



Exploring & Creating Together: Faculty-Student Collaborative Work

by **Margaret Bloch Qazi**

Scholarly collaborations between faculty and students are rewarding experiences for all involved. Every year, Gustavus's Presidential Faculty-Student Collaborative Grants support several collaborative projects.

Together, faculty members and their student collaborators propose a project supporting the careers of both faculty and students. Jessie Petricka, Ph.D., assistant professor of physics, explains, "While the adviser brings experience and direction, the students bring enthusiasm to learn coupled with fervor to explore new ideas that contribute to the development and evolution of the project."

This year, five projects received funding:

- Thia Cooper, Ph.D., assistant professor of religion, and Dominic Xiong '11 (English major). Project: Chapter in *Theologies of Immigration*.
- Kate Knutson, Ph.D., assistant professor of political science, and Jaqueline Schwerm '11 (political science and communication studies). Project: Interfaith Advocacy: Minnesota's Joint Religious Legislative Coalition.
- Henry MacCarthy, Ph.D., assistant professor of theatre and dance, and Christian DeMarais '11 (theatre), Michael Davidson '11 (theatre), and Samuel Grace '11 (music). Project: Theatre production of *Thrill Me: The Story of Leopold and Loeb*.
- Stephen Miller, Ph.D., assistant professor of chemistry, and Garrett Stoddard '12 (chemistry). Project: Spectroscopy and Characteristics of Transition Metal Complexes.
- Jessie Petricka, Ph.D., assistant professor of physics, and Daniel McDougall '11 (physics and mathematics). Project: Production and Trapping of Molecular Ions via Laser Ablation.

The benefits of the intensive and focused work, most of which is accomplished over the summer, include deep and significant learning gains. Theatre profes-



Hanna Schulte '11

Assistant professor of political science Kate Knutson (left) and student research associate Jackie Schwerm (right, back to camera), interview Brian Rusche, executive director of the Joint Religious Legislative Coalition.

sor Henry MacCarthy, who, with his collaborators, produced *Thrill Me*, admits, "Without the grant, this project would not have been possible. The funds . . . provided the students and me the opportunity to focus on the rehearsal process without having to worry about class work."

Student collaborators also appreciate the profound impact this experience has on their understanding of the content and skills needed for professional success. "Learning how to work so closely with other people on projects is a skill that I will utilize the rest of my life," says senior student Jackie Schwerm. "I also learned a lot about how to organize, conduct, and go about research in the social sciences. I am able to put these research skills to good

use while working on my thesis, as well as in many other classes."

Senior Sam Grace adds, "Through my experience, I have gained coaching skills that will assist my future career as a vocal coach and accompanist."

Faculty-student collaborations may grow to include additional parties and even form the basis of long-term collaborative work. For example, the production *Thrill Me* involved collaboration with other institutions (Rutgers University, The Lowry Lab Theater), other departments at Gustavus (namely, computer science), and even Professor Emeritus of Theatre Rob Gardner.

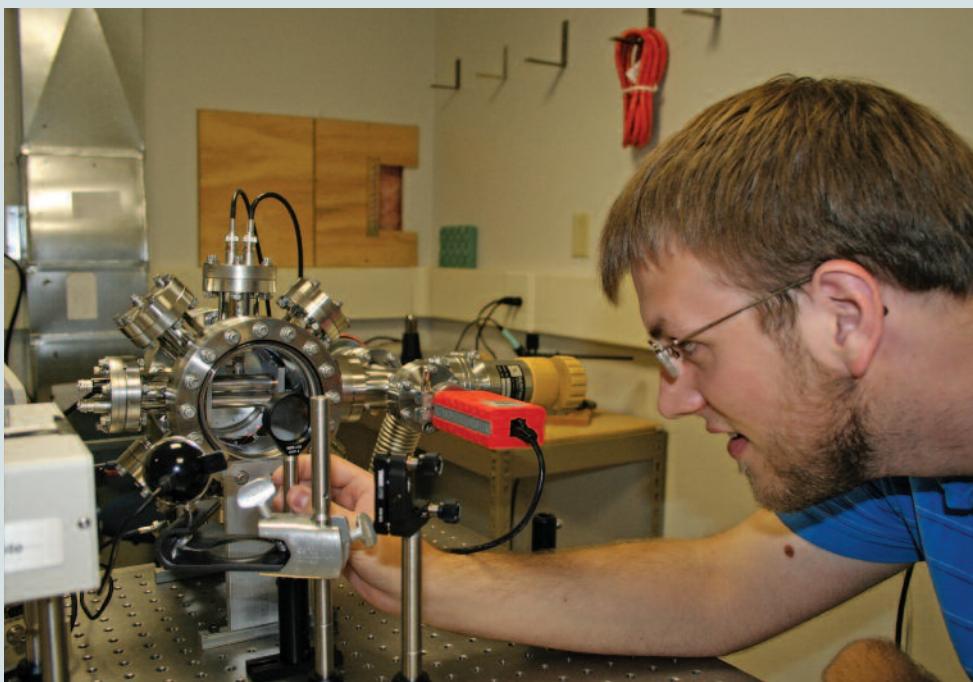
Collaborations can also continue after the funding period has ended: Sanjive



Laura Grossman '13

Qazi, Ph.D., research professor in biology, and recent biology grad Jason Pitt '09 received Presidential Faculty-Student Collaborative Grant support in 2008–09. Since graduation, Pitt has been at the National Institutes of Health (NIH) with the Postbaccalaureate Intramural Research Training program. Qazi and Pitt have continued their collaboration, publishing work on cancer genomics.

Student actors Christian DeMarais and Michael Davidson portrayed thrill killers Nathan Leopold and Richard Loeb in a theatre production made possible with a Faculty-Student Collaborative Grant.



Jessie Petricka

The product emerging from these collaborations reaches audiences both within and beyond Gustavus's walls. Projects impact both student learning in courses as well as scholarship and creative inquiry. For example, Jessie Petricka's project resulted in the establishment of a new atomic/molecular physics lab for the study of ultra-cold molecules. This laboratory will be used in Petricka's research program as well as being a future module in the Physics Department's experimental modern class. Schwerm and political science professor Kate Knutson have presented their preliminary findings in two venues at Gustavus and will be presenting a paper on their research in April at the Midwest Political Science Association conference in Chicago. Religion professor Thia Cooper and senior Dominic Xiong's research on Hmong history and immigration formed the basis for a chapter on Hmong immigration and faith to be included in an upcoming book titled *Theologies of Immigration*. Finally, MacCarthy and his collaborators staged their well-attended production at St. Paul's Lowry Lab Theater.

The impactful, lifelong learning that occurs as a result of the faculty-student collaborations is valued by students and faculty alike. As Kate Knutson reflects, "I had the opportunity to work with a faculty member when I was an undergraduate, and it was a life-changing experience." Students concur: "I'm delighted to have accomplished so much, and to have gained so much experience," says senior Daniel McDougall, "but I'm also very happy to have set a great foundation for Gustavus research students in the future, even after I have graduated. ■

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In an Olin physics laboratory, student research associate Dan McDougall adjusts a laser used to produce and trap molecular ions.