the "Non"

Ariella R. Huff '07, History

Advisor: *Joel Krieger, Political Science*

What are the boundaries of Europe? Should the European Union (EU) include the Balkans, the Ukraine, or Turkey? Is it a "Christian club"? In June 2005, the French and Dutch rejections of the EU's Constitutional Treaty threw those questions into stark relief. Politicians and pundits alike blamed the "non" on widespread anxiety over the fast pace of Enlargement, highlighting divisions between "old" and "new" Europe. My internship at the Irish Institute of European Affairs allowed me to witness this crisis firsthand, through both individual research and the Institute's many events. I will discuss my experiences inside this narrow circle of EU politicians and enthusiasts, and will share my research on how both Europeans and their leaders perceive the future boundaries of their Union.

Exploring Modern German Attitudes Towards Post-World War II Refugees

Sarah E. Olsen '08, Undeclared
Advisor: *Jens Kruse, German*

By September 13, 1950, Schleswig-Holstein in Northern Germany contained approximately 990,861 refugees, many of whom had fled the onslaught of the Soviet army. Altogether, they composed 33 percent of the population, greater than in any other Western German region. Over the next several decades, many of the Flüchtlinge remained, establishing homes, jobs, and families. Today, the stories of these men and women have increasingly found their way into newspaper series and collections of memoirs. In a recent op-ed, Nobel Prize-winning author Günther Grass explained this interest: "Whenever the question is posed, 'What can we Germans be proud of?,' the first thing we should mention is this essential achievement...huge long-term camps for refugees and displaced persons were avoided." Based on my research abroad this summer, I will explore whether the achievements of the difficult post-war years have acquired redemptive value in light of the atrocities that occurred in the Second World War.

Active Politics: Serving Local Communities (individual presentations)

From Piedmont to Fruitvale: Balancing the Legislative Needs of Oakland, California

Kaiharine M. Derrick '06, Political Science and Women's Studies
Advisor: *Marion Just, Political Science*

As a student of American politics, I have often pondered the motivations of a legislator to vote yea or nay on a bill. Political science classes taught me that elected officials must balance the needs of the district with

their platform and campaign promises. As an intern with California Assemblywoman Wilma Chan '73 (D-Oakland), I observed how a state legislator also must balance the needs of a diverse community. From the upper-class Piedmont neighborhood to the suffering Oakland school district, I saw how a legislator navigates the needs and desires of the communities that make up her district. As a political science student who hopes to work in an increasingly diverse America, I explored the ways in which a legislator can balance the varied needs of her district, while working toward the welfare of the whole state.

"All Politics Is Local": Building Community Activism Through Government Internships

Aliya S. Khalidi '07, Political Science
Advisor: *Lynne Viti, Writing Program and Political Science*

Though most are accomplished professionals, Indian Americans are rarely known for political activism. Although the focus on U.S.-India relations intensifies, few Indians participate in the political process, even at local levels. This summer, I sought to remedy the situation by joining the Indian American Forum for Political Education's initiative for Indian American students to intern in government offices. In addition to completing a community awareness project for the forum, I interned for Congressman Edward Markey (D-MA) and for Massachusetts State Senator Susan Fargo (D-MA). After completing casework in immigration, I realized the need for increased minority involvement in legislative and legal professions. By attending state house seminars on subjects ranging from effective lobbying to successful campaigning, I explored the methods that citizens can use to articulate their concerns.

In this presentation, I will share the impact that Indian American interns can make as they participate in the political process.

Do You Like to Eat? Encountering the World of Agriculture in Politics

Shara C. Collins '06, Psychology; and Elizabeth H. Eiseman '07, History
Advisor: *Alan Schechter, Political Science, emeritus*

When asked why she spent so much time on agricultural issues, Senator Hillary Rodham Clinton (D-NY) responded, "Because I like to eat." Over the summer, two city girls (who also like to eat) wearing stilettos and sleek, freshly dry-cleaned suits, found themselves immersed in a world of farms and antimicrobial drugs. Who would have thought these urbanites would find a home in the country? For the next 10 weeks, we worked alongside Dr. Ho, an Agricultural Fellow in Senator Clinton's office, who demonstrated that the world of agriculture involved more than farmers, combines, and bushels of corn. Through much analysis of governmental food policies, we struggled to uncover the truth about food. After finding that a chicken filet could contain hundreds of poisonous antibiotics, we knew that this knowledge and education had to be accessible to all eaters, particularly children.

Opportunities and Dilemmas of NGOs (individual presentations)

Between Two Worlds: A Chinese NGO Evolves

Heather A. Hausladen '07, Physics
Advisor: *William Joseph, Political Science*

Because China was ruled by an emperor until 1911 and led by the communist party after 1949, the concept of an independent nongovernmental organization (NGO)

seems, in many ways, to be contrary to its social and political norms. The founder of *Rural Women*, a privately run magazine, was not exposed to the idea and structure of an NGO until the 1995 Fourth World Conference on Women in Beijing. Now, just 10 years later, there are more than 50 full-time staff members and volunteers at the Cultural Development Center for Rural Women, a semi-independent NGO that has grown out of the magazine. As an intern this summer, I participated in the Center's efforts to serve its clientele. I will share my observations on the attitudes of the staff members, which are not normally associated with a progressive women's organization.

From the Check Book to the Hospital Bed: The Ins and Outs of a Healthcare Charity

Wen Yi Tan '08, Undeclared

Advisor: *Andrea Sequeira, Biological Sciences*

Where does my money go? Why are there administrative costs? Why the need for so many cancer charities? This summer, I experienced firsthand the different aspects of a cancer charity in Singapore. Leukemia and lymphoma are the most curable forms of cancer if detected early, but many people do not have the means to afford appropriate treatment and thus become financially crippled. While working at the Leukemia and Lymphoma Foundation, I interacted with patients and healthcare staff, and also spoke to adolescents about the disease. I learned about not only the day-to-day operations of a growing charity, but also the challenges confronting the hospital and the not-for-profit sector at large. In this presentation, I will share my newfound understanding and appreciation for the role that this charity plays and for the many aspects of its operations.

Sirens in the City of Gold: Emergency Medicine in Israel

Alissa R. Cohen '06, Biological Chemistry
Advisor: *Nancy Kolodny '64, Chemistry*

In 1930, a group of Israeli doctors started Magen David Adom (MDA) as a one-room volunteer-run emergency clinic. Today, MDA is Israel's national emergency medical service, and its staff members are the first responders to emergencies, ranging from playground accidents to terror attacks. This past year, I volunteered as a medic for MDA in Jerusalem after completing training in Israel. I was granted an intimate look at Jerusalem as I treated people from all segments of Israeli society—Jewish, Arab, immigrant, native, young, and old—in every neighborhood of the city. The medics I had the privilege of working with were equally diverse, but were united in their desire to save lives. In my presentation, I will share my experiences of riding in the ambulance and treating patients. I also will discuss MDA's evolution as an organization, including its pioneering role in the treatment of terror victims and its struggle to be fully accepted by the International Red Cross.

Science, Medicine, and Public Health

Blending Blackholes, Blobs, and Banks: Applications of Computer Science (panel)

Hitomi Yoneya '07, Computer Science; Stella P. Del Rosario '07, Computer Science; Rebecca H. Shapiro '07, Computer Science; and Vasumathi S. Raman '07, Computer Science and Mathematics
Advisor: *Brian Tjaden, Computer Science*

From Wall Street to the university lab, these panelists explore the myriad summer experiences of Wellesley College computer science students. Hitomi Yoneya interned

with Credit Suisse First Boston, benchmarking new software for the firm's information technology division. Under Professor Brian Tjaden of Wellesley College, Stella Del Rosario applied the algorithm employed by Google to rank scientific journals and articles. While pursuing a Research Experience for Undergraduates under Dr. Susan Stansfield of Ithaca College, Rebecca Shapiro made headway in developing a force-feedback pen that encourages children to practice handwriting. Vasumathi Raman undertook a Distributed Mentor Project under Professor Jessica Hodgins of Carnegie Mellon University, during the course of which she contributed to a series of experiments involving the perception of human motion. These panelists will compare and contrast the practice and study of computer science in both the research and corporate worlds.

Public Health: The U.S. Perspective (individual presentations)

How Safe Are Our Hospitals? The Country's Journey Towards Perfecting Patient Safety

Angela A. DiGioia '06, Political Science and Spanish

Advisor: *Tom Burke, Political Science*

The inefficient delivery of quality medical care has been identified as a critical problem facing our nation. Preventable medical errors cost the country billions of dollars each year, and more than 7,000 people die annually from medication errors alone. The Jewish Healthcare Foundation (JHF) in Pittsburgh, Pennsylvania, has begun to address these problems through the creation of the Perfecting Patient Safety Fellowship. JHF fellows experience first-

hand how local community champions are revolutionizing bedside care. As a fellow, I was introduced to an unconventional systems-based approach to objectively analyze patient outcomes and the flow of care. Through direct observation, I found that leadership, vigilance, and properly allocated resources are the ingredients necessary to drive improvements in the healthcare system. Building on my coursework at Wellesley College, this hands-on experience has enabled me to objectively approach the healthcare crisis through the principles of Perfecting Patient Safety.

Sex and the City: Maintaining the Sexual Health of San Francisco's Public

Monica Fung '08, Undeclared

Advisor: *Mary Allen, Biological Sciences*

Diverse in education, income, ethnicity, and sexual orientation, San Francisco's population requires particularly innovative methods to promote health. Several current problems, such as methamphetamine addiction and syphilis outbreaks, stem from gay men, a highly sexually active and disease-transmitting subgroup. Under the philosophy of treatment and education without judgment and moral impositions, the city's STD Prevention and Control section targets gay men using awareness strategies, ranging from partnerships with the gay porn industry to marching in the Gay Pride Parade to making political statements to the press. San Francisco clinics transcend current medical standards by testing atypical anatomical sites and treating infections at sex clubs and leather fairs. My internship with the STD Prevention and Control Section of the San Francisco Department of Health truly expanded my

view of the medical field by introducing me to the challenges of advocating sexual health and preventing sexually transmitted diseases in the public sector.

Mortal Combat: Battling Alzheimer's Disease and Lessons in Medical Research, Public Health, Courage, and Caring

Ashmita Banerjee '08, Undeclared

Advisor: *Mary Allen, Biological Sciences*

According to the National Institutes of Health, approximately 13.2 million Americans will have Alzheimer's disease (AD) by the year 2050 if current population trends continue and no preventive measures become available. As the baby boomers approach the AD-targeted age groups of primarily 65 years and above, we face an impending war with this disease. During my internship at the Alzheimer Society of Washington, I learned about a vast, sophisticated, and necessary care network that combats the havoc wreaked by AD on individuals and families at biological, familial, and social levels. In looking beyond the traditional prevent-or-cure options, I saw the dedicated community of care that seeks to make life easier for some extremely courageous patients and their families. I will share how this experience strengthened my resolve to join the health community as a medical researcher.

Off the Hill: Influencing Public Health Through Health Policy Research

Lisa M. Selker '06, Neuroscience

Advisor: *Tom Burke, Political Science*

On average, physicians interrupt their patients 18 seconds after they begin speaking. This interruption can hinder the physician's ability to fully assess the patient's problem and can leave the patient dissatisfied with the quality of doctor-patient communication. During my time in the Health

Institute at Tufts-New England Medical Center, I researched methods of improving physician communication. Many of the studies' results showed that physician communication training programs could be successful in improving doctor-patient interaction. Based on these findings, my colleagues and I are working to implement a training program for physicians in the Boston area. Through this experience, I realized the degree to which health policy research can effect positive change. I now have a greater interest in and appreciation for the range of paths outside of Capitol Hill that can help influence public health.

The Ecology of Our Lakes and Coasts (individual presentations)

Aquatic Invaders: A Look at the Invasive Species Threatening the Great Lakes

Linnea K. Rajala '08, Undeclared

Advisor: *Jeff Hughes, Biological Sciences*

The Great Lakes' ecosystems are being pressured in numerous ways, and action must be taken now to protect these precious resources. Since the 1800s, more than 160 non-native species have established populations in the Great Lakes basin. They have outcompeted native fish populations, disrupted food webs, and deleteriously affected many local industries. With hundreds of potentially new non-native species entering the lakes each year, the U.S. and Canadian governments are forced to spend billions of dollars to help control these nuisance species and to prevent new ones from entering. Although invasive species are a serious threat to the Great Lakes, the public's knowledge of their damaging effects is far from adequate to bring about constructive conservation

policy. While sailing down the shoreline of Lake Michigan on the school ship *Inland Seas*, I helped connect others to the Great Lakes through a rewarding hands-on scientific experience. I will share my passion to protect the Great Lakes as well as how I educated others about these threats.

Natural Cleaners: The Effect of Oyster Aquaculture on a Polluted Cape Cod Bay

Jessica R. Bell '06, Chemistry

Advisor: *Marianne Moore, Biological Sciences*

Coastline development results in increasing human impacts on estuaries, bays, and oceans. When land previously covered by natural vegetation becomes a golf course, new sources of pollution—from fertilizer application, new roads, and septic systems—are introduced to the watersheds. This pollution is in the form of excess nutrients, nitrates, and phosphates, and can cause eutrophication, a nutrient overload marked by food-chain modifications, habitat destruction, and fish kills. Both preventative and remedial approaches to this problem have been studied. As a summer student fellow at the Woods Hole Oceanographic Institution, I modeled the effect of oyster aquaculture on the nutrient balance in Waquoit Bay, located in Falmouth, Massachusetts. The project included observing cultivated Eastern oysters (*Crassostrea virginica*) in their second year of growth. Using my calculations, I concluded that oyster aquaculture is a feasible technique for remediation of eutrophication in Waquoit Bay.

Lion's Paw Scallops: Beautiful and Tasty

Sara E. Huckabone '06, Biological Sciences

Advisor: *Marianne Moore, Biological Sciences*

The adductor muscle weight and gonad weight of bottom-cultured Lion's Paw scallops in San Buto, Baja California Sur, Mexico, were analyzed and a cost-benefit analysis was performed. Previous research suggests that during gametogenesis, energy from the adductor muscle, the marketable portion of the scallop, is used for the production of gametes. This use causes a decrease in the proportion of adductor muscle weight to total scallop weight and, therefore, a decrease in potential profits from the scallops. My experiment confirmed that the adductor muscle weight and gonad muscle weight are dependent, negatively correlated variables, and that the best time to harvest the scallops is in late March and early April. A cost-benefit analysis confirmed that harvesting the scallops during these months could greatly increase profits.

Laboratory-Based Medical Research (individual presentations)

Mice Have Hearts, Too: Using Mouse Models to Investigate RhoB

Nan Chen '08, Undeclared

Advisor: *Carol Ann Paul, Biological Sciences*

Embryonic cardiac development is an important and a dynamic process in which many changes occur over a brief period of time. One aspect of this process is the production of new blood vessels. It has been shown that RhoB (a GTPase) has an interesting and a critical role in vascular development. Previous research demonstrated that RhoB null mice have retarded vascular development. Working at Beth Israel

Medical Center this summer, I investigated the role of RhoB in cardiac development using genetically engineered mice mutants for RhoB (both overexpression and null). Expression of this molecule is normal during development; however, it also occurs during cancer tumor growth. RhoB has been shown to accompany rapid growth of blood vessels, feeding the tumor with necessary nutrients to continue survival. Resolving the role of RhoB in development could also answer questions about its role in tumor growth in cancers.

Might Erythropoietin Help in the Fight Against Glaucoma?

Jing Cao '08, Undeclared

Advisor: *Marcia Thomas, Biological Sciences*

Glaucoma, the leading cause of blindness in the United States, affects more than 2.2 million people. When fluid inside the eye cannot drain properly, the intraocular pressure increases and causes damage to the optic nerve, affecting vision and possibly leading to vision loss. Erythropoietin (EPO), a glycoprotein hormone better known for regulating erythropoiesis, is now being explored for neuroprotective functions. By binding to its receptor, EPOR, EPO initiates pathways that produce anti-apoptosis (cell death) factors and that are potentially therapeutic for treating glaucoma disease. At the Brown Glaucoma Laboratory at Columbia University this summer, I was able to assess the levels of gene expression of EPO and EPOR, from retinas of normal and glaucoma model rats, through molecular biology techniques, such as RNA extraction, cDNA synthesis, and reverse-transcriptase PCR. Based on understanding the principles of these

molecular biological techniques, I was able to further my learning and better appreciate how molecular functions affect our bodies.

Switching Genes On and Off by Modifying Transcription Factors

Erin K. Burke '06, History

Advisor: *Marilyn Turnbull '69, Chemistry*

In cells, gene expression is often regulated by certain proteins that bind to DNA and activate or repress the transcription of genes. These proteins, called “transcription factors,” can be regulated by several mechanisms. For example, the protein itself can have regions that inhibit it from binding to DNA. Also, the protein can be modified in ways that make it more or less likely to bind to DNA. In a model transcription factor, Ets-1, a region of the protein appears to

be flexible and unstructured. Do unstructured regions have a function? At the University of Utah, I studied the impact of modifications to the unstructured region of Ets-1 on the binding of that protein to DNA. I will explore how understanding the mechanisms by which this transcription factor is regulated may lead to discovering how cells fine-tune protein function, including those involved in transcription and, thus, gene expression.

Novel Derivatives of the Suzuki Cross-Coupling Reaction

Christina M. Woo '08, Undeclared

Advisor: *Julia Miwa, Chemistry*

What are nonaromatics? What are oxabicyclic compounds? Why attempt the Suzuki reaction with a diboron? I asked these questions before embarking on a research

internship in Berlin, Germany. Palladium-catalyzed chemistry with a diboron creates the potential for two consecutive Suzuki reactions, opening an infinite number of synthetic avenues to the organic chemist. I was immediately immersed in graduate life, synthesizing starting material, running different multistep experiments in exploration of the unknown, and experiencing the success and failure of the lab. The summer also was about exploring Germany, creating new understandings of Europe and America, meeting new people, and discovering myself. For science and engineering majors, research abroad is the perfect opportunity to develop on all frontiers—both inside and outside the lab.

3:00–4:10 P.M.

Cross-Cultural Interaction

Shifting Issues, Shifting Identities (individual presentations)

Hong Kong Identity in the Arts and Politics

Eleanor E. Bastian '06, Political Science; and Mimi Szeto '07, Mathematics

Advisors: *William Joseph, Political Science; and Heping Liu, Art*

Since the 1997 handover back to China, the people of Hong Kong have been increasingly concerned with locating an authentic Hong Kong identity. The city's rapidly emerging art scene, nourished by Hong Kong's international character, reflects this identity crisis. However, Hong Kong artists are limited by both political constraints and commercialism. The city's public engagement processes also illustrate this movement towards defining a Hong Kong identity. Some leaders are looking to democratize how the government interacts with the people, while others want to maintain the less participatory consultation system used by the British during the colonial period and now preferred by China. Both sides argue that their public engagement practices are authentically Hong Kong and that other models are foreign and inappropriate. This presentation will discuss the dynamics of the conflict over Hong Kong's

identity and will provide our own perspective on what the Hong Kong identity may actually be, based on our internships there this summer.

From School to Samba and Back: Life's Rhythms in Brazil

Erica J. Fitzhugh '06, International Relations; Katherine R. Broad '06, English and Political Science; Ashley A. Richardson '06, Undeclared; and Krista Kateneva '06, Latin American Studies
Advisor: *Raul Rubio, Spanish*

The word "Brazil" conjures up numerous contrasting images: the raw energy of samba, carnival, sensual women, and soccer, as well as the dark underside of extreme poverty, *favelas*, drug wars, and prostitution. The essence of Brazil cannot be captured in one word, but in a phrase: *São 5.000 brasís*, meaning there are 5,000 Brazils. Each one is unique in and of itself, whether it is the Sertão of the Nordeste, the Candomblé of the Baiano, or the Avenida Paulista of the Paulistano. Last year, we traveled to Brazil to witness Brazilian realities beyond the sensationalized images. Sharing personal experiences and academic insights, we will address the complexities of race, class, culture, and education from different regions and perspectives. Through discussions of politics, economics, and society, we hope to convey how our experiences abroad contributed to a deeper understanding of the issues facing Brazil today.

Dissecting the Black Experience Abroad (panel)

Daphne Francois '06, Classical Civilization; Patsy C. Wilson '06, Spanish and Philosophy; Terrika E. Duckett '06, Spanish; and N'Mah F. Yilla '06, Middle Eastern Studies and Spanish

Advisor: *Jennifer Thomas-Starck, Office of International Study*

What is life like for black women participating in international programs? In this presentation, we will share our experiences as black women living in Greece, Cuba, Costa Rica, and Morocco. We will discuss the socio-political/socio-economic situations of people of African descent in each country; the stereotypes about Americans that we encountered; and the nature of our interactions with the local populations as well as with other black people, both inside and outside of our respective programs. We also will explain how our study abroad experiences have influenced our personal and academic goals, how we have come to view ourselves, and what it means to be black in an international context.

Learning, Service, and Youth

Empowering Adolescent Girls (individual presentations)

Small Steps: Rebuilding Unity Through Girls' Sports

Alison Carney '07, Peace and Justice Studies
Advisor: *Marjorie Agosin, Latin American Studies and Spanish*

Bosnia i Herzegovina still suffers from a war that divided its people almost 10 years ago. The lasting division can be seen in the fact that the country has three different presidents: one for the Bosnian/Muslim region, one for Herzegovina, and one for the Republic of Srpska. Two of these regions represent people who would rather be Croatian or Serbian, not Bosnian. By starting up the not-for-profit Let's Be Active to promote peace and Bosnian national unity through girls' athletics, Ismet Kapetanovic has proven that you can build a community, both real and imagined, by empowering new generations and teaching them to love and respect each other. In August, Let's Be Active brought together 47 girls from all three regions of Bosnia to train with one another in a two-week soccer camp in Trebinje in the Republic of Srpska. As a coach at this camp, I witnessed firsthand the willingness of these amazing girls to mend their country after a generation of hate and violence.

Building Therapeutic Relationships: Experiences Working with Troubled Adolescent Girls

Keely J. Sayers '06, Psychology
Advisor: *R. Steven Schiavo, Psychology*

No amount of training could have prepared me for the first time I had to restrain a child. The vast majority of residents at Germaine Lawrence has been neglected

and physically or sexually abused for years and, as a result, struggle with many challenging behavioral issues. Their behaviors range from fire setting and bulimia to cutting and being physically aggressive. This summer, my challenge was to keep these girls safe and at the same time build therapeutic relationships based on trust and mutual respect. I will share my experiences about both the conventional and unconventional ways I handled the chaotic situations in which I found myself, explain how they affected my views about residential treatment programs, and discuss how they influenced me on a personal level.

Beyond the Physical: A Self-Defense Response to Interpersonal Violence

Laura K. Van der Pol '07, Environmental Studies; and Judy S. Ho '06, Chinese Studies and Sociology
Advisor: *Deborah Weaver, Physical Education and Athletics*

Self-defense is often perceived as a response to street violence and “stranger danger.” In reality, most violence occurs between people who are in a relationship—family, intimates, and friends. This presentation explores the research on relationship violence and the violence prevention curriculum developed by Girls' LEAP. Utilizing self-defense training as a tool for confidence-building, Girls' LEAP focuses on teaching at-risk girls throughout Greater Boston. As Teaching Women who have worked extensively with LEAP, we have learned that trusting one's instincts and responding with confidence, rather than reacting from fear, is as important for staying safe as are physical skills. We will share how we use self-defense and life-skill development to provide girls with the courage and confidence to make safe choices and to say “No.”

Educating for Citizenship (roundtable)

Lee Cuba, Sociology; Paul Wink, Psychology; and Ali Yannias, '04

Organizers: *Lidwien Kapteijns, History; and Joanne Murray '81, Center for Work and Service*

A liberal arts education, we often claim, prepares students to be good citizens, helping them, among other things, to develop their own civic values and to envision how to put these principles into practice. At Wellesley College, many classes encourage students to develop the knowledge and principled thinking necessary for good citizenship. Moreover, we have a growing number of off-campus programs (especially internships of many kinds) that allow our students to learn from experience and to bring these new ways of knowing back to the Wellesley classroom. This roundtable invites all Tanner Conference attendees to join us and discuss the value of the College's experiential learning programs, as well as the notion and practice of “educating for citizenship” as an important dimension of a Wellesley education.

Harbor at Night: Common Ground on Water (art presentation)

Kaitlyn S. Lucey '08, Undeclared
Advisor: *Joel Janowitz, Art*

As an instructor at the Courageous Sailing Center for the past five summers, I have transitioned from a youth program volunteer to a racing coach. The Boston Harbor, on which I have grown as an individual, mentor, and sailor, was the inspiration for my mixed-media painting entitled, *Harbor at Night*. The opportunity to teach the sport of sailing to Boston's young people has allowed me to stay actively involved in several inner-city communities. On any given day, my crew is a microcosm of all walks of

life. Group success relies on individual responsibility and contribution. Together, we derive respect for one another. My depiction of the summer's final evening evokes the wonder of the sea and, consequently, the wonder of each other. I will share how the interplay of colors, shapes, textures, and shadows mimics the splendor we discovered amid the diversity that we experienced.

Politics, Economics, and Activism

Global Humanitarian Efforts (individual presentations)

Protecting the Rights of Forgotten Peoples and Places

Safia J. Lakhani '06, International Relations
Advisor: *Christopher Candland, Political Science*

What do Tibet, Zanzibar, and Chechnya have in common? All are absent from international fora, namely the United Nations (UN). I spent my summer working for the Unrepresented Nations and Peoples Organization (UNPO), a nongovernmental organization (NGO) that advocates representation for all indigenous peoples and states. The UNPO provides both an alternative to the UN and a platform for members to access key international bodies. Yet, despite its best intentions, the UNPO does not always meet its mandate. During my two-month internship at the UNPO in The Hague, I was exposed to the hidden world of unrecognized states and to the secret workings of NGOs. My presentation will examine the objectives of the UNPO, highlight its accomplishments, and reveal the shortcomings that I observed in my brief time there.

Individuals Standing Up for Individuals at Amnesty International U.K.

Jemma L. McPherson '06, History and Art History

Advisor: *Nathaniel Sheidley, History*

How do individuals fit into the global movement to protect human rights? Amnesty International U.K. is working to ensure that the world knows the answer: Individuals are the global human rights movement. With offices largely staffed by both long-term, full-time volunteers and a community of part-time volunteers, Amnesty U.K.'s campaigning and research benefit considerably from personal contributions of time, money, and resources. What do these volunteers do? How are people helping other people, one at a time, in Amnesty U.K.'s London office? Is it possible to make a substantive impact as a volunteer within an organization of Amnesty U.K.'s proportions? In this presentation, I will reflect on these questions and will discuss the place of volunteer work in a Wellesley student's life while studying abroad.

U.S. Landmine Removal Program and International Security

Christine S. Chu '07, History

Advisor: *Marion Just, Political Science*

Page through the newspaper and you're unlikely to find the headline: "U.S. Leading Donor in Worldwide Struggle Against Landmines." Yet, during my internships at the U.S. Department of State's Bureau of Political-Military Affairs, I saw just that. While working to curb the illicit proliferation of arms, I became involved in the Humanitarian Mine Action program. An example of our country's international humanitarian efforts, this program helps clear minefields, educates people living in affected areas, and aids victims. I now real-

ize that landmines are just as dangerous as the illegal weapons that the United States strives to keep out of terrorists' hands; they not only destroy lives, but also compromise international security. Killing 15,000 people a year worldwide, landmines damage infrastructure and sow the seeds of turmoil. Despite current criticism of our government, this experience showed me a positive, compassionate side of the U.S. State Department—a side more people need to see.

Bank, Banco, Banka: A Cross-Cultural Comparison of Banking (panel)

Evangeline M. Arapoglou '06, Economics;
Julia Hunter '06, Economics; and Pinar Yurekli '06, Economics

Advisor: *Joseph Joyce, Economics*

This past summer, we worked in the banking sectors of different countries, ranging from the Central Bank of Turkey to Banco de Chile (the second-largest bank in Chile) to the Wall Street trading floor of Merrill Lynch. Our cross-cultural experiences demonstrated that there is more than just a language barrier to face when working abroad. We will compare working in the public and private sectors, specifically addressing such issues as work environment, gender, internal competition, compensation, and social opportunity. In addition, we will discuss the influence of our internships on our future plans.

Architecture and Urban Development— Past and Present (individual presentations)

Crusader Castles, Ancient Amphorae, and the Largest Disco in the Mediterranean

Tara M. Spence DS '06, Classical Civilization;
and Jane E. Gette '07, Physics
Advisor: *Miranda Marvin, Art and Classical Studies*

What can shipwrecks tell you about trade and economy in the ancient world? What questions can ancient wine jars answer about standardization? What is it like to work in a crusader castle in modern Turkey? We addressed these questions during our summer research in the city of Bodrum on the Turkish coast, as we worked closely with Professor Elizabeth Greene and members of the Institute for Nautical Archaeology. While studying previously excavated and preserved amphorae (pottery vessels used for shipping wine in bulk), we attempted to develop models of trade on the ancient coast of Asia Minor. In our presentation, we will recount the successes and the obstacles that we encountered while applying our experiences in different disciplines to the amphorae of the *Pabuc Burnu* shipwreck.

Experiencing the Art and Architecture of Venice and the Veneto

Magdalena I. Naydekova '08, Undeclared
Advisor: *Alice Friedman, Art*

Why did we enter the Church of the Frari and proceed slowly to the choir screen several times before we started the lecture on Titian's *Assunta*? What made me spend nearly half a day in the Church of San Giorgio Maggiore? What motivated 15 students to travel around the Veneto on one of the hottest days of the summer in Europe? The awe-inspiring qualities of the art and architecture in Venice and the neighboring towns are best understood when experienced on-site and interpreted in the context of the social, political, cultural, and intellectual forces at play in the time of their creation. During my summer experience in Italy, I was able to examine the strong rela-

tionship between art and architecture, location and function. Together with an enthusiastic group of students from Columbia University, I explored the eclecticism of early Venetian art and architecture, focusing specifically on Venetian Gothic and Renaissance masterpieces. In my presentation, I will discuss Venetian art and architecture as a product of and a stimulator for intellectual and spiritual experiences, as well as a part of the daily routine. I also will examine the importance of direct contact with the artwork explored, including the excitement of studying the history and culture of this impressive city while assuming a Venetian identity.

New Urbanism: Revitalizing America's Cities

Marjorie M. Mocco '08, Undeclared
Advisor: *Wilbur Rich, Political Science*

When studying the issues and realities of urban life, several questions arise: What makes a city safe, vibrant, and pedestrian-friendly? What is the impact of skyscrapers *versus* human-scale architecture, and of sidewalks *versus* landscaping? While working for the urban renewal company Liberty Harbor North, I participated in the process that developers and project managers follow—from planning city-block configurations to choosing bathroom tiles. In addition, I considered how a developer can satisfy the varying preferences of consumers, value a diverse consumer group while still turning a profit, stay abreast of trends and market preferences, and reach a balance between aesthetics and construction expenses. In this presentation, I will share my experience and introduce a new model of urban development.

Beautiful Chaos: Architectural Development in Greater Shanghai

Wai Kai Lok '06, Architecture
Advisors: *Jessica Irish, Art; and Phyllis McGibbon, Art*

As future host of the 2010 World Expo, and charged with massive foreign investment, Shanghai has become an international financial center. Along with rapid economic growth comes the inevitable urban development that drastically changes a city's urban fabric. In Shanghai, a diverse array of contemporary architecture comes together with dense vernacular neighborhoods, creating a dynamic, yet chaotic skyline. New buildings in the greater Shanghai area no longer compete for height, but often pursue similar multifunctional programs. While interning this summer at MADA s.p.a.m. in Shanghai, I witnessed the city's architectural development from the inside. I will introduce projects from my internship, explore the emerging conditions, and discuss the working environment of an innovative Chinese architecture firm.

Housing the Masses: Multi-Unit Housing in Amsterdam, Florence, and New York City

Pamela L. Chinn '06, Architecture
Advisor: *Alice Friedman, Art*

While multi-unit housing has often carried a certain stigma due to its frequent association with small-budget and government-controlled projects for low-income inhabitants, many countries have altered this perception by creating innovative and desirable multi-unit homes for a variety of users. After a semester living in Florence, studying and visiting the housing on Borneo-Sporenberg in Amsterdam, and interning this summer at the American

Institute of Architects in New York City, I now view multi-unit housing in a new light. In my presentation, I will explore the various ways in which each country has traditionally envisioned multi-unit housing, as well as its future direction. I also will consider such factors as green architecture, location, and layout, all of which contribute to the overall success of a project. In comparing and contrasting Italy, Amsterdam, and New York City, I will examine the differences in each country's priorities, restrictions, and design ideals.

Science, Medicine, and Public Health

International Public Health (individual presentations)

Tropical Medicine on the Coast of Mexico

Lilian G. Perez '07, Neuroscience

Advisor: *John Cameron, Biological Sciences*

Paludismo, known as malaria in Mexico, is one of the top-three deadly tropical diseases that exist in small rural Mexican towns. Through Child Family Health International, I worked with other premedical and medical students in Puerto Escondido, a town that lacks adequate healthcare services. Every day, we traveled to various community clinics, hospitals, and brigades to assist doctors and nurses with whatever services we could contribute. By the end of the summer, we were allowed to conduct certain procedures, such as giving injections and pelvic exams. We also observed live births, intensive surgeries, and the various campaigns aimed at diminishing the number of cases associated with tropical diseases, such as Chagas, malaria, and dengue. In my presentation, I will share some factors that contribute to the lack of healthcare attention within the community, including *machismo* and the lack of federal funding, medical staff, and even the simplest of medical supplies.

Development Challenges in Rural Mexican Communities

Kathleen C. Smith '07, Spanish; and Sara F.

Stein '07, Latin American Studies

Advisor: *Nancy Hall, Spanish*

This summer, we volunteered at both El Proyecto de Verano and Amigos de las Américas—programs that enabled us to work and live in the villages of La Providencia, San Luis Potosí, and San Andrés Zautla, Oaxaca. Through hands-on community involvement, we explored and worked toward solutions to the many challenges facing rural Mexico today, including the lack of basic infrastructure, access to healthcare, education, and other resources that are taken for granted in developed countries. In our presentation, we will address these problems as well as the issues of nutrition, contraception, potable water, the environment, immigration, and youth leadership.

Healthcare in the Developing World: Life on a Maternity Ward in Ghana

Emily M. Newberg '06, Psychology

and French

Advisor: *Lynne Viti, Writing Program and*

Political Science

As one of the more stable West African countries, Ghana has developed a seemingly adequate healthcare system to address the population's needs. I spent last summer working with the nurses and midwives of a bustling maternity ward in a small government-run hospital in Ghana's Volta region. During this time, I experienced firsthand the difficulties facing medical staff when promised government funding fails to materialize, thereby causing cutbacks in essential basic supplies like latex gloves. As a result, nurses struggle to teach

patients the importance of prenatal care and hospital delivery, explain the importance of breastfeeding, and increase patients' acceptance of family planning. While I learned to appreciate everything the Ghanaian system had to offer, I was often frustrated by the lack of what Americans consider basic care. I will share my new perspective on what constitutes adequate healthcare and how developing countries must make do with what little they have.

Poor but Healthy: Treating Urban India's Ailing Population Through a Grassroots Effort

Shaheli Guha '07, Computer Science

Advisor: *Brian Tjaden, Computer Science*

This past summer, I worked at Prachesta Welfare Society—an independent primary healthcare center in Calcutta, India. Prachesta mainly serves the economically disadvantaged inhabitants of the Tollygunje slums. Overcrowded living arrangements, lack of sanitation, and limited access to clean drinking water put this population at great risk for contagious diseases. Poverty, illiteracy, and superstitious beliefs all contribute to low awareness of key healthcare issues, exposing residents to even greater risk. Prachesta works at the grassroots level to provide low-cost treatment and to raise health awareness in the community. Volunteering at Prachesta not only gave me the opportunity to help patients, but also taught me that a well-run grassroots organization can make a difference. Through my presentation, I hope to convey that a developing country can strengthen its primary healthcare system with the support of grassroots organizations.

Behind the Locked Door: Observations of a Korean Psychiatric Ward

Dong Eun S. Park '08, Undeclared
Advisor: *Sally Theran, Psychology*

Inside a psychiatric ward, nurses calm patients, residents furiously look for answers, and patients reflect on whether the world has turned against them or whether they have turned against the world. During the summer, I volunteered at the closed mental ward of Pusan National University Hospital in Korea, where illnesses such as schizophrenia, manic depression, self-mutilation, and alcoholism are treated. The hospital is a place where patients usually come unwillingly, but where they eventually find peace. Amidst a rapidly changing hospital structure, the nurses, residents, interns, and doctors from an eastern culture use western medicine to treat patients in the best ways possible. I will share my perceptions of a Korean psychiatric ward and the insights I gained into the patients, staff, and system.

From the Nano to the Galactic (individual presentations)

Characterizing Quantum Dots: Nanocrystals with a Big Future

Merideth A. Frey '07, Physics
Advisor: *Theodore Ducas, Physics*

Quantum dot nanocrystals show great promise in addressing many of the problems in the current use of fluorescent organic dyes for biochemical and biomedical labeling. During the summer, I explored some fascinating properties of quantum dots through the Summer Undergraduate Research Fellowship at the National Institute of Standards and Technology. In this study, we measured

dynamic photoluminescence of clustered dots in order to develop a reference measurement that was useful in understanding how quantum dots would work in real biological systems. I had my first experience with hands-on physics research and was able to build and design parts of the optical setup needed for measurement, along with reviewing the results. Since learning about fascinating real-world applications that come out of physics research, I am now considering research as a possible future career after completing my graduate studies in physics.

Fun in the Sun: Working and Living at the National Solar Observatory

Rachel A. Hock '06, Astrophysics
Advisor: *Richard French, Astronomy*

This past summer, I worked and lived at the National Solar Observatory in Sacramento Peak, New Mexico. My research focused on large-scale solar disturbances called “sequential chromospheric brightenings (SCBs).” My colleagues and I conducted a survey of daily images from the Improved Solar Observing Optical Network telescope located at Sacramento Peak to find further examples of SCBs and to perform basic statistics on these events. Furthermore, we studied the evolution of SCBs in both the chromosphere and corona using an example from May 6, 2005. In addition to presenting my research, I will discuss the living conditions at a remote, high-altitude observatory and the unique opportunities of my National Science Foundation Research Experience for Undergraduates (NSF-REU) program, including professional conferences, travel, and public outreach.

Comparing Groups of Galaxies: Earthly and Ethereal Challenges

Rebecca A. Stoll '06, Astrophysics
Advisor: *Kim McLeod, Astronomy*

Why are we here? With the guidance of Professor Mike Brotherton at the University of Wyoming, I took a step toward answering that question in the language of extragalactic astronomy. This summer, I compared the close environments of two groups of quasars—those residing in galaxies that have experienced recent bursts of star formation, and those residing in more typical galaxies—and then sought to determine whether the density of galactic neighbors relates to recent star formation in the quasar host galaxy, which would help to refine models of galaxy formation. In addition to probing the inner workings of the universe, I explored the inner workings of the scientist’s mind, experiencing firsthand the tension between what is glamorous and what is real. In my presentation, I will address the following questions: How does what we expect to find shape what we actually see? How does a responsible scientist compensate for that bias?

Spacecraft Instrument Database Formation at NASA’s Jet Propulsion Laboratory

Kelly A. Wallenstein '07, Astrophysics
Advisor: *Kim McLeod, Astronomy*

“Team X” is the Jet Propulsion Lab (JPL) design team responsible for outlining proposed space missions. To make the design process more efficient, the team forms organized information databases used on previous designs. By referring to these databases, design team members can locate relevant subsystem data files and can significantly reduce the time spent on each

design. During my internship at JPL, I combined and organized spacecraft instrument files into a common database that could be updated over time. The goal was to make the database secure, user-friendly, and easily accessible to the team members. Throughout the internship, I had an inside view of the working environments of accomplished scientists and engineers, and experienced problem-solving on a higher level than I had ever experienced before.

New Approaches to Medical Technology (individual presentations)

Noninvasive Bioassay Development for Toxicity Using Boar Spermatozoa Polymorphisms

Courtney L. Klaips '06, Biological Chemistry and Philosophy

Advisor: *Gary Harris, Biological Sciences*

Why do some drugs work for a majority of the population, but cause tremendous side effects for others? Oftentimes, the negatively affected patients may have a functional polymorphism, or a slight difference, in one of their genes. Some new drugs do not make it through clinical trials because of their toxicity in certain patients. If we could discover these polymorphisms, then adversely affected patients could be screened out of the trial or treatment, while those without the polymorphism could still have the opportunity to benefit from the drug. This summer, I worked in the Gaston Lab at Beth Israel Deaconess Medical

Center in Boston. I began to develop a novel, noninvasive bioassay to measure respiratory toxicity using boar spermatozoa as the biosensor. I will share how my work enabled me to experience medical research firsthand, as well as how it may one day impact the medical community.

Biomedical Optics: Using Light to Diagnose Disease

Nooshin Hosseini '06, Neuroscience

Advisor: *Mark Goldman, Physics*

Molecular imaging has the potential to widely change and impact every major aspect of medicine as an approach for studying diseases noninvasively and quantitatively at the molecular level. A promising new development is fluorescence molecular tomography (FMT), a macroscopic imaging technique that employs a mathematical description of the propagation of light in turbid media to quantify the three-dimensional biodistribution of fluorescence *in vivo* through entire animals. The development of optical phantoms that accurately model photon propagation in tissues is important for experimental techniques as well as for theoretical models of photon transport for biological applications. This summer, I conducted research in the biomedical optics lab at Massachusetts General Hospital and at Harvard Medical School. I helped to create a series of solid phantoms simulating the optical properties of mouse tissues for use in *in vivo* FMT mouse studies. In my presentation, I will share the results and the future of using FMT to diagnose disease.

Tissue Engineering: Clinical Medicine and Engineering Join Forces to Develop Biological Substitutes

Mackensie A. Yore '08, Undeclared

Advisor: *David Haines, Chemistry*

The severe shortage of transplantable organs has given rise to Tissue Engineering (TE), a biomedical field whose central purpose is to develop biological substitutes that restore, maintain, or improve tissue function. This summer, I participated in a National Science Foundation-supported research internship at Clemson University. My research used one of the major strategies of TE known as “tissue scaffolding,” which develops tissues out of cells placed on or within a porous material, or scaffold. One of the present challenges to developing tissues ready for human transplantation is the selection of an appropriate material for the scaffold. I investigated the cell response to a scaffold material made of polylactic acid, a biodegradable polymer. The broad-based, multidisciplinary nature of TE gave me a new outlook on the engineering field in general. I will share my discovery of how mechanical, chemical, and bioengineering disciplines play vital roles in the development of important medical technologies.