



From the Kendall Center

'Formalized Curiosity': Student Scholars/Faculty Mentors

by Laura Behling

You may know United States author Zora Neale Hurston from her remarkable collection of writing, most notably her literary tour-de-force *Their Eyes Were Watching God* (1937). But for Gustavus faculty and students working together on research, scholarship, and creative projects, Hurston offers both example and philosophy.

Born in 1891 in Notasulga, Alabama, Hurston entered Barnard College in 1925 after completing an associate degree from Howard University. While studying in the alien settings of both Barnard and New York, she became both intrigued by her own culture's folktales and equipped with the theoretical framework to help her make sense of her curiosity. She explained:

From the earliest rocking of my cradle, I had known about the capers Brer Rabbit is apt to cut and what the Squinch Owl says from the house top. But it was fitting me like a tight chemise. I couldn't see it for wearing it. It was only when I was off in college, away from my native surroundings, that I could see myself like somebody else and stand off and look at my garment. Then I had to have the spyglass of

Anthropology to look through at that. (Hurston, *Mules and Men* 1)

In her 1942 memoir, *Dust Tracks on a Road*, Hurston was even more succinct about the role that focused inquiry plays: "Research is formalized curios-

ity," she wrote, "it is a poking and prying with a purpose" (127).

Now, in this next century after Hurston's undergraduate studies, colleges and universities have long recognized the value of student-generated research, scholarship, and creativ-

ity as the hallmark of an engaged and successful academic experience. Since the publication of the report by the Boyer Commission on Educating Undergraduates in the Research University, *Reinventing Undergraduate* continued on next page

The Celebration of Creative Inquiry

The first Celebration of Creative Inquiry, a showcase for undergraduate research, was held on May 2, 2008, and featured more than 100 presentations representing the work of more than 130 Gustavus students. The Celebration is a campuswide forum to publicly share the creative inquiry of students from Gustavus Adolphus College. Held on the Friday evening before Honors Day, the Celebration features student poster presentations (or other similar presentations as appropriate) of their research, scholarship, or creative accomplishments. "Creative inquiry" is an intentionally broad term that encompasses research and scholarship including, in the arts, exhibits or performances. A student's project may emerge from a class assignment, off-campus experiences or internships, student-faculty collaborative research or creative work, independent student research, scholarship or creative projects, and the work of extra-curricular student organizations. The definition of creative inquiry varies by discipline and can include asking a question that has not been asked before; attempting to fill a gap in knowledge, or to create new knowledge, information, art, or expression; developing a process or product that requires the student to add ideas or imagination of their own; or fashioning a project that is shaped by choices the student made independently through critical reflection.



Barbara Fister

Annette Broner '08 explains her research project, "The Cross-Cultural Lived Experience of Passion (between Argentina and the U.S.)," to a fellow student at the inaugural Celebration of Creative Inquiry event held in May 2008. Posters or similar presentations for more than 100 undergraduate research/scholarship/creative projects were included in the showcase. Broner's faculty sponsor was Patricia English, associate professor of communication studies.



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Education: A Blueprint for America's Research Universities (1998), the national call to engage undergraduate students in research and scholarship—to formalize their curiosity inside and outside of the classroom—has been heard and put into practice by Gustavus faculty, who themselves are curious about the world, and who see the

purpose that intellectual and creative poking and prying play in the life of the College's students.

The benefits of undergraduate research are potentially tremendous for student learning. Students report gains in a variety of skills, including design and hypothesis formation, data collection and interpretation, information literacy, critical thinking, communication, and computer work. They also increase their sense and prac-

tice of professionalism because of the opportunities they have to work on publications or presentations, the close relationships they develop with faculty mentors, and for some students, a better understanding of the demands of a career as a chemist or a studio artist. In short, undergraduate research, scholarship, and creative opportunities signal deep engagement with learning and a commitment to collaborative learning between faculty and students.

For many faculty members, "formalized curiosity" is best incorporated into a course, where he or she can work with a student on developing a research trajectory, explain and model how to critique and in-

corporate sources, and then discuss, through thoughtful questioning of and commenting on, the student's work.

Departments at Gustavus such as communication studies, history, political science, and religion offer students the opportunity to undertake a significant faculty-guided independent research project. In other departments, such as geology and biology, students undertake directed research, conducting field exercises, developing experiment protocol, and writing a research prospectus and study. In music, majors design and present a recital, research one work from the recital in depth, or complete analytical program notes.

Presidential Faculty-Student Collaboration Grants, 2005–2008

Laura Behling and Chelsea Kramer (English), *Come On!: American Posters from World War I*

Margaret Bloch Qazi and Tanner Miest (biology), "Female Determinants of Sperm Fate in the Fruit Fly, *Drosophila melanogaster*"

Priscilla Briggs and Nicholas Hansen (art/art history), Video Collaboration with "Teens Rock the Mic"

Scott Bur and David Guptill (chemistry), "Heterocyclic Compounds"

Jill Locke and Kristen Nelson (political science), "Brides and Brothers: Marriage and Fraternity in Tocqueville's France and America"

Steve Mellema '72 and Chenyu Yang (physics), "Study of Optimal Imaging by Reflection through Random Media"

Charles Niederriter and Jared Sieling (physics), "Energy Storage as a Partner to Wind Energy Production"

Lois Peterson and David Goldstein (art/art history), Creation and Installation of a Ceramic Wall Mural for Christ Chapel

Toshiyuki Sakuragi, Bao Xiong, and Lee Vang (Japanese studies), "Cognitive Linguistic Study of Hmong Language"

Sanjive Qazi and Jason Pitt (biology), "Bioinformatic Approaches to Understanding Gene Switching in the Model System Fruit Fly, *Drosophila melanogaster*, and the Hijacking of the Host T-Cell Machinery by HIV"

Paul Saulnier and Eva Cornell (physics), "Studying Swarms in Nature: A Biophysics Project"

Amy Seham and Maggie Sotos (theater/dance), *Miranda's Amazing Adventure*

Mary Solberg and David Lick (religion), "The German Christian Movement in Print"

Interdisciplinary science opportunities

One important aspect of the mission of Gustavus Adolphus College is to provide a curricular framework that is interdisciplinary in nature. Indeed, Gustavus has a long and strong history of promoting and supporting educational and scholarly activity at the interfaces of the traditional disciplines of the liberal arts. In the natural sciences and mathematics, interdisciplinary strength is exemplified by well-established programs in biochemistry and molecular biology and environmental studies and an emerging program in neuroscience.

Gustavus has been recognized nationally for a proposal by biology and chemistry faculty to further strengthen the interdisciplinary environment. The College was awarded \$60,000 in 2003 and again in 2008 by the Merck Institute for Science Education through its support of the Merck/AAAS (American Association for the Advancement of Science) Undergraduate Science Research Program. The Merck/AAAS grant supports collaborations and activities involving faculty and students in research with the interdisciplinary and interfacial areas of biology and chemistry during summers between 2008 and 2010. Grant funds will pay for five student summer research stipends, research costs, and other activities aimed at enriching the environment for interdisciplinary collaboration. Gustavus was among only 14 colleges and universities in the nation to receive one of the prestigious, peer-reviewed grants in 2008, and among only 20 colleges and universities that have received the grant twice.



Yet courses are only some of the places where such opportunities exist for faculty to engage with students in research and scholarship. Independent projects and collaborative research between a faculty member and a student also offer areas to explore. And at Gustavus, professors and students work together during the summer months, funded by Presidential Faculty-Student Collaboration Grants, by programmatic grants such as the Merck/AAAS

Undergraduate Science Research Program or the Howard Hughes Medical Institute grant, or by external grants awarded to individual faculty members. This summer research also includes community building and student presentation opportunities.

What is clear is a shared commitment among faculty to work with Gustavus students in research, scholarship, and cre-

ative projects, and to offer opportunities to transform their students' college experience and deepen their critical knowledge. To engage undergraduate students as scholars expects us to re-imagine the complete undergraduate experience, demands that we challenge traditional ways of doing research in our disciplines, and asks us, finally, to formalize our own and our students' curiosity with the world. 

Laura Behling, Ph.D., associate professor of English and chair of the department, is director of the John S. Kendall Center for Engaged Learning, the College's faculty development program. She joined the Gustavus faculty in 1999.

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Midstates Consortium for Mathematics and Science

The Midstates Consortium for Mathematics and Science was founded by the Pew Charitable Trusts in 1988. The Consortium seeks to improve undergraduate science and mathematics education by providing high-quality and flexible professional development opportunities for students and faculty at the member institutions. Major activities include two annual symposia on undergraduate research hosted at Washington University (St. Louis) and the University of Chicago, faculty development workshops, and exchange programs that support visits of students and faculty members to other member schools to give presentations or to enhance research collaborations.

Gustavus students Bradley Abell, Ryan Espy, Daniel Mellema, and Chenyu Yang attended the 2008 Undergraduate Research Symposium in the Physical Sciences, Mathematics, and Computer Science, with Steve Mellema '72 (physics). The students gave presentations on the research they have been conducting with faculty members in chemistry and physics:

Bradley Abell and Daniel Mellema, "Non-Contact Modal Excitation of Microcantilevers Using Ultrasonic Radiation Forces" (adviser: Tom Huber);

Ryan Espy, "Photolytic Degradation of Imazethapyr in the Environment" (Amanda Nienow);

Chenyu Yang, "Construction of a Low-Coherence Optical Reflectometer" (Steve Mellema).

Gustavus's participation in this symposium is one benefit of membership in the Midstates Consortium for Math and Science, which is supported by the Howard Hughes Medical Institute grant.

Howard Hughes Medical Institute grant

In 2008, Gustavus Adolphus College was awarded \$1 million by the Howard Hughes Medical Institute to support several programs focused on education in the science disciplines, particularly in chemistry and biology. The grant will fund transformative programs relating to the first-year student experience in chemistry and biology, including curricular changes, implementation of a peer mentoring program, and increased research opportunities for first-year students. Each year, two January Interim Experience courses will be offered that provide an intensive research experience for first-year students. Other aspects of the grant include the creation of a visualization and imaging center to support teaching and research and a collaborative outreach program helping Minnesota high school teachers connect Gustavus's Nobel Conference to their classrooms.

The HHMI award provides for six summer research positions for first-year students in each of the four award years; funds are budgeted to directly support three students to participate in a second year of research. Early involvement in research is expected to have a dramatic impact on the student experience and these students will then be encouraged to continue with their research project in subsequent academic years and summers.

Department-sponsored symposia

Academic departments also provide opportunities for student majors to present their research, scholarship, and creative works. These include the major with honors thesis presentations in communication studies and history, the senior thesis presentations in religion, the senior art show, and the senior music recitals. In addition, several departments and programs in the sciences host a fall symposium in which students with on- and off-campus summer research experiences present their work and the local chapter of Sigma Xi sponsors an afternoon of research panel presentations for students in biology, biochemistry, chemistry, economics and management, geography, geology, health and exercise science, mathematics and computer science, physics, and psychology.

On April 26, 2008, the Department of Philosophy hosted the Minnesota Philosophical Society Student Conference, and on that same day the Department of Geography hosted the Midwest Undergraduate Geography Symposium.



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Student Research Presentation Awards 2007–08

In 2007–08, the Provost’s Office awarded funds to 31 students to attend conferences or competitions for discipline-specific research, scholarship, or creative works.

National Science Foundation Research Conference

Nicole Soper Gordon ’07, biology and English

Muse, Undergraduate Literature Conference

Rebecca Andert ’08, English

Jonathan Peasley ’08, classics and English

American Alliance for Health, Physical Education, Recreation, and Dance

Samantha Madsen ’09, health education teaching and physical education teaching
Chris Kappler ’08, health education teaching and physical education teaching
Riley Hoffman ’08, health education teaching and physical education teaching

Summit of Sages Conference

Erin Hirschev ’08, nursing

Helen Meyer ’08, nursing

Midwest Political Science Association

Mikka McCracken ’09, political science

Sigma Tau Delta, English Honor Society

Undergraduate Research Conference

Katie Anderson ’09, English

Rebecca Andert ’08, English

Grayce Backstrom ’08, Scandinavian studies

Drury University Undergraduate Research Conference

Andi Twiton ’08, philosophy

National American Society for Biochemistry and Molecular Biology

Kelly Rozenboom ’08, chemistry

Undergraduate Research Conference for Political Science at Wartburg College

Luke Anton ’08, political science and religion

Breton Harris ’08, political science

Siddarth Selvaraj ’08, political science and communication studies

Jenni White ’08, political science

National Black Graduate Student Conference

Apryl Galbreath ’08, communication studies

Rhea Muchalla ’09, gender, women, and sexuality studies and philosophy

Shana Clarke ’09, sociology and anthropology

American Chemical Society

Molly Beernink ’08, ACS chemistry

Leigh Clanton ’09, biochemistry

Nate Erickson ’08, chemistry

Emily Pelton ’08, ACS Chemistry

Mallory Richards ’08, ACS chemistry

Nathaniel Swenson ’09, chemistry

Veronica Taylor ’09, chemistry and biochemistry

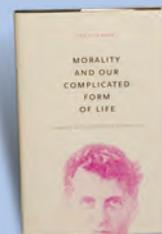
Winchell Symposium

Colin Boettcher ’09, chemistry and biochemistry

Additionally, the Provost’s Office supported 10 communication studies students who presented at the St. Thomas Conference on Undergraduate Research in Communication, nine health and exercise science students who attended the Northland Chapter Sports Medicine Spring Meeting, 19 students who competed at the American College Dance Festival, and 15 who competed at the American Forensics Association’s national tournament.

A dozen students also received funding to present their research at the National Conference on Undergraduate Research. Elizabeth Eckman ’09, art history
Katie Halverson ’09, Spanish
Brianna Hewitt ’09, health fitness
Lisa Johnson ’08, nursing
Kari Kleve ’08, health fitness
Tami Korb ’08, health fitness
Brandon Ness ’08, health fitness
Rachel Poppy ’08, health fitness
Peter Schwagerl ’08, athletic training
Tegan Twait ’08, health fitness
Sarah Willis ’08, health fitness
Trevor Wittwer ’08, health fitness

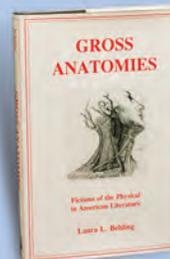
A number of books penned or edited by members of the Gustavus faculty have been published during the 2008–09 academic year. They are all available from the College’s bookstore, the Book Mark (1-800-847-9307, or online at www.bookmark.gustavus.edu), which carries Gustie gear as well as a full range of gift items, trade books, and CDs by Gustavus ensembles and alumni. Most of these new releases are also available at your local Border’s or Barnes & Noble, or through Amazon.com.



Peg O’Connor, professor of philosophy and director of the Gender, Women, and Sexuality Studies program, is the author of *Morality and Our Complicated Form*

of Life, which was released in July 2008. In the book she develops a new approach to the grounding of ethics that looks to the interconnected nature of social practices—especially those that the 20th-century philosopher Ludwig Wittgenstein called “language games”—as providing structure and stability to our moral lives while accommodating change in moral understandings and attitudes.

O’Connor, Peg, *Morality and Our Complicated Form of Life: Feminist Wittgensteinian Metaethics* (University Park, Penn.: Pennsylvania State University Press, 2008; hardcover, \$55)



Also released in July 2008 was *Gross Anatomies*, by **Laura Behling**, associate professor of English and chair of the Department of English. Her

subject is the mutilated and fragmented body that appears in American literature in the late 19th and early 20th centuries as authors, reacting in part to the horrors of the