

College of Letters and Science

The College-at-the-Core

UW-Stevens Point College of Letters and Science • Annual Report 2013-14 • www.uwsp.edu/cols



Annual Report 2013-14



Social Sciences



The Humanities

Natural Sciences, Mathematics and Computing



University of Wisconsin
Stevens Point

College of Letters and Science

Mission Statement

The College of Letters and Science mission is to serve the region, the state and the world through ...

- *Academic excellence* that fosters students' career preparation, professional expertise, civic responsibility, personal development and global adaptability
- *Research and learning* that generate new knowledge and new insights, which through their application, promote economic development, community well-being, personal fulfillment and lifelong learning
- *Dedication to the public good* through leadership and service grounded in the foundational ideals of liberal education, robust academic majors, a vibrant general education program, and an overarching embrace of academic and personal integrity
- Adherence to the Principles of Excellence established for *Liberal Education and America's Promise (LEAP)* by the Association of American Colleges and Universities



Biology lab manager Betsie Graham works with students.

COLS by the Numbers

- 13 Departments
- 12 Centers and Affiliations
- 27 majors
- 44 minors
- 180 tenure-line faculty
- 70 academic staff
- 60 classified staff
- 23 formal awards/recognitions of teaching excellence
- 120 scholarly professional publications in electronic and print media
- 24 professional conference panels chaired
- 91 grants funded
- 199 scholarly writings either refereed or edited
- 204 professional conferences attended

On the Web

To view past Annual Reports from the College of Letters and Science, visit www.uwsp.edu/cols/ and look for Annual Report.



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On the cover (Top): Callie Johnson worked in a UV box in biology professor Devinder Sandhu's lab; (Top left) Social Work interns worked with Portage County Health and Human Services; (Bottom left) Ka Lo (left) presented Les Hmong en Guyane française (The Hmong in French Guyana) with faculty sponsor Beverley David at the Undergraduate Research Symposium.

Letter from the Dean

We can do it with a smile ...

Any review of activities this past academic year must begin with our students, run through our faculty, be facilitated by our staff, and be supported and nurtured in whatever way our administration can. This annual report is organized with the express intent of highlighting major accomplishments and honors we celebrate as a college. These projects, initiatives and ongoing successes keep the **College-at-the-Core** of this university as the seat of learning facilitation, encouraging exploration and establishing critical thinking as the ultimate learning outcome of all our degree programs.

But we must also be looking to the future, and I wish to aim the college this year toward the goal of creating an atmosphere of civility, collegiality and professionalism in all that we do. As part of the university's Civil Discourse Initiative, I hope we can begin to explore the place and importance that collegiality and civility have in our dealings with each other as a model for how we should interact with our students. Indeed, as we discuss civil discourse as an outcome of being mindful of the virtues of intellectual maturity, humility and confidence, our interactions and respect for each other speak volumes to our students as we model behavior we wish them to emulate.

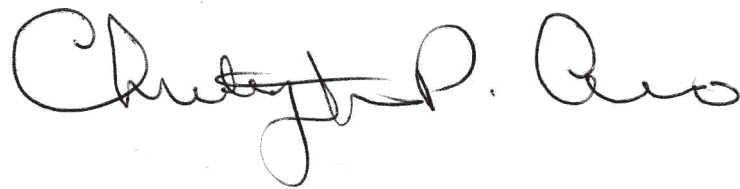
We can always be more mindful to put aside personal differences as we address the needs of our students, who are maturing in a world dramatically different than the one in which many of us grew up. The goal of putting collegiality in a central position begins in the classroom and continues in conversations with our students in our hallways, online and now, increasingly, in social media. How we speak to and of each other can dramatically affect how our students think of us and UW-Stevens Point. True objectivity can only be modeled through a celebration of our differences, while accepting compromise and conciliation as virtues, not weaknesses.

I ask each of us to quietly reflect on ways we personally promote civility and collegiality in our departments, in our classrooms, in our committees and with the public. At the end of the day, if we are to fulfill our mission of preparing our students for the future as productive members of society, **collegiality and civility must hold a central place in our interactions with each other.** This does not mean we avoid challenging, pushing, demanding and guiding, but it does mean we create a learning environment free from misunderstanding, intolerance and outright hostility.

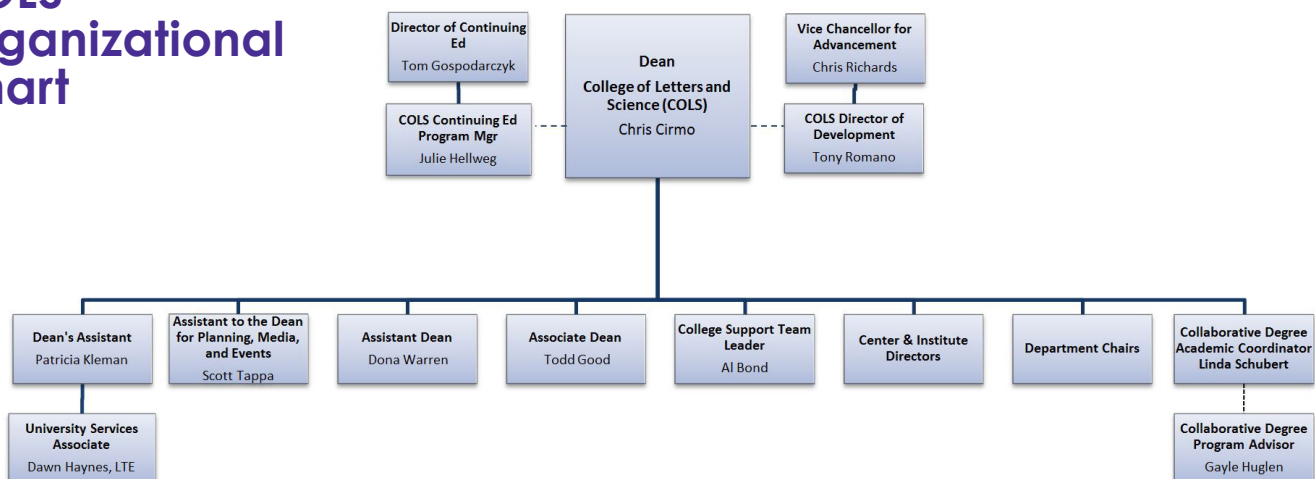
As we work toward this community goal, we must learn to assist each other in presenting the kind of environment for learning we claim to support. I have managed to configure my email such that a box now pops up when I hit "send"... "Do you really wish to send this message?" It helps me in my interpersonal interactions as well, as a kind of thought bubble that pops up. Miscommunication and misunderstanding are at the root of many of our disputes, and I hope this year we can consciously model collegiality as professionals at this wonderful university.

Sincerely,

Christopher P. Cirno
Dean, College of Letters and Science
University of Wisconsin-Stevens Point




COLS Organizational Chart



The College of Letters and Science A Roadmap

The College-at-the-Core

At the University of Wisconsin-Stevens Point, the College of Letters and Science is focused on the public good, promoting leadership and service grounded in a foundation of flexible and robust education.

As home for UW-Stevens Point's humanities, social sciences, natural sciences and computing/mathematics disciplines, our mission is to serve the region, the state, the country and the world through education, scholarship, service and leadership training.

While we work to instill in each student a love of learning that lasts a lifetime, we hone future leaders to learn and practice critical thinking, reasoning, and conduct civil discourse in a respectful manner, emphasizing an ethical approach to problem solving and personal integrity.

The College of Letters and Science is dedicated to making our region a better place to live and engage our communities by involving them as stakeholders in the common good.

Directions

We will be leaders in quality mathematics and science education for future generations: Interest in learning starts at a young age, with research suggesting an enormous impact can be made during the elementary and middle school years. By working with our educational partners at those levels, we can assist in finally resolving the national conundrum of "math-phobia," dramatically expanding the possibilities for our students as they move into educational paths requiring them to be more quantitatively adept. Expanding our influence and message beyond the walls of our campus will be critical in creating an "excitement to learn" in generations of future students.

We will be partners in health care: We know that many parts of Central and Northern Wisconsin are in need of quality health care. We are positioned perfectly to help solve this problem with some of the best human biology, molecular biology and biochemistry programs in the Midwest. Our nationally accredited

social work and mental health care training programs are renowned and we will create new partnerships in an effort to draw students from rural and other underserved areas in the region to return home after graduation, where they can bring their knowledge and leadership to their home communities.

We will create better citizens and caretakers of government: Behavior in the public commons has reached a critical point, and in some cases, is no longer civil at all. We will have a role in shaping the way these conversations happen. Civil discourse and its associated virtues of intellectual humility and courage will set the tone for how we model civil behavior. Already well known for environmental and medical ethics training, we will influence future leaders in applied ethics in mental health care, social work and business, and prepare students to be mindful of their role in creating an ethical society.

We will be stimulators of local and regional economies: UW-Stevens Point has always played an integral part in our regional economy as one of Portage County's largest employers and as an engine of education. Seventy-five percent of the top 25 jobs for 2014 were in STEM (Science, Technology, Engineering and Mathematics) fields, suggesting we are already ahead of the curve. We know industries change and economies shift, and to remain a regional hub for future employees, we will need to increase collaborations with our public school, technical college and employer partners.

Waypoints

The New Science Building: A once-in-a-lifetime opportunity in human biology, molecular biology, chemistry, genetics and botany. As current UW System leaders, we can build on an already existing strength. This building will positively affect our students, faculty, academic programs, and our prestige in the sciences making UW-Stevens Point a center for professional and practical science training and careers.



Elia Armacanqui-Tipacti and Sonny Smart presented a Community Lecture Series talk on the Importance of Indigenous Languages: Ojibwa and Runasimi (Quechua).

Media Expertise and Computing

Sciences: New collaborations with MSTC, NTC, SPASH, Skyward, Sentry and other educational and information management institutions and companies for training and placement of informatics professionals in all sectors of our economy. Our new Health Information Management Technology (HIMT) degree will make UW-Stevens Point the place of choice for computing information systems and health care informatics training.

Geographic Information Systems

(GIS): COLS has the potential and opportunity to be the biggest and best spatial information center in the state and to collaborate with municipalities, companies and other educational institutions in the exploding spatial management technology arena.

Nanotechnology: We are currently conducting cutting edge research with potential for contributing to manufacturing and innovative technologies for the region. Nanotechnology education and research will help us reach this goal, and allow the university to partner with our local schools and youth organizations as we introduce potential UW-Stevens Point undergraduates to the “nano-world.”

Aquaculture and Aquaponics: With the Northern Aquaculture Demonstration Facility (NADF) in Bayfield leading the nation in aquaculture research and production analysis, we continue our initiatives in sustainable agriculture by partnering with a local aquaponics technology firm in creating the country's first Aquaponics Innovation Center.

Nationally Accredited Social

Work and Mental Health Care Training:

Through its Department of Sociology and Social Work and the Department of Psychology, the college is poised to develop training modules for care of the social and mental health care needs of the community and the region. We have the resources, experts and curriculum to make a significant difference in assisting us to take civic responsibility for each other.

The Civil Discourse Initiative: We will have a role in shaping the way conversation happens, literally. The first of its kind at a university, this initiative has promise for the institution, state and nation in redefining what skills the next generation of Pointers will bring to their communities. Civil discourse and its associated virtues of intellectual humility



(Top) STEM Career Day for Boys was successful once again. (Right) The Civil Discourse Initiative held its first event, on public vaccination policy and the First Amendment.

and courage will set the tone for how we model civil behavior.

An Institute for Applied Ethics:

Already known for applied ethics training, COLS and UW-Stevens Point are well positioned to influence future leaders in medicine, natural resources, environmental science and business, with cross-department and cross-college cooperation making awareness of and confrontation with ethical dilemmas a reasonable measure of student success.

The Healthy Communities

Initiative: Partnerships with our medical stakeholders allow UW-Stevens Point to be the “go to” place for professional and practical health care education, with a special emphasis in serving rural and first generation, Native American, Hmong and other underserved populations.

Destinations

To promote **an environment for learning**, which challenges our students to explore themselves, their current views, the history of thought, the history of their disciplines, and ethical treatment of individuals with whom they may not share similar worldviews.

To remain the **center of cutting edge science education**, and most desired destination for students wishing to specialize in modern methods of scientific analysis, professional preparation for



careers in medicine and health care, and promotion of UWSP as a center for science education in the central and northern portions of the state. A special effort is underway to promote student success in the **physical sciences and engineering** aiming at underrepresented student demographics in this effort.

To attract **a diverse body of students** who represent a variety of backgrounds including first-generation, Native American, Hmong, urban and rural economically disadvantaged, returning veterans and nontraditional students. The overarching goal is to encourage them to return to their communities and to make a service commitment in their areas of specialty.

Give all students the opportunity to experience education in a variety of formats allowing them **flexibility in their choice of curricula**, methods of communication and learning, with UW-Stevens Point being recognized as the institution of choice for those students who are time-, place- or life stage-bound and in need of a truly compassionate atmosphere to explore their potential.

History students assemble fragments

History books are not messy. They are clean, neat works with superscript numbers that correspond to footnotes and paint a coherent picture of past events.

This is not the history that University of Wisconsin-Stevens Point Associate Professor of History **Lee Willis** immerses his students in when working with him on research projects.

"Hopefully they see how messy the process actually is," said Willis. "When they read old newspapers, or transcribe old court cases, they come away with 'Wow, we don't really know what happened.' It's all these little fragments."

Willis's research focuses on the illegal international slave trade of the first half of the 19th century. The nascent United States government had come to acknowledge that slavery was evil, but an evil necessary for sustaining the country's economy, and banning the importation of new slaves was a measure aimed at reconciling those conflicting philosophies. Through investigating southern census data, microfilm and digital versions of newspapers and court cases, students have been able to recreate stories of the people involved in this nexus.

Those stories have led this research to focus on the problematic origins of the Liberian state. Liberia was created when "recaptives" – people captured in Africa, then captured and freed by authorities cracking down on banned international slave trade – were resettled on the West Coast of Africa. After a reasonably positive start, the settlement devolved into conflict between ethnic groups.

This Transatlantic turn is the latest turn in Willis's interest in the American South, particularly the antebellum period

"You have to be humble when you try to understand the past and draw big conclusions about it. Hopefully that's something they come away with."

— Lee Willis, Associate Professor and Chair of the Department of History

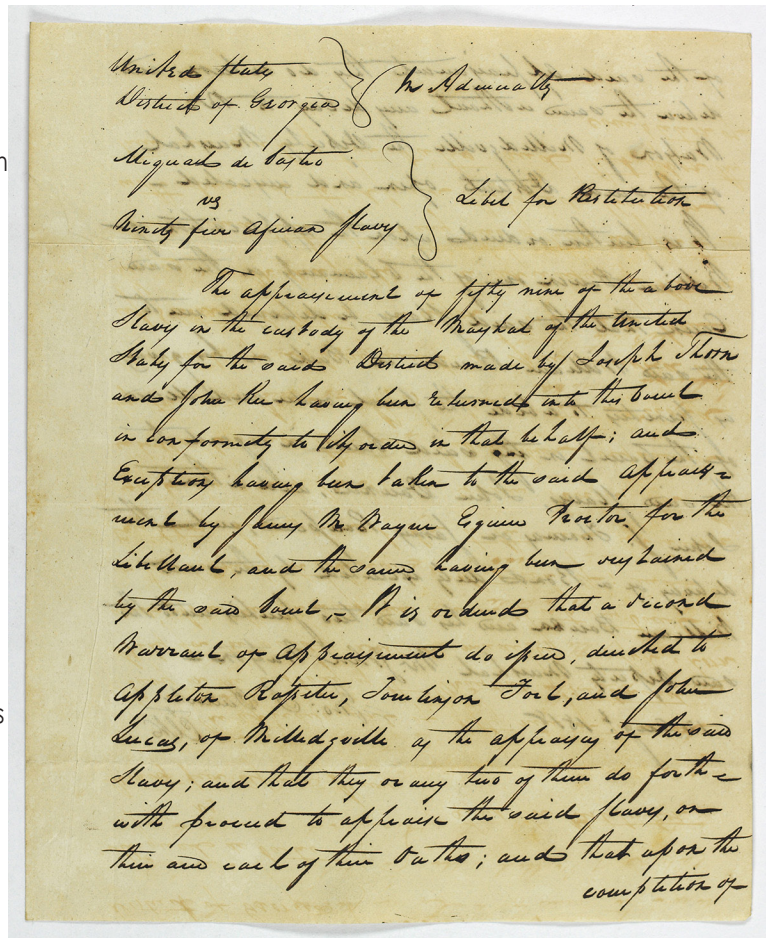
leading up to the Civil War. Growing up on the Gulf Coast of Florida, Willis heard stories from his grandfather, which he had heard as a boy about long-ago slave ship landings. "It fascinated me, and led me in all kinds of different directions," he said.

Willis ended up at Florida State University, where he pursued his master's and doctoral degrees and taught courses on the way race and slavery have shaped the political culture of the South. The experience was quite different than what he encountered upon moving to Stevens Point in 2007.

"At a school like Florida State you'd have a critical mass of people who were of nonwhite ethnic groups who were active contributors to the class discussions, they were really engaged in the material," he said. "It's still a highly emotional issue for people. At UW-Stevens Point you have classrooms where the majority of students are white and are more reluctant to talk about these issues."

Still, Willis has effectively immersed students in the discussion through reading and directed class discussion. One key work is *Race and Reunion*, a book chronicling the contested memory of the Civil War and how the significance of abolishing slavery was minimized by both northerners and southerners. Identifying coherent themes like this from a mountain of subtle clues is one of Willis' primary goals in leading students through the research process.

"You have to be really, really diligent



to acquire every little shred of evidence you can get your hands on," he said. "Then you realize you're only human, and see that even this one little topic is really big. So you have to be humble when you try to understand the past, and draw big conclusions about it. Hopefully that's something they come away with."

Willis led off the 2014-15 College of Letters and Science Community Lecture Series with a talk titled "**Compromised Origins: The Slave Trade and the Constitution.**" One of his main points of emphasis is that contrary to popular belief, attitudes toward slavery were not static leading up to the Civil War.

"Around the 1830s, 1840s, more and more prominent slave owners said, 'Wait a minute, slavery's not a bad thing. If it is why does God allow it to exist?'" Willis said. "While they were coming out more and more assertively in defense of slavery, the antislavery movement became more and more strident saying, 'No, it's not a necessary evil, it's just evil and we need to get rid of it now.'"



Blake Marlowe (right) investigated court cases and other documents related to the international slave trade as part of an ongoing history research project directed by professor Lee Willis.

Moving and shaping the 'aqua' field

Worldwide, raising fish as food for humans ranks third among farm industries, behind poultry and swine but ahead of cows. Yet in the United States, fish ranks a distant fourth. There are a number of reasons why:

Someone hungry for fish can catch one themselves – not possible with chickens, pigs or cows.

Seafood is seen by many as a luxury delicacy, one reserved for special occasions.

"Seafood" itself is a vast, diverse food category – it is difficult to create a comprehensive marketing campaign for salmon, catfish, clams, lobster, shrimp, etc.

The smell.

The bones.

Despite all of that, seafood has a lot going for it, including lower production costs and less saturated fat than other sources of protein. The commercial culture of food-fish (aquaculture) is less mature than its rivals, which has led to an estimated 15 percent industry growth rate during the past two decades.

At the University of Wisconsin-Stevens Point, a number of developments have emerged to perpetuate this trend. Under the leadership of Professor of Biology **Chris Hartleb**, the university is uniquely positioned to lead aquaculture research and business development.

On campus, about 17 students are typically enrolled in the aquaculture minor. Upon graduation nearly all of these students find work in the fisheries/aquaculture world or enroll in graduate programs that actively seek out UW-Stevens Point students. This year, the university will offer a certificate program in aquaponics (integrated soilless fish and plant production) aimed at better training personnel for this growing industry. The university is believed to be unique in offering a semester-long aquaponics course at an accredited institution.

Off campus, the **Northern Aquaculture Demonstration Facility (NADF)** in Bayfield, Wis., nears its 10th year as part of UW-Stevens Point and continues to gather outside interest and funding for research projects focusing on cold weather fish farming.

"Most other states don't have to deal with tough winter conditions, a northern



Chris Hartleb (right) and students at the class-ending session at the Montello, Wis., Nelson and Pade, Inc., facility, future home of the UW-Stevens Point Aquaponics Innovation Center.

climate where you basically have to deal with six months of winter," said Hartleb. "We partner with industry, and are contacted to co-administer projects by other universities who say, 'You guys really do have strange weather up there.'"

To assist NADF facility manager **Greg Fisher, Emma Wiermaa** has been hired as a part-time outreach specialist. Her position, funded by the Sea Grant Institute, was created to help spread the word about NADF's work, from visitors to the Bayfield facility to conferences around the state.

"It's incredibly unique that a liberal arts undergraduate university has one of the very few research stations on aquaculture in the country," said Hartleb.

More recently, UW-Stevens Point has taken a leadership role in aquaponics. It stems from Hartleb's interaction with **Rebecca Nelson and John Pade**, Montello entrepreneurs who operate an eponymous aquaponics business. The couple identified the lack of college-trained personnel as an obstacle to aquaponics' growth, and worked with Hartleb and continuing education program manager **Julie Hellweg** to create an online course on the subject. Twenty-six students from UW-Stevens Point and around North America signed up for

the first class. Enrollment expanded to 47 students in the second year, 56 students in the third.

In June 2013 UW-Stevens Point hosted the first **International Aquaponics Society Conference**. The conference drew 144 participants from nine countries and was a resounding success. It also saw the establishment and first meeting of the International Aquaponics Society, established by the UWSP Foundation.

"It was one of the best conferences I've attended in my life, full of energy, people with all sorts of questions and ideas," said Hartleb. "One of the things to come out of the conference was if there isn't scientifically conducted research going on in aquaponics, it's going to stall at some point."

Beginning this fall, this research will take place in Montello at Nelson and Pade's new 15,000-square foot facility. Part of the facility will be a 5,000-square foot **Aquaponics Innovation Center**, funded by a \$677,500 state economic development incentive grant. The AIC will be part of an effort to establish a track record for people interested in joining this burgeoning industry.

"This economic development grant is an opportunity to take this to the next level," said Hartleb.

“It’s incredibly unique that a liberal arts undergraduate university has one of the very few research stations on aquaculture in the country.”

*—Chris Hartleb,
Professor of Biology,
on NADF*



Accreditation gives social work boost

When the University of Wisconsin-Stevens Point social work program received official notice in June that it had been granted accreditation, there was no popping of champagne bottles, no boisterous celebration on the fourth floor of the Collins Classroom Center.

"We're all so scattered during the summer," said program director **Amy Boelk**.

Don't mistake the lack of a party for a lack of excitement: accreditation is a big deal. The culmination of four years of hard work by a wide-ranging group of faculty and staff, accreditation by the **Council on Social Work Education (CSWE)** places a prominent stamp of approval on a program training workers for a fast-growing career field.

"Our whole department played a role in it," said Boelk. "The department made a commitment to develop this social work program many years ago and to work collaboratively on it. We wanted to fill a unique niche in this region."

Social work at UW-Stevens Point started in 1992 with a Native American and Rural Social Work minor spearheaded by professor **Sonny Smart**. In 2010, the department formally began working to earn accreditation. The process involved documentation, curriculum and policy changes, site visits from CSWE representatives and an expansion of the program's field work requirements. Faculty, staff and administrators from across campus were involved, as were social service professionals from the local community.

This hard work will yield immediate dividends for graduates of the program. "It has a lot of benefits for our graduates," said Boelk. "When they come from an accredited school of social work, they can more easily get licensed or certified as social workers, so it makes them more employable. Also, students can obtain their master's degree in social work in one year, more quickly than they would with a different undergraduate degree."

The social work curriculum did not need a dramatic overhaul to meet CSWE accreditation standards. The Native American and Rural Social Work Minor was initially designed with accreditation in mind, so curriculum changes were limited to the addition of one class



Professor Sonny Smart conducted a sweat lodge talk and demonstration for UW-Stevens Point social work students during the fall semester.

and expansion of the field experience requirement to 400 hours. Students are placed in a variety of organizations, such as Big Brothers Big Sisters, Portage County Health and Human Services, Community Care of Central Wisconsin, and area health care providers and nursing homes. They are placed in programs that serve a wide variety of client populations including children and families, youth, people with mental health issues, people with disabilities, victims of domestic violence, older adults and veterans.

"It's important for this line of work that you get out there and have mentoring and supervision before you have a job on your own," said Boelk.

To coordinate the field education program, **Jess Bowers** has been hired as a third social work faculty member. Bowers brings field experience to the position, having worked most recently in child protection for the Marathon County Department of Social Services.

"I really believe social work is a superior profession," said Bowers, a Stevens Point native and UW-Stevens Point alumna. "Being able to prepare that next generation of workers to enter the field is what excites me most about this position."

Demand for that next generation of workers is being driven by societal development: an aging population,

a slow economic recovery, trends in substance abuse and domestic violence. Bowers has seen it firsthand.

"I think we're going to find some social work shortages in the area, especially with the aging population and also in the areas of substance abuse and mental health," Bowers said. "Since starting this position I've gotten numerous emails from area employers who are looking for social workers, asking me to pass their information along to graduating students."

According to Boelk, student interest in the social work program has steadily increased in recent years as it moved closer to accreditation. This trend applies not just to current UW-Stevens Point students, but high school students interested in attending UW-Stevens Point specifically for its social work program. Those who complete the program will be joining a profession Bowers considers vital.

"The true measure of how we assist communities and societies is how we take care of those that are most vulnerable," she said. "Social work field work takes what we learn about human beings and living with one another and advocating for those who need a voice. Good candidates have that drive and that passion, they want to see that social justice piece."



(From left) Jess Bowers, Sonny Smart and Amy Boelk are faculty members for the newly accredited UW-Stevens Point Social Work major.

Nanotech becomes a 'mega' deal

Mike Zach grew up in Monroe, Wis., a town with, by his estimation, "40,000 cows and 10,000 people." He had no scientific role models, no one to suggest that he too could produce work that appeared on the cover of *Science* magazine. Zach wants to change that going forward.

"I have a very strong passion for trying to create opportunities for people who feel disconnected," said the University of Wisconsin-Stevens Point Associate Professor of Chemistry.

Nanotechnology is the vehicle Zach is using to create these opportunities for young students, while simultaneously developing scientific methods that could have a huge impact on its scale, cost and environmental impact. His path to this point was anything but straight.

Zach began his college career at UW-Stevens Point, where while majoring in chemistry with an intention to enter the medical field he discovered he did not like medicine. After stops at a few other colleges and tech schools, he earned a diploma in jewelry design and repair from a technical school in Green Bay, and traveled to Florence, Italy, for an 18-month apprenticeship with a monk. He then returned to Monroe and operated a jewelry shop for six-plus years.

During that time he became interested in environmental issues, particularly those related to mining and groundwater contamination. This led him to environmental chemistry, to figure out how to make the smartphones, tablets and other devices we consider essential more environmentally friendly.

"If you look at current nanotechnology, the way it's done is a top-down, brute force method," Zach said. "It is a very poor technology that creates a lot of pollution. Everything is done in multimillion-dollar clean rooms. We need to find alternative ways of doing that.

"I set off to find out how nature can build things with elegance and very low energy. Now I have systems that can provide the right conditions to grow the pattern nanowires, coax it there with as little as half a volt of force to form the types of structures we want it to form."

The ability to pattern nanowires in this fashion makes them suitable for use in advanced manufacturing such



NanoFab Lab ... in a Box! by UW-Stevens Point associate professor of chemistry Mike Zach was chosen for an R&D Magazine R&D 100 Award.

as transistors, sensors, solar cells and electronic components. Speeding up nanowire production while at the same time making it less expensive creates efficiencies for large companies and reduces the barrier to entry for startups.

"Nanotechnology can be applied to every facet of society, and to be able to take and make reliable patterned nanowires in huge quantities is going to open up entirely new fields," said Zach, who has involved approximately 70 UW-Stevens Point students in his research. "Existing companies may gain a very large competitive advantage if they can replace a \$20 million process with something inexpensive, and startup companies may be enabled to enter the realm of nanomanufacturing. Startup costs could drop from \$20 million or \$50 million, to \$10,000 or less."

The most prominent manifestation of Zach's efforts is **NanoFab Lab ... in a Box!**, a shoebox-sized educational kit for easy, rapid duplication of patterned nanowires without the need for a multimillion-dollar clean room. NanoFab Lab was selected as one of *Research and Design Magazine's* R&D 100 Awards, often referred to as the "Oscars of Innovation."

Zach hopes to place upwards of 5,000 NanoFab Labs in schools during the next three years, engaging students in science in a new, meaningful way. Doing so would accomplish two goals.

One is a grassroots marketing campaign to build awareness of Zach's

method for growing nanowires among technology decision makers. Target areas for this push include schools in technology hubs like Chicago, Silicon Valley, North Carolina's Research Triangle and Boston.

"There are a lot of people in high-tech sectors looking for ways to make nanotechnology inexpensively," Zach said. "I want their son or daughter to come home and say, 'Mommy, Daddy, look what I did today in school! It's nanotechnology!' The fact that it can be done in a pill bottle in a classroom comes as a great surprise to their parents."

The other target area for the NanoFab Lab is schools in rural and inner-city areas, as well as tribal schools. There is no secondary professional intended audience in these settings, just one that has gone undercultivated.

"Right now if we don't bring them in and tell them, 'You play a critical role in our society,' we've lost them," said Zach. "What good is society if you don't use half the people? When you have a student who says, 'Science isn't my thing, I can't do science,' you have them grow nanowires in that way and say, 'Don't tell me you can't do cutting edge science because you just did. It's possible – don't tell me it isn't.'"

"NanoFab Lab ... in a Box! Is a win-win-win for everybody that gets involved in it."

For more information visit www.echemnanowires.com.

“I have a very strong passion for trying to create opportunities for people who feel disconnected.”

— Mike Zach, Associate Professor of Chemistry



Math gets hands on with MAPPS

When University of Wisconsin-Stevens Point Associate Professor of Mathematics **Andrea Knapp** observes parent-child interaction surrounding math at the grade school level, too often the tone is defeating and self-fulfilling. "A parent might tell their kid, 'I was bad at math, don't worry about math,'" Knapp says. "We're trying to break that cycle, so parents see math is cool, math is valuable. When children see their parents placing value on mathematics, they do."

Central to Knapp's cycle-breaking efforts is the **Math and Parent Partners Program**. MAPPS takes a new approach to math learning by promoting reasoning before procedures and giving parents the tools to continue the dialogue at home.

Knapp first learned about MAPPS at the University of Georgia's Griffin campus, where the continuing education office was looking to implement a math-based outreach program for parents. Knapp investigated, ensured MAPPS was consistent with the National Council of Teachers of Mathematics, and was soon running the program.

From 2008-11, Knapp and her team implemented eight mini-courses, inviting children, parents, administrators, teachers, and para-professionals. The result was an increase in test scores, and improvements in the way parents and their children interacted around math.

"Before, a parent might tell the child, 'You will do it my way, this is how it's done,' and the kid is saying, 'But my teacher doesn't do it that way,'" Knapp says. "We taught them how to work together. Instead of a parent telling their child to go do their homework and come out when it's done, we taught them that interaction around mathematics was very important and motivational for the children."

Knapp moved to UW-Stevens Point in 2010, laden with data cultivated from the Georgia program, and spent her first three years analyzing and writing about the findings. In the spring of 2014, she implemented MAPPS in Stevens Point, beginning with McDill Elementary School. UW-Stevens Point math lecturer **Ann Kiefer** had a relationship with McDill principal **Jeanne Koepke**, who was excited to begin the program at her school.

The program targets students in fourth through eighth grades, with



younger children participating in math-based activities in a nearby room. Sessions run from 5:30-7:30 p.m., and dinner is served to remove that burden from participating families. Cost is \$5 per individual, \$12 per family.

The eight-week program started in February at the Dreyfus University Center. Approximately 75 participants attended at least once, and around 50 came on a regular basis – roughly 25 children, 15 parents and 10 teachers/volunteers.

Sessions show participants a way to learn math that, instead of starting by teaching a procedure, moves students from concrete hands-on activities to pictorial activities to the abstract. "Instead of starting out with adding 35 plus 86 – 'Here's a procedure' – if you can get them some blocks representing those numbers and help them put together the tens and the ones, that moves them to understanding," Knapp says. "When they get to the procedure it's faster for them to understand it and they have fewer errors once they get to the testing situation."

"We don't ask them to understand procedures without reasoning behind it. It's important to get to a procedure, but you don't start with an algorithm or a procedure that makes no sense. You want them to reason about it, have something hands-on they can play with, pull apart, put together."

MAPPS demonstrates this new approach to math with hands-on tools like tangrams and base 10 blocks parents can use with their children at home. Knapp acknowledges that critics assert that standardized testing doesn't include manipulatives, so they shouldn't be used, but says manipulatives help students make sense of concepts and reduce the frequency – and size – of errors in a test setting. It is definitely not watered-down mathematics.

"We still want the math to be

rigorous, but we want to get there through the path of understanding and enjoyment instead of math anxiety," Knapp says. "Kids seem to hate math, hate fractions. Why is that? We have twelfth graders who can't do fractions because we pushed them through in second grade, gave them an algorithm, made them swallow it. They didn't understand it, they decided they hated it. That's not right. Math is exciting, it's cool!"

Research findings suggest MAPPS is succeeding in changing attitudes about learning. Knapp says children who participate in the program are not just more engaged at home but more motivated to learn at school, and more likely to explain their reasoning and help others. "It's an environment that impacts student achievement, maybe not for tomorrow, but for the next year and the next year and the next year," Knapp says.

Assisting Knapp with MAPPS at the university have been Kiefer, who led the first Stevens Point sessions; **Julie Hellweg**, continuing education program manager; **Senfeng Liang**, assisting with grant writing; math professor **Nate Wetzel**, assisting with data analysis from the 2008-11 study; and CIS professor **Tim Krause**, assisting with accompanying online games.

This fall, the MAPPS program expands from McDill to Stevens Point's Madison Elementary School, and Knapp is hoping to increase participation to 120. That is just the start. The UW-Stevens Point Office of Continuing Education provides the infrastructure and logistical support to bring the program to a larger community. Knapp says the goal is to implement MAPPS not just in Central Wisconsin, but nationwide, through both face-to-face courses and massive open online courses.

"We have a vision to expand MAPPS for the benefit of families and education," she says. "There is a dearth of parental involvement in mathematics in this country. Parents have been shut out of the classroom in terms of mathematics and we need to change that, because children are motivated when their parents are successful and care about mathematics. We really believe we can make a difference."

For more information about MAPPS, visit www.uwsp.edu/conted/confwrkshp/pages/mapps.aspx.



(Above) UW-Stevens Point Associate Professor of Mathematics Andrea Knapp and daughter Clara, 7, work with a tangram. (Opposite page) Math lecturer Ann Kiefer led the initial MAPPS sessions at UW-Stevens Point.

'Middle Way' a conversation starter

As a graduate student, **Tori Jennings** was influenced by *The Middle Ground*, written by the environmental historian Richard White. The book chronicles contact between Native Americans and French explorers from the 17th to 19th centuries. The middle ground White describes was a negotiated space in between two distinct groups, neither of whom had power over the other.

"The middle ground is looking at two groups coming together and both wanting to take something away from the interaction," said Jennings, anthropology coordinator at the University of Wisconsin-Stevens Point.

This concept came front and center for Jennings one day while talking with **Matthew Brown**, a journalist and documentary filmmaker with whom Jennings had become acquainted over the subject of backyard chickens. Brown was interested in creating a film on Hmong culture in Portage County. Two years later, the result is *Finding The Middle Way*, a thought-provoking film that has been a catalyst for conversations in the region and around the state about Hmong culture specifically and race in general.

The first step in creating the film was earning trust and buy-in from the Hmong community. "You can't just knock on people's doors, especially the Hmong people, who have a history of being treated poorly," Jennings said. "The first thing I saw was if we could use students to introduce the Hmong community to the project then maybe we could

"At the first screening, a woman stood up and said 'Finally, our voices are heard.'"

— **Tori Jennings,**
Anthropology Coordinator

get buy-in. We also went to the Hmong American Association of Portage County (HAAPC), which includes many elders. We knew we needed buy-in from them."

Those elders were at times reluctant to submit to interviews by main interviewer **Pa Thao** and UW-Stevens Point students, so the team enlisted **Song Cheng** and his brother **Soua Cheng**, then president of HAAPC, as cultural consultants. They helped convince interview subjects to cooperate and provided feedback as the film took a shape that was somewhat different than the team envisioned at the outset.

"We wanted this to go beyond the narrative of the 'Secret War' and include a lot of the intergenerational issues between young people and elders, which is significant," Jennings said. "That became a smaller portion than what we originally had thought it would be. What Matthew ended up delivering, about a third was about the 'Secret War.' That's what people wanted to talk about."

The talking continued once the film was completed and shown in public venues. Nine showings have been

completed to date, with more than 600 people in attendance. In addition, approximately 120 DVDs have been distributed to Hmong associations, public libraries, schools and other organizations. The film has elicited strong reactions.

"At the first screening here at UW-Stevens Point there were Hmong people in the audience, and I will always remember the statement one person made," Jennings said. "A woman stood up and said 'Finally, our voices are heard.' That is what has meant a lot to the people who are a part of it and who have watched it since."

Jennings noted the film has also drawn emotional responses from viewers of German descent. "Oftentimes people who are German talk about how they were ostracized after World War II, and this allows them to connect (with Hmong people) through that," she said. "It creates human space and empathy."

Seven UW-Stevens Point students assisted in *Finding the Middle Way*: **Julie Lee, Qeng Lee, Maiko Lor, Pa Thao, Deng Vang, Pachear Lor-Vue** and **Yeng Vang**. Jennings hopes the film will inspire other Hmong students to produce their own films exploring their culture.

Other UW-Stevens Point personnel involved in *Finding the Middle Way* include co-producer **Kristy SeBlonka**, Assistant Professor of Education **Maysee Yang Herr**, and **Sue Clark Kubley**, adviser of the university's Hmong and Southeast Asian American Club (HaSEAAC).

For more information, visit hmongvideo.org.

Promotions and Retirements

Promotion from Assistant Professor to Associate Professor

- Helena Alden (Sociology/Social Work)
- Patricia Dyjak (English)
- Brian Hale (History)
- Samantha Kaplan (Geography/Geology)
- Shanny Luft (Philosophy)
- Ismaila Odogba (Geography/Geology)
- Justin Sipiorski (Biology)

Promotion from Associate Professor to Full Professor

- Karin Bodensteiner (Biology)
- Amy Boelk (Sociology/Social Work)
- Dorothy DeBoer (Sociology/Social Work)

- Virginia Freire (Biology)
- Karin Fry (Philosophy)
- Jed Herman (Mathematics)
- Todd Huspeni (Biology)
- Jeana Magyar-Moe (Psychology)
- Debbie Palmer (Psychology)
- Devinder Sandhu (Biology)
- Christopher Williams (English)

Academic Staff Promotions

- Lisa Giordano (WGS)

Retirements

- Vicki Hay (Mathematics)
- Larry Steiner (Mathematics)



The *Finding the Middle Way* team (From left): Pa Thao, Tori Jennings, Sue Clark Kubley, Maysee Yang Herr, Matthew Brown, Song Cheng, Kristy SeBlonka, Xaliyas Yang. The documentary has been shown in public nine times to more than 600 people.

COLS Development Report

Generosity continues to play an increasing role in the lives of our students at the University of Wisconsin-Stevens Point. College of Letters and Science scholarships and program funds with the UWSP Foundation grew from \$2,594,458 on December 31, 2012, to \$2,818,919 on December 31, 2013. Thanks to our givers, the College of Letters and Science was able to award more than 150 scholarships totaling \$66,530.

Giving is a way to transform lives for both the giver and the recipient. For many of our donors, their generosity allows them to become deeply involved in a life beyond their own. Many times, that deep connection is with a department, faculty member or student. Some of these transformational highlights include:

Karen and Ron Sweet (UW-Stevens Point Class of 1964) established the **Charles P. Sweet Dean's Special Scholarship**, in honor of their son Charles, who died unexpectedly at the age of 38. The \$100,000 gift established an endowment to provide a legacy for a life cut short and recognizes a high-achieving student within the College of Letters and Science.

A \$25,000 gift from a lifelong friend of Hazel Koskenlinna was made to the **Hazel Koskenlinna Business Writing Fund**. This fund, established through a bequest from Hazel upon her death in 2005, supports the UW-Stevens Point English Department's Business Writing curriculum.

A generous gift was made to support the **Professor K.N. Razdan Memorial Endowment**. Professor Kameshwar



Jane Pejisa was honored with the Dorothy K. Vallier Philanthropy Award at the UW-Stevens Point Founder's Day celebration.

Razdan spent 38 years as a professor in the Department of Physics and Astronomy at UW-Stevens Point.

Another special gift was made this year in honor of Mary Jo Buggs by the families of Amy Wrobel and Julie Hedgecorth. The \$40,000 gift established the **Mary Jo Buggs English Endowment** that will provide two annual \$1,000 scholarships to English majors. Professor Buggs loved her students dearly and this scholarship will be received by outstanding students with a minimum grade point average of 3.25.

Mary Jo grew up in Central Wisconsin and attended Central State College (now UW-Stevens Point) in the late 1950s. At Central State, she was a member of Mu Chi Omega sorority, editor-in-chief of the Pointer in 1958, and was named

Homecoming queen in 1959, the year she graduated. Mary Jo went on to teach at Lincoln High School in Wisconsin Rapids in the mid-1960s. She earned her Master of Science in Teaching (English) in 1966 from UW-Stevens Point and began to teach there that fall, focusing on the Reading Interests of Adolescents.

Like most instructors hired during that time, her primary teaching load was composition, but over the years she became responsible for teaching courses in Literature for Adolescents, Nature Literature and Nineteenth Century American Literature. She developed an instrument for grading compositions that was used by the department for many years, and was subsequently used in the UW-Stevens Point "Writing Across the Curriculum" program of the 1970s — it was called the Buggs Scale, a title she really didn't like.

She completed her Ph.D. on American Nature Writers at UW-Milwaukee in 1974. She was active in the Wisconsin Council of Teachers of English and the Popular Culture Association. Most significantly, however, she was an active member and occasional chair of the Coordinating Council of Women in Higher Education, a statewide organization promoting affirmative action and measures making it possible for women to advance in higher education. She remained at the university until her retirement in 2000.



In Memoriam: Steven Wright

The University of Wisconsin-Stevens Point Department of Chemistry and Stevens Point community lost a cherished colleague, mentor, teacher and friend when **Steven M. Wright** passed away on April 14. Wright dedicated 32 years of his life to the university and was expected to retire in May 2014. During his tenure at the university Steve was known to be a tireless advocate for teaching excellence. He also acted as an ambassador for UW-Stevens Point, conducting demonstrations at local schools to inspire children's love of science. He was an active mentor and advisor, particularly to first-year students, and was a leader in addressing the scholarship of teaching and learning. Steve won the University Teaching Award twice, and was revered by everyone in the community for his quiet sensibility and collegiality. He is survived by his wife of 39 years, Peggy, and their daughters Aimee, Kelly and Beth.

COLS Majors, Minors and Facilities

Biology

Chair – Christopher Yahnke
ADA – Jackie Engum

- ● Biology
 - Aquaculture/Fish Culture
 - Museum Techniques

Chemistry

Chair – Paul Hladky
ADA – Cristina Altobelli

- ● Chemistry
- Chemistry, ACS certified

Computing and New Media Technologies

Chair – Tim Krause
ADA – Jenny Wierzba

- ● Computer Information Systems
- ● Web and Digital Media Development

English

Chair – Michael Williams
ADA – Kim Siclovan

- ● English
 - Biomedical Writing
 - Creative Writing
 - Professional Writing

Geography and Geology

Chair – David Ozsvath
ADA – Mary Clare Sorenson

- ● Geography
- Geoscience
 - Environmental Geography
 - Geographic Information Systems and Spatial Analysis
 - Geology

History

Chair – Lee Willis
ADA – Janis Swinford

- ● History

Mathematical Sciences

Chair – Andy Felt
ADA – Jenny Wierzba

- ● Mathematics
 - Mathematics, Applied

Philosophy

Chair – David Chan
ADA – Sue Wojciechowski

- ● Philosophy
 - Anthropology
 - Religious Studies

Physics and Astronomy

Chair – Mick Veum
ADA – Nancy Stokosa

- ● Physics

Political Science

Chair – John Blakeman
ADA – Catherine Ligman

- ● Political Science
- ● Public Administration and Policy Analysis

Psychology

Chair – Craig Wendorf
ADA – Kay Hackett

- ● Psychology

Sociology and Social Work

Chair – Robert Enright
ADA – Pam Olson

- ● Sociology
- Social Work
 - Gerontology

World Languages and Literatures

Chair – Richard Ruppel
ADA – Donna Gear

- ● French
- ● German
- ● Spanish
 - English as a Second Language

Interdisciplinary Programs

- ● American Studies
- Biochemistry
 - Comparative Literature
 - Earth Science
 - Environmental Studies
- Individually Planned Major
- ● International Studies
 - Native American Studies
 - Natural Science Broad-field (Edu.)
 - Peace Studies
 - Small City Analysis
- ● Social Science Broad-field
 - Women's and Gender Studies

Master of Science in Teaching

- Biology
- English
- English (reading certification)
- History
- Mathematics

Pre-Professional Studies

- Pre-Chiropractic
- Pre-Dental
- Pre-Engineering
- Pre-Law
- Pre-Medical
- Pre-Mortuary
- Pre-Optometry
- Pre-Pharmacy
- Pre-Veterinary
- Pre-Physician's Assistant

Outreach Centers and Facilities

- Allen F. Blocher Planetarium
- Arthur J. Pejsa Observatory
- Center for Athletic Scheduling
- Center for the Small City
- Collaborative Degree Program
- Community Research Center
- Geographic Information System (GIS) Center
- Museum of Natural History
- National Information Center for Polymer Education (POLYED)
- Northern Aquaculture Demonstration Facility (NADF)
- Wisconsin Association for Critical Thinking (WACT)

ADA = Academic Department Associate

■ = Major

● = Minor

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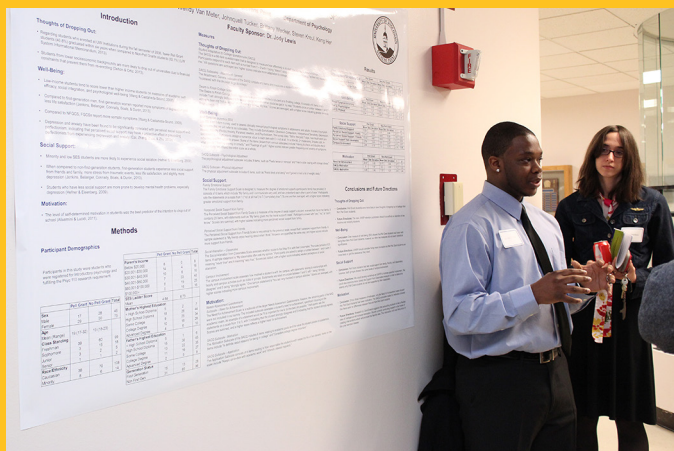
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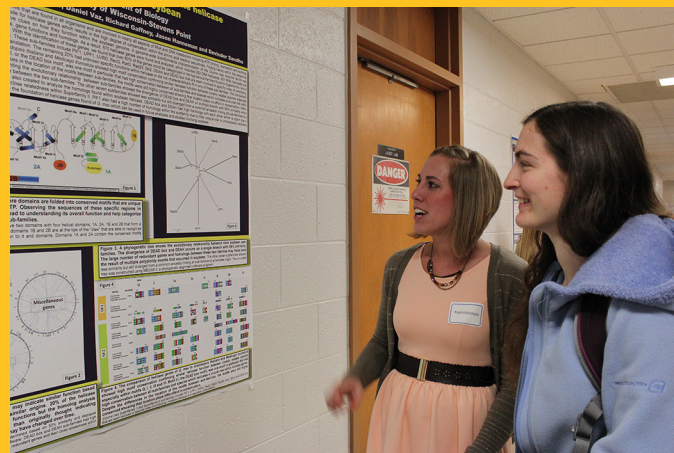
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A Comparison of Pell Grant and Non-Pell Grant Students on Factors Related to Academic Success at UWSP: JohnQuell Tucker, Wendy VanMeter, Brittany Wecker, Steven Kreul, Keng Her.



Comparative Genomic Analysis of the Helicase Gene Family in Soybean (Biology): Kaylin Kleinhans, Chris Navarro, Daniel Vaz, Richard Gaffney, Jason Hanneman, Devinder Sandhu.



A Comparative-Historical Investigation of Ethnic and Racial Stratification in Latin America: Casey French

Student research showcased at Symposium

Collaborative research between students and faculty members at the University of Wisconsin-Stevens Point was presented at the 15th annual **College of Letters and Science Undergraduate Research Symposium** on May 2, 2014. More than 100 research posters and presentations were featured from students representing 10 departments within the college. Research subjects included student employment and academic success, mixed integer linear program for UW-Stevens Point summer conference scheduling, and economical analysis of emerald ash borer management. The next Undergraduate Research Symposium will be May 1, 2015 — visit www.uwsp.edu/cols/pages/researchsymposium to stay posted.



YouTube

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