



Magnificent in theory

The physics of art and music

Jon DesChane '12 (above) and Jeff Lajeunesse '13 worked with Erik Brekke (Physics) to construct this Rubens tube as a means of demonstrating sound waves and resonant frequencies. The device is attached to a propane supply and a speaker is placed at one end. Changes in the sound affect the height of the flames.

By Tony Staley

Before Meagan Murphy '15 took Physics in the Arts, she didn't know how the scientific principles of physics might apply to her.

Now, she knows that they do, whether it's a question of playing the guitar or seeing her reflection in a window.

"I'm learning a lot of interesting things and how they apply to my life," says Murphy, of Chicago. She now knows how the air she blows into her instrument, the trumpet, makes sound waves and "how temperature change affects sound, so that I can better predict how my instrument sounds."

Holly Nickerson '15, a political science and leadership major from Fremont, Ind., says she has learned how physics relates to playing the clarinet, and that "it's not just honking." Lessons about light refraction, cameras and lenses have improved her photography, too.

"Now I can deal with shadows before I shoot, rather than in the computer," says Nickerson, whose photos chronicle her life. "I am taking better pictures now and my family tells me they can see it."

Erik Brekke (Physics) says that's the point of the class: teaching non-science majors to see the world and technology

in a different way, by understanding the physics involved in light and sound, and how they are produced and perceived by the ears and eyes.

Learning about waves, reflection, refraction, lenses, oscillations and resonance gives students interested in theatre, music, photography and painting new understandings about how their instruments work; the way sound travels; how to mix colors and manipulate lighting.

"For example, they learn that when they play an instrument there's more to the sound than blowing, and where their finger is," Brekke says. "They learn why it makes that sound, what affects the sound and why sounds differ. It's not just what happens, but why."

Beyond that, Brekke says: "The idea is to teach them a better appreciation of the things they do or use. It's about a new way of thinking, of problem solving, of thinking about what happens and why."

Maggie Berens '14, of Elmgrove, Ill., an elementary education major, says she is not only learning things she will use in her classroom, but also how to make connections and critically analyze what she observes. "In theater, the sound is transmitted through microphones, but when I'm in the theater I don't think about that. Now, I will slow down and explore

that," says Berens.

Besides attending three lectures each week, students have a weekly lab where they experience physics with such scientific instruments as motion detectors, tuning forks and mirrors.

To demonstrate the relationship between sound waves and sound pressure, Brekke uses a visual device, the Rubens – or standing wave flame – tube. The tube, which has numerous holes in the top, is attached to a propane supply and a speaker is placed at one end. Changes in the sound affect the height of the flames.

That demonstration and the labs, combined with what students learn in lectures and assignments, "open the world to them in a new way," Brekke says. "There's a lot most people haven't thought about in physical phenomena. We just take it for granted. Physics explains why technology works. I want them to think about where these things come from, why they work and how we can make it work better. It requires a different way of thinking."

The lesson about light and lenses changed how Eddie Kepes '14, a business major from Homewood, Ill., perceives his contact lens. "It's weird to know about the science behind that little piece of plastic that goes into my eyes every morning." ♣

Alumni representatives strengthen connections

Community isn't built in a day, nor is it built by one person. It takes a whole corps of committed individuals to inspire the affinity of others.

When the community in question is St. Norbert, that dedicated group includes the college's alumni board. Its members, drawn from across the spectrum of class year, major, profession and geography, espouse one purpose: to support the college's mission and goals.

With new leaders in place, the alumni board is revisiting how best to meet that end. At their February meeting, current members elected Mary Ellen Schill '85 and Jon Dooley '93 to three-year terms as president and vice president, respectively. Both see connecting the college and its alumni as their primary role.

"We're there representing all the alums out in the world," says Schill, an employee benefits attorney with the firm Ruder Ware in Wausau.

Dooley, senior associate dean of student development at Marquette University, adds, "The alumni board is meant to be a key vehicle for



Mary Ellen Schill '85



Jon Dooley '93

communication between the current leadership of the college and the alumni across the country and around the globe."

The board's 18 to 25 members serve as St. Norbert ambassadors, supporting the college financially, participating in regional parent and alumni events, and serving on one of five committees: promotion, recruitment, involvement, donation or employment.

They also share their perspectives with St. Norbert leaders and learn about developments at the college. As Schill puts it, "We take back to our constituent communities a little bit of St. Norbert."

Three times a year, alumni board members get a meaty sampling of college happenings during daylong

meetings on campus. One recent agenda included a state-of-the-college address by President Tom Kunkel; a college advancement overview by vice president Phil Oswald; a report on the college's recent re-accreditation by Bob Rutter (Institutional Effectiveness); and conversation about college publications with Susan Allen (Office of Communications).

Schill says the meetings have strengthened her connection with the college – precisely the reason she chose to serve in the first place: "I thought that it would be a great way to get involved with St. Norbert again. I just wanted to try to reconnect, more than anything. I'd heard great things about what was going on there."

Dooley participates as a way to give back. "St. Norbert College, through my education and my experiences, gave me so much and prepared me so well for my career," he says. "Right now is a really exciting time for St. Norbert College. I think the college has a lot of momentum, and we as alumni have a lot of opportunity to get involved with that momentum."

Alumni run home

Mackenzie Laska '11 (left, in our photo) and Alex DeVillers '11 emerge from a water pit during the steeplechase at the St. Norbert Invitational on April 21, 2012. The 12-team NCAA Division III meet brought some 25 track and field alums to Schneider Stadium, including past national champions Ben Dreyer '03 and Colin McKean '05. Competing alongside them was Emily Schudrowitz '12, now a two-time national champion. (See page 31.)

A week earlier, the college had held its first home meet since the Carter administration. That inaugural event ended the more than three decades of nonstop travel familiar to Green Knight track and field alums.



Mark Your Calendars



July 26	Music Theatre Alumni Night: "The Sound of Music"
Sept. 8	Alumni Football Day
Sept. 21-23	SNC Day/Family Weekend
Oct. 4	MillerCoors Brewing Company Tour, Milwaukee
Oct. 13	Homecoming