

# DOKIMOI ERGATAI

## Ride Solar: Cycling for clean energy in Haiti

By Caroline Hoffman '12

While many students were welcoming their parents at Messiah College for Family Weekend on Saturday, September 17th, the energy group and other Collaboratory members were making their way to Lancaster, Pa., to participate in the first ever Ride Solar fundraiser bike ride.

Ride Solar, a benefit ride, not a race, is open to students, alumni, community members, families and anyone with a bike. Riding to fund a solar power installation at a school in Port-au-Prince, Haiti, participants traveled on 15, 33 or 63 mile courses that passed local solar installations. The ride opened with a Tesla car, the leading electric car in the industry. After the ride, participants enjoyed lunch and viewed demonstrations of current Collaboratory projects. The displays educated participants and spectators alike about solar energy and the work of the Collaboratory.

The event was a great success, according to participants. Chris Byers, representing Advanced Solar Industries, LLC (ASI), said, "Many folks asked if we are doing it again! Great routes, organized and well-stocked water stops and an awesome job by Messiah students made for a unique biking event!" Jean Zipagan '13, assistant student director of the Collaboratory and

member of the disability resources group, hopes that Ride Solar will become an annual event in Lancaster, bringing together cyclists and the community to support the Collaboratory and its work with Partners in Development in Haiti. The network of Messiah students, faculty and alumni in collaboration with ASI and Lancaster community members brings the strength of multiple audiences to support the cause.

A total of 61 riders participated, raising more than \$13,000 for the Collaboratory project in Haiti. Even with high expectations, both ASI and the Collaboratory feel this was an accomplishment, especially for a first-year event. Despite the chilly day, "people enjoyed the bike ride and the food...and having Collaboratory students with their projects and the electric car were a big hit," said Byers.

It was a short nine months ago that Josh Mitten, the chief executive officer of ASI, approached the Collaboratory to propose a partnership. Mitten's history with the Collaboratory predates this event, however. His brother, Nate Mitten, graduated from Messiah in 2003 with an engineering degree. While at Messiah, Nate worked with the energy group on the biodiesel project that involved producing biodiesel fuel to provide a more sustainable and eco-friendly form of energy. Since then, other members of the Collaboratory have built relationships with other ASI employees.

The relationship between the Collaboratory and ASI has developed into a successful partnership. ASI wants to have a goodwill impact both domestically and internationally, so the Collaboratory makes a perfect fit. Mitten initially approached the Energy Group about partnering and helping with fundraising and other projects, but that proposal quickly turned into



*Ready at the start line, Collaboratory members prepare to bike 15 miles during Ride Solar, a benefit ride raising more than \$13,000 for an energy project in Haiti.*

another idea which became the Ride Solar event.

Among Ride Solar's participants was Dr. David Vader, director of the Collaboratory, who rode 33 miles. Dr. Vader, a self-proclaimed "amateur cyclist," participated in the event to lend support and to have a good time. The day surpassed the expectations of many participants, including Dr. Vader. He said, "It was a great event and a good turnout. I enjoyed the experience, the energy of all of the people, and how the Collaboratory interacted with the riders."

*Ride, continued on page 8*

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## THE COLLABORATORY FOR STRATEGIC PARTNERSHIPS AND APPLIED RESEARCH

### MISSION

The Collaboratory is a center at Messiah College for applied research and project-based learning, in partnership with client non-profit organizations, businesses, governments and communities in our region and around the world. Areas of engagement include science, engineering, health, information technology, business and education. Our twofold mission is:

- To foster justice, empower the poor, promote peace and care for the earth through applications of our academic and professional disciplines.
- To increase the academic and professional abilities of participants, their vocational vision for lifelong servant-leadership and their courage to act on convictions.

### VISION

Increasing hope and transforming lives through education, collaboration, innovation and service.

### IDENTITY

The Collaboratory is an organization of students, educators and professionals affiliated with Messiah College. We are Christians who aspire to obey the instructions of our Lord and Savior Jesus Christ, to love neighbors as ourselves and to share his Gospel. As God enables us to serve others today, we seek to grow as disciples of our Lord and Savior Jesus Christ, to serve as God's stewards over the resources of our academic disciplines and to bear witness to the good news of the Kingdom of God.

### CONTACTS

#### STUDENT EXECUTIVE AND GROUP LEADERS

*Student Director:* Erik Hornberger  
*Assistant Student Director:* Jean Zipagan  
*Student Staff Manager:* Sandy Dzielak  
*Assistant Student Staff Manager:* Kate Johnstone  
*Communications:* vacant  
*Disability Resources:* Charlie Kimpel  
*Education:* Pamela Kirkpatrick  
*Energy:* Andrew Dowling  
*Microeconomic Development:* Hope Hess  
*Transportation:* Sara Finn  
*Water:* Zachary Mino

#### ADVISORS

*Director of the Collaboratory:* David Vader  
*Manager of the Collaboratory:* Tony Caito  
*Communications:* David Owen, Nancy Patrick, Harold Underwood  
*Disability Resources:* Andrew Betteridge, John Meyer, W. Ray Norman, Barbara Ressler, Evie Telfer, Timothy Van Dyke, Lamarr Widmer, Nate Kamban  
*Education:* Angela Hare  
*Energy:* Andrew Bryden, Carl Erikson, Randall Fish, Michael Zummo, Dave Hostetter  
*Microeconomic Development:* J. Lynn Conrady, Matthew Nissley, Jesse Schwamb, Trey Overholt, Heather Ryan  
*Staff:* Tony Caito, James Krimmel, Scott Weaver, Victoria Johnson  
*Transportation:* Donald Pratt  
*Water:* Tony Beers, Bruce Brubaker, Robert Clancy, Jeff Erikson, D. Ray Knepper, Joseph Longenecker, Ariela Vader, David Vader, Timothy Whitmoyer

## A word from the student manager



Before departing for Nicaragua this summer, I wrote on the front of my journal: "The task ahead of you is never as great as the power behind you." God says in Romans 8:37 that we are more than conquerors. As I read through Romans 8 again, I was filled with excitement because of the awesome promises that God says are available to us. As children of God, there is no longer any condemnation for those of us in Christ. Creation is waiting for us to be who God called us to be; nothing can separate us from the love of Christ. We are more than conquerors! We have the privilege of sharing these promises with others!

One of the ways to share God's promises is to build relationships with people.

In the Collaboratory, we have the opportunity to build relationships with our group members and site team members, with on-campus and off-campus clientele, with our global partners and the people they serve. During the site trip to Nicaragua, I was blessed to be on a great team of diverse personalities who came together to bless each other and the local people through our God-given abilities.

I went to Nicaragua intending to serve, but in return I was blessed beyond measure. Relationships were not built because I was highly skilled and knowledgeable in working on water pumps, or because my Spanish was excellent (or even okay, for that matter). God used me not for what I could do but who I was—His child.

Three children in particular will forever be imprinted on my heart. Relationship was built when a child smiled after my attempt to ask "What is your favorite color" in Spanish. Relationship was built when there was lots of pointing, giggling and taking turns wearing a pair of sunglasses to pose for a photograph. Relationship was built when I stepped out of my comfort zone and tried to show love despite verbal communication barriers. Relationship was built on what seemed like small things, but because of those relationships God can use me to impact those children even when I am at home.

Every time I see the pictures of my Nicaraguan friends or God brings those children to my mind, I pray for them. I pray that they will grow up knowing the Jesus who loves them. I pray that they will stay safe, healthy and grow to be powerful men and women of God. By building relationships, we are sharing the gospel, sharing God's promises and sharing His love.

*Sandra Dzielak*

Sandra Dzielak '12  
Student Manager of the Collaboratory

# Refined membership process promotes professionalism

By Kira Wenger '12

As the Collaboratory continues to grow, defining and organizing its membership is increasingly important. “We are always asked, ‘Where do I sign up?’ to join [the Collaboratory], but we’ve never really had a satisfactory response,” said student director Erik Hornberger to Collaboratory leaders during Leadership Training week\* at the start of the fall semester. “This year, we are using a new member registration form which will help us define membership so we can leverage our resources better.”

Designed by Hornberger during the summer, the new member registration form both clarifies for new members the expectations of participation in the Collaboratory and helps group leaders to know their team members better. By defining a point of membership, group leaders have greater ability to manage their group, can identify skills and interests of their members to better assign tasks and notice potential leadership replacements, and can recognize new members during chapels to celebrate their involvement.

**The Collaboratory maintains the standards of a professional organization, even while realizing that the majority of its members are student volunteers, who are constantly changing roles.**

This fall, the Collaboratory had our first chance to try out the new membership form. During the annual pizza party and other recruiting events on Messiah College’s campus, students filled out the online form after learning about the Collaboratory at the information table. This online process was much more efficient than the white slips of paper that were formerly used.

Among returning members, the message about recruitment was also well received, Hornberger said. “Some students had told me, ‘I think Collab needs to be more restrictive on how we receive members,’ which just happened to be what I had worked on all summer. So that was affirming.”



*Erik Hornberger '12 prepares for a Monday night chapel at his desk in the Collaboratory office. Chapel preparation is one of his many responsibilities as student director.*

Keeping members engaged in the mission of the Collaboratory is another area of emphasis for administration this year. It is easy for teams to become so caught up in the technical details of their projects that they forget the overall purpose of the organization. Director Dr. David Vader encouraged leaders to leverage the social aspects of teamwork during recruiting and within team time, by reminding each other of the mission of the Collaboratory. “We need to be not just colleagues but also friends,” he said, “because there is accountability there. You don’t always feel like coming, but you don’t want to let your friends down so you come.”

In addition to improving recruitment strategies, Hornberger encouraged groups to identify their job needs and post job descriptions on the wiki, the Collaboratory’s online workspace. This way, new members will have a clearer picture of what they are signing up for when they join a Collaboratory group. Job descriptions will also help recruiters point potential members to the needs other groups may have. Other team-

related goals include tracking progress on the Member Achievement Portfolio (MAP) software completed in August, promoting dedication to the Collaboratory’s mission, and fostering team unity through team building exercises and fun events like the fall retreat.

The Collaboratory maintains the standards of a professional organization, even while realizing that the majority of its members are student volunteers, who are constantly changing roles. “We have a 100 percent student turnover every four years,” Dr. David Vader noted. “So recruiting new members is always a very important part of what we do... We want to remind members that this is an invitation to a professional organization where members make a difference.”

Others are noticing, too. Connie Ostwald, who joined Messiah’s Management and Business department as an economics faculty member this year, is particularly impressed “that everyone learns the state-of-the-art project management system [the wiki],” and by the way students learn accountability by working with external partners. “I really like that the Collaboratory is run by student leaders, with extremely competent people... backing up the students,” she said.

The new strategies for thoughtful recruitment, defining membership and fostering team unity are designed to make the Collaboratory a more cohesive and professional organization. As new members join and returning members settle into new roles, the Collaboratory will continue to practice the leadership and service aspects of its mission, one member at a time.

\*Visit [www.thecollaboratoryonline.org/wiki/EX:2011\\_Leaders\\_workshop/](http://www.thecollaboratoryonline.org/wiki/EX:2011_Leaders_workshop/) Schedule to access Leadership Workshop training presentations.

# Connecting with international partners for long-term impact

## Stewarding energy in Honduras

By Elisabeth Edelman '15

While some students leisurely spend their spring breaks with friends, two members of the energy group spent last spring break serving. Nate Nichols '11 and Jose Vasquez '14 traveled with Energy Group advisor David Hostetter '09 to the Cure International hospital in San Pedro Sula, Honduras, to analyze the hospital's energy usage.

CenterPoint Engineering—a growing civil, structural, mechanical and electrical consulting engineering firm based in Mechanicsburg, Pa.—partnered with the Collaboratory on this project. The team conducted an energy audit that will help the hospital reduce energy expenses.

“Our work in the hospital resulted in a bond being formed between the people of Honduras and ourselves,” remarked Vasquez. “We were also brought to the awareness of the importance of being good stewards of energy use.” This trip proved life-changing for Vasquez, who served as the translator between Hondurans and the other members of the team. “I saw God providing hope and faith... God is a source of energy and guidance to the people of Honduras,” he said.

Going with the desire of better stewarding energy resources in Honduras, the three-person site-team left as stewards of God's grace, hope and love to a people in great need.

## Teaching water purification in Nicaragua

By Kira Wenger '12

Water initiatives continue to improve the quality of living for several rural villages in Nicaragua. Partnering with Verbo Church and Forward Edge International (FEI), a Collaboratory team visited that country this summer to install pumps and teach community members about the importance of clean water.

On an exploratory trip last year, the water group took water samples to determine what kind of water systems would be most effective in specific Nicaraguan locations. The group used those findings on this year's trip when they taught elementary students about the importance of water filtration and distributed applicable filtration systems to community members.

“Just because water is clear doesn't mean it's clean,” we told [the children],” said Sandy Dzielak '12, student staff manager who served as photographer and chaplain for the trip. “We showed them how bugs can enlarge under a microscope to demonstrate how germs are so tiny. We also demonstrated the concept of filtration using a shirt to filter small stones.”

“Karisa [Martin '11] would go over

the water cycle, then Zac [Mino '12] would demonstrate filtration using two bottles of water— one pure, one salt. ‘You can't see the difference, but you can taste it!’” said Dzielak.

In addition to water education, the team distributed Sawyer water filters to families who are still suffering from the destruction left by Hurricane Felix in 2007. The families “were very involved in learning the process of filtration and maintaining the filters,” said Dzielak.

To reinforce the partnership with FEI and these Nicaraguan villages, the team left their community filtration system with FEI. The filter will ease FEI's bottled water expenses for future team visits. Lasting impressions were made all around between Collaboratory members and village leaders, who Dzielak said, “were so thankful for us and said, ‘We know it's the will of God that you are here.’”

## Purifying air in Zambia

By Laura Good '14

The disability resources group aims to prevent the preventable by engineering environmentally-appropriate oxygen concentrators for Macha Mission Hospital. From May 17 through June 11, Tim Houck '11 and Jaime Gerhart '12 (project and site-team leader), traveled with Dr. Larry Mylin's Messiah College May-term class to Macha, Zambia.

“The oxygen concentrators at the hospital were breaking due to unsuitable air quality,” explained Gerhart. “The tanks



Left: Zac Mino '12 teaches children about the process of water filtration at an elementary school in Piñeras, Nicaragua. Middle, top: Kim Frey '13 and Dena Steiner '12 teach visually impaired school children a song in Mahadaga, Burkina Faso. Middle, bottom: Honduras site team and partners. Right: Brendon Earl '05 and Paul Foerth '11 evaluate solar water heaters in Zimbabwe.

that filter out nitrogen are filled with very sensitive material. When that material is exposed to [large amounts of] dirt or dust, extreme heat or too much moisture, it gets destroyed and no longer functions properly.”

Houck and Gerhart tested and analyzed the machines. Using parts that had been donated from DeVilbiss Healthcare, they updated oxygen concentrators, that provide pure, filtered oxygen to patients, trained the hospital maintenance staff how to operate the updated machinery, and compiled a maintenance guide.

For Gerhart, the less time-conscious Zambian culture illuminated “the values in relationships.” The group hopes to return to Macha in the summer of 2013 to check on how the filters are functioning and develop a more contextually effective “pre-filter.”

## Resourcing curricula and therapy strategies in Burkina Faso

By Laura Good '14

The education group and physical therapy project of the disability resources group jointly partnered with the Serving in Mission's (SIM) Centre for the Advancement of the Handicapped in Mahadaga, Burkina Faso.

Already well-established in Burkina Faso, this year's education group adapted knowledge from previous years to create a three-week summer enrichment program that was held from June 21 through July 21 for 31 students with disabilities in Mahadaga. These children participated in various workshops, such as photography, and used a math curriculum that included a math book designed by Bethany Blackwood '11.

Group members conducted three workshops during the afternoon, for the teachers to learn how to use computer programs. Teachers will be able to use their new skills on the 12 netbook computers the group left for teachers to use in the classroom.

Next summer, the education group plans to create a new workbook-based curriculum so students can work independently. The team also plans to individually tutor kids who are in need of extra help in school.

“It was interesting to see how over the years things have changed [in Mahadaga],”

said Pam Kirkpatrick '13. “It's cool to see [not exactly] our legacy there, but the legacy of Messiah.”

On the first physical therapy trip to Mahadaga, Burkina Faso, Joanna Larson '12 and Dena Steiner '12 conducted a study using standardized testing for children with cerebral palsy to determine the effectiveness of their current physical therapy program.

Their findings established that the current therapy program was indeed effective for patients. Next steps are to continue to train therapists in Mahadaga and collect further data this January and July to present to other hospitals and clinics in West Africa, showing that the indigenous physical therapy methods are successful.

Larson, who went to Mali with the water group in 2009, said her previous trip inspired this project. What seemed to be a hopeless situation allowed the physical therapy project to gain a better understanding of how they could use therapy programs to help people with disabilities in other countries.

Steiner added, “The people in Mahadaga had such enthusiasm. I appreciated them, because they didn't act passively. They remained involved in the project, which was encouraging.”

As a follow-up, a newly-named project called, “Bridging Therapy,” involves creating a training manual and video, that will help health clinics in Mahadaga and elsewhere start physical therapy programs and connect their therapies with culturally and medically-appropriate industry standards. The project will also educate parents on how to care for and stimulate learning in their children with disabilities.

## Partnering for energy efficiency in Zimbabwe

By Laura Good '14

With the solar water heater (SWH) project well under way, the energy group traveled this summer to Bulawayo, Zimbabwe, to begin implementing plans to help the Theological College of Zimbabwe (TCZ) reduce their dependence on electricity for heating their water.

Team members Ricky Houck '11, Paul Foerth '11, Lance Martin '11 and advisor Brendon Earl '05 experienced some of the challenges of working overseas. Last minute changes altered their plan to install

the new solar water heater, so they instead performed a helpful energy audit for TCZ.

“The machines [TCZ] uses now are sporadic and inefficient in producing their electricity,” said energy group leader Andrew Dowling '12. The team's post-trip report details what TCZ can do to reduce the high costs of heating water and become more energy efficient.

## Looking forward to January

By Jessica Barnett '14

Mali, Burkina Faso and Haiti—the 2012 January-term site teams are as academically diverse as their destinations, yet they all remain faithful to one mission: the service of giving and receiving.

According to disability resources group leader Charlie Kimpel '12, their priority is to “be God's hands and feet” in aiding their on-site contacts and in “fostering justice and empowering the poor.” Yet, students gain professional experience through working with their teams and partners and translating their academic knowledge to relevant situations. This promise of continuing symbiotic relationships motivates the latest installment of Collaboratory trips.

Project leader of the Mali and disability project, Sarah Finney '12, is returning to Mali to reconnect with partners and “see the other side of my work”—how her efforts at Messiah directly affects others. A grant from the Conrad N. Hilton Foundation through World Vision will allow the project to expand into Niger and Ghana. In preparation, the water and disability project will continue serving people with disabilities through water technology workshops with World Vision in Mali.

The trip to Burkina Faso cross-pollinates students and faculty from the energy, staff and disability resources groups. Aiding missionaries with “Serving in Mission” (SIM) in Burkina Faso's capital, Ouagadougou, the education group will teach children using the curriculum they recently developed, while the information management (IM) team of staff group will improve office technology and networking.

Members of the mobility tricycle project will continue their work with the Center for the Advancement of the Handicapped in the village of Mahadaga, equipping them to serve the disabled with

*Connecting, continued on page 8*

# Joni Eareckson Tada friendship turns into new curriculum for Messiah

By Elisabeth Edelman '15 with Dr. Nancy Patrick



Last March, Joni Eareckson Tada—founder of Joni and Friends, author of more than 45 books and advocate for people with disabilities—visited Messiah College to speak to students and promote the launching of the new Messiah course “Disability and Society.” The course fulfills the pluralism general education component of Messiah’s curriculum and is taught by communications group advisor Dr. Nancy Patrick, who says she has “lived and studied disability all [of her] life.” As her 36 students can attest, Patrick’s excitement is contagious. In a recent interview, she shares her thoughts on this relevant new course on disability.



Joni Eareckson Tada commended the Collaboratory for our disabilities-related work during her March 2011 visit to Messiah College.

**Q:** Why is “Disability and Society” being offered as a general education course at Messiah and how was it developed?

**A:** Brian Nejme and I had the idea to offer a course in the area of disability studies at Messiah College that could be provided across majors and that would be available for students serving in the Collaboratory. [We] recognized the need for a course like this, given the large number of current Collaboratory projects directly involved in serving clients with disability. We also knew that students not involved in the Collaboratory would benefit. In designing the course, we looked at the work of Joni Eareckson Tada and the Christian Institute on Disability (CID) in California for inspiration. CID has prepared curriculum on disability for use in institutions of higher education and in churches. We selected material from their course entitled “Disability and Suffering,” as well as other informa-

tion from the field of disability studies to develop this unique course for Messiah.

**Q:** Is the course a “test run” at this point, or will it be offered during the spring semester as well?

**A:** At this point, the course is only offered during the fall semester, every other year. If the course continues to be popular among students, there is the potential to petition to move the course to every fall semester. This would be a good move since there is such a need for a general awareness and understanding of disability.

**Q:** Is there a particular unit or aspect of the course you are most excited about teaching?

**A:** I’m excited about teaching the unit on Christ’s view of disability. First, we’ll look at Bible verses that address how God views individuals with disability. Then we’ll read two books—one about Joni’s story and the other about Jean Vanier’s work, founder of

L’Arche, an international organization that creates living communities for people with developmental disabilities—to find out how two people with decades of experience in the field integrate this idea of disability in society.

**Q:** What do you expect will be the most challenging part of the course?

**A:** The discussions about end of life issues. We’ll be talking about ethical issues at the edge of life, including the topic of euthanasia. It is my hope that the students in the course will embrace the Christian worldview of disability as part of the human condition, and that in spite of and through disability people can praise God knowing that their life is not a mistake, and God can bring about good to them and to others through their disability.

**Q:** What can students expect to gain from taking this course?

**A:** There is wisdom that can come from understanding Creation and the Fall, and how people live and grow and suffer... that can provide a deeper understanding of the place or purpose of disability in the world. Students will learn to recognize that everyone needs to contribute to society to the best of their ability including those with disability. They will be encouraged to take this new learning and apply it in life by ensuring a place in society and in the church for those with disability—not just as participants, but as leaders and contributors just like anyone else. Students will be encouraged to mature in their faith by becoming more like Christ in how they view brokenness and disability. That’s my hope.

## Meet Nate Kamban

By Brittany Ascenzi '13



*Nate Kamban joined the Collaboratory this year as an advisor for the disability resources group.*

If you're looking for a job, Monster.com is one of the many places where you can start your search, which is exactly what new Collaboratory advisor Nate Kamban did as he prepared to enter the world of employment in the development field. Prompted

for a keyword to begin, Kamban typed in "Africa," clicked "enter," and began his search. Fortunately, he didn't have to look far to find a job that suited him; his current job as an advisor to the Collaboratory's

water and disability project in the disability resources group was the first entry listed.

An April 2011 graduate from the University of Pittsburgh, where he earned a master's degree in international development planning and environmental sustainability, Kamban is most looking forward to getting to work with students. In particular, he is excited to take students to Mali, in order for them to see poverty first hand, and to develop hearts of compassion. For him, "watching students use their majors to impact the world on an international level is really cool to see." When asked to name the most interesting place he has ever visited, Mali weighed heavily on his mind, "the people are great, so compassionate and friendly. It's where I like to be the most."

Kamban doesn't have a lot of free time,

considering he recently returned from an investigatory trip to Mali with the Collaboratory, has a brand new job to get used to and to top it off, he and his wife, Amanda, are expecting a baby girl. When Kamban does have a bit of free time, he enjoys hanging out with his wife—watching movies, talking and just spending quality time with her.

Through all the busyness of life and in the new tasks Kamban has upcoming, there is one verse that continually encourages him. Ecclesiastes 9:10 says, "Whatever your hand finds to do, do it with all your might." This verse inspires Kamban to fully invest his life in Christ daily. The members of the water and disability project look forward to seeing how God uses Kamban at Messiah College. Welcome to the Collaboratory, Nate!

## Becoming advisors: Alumni return to the Collaboratory

Andrew Betteridge '09; Alyssa Heberlig '08; Joseph Longenecker '06

By Priscilla Morales '12



Like many Collaboratory members, Andrew Betteridge '09 first discovered the Collaboratory at an informational session that included pizza. A few student discussions and a couple of pizza slices later, he soon found himself a member of the disability resources group and project leader during his subsequent three years at Messiah College. "I liked the concept of connecting engineering class work with real world application," said Betteridge, who graduated with a mechanical engineering degree.

Similarly, Joseph Longenecker '06 caught interest in a pump project during an activities fair. At the event, he learned of the organization's applicable means of offering engineering services outside of the classroom. Longenecker became dedicated to the team and eventually took up a leader-

ship role during his remaining three years.

"I was excited by the realization that engineers were needed to meet real human needs around the world that I mostly associated with missionaries and humanitarian agencies," said Longenecker, also a graduate with a mechanical engineering degree.

Initially persuaded by a friend to attend a Collaboratory welcome meeting, Alyssa Heberlig '08 became intrigued with the organization. "I was directed toward the staff group. When I told them I liked to write, they invited me to join the publications team within the marketing team," said Heberlig, a human resources degree graduate.

Currently residing in Mechanicsburg, Pa., Betteridge works as a consultant at CenterPoint Engineering, a local engineering firm and Collaboratory partner. During his free time, he volunteers as a youth leader at his church and has also returned to the Collaboratory as an advisor for the disability resources group.

Longenecker now spends his days working for New Holland Agriculture,

where he develops self-propelled windrowers. These devices cut and condition hay crops and place them in windrows to dry in farm fields. He is also an advisor with the water group, attending weekly Monday night meetings to oversee and aid in the group's projects. "The Collaboratory taught me how difficult it is to execute a project and accomplish something of lasting benefit," said Longenecker.

While serving as a student leader, Heberlig's increased self-confidence played a role in gaining a new life view and enhanced her ability to lead in an office environment. Until Heberlig's recent decision to relocate to Guinea-Bissau, West Africa, for missions work, she volunteered at her church and advised marketing team projects. "I wanted to stay in the Collaboratory and watch leaders grow in leadership and develop their skills," said Heberlig.

Betteridge concluded, "I cannot imagine life without the Collaboratory. It is something really special other places do not offer. Physical needs are met through God's love shown through people's actions."

# STUDENT VOICES

## Lindsey Adomat '14

Engineering  
Water group



*"The Collab is an opportunity to learn, to grow, to invest and to engage. It lets students become involved with something bigger than themselves in a way*

*that goes beyond most of the expectations of society. The Collab also connects information learned in the classroom and applies it to real life situations and connects people all over the world. It is crazy to think that the things I am working on here in Grantham, Pennsylvania, could have a positive impact on someone's life halfway across the world. It's very humbling and rewarding to be able to serve Christ in this way."*

## Andrew Dowling '13

Engineering  
Energy group leader



*"The Collaboratory helps me learn more about my major through practical work experience, and it also allows me to*

*share God's love with others through the projects I'm working on. I like being involved because I know the work I'm doing is making a difference in the world."*

## Kim Frey '13

Math with Teaching  
Certification  
Education group



*"In the process of earning my secondary math teaching certification, classroom knowledge can't compare to real world experience. As a member*

*of the education group, I have helped to create multiple summer enrichment programs for our partner school in Burkina Faso, West Africa. This work, coupled with a site-team trip, has opened my eyes to different cultures, learning styles and teaching methods. The Collaboratory has allowed me to learn about the teacher and person I want to be."*

*Ride, continued from page 1*

Another participant, Messiah's Murray Library director Jonathan Lauer, rode with Vader, his friend and cycling partner. Lauer enjoyed the "opportunity to tour 33 miles of Lancaster County highways and byways" for the first time. He was also pleased to support "the work of the Collaboratory, particularly its focus on what [economist] E. F. Schumacher used to call 'appropriate technology.' I believe solar energy holds great promise in poor countries, such as Haiti, and I wanted to support Messiah College's participation, with its several partners, in beginning to actualize the vision for such possible applications."

The energy and the cooperation between Collaboratory members were clearly

evident to all on the day of the event. Five members of the disability resources group's mobility project demonstrated it during perhaps one of the most memorable parts of the day: the 15-mile hand trike relay. The hand trike, one of the projects of the mobility group, was created to provide a means of personal transportation for those with limited mobility in the developing world. Charlie Kimpel '12, one of the relayers, out-biked a horse and buggy! Zipagan, another relayer, expressed both excitement and anxiety about the hilly course. Fortunately for people with disabilities where the hand trikes are typically operated, such as in Mahadaga, Burkina Faso, the terrain may be rough, but it

does not have the rolling hills of central Pennsylvania.

In addition to riding, members of the energy group also worked registration, directed parking and kept the event running smoothly.

If Ride Solar continues as an annual event, as many people have enthusiastically suggested, it will be another great partnership built on the Collaboratory model.

This is definitely an event to look for next year.

*Connecting, continued from page 5*

sustainable hand-powered and electric tricycles. At the request of Burkina Faso missionary and Collaboratory alumnus Matt Walsh '00, the energy group plans to install a device which monitors and efficiently rations electricity.

Members of the energy group will also survey a school in Canaan, Haiti, according to team leader Trevor Smith '12. The group plans to install a solar photovoltaic system there between May and June that will provide solar energy to 5,500 people, many displaced by the 2010 earthquake. The trip was made possible through Ride

Solar, hosted by Advanced Solar Industries (ASI), a renewable energy provider based in Lancaster, Pa. Partners in Development will serve as the team's in-country host while in Haiti.

IM team leader Jeremy Stuter '12 believes the combination of learning, engagement, service and academics makes the January-term trips "more meaningful." Kimpel, Finney and Stuter all agree, to serve is to implement academics and individual skills through ongoing relationships. Engagement is giving, but just as much, it is receiving.

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