

DOKIMOI ERGATAI

Increasing accessibility

The Mali Water and Disabilities Study wraps up an impactful three years

By Ashley Pim '10

For the past two and a half years, the Mali Water and Disabilities Study project team has been working to simplify water access and transport for Malians with disabilities. Obtaining water is not a difficulty in the United States, but in rural regions of Mali accessing and transporting clean water is a time consuming and physically arduous part of everyday life. What is more, water facilities are usually inaccessible to persons with disabilities, making an already challenging task even harder.

The Mali Water and Disabilities Study team began wrapping up their projects during their summer 2009 visit to Mali. The team, which is part of the disability resources group, has been working on three projects in partnership with World Vision Mali. Specifically, the team has studied latrine use, water transport, and water pump accessibility for persons with disabilities in rural Mali. These projects were made possible by a three-year grant provided by the Conrad Hilton Foundation. The grant period will officially come to a close in December 2009.

The site team visit this summer consisted of advisors Barbara Ressler, assistant



The Mali Water and Disabilities Study provides people with disabilities the tools for every day living.

professor of engineering, and Ray Norman, dean of the school of math, engineering and business. During the visit, Ressler and Norman evaluated the technologies that the Mali Water and Disabilities Study team has developed.

“We spent a great deal of time seeing how well local artisans could replicate our models with our instructions and dimensions,” says Norman.

Ressler confirmed that the visit demonstrated that the latrine and water projects have both reached completion while the water pump accessibility project still has issues that need to be resolved. “The pump will be the primary focus of this year’s students,” Ressler says.

The two also documented the work that the team has accomplished in Mali for the final report that they will be writing for World Vision. This report will sum up the

team’s findings for World Vision and the Conrad Hilton Foundation.

The Mali Water and Disabilities Study team’s affiliation with World Vision began with Norman, who worked for World Vision before coming to Messiah. “When I was working with World Vision, I was trying to establish links with Christian colleges,” says Norman. “When I came here, I was still interested in seeing that happen.”

Prior to its partnership with the Collaboratory, World Vision had spent several years working on a village water and sanitation project but had not looked at the needs of the disabled within that context.

In addition to connecting the Collaboratory with World Vision, “Dr. Norman does most of the cross-cultural work,” says Ressler. Norman, who lived in West Africa for over 20 years, is fluent in French and familiar with this region’s culture. How-

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The Collaboratory for Strategic Partnerships and Applied Research

MISSION

To partner with organizations, businesses, and communities in our region and around the world for projects in mathematical and information sciences, engineering, and business that serve disadvantaged people and care for the earth; and to develop our members' abilities and vocational vision for lifelong servant-leadership, and the courage to act on convictions.

VISION

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

IDENTITY

The Collaboratory is an organization of Christian students, educators, and professionals affiliated with Messiah College. We aspire to fulfill biblical mandates to foster justice, empower the poor, reconcile adversaries, and care for the earth, in the context of scholastic engagement in our fields of study. As God enables us to serve others, we seek to grow as disciples of our Lord and Savior Jesus Christ, serve as God's stewards over the resources of our academic disciplines, and bear witness to the good news of the Kingdom of God.

CONTACTS

STUDENT EXECUTIVE AND GROUP LEADERS

Director: David Bedillion
Assistant Director: Jonathon Martin
Communications Technology: Nicole Steiner
Disability Resources: Emily Howell
Education: Elena Casey
Energy: Nathaniel Nichols
Microeconomic Development: Stephanie Schick
Staff: Sarah Griffin
Transportation: Erik Hornberger
Water: Jaime Emberger

ADVISORS

Director of the Collaboratory: David Vader
Manager of the Collaboratory: Deborah Tepley
Communications: David Owen, Nancy Patrick, Harold Underwood
Disability Resources: John Meyer, W. Ray Norman, Barbara Ressler, Timothy VanDyke
Education: Angela Hare
Energy: Andrew Bryden, Carl Erikson, Randall Fish, Michael Zummo
Microeconomic Development: J-Lynn Conrady, Matthew Nissley, Jesse Schwamb
Staff: James Krimmel, Deborah Tepley, Scott Weaver, Lori Zimmerman
Transportation: Donald Pratt
Water: Robert Clancy, D. Ray Knepper, Joseph Longenecker, Ariela Vader, Timothy Whitmoyer

Word from the student director: The joy of change



I am excited to share with you the most recent developments in the Collaboratory. As I reflect on how God has been using our organization this past year, I am filled with gratitude for all of you who have generously supported the Collaboratory through prayer and financial contributions. Your partnership with our organization makes it possible for us to serve disadvantaged people while developing our members' abilities and vision for lifelong servant-leadership.

The Collaboratory is facing many exciting and challenging changes as we experience a period of rapid growth in member involvement and client partnerships. In cooperation with Collaboratory leaders, Dr. David Vader, the director of the Collaboratory, is responding to these changes by focusing the identity and scope of our organization and developing a business plan for fiscal sustainability. Dr. Vader is working on these plans during his sabbatical this year while Collaboratory manager Deborah Tepley serves as the acting director.

Other exciting changes in the Collaboratory include the start of several projects. The energy group is implementing a new project this year, working to provide reliable electrical power for a mission site in

Haiti. The microeconomic development (MED) group has also adopted a new venture, working with the Brethren in Christ Church in Zambia to establish savings-led microfinance associations in the Simaubi Economic Development Zone.

In addition, several projects successfully came to a close this past year. The education group wrapped up their two-year mathematical literacy project identifying and addressing educational and general literacy limitations for primary school students in Burkina Faso, West Africa. In the water group, the village water ozonation system (VWOS) team successfully implemented a water purification system in the state of Yoro in Honduras.

As our students and faculty are investing many hours into their projects, we often find ourselves so caught up in our daily toil that we lose sight of the joy that comes from our work for the kingdom of God. To address this struggle, the directors and manager developed a series of Monday night chapels for our organization, focusing solely on facets of joyful Christian service in practice.

As I look forward to the joys of this new academic year, I ask you to partner with us in demonstrating God's love to our clients around the world. To join us in our mission, and to make a special year-end gift, please use the included response card and make your check payable to Messiah College with "Collaboratory" clearly noted on the memo line.

Please know that you play an integral role as God uses the Collaboratory to serve disadvantaged communities globally and to develop students as life-long servant-leaders.

May God bless you all,

A handwritten signature in black ink that reads "Dave Bedillion".

Dave Bedillion
Student Director

Marketing team: spreading the word Collab-Style

By Sara Mueller '10

Chances are, most of us can name an ad slogan or two, or perhaps one or two hundred. Do these sound familiar?

"You can't eat just one."

"Once you pop, the fun don't stop."

"Maybe it's Maybelline."

You might even be able to hum a couple of commercial jingles. After all, how many of us learned to spell bologna from the Oscar Meyer commercials? Advertising campaigns are a large part of what marketing is all about. Companies make the big bucks by getting the name of their product out there so that consumers recognize who they are and what they sell.

For the Collaboratory, however, marketing is not about how much money the organization can make. Instead, the marketing team's purpose is "to make the Collaboratory well known" to the student body, says Scott Markley '11, leader of the marketing team. His goal is to recruit "members who will help with fulfilling the mission of the Collaboratory."

One of the most effective marketing tactics that the team has developed is what the members have termed "slogan posters."

In the fall of 2007, Messiah woke up one morning to find that its campus had been plastered with sheets of plain white paper. There was nothing special about

these signs, no vibrant colors or images, but perhaps this is what set them apart from the many eye-achingly brightly colored posters nearby.

"We wanted a way to get the Collaboratory's name out there," says Samantha Moore '10. "When you see words like 'service in action' they kind of fade and blend in with everything else posted on Messiah's campus. We wanted something that really called attention to and emphasized the Collaboratory."

Nobody can say that the posters that began to sprout up around campus blended in. For one thing, they shortened the Collaboratory's name to "Collab." The posters spouted slogans such as "Celebrate Collab history month: January through December" and "Collab invented the Internet." The slogans are things that "people recognize from popular culture and the culture here at Messiah," says Moore. "They are things that students instantly recognize and identify with."

Two years later, the Collab posters continue to create a buzz on campus.

"People are interested in reading the clever sayings," Moore says, "and search out ones that they have not yet read."

The marketing team is about more than just posters, though. The purpose of



Members of the marketing team (left to right) Adam Brackbill '12, Sara Mueller '10, Megan McKone '10, Lauren Sell '10, and Scott Markley '12, with a display of past slogan posters.

the slogan poster campaign is to get the name of the Collaboratory out into the Messiah public, so that students will consider getting involved. The team engages in a variety of other activities as well, such as creating videos, brochures, and the newsletter that you hold in your hand.

Marketing campaigns are designed to catch a person's attention. A poster with a pop culture reference is only one tool that the team uses to draw in members, with the hope that more students at Messiah will feel compelled to get involved and "Just Collab it!"

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ever, the team could not simply rely on one person to provide a buffer for the cultural differences that they would encounter.

"What we have in Mali is a difference between Western culture and rural African culture, and between Christian culture and Islamic culture. These are important regardless of the type of project," explains Norman. "Water and sanitation are sensitive issues in any culture. In the end, we've had some remarkable success because we've had some strategies that really helped us bridge those gaps."

One of these strategies involved listening to the stories of the people with disabilities, who represent some of the most marginalized people in rural West Africa.

"Our research needed to be driven by the felt and expressed needs of the disabled people themselves," says Norman.

Another strategy involved engaging Messiah College students with disabilities in the project. This proved to be instrumental to the project, as it helped the disabled in rural Mali to open up to the researchers more once they met and heard about the students with disabilities on the team.

In the future, World Vision will be moving their project from Mali to Ghana. "Everything would need to be changed to the context of the new site, culture, and available technology," says Ressler, adding that the Collaboratory has not committed

to joining World Vision in Ghana as of right now.

"World Vision and Hilton want us to continue for another five-year phase," says Norman. "A big challenge is staffing the project. We would probably need to get a grant for someone to dedicate to it."

Regardless of any future plans, the Mali Water and Disabilities Study team has made a significant impact on villages in rural Mali. "We've put in our last iterations of all the designs," says Ressler. "The simple fact that someone came in and paid attention to some of the most marginalized people in that region really makes a huge difference."

ALUMNI VOICES

William Bellows '09

Water group, student director



"After graduating, I committed to a position in full-time international ministry. My Collaboratory experience is invaluable, as site team trips prepared me

for serving cross-culturally, and my work as student director has given me great insight into how missions organizations function."

Michelle Carrier '08

Staff, staff manager



"The Collaboratory significantly developed my management and professional communication skills, preparing me for the client projects I am currently engaged in as a graduate student. More importantly,

the Collaboratory's culture of service and community continues to impact the way I think about my relationships, spiritual life, and free time; and my friends and mentors from the Collaboratory are still inspiring me."

Jonathan Patrick '08

Energy group, student director



"The Collaboratory offered a unique opportunity to apply my gifts to real-world needs while instilling a deep sense of purpose in my own life. This

intrinsic sense of one's vocation continues to help me as I apply myself to the work for which God has called me to do."

Purifying water

The VWOS project team partners with the community of Mojiman, Honduras

By Deborah Tepley, Manager



The VWOS team orients community and Mojiman water committee members to their new water purification system.

This summer the Collaboratory water group's Village Water Ozonization System (VWOS) project sent a team of seven to Honduras to install a water purification system in the village of Mojiman. The team was comprised of student water group members William Bellows '09, Timothy Bitzer '10, Grant Kruppenbacher '11, and Karisa Martin '11, with Daniel Barlow '09 serving as the student team leader. Sarah Baranik '12 represented the Collaboratory's microeconomic development (MED) group, and Ariela Vader, lecturer in biology and advisor for the Collaboratory's water group, led the team.

The implementation of the VWOS team's system in a public school in Mojiman was the culmination of years of work. Kruppenbacher, the VWOS project leader, explained that it was "the first prototype that we installed in Honduras and the first full-sized prototype that we have built. All of the testing that we have done up

Fueling, continued on page 5

Brendon Erl '05

Energy group



"The Collaboraotry has affected my world view and helped me as far as priorities in my life. It's given me a sense of vocation and applying that to life."

David Owen '97



"My advice to students now would be: learn from your mistakes. Just get in there and don't be afraid to mess up. That's how you learn."

Elizabeth Barr '04

staff group



"The Collaboratory made me more globally minded. I didn't really think about life outside the US or about people who don't have the same opportunities. Now I do."

Purifying continued from page 4

to this point has been on two 50-gallon drums in the basement of Frey Academic Hall."

In addition to providing education on the importance of clean drinking water, the VWOS project team's trips to Honduras up to this point have involved networking and building relationships with water association officials. Villages in Honduras organize committees that manage the water resources for their communities, controlling water access and distribution, as well as treatment and purification needs. Previous teams had sat down with the water committee for the village of Mojiman, asking questions about the needs of the village and discussing possibilities. "We did some explaining, but more listening," said Vader. "We also worked to set and manage expectations. We explained that we were there to work with them, not just to bring something. They would need to put something into it as well. The village would be responsible for maintenance and upkeep, and for reporting on how things were going, because if we intend to use this

in other places, we need to collect data so that we can learn from our mistakes."

When the team arrived in Mojiman in mid-May, the president of the local water committee called the community together to build a structure to house the VWOS team's purification system. The people of the village paid for the building and provided the labor to construct it. The next steps were to build and install the system.

"We also worked to set and manage expectations. We explained that we were there to work with them, not just to bring something. They would need to put something into it as well."

The team had plenty of other work to accomplish during the two weeks they were in Mojiman. They provided training for the local water committee officials, who will be in charge of maintaining the system. The team visited the local school where the

system is housed and used the curriculum that they have developed to educate children on the importance of clean drinking water. For the first time, the team held a general water purification health session for adults in the community. Finally, the team explored economic considerations with Mojiman's water committee. "Part of the strategy to pay for maintenance of the system is to set up a business," says Vader. "We wanted to assist them with setting up a business plan, to explore possibilities for generating income." Finally, the team left hard and electronic copies of manuals for the system, which had been translated into Spanish, as well as instructions on where and how to purchase replacement parts.

The next step for the VWOS project team is to install a full-sized system on campus at Messiah. Bellows, who graduated this past spring, weighed in, "I think VWOS will continue to grow with a permanent installation at Messiah College to enable future testing and improvements, and more installations in rural Honduran villages."

Introducing Mike Zummo

The energy group hires a full-time advisor

By Ashley Pim '10



Mike Zummo '06 (left) with members of the energy group Andrew Derr '10, Jordan Beckler '11, Andrew Spotts '10, and Jonathan Yoder '11 at Carlisle Greenfest.

The Collaboratory has hired Messiah graduate Mike Zummo '06 as manager of the biodiesel team. Zummo is working as both an adviser and a principle investigator for the biodiesel research grant, a job which he describes as including “managing the students’ research and getting experiments ready so they can run the tests they need to,” in addition to managing their resource grant and the paperwork associated with it. The job also includes networking with other biodiesel producers in the community. Most importantly, though, Zummo stresses his role as a mentor. “I’m here as a resource to the students,” he says.

Zummo graduated from Messiah with a degree in mechanical engineering in May 2006, and worked as a project engineer for three years. “Really, my background is in project management with a strong emphasis in testing and reporting,” he says.

Zummo also worked as a resident assistant while attending Messiah, a job which allowed him to lead and interact with students on a daily basis. “I always thought it would be neat to work with students,” he says. “I wanted to use my engineering career to help people.”

Zummo’s experience with managing projects and leading students fit perfectly with the Collaboratory’s mission. Still, the Collaboratory employed “a pretty intensive interview process,” Zummo admits. Along with meeting with the director, student director, assistant student director, and Collaboratory manager, he also met with the students leading the biodiesel team.

“We went through what their vision was, and how I could fit into that vision,” Zummo recalls, adding that getting to meet with the students was a great experience “because it gave me an opportunity to see what the students needed from someone who would fulfill this position.”

Andy Derr '10, a member of the biodiesel team involved in the hiring process, says “Mike [Zummo] was my choice from the beginning.”

Since joining the biodiesel team, Zummo has been a part of several positive changes the team has undergone.

In the past, the team kept their biodiesel processor in an unheated trailer, but in August 2009 they moved the processor into a new and better production space heated with their own biodiesel. In addition

to providing a safer and more spacious setup, these new accommodations will allow the team to produce biodiesel throughout the winter months. Production during the winter was impossible before the move because cold temperatures limit biodiesel’s ability to be reacted.

The team has also built a mini-processor as a demonstration model which they hope to eventually bring to schools and other interested groups as an educational tool. They displayed it at the Carlisle Greenfest earlier this year with tremendous success. “People in general are interested in biodiesel and we always get a lot of attention,” Zummo says.

Perhaps most excitingly, the team is finishing up the testing lab and installing different pieces of equipment so that by December they will have a functional lab capable of running five different tests required for American Society for Testing and Materials (ASTM) certification. “We’ll have invaluable information about where our product stands,” says Zummo.

Perhaps most excitingly the team is finishing up the testing lab and installing different pieces of equipment so that by December they will have a functional lab capable of running five different tests required for American Society for Testing and Materials (ASTM) certification.

Eventually, the biodiesel team hopes to partner with a community in the Democratic Republic of Congo and introduce biodiesel production techniques. This would allow Congolese people to convert oil from the abundance of palm trees in the area into biodiesel, which they could use to supplement their fuel. Right now, though, Zummo says the team is “focused on making a good system that produces good fuel.” With a group of students like the biodiesel team and an advisor like Mike Zummo, they should be very confident.

Matt Nissley: responding to poverty with the MED group

By Jennifer Pastula '12

There are many people who bemoan the plight of starving people in the world. There are others who ask why the poor do not help themselves. And then there are those like Matt Nissley '07 who take it upon themselves to go and help provide disadvantaged people with what they need to live, both physically and spiritually.

"Though lack of material things is a common manifestation of poverty, the fact that poverty is not simply a material problem means that we cannot simply attempt to apply a material solution," says Nissley.

Born in Charlottesville, Virginia, Nissley was the oldest of five children. Today he credits his family with helping him grow into the person he has become. He was interested in business from early on, running a lemonade stand as a child and then starting a landscaping business in his adolescence.

Nissley took a year off between high school and college to serve abroad. His parents greatly encouraged this move. During this gap year he served cross-culturally in both Peru and Mexico with Eastern Mennonite Missions (EMM). While participating in EMM's discipleship training program, he found a Bible passage which impacted him more than any other:

"The LORD had said to Abram, 'Go from your country, your people and your father's household to the land I will show you. I will make you into a great nation,

and I will bless you; I will make your name great, and you will be a blessing. I will bless those who bless you, and whoever curses you I will curse; and all peoples on earth will be blessed through you.'" (Genesis 12:1-3).

In these verses, Nissley discovered that God has been an advocate for missions since Genesis. He felt the conviction "to be a blessing, which calls me to live a life reaching out to others."

Nissley attended Messiah College the following year and studied international business and accounting, gaining the education he needed to develop gifts essential to mission work. While at Messiah he got involved with the Collaboratory's micro-economic development (MED) group, serving as the group's student leader during his fourth year.

Since graduation, Nissley has worked in the audit and accounting department of Simon Lever LLP, a public accounting firm in Lancaster. He has also continued working with the MED group in the role of advisor and has led the last two teams that the group has sent to Zambia.

Nissley proves that learning does not stop once a student graduates from college. A few of these lessons have come from his continued involvement with the Collaboratory. "Working with the MED group over the last three years has had a huge impact on my life," Nissley says. He cannot ignore



Matt Nissley '07 continues to learn long after graduation.

the poverty that he sees has stricken people worldwide; but more importantly, Nissley sees the work of God in their lives.

Nissley says he has also learned a great deal about relationships and their importance. He calls some of the MED group members his "closest friends" and feels a bond with those whom he has met on his travels to Zambia. But the most significant relationship that Nissley has is his friendship with God. "My relationship with Christ is central in everything I do and provides a continual source of life, vision, and passion," he says.



An eco-friendly newsletter

In order to better fulfill our commitment to care for the environment and to wisely manage our resources, we would like to offer our readers the option of receiving the spring issue of *Dokimoi Ergatai* in PDF format via e-mail. If you would like to join us in that commitment, please send your e-mail

address to CollabAdmin@messiah.edu or use the enclosed donor response card and pre-paid business reply envelope. If we do not receive your e-mail address, you will receive a hard copy of the spring newsletter.

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The Collaboratory could not achieve its mission without a broad team of sponsors. To support the Collaboratory financially, please make checks payable to Messiah College. Clearly indicate on the memo line or in an attached note that the gift is to support the Collaboratory. Mail support checks to:

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Messiah College, Box 3013
One College Avenue, Grantham, PA 17027-9989

If you would like to be added to our mailing list or have questions or comments, please contact:
The Collaboratory, Messiah College, Box 3034,
One College Avenue, Grantham, PA 17027-9989

Collaboratory@messiah.edu,
(717) 796-1800, ext. 7226

APPROVED WORKER PROFILE

Justin Stevenson: gaining a new perspective

By Sara Mueller '10



Justin Stevenson '12 works on the mobility team's electric tricycle in hopes that it will be ready to take to Burkina Faso on a summer site team visit next year.

The Collaboratory is comprised of eight groups that house numerous projects, making it a daunting task for new members to find their niche within the organization. Many students who are new to the Collaboratory spend a few weeks drifting from group to group and project to project, trying to find the right fit. But not Justin Stevenson '12; he found his place in the Collaboratory on his first try.

As a mechanical engineering major, Stevenson knew that he wanted to do something that would help him to apply the knowledge that he would gain in the classroom in the real world. To achieve this goal, he joined the Collaboratory right away. Though unsure at first if the disability resources group was right for him, Stevenson decided to join the group and got involved with the mobility team's tricycle project.

"It seemed like the best fit for my major," says Stevenson. And as he got more involved with the tricycles, he realized that it was the "perfect fit." Stevenson enjoys working "hands on" and using his gifts in a way that glorifies God.

Currently, Stevenson is using those gifts to help the mobility team with the electric tricycle that they are building. The team hopes to take this new design to a center for handicapped persons located in Mahadaga, Burkina Faso, in the summer of 2010. This center, called Handicapés en Avant, is run by the mission organization Serving in Mission (SIM).

"Right now I'm helping put a double wheel together so that the wheels are sturdier and won't buckle or collapse," says Stevenson. Along with working on the wheel, Stevenson is helping to design a uniform frame for the tricycle, in the hopes that it will be ready in time for the trip to Burkina Faso. He hopes to be a member of the team to Mahadaga this next summer.

Now in his second year with the Collaboratory, Stevenson helps the newest members of his team learn how to build tricycles and to understand the reason for their work. Not only does he help others to learn, Stevenson says he also learns new things himself as he continues to work on the tricycles.

"I can see where God has given me, in engineering, certain talents that I can use to help others." At the same time, he has found that helping others, especially those in developing countries, is a humbling experience. Stevenson says, "I was oblivious in my own world. But helping others has given me a different perspective on my life."

A screenshot of the Collaboratory website homepage. The header features the Messiah College logo and the Collaboratory logo with the tagline "for strategic partnerships and applied research". Below the header is a navigation menu with links: Collaboratory Home, About Us, Our Work, Get Involved, Stay Connected, Media and Press, Support Us. The main content area includes a "Welcome to the Collaboratory!" section with a paragraph of text and a "View our latest newsletter" link. On the right side, there are three small images with captions: "Give to the Collaboratory", "Contact Us", and "Prospective Students". The footer contains contact information for Messiah College and copyright notice for 2008.

Check out the Collaboratory's new and improved Web site at thecollaboratoryonline.org or messiah.edu/collaboratory